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APPENDIX A

FIGURES

APPENDIX B

STAKEHOLDER CONSULTATION SCHEDULE
### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ALA</td>
<td>Aeroplane Landing Area</td>
</tr>
<tr>
<td>ACN</td>
<td>Aircraft Classification Number</td>
</tr>
<tr>
<td>AOC</td>
<td>Air Operators Certificate</td>
</tr>
<tr>
<td>ARC</td>
<td>Aerodrome Reference Code</td>
</tr>
<tr>
<td>ASIC</td>
<td>Aviation Security Identification Card</td>
</tr>
<tr>
<td>ATC</td>
<td>Air Traffic Control</td>
</tr>
<tr>
<td>AVGAS</td>
<td>Aviation Gasoline</td>
</tr>
<tr>
<td>CAAP</td>
<td>Civil Aviation Advisory Publication</td>
</tr>
<tr>
<td>CAO</td>
<td>Civil Aviation Orders</td>
</tr>
<tr>
<td>CASA</td>
<td>Civil Aviation Safety Authority</td>
</tr>
<tr>
<td>CAR</td>
<td>Civil Aviation Regulations</td>
</tr>
<tr>
<td>CASR</td>
<td>Civil Aviation Safety Regulations</td>
</tr>
<tr>
<td>CIR</td>
<td>Command Instrument Rating</td>
</tr>
<tr>
<td>CPL</td>
<td>Commercial Pilot Licence</td>
</tr>
<tr>
<td>CTAF</td>
<td>Common Transmission Advisory Frequency</td>
</tr>
<tr>
<td>DME</td>
<td>Distance Measuring Equipment</td>
</tr>
<tr>
<td>GA</td>
<td>General Aviation</td>
</tr>
<tr>
<td>GFPT</td>
<td>General Flying Progress Test</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IFR</td>
<td>Instrument Flight Rules</td>
</tr>
<tr>
<td>ILS</td>
<td>Instrument Landing System</td>
</tr>
<tr>
<td>ME</td>
<td>Multi-Engine</td>
</tr>
<tr>
<td>MOS 139</td>
<td>Manual of Standards Part 139 - Aerodromes</td>
</tr>
<tr>
<td>NOTAM</td>
<td>Notice to Airmen</td>
</tr>
<tr>
<td>NVFR</td>
<td>Night Visual Flight Rules</td>
</tr>
<tr>
<td>OLS</td>
<td>Obstacle Limitation Surface</td>
</tr>
<tr>
<td>OTS</td>
<td>Office of Transport Security</td>
</tr>
<tr>
<td>PAL</td>
<td>Pilot Activated Lighting</td>
</tr>
<tr>
<td>PAPI</td>
<td>Precision Approach Path Indicator</td>
</tr>
<tr>
<td>PPL</td>
<td>Private Pilot Licence</td>
</tr>
<tr>
<td>PCN</td>
<td>Pavement Classification Number</td>
</tr>
<tr>
<td>RAA</td>
<td>Recreational Aviation Australia</td>
</tr>
<tr>
<td>RDV</td>
<td>Regional Development of Victoria</td>
</tr>
<tr>
<td>RPT</td>
<td>Regular Public Transport</td>
</tr>
<tr>
<td>UAV</td>
<td>Unmanned Air Vehicles</td>
</tr>
<tr>
<td>VOR</td>
<td>VHF Omni-directional Radio Range</td>
</tr>
<tr>
<td>VFR</td>
<td>Visual Flight Rules</td>
</tr>
<tr>
<td>VHF</td>
<td>Very High Frequency</td>
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EXECUTIVE SUMMARY

Introduction
REHBEIN Airport Consulting was commissioned by the Department of Business and Innovation in conjunction with Regional Development Victoria and the City of Greater Geelong to undertake the Geelong Regional Airport Feasibility Study. To assist in the study, REHBEIN Airport Consulting engaged the services of specialist sub consultants Ecology Partners and St Quentin.

The study was overseen by a Project Reference Group (PRG) and included an extensive targeted consultation process with key stakeholders.

Background
At the end June 2011, the Geelong Airport at Grovedale was scheduled to close with the site to be redeveloped as part of the Armstrong Creek housing developments. The operating lease has now been extended through to April 2012.

With the closure of the Grovedale site alternative locations need to be identified to accommodate the aircraft based at the Geelong Airport. Both Council and Government also wish to conduct a broader review of available infrastructure and opportunities for General Aviation (GA) within the Greater Geelong Region over the long term.

The study reviews the long term airport requirements within the Greater Geelong Region that will accommodate both aviation and non-aviation activities for the next 30 – 50 years. The purpose of the feasibility study is to provide both Government and Council with a robust report on the future aviation needs within the Greater Geelong Region so that future planning and economic assessments can be undertaken.

Methodology
The methodology adopted for the feasibility study involved the following key steps:

- A review of existing airport facilities in the Greater Geelong region;
- Targeted consultation with key stakeholders;
- Identification of the relevant aviation and non-aviation requirements of a possible Geelong Regional Airport facility;
- A technical and planning assessment of the potential for expansion of existing facilities;
- Identification of potential Greenfield sites that might accommodate a regional airport facility meeting the relevant requirements;
- Assessment of the potential solutions against a number of criteria, within a framework that was established in close consultation with PRG; and
- Ranking the solutions in order of preference and the development of indicative development timeframes and cost estimates for the two preferred options.
Geelong Regional Airport Requirements

Through the stakeholder consultation process, which included airport owners/operators, pilots, industry, state and local governments, organisations, interested individuals, associations and local committees, it was determined that the Geelong Regional Airport would need to support private recreational and visiting general aviation flying in the region. It would also need to be capable of supporting commercial GA operations including but not limited to; flying training including both private and commercial sectors as well as ab-initio and more advanced elements; charter; freight; aerial work, including agricultural and emergency services; aircraft maintenance; and limited corporate and business operations.

There is strong support in the region for Avalon Airport to continue to handle regular public transport jet and turbo-prop aircraft and corporate jet operations. Avalon Airport is recognised as a vital asset to the Greater Geelong Region and any airport developed should be complementary to it and not erode its business.

The principal infrastructure requirements for the airport would include:

- Two runways in order to maximise usability due to prevailing wind patterns:
  - Main runway nominally 1200 – 1400 m long and 30 m wide (handling up to Code 3C turboprop aeroplanes);
  - Cross runway nominally 1,000 – 1,200 m long (capable of handling up to Code 2B light twin-engine aeroplanes);
- Airfield lighting for night time capability;
- All-weather surfacing; and
- Instrument approach capability.

Existing Facilities

The Greater Geelong region is well served with seven active airport or airfield facilities located within a 20 kilometre radius of the Geelong CBD. In addition, just outside the region, a sports airpark is located at Lethbridge which is 30 kilometres to the northwest of the Geelong CBD.

A technical and planning assessment of these facilities against the Geelong Regional Airport Requirements identified that, of the existing sites, only two represent any realistic potential to accommodate greater levels of activity. These are:

- Avalon East, which could potentially accommodate new infrastructure meeting the Geelong Regional Airport requirements; and
- Lethbridge Airpark, which could potentially be upgraded to accommodate the private, recreational and visiting GA portion of the market.

Because Lethbridge Airpark only represents a partial solution, expansion of this facility was not evaluated in its own right, but it should nevertheless be considered as a valuable complement to another facility.
Avalon East is therefore considered to be the only existing site that offers potential as a site for a Geelong Regional Airport.

**Nominated Sites**

Given the relative lack of viable existing sites for the development of the Geelong Regional Airport, potential Greenfield sites were also identified. A number of sites were nominated by various stakeholders. In addition, the study team identified sites through consultation of available desktop information sources with reference to factors including site area, nearby terrain and obstacles, airspace considerations, site environs and accessibility and environmental and planning issues.

Along with Avalon East, six other Greenfield sites were identified as suitable for inclusion in a site assessment evaluation, these were:

- Cement Works;
- West Torquay;
- Gheringhap;
- Anakie; and
- Barwon.

**Solution Evaluation**

A multi-criteria analysis was undertaken to evaluate the nominated sites. The following evaluation criteria were developed in consultation with the PRG.

- **Operational compatibility** – taking into consideration the following influencing factors on the ability of the site to accommodate the required aviation operations:
  - Capability to accommodate the desirable physical requirements including ground infrastructure and the impact of obstacles;
  - Airspace and air traffic control compatibility; and
  - Ability to integrate the proposed mix of aeronautical operations

- **Potential for Expansion** – considering the capacity of the site for expansion beyond the immediate infrastructure requirements and initial development phase, taking into account:
  - Growth potential in support of aviation activity through upgrade and enhancement of movement area infrastructure; and
  - Availability of land for compatible on-site activities including aviation support and other synergistic development within the airport boundary.

- **Economic Development Potential** – considering the prospects for realising wider economic benefits resulting from the airport development through the enhancement of land values and commercial development in the areas surrounding the airport, including
- The extent of any existing incompatible development that might constrain airport operations through amenity considerations or which could prevent the development of economically valuable activities in the airport environs;
- The extent of any rezoning required to provide for compatible surrounding land use development; and
- The likely ease or difficulty of achieving the required rezoning within relevant timeframes.

**Accessibility** – the relative ease with which the airport facility might be accessed by airport users, tenants, suppliers, support services and other stakeholders, including an assessment of
- Proximity to Geelong CBD;
- The extent and nature of existing and future road links; and
- The extent and nature of existing and future rail links.

**Environmental issues** – involving an assessment of the risk associated with the following aspects undertaken by environmental specialists
- Flora;
- Fauna; and
- Cultural and Heritage.

**Cost Influences** – a high-level assessment of the major influencing factors on the development costs, including in particular
- The existing landform on the site and the relative need for bulk earthworks to provide the required platforms for the various infrastructure;
- The likely site ground conditions, including drainage and soil type;
- The availability of utilities to the site and requirements for providing utilities and road access servicing the site; and
- Potential land acquisition costs.

Each site was allocated a score using a magnitude scale from 0 to 10 (where 10 represents the “best possible” outcome and 0 represents the ‘worst possible’ outcome) against each criterion based on consideration of all the information gained through the data gathering phase of the study. The criteria were then weighted based on the relative importance of each criterion as determined in discussion with the PRG. The resulting combined weighted scores and relative rankings of the nominated sites are shown in **Table A**.
## Table A: Relative Site Ranking

<table>
<thead>
<tr>
<th>Rank</th>
<th>Site</th>
<th>Combined Weighted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gheringhap</td>
<td>7.10</td>
</tr>
<tr>
<td>2</td>
<td>Avalon East</td>
<td>6.75</td>
</tr>
<tr>
<td>3</td>
<td>Anakie</td>
<td>5.85</td>
</tr>
<tr>
<td>4</td>
<td>Torquay West</td>
<td>5.60</td>
</tr>
<tr>
<td>5</td>
<td>Cement Works</td>
<td>4.85</td>
</tr>
<tr>
<td>6</td>
<td>Barwon</td>
<td>3.90</td>
</tr>
</tbody>
</table>

Gheringhap represents the highest scoring site overall. Whilst this ranking represents, by definition, the ideal solution it is recognised that the evaluation does not explicitly consider two important considerations. These are the likely development timeframe and the actual order of magnitude of development costs required to implement each solution. These aspects were considered in more detail in relation to the two (2) highest ranked sites from the evaluation process, being Gheringhap and Avalon East.

### Indicative Timeframes

The establishment of a Greenfield airport facility involves identifying suitable parcels of land that meet the physical requirements to accommodate the proposed airport infrastructure and expansion requirements. An extensive and detailed due diligence process would need to be undertaken across each parcel to determine the preferred land acquisition and development boundary. As a result of this process and the subsequent planning scheme amendment process, the estimated overall elapsed timeframe for a Greenfield site development such as the Gheringhap site is considered to be between 5 – 10 years.

The estimated overall elapsed timeframe for the development of the Avalon East site development is considered to be between 1 – 2 years.

### Indicative Costs

The indicative cost estimate for development of the Gheringhap site is between $30 – 45 million and includes a budget estimate of $2 million for the planning and approvals process.

The indicative cost estimate for development at Avalon East is between $20 – 25 million and includes a budget estimate of $1 million for the planning and approvals process.

These estimates are necessarily limited in accuracy as a result of the lack of on-site investigation undertaken so far and exclude GST, legal fees, lease negotiations with the Commonwealth and building costs.
Recommendations

On the basis of the findings of the Geelong Regional Airport Feasibility Study, described in the preceding sections, the following recommendations are made:

- The State Government and City of Greater Geelong should collaborate with the operators of Avalon Airport to develop a long term infrastructure layout and staged development plan that will allow Avalon Airport to attract and adequately service commercial segments of the General Aviation market, and as far as is reasonably practicable offering an accessible alternative for recreational General Aviation users, without adversely impacting on the airport operator’s commercial objectives for the airport. To facilitate the implementation of the agreed development plan, the State Government and City of Greater Geelong should consider providing support and assistance to Avalon Airport in developing a revised airport Master Plan and ensuring its passage through the relevant approvals processes.

- The State Government and the Golden Plains Shire Council, with the support of the City of Greater Geelong, should consider providing support and assistance to the owners of the Lethbridge Airpark in submitting an application for Regional Airport Funding to undertake the upgrade of the runway to a sealed surface and installation of runway lighting to enable this facility to serve those recreational and small-scale commercial General Aviation users that choose not to locate at Avalon or another of the existing private airfield facilities.

- The State Government, the City of Greater Geelong and the Golden Plains Shire Council should consider the potential benefits to the region associated with safeguarding a possible future airport site in the Gheringhap area, to ensure land availability and compatible land use planning are in place should the development of such a facility become warranted at some point over the next 50 years. To achieve this, the Geelong Regional Airport Feasibility Study should be considered by the Golden Plains Shire Council in developing the Gheringhap Structure Plan.
1.0 INTRODUCTION

1.1 INTRODUCTION

REHBNEIN Airport Consulting was commissioned by the Department of Business and Innovation (DBI), in conjunction with Regional Development Victoria (RDV) and the City of Greater Geelong (Council) to undertake the Geelong Regional Airport Feasibility Study which is part of the Liberal Coalition Government’s strategy for the aviation industry.

To assist in the study, REHBNEIN Airport Consulting engaged the services of the following specialist sub-consultants:

- Ecology Partners – Environmental Specialists; and
- St Quentin – Surveyors and Planning Specialist.

At the end June 2011 the Geelong Airport at Grovedale, which is operated by Geelong Aviation and Flight Training Pty Ltd, was scheduled to close. The site will be redeveloped as part of the Armstrong Creek housing development. The operating lease on the airport has now been extended through to April 2012.

With the closure of the Grovedale site alternative locations need to be identified to accommodate the aircraft based at the Geelong Airport. Both Council and Government also wish to conduct a broader review of available infrastructure and opportunities for General Aviation (GA) within the Greater Geelong Region over the long term.

The Geelong Regional Airport Feasibility Study reviews the long term airport requirements within the Greater Geelong Region that will accommodate both aviation and non-aviation activities for the 30 years and beyond. The purpose of the feasibility study is to provide both Government and Council with a robust report on the future aviation facility needs within the Greater Geelong Region so that future planning and economic assessments can be undertaken.

The study was overseen by a Project Reference Group as described in Section 1.2 and included an extensive targeted consultation process with key stakeholders, which is discussed more fully in Section 3.0.

1.2 PROJECT REFERENCE GROUP

A Project Reference Group (PRG) was established to oversee the study. The PRG included senior representatives of the Department of Business and Innovation, the City of Greater Geelong, Regional Development Victoria and the Australian Association of Aviation and Aerospace Industries (A4I). The PRG members are indicated in Table 1.
Table 1: Project Reference Group Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert O’Brien (Chair)</td>
<td>Department of Business and Innovation</td>
<td>Director, Aviation</td>
</tr>
<tr>
<td>Tony Viney</td>
<td>Department of Business and Innovation</td>
<td>Group Manager – Aviation and Commercial Aerospace</td>
</tr>
<tr>
<td>Lisa Pitre</td>
<td>Regional Development Victoria</td>
<td>Development Manager</td>
</tr>
<tr>
<td>Terry Demeo</td>
<td>City of Greater Geelong</td>
<td>Manager Planning Strategy &amp; Economic Development</td>
</tr>
<tr>
<td>Geoff Bowmaker</td>
<td>Australian Association of Aviation and Aerospace Industries (A4I)</td>
<td>Chief Executive Officer</td>
</tr>
</tbody>
</table>

1.3 OBJECTIVE

The objective of this feasibility study is to identify solutions that satisfy the General Aviation requirements, including the recreational, private, business/corporate, charter and aerial work (including emergency services) sectors, of communities in the City of Greater Geelong and adjacent municipalities following the closure of the Geelong Airport at Grovedale and in the longer term over the next 30 – 50 years.

1.4 SCOPE

The scope of the feasibility study involved primarily desktop assessment and qualitative analysis. Due to the required timeframes, and budget, detailed site investigation or quantitative assessment was not possible. No on-site investigation of environmental issues or ground conditions was undertaken. Stakeholder consultation, whilst essential to the outcome of a study of this nature, was limited for reasons of timing and budget to targeted key stakeholders and full public consultation was not possible.

1.5 METHODOLOGY

The methodology adopted for the feasibility study involved the following key steps:

- A review of existing airport facilities in the Greater Geelong region including a review of the operational background, physical infrastructure and airspace in relation to each other. The review was undertaken through desktop assessment of available information augmented by discrete site visits to the facilities in question;
- Targeted consultation with key stakeholders, to determine user requirements for a new facility along with an understanding of how existing facilities might effectively service those needs;
• Following the stakeholder consultation, the associated aviation and non-aviation requirements of a possible Geelong Regional Airport facility were determined;
• Each existing facility was then assessed from a technical and future planning perspective in relation to opportunities for aviation and non-aviation development at each site to identify possible existing sites to include in the assessment;
• Potential Greenfield sites that might accommodate a regional airport facility meeting the relevant requirements were then identified;
• Each of the potential sites (existing and greenfield) was then assessed against a number of criteria, within a framework that was established in close consultation with PRG. To inform the assessment, information and data in relation to each criterion was gathered through a series of desktop studies and further visits to each possible site.
• Following the evaluation the sites were ranked in order of preference and the two most feasible options identified. Indicative cost estimates and development programs were developed for these two preferred sites.

1.6 REPORT STRUCTURE

This report sets out the analysis and findings of the feasibility study and is structured as follows:
• **Section 2.0** provides background information on existing airports/airfields and their unique features;
• **Section 3.0** provides details of the stakeholder consultation process and outcomes;
• **Section 4.0** outlines the requirements and demand for a Regional Airport in the Geelong Region;
• **Section 5.0** reviews the opportunities for expansion for each of the existing facilities;
• **Section 6.0** describes the process of selecting potential Greenfield sites and nominates a suitable site for the establishment of a new Regional Airport;
• **Section 7.0** describes the solution evaluation process and outcomes;
• **Section 8.0** outlines the timeframes associated with the development of the two preferred solutions;
• **Section 9.0** provides an indication of costs associated with the two preferred solutions;
• **Section 10.0** summarises the key recommendations;
• Figures are at Appendix A; and
• A schedule detailing the stakeholder consultation undertaken as part of the study is at Appendix B.
2.0 EXISTING FACILITIES

2.1 BACKGROUND

The City of Greater Geelong is located some 75 kilometres by road south-west of Melbourne and is located on Corio Bay. It is Victoria’s largest regional city and the fifth most populated non-capital city in Australia. The Greater Geelong urban area runs from the Lara plains in the north through to the rolling hills of Wauurn Ponds in the south, with Corio Bay to the east and rolling hills to the west. The City is home to 202,000 residents while 260,000 people live in the wider Geelong region. With strong growth in the region, the population is expected to grow to 500,000 by 2050. The region has a strong and diverse economy that supports 13,000 enterprises and a labour force of 120,000 workers. Figure 1 (at Appendix A) shows the general locality map and surrounding environs.

The Geelong region has a strong history in manufacturing including aerospace, automotive, and agricultural equipment. The Port of Geelong is the sixth largest in Australia by tonnage. The major commodities handled by the port include crude oil and petroleum products, export grain and woodchips, aluminium imports and fertilizer.

The region is well served with seven active airport or airfield facilities located within a 20 kilometre radius of the Geelong CBD. In addition, just outside the Greater Geelong region, a sports airpark is located at Lethbridge which is 30 kilometres to the northwest of the Geelong CBD. Two former facilities were found to be closed during investigation for the study. Of the active facilities, five are listed in the current Aeronautical Information Package – En Route Supplement Australia (AIP-ERSA), which effectively advertises their existence to the aviation community. Three are not listed in AIP-ERSA.

Figure 2 shows the location of the existing facilities in relation to the Geelong CBD and other facilities.

Only Avalon Airport is certified to Civil Aviation Safety Authority (CASA). The remainder are classified as Aeroplane Landing Areas (ALA). CASA provide guidelines for ALAs for the assistance of pilots through a Civil Aviation Advisory Publication (CAAP), however there are no regulatory requirements on ALA owners or operators to maintain the physical or safety standards of ALA facilities.

The operational background, existing infrastructure and airspace and air traffic control regimes for each existing facility are described in the following subsections.

2.2 GEELONG AIRPORT

2.2.1 BACKGROUND

The Geelong Airport (Grovedale) is located on the Surf Coast highway some 10km south from Geelong’s CBD. The airport is privately owned and operated and was scheduled for closure at the end of June 2011 however the lease has recently been extended to April 2012. Following the
closure, the site will be redeveloped as part of the Armstrong Creek residential development. The airport has been in operation for approximately 40 years. The current operators lease the facility and have been operating the airfield and the Geelong Flight Training Centre for the past four years. Known locally as the Grovedale Airport, the airport changed its name to Geelong Airport to better reflect the importance of the airport and the services it offers to the Greater Geelong Region.

The Geelong Flight Training Centre provides air charter services, joy flights, flying training, aircraft hire and recreational flying. Following an aircraft accident at the airport in September 2010, the airport operators restricted operations at Geelong and closed the airport to visiting aircraft. This restriction now leaves very few options for visiting general aviation commercial and private operators to the Geelong region.

Geelong Airport is the only airport in the Greater Geelong region offering general aviation flying training from general flying progress test (GFPT) training, private and commercial pilot licences (PPL & CPL) through to night VFR (NVFR), multi-engine & command instrument ratings (ME & CIR).

The airport is neither certified nor registered and operates as an ALA. It is not a security controlled airport.

With the closure of the airport now imminent, Geelong Flight Training Centre has now secured a three year lease on a hangar and building at Tocumwal airport so it can continue to provide ME & CIR.

Figure 3 shows the general layout of Geelong Airport.

### 2.2.2 INFRASTRUCTURE

The airport has two Code A runways designated 09/27 and 18/36 and both are suitable for visual operations only. Runway 09/27 is approximately 1,000m long and 10m wide with a displaced landing threshold on Runway 09 (due to power lines along the Surf Coast highway) and consists of a grass/gravel surface. Runway 18/36 is approximately 1,000m long and 10m wide. The central section (7.5m wide) is sealed whilst the remaining width is grass. A parallel field taxiway is provided to Runway 18/36 and aircraft back track on Runway 09/27.

Low intensity runway lighting is provided for Runway 18/36. There are no navigational aids provided at the airport and no published approach procedures.

The buildings on the airport include a flying training building, four permanent hangars and one portable hangar. On site AVGAS fuel facilities are provided.

The existing aircraft movements are estimated at less than 4,000 movements per annum. There are no non-aviation activities conducted at the airport.
2.2.3  AIRSPACE AND AIR TRAFFIC CONTROL

The airport operates in non-controlled Class G airspace, however Avalon Class E airspace with a lower limit of 1500 feet is immediately to the east of the airfield. The airport flying operations are conducted using Common Traffic Advisory Frequency (CTAF) radio communication. There is no Air Traffic Control (ATC) tower. The CTAF frequency is also common to both Barwon Heads and Torquay Airports.

Very High Frequency (VHF) communications with Melbourne Centre is not available on the ground but available in the circuit area. A Notice to Airman (NOTAM) service is not available.

2.3  AVALON AIRPORT

2.3.1  BACKGROUND

Avalon Airport is located just off the Princess Highway some 23km north of the Geelong CBD and 55km south west of Melbourne’s CBD. Avalon has been in operation, primarily as defence facility since 1953. The airport is owned by the Department of Defence and is leased to the Linfox group on a 99 year lease.

Regular Public Transport (RPT) services have been operating at Avalon since 2004. Jestar and Tiger Airways operate interstate services and Sharp Airlines operates an intrastate service. The airport provides aircraft heavy maintenance activities for Qantas and selected flight training operations. The Australian International Air Show is also hosted at the airport every two years. Grand Prix cars and supporting equipment along with other specialised cargo operations utilise Avalon on a regular basis.

Avalon Airport is a certified aerodrome under the Civil Aviation Safety Regulations 1998 and is classified as a Security Controlled Airport under the Aviation Transport Security Regulations 2005. Entry into the aircraft maintenance precinct is via a manned security controlled point.

Currently there are no non-aviation activities conducted at the airport.

Figure 4 shows the general layout of Avalon Airport.

2.3.2  INFRASTRUCTURE

The airport has a single Code E runway designated 18/36 and is suitable for all weather operations. The runway is 3048m long and 45m wide. A 23m wide parallel field taxiway provides access to RPT and freight apron. A 15m wide taxiway provides access from the RPT apron area to the aircraft maintenance precinct.

Medium intensity runway lighting is provided and outside control tower hours of operation the runway lights can be activated by utilising Pilot Activated Lighting (PAL). The airport is well equipped with landing and navigational aids (PAPI, VOR, DME, ILS and locator) and has published precision and non-precision instrument approach and departure procedures.
The airport comprises two main building precinct areas comprising of the terminal precinct and the aircraft maintenance precinct.

The terminal precinct comprises a single level terminal complex supporting domestic operations and is equipped with both passenger and checked luggage security screening equipment. A large car park, bus terminus and taxi rank support the terminal operations.

The aircraft maintenance precinct comprises five hangars of which three are B747 capable, one is suitable for B737/A320 size aircraft and other is suitable for smaller aircraft types. Each hangar has its own dedicated apron area in the front which connects to the single taxiway leading to the terminal precinct.

There are numerous support buildings across various parts of the airport including an air traffic control tower, aviation rescue and fire fighting facility, electrical sub-stations, airfield lighting equipment room and staff canteen facilities.

During the International Air Show events which are conducted every two years, two parallel grass runways (1000m and 800m long) are provided to the east of Pousties Road for visiting general aviation aircraft. This temporary facility is known as Avalon East and operates under ATC with its own dedicated controllers and frequency operating from a temporary control tower facility located on site at Avalon East airfield.

2.3.3 AIRSPACE AND AIR TRAFFIC CONTROL

Avalon operates in a controlled airspace environment and is active when the control tower is manned. The airspace is classified as Class D during tower operations and reverts to Class E airspace during non-tower operations. Tower operating hours are from 0700 to 2000 local time. A full NOTAM service is available.

2.3.4 AIRCRAFT MOVEMENTS

Avalon Airport had 5,228 landings in the past 12 months to the end of May 2011 and the total number of RPT passengers was 406,627.

2.4 BARWON HEADS AIRFIELD

2.4.1 BACKGROUND

Barwon Heads Airfield (also known as the Geelong Surf Coast Airport) is located on the Barwon Heads Road 20km from Geelong’s CBD and 5km from the township of Barwon Heads. The airfield has been in operation for many years and site was recently acquired by a consortium of 19 aviation enthusiasts who purchased the airport and the Recreation and Adventure flying school. The airport is neither certified nor registered and operates as an ALA. It is not a security controlled airport.

The Geelong Aero Club is located on the airport with a membership of some 200 people providing social club activities only. No flying training activities are conducted by the aero club.
Recreational flying training including recreational instructor rating is conducted at the airport along with war bird adventure flights and sky diving. There are approximately 35 – 40 General Aviation and RAA-registered light and ultra-light aircraft based at the airport. Under new ownership arrangements however it is expected that aircraft numbers will decrease down to about 20. The existing aircraft movements are estimated at less than 4,000 movements per annum.

JLI Seafoods is a non-aviation related business which operates a sea food wholesale business from the airport.

Figure 5 shows the general layout of Barwon Heads Airport.

2.4.2 INFRASTRUCTURE

The airfield has two runways comprising of a north-south grass/gravel runway of 750m in length and 450m long east-west runway of natural surface. Low intensity runway lights are available on the north-south runway and are controlled from the recreational flying school. Prior permission is required as there is no PAL system available.

The buildings on the site include a flying school, nine (9) hangars and three (3) buildings associated with JLI Seafoods.

2.4.3 AIRSPACE AND AIR TRAFFIC CONTROL

The airport operates in non-controlled Class G airspace, with Avalon Class E airspace in close proximity to the north. The lower limit of the Class E airspace is 1500 feet. The airport flying operations are conducted using CTAF radio communication. There is no ATC tower. The CTAF frequency is common to both Geelong and Torquay Airports.

VHF communications with Melbourne Centre is not available on the ground but available in the circuit area. A NOTAM service is not available.

2.5 LETHBRIDGE AIRPARK

2.5.1 BACKGROUND

Lethbridge Airpark is 32km from Geelong’s CBD and is located on the Midland Highway. The airpark has being in operation for several years. The airpark is neither certified nor registered and operates as an ALA. It is not a security controlled airport.

The airpark provides for both GA and RAA flying activities. A flying school, accommodation block and six hangars of various sizes have been established on the site. Several aviation related businesses supporting the recreational aviation flying sector are also established onsite. The airpark is limited to daytime operations only and prior permission is required to use the airpark.

Current aircraft movements are estimated to be less than 4,000 per annum and a current planning permit caps aircraft movements to 17,500 per annum. There are approximately 20 GA and 40 RAA aircraft based at the Lethbridge Airpark.
Figure 6 shows the general layout of Lethbridge Airpark.

2.5.2 INFRASTRUCTURE

The airfield has two runways comprising of a 1250m long north-west – south-east grass runway and an 850m north-south grass runway. There are no runway lights to support night operations.

2.5.3 AIRSPACE AND AIR TRAFFIC CONTROL

The airport operates in non-controlled Class G airspace with Class C airspace above with a lower limit of 8500 ft. The airport flying operations are conducted using CTAF radio communication. There is no ATC tower.

VHF communications with Melbourne Centre is available on the ground. A NOTAM service is not available.

2.6 TORQUAY AIRFIELD

2.6.1 BACKGROUND

Torquay Airfield is located on Blackgate Road which runs off from the Surf Coast Highway (Geelong Torquay Road) and is 19km from Geelong’s CBD and 4km from the township of Torquay. The airfield is uncertified and operates as an ALA. The airfield is part of the Tiger Moth World Adventure Park and Mini Golf complex and has operated since 1989. The airfield provides charter, joy flights in tiger moth and bi-planes and serves GA and recreational flying activities. Torquay has been accepting some limited visiting aircraft since Geelong has restricted visiting aircraft. There are currently seven aircraft based at the airfield.

Figure 7 shows the general layout of Torquay Airfield

2.6.2 INFRASTRUCTURE

The airfield comprises three grass runways consisting 1,250m, 650m and 500m in length. There are no runway lights to support night operations.

The three (3) buildings on site comprise offices and hangars. The adventure park and mini golf complex is adjacent airfield.

2.6.3 AIRSPACE AND AIR TRAFFIC CONTROL

The airport operates in non-controlled Class G airspace with Avalon Class E airspace in close proximity to the north. The lower limit of the Class E airspace is 1500 feet. The airport flying operations are conducted using CTAF radio communication. There is no ATC tower. The CTAF frequency is common to both Geelong and Torquay Airports.

VHF communications with Melbourne Centre is not available on the ground but available in the circuit area. A NOTAM service is not available.
2.7 OTHER AIRFIELDS

Three other airfields exist in the Greater Geelong region. These all operate as ALAs and are not security controlled. All of these airfields are for day time operations and require prior permission for use.

2.7.1 CERES

Ceres has a small privately owned and operated ALA airfield located on Merrawarp Road within the valley of Barrabool Hills. The airfield comprises of a 700m single curved gravel runway running in a north-south direction parallel to Merrawarp Road. It is estimated that there are less than five aircraft based at the airfield. Figure 8 shows the general layout of Ceres Airfield.

2.7.2 DRYSDALE

The Bellarine Peninsula has two small private ALAs. One is located in Drysdale and is part of a winery and restaurant business (currently on the market for $3.95 million). The Drysdale airfield has two gravel runways orientated in a north-south and east-west direction comprising of 400m and 700m respectively. It is estimated that there is less than five aircraft based at the airfield. Figure 9 shows the general layout of Drysdale Airfield.

2.7.3 ST LEONARDS

The second ALA on the Bellarine Peninsula is located at St Leonards. The St Leonards airfield comprises two gravel runways orientated in a north-south and east-west direction comprising of 700m and 650m respectively. It is estimated that there is less than five aircraft based at the airfield. St Leonards airfield is used for the flight testing and training of Unmanned Air Vehicles (UAV) conducted by Aerosonde. The testing is undertaken on an ad hoc basis across the year and it is estimated by the operator that total flying would not exceed a total of four weeks per year. In recognition of the testing undertaken by the Aerosonde, Airservices Australia has established two danger zones designated D322A and D322B. D322A extends above the field and within a specified radius (approximately 2 nautical miles from the field) and D322B extends out into Port Phillip Bay. Both danger zones are activated by NOTAM and are effective for the surface level to a height specified in the NOTAM. It is estimated that there are less than 5 aircraft based at the airfield. Figure 10 shows the general layout of St Leonards Airfield.

2.8 FORMER AVIATION FACILITIES

In addition to the above listed airfields, the Greater Geelong region had a number of former airfields or landing areas that are now closed. Over the years suburban growth has been such that the facilities were sold and then redeveloped into housing estates or they were no longer compatible with the surrounding areas.

The former airfields/landing areas that were known to be operating until relatively recently and investigated as part of this study were located at:
Lovely Banks; and
Moriac

While these facilities were small in comparison with the other existing facilities, they nevertheless served a market for many years.

2.9 SUMMARY OF EXISTING FACILITIES

The key features of the existing facilities described in this Section are summarised in Table 2.

Table 2: Existing Facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Runways</th>
<th>Category</th>
<th>Based Aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direction</td>
<td>Length</td>
<td>Surface</td>
</tr>
<tr>
<td>Avalon</td>
<td>18/36</td>
<td>3048m</td>
<td>Asphalt</td>
</tr>
<tr>
<td>Avalon East*</td>
<td>N-S</td>
<td>1000m</td>
<td>Grass</td>
</tr>
<tr>
<td></td>
<td>N-S</td>
<td>800m</td>
<td>Grass</td>
</tr>
<tr>
<td>Geelong</td>
<td>09/27</td>
<td>1000m</td>
<td>Gravel</td>
</tr>
<tr>
<td></td>
<td>18/36</td>
<td>1000m</td>
<td>Sealed</td>
</tr>
<tr>
<td>Barwon Heads</td>
<td>N-S</td>
<td>750m</td>
<td>Grass</td>
</tr>
<tr>
<td></td>
<td>E-W</td>
<td>450m</td>
<td>Grass</td>
</tr>
<tr>
<td>Torquay</td>
<td>N-S</td>
<td>1250m</td>
<td>Grass</td>
</tr>
<tr>
<td></td>
<td>NW-SE</td>
<td>650m</td>
<td>Grass</td>
</tr>
<tr>
<td></td>
<td>E-W</td>
<td>500m</td>
<td>Grass</td>
</tr>
<tr>
<td>Lethbridge</td>
<td>NW-SE</td>
<td>1250m</td>
<td>Grass</td>
</tr>
<tr>
<td></td>
<td>N-S</td>
<td>850m</td>
<td>Grass</td>
</tr>
<tr>
<td>Ceres</td>
<td>N-S</td>
<td>700m</td>
<td>Gravel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drysdale</td>
<td>N-S</td>
<td>400m</td>
<td>Gravel</td>
</tr>
<tr>
<td></td>
<td>E-W</td>
<td>700m</td>
<td>Gravel</td>
</tr>
<tr>
<td>St Leonards</td>
<td>N-S</td>
<td>700m</td>
<td>Gravel</td>
</tr>
<tr>
<td></td>
<td>E-W</td>
<td>650m</td>
<td>Gravel</td>
</tr>
</tbody>
</table>

* Avalon East operates during the Australian International Airshow only which is held every two years
3.0 STAKEHOLDER CONSULTATION

3.1 CONSULTATION APPROACH

The stakeholder consultation approach adopted for this study has sought feedback from targeted key stakeholders from airport owners/operators, pilots, industry, state and local governments, organisations, interested individuals, associations and local committees in order to obtain a significant level of contribution to the outcomes of the Geelong Regional Airport Feasibility Study.

The consultation process has aimed to fulfil five primary objectives:

- Inform stakeholders about the project;
- Involve and engage all relevant interested stakeholders in the study process;
- Inform and complement the technical work in developing a robust study outcome;
- Provide appropriate mechanisms to encourage input and participation from all stakeholders; and
- Create a basis for future communication and consultation activities to continue, particularly during the next phase of this feasibility study.

Following the project brief and the initial PRG meeting in Geelong, key stakeholders where identified and a consultation strategy was put in place. In order to maximise the quality of the information exchange during the consultation phase, face to face meetings with key airport, industry, government and regionally based key stakeholders were undertaken.

A stakeholder survey form was prepared to ensure all stakeholders were given the opportunity to engage on all of the relevant issues. The form was used as a prompt for all meetings and completed by the interviewer during the meeting.

Where face to face meetings were not practical or possible within the study timeframe, telephone briefings were undertaken wherever possible. If for any reason telephone discussions could not be undertaken the stakeholder survey form was provided to the stakeholders for completion and return.

Meetings with key Government, Council and industry representatives were also undertaken to establish the long term planning strategy and growth projections for the region.

The views put forward during the consultation phase provided valuable input into the formulation of the Geelong Regional Airport Feasibility Study. A detailed consultation schedule providing details of all consultation conducted in relation to the study is included at Appendix B. The key elements of the consultation are summarised in the following sections.
3.2 STAKEHOLDERS

The targeted key stakeholders included:

- **Victorian Government**: Department of Business and Innovation; Regional Development Victoria (Geelong office); Department Planning and Community Development (Geelong Office); Department of Sustainability and Environment (Geelong); Air Ambulance (Rotary Wing); Air Ambulance (RFDS); and Police Air Wing.

- **Local Government**: City of Greater Geelong; Borough of Queenscliffe; Colac Otway Shire; Golden Plains Shire; and Surf Coast Shire.

- **Defence**: Fort Queenscliff.

- **Industry Organisations**: Geelong Regional Alliance (G21); Committee for Geelong Geelong Chamber of Commerce; and Aerospace Maritime and Defence (Airshows Downunder).

- **Airport Owners/Operators**: Avalon Airport; Geelong Airport; Barwon Heads Airfield; Torquay Airfield; and Lethbridge Airpark.

- **Interested Individuals**: Various private individuals who were identified by the PRG or other stakeholders as having a close interest in the adequate provision of aviation facilities in the Geelong region.

- **Pilots**: The consultation included numerous pilots who operate within the Greater Geelong Region who have the following licence coverage: ATPL; CPL; PPL; and RAA.

3.3 KEY ISSUES

The following is a summary of the key issues that were identified as part of the consultation process:

- The Greater Geelong region is anticipated to grow to a population of 500,000 people by 2050;

- Geelong Airport is the only airport/airfield in the Greater Geelong Region providing GFPT, PPL, CPL, ME, CIR and NVFR training. The operating lease has been extended until April 2012, and may be further extended depending on the progress of the ongoing site work investigations to support the Armstrong Creek residential development. Due to the pending closure of the airport, the operator of Geelong Aviation and Flight Training has relocated his ME & CIR training to Tocumwal in New South Wales;

- With restrictions on Geelong Airport to visiting aircraft, Geelong does not have an airport close to the CBD for visiting general aviation aircraft. A city the size of Geelong would be expected to have a facility for general aviation that can accommodate visiting aircraft;

- Avalon Airport is seen as a very important asset to the Greater Geelong Region and any airport developed should be complementary to it and not erode business at Avalon;
• Avalon Airport should continue to handle RPT jet and turbo-prop aircraft and corporate jets;
• Avalon Airport should be considered for the accommodation of GA traffic, however Geelong needs to have an airport outside controlled airspace to accommodate those users who are not able or willing to operate under air traffic control;
• Avalon Airport is finalising its airport Master Plan. Whilst the contents could not be revealed at the time of the consultation, it is expected to include facilities to cater for elements of the GA market. The airport master plan is expected to be submitted to the Department of Defence within the next 3 months;
• Geelong needs an all-weather GA airport capable of supporting light twin engine aeroplanes;
• Opportunities exist for the expansion of flight training, tourism and visiting aircraft to the region however the existing ALAs all have a range of local issues which effectively limit expansion opportunities;
• A number of sites were nominated by stakeholders for consideration for a new airport. The west side of Geelong in particular should be considered as this area is particularly accessible to the planned growth corridor;
• Jet-A1 fuel provision for the Air Ambulance (Rotary Wing) or Police Air Wing would be beneficial;
• Two other relevant studies are currently underway:
  - The 2040 Torquay – Jan Juc Sustainable Futures Plan 2040 which Council is to consider by the end of July 2010; and
  - The G21 Geelong Regional Land Use Plan (G21 RLUP) which is due for completion by end of 2012.
• What government funding and/or assistance will be provided to establish a new airport?
• Who will own and/or operate the new airport: State, Council, private industry or some form of public private partnership?
4.0 GEELONG REGIONAL AIRPORT REQUIREMENTS

4.1 POTENTIAL DEMAND

Avalon is considered to be a very important asset to the Greater Geelong community. The stakeholder consultation process supported the view that any new airport development should be complementary and not compete with Avalon. There is strong support for RPT jet and turbo-prop services, heavy aircraft maintenance and corporate jet operations to continue at Avalon Airport. Avalon has existing infrastructure to cater for the larger aircraft types which is currently underutilised. It is therefore reasonable to assume that these segments of the market will continue to be adequately served by the facilities at Avalon for the foreseeable future.

Otherwise, the aircraft types currently operated in the Greater Geelong region are predominantly light single-engine types with a few light twin-engine aircraft. The light twin-engine aircraft fleet grows during the fire season when the Department of Sustainability and Environment (DSE) positions a number of twin-engine fire spotting aircraft into the region. These have nominally been based at Geelong Airport. With the closure of Geelong Airport fast approaching, a number of other resident aircraft have already relocated to either Lethbridge Airpark or Bacchus Marsh airport where hangar space has been made available in recent times. It should be recognised that it is highly unlikely that these aircraft will return to Geelong, even if a suitable facility were to be made available.

A detailed demand or market analysis has not been undertaken as part of this study. The complexities of the general aviation sector, which is characterised by a large number of distinct segments ranging from light sports and recreational operations to freight and aircraft maintenance, combined with the current low base of operations in the region makes detailed forecasting impracticable.

However based on REHBEIN Airport Consulting’s experience and knowledge of the industry the following key points have been identified to assist in determining input to complete this high level feasibility study:

- The total aircraft based in the Greater Geelong Region is estimated to be not more than 70 – 80 of which around 25% are estimated to be ultra-light RAA aircraft;
- There are Victorian airports/airfields located in urban centres with a smaller population than the Greater Geelong region yet have similar or greater numbers of aircraft than the Geelong region include Bendigo (65); Kyneton (50+); Latrobe Regional (80); Tyabb (150+);
- Lethbridge Airpark has 20 GA and 40 RAA aircraft based at the airfield and all are accommodated within hangars;
- There is generally strong demand for Melbourne-based aviators to secure hangars and relocate their aircraft to regional airports. For example Latrobe Regional, Bendigo and Kyneton airports all currently have waiting lists;
The Geelong region has for many years, when compared to other cities, lacked good airport infrastructure that assists in attracting aircraft and aviation related businesses to the region; and

There is a potential demand from Melbourne-based flying schools who have airline pilot training contracts to expand their operations.

On the basis of the most likely potential demand, and to enable the airport to maximise its financial viability and economic benefits to the Greater Geelong region, the Geelong Regional Airport would need to be capable of supporting commercial GA operations including but not limited to:

- Flying Training including both private and commercial sectors as well as ab-initio and more advanced elements (GFPT, PPL, CPL, NVFR, ME and CIR);
- Charter;
- Freight;
- Aerial Work, including agricultural and emergency services;
- Aircraft maintenance; and
- Limited corporate and business operations.

4.2 BASIS FOR AIRPORT PLANNING

4.2.1 REGULATORY FRAMEWORK

The planning criteria for airport development may be categorised into a three-tiered structure as follows:

- International standards and recommended practices promulgated by the International Civil Organisation (ICAO);
- National regulatory standards and advisory publications prepared by the Civil Aviation Safety Authority (CASA); and
- Local standards and practices.

The international standards and recommended practices are formalised in Annex 14 to the Convention of International Civil Aviation adopted by the International Civil Aviation Organisation (ICAO) under the provisions of the Convention, to which Australia is a signatory State. In addition, ICAO publishes a number of Aerodrome Design Manual and Airport Services Manuals which set out further detail and background behind the standards and recommended practices.

National standards and advisory publications are published by the Australian Civil Aviation Safety Authority (CASA) which administers the Civil Aviation Act (1998) through the accompanying Civil Aviation Regulations (CARs) and Civil Aviation Orders (CAOs).

The Manual of Standards Part 139 – Aerodromes (MOS Part 139) is a CASA policy manual, made pursuant to Civil Aviation Safety Regulations CASR Part 139. CASR Part 139 sets out the
The regulatory regime provides for aerodromes to be certified or registered. MOS Part 139 sets out the standards and operating procedures for certified and registered aerodromes, as well as for other aerodromes used for air transport operations.

CASA publishes a number of Civil Aviation Advisory Publications (CAAPs) to provide guidance and information in a designated subject area, or show a method acceptable to an authorised person or CASA for complying with a related Civil Aviation Regulation. CAAPs should always be read in conjunction with the referenced regulations. CAAPs provide recommendations and guidance to illustrate a method, or several methods, not necessarily being the only method by which legislative requirements may be met. They also provide a means of illustrating the meaning of certain requirements by offering interpretive and explanatory guidance. CAAPs are advisory only. While there is no legal requirement to observe the details set out in the CAAPs, it is prudent for safety and potentially insurance reasons for pilots to adopt the CAAPs for determining a suitable place to conduct aeroplane operations.

The applicable CAAPs for the Geelong Regional Airport Feasibility Study are:

- CAAP 92-1(1) Guidelines for Aeroplane Landing Areas
- CAAP 92A-1(0) Guidelines on aerodromes intended for small aeroplanes conducting RPT operations

For the Geelong Regional Airport Feasibility Study, the planning and design considerations include a combination of the requirements and recommendations of MOS Part 139 and CAAP 92-1(1). We have adopted MOS Part 139 as the basis of our planning and selection criteria. By adopting MOS Part 139 which is more stringent than the CAAPs, there is protection to ensure that the airport can be registered or certified if required.

The local standards and practices include:

- Federal and State government legislative requirements for environmental protection;
- Requirements of Local Government; and
- Requirements of Statutory Authorities supplying engineering services.

**4.2.2 AERODROME CERTIFICATION REQUIREMENTS**

An aerodrome operator may apply to CASA for the aerodrome to be certified or registered.

Pursuant to the Civil Aviation Safety Regulations 1998 (CASR) Part 139, aerodromes intended to accommodate aeroplanes with more than 30 passenger seats conducting air transport operations must be certified. Similarly, any aerodrome which wishes to publish detailed operational information in the AIP-ERSA, and any aerodrome which wishes to publish an instrument approach procedure relating to the aerodrome, must be registered under CASR Part 139.
Registered aerodromes must meet a number of conditions including the relevant standards set out in MOS Part 139. When an aerodrome is registered, it signifies that the aerodrome has been checked and verified by a qualified person approved by CASA. The CASA aerodrome certification process only addresses the aviation safety aspects of the aerodrome. It is the responsibility of the owner of the aerodrome site to ensure that use of the site as an aerodrome is in compliance with other federal, state and local statutory requirements.

Aeroplanes with not more than 30 passenger seats can conduct air transport operations from uncertified or unregistered aerodromes, however the aerodrome operator retains the responsibility of providing a safe facility for aeroplane operations. Air Operating Certificate (AOC) holders also have an obligation to ensure the safety of unlicensed aerodromes at which they operate.

Given the likely nature of use of the Geelong Regional Airport, it is considered likely that registered status will be essential if it is to fulfil the objectives. Certified status is not precluded, but would not be necessary under the envisaged usage.

4.2.3 AERODROME REFERENCE CODES

Australia has adopted the ICAO methodology of using a code system, known as the Aerodrome Reference Code (ARC), to specify the standards for individual aerodrome facilities that are suitable for use by aeroplanes with a range of performances and sizes. The intent of the ARC is to provide a simple method for inter-relating the numerous specifications concerning the characteristics of aerodromes as to provide a series of aerodrome facilities that are suitable for the aircraft that are intended to operate at the aerodrome. The ARC (commonly referred to as simple the ‘code’) is composed of two elements that are related to the aeroplane’s performance characteristics and dimensions. Element 1 is a number based on the aeroplane’s reference field length. Element 2 is a letter based on the aeroplane’s wing span and outer main gear wheel span. Table 3 sets out the various criteria for the different ARCs.

Table 3: Aerodrome Reference Codes

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Aeroplane Reference Field Length</th>
<th>Code Element 1</th>
<th>Code Element 2</th>
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<tbody>
<tr>
<td>1</td>
<td>Less than 800 m</td>
<td>A</td>
<td>less than 15 m</td>
</tr>
<tr>
<td>2</td>
<td>At least 800 m but less than 1200 m</td>
<td>B</td>
<td>At least 15 m but less than 24 m</td>
</tr>
<tr>
<td>3</td>
<td>At least 1200 m but less than 1800 m</td>
<td>C</td>
<td>At least 24 m but less than 36 m</td>
</tr>
<tr>
<td>4</td>
<td>1800 m and over</td>
<td>D</td>
<td>At least 36 m but less than 52 m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E</td>
<td>At least 52 m but less than 65 m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>At least 65 m but less than 80 m</td>
</tr>
</tbody>
</table>

Source: CASA
For taxiway and apron works, the various geometric standards are controlled by Code Element 2. The code letter for Element 2 is determined from the third column of Table 3, by selecting the code letter which corresponds to the greatest wing span, or the greatest outer main gear wheel span, whichever gives the more demanding code letter of the aeroplanes for which the facility is intended.

For runways, the standards are dependent on a combination of both code elements. The number for Code Element 1 is dependent on the aeroplane reference field length of the most demanding aeroplane the aerodrome is intended to accommodate. Aeroplane reference field length relates only approximately to physical runway length as adjustments need to be made for factors including slope, elevation and temperature.

4.3 DESIGN AIRCRAFT TYPES

For airport planning purposes a design aircraft type(s) must to be nominated so that the respective aerodrome facility planning criteria can be applied. With the assumption that all RPT, corporate jet and jet aircraft maintenance traffic operates from Avalon Airport, then as a base case the design aircraft type for any complementary facility should be a light twin-engine aircraft such as Piper Chieftain, Cessna 310, Partenavia, Kingair or Metro III.

The applicable aerodrome reference code for these aeroplane types would be Code 2B.

It would be prudent also for planning purposes and future expansion to allow for aircraft types up to and including SAAB340, Dash 8-300, ATR72 or Q400 aircraft to use the facility for maintenance activities such as painting, refurbishment or overhaul.

The applicable aerodrome reference code for these aeroplane types would be Code 3C

4.4 INFRASTRUCTURE REQUIREMENTS

In order to meet the minimum operational requirements for light twin-engine aircraft a minimum runway length of 1200m would be required. To accommodate the SAAB or Dash 8 aircraft type for maintenance/painting purposes only i.e. no payload, a runway length of 1400m would be sufficient. A runway length of 1000m would be required for single-engine aircraft types.

Light aircraft are subject to low cross wind components compared to heavier aircraft types and in order to achieve an operational usability factor of 95 - 98% with the prevailing winds as recorded from the Geelong and Avalon Airport meteorology stations, two runways orientated in a north-south and east-west direction will be required. Ideally, both runways should be suitable for operation at night and as a minimum the primary runway should be suitable for an instrument non-precision approach. It is assumed that instrument approaches will be undertaken using approved GPS approach procedures. It is not envisaged that any ground based navigational aids will be provided.

Based on these criteria, the minimum infrastructure requirements for runways can be summarised in Table 4.
Table 4: Runway Infrastructure Requirements

<table>
<thead>
<tr>
<th>ARC</th>
<th>Instrument Capability</th>
<th>Length</th>
<th>Orientation</th>
<th>Surface</th>
<th>Lights</th>
</tr>
</thead>
<tbody>
<tr>
<td>3C</td>
<td>Non-precision</td>
<td>1200 – 1400m</td>
<td>North – South</td>
<td>Sealed</td>
<td>Yes</td>
</tr>
<tr>
<td>2B</td>
<td>Non-instrument</td>
<td>1000 – 1200m</td>
<td>East-West</td>
<td>Gravel</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Once the runway operational requirements have been determined, the appropriate approach, take-off and the obstacle limitation surfaces around the airport can also be nominated. For planning purposes it is assumed that the most demanding OLS will be adopted thus ensuring that the airport meets all the requirements to allow it to be either a registered or certified airport.

In addition to the runways, a taxiway network, sealed and natural surfaced aircraft parking areas, as well as space for hangars and other aviation support facilities will be required. The taxiway system shall allow for efficient airport operations to minimise congestion and runway occupancy times. This is ideally achieved through the provision of parallel taxiways to each runway threshold.

The geometric shape and dimensions of the movement area (runway, taxiways and aircraft parking apron) need to comply with CASA MOS139 for the applicable aircraft types intended to operate from the airport. Runway length, width and gradient are determined by aircraft code and performance requirements while the runway configuration (e.g. cross, tee, L shape) is site dependant. The size of the aircraft parking apron and supporting facilities is determined by aircraft size and the number of aircraft to be accommodated on the ground at any point in time.

The strength of the airfield pavements is classified using the ICAO Aircraft Classification Number/Pavement Classification Number (ACN/PCN) system. The ACN is calculated by the aircraft manufacturer for each aircraft type (based on maximum weight, number and size of wheels, weight per wheel and spacing of the landing gear) for different pavement types. Once the ACN is known and the frequency of use is determined then the airport design engineer can then determine the appropriate PCN requirements which in turn will determine the pavement type(s) and thickness.

To allow all weather operations, the movement area is assumed to be sealed or gravel surfaced rather than natural ground or grass.

Utilities will be required to the site to service the aircraft support facilities such as a flying school, hangars, fuel etc. The sizing of the utilities will be determined by the demand requirements.

In order to accommodate all of these requirements, a suitable airport site measuring approximately 2km on the north-south axis and 1.5km on the east-west axis would be required.
4.5 SECURITY REQUIREMENTS

Aviation security can be classified into two broad headings:

- **Aircraft Security**: Aircraft operators have an obligation to ensure that the aircraft is secure and not accessible for terrorist activities. The fitting of an approved anti-theft devices will be suffice in most cases for light aircraft that are parked out in the open.

- **Airport Security**: The extent of air transport operations and the aircraft size will determine the appropriate airport security requirements as required by the Office of Transport Security (OTS). This will include such items as perimeter fencing and airside access requirements for airport staff and passengers. From July 1 2012, OTS has mandated that all aircraft conducting air transport operations with a gross take-off weight of 20 tonnes or more will require full passenger and checked baggage screening. At RPT security controlled airports, it is mandatory for all personnel employed in airside activities to have a current Aviation Security Identification Card (ASIC).

Security requirements for the new facility will be dependent on a number of site specific considerations and risk assessment. However, it is reasonable to expect that regardless of the site or nature of operations, some high security fencing surrounding the main aircraft parking areas may be required with the majority of the facility provided with stock-proof perimeter fencing as a minimum.
5.0 OPPORTUNITES FOR EXPANSION

Each of the existing facilities identified and discussed in Section 2.0 (with the obvious exception of Geelong Airport) was assessed in relation to its potential to accommodate the Geelong Regional Airport requirements described in Section 4.0 through expansion of the existing facilities.

5.1 AVALON AIRPORT

Avalon Airport is in the process of releasing its revised Airport Master Plan for public consultation. Under the lease agreement with the Commonwealth, Avalon Airport is required to update its Master Plan every five years and submit this to the Commonwealth for approval. As part of the approvals process, the airport is required to undertake a public consultation phase in order to obtain public feedback for the future plans of the airport.

At the time of writing this report the details of the revised Master Plan were not finalised for public release, however advice from Avalon airport management indicated that the Master Plan includes consideration of the development of facilities for general aviation. The most likely location for these facilities is considered by REHBEIN Airport Consulting to be to east of Pousties Road on the site currently used as a temporary ALA airfield during the Australian International Airshow held at Avalon. This GA airfield is known as Avalon East.

A permanent development at Avalon East would most probably consist of a single north-south orientated runway (potentially up to 1500m long) parallel to the existing runway at Avalon Airport, based on a 2km separation. Provision for an east-west orientated runway at this site is considered unlikely given the complexities of cross-runway operations so close to the main Avalon runway. A preliminary review of the proposed location of the Avalon East runway would appear to satisfy line of sight issues and response times from the existing Avalon air traffic control tower, however Airservices Australia would need to be consulted to confirm this as well as in relation to exactly how operations on the two runway would be handled from an airspace perspective.

5.2 BARWON HEADS AIRFIELD

Barwon Heads Airfield as shown in Figure 5 has undergone an ownership change in the last two years and is now owned by a consortium comprising of 19 shareholders. Anecdotal evidence indicates that access to the airfield in future may be restricted to the shareholders only. In any event, the airport site is highly constrained and covers two separate titles, with the large portion of the east-west runway on the smaller titled area.

For the airfield to expand it would require land acquisition and planning rezoning with Council and public support. Given the ownership situation it is considered highly unlikely that this could be achieved in the foreseeable future.
5.3 LETHBRIDGE AIRPARK

The owner of Lethbridge Airpark has support from the Golden Plains Shire, City of Geelong and Geelong Regional Alliance (G21) to develop the site for GA, sport aviation and aviation related uses. The Golden Plans Shire has supported a rezoning application for the airpark (to a special use zone) to ensure that the correct zoning will support the long term expansion plans of the owner. The rezoning is expected to be formalised by the end of 2011.

Lethbridge Airpark has sufficient land to allow for additional hangars and other supporting buildings along with an expansion of the aircraft parking areas. The runway lengths are sufficient to support the GA and sport aviation activities being undertaken at the airpark. Relatively modest works including the provision of runway lighting and sealing of the longer runway would be sufficient to accommodate much of the private/recreational GA activity currently operating in the Greater Geelong region. Figure 6 shows the property layout and site boundaries of Lethbridge Airpark.

5.4 TORQUAY AIRPORT

Torquay Airfield is highly constrained within the existing boundaries. Refer to Figure 7. The airfield operates on a farming zone planning scheme. Due to the adjacent wetlands, the proximity of the nearby residential expansion of the northern part of Torquay and the airfield configuration, there are very limited opportunities to expand the airfield.

5.5 CERES AIRFIELD

Ceres Airfield consists of a curved runway on a small parcel of land nested in amongst the Barrabool Hills (refer to Figure 8). Amongst other factors, the surrounding terrain is the principal constraint which prevents the airfield from being expanded to a larger viable GA airport.

5.6 DRYSDALE AIRFIELD

Drysdale Airfield is located within the southern area of a vineyard and restaurant estate. Figure 9 shows the property layout and site boundaries. The property is currently understood to be on the market and there is no guarantee that the new owner will retain the airfield. The airfield area would probably be more valuable for vineyard expansion.

5.7 ST LEONARDS AIRFIELD

St Leonards Airfield has two short runways running boundary-to-boundary of the property (refer to Figure 10). The layout of the airfield and the constraints of the property boundary on the runway length do not lend for easy expansion. Additional land would be required to achieve the runway length requirements. The airfield is also located on a secondary road which would require upgrading. The presence of Danger Zones above the field and the UAV activity are both significant constraints on any increase in aviation operations at the site. It is highly unlikely that expansion of the airfield could be achieved in the foreseeable future.
5.8 SUMMARY OF POTENTIAL

Of the existing sites, only two represent any realistic potential to accommodate greater levels of activity. These are:

- Avalon East, which could potentially accommodate new infrastructure meeting the Geelong Regional Airport requirements; and
- Lethbridge Airpark, which could potentially be upgraded to accommodate a portion of the anticipated Geelong Regional Airport market.

Lethbridge Airpark offers a potential solution to serving some segments of the general aviation requirements of the Greater Geelong region which is realisable in the short-term. It would not be appropriate for large-scale commercial general aviation operations and its remoteness from the Geelong CBD means that it does not represent more than a partial solution. Expansion of Lethbridge Airpark has therefore not been evaluated as a potential site for a Geelong Regional Airport in its own right, but it should nevertheless be considered as a valuable complement to another facility.

Avalon East is considered to be the only existing site that offers potential as a site for a Geelong Regional Airport meeting the essential requirements of Section 4.0.
6.0 POTENTIAL SITES

6.1 INTRODUCTION

Given the relative lack of viable existing sites for the development of the Geelong Regional Airport, potential Greenfield sites were also identified. During the stakeholder consultation phase a number of sites were nominated by various stakeholders. In addition, the study team identified sites through consultation of available desktop information sources with reference to the following factors:

- Site area;
- Nearby terrain and obstacles;
- Airspace considerations;
- Environs and accessibility; and
- Environmental and planning issues.

Each of these factors is discussed further in Section 6.2.

Sites where identified initially through review of topographical and survey maps, aerial photography, nearby environs, land development plans and onsite reviews. This was then followed by detailed review and analysis of each site including a desktop environmental assessment and a site visit to each site.

6.2 GREENFIELD SITE SELECTION FACTORS

When considering potential Greenfield sites the following key items needed to be considered, in order to nominate suitable sites on which to undertake formal evaluation to determine the preferred solution for the Geelong Regional Airport.

6.2.1 SITE AREA

The site needs to be of sufficient size to accommodate runway lengths and other supporting infrastructure. The geometric boundary of the site, site constraints (title boundaries, on and off-site constraints i.e. rivers, obstacles, environmental issues etc.) topography, geotechnical information and bulk earth works are all factors that influence the airport’s geometric layout.

6.2.2 NEARBY TERRAIN AND OBSTACLES

Outside the immediate site boundary nearby terrain needs to be considered to ensure that the approach, take-off and circling areas are clear of terrain and obstacles. Penetrations through the airports Obstacle Limitation Surfaces (OLS) are classified as an obstacle. Where obstacles are identified they need to be reviewed through an aeronautical assessment to determine the impact on aircraft operations.
6.2.3 AIRSPACE
The site needs to be reviewed in relation to the likely nature of interaction with airspace from nearby airports, in particular the controlled airspace at Avalon, as well as prohibited, danger and restricted areas.

6.2.4 NEARBY ENVIRONS
The location of an airport needs to be cognisant of the local surrounds, including nearby residential areas, hospitals, schools, and other sensitive receptors in relation to aircraft flight paths and noise issues. Accessibility and the impact on local traffic issues, public transport and the availability of utilities is also a consideration.

6.2.5 ENVIRONMENTAL AND PLANNING
Environmental and planning issues need to be compliant with federal, state and local legislations and is a factor in site selection. It is important to understand these issues early in the process and the impact they may have on the project.

6.3 NOMINATED SITES
The following potential Greenfield sites were identified:

- Cement Works;
- West Torquay;
- Gheringhap;
- Anakie; and
- Barwon.

In addition, the site at Avalon East is brought forward from the review of opportunities for expanding existing sites discussed in Section 5.0. An overview of each of these six nominated sites is provided below:

6.3.1 CEMENT WORKS
The cement works site is located 5km south-west from the existing Geelong Airport between the existing Blue Circle cement works factory, Mt Duneed Road to the south and Ghazeepore Rd and Bogans Lane. Refer to Figure 11.

The site is relatively flat with a slight rise to the north. The area comprises of grassed paddocks with trees along some of the boundary fence lines and some concentrated patches within the two paddocks. There are three (3) dams and no significant waterways across the site.

The site comprises of two (2) parcels of land either side of Anglesea Road consisting of approximately 1.6km by 1.6km in size.

The main obstacles in the area are the cement works factory at the northern edge of the site. In addition to the height of the physical buildings and stack, the exhaust plume from factory...
production plant may constitute a hazard to aircraft and would require assessing. A communications tower to the east of the site on top of Mount Duneed would also require assessment.

The area is zoned SU (Schedule 7) – Special Use Zone. The planning overlays across the site include:

- Vegetation Protection Overlay (Schedule 1); and
- Public Acquisition Overlay across the site.

The environmental assessment of the site has revealed the following:

- Fauna
  - National significance: Growling Grass Frog
  - State significance: Grey Goshawk
  - Regional significance: Latham’s snipe

- Flora
  - Extant EVC mapping shows small patches of Plains Grassland and Grassy Woodland (EVC 175) throughout the study area and surrounds, predominately along roadsides and creek lines.
  - No threatened species have been recorded, however if EVC’s are present then targeted surveys may be necessary.

- Cultural and Heritage
  - The study area edge includes the 50m Cultural Heritage Sensitivity buffer for the Duneed Creek
  - One Aboriginal site is located on the Cultural Heritage Sensitivity buffer for Duneed Creek, approximately 100m from the area of interest.

### 6.3.2 WEST TORQUAY

The West Torquay site is located 6km west from the existing Torquay airfield between Blackgate Rd to the north and Coombes Rd to the south, Anglesea Rd to the west and Wessmate Rd and Surf Coast Rd to the east. Refer to Figure 12.

The site is relatively flat with a slight fall to the north. The area comprises of cleared paddocks of small to medium size with a number of dams. A large part of the area is dedicated horticultural and market garden activities. There is a water course located in the northern part of the area.

High voltage power lines transverse the site from the south west corner to approximately half way along the northern boundary.

The area is zoned FZ – Farming Zone with the surrounding areas zoned LDRZ – Low Density Residential Zone, IN3Z – Industrial 3 Zone and PCRZ – Public Conservation and Resource Zone. The planning overlays across the site include:
The environmental assessment of the site has revealed the following:

- **Fauna**
  - National significance: Growling Grass Frog
  - State significance: Brown Toadlet, Southern Toadlet
  - Regional significance: Latham’s Snipe

- **Flora**
  - Extant EVC mapping shows moderate sized patches of the healthy woodlands/sand heathland (EVC 892) mosaic in the south of the study area. Small patches of Grassy Woodland (EVC 175) and swampy riparian woodland (EVC 83) may also occur
  - No threatened species recorded within the study area, however there are multiple records of state listed Ballarine Yellow gum around the Torquay area

- **Cultural and Heritage**
  - North-west corner lies within the Merrigig Creek area of Cultural Heritage Sensitivity
  - Historic Heritage site located immediately north of the area of interest

### 6.3.3 GHERINGHAP

The Gheringhap site is located immediately south of the Gheringhap township, west of Fyansford-Gherringhap Rd, north of the Hamilton Highway and east of Burnside Rd. Refer to Figure 13.

The site is relatively flat with small undulating areas and some low lying areas prone to local flooding. The site is clear with a limited number of trees across the site and area is made up of varying size paddocks. A number of hatcheries are located along Burnside Road and broiler industry occurs along McCurdies Road and Booley Road. The western end of the site has a number of waterways feeding into Bruce Creek on the western side of Burnside Road. The south east sector of the site contains an underground gas line.

Two high voltage power lines transverse the site. One is located in between two train lines in the northern sector of the site and the other is located through the middle of the site running in a north-east direction.

The area is zoned FZ – Farming Land. The planning overlays across the site include:

- Environmental Significance Overlay (Schedule 2)
Golden Plains Shire Council has advised that the Gheringhap site falls within the study area of the Southeast Land Use Planning Review. In 2007, Golden Plains Shire Council completed the Southeast Land Use Planning Review to develop a land use framework to guide the future planning of the area and to take advantage of the opportunities brought with the completion of the Geelong Ring Road by-pass. The Southeast Land Use Planning Review Strategy is now included within the Golden Plains Planning Scheme.

Bannockburn and Batesford have been identified as areas for significant residential growth in the Batesford Framework Plan and the Bannockburn Urban Design Framework Plan respectively. Part of the site is also subject to a current Work Authority for bluestone extraction and a Planning Permit which allows the extraction of up to 150,000 tonnes of stone resource per annum.

Golden Plains Shire Council is soon to commence the development of a structure plan for the locality of Gheringhap.

The environmental assessment of the site has revealed the following:

- **Fauna**
  - National significance: Swift Parrot, Growling Grass Frog and Golden Sun Moth
  - State Significance: Grey Goshawk

- **Flora**
  - Extant EVC mapping shows moderate sized patches of Plains Grasslands, with one small patch of Swamp Scrub (EVC 53) at the centre of the study area
  - Two state listed species, Small Scruf-pea and Glenelg Pomaderris, have been recorded within the study area. Small Scruf-pea has been recorded along the Bruce Creek, whilst the Glenelg Pomaderris record was last recorded in 1883. It is unlikely that either will be a constraint

- **Cultural and Heritage**
  - Four Aboriginal sites within the area of interest
  - Two areas of Cultural Heritage Sensitivity within area of interest

6.3.4 ANAKIE

The Anakie site is bounded by Carrs Rd to the north, Bacchus Marsh Rd to the east, Staceys Rd to the south and Geelong-Ballan Rd to the west. Refer to Figure 14 and 14A.

The area is relatively flat with the ground rising to the north and small undulating areas across the site with some low lying areas which may be prone to local flooding. A number of water courses run through the site.
There is anecdotal evidence to suggest that ‘land banking’ has been undertaken across parts of the site with the view to having the land rezoned at some time in the future to low density residential allotments.

High voltage power lines are located within the eastern half of the site running in a north-south direction.

The area is zoned FZ – Farming Zone with a small parcel of land located along Stacey’s Road as SUZ 12 – Special Use Zone. The planning overlays across the site include:

- Environmental Significant Overlay (Schedule 4)
- Heritage Overlay
- Land Subject to Inundation

The environmental assessment of the site has revealed the following:

- **Fauna**
  - Close to the You Yangs and Brisbane Ranges National Parks
  - National significance: Swift Parrot, Plains Wanderer, Golden Sun Moth, Stripped Legless Lizard
  - State significance: Brolga, FFG Act – listed Waterfowl e.g. Blue-billed Duck

- **Flora**
  - EVC mapping (2005) shows moderate sized patches of Plains Grassland
  - No threatened species have been recorded (however if EVC’s are present then targeted surveys may be necessary)

- **Cultural and Heritage**
  - Eighteen Aboriginal sites in north-west corner
  - Historic heritage site immediately south-west of area of interest

**6.3.5 BARWON**

The Barwon site is located between Barwon Prison at the western end of the site and Forrest Rd at the eastern end, Peak Rd along the northern boundary and Windernere Rd to the South. Refer to Figure 14 and 14A.

The site is flat and consists of cleared grassy paddocks. A number of water ways run through the site with the majority of trees located along the water course. The southern part of the site abuts the Serendip Sanctuary and Waterlands Education Facility.

High voltage power lines are located slightly to the west of the centreline which run in a north-south direction.

The area is zoned FZ - Farming Zone and PCRZ – Public Conservation and Resource Zone. The planning overlays across the site include:
The environmental assessment of the site has revealed the following:

- **Fauna**
  - Close to the You Yangs National Park and adjacent to the Serendip Sanctuary
  - National significance: Swift Parrot, Plains Wanderer, Grassland Earless Dragon, Growling Grass Frog, Golden Sun Moth and Stripped Legless Lizard
  - State significance: Brolga, Magpie Goose, FFG Act-listed Waterfowl e.g. Blue-billed Duck

- **Flora**
  - EVC mapping shows small patches of Plains Grassland and Plains Grassy Woodland (EVC 55)
  - Plains Grassy Woodland also corresponds with an EPBC Acted listed community
  - No threatened species have been recorded, however there are multiple threatened species records within the Serendip Sanctuary and the You Yangs which are both in close proximity of the study area

- **Cultural and Heritage**
  - Adjacent to the Serendip Sanctuary, an area of Cultural Heritage Sensitivity. Four Aboriginal sites within area of interest and the Serendip Sanctuary
  - Hovells Creek, an area of Cultural Heritage Sensitivity, runs through the area of interest. Fourteen Aboriginal sites within area of interest and the Hovells Creek area of Cultural Heritage Sensitivity.

### 6.3.6 AVALON EAST

Avalon East is located south of Beach Rd between Pousties Rd and the Western Treatment plant. Refer to **Figure 15**.

The site is flat, cleared and comprises of cut grass paddocks with low height trees along the western boundary line. A waterway is located in the lower portion of the site and the area is free of obstacles.

The area is zoned FZ – Farm Zone. The areas adjoining the site area are zoned , PUZ1 – Public Use Zone (Schedule1), IN2Z – Industrial 2 Zone and RCZ15 – Rural Conservation Zone (Schedule 15)

The planning overlays across the site include:

- Environmental Significance Overlay (Schedule 4)
• Design and Development Overlay (Schedule 20)
• Development Plan Overlay (Schedule 1)

The environmental assessment of the site has revealed the following:

• Fauna
  - In proximity to Western Treatment Plant, RAMSAR site
  - National Significance: Orange-bellied Parrot, Grassland Earless Dragon, Stripped Legless Lizard, Growling Grass Frog, Golden Sun Moth and Migratory Shorebirds
  - State significance: Brolga, Flat-tailed Dunnart.

• Flora
  - Extant EVC mapping shows, moderate sized patches of Plains Grassland throughout the study area
  - No threatened species have been recorded, however if EVC's are present then targeted surveys may be necessary.

• Cultural and Heritage
  - The area of interest is located on the Koo Wee Rup Plain, and area of Cultural Heritage Sensitivity.
7.0 SOLUTION EVALUATION

Each of the nominated sites identified in Section 6.0 was subject to detailed evaluation in order to identify the most feasible solutions. This section describes the evaluation process and presents the outcomes.

7.1 EVALUATION PROCESS

A multi-criteria analysis was undertaken to evaluate the nominated sites. The process for the evaluation involved the following steps:

- List the proposed evaluation criteria;
- Propose scores for each solution against each criterion, based on the findings of the data gathering activity;
- Allocate weightings to each criterion in consultation with the reference group;
- Apply the weightings to achieve a combined overall score for each site; and
- Rank the solutions and identify the most feasible options for further consideration.

Each step is discussed further in the following sections.

7.2 EVALUATION CRITERIA

The following evaluation criteria were developed in consultation with the PRG.

- **Operational compatibility** – taking into consideration the following influencing factors on the ability of the site to accommodate the required aviation operations:
  - Capability to accommodate the desirable physical requirements including ground infrastructure and the impact of obstacles;
  - Airspace and air traffic control compatibility; and
  - Ability to integrate the proposed mix of aeronautical operations.

- **Potential for Expansion** – considering the capacity of the site for expansion beyond the immediate infrastructure requirements and initial development phase, taking into account:
  - Growth potential in support of aviation activity through upgrade and enhancement of movement area infrastructure; and
  - Availability of land for compatible on-site activities including aviation support and other synergistic development within the airport boundary.

- **Economic Development Potential** – considering the prospects for realising wider economic benefits resulting from the airport development through the enhancement of land values and commercial development in the areas surrounding the airport, including
The extent of any existing incompatible development that might constrain airport operations through amenity considerations or which could prevent the development of economically valuable activities in the airport environs;

- The extent of any rezoning required to provide for compatible surrounding land use development; and

- The likely ease or difficulty of achieving the required rezoning within relevant timeframes.

- **Accessibility** – the relative ease with which the airport facility might be accessed by airport users, tenants, suppliers, support services and other stakeholders, including an assessment of:
  - Proximity to Geelong CBD;
  - The extent and nature of existing and future road links; and
  - The extent and nature of existing and future rail links.

- **Environmental issues** – involving an assessment of the risk associated with following aspects undertaken by environmental specialists:
  - Flora;
  - Fauna; and
  - Cultural and Heritage.

- **Cost Influences** – a high-level assessment of the major influencing factors on the development costs, including in particular:
  - The existing landform on the site and the relative need for bulk earthworks to provide the required platforms for the various infrastructure;
  - The likely site ground conditions, including drainage and soil type;
  - The availability of utilities to the site and requirements for providing utilities and road access servicing the site; and
  - Potential land acquisition costs.

Needless to say, given the lack of detailed investigation possible within the budget and timeframe of this study, many of these factors were only able to be assessed at a very preliminary level.

### 7.3 MAGNITUDE SCORING

Each site was allocated a score against each criterion based on consideration of all the information gained through the data gathering phase of the study. The scoring process involved selecting a score using a magnitude scale from 0 to 10, where 10 represents the “best possible’ outcome and 0 represents the “worst possible’ outcome for that criterion. This scoring system allows the relative differences between sites to be quantified as well as indicating whether any particular site is considered to rate well or poorly against each criterion.
The scores were allocated by the consultants in a workshop session. Whilst necessarily involving an element of subjectivity, care was taken to allocate the scores as objectively as reasonable possible. Wherever practicable an element of quantification was introduced into the assessment, however this was not always possible due to the level of detailed information and time available. Full consensus between the consultants was required in order for a score to be agreed. Scores were allocated in isolation of the weightings in order to minimise any potential bias in the results.

The magnitude scores allocated to each site against the evaluation criteria are indicated in Table 5.

### Table 5: Magnitude Scores

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Cement Works</th>
<th>West Torquay</th>
<th>Gheringhap</th>
<th>Anakie</th>
<th>Barwon</th>
<th>Avalon East</th>
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<tr>
<td>Operational Compatibility</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>3</td>
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</tr>
<tr>
<td>Potential for Expansion</td>
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<td>7</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>8</td>
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<td>5</td>
<td>7</td>
<td>6</td>
<td>3</td>
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<td>3</td>
<td>9</td>
<td>4</td>
<td>5</td>
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<td>Environmental Issues</td>
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<td>2</td>
<td>2</td>
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<td>Cost Influences</td>
<td>1*</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>9</td>
</tr>
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</table>

* Note: The Cement Works site would require the existing lease on site to be paid out plus the purchase of the land. The existing lease costs are unknown but expected to be significant due to the unexpired duration of the lease (30 years) and could potentially add an order of magnitude greater to the land purchase costs

### 7.4 WEIGHTINGS

In order to ensure the evaluation outcomes properly represent the priorities of the PRG in relation to a Geelong Regional Airport facility, each evaluation criterion was allocated a relative weighting reflecting its importance to the preferred ranking of sites. The weightings were agreed in discussion with the PRG in parallel with the allocation of magnitude scores. Table 6 presents the weightings adopted for the selection criteria.
Table 6: Criteria Weightings

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Relative Weighting</th>
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<tr>
<td>Operational Compatibility</td>
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<td>Economic Development Potential</td>
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<td>Accessibility</td>
<td>15%</td>
</tr>
<tr>
<td>Environmental</td>
<td>10%</td>
</tr>
<tr>
<td>Cost Influences</td>
<td>10%</td>
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</tbody>
</table>

7.5 WEIGHTED SCORES

Through the application of the respective weightings to the magnitude scores and summation of all the weighted scores, a combined weighted score for each site was determined. The resulting weighted scores are shown in Table 7.

Table 7: Weighted Score Results

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Cement Works</th>
<th>West Torquay</th>
<th>Gheringhap</th>
<th>Anakie</th>
<th>Barwon</th>
<th>Avalon East</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Compatibility</td>
<td>1.50</td>
<td>1.75</td>
<td>2.00</td>
<td>1.75</td>
<td>0.75</td>
<td>1.00</td>
</tr>
<tr>
<td>Potential for Expansion</td>
<td>1.05</td>
<td>1.05</td>
<td>1.20</td>
<td>1.50</td>
<td>0.75</td>
<td>1.20</td>
</tr>
<tr>
<td>Economic Development Potential</td>
<td>0.50</td>
<td>1.25</td>
<td>1.75</td>
<td>1.50</td>
<td>0.75</td>
<td>2.25</td>
</tr>
<tr>
<td>Accessibility</td>
<td>1.20</td>
<td>0.45</td>
<td>1.35</td>
<td>0.60</td>
<td>0.75</td>
<td>1.20</td>
</tr>
<tr>
<td>Environmental Issues</td>
<td>0.50</td>
<td>0.30</td>
<td>0.30</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Cost Influences</td>
<td>0.10</td>
<td>0.80</td>
<td>0.30</td>
<td>0.30</td>
<td>0.70</td>
<td>0.90</td>
</tr>
<tr>
<td>COMBINED WEIGHTED SCORE</td>
<td>4.85</td>
<td>5.60</td>
<td>7.10</td>
<td>5.85</td>
<td>3.90</td>
<td>6.75</td>
</tr>
</tbody>
</table>
7.6 PREFERRED SITES

The sites, ranked from first to last on the basis of the combined weighted scores determined from the evaluation process, are presented in Table 8.

**Table 8: Relative Site Ranking**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Site</th>
<th>Combined Weighted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gheringhap</td>
<td>7.10</td>
</tr>
<tr>
<td>2</td>
<td>Avalon East</td>
<td>6.75</td>
</tr>
<tr>
<td>3</td>
<td>Anakie</td>
<td>5.85</td>
</tr>
<tr>
<td>4</td>
<td>Torquay West</td>
<td>5.60</td>
</tr>
<tr>
<td>5</td>
<td>Cement Works*</td>
<td>4.85</td>
</tr>
<tr>
<td>6</td>
<td>Barwon</td>
<td>3.90</td>
</tr>
</tbody>
</table>

* Note that the Cost Influences score for the Cement Works site, if the land were available free of charge and without lease payout costs, would contribute a maximum of a further 0.90 to the site’s combined weighted score, to give a total of 5.75, ranking it 4th between Anakie and West Torquay.

From the ranking presented in Table 8 Gheringhap represents the highest scoring site overall. Whilst this ranking represents, by definition, the ideal solution it is recognised that the evaluation does not explicitly consider two important considerations. These are the likely development timeframe and the actual order of magnitude of development costs required to implement each solution.

These aspects are considered in more detail in the following sections in relation to the two (2) highest ranked sites from the evaluation process, being Gheringhap and Avalon East.
8.0 TIMEFRAME

8.1 INTRODUCTION

The timeframe for development is an important consideration in the selection of the preferred solution for the Geelong Regional Airport. Opportunities have varying windows in which to capitalise and so, in certain cases, the ability to realise a sub-optimal but adequate solution in a shorter timeframe can be preferable to developing a more technically optimum facility which requires a longer development approval process.

There are many factors that affect the timing and program for the establishment of a new airport. A preliminary indication of timeframes based on anticipated milestones for the project based on two scenarios.

- Scenario 1 – Establishment of a Greenfield facility on the Gheringhap site
- Scenario 2 – Establishment of general aviation facility at Avalon East

The timeframes are based on knowledge and experience across a range of similar projects, however the actual development program will be dictated by political and market forces at the time of execution.

8.2 SCENARIO 1: GHERINGHAP

8.2.1 BACKGROUND

The establishment of a Greenfield airport facility involves identifying suitable parcels of land that meet the physical requirements to accommodate the proposed airport infrastructure and expansion requirements. In the ideal scenario, a number of parcels would be nominated as potential sites and a detailed due diligence would be undertaken across each parcel to determine the preferred land acquisition and development boundary.

The due diligence process should include detailed investigation and consideration of:

- Existing land use
- Surrounding land use
- Planning controls, zoning and ability for rezoning
- Land ownership and ability to purchase
- Environmental studies (fauna, flora and cultural)
- Groundwater
- Geotechnical
- Topography
- Drainage
- Access
• Landscape/vista
• Highest and best use of land

Development on any Greenfield site requires extensive stakeholder consultation and in the case of an airport facility will no doubt required a full Environmental Effects Statement (EES). Depending on the outcome of the due diligence process it may be a requirement to undertake a Cultural and Heritage Management Plan (CHMP).

Following the completion of the due diligence phase, the planning scheme amendment process can commence. The planning scheme amendment requires Council support and the Minister’s authorisation to prepare the amendment.

8.2.2 TIMING AND APPROVALS

An indicative assessment of the likely timeframe for the various activities has been undertaken. The suggested minimum time allowance required for the key activities is outlined in Table 9 below.

<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Duration (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nomination of preferred facility location</td>
<td>3</td>
</tr>
<tr>
<td>Site due diligence (subject to landowner access)</td>
<td>3 – 6</td>
</tr>
<tr>
<td>Selection of preferred land boundary</td>
<td>3</td>
</tr>
<tr>
<td>Land acquisition</td>
<td>12 – 24</td>
</tr>
<tr>
<td>Referral for Environmental Effects Statement</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Effects Statement</td>
<td>12 – 18</td>
</tr>
<tr>
<td>Preparation and approval of CHMP</td>
<td>6</td>
</tr>
<tr>
<td>Planning permit</td>
<td>6 – 12</td>
</tr>
<tr>
<td>VCAT review</td>
<td>3 – 6</td>
</tr>
<tr>
<td>Planning scheme amendment</td>
<td>24 - 60</td>
</tr>
<tr>
<td>Concept design and budget cost estimates</td>
<td>3 – 6</td>
</tr>
<tr>
<td>Detail design and cost estimates</td>
<td>6 – 9</td>
</tr>
<tr>
<td>Tender and ward</td>
<td>3</td>
</tr>
<tr>
<td>Construction</td>
<td>15 – 18</td>
</tr>
</tbody>
</table>

It should be noted that some activities can run concurrently while other activities can be brought forward, albeit with some risk of rework. The estimated overall elapsed timeframe for a Greenfield site development is considered to be between 5 – 10 years.
8.3 SCENARIO 2: AVALON EAST

8.3.1 BACKGROUND

Avalon Airport is a leased site from the Commonwealth (Department of Defence). Following the commencement of RPT services at Avalon in 2004, the Commonwealth required the airport to comply with the planning requirements as per the other Commonwealth leased airports such as Melbourne and Moorabbin airports. That is; the airport is to prepare an Airport Master Plan (AMP) and have it updated every 5 years, and where there is major development to be undertaken, prepare a major development plan (MDP) for approval by the Commonwealth. Both the AMP and the MDP process require extensive stakeholder consultation prior to its submission to the Commonwealth. As a Commonwealth leased asset, the airport is not subject to local and state planning scheme requirements; however they are required to comply with State and Commonwealth environmental legislation.

The major advantage of this scenario is that there is no land acquisition or planning control scheme amendment requirements. Whilst a similar due diligence process to that for Scenario 1 would need to be undertaken, the development of this site is more closely related to the expansion of an existing facility than a virgin development. As a result, several aspects of the due diligence process can be expected to be resolved more readily than would be the case for a Greenfield development and in the case of Avalon East the relevant parcels of land to be investigated are effectively already specified.

8.3.2 TIMINGS AND APPROVALS

An indicative assessment of the likely timeframe for the various activities has been undertaken. The suggested minimum time allowance required for the key activities is outlined in Table 10 below.

<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Duration (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept Planning Phase</td>
<td>2 – 3</td>
</tr>
<tr>
<td>Airspace Review by Airservices Australia</td>
<td>3 – 6</td>
</tr>
<tr>
<td>Airport Master Plan Amendment (if required)</td>
<td>3 – 6</td>
</tr>
<tr>
<td>EPBC Referral due to nearby RAMSAR site</td>
<td>3 – 6</td>
</tr>
<tr>
<td>Environmental Studies</td>
<td>3</td>
</tr>
<tr>
<td>Prepare Draft MDP</td>
<td>2 – 3</td>
</tr>
<tr>
<td>MDP Public Consultation and submission</td>
<td>3 – 4</td>
</tr>
<tr>
<td>MDP Approval</td>
<td>3</td>
</tr>
</tbody>
</table>
### Key Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept design and budget cost estimates</td>
<td>3 – 6</td>
</tr>
<tr>
<td>Detail design and cost estimates</td>
<td>6 – 9</td>
</tr>
<tr>
<td>Tender and award</td>
<td>3</td>
</tr>
<tr>
<td>Construction</td>
<td>9 – 12</td>
</tr>
</tbody>
</table>

It should be noted that some activities can run concurrently while other activities can be brought forward, albeit with some risk of rework. The estimated overall elapsed timeframe for the development of the Avalon East site development is considered to be between 1 – 2 years.
9.0 INDICATIVE COSTS

9.1 INTRODUCTION

While the basic infrastructure requirements for the airport are similar for both sites, there are significant cost differences primarily due to the fact that one site is leased from the Commonwealth and the other site is freehold and they are subject to different planning and approval processes.

The Gheringhap site has additional infrastructure costs associated with access, topography, services and geotechnical. In addition to the higher infrastructure costs, the Gheringhap site attracts additional cost for environmental studies, planning and rezoning and a larger stakeholder consultation program.

The indicative costs estimates are based on our knowledge and experience across a range of projects; however actual costs will be dictated by market forces at the time of execution. Factors that influence cost include the number of large civil engineering projects being undertaken across the state and the availability and price of materials and resources at the time of construction.

9.2 GHERINGHAP

The budget cost estimates for developing an airport at Gheringhap consists of the following:

- **Planning and Approvals**
  - As discussed in Section 8.2.

- **Airside Infrastructure**
  - Two (2) runways: 1,400m long by 30m wide and 1,200m long by 23m wide;
  - Parallel field and stub taxiways;
  - Illuminated wind indicators;
  - Airside markers and signage;
  - Aircraft parking area;
  - Airfield lighting;
  - Drainage;
  - Perimeter road;
  - Security and boundary fencing; and
  - Power and communications;

- **Landside Infrastructure**
  - Entry point from highway;
  - Access road (allow 2km from highway);
  - Internal road and car park area;
  - Drainage;
- Utilities; and
- Onsite sewage treatment package.

The indicative cost estimate for the Gheringhap site is between $30 – 45 million and includes a budget estimate of $2 million for the planning and approvals process. The price excludes GST, legal fees, land acquisition or building costs.

### 9.3 AVALON EAST

The budget cost estimates for developing an airport at Avalon East consists of the following:

- **Planning and Approvals**
  - As outlined in Section 7.3.

- **Airside Infrastructure**
  - Single runway 1,400m long and 30m wide
  - Parallel field and stub taxiways
  - Illuminated wind indicators
  - Airside markers and signage
  - Aircraft parking area
  - Airfield lighting
  - Drainage
  - Perimeter road
  - Security and boundary fencing
  - Power and communications

- **Landside Infrastructure**
  - Entry from Pousties Road
  - Reseal Pousties Road
  - Internal road and car park area
  - Drainage
  - Utilities (assume utilities will be available from nearby hangar No 6)

The indicative cost estimate for Avalon East is between $20 – 25 million and includes a budget estimate of $1 million for the planning and approvals process. The price excludes, GST, legal fees, lease negotiations with the Commonwealth and building costs.
10.0 RECOMMENDATIONS

On the basis of the findings of the Geelong Regional Airport Feasibility Study, described in the preceding sections, the following recommendations are made:

• The State Government and City of Greater Geelong should collaborate with the operators of Avalon Airport to develop a long term infrastructure layout and staged development plan that will allow Avalon Airport to attract and adequately service commercial segments of the General Aviation market, and as far as is reasonably practicable offering an accessible alternative for recreational General Aviation users, without adversely impacting on the airport operator's commercial objectives for the airport. To facilitate the implementation of the agreed development plan, the State Government and City of Greater Geelong should consider providing support and assistance to Avalon Airport in developing a revised airport Master Plan and ensuring its passage through the relevant approvals processes.

• The State Government and the Golden Plains Shire Council, with the support of the City of Greater Geelong, should consider providing support and assistance to the owners of the Lethbridge Airpark in submitting an application for Regional Airport Funding to undertake the upgrade of the runway to a sealed surface and installation of runway lighting to enable this facility to serve those recreational and small-scale commercial General Aviation users that choose not to locate at Avalon or another of the existing private airfield facilities.

• The State Government, the City of Greater Geelong and the Golden Plains Shire Council should consider the potential benefits to the region associated with safeguarding a possible future airport site in the Gheringhap area, to ensure land availability and compatible land use planning are in place should the development of such a facility become warranted at some point over the next 50 years. To achieve this, the Geelong Regional Airport Feasibility Study should be considered by the Golden Plains Shire Council in developing the Gheringhap Structure Plan.
GEELONG AIRPORT

<table>
<thead>
<tr>
<th>Runway (No.)</th>
<th>2-1200m GRAVEL, 1000m SEALED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runway Lighting</td>
<td>YES</td>
</tr>
<tr>
<td>Based Aircraft</td>
<td>15</td>
</tr>
<tr>
<td>Category</td>
<td>ALA CODE 2A</td>
</tr>
<tr>
<td>Feature</td>
<td>Details</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>RUNWAY (No.)</td>
<td>1- 3048m SEALED</td>
</tr>
<tr>
<td>RUNWAY LIGHTING</td>
<td>YES</td>
</tr>
<tr>
<td>BASED AIRCRAFT</td>
<td>NIL</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>CERTIFIED CODE 4E</td>
</tr>
<tr>
<td><strong>RUNWAY (No.)</strong></td>
<td>2- 750m, 450m GRASS/GRAVEL</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>RUNWAY LIGHTING</strong></td>
<td>YES</td>
</tr>
<tr>
<td><strong>BASED AIRCRAFT</strong></td>
<td>20</td>
</tr>
<tr>
<td><strong>CATEGORY</strong></td>
<td>ALA CODE 1A</td>
</tr>
<tr>
<td>RUNWAY (No.)</td>
<td>2- 1250m, 850m GRASS</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>RUNWAY LIGHTING</td>
<td>NIL</td>
</tr>
<tr>
<td>BASED AIRCRAFT</td>
<td>20 GA - 40 RAA</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>ALA CODE 2A</td>
</tr>
</tbody>
</table>
### TORQUAY AIRFIELD

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUNWAY (No.)</td>
<td>3- 1000m, 650m, 500m GRASS</td>
</tr>
<tr>
<td>RUNWAY LIGHTING</td>
<td>NIL</td>
</tr>
<tr>
<td>BASED AIRCRAFT</td>
<td>7</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>ALA CODE 1A</td>
</tr>
</tbody>
</table>

**FIGURE 7**
## CERES AIRFIELD

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUNWAY (No.)</td>
<td>1- 700m GRAVEL/CURVED</td>
</tr>
<tr>
<td>RUNWAY LIGHTING</td>
<td>NIL</td>
</tr>
<tr>
<td>BASED AIRCRAFT</td>
<td>&lt;5</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>ALA CODE 1A</td>
</tr>
<tr>
<td><strong>RUNWAY (No.)</strong></td>
<td>2-700m, 400m GRAVEL</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>RUNWAY LIGHTING</strong></td>
<td>NIL</td>
</tr>
<tr>
<td><strong>BASED AIRCRAFT</strong></td>
<td>&lt;5</td>
</tr>
<tr>
<td><strong>CATEGORY</strong></td>
<td>ALA CODE 1A</td>
</tr>
</tbody>
</table>
**ST LEONARDS AIRFIELD**

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUNWAY (No.)</td>
<td>2- 700m, 650m GRAVEL</td>
</tr>
<tr>
<td>RUNWAY LIGHTING</td>
<td>NIL</td>
</tr>
<tr>
<td>BASED AIRCRAFT</td>
<td>&lt;5</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>ALA CODE 1A</td>
</tr>
</tbody>
</table>
APPENDIX B

STAKEHOLDER CONSULTATION SCHEDULE
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Name</th>
<th>Position</th>
<th>Consultation by</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avalon Airport</td>
<td>Justin Giddings</td>
<td>CEO</td>
<td>Face to face</td>
<td>Avalon</td>
</tr>
<tr>
<td>Avalon Airport</td>
<td>Amanda Clayton</td>
<td>Compliance Manager</td>
<td>Face to face</td>
<td>Avalon</td>
</tr>
<tr>
<td>Geelong Airport</td>
<td>Andrew Townley</td>
<td>Pilot and CEO</td>
<td>Face to face</td>
<td>Geelong</td>
</tr>
<tr>
<td>Torquay Airfield</td>
<td>Randy Walsh</td>
<td>Pilot, Owner &amp; Operator of Torquay Airfield and Tiger Moth World</td>
<td>Face to face</td>
<td>Torquay</td>
</tr>
<tr>
<td>Barwon Heads Airfield</td>
<td>Edie Edwards</td>
<td>Chairman of the owners group</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Barwon Heads Airfield</td>
<td>Aubrey Coote</td>
<td>Chief Pilot of RAA flying training</td>
<td>Face to face</td>
<td>Barwon Heads</td>
</tr>
<tr>
<td>Barwon Heads</td>
<td>Les Tyak</td>
<td>Pilot and former shareholder of Barwon Heads Airfield</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Lethbridge Airpark</td>
<td>Gary Baum</td>
<td>Pilot and Airpark Owner and Operator</td>
<td>Face to face</td>
<td>West Melbourne</td>
</tr>
<tr>
<td>Australian International Airshow</td>
<td>Ian Honnery</td>
<td>Pilot and CEO</td>
<td>Face to face</td>
<td>Avalon</td>
</tr>
<tr>
<td>Fibre Work</td>
<td>Kim Klopper</td>
<td>Pilot and Managing Director</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Aerolite</td>
<td>Kenneth Jarvis</td>
<td>Managing Director</td>
<td>Telephone/Survey</td>
<td></td>
</tr>
<tr>
<td>City of Greater Geelong</td>
<td>Simon Jackson</td>
<td>Senior Projects Office</td>
<td>Face to face/Telephone</td>
<td>Geelong</td>
</tr>
<tr>
<td>City of Greater Geelong</td>
<td>Gary van Dreil</td>
<td>Chair G21 Transportation Pillar</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Surfcoast Shire</td>
<td>Neil Noelker</td>
<td>Business and Rural Development Consultant</td>
<td>Telephone/Survey</td>
<td></td>
</tr>
<tr>
<td>Borough of Queenscliffe</td>
<td>Lenny Jenner</td>
<td>CEO</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>Colac Otway Shire</td>
<td>Mike barrow</td>
<td>Manager Economic Development</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Department of Planning and Community Development</td>
<td>Kym McGough</td>
<td>Manager Planning and Development Barwon South West Region</td>
<td>Face to face</td>
<td>Geelong</td>
</tr>
<tr>
<td>Department of Sustainability and Environment</td>
<td>Rob Small</td>
<td>Manager Western Region</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Organisation</td>
<td>Name</td>
<td>Position</td>
<td>Consultation by</td>
<td>Location</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------</td>
<td>------------------------------------</td>
<td>-------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Geelong Chamber of Commerce</td>
<td>Bernaette Uzelac</td>
<td>Executive Officer</td>
<td>Telephone/Survey</td>
<td></td>
</tr>
<tr>
<td>G21 Regional Alliance</td>
<td>Elaine Carbines</td>
<td>CEO</td>
<td>Telephone/Survey</td>
<td></td>
</tr>
<tr>
<td>Golden Plains Shire</td>
<td>David Spear</td>
<td>Executive Projects Officer</td>
<td>Telephone/Email</td>
<td></td>
</tr>
<tr>
<td>Committee for Geelong</td>
<td>Peter Dorling</td>
<td>Executive Director</td>
<td>Telephone/Email</td>
<td></td>
</tr>
<tr>
<td>Australian Army</td>
<td>Colonel Andrew Gallaway</td>
<td>Commanding Officer Queenscliff Barracks</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Victorian Police</td>
<td></td>
<td>Chief Pilot</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Air Ambulance (Rotary Wing)</td>
<td></td>
<td>Chief Pilot</td>
<td>Telephone</td>
<td></td>
</tr>
</tbody>
</table>