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ESSENDON AIR TRAFFIC CONTROL TOWER NO. 3

HERITAGE MANAGEMENT PLAN

Wirraway Road,
Essendon Airport,
Melbourne

February 2021

prepared for

airservices

prepared by

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Cover image: Air traffic controllers at work, Essendon control tower, early-1960s
Source: Civil Aviation Historical Society

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EXECUTIVE SUMMARY

This Heritage Management Plan (HMP) for Essendon ATC tower no. 3 at Essendon Airport, Melbourne was commissioned by Airservices Australia, which owns the building and leases the land on which it is located. Essendon ATC tower no. 3 is included in the Commonwealth Heritage List (ID: 106119), which is established under the ***Environment Protection Biodiversity Conservation Act 1999*** (EPBC Act). This HMP has been prepared in accordance with Schedule 7A of the ***Commonwealth Environment Protection Biodiversity Conservation Regulations, 2000***: 'Management Plans for Commonwealth Heritage Places'. The overarching objective of Schedule 7A of the EPBC Act is to provide frameworks to inform the future conservation and management of the cultural heritage values of places included in the Commonwealth and National heritage lists. This document also follows the principles and processes set out in best practice guidelines, including the ***Burra Charter*** (2013).

Overview of the asset

Essendon ATC tower no. 3 was designed in 1953, built in 1954 and commissioned in October 1956. It comprises a rectangular, three-storey base structure surmounted by an octagonal cabin with outward canted steel-framed windows. The base structure, also steel-framed, is clad in asbestos-cement sheeting. The control tower is largely intact as built. Alterations to the building generally relate to systems upgrades, including the replacement of the original console with a modular equivalent, and works completed in 1966/67 to ensure operational compatibility with Melbourne's new airport at Tullamarine.

Essendon ATC tower no. 3 is located in the approximate centre of the airport complex, to the east of a 90 degree bend in Wirraway Road. An historic strip of hangars and workshops is c. 200m to the north-west. A new retail precinct and the former Essendon Operations-Meteorology building (Building 79) are located to the west.

The control tower is located on a 616.5-square-metre reserve that is leased by Airservices Australia. The reserve is enclosed to the south and east by chain link fencing, securing access airside. The control tower, as completed in 1954 and extended in 1967, is the only building within the reserve. The balance of the reserve is an asphalt at-grade car park.

Findings

The assessment of significance undertaken for this HMP has found that Essendon ATC tower no. 3 control tower satisfies the Commonwealth Heritage List threshold for historical significance. It also meets the CHL criteria for rarity, representative values and aesthetic characteristics.

The tower is of historical significance for its association with an initiative to introduce standardised control towers at major airfields in Australia. The initiative was undertaken by the Department of Civil Aviation for the Australian Government, and was a response to the regulation of international civil aviation and air navigation safety by the International Civil Aviation Organisation.

The 1950s was a formative period in the evolution of air traffic control facilities in Australia. Towers of this era are generally characterised by a degree of experimentation and invention. This generation of control towers formed the stylistic prototype for towers built throughout Australia and Papua New Guinea until the late-1960s. The Very pistol hatch to the east face of the cabin in the Essendon tower is a tangible link to pre-World War II methods of air traffic control using visual devices, including flags and flares.

The Essendon tower is the oldest operational ATC tower in Australia. It is one of four towers that survive from the 1950s. The others are Launceston and Hobart (both of which are operational) and Tamworth (decommissioned).

As built, the Essendon ATC tower was part of an experimental system for the control of civil aircraft at Essendon Airport, then one of the busiest airports in the British Commonwealth. As well as the tower, the system included flight progress board (FPB) and a remote Very High Frequency (VHF) repeater. The FPB was a forerunner of present systems of ***en route*** control, and was located in the Operations-Meteorology (OPS-MET) building at Essendon Airport. The VHF repeater at Mount Macedon enabled direct contact between aircraft and air traffic controllers up to 300km away, a significant improvement on previous arrangements. This tri-partite system was the first installation of its type to be introduced in Australia and was envisaged as a prototype to be replicated throughout the air routes of eastern Australia.

Essendon ATC tower no. 3 is a representative and largely intact example of a standard ATC tower type surviving from the 1950s. The building is of utilitarian presentation and character, and is generally devoid of embellishments or details. The tower is a tall (in the airport context), freestanding building that is a notable marker in the flat airfield setting.

Recommendations

The core recommendations of this HMP are summarised below:

Conservation

Conservation objectives for Essendon ATC tower no. 3 include:

- Maintaining the external presentation of the building, as a tall, free-standing structure which is recognisable as a control tower primarily as a consequence of its octagonal cabin, with full-height canted glazing to all sides
- Conserving the building's functional, utilitarian design aesthetic, which is evocative of its design and development during the early post-World War II period
- Conserving evidence of the functional, hardwearing internal finishes and presentation
- Maintaining unimpeded lines of sight from the cabin to the apron and runways

Management

- Airservices Australia should comply with all applicable legislation in the management of the ATC tower's Commonwealth heritage values, including the ***EPBC Act*** and the ***Airports Act 1996***.
- In the event that Essendon Airport is sold, Essendon ATC tower no. 3 should be nominated for inclusion in the Victorian Heritage Register.
- Programs of priority maintenance, remedial works and cyclical maintenance should form the basis for on-going care of the significant built fabric at Essendon ATC tower no. 3.
- A training program should be instigated to raise awareness of the heritage significance of Essendon ATC tower no.3 among the staff of Airservices Australia and Essendon Airport Pty Ltd.

- The historical significance of Essendon ATC tower no. 3 is enhanced by its location adjacent to the apron and north-south runway, and on Wirraway Road, the thoroughfare along which development at the airport was concentrated from its origins in the early 1920s. From a heritage perspective, it would be a preference for these views of the ATC tower to be taken into account in future site planning (managed by Essendon Fields)
- Despite the specialised nature of the building, and the spatial constraints of the interior, Essendon is a control tower that can reasonably be anticipated for adaptive re-use. Key to this is its location between the historic strip at Essendon, and the new retail areas at the airport. The tower is also part of the public domain – it is not quarantined airside.
- In the event of disposal by Airservices Australia, it can be anticipated that physical change will be required to support a new use, including internal reconfiguration, the introduction of a lift and widening of the stairs. The priority consideration in contemplating new uses of the building is to avoid or minimise the potential for impacts on the tower's Commonwealth Heritage values, and minimising impacts on its external presentation. Specific strategies for change to significant elements and attributes are provided at Policy 15, Chapter 6.

Table 1 Table of abbreviation and acronyms

Abbreviation/acronym	Full name/title
AACC	Area Approach Control Centre
ABCB	Australian Building Codes Board
ABC	Airport Building Controller
AH Act	*Aboriginal Heritage Act 2006* (Victoria)
ANA	Australian National Airlines
ATC	Air Traffic Control
Airports Act	*Airports Act, 1996*
Burra Charter	*Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013*
CAB	Civil Aviation Branch of the Department of Defence
CAJ	*Civil Aviation Journal*
CAHS	Civil Aviation Historical Society
CHL	Commonwealth Heritage List
DCA	Department of Civil Aviation
DITRD	Department of Infrastructure, Transport and Regional Development
EAPL	Essendon Airport Pty Ltd
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Australia)
FPB	Flight Progress Board
HF	High Frequency
HI	Heritage Inventory
HMP	Heritage Management Plan
ICAO	International Civil Aviation Organisation
MMBW	Melbourne and Metropolitan Board of Works
NCC	National Construction Code
RNE	Register of the National Estate
VHF	Very High Frequency
VHR	Victorian Heritage Register

1.0 INTRODUCTION

This Heritage Management Plan (HMP) has been prepared for Airservices Australia, the Commonwealth agency responsible for the management of civilian air space in Australia. It addresses the Air Traffic Control (ATC) tower at Essendon Airport, Melbourne (generally referred to here as Essendon ATC tower no. 3). Essendon ATC tower no. 3 is owned and operated by Airservices Australia, and is located on land leased from Essendon Airport Pty Ltd, which took out a 99-year lease on 305 hectares of the Commonwealth-owned land in 2001.[1] The control tower is included in the Commonwealth Heritage List (CHL) as Place ID: 106119. It was gazetted by the Commonwealth Environment Minister for inclusion in the CHL on 24 November 2015, and satisfies Commonwealth Heritage list criteria 'a', 'b' and 'd'.

This HMP has been prepared in accordance with 'Airservices Heritage Strategy 2021-2023', to enable Airservices Australia to meet its obligations under the *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act). The EPBC Act imposes obligations on Commonwealth agencies to protect and maintain the environment, including the cultural heritage values of assets that they own or lease. The EPBC Act also establishes the CHL, a list of places managed or owned by the Australian Government each of which satisfy at least one of the nine Commonwealth Heritage list criteria. All places with Commonwealth Heritage values, including those which are included in the CHL, are afforded statutory protection under the EPBC Act.

1.1 Background and brief

This report follows a heritage assessment of ATC towers throughout Australia undertaken by Lovell Chen for Airservices Australia in 2007 (Stage 1) and 2009 (Stage 2). Stage 1 comprised a desktop review of the 28 control towers either owned or leased by Airservices Australia to determine whether any of the towers had potential heritage values, and the nature, extent and level of those values (local, state/territory, Commonwealth and/or national). Of the towers assessed, 13 were identified as having heritage values of a nature and level indicative of Commonwealth Heritage Value. Further detailed assessment of the 13 ATC towers was undertaken as Stage 2 of the project. The Detailed Heritage Assessment for the Essendon ATC tower concluded that the tower met the CHL criteria at a level that is indicative of Commonwealth heritage value in relation to historic values (criterion a), rarity (criterion b) and demonstrating principal characteristics of a class of cultural places (criterion d).

The primary objectives of this HMP are to:

- Confirm the cultural heritage significance of Essendon ATC tower no. 3
- Provide policies for the conservation of the building and Airservices compound as a whole, taking into account the care of significant fabric, the appropriate management of hazardous materials and the ongoing use and management of the Essendon ATC tower no. 3
- Provide a heritage framework to inform future management of the place, including guidance on new works and development.

1.2 Identification of the place

Essendon ATC tower no. 3 is located approximately 15km north-east of Melbourne city centre. It is a general aviation and corporate jet airport with approximately 50,000 annual air movements.[2] It also provides facilities for domestic and corporate air service operators, and is home to the Victoria Police Air Wing and a number of flying schools.

The ATC tower is located east of a 90 degree bend in Wirraway Road, to the north and west of the airports two runways (1,921m and 1,585m) (Figure 1 and Figure 2). The tower is to the west of the 616.5 square metres area leased by Airservices at Essendon (Figure 3). This Airservices lease comprises the area identified on Lease Plan as Parcel 1 Federal Airports Corporation, C/T 8497/680 (Part).

Figure 1. Plan of Essendon Airport with the control tower indicated
Source: www.street-directory.com.au

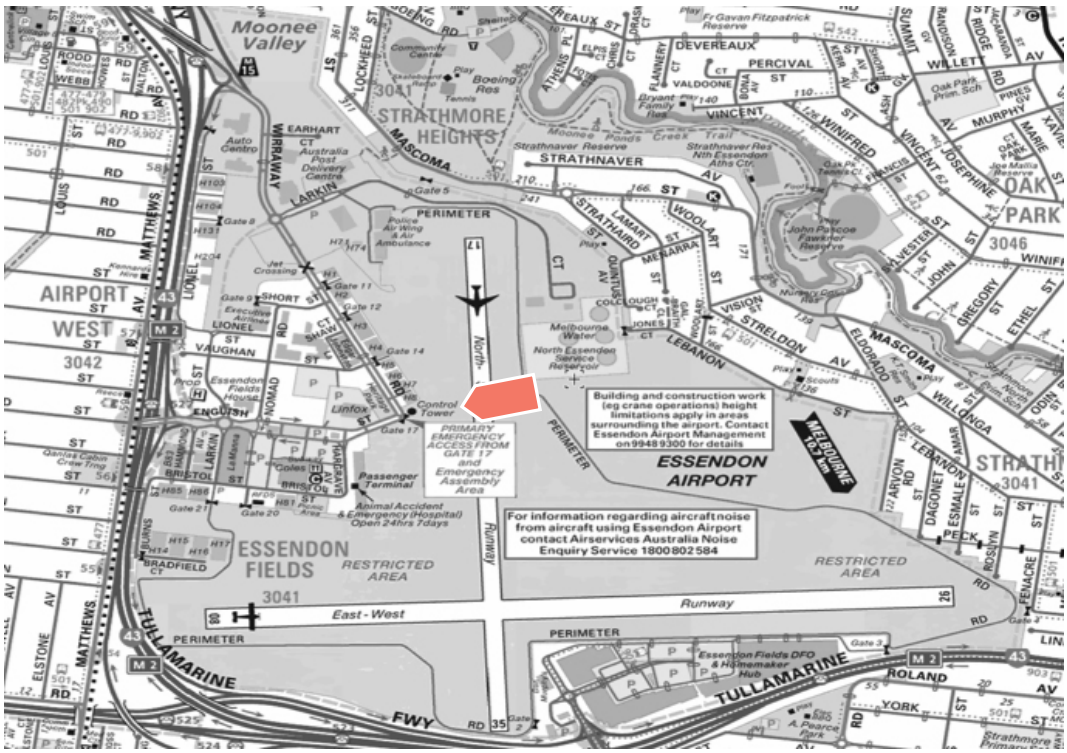


Figure 2. Aerial view of Essendon Airport with the control tower indicated, April 2016
Source: www.nearmap.com.au

Figure 3. Aerial photograph of Essendon ATC tower, April 2016: the approximate extent of the Airservices compound is indicated
Source: www.nearmap.com.au

1.3 Methodology and document structure

This HMP broadly follows the principles and processes set out in the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013* (The Burra Charter) and its Practice Notes. The Burra Charter establishes a standard of practice for those involved in assessing, managing and undertaking works to places of cultural significance.

Specifically, the report has been prepared in accordance with Schedule 7A of the Commonwealth Environment Protection Biodiversity Conservation Regulations, 2000: 'Management Plans for Commonwealth Heritage Places'. As a Commonwealth Heritage place, a Heritage Management Plan must be prepared for Essendon ATC tower no. 3 that addresses a range of issues identified in the Regulations to the EPBC Act, at Schedules 7A and 7B. The purpose of these issues is to ensure that the place meets the Commonwealth Heritage Management Principles set out in the Regulations.

Table 1 below sets out the EPBC Act Regulations requirements for management plans, and provides a comment about how the requirements are satisfied in the present HMP.

Table 2 EPBC Act Regulation requirements for management plans

EPBC Act Regulations, 2000, Schedule 7a	Relevant section(s) of this HMP
(a) establish objectives for the identification, protection, conservation, presentation and transmission of the Commonwealth Heritage values of the place	Objectives to identify and conserve the cultural heritage significance of Essendon ATC tower no. 3 were informed by best practice guides, notably the Burra Charter. These objectives are discussed at Section 1.3, and chapters 5 and 6 of this HMP.
(b) provide a management framework that includes reference to any statutory requirements and agency mechanisms for the protection of the Commonwealth Heritage values of the place	Statutory requirements and agency mechanisms for the protection of the Commonwealth Heritage values of Essendon ATC tower no. 3 are identified in chapter 5 , with particular reference to the EPBC Act and the *Airports Act,* 1996 (Airports Act).
(c) provide a comprehensive description of the place, including information about its location, physical features, condition, historical context and current uses	A description of Essendon ATC tower no. 3 as it exists is at Chapter 3. A contextual history at Chapter 2 refers to notable changes to the building over time.
(d) provide a description of the Commonwealth Heritage values and any other heritage values of the place	An assessment of significance, including a description of the Essendon ATC tower no. 3's Commonwealth Heritage values, is at Chapter 4.
(e) describe the condition of the Commonwealth Heritage values of the place	Condition (built fabric) is addressed at Section 5.5. The historical values of the ATC tower, as well as its rarity and representative values, are embodied in the physical fabric of the place.
(f) describe the method used to assess the Commonwealth Heritage values of the place	The assessment of the Commonwealth Heritage values of Essendon ATC tower no. 3 was based on an understanding of the place (site history, Chapter 2 and physical description, Chapter 3).
(g) describe the current management requirements and goals, including proposals for change and any potential pressures on the Commonwealth Heritage values of the place	The operation of the place as a control tower, and issues arising in relation to anticipated change at the place are addressed in Chapter 6, see particularly Section 6.4, 'Use, adaptation and change'.
(h) have policies to manage the Commonwealth Heritage values of a place, and include in those policies, guidance in relation to the following:	A suite of conservation policies and management guidelines have been prepared to appropriately manage the identified Commonwealth Heritage values of the Essendon ATC tower (see Chapter 6).

EPBC Act Regulations, 2000, Schedule 7a	Relevant section(s) of this HMP
(h-i) the management and conservation processes to be used	See 'General policies, Section 6.2.
(h-ii) the access and security arrangements, including access to the area for indigenous people to maintain cultural traditions	See Policy 19, Chapter 6.
(h-iii) the stakeholder and community consultation and liaison arrangements	See Policy 6, Chapter 6. A draft of this HMP was placed on public exhibition from 14 October to 14 November 2016, through an advertisement in a newspaper with national circulation, and the websites of Airservices and Lovell Chen. This opportunity for the community and/or interested parties to be involved yielded one response, the recommendations of which were noted in the finalisation of this report. The recommendations pertained to the management of the external building fabric (timber windows) and the introduction of new gear into the equipment room
(h-iv) the policies and protocols to ensure that indigenous people participate in the management process	See Policy 6, Chapter 6.
(h-v) the protocols for the management of sensitive information	See Policy 7, Chapter 6.
(h-vi) the planning and management of works, development, adaptive reuse and property divestment proposals	See Policies 14-17, Chapter 6.
(h-vii) how unforeseen discoveries or disturbance of heritage are to be managed	See Policy 22, Chapter 6.
(h-viii) how, and under what circumstances, heritage advice is to be obtained	See Policies 4 and 12, Chapter 6.
(h-ix) how the condition of Commonwealth Heritage values is to be monitored and reported	See policies 12 and 24, Chapter 6.
(h-x) how records of intervention and maintenance of a heritage places register are kept	See Policy 17, Chapter 6.

EPBC Act Regulations, 2000, Schedule 7a	Relevant section(s) of this HMP
(h-xi) the research, training and resources needed to improve management	See Policies 20 and 23, Chapter 6.
(h-xii) how heritage values are to be interpreted and promoted	See Policy 21, Chapter 6.
(i) include an implementation plan	An implementation plan is included at Section 6.6.
(j) show how the implementation of policies will be monitored	See Section 6.6.1.
(k) show how the management plan will be reviewed	See Policy 8, Chapter 6.

1.4 Statutory heritage controls

1.4.1 Environment Protection and Biodiversity Conservation Act 1999

The Essendon Airport Air Traffic Control Tower is included in the Australian Heritage Council's CHL as a Listed Place (Place ID: 106119), and is identified as having significant historical heritage values. The citation is included at Appendix A.

The ATC tower is the only element at Essendon Airport which is currently included in the CHL. However, the provisions of the EPBC Act provide protection of the Commonwealth Heritage values of all places which are either entirely within a Commonwealth area or are owned or leased by the Commonwealth or a Commonwealth Authority, including but not limited to places which are included in the CHL.[3] Under the EPBC Act, actions that have, or are likely to have, a significant impact on a matter of national environmental significance, including Commonwealth Heritage values, require approval from the Australian Government Minister for the Environment (the Minister). The Minister will decide whether assessment and approval is required under the EPBC Act.[4]

Heritage places at federally-leased airports are required to comply with both the EPBC Act and its regulations, and the Airports Act 1996 (see discussion at Section 5.2).

Prior to the preparation of this HMP, Airservices fulfilled its obligation to manage and conserve Essendon ATC tower by providing a 'User Guide' for the tower to all relevant contractors and staff (see Appendix C).

The User Guide was drafted by Airservices, and informed by the outcomes of the Detailed Heritage Assessment prepared by Lovell Chen in 2009 as part of the national assessment of ATC towers. The User Guide includes guidance for contractors and staff about obligations relating to the management of the tower's heritage values and attributes. It was updated following the completion of this HMP.

1.5 Non-statutory heritage

1.5.1 National Trust of Australia (Victoria)

The National Trust of Australia (Victoria) maintains a 'File only' classification for Essendon Airport (File No. B7158). There are no statutory requirements as a consequence of this classification.

There is no individual classification for the Essendon ATC tower.

1.5.2 Register of the National Estate

In 2003 approximately two-thirds of Essendon Airport, including the terminal, control tower and some open space, were included in the Register of the National Estate (RNE Place ID 102718). Following amendments to the Australian Heritage Council Act 2003, the RNE was frozen on 19 February 2007, which means that no new places can be added, or removed. Since 2012 the RNE has been maintained on a non-statutory basis as a publicly available archive.

The RNE citation is included at Appendix A.

1.6 Limitations

1.6.1 Aboriginal cultural heritage

Aboriginal heritage in Victoria is protected under the provisions of the Aboriginal Heritage Act 2006 (Victoria) (AH Act). Under the provisions of the AH Act, a Cultural Heritage Management Plan is required if a high impact activity is proposed in an area of culture heritage sensitivity. Areas of cultural heritage sensitivity are registered Aboriginal cultural heritage places, as well as landforms and land categories that are generally regarded as more likely to contain Aboriginal cultural heritage.[5]

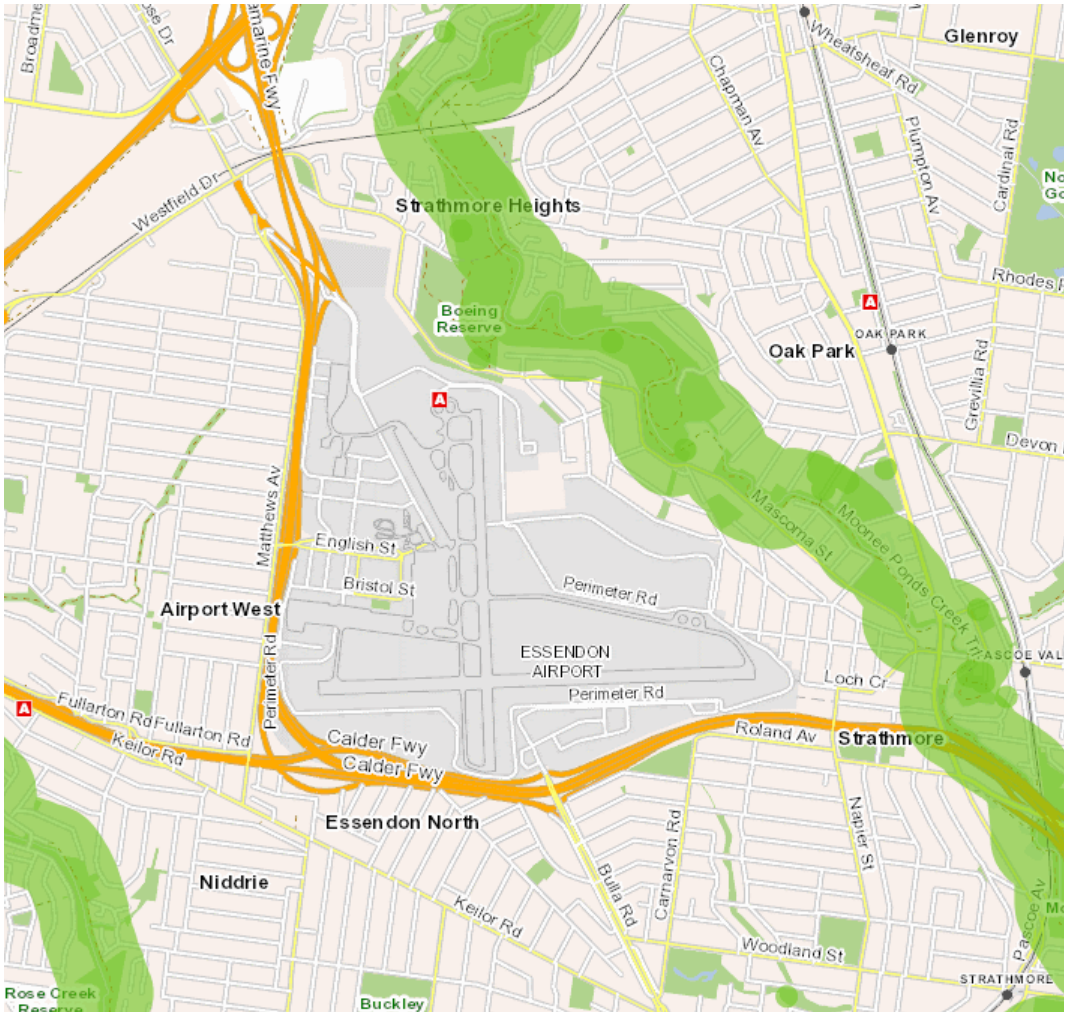
Consideration of Aboriginal cultural heritage and associations within Essendon ATC tower no. 3, and Essendon Airport generally for this HMP was limited to a desktop audit of known Aboriginal cultural heritage. This revealed that the ATC tower is not located within an Area of Cultural Heritage Sensitivity, nor are there any Areas of Cultural Heritage Sensitivity or identified Aboriginal places within Essendon Airport (Figure 4). Despite the limited potential for the ATC tower to be of significance to indigenous people to maintain cultural traditions, it is recommended that the local Registered Aboriginal Party be consulted as a stakeholder in the event that significant change is proposed as the subject site (see Policy 6, Chapter 6). This recommendation complies with *EPBC Act* Regulations, 2000, Schedule 7a (h) (iv).

1.6.2 Social values assessment

Appraisal of community attachment for Essendon ATC tower no. 3 was limited to discussion with the Airways Museum (Roger Meyer). No formal appraisal of social values, as might be informed by a holistic community consultation process, was undertaken in the course of this HMP.

Figure 4. Areas of Cultural Heritage Sensitivity map (identified in green); note there are no Areas of Cultural Heritage Sensitivity within Essendon Airport

Source: Aboriginal Affairs Victoria



2.0 HISTORY

Melbourne's Essendon Airport (established in 1921) is one of Australia's oldest operational airports. The present ATC tower, the third at the airport, has been in use since 1956. This chapter focuses on the development of Essendon Airport and the role of the current ATC tower in the airport's operations.

2.1 Site for an airport (1920s)

Originally known as Melbourne Airport, Essendon Airport was developed from 11 August 1921, when notice of the Commonwealth's purchase of 36.8 hectares (91 acres) of land at North Essendon, a site known locally as St John's, was published in the *Commonwealth Gazette*.[6] The notice ended a debate about the location of Melbourne's new aerodrome with airfields at Glenhuntly, Glenroy, Fisherman's Bend and Port Melbourne all having been considered.[7] Captain Johnston, who surveyed the areas, described the chosen site as follows:

> An area of about 71 acres [28.7 ha] in the shape of an 'L' giving a dimension in any direction of 660 yards [603 metres]. The site is situated on Bulla Road, about 1¼ miles from the terminus of the Keilor Road tram and about two miles from Essendon Station. The train service to Essendon Station is exceptionally good, being every quarter of an hour during the slacker part of the day. The surface is very good, having a natural drainage in all directions, which would prevent the ground becoming boggy. Part of the area on the north-east corner is under fallow and hence could not be used as a landing ground at present. Except for the removal of a fence, the cost of preparing the surface would be nil.[8]

The North Essendon site was approximately 15km (8 miles) from Melbourne city centre. The irregular shape of the land was due to the presence of an Melbourne and Metropolitan Board of Works (MMBW) reserve for a reservoir that was to supply water to the western suburbs of Melbourne.[9]

2.2 Early development at Essendon airport (1920s-30s)

The first building erected at the site was a steel-framed, two-bay, timber-clad hangar in 1921, which was relocated from the defunct Glenhuntly aerodrome. In 1924 a second building, known as the Government Hangar was erected by the Civil Aviation Branch of the Department of Defence (CAB). Two hangars were constructed in 1925 and in the same year, the CAB built an administrative centre for the airfield. This was leased to the Aero Club, which was an association of ex-military and private pilots who also provided flying training.[10] All these buildings were aligned along the former Bulla Road (now Wirraway Road), which ran past the western side of the aerodrome (Figure 5 and Figure 6).[11] These early developments, and ensuing infrastructure improvements, progressed slowly.

The pace of development at Essendon increased in the 1930s, notably with the 1935 acquisition of a further 36.8 hectares (91 acres) of land to the north, south and west of the existing airfield with 'six acres of the new area [to] be used for additional hangars and workshops, and the remaining space will be added to the landing ground'.[12]

This expansion encouraged private airline companies to make use of Essendon's facilities. The first of these was the Holyman Company, which constructed a hangar (the present Hangar 5) at Essendon in 1936. Ansett Airways followed in 1937 and erected the company's first permanent building, the present Hangar 3, designed by Melbourne architectural firm, Seabrook and Fildes.[13]

Figure 5. Oblique elevated view looking east over early buildings at Essendon Airport, 1929
Source: State Library of Victoria

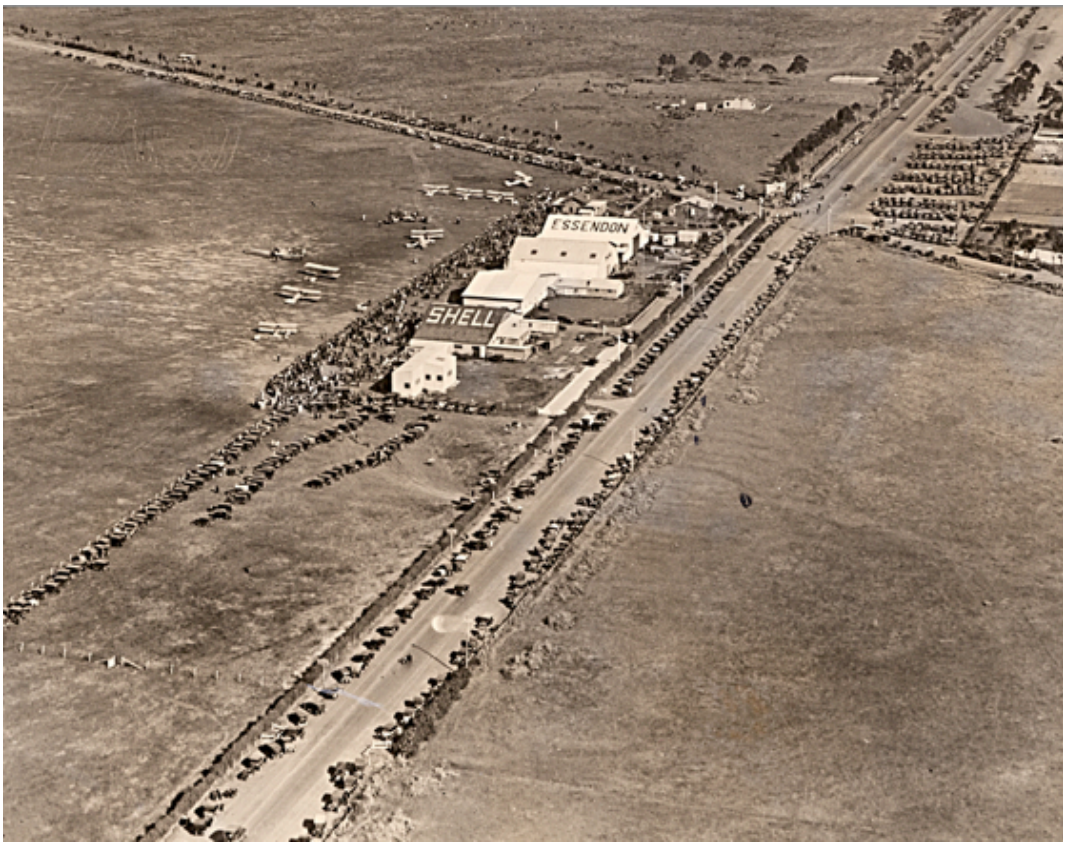


Figure 6. Oblique aerial view of Essendon airport showing early buildings and all-over grassed field, c. 1930
Source: State Library of Victoria

Airline operations soon lead to reports that 'congestion at Essendon is increasing daily'.[14] There was also dissatisfaction among local residents that 'weekends are marred by ear-splitting noises from aeroplanes flying overhead'.[15] As a result, the debate regarding the best location for Melbourne's airport was renewed and there were calls for a new city airport at Fishermans Bend. This debate continued until 1935 when a decision was made to retain Essendon as Melbourne's airport.[16] Efforts to transform Essendon into a 'first class airport' included the construction of new hangars, workshops, offices and the new £15,000 Australian National Airlines (ANA) terminal building for 'public accommodation' designed by architect Howard Garnet Alsop. [17] The new ANA was the amalgamation of the Holyman Company and Adelaide Airlines.

2.2.1 Essendon Air Traffic Control tower no. 1

The late- 1930s phase of works included the airport's first air traffic control tower. This had originally been contemplated in 1936 due to the increase in air movements at Essendon, and the need to improve air safety.[18] The tower was a timber-framed cabin built into the roof of the Aero Club building, similar to the first ATC tower at Sydney-Mascot Airport (Figure 7). In 1937 the Civil Aviation Board – which was based in Melbourne – also appointed Aerodrome Control Officers to regulate and control aircraft in the vicinity of Essendon and 'to give all assistance and advice necessary for the safe operation of aircraft flying locally or on cross-country flights to or from other aerodromes'.[19]

The structure and functions of the ATC tower at Essendon were described in the *Argus* in 1938:

> The signalling officer is alone in a large, bright room with glass walls. He has a clear vision of the sky and land. With an electric Aldis signalling lamp he controls all air traffic on or near the aerodrome. White signal lights are given for taking off or taxi-ing, and a special red signal lamp is used to prevent taxi-ing or any movements which might endanger aircraft.[20]

Figure 7. Essendon Airport's first two ATC towers: the timber-framed cabin built into the roof the Aero Club (foreground) was built in 1936, and the taller cabin on a timber frame, to the rear, was built in 1946
Source: Civil Aviation Historical Society

2.3 Post World War II developments

By the early 1940s, Essendon Airport was among the busiest in Australia and the British Empire.[21.] Its growth had coincided with the expansion of the civil aviation industry, including the development of Australia's major commercial airlines, Ansett Airways Ltd and Australian National Airways.

During World War II, Essendon Airport was substantially commandeered by the RAAF and played a strategic role in the defence of the nation. A number of barracks were erected on the western side of Wirraway Road to accommodate this use, as well as machine gun batteries and defensive trenches.[22] In 1945, a Victory Airshow was held at Essendon Airport.[23]

After the war, construction of the first concrete runway in Australia for civil aviation commenced as Essendon.[24] Prior to this, the airport had been a grass 'all-over' airfield. The concrete north-south runway was constructed in 1946, and was followed by the construction of the concrete east-west runway in 1947 (Figure 8).[25]

2.3.1 Essendon Air Traffic Control tower no. 2

A new ATC tower, designed by mechanical engineer Marshall Fordham, was also constructed in 1946. This was a glass-enclosed cabin raised on a timber frame and located next to the Aero Club building (Figure 7). It was a standard Air Force-type tower, with a red and white 'checker' arrangement to the sides. Access was via a two-section steel ladder, without any shelter from the weather and it included a rudimentary two-man control console with direct communications to other operational positions, receivers, telephones, meteorological instruments, a World War II radar and equipment to cope with an aerodrome emergency.[26] An innovative device in the new

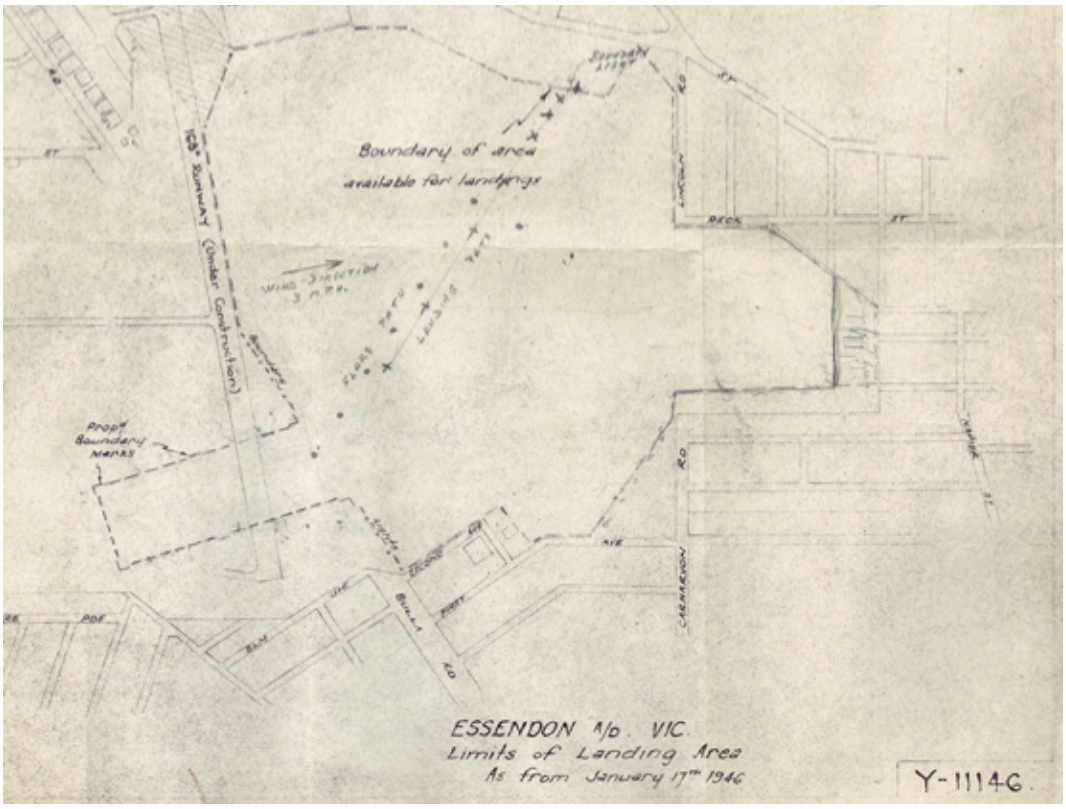


Figure 8. Plan showing limits of landing area, and runway under construction, 1946
Source: www.essendonairport.com.au

tower was an in-house invention, the Automatic Runway Selector, which comprised a field wind speed and direction sensor, connected to motors in the Automatic Runway Selector display unit. This produced a moving light under a chart which showed the maximum allowable cross-wind for a given aircraft type. If the light beam was beyond the limits of the chart, another runway had to be used.[27]

The development of commercial airlines had largely halted during the war. Ansett ceased regular operations and flew on contract for the RAAF and the United States Air Force, flying personnel to various locations around Australia. Once the war ended, commercial flights recommenced and the airlines benefitted from the readily available ex-military aircraft to develop their fleets.[28] Government policy for greater control of the airline industry also developed post-war, and the government-owned airline, Trans Australian Airlines (TAA) was created. Over the following decade TAA established a considerable presence at Essendon.[29]

During December 1948, traffic at Essendon rose to 206 daily movements, the greatest peacetime total handled by an Australian airport. [30] The acceleration in technological accomplishment and the expansion of air traffic volume brought about by World War II required international co-operation in air traffic control. This led to the establishment of the International Civil Aviation Organisation (ICAO) following an inaugural meeting Chicago in 1944, a specialised agency of the United Nations charged with regulating and coordinating international air travel. The organisation established the international rules of airspace, safety and aircraft registration. These new rules and regulations extended to air traffic control, though they related to procedures and technical requirements and did not prescribe a specific form for air traffic control towers.[31] The ICAO convention was signed on 7 December 1944 by 52 states, including Australia.

2.4 Melbourne's first international airport (1950s)

On 14 February 1950, the Federal Cabinet declared Essendon Airport an international airport, in anticipation of the inauguration of the Melbourne-Christchurch service on 28 June 1951.[32] Plans to make Essendon an airport of international standard had been proposed as early as 1946 and provided for the construction of a third concrete runway, larger concrete aprons, and construction of a new administrative block.[33] Until 1950, Sydney's Kingsford Smith Airport had been the main centre for overseas air traffic into Australia, with domestic flights taking visitors further afield.

To accommodate this change, the Aero Club building was converted to a makeshift terminal and customs area, and a Nissen hut was attached for baggage examination and banking facilities. The makeshift terminal was completed on 20 December 1950, reportedly just 15 minutes before the first international flight (from New Zealand) touched down.[34] A new international terminal replaced the Aero Club and Nissen hut in 1959.[35]

Further changes at the airport were undertaken to accommodate visitors to Melbourne for the 1956 Olympic Games. A second temporary international terminal was created by converting a hangar at the northern end of the airport, and a large set of Olympic rings made of coloured plywood was suspended from the ceiling for the occasion.[36] The day prior to the opening ceremony air activity over Melbourne set a new record with 270 arrivals and departures at Essendon.[37]

2.5 Essendon Air Traffic Control tower no. 3

The changed post-war civil aviation environment resulted in a number of implications for air traffic control towers. The introduction of standardised communications, navigation and signalling systems required sizeable storage spaces for equipment and power houses, and the increasing speed of aircraft required longer airstrips and taller control towers.[38] In 1954, construction of a new air traffic control tower began at Essendon Airport.

The new tower was an outcome of the ICAO convention, which came into effect in April 1947.[39] ICAO issued a series of annexures which established uniform standards to be observed by member states. The Essendon ATC tower was based on international standards following the guidelines devised by ICAO. It was one of eight Australian ATC towers built to the same operational specifications between 1952 and 1959 in the first major phase of control towers development in the post-WWII period (Figure 9).[40]

The Department of Civil Avation (DCA) had been working on a standard approach to the design of control towers from at least 1948.[41] Three years later, in June 1951, the *Civil Aviation Journal (CAJ)* reported that:

> New control towers of standard design to be built at Essendon, Mascot [in Sydney] and Eagle Farm [in Brisbane] should add greatly to the efficiency and traffic handling capacity of these busy airports.
>
> Existing towers at Essendon and Eagle Farm are little more than elevated cubicles too cramped for efficient working…
>
> Special attention has been given to the siting of the new towers which will command a full view of all runways. They will be built near the instrument runway threshold, so that the safe interval between instrument landings can be reduced to a minimum.
>
> Originally designed for brick construction, the towers will now be steel-framed fibro-cement structures incorporating many aids to increased efficiency. The air-conditioned control room, with a new standard console will have excellent vision. Special double glass will protect controllers against glare and noise.
>
> The tower will accommodate extensive electronic equipment required in modern control systems. There will be equipment for radar, instrument landing systems, communication receivers and transmitters, and all of the other precision electronic aids which are such as essential part of the navigational control of tomorrow's air traffic. Particular attention has been given to ease of maintenance, because the tower's equipment must function 24 hours a day.
>
> The same design may be used later for towers at other major airports. The estimated cost is about £20,000 each.[42]

The ATC tower at Essendon was designed by the Commonwealth of Australia Department of Works (Victoria and Tasmania Branch) for the DCA and constructed by Donaldson Bros, Constructions of St Georges Road, Northcote.[43] The tower was built in 1954, and commissioned in October 1956, after a period of testing (or 'ghosting') (Figure 10 and Figure 11). The building, which cost £11,680 (considerably less than 1951 estimate), was located to the north and west of the airport's two runways, at the southern end of Wirraway Road, to the north of the two earlier ATC towers, which remained extant in the mid-1950s (Figure 12).[44]

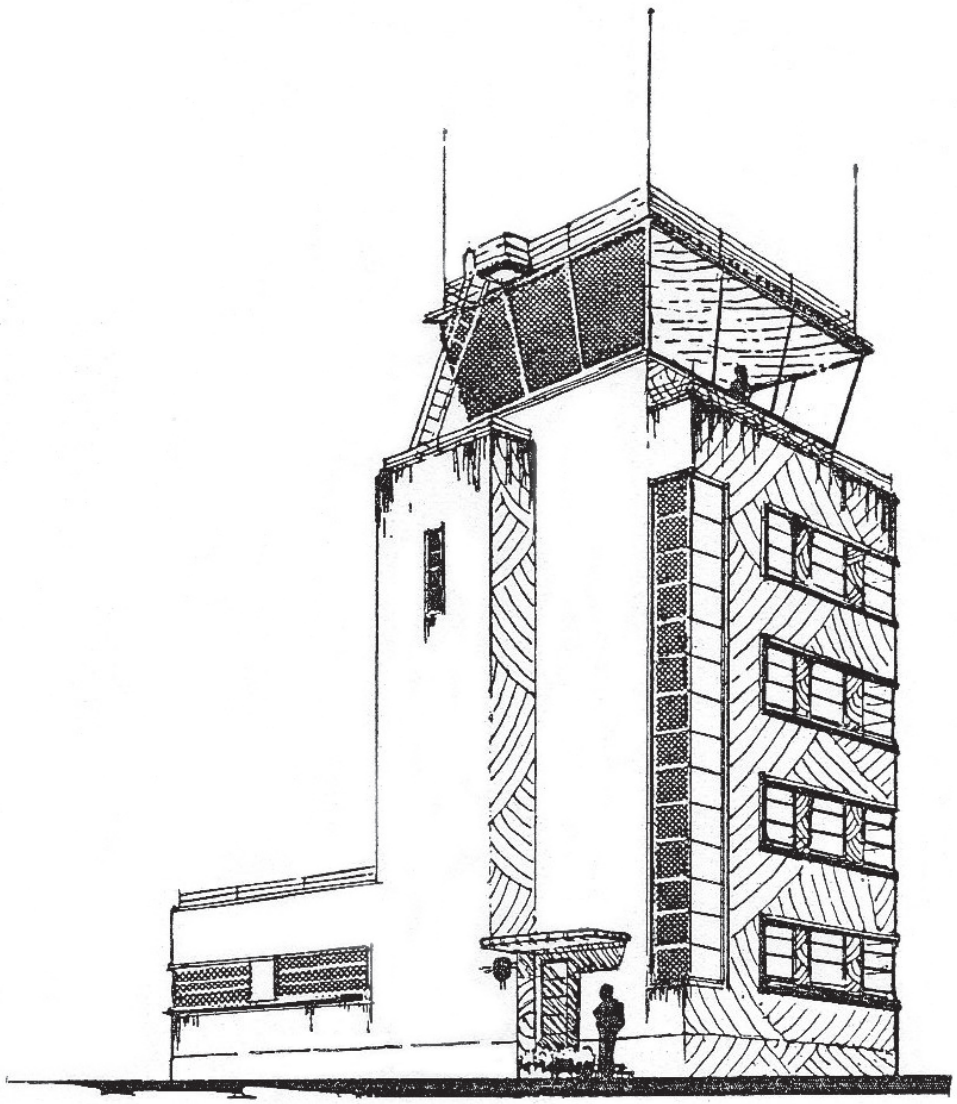


Figure 9. Design of the proposed new air traffic control towers to be built at Essendon, Mascot and Eagle Farm, 1951
Source: *Civil Aviation Journal*

Figure 10. Essendon no. 3 under construction, 1954: (left) east and north elevations; (right): north and west elevations
Source: Civil Aviation Historical Society

Figure 11. The completed ATC tower at Essendon, 1956
Source: Civil Aviation Historical Society

Figure 12. All three Essendon ATC towers, 1954: the current ATC tower was under construction at the time
Source: www.airwaysmuseum.com, accessed 30 May 2016

Figure 13. Brisbane (Eagle Farm) control tower, view from the north-west, 1961 (now demolished)
Source: Civil Aviation Historical Society

As constructed, the new tower comprised a rectangular (almost square) three-storey base building, clad in asbestos cement sheeting, surmounted by cabin in the form of an elongated octagonal (Figure 11). This cabin was raised on an elongated octagonal duct and service drum and the roof of the base building formed a walkway around the drum.[45] Perhaps the closest built equivalent to Essendon no. 3 was at Eagle Farm Airport in Brisbane (now demolished, Figure 13).

Internally, the equipment room was fitted out with amplifiers, batteries, equipment for remote VHF/UHF sites, radar, etc. The ATC tower provided direct communication with aircraft within 30km of Essendon Airport. It also provided the controllers with direct intercommunications with officers at the Flight Progress Board (see also Section 2.6), and gave a visual indication as to whether or not the various related navigation aids were operating satisfactorily.[46]

2.6 A new system of air traffic control system

Essendon ATC tower no. 3 was a core component of an extensive and experimental system for the control of civil aircraft at what was then one of the busiest airports in the British Empire.[47] This system included the ATC tower, a remote Very High Frequency (VHF) repeater (Figure 14) and the flight progress board (FPB, Figure 15). At the time of its design and installation, the Essendon Airport system was envisaged as a prototype to be replicated throughout the air routes of eastern Australia.[48] When completed, this radio navigation system would 'enable aircraft to identify their position without visual reference to the ground over an area of one and a quarter million square miles'.[49]

A steady growth in air traffic in the late 1940s and early 1950s, particularly on the main air routes between Melbourne, Sydney and Brisbane, led to congestion in the vicinity of these airfields. The already overloaded radio communications facilities did not permit a sufficiently rapid means of communication between air traffic control and the aircraft flying in these areas, especially in poor weather conditions.[50] The development of the new system, comprising the ATC tower and Flight Progress Board at Essendon and the remote VHF repeater at Mount Macedon, was therefore a major development in air traffic control in Australia, allowing for the first time, direct communication with aircraft in the air.[51]

Prior to the development of the new system of *en route* control, VHF communications with aircraft had been limited to the Approach Controller who only controlled traffic arriving at Melbourne. All other communications were relayed from air traffic control to aircraft in the High Frequency (HF) band via Aeradio Operators. This presented two problems: firstly, HF communication was subject to considerable interference by atmospherics, and secondly, the delay between the aircraft transmitting a position report and the air traffic controller's reception of the report meant that the aircraft had already moved a significant distance and the actual position of the aircraft had to be re-calculated.[52]

The direct speech communications with aircraft on VHF, up to 300km away, was made possible by the installation of a transmitting and receiving station on Mount Macedon, some 80 km from Melbourne, remotely controlled by air traffic controllers at Essendon Airport. A feature of radio transmission in the VHF band is that it is 'line of sight'. The higher the location of the transmitter, the greater the distance to the horizon. Thus, from the top of Mount Macedon, the remotely controlled transmitter and receiver site provided reliable communications over a radius of 320km with aircraft flying at 10,000 feet (3,000 metres). This large coverage allowed four area controllers, each operating on a different frequency, to communicate with aircraft operating in the particular sector of airspace under his/her control.[53]

This rearrangement of air-ground communication procedures, from HF (via Aeradio) to direct VHF channels, formed part of the new control tower procedures, and allowed for an overall increase in the capacity to handle increasing volumes of air traffic.[54]

The flight progress board (FPB) was essentially the nerve centre of the system. In the case of Essendon, it provided a continuous display of the position of aircraft under Melbourne control along each air route. It was further improved by the development of the Altitude Assignment Board within the FPB. The function of this was to assign separate altitudes to each aircraft, as well as to improve coordination between the control tower and the associated air traffic control centre. Without the Altitude Assignment Board, there was the possibility that the same altitude for different aircraft could be assigned.[55] At Essendon, two Altitude Assignment Boards were designed, one for building into the ATC tower console and one for the FPB in the control centre (Figure 16).

In periods of high traffic density or poor visibility, aircraft arriving at an airport would be held in 'stacks' with separation of 1,000 feet. At the air traffic control centre, an Area Controller would feed the aircraft into the stack, while an Approach Controller would remove the aircraft from the stack for the final approach sequence. Each level of the stack was represented by a red, amber and

green lamp, and had an associated switch which was operated by a card. A vacant altitude level was indicated by a green lamp. When the Area Controller allocated an aircraft to a stack, the green lamp was replaced with an amber light in both the control tower and the control centre. When the control tower accepted the aircraft to the stack, red lamps would appear at both the tower and the control centre. Any further attempt to allocate an aircraft to the occupied level would operate a warning bell and lamp.[56]

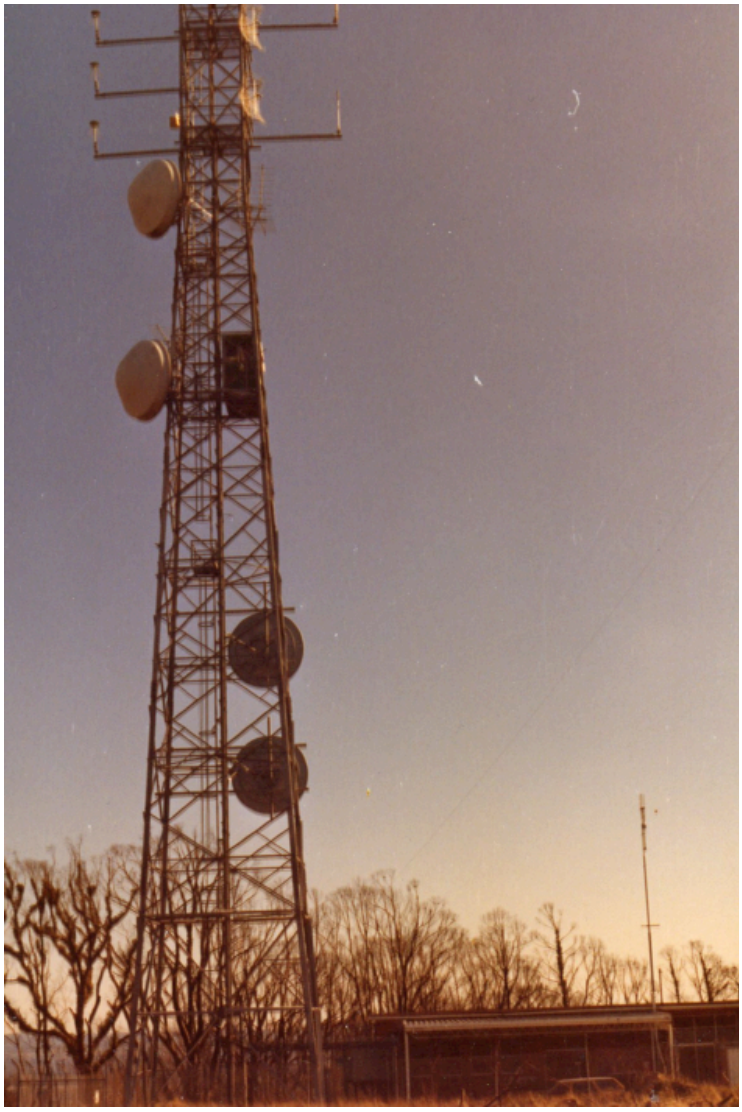


Figure 14. The mast at the VHR repeater station, Mount Macedon
Source: Civil Aviation Historical Society

Figure 15. Flight Progress Board, Essendon Airport, c. late-1950s
Source: Civil Aviation Historical Society

Figure 16. Air Traffic Control Centre, Essendon
Source: Civil Aviation Historical Society

In October 1956, the DCA issued a press release to announce the completion of the system, outlining the function of each component:

> On the night of Thursday, 4th October, an extensive new system for the control of civil aircraft was put into service. This system comprises three major units- a control tower, flight progress board and a remotely operated V.H.F. [Very High Frequency] repeater station [at Mount Macedon]. This is by far the most extensive combined work that the Department has ever carried out.
>
> The majority of the work associated with the flight progress board and the control tower is of a highly specialised nature and represents a great deal of original thinking and design …
>
> The flight progress board is the nerve centre of the system…It displays details of the flight plan filed by the aircraft Captain before departure and therefore indicates his future intentions. Each controller at the Board has direct speech assess to the Captain of each aircraft in his area and to all other people such as the Air Traffic Control Supervisor, the Meteorologist and the various technicians who are necessary to help the controller to do his job. He is also provided with information which indicates whether his equipment is operating satisfactorily, and failures of any part of it are indicated by flashing lights and an audible alarm. It includes also a semi automatic altitude assignment board which is a device which virtually prevents any two aircraft being allocated the same altitude in circumstances which could lead to any kind of danger, however remote.
>
> The control tower again provides direct communication with aircraft within 20 miles of Melbourne Airport. It also provides the controller with direct access to the various officers on the flight progress board and with all other people with whom he may require to speak. It provides him with the visual indication as to whether the various radio navigational aids are operating satisfactorily or not and includes remote control of certain of these aids and the quite extensive approach and runway lighting system …

> The remote repeater station situated at Mt Macedon provides four ground/air/ground channels, one for arrivals control, one for northbound aircraft and one for westbound aircraft. The fourth is a special channel provided for R.A.A. F. aircraft and others, particularly private pilots who may not have extensive V.H.F. facilities fitted. It should be noted that the transmitting and receiving equipment for southbound aircraft is located at Melbourne Airport. Each transmitter and receiver is in duplicate and can be changed over remotely from Melbourne Airport.
>
> This station is the first installation of this nature and others are to be built which will extend this type of direct control facility throughout the air routes of eastern Australia.

The DCA building that housed the FPB (Building 79) survives – it has been adapted to a doctor's surgery as part of the on-going redevelopment as Essendon as a mixed-use precinct (see Section 2.9). The FPB has, however, been removed. The VHF repeater station at Mount Macedon remains in use.

It has been suggested that this progressive and innovative arrangement was installed at Essendon because the DCA was headquartered in Melbourne; it was the DCA's 'home' airport.[57] It has also been suggested that the Essendon ATC tower was a temporary facility, built to service the anticipated increase in air movements for the Melbourne Olympics, which began on 22 November 1956. Supporters of this theory point to the application of fibro-cement panels as evidence of the building's temporary nature. *The Civil Aviation Journal*, however, notes that fibro-cement sheeting had been adopted as the preferred cladding system by 1951.

2.7 Alterations to Essendon ATC tower no. 3

In 1959, the first radar designed for civil aviation use in Australia was installed in the control tower cabin at Essendon. Previously, the DCA had experimented with wartime radar equipment at Essendon Airport. The radar display had a range of 30-40 nautical miles, and was located within a small dark room behind the console (Figure 17). Its use virtually doubled the number of aircraft arrivals at Essendon Airport.[58]

In 1966, the original console of the ATC tower (Figure 18) was removed and upgraded; the original Cossor Radar was removed at the same time. These works, as well as the extension of the equipment room to the east, were carried out as part of an upgrade to ensure operational compatibility with the Area Approach Control Centre (AACC) at the new international airport at Tullamarine.[59]

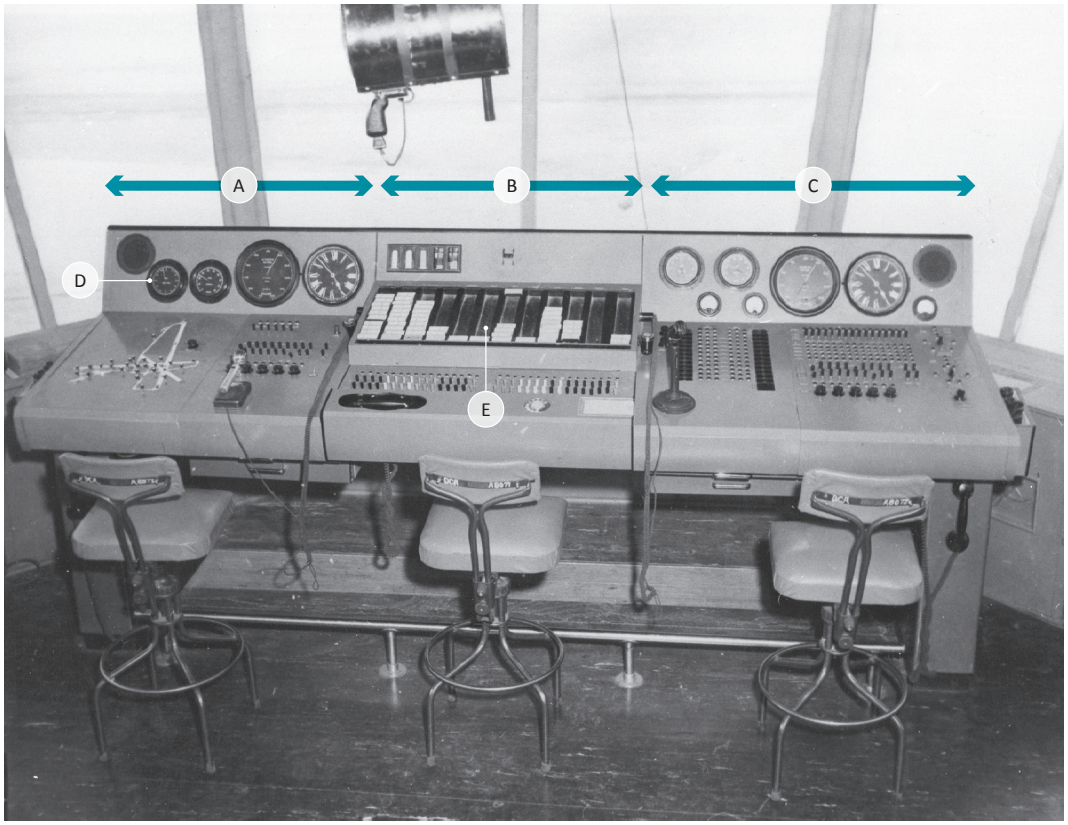
(A detailed analysis of changes to the exterior and interior of the building is provided at Chapter 3.)

2.8 Staffing

Essendon ATC tower no. 3 was designed to be manned by a staff of three. The co-ordinator (or senior officer), stationed in the middle of the console, was in direct contact with the Flight Progress Board by means of a semi-automatic system including intercom and a system of lights (Figure 17). To the right of the co-ordinator was the Aerodrome Controller (now the approach controller), who was responsible for guiding aircraft within Melbourne airspace into the airfield, and to the left of the co-ordinator was the Surface Movement Controller, who responsible for managing aircraft on the tarmac at the airfield. This composition of services survives today.

the co-ordinator was the Surface Movement Controller, who responsible for managing aircraft on the tarmac at the airfield. This composition of services survives today.

In the mid/late-1950s, all staff working at the ATC tower were men, the majority former military personnel (navigators and pilots were preferred). The first female controllers at Essendon, Olga Tarling and Shirlie Anderson, joined the staff in the early-1960s.[60]



Key

A Surface movement controller

B Co-Ordinator

C Approach (Aerodrome controller)

D Meterology instruments

E Altitude assignment board

Figure 17. The original console in the cabin of the ATC tower, Essendon, 1956
Source: Civil Aviation Historical Society

Figure 18. Air traffic controllers at work, Essendon ATC tower no. 3, c. 1959: part of the radar dark room is visible to the right of the picture
Source: Civil Aviation Historical Society

2.9 Essendon airport: a period of transition

After the Melbourne Olympics, Essendon remained one of Australia's two busiest airports (the other being Sydney), bolstered by considerable investments by the two major domestic carriers, Ansett-ANA and TAA.[61] As such it was also the major point of arrival for royalty, dignitaries and celebrities entering Melbourne.[62]

By this time however, Essendon's limitations as a major airport were becoming apparent. The encroachment of residential development, the associated fear of accidents and the lack of room to extend the runways to cater for the impending use of large jet aircraft forced the government to look for alternative sites for expansion.[63] In 1958, discussions about the development of a new international airport for Melbourne began in earnest. Tullamarine was chosen as the location and construction of the new Melbourne airport began in 1964. It opened for international services on 1 July 1970.

By this time, the Moorabbin Airport, which opened in 1949, was well established as Melbourne's general aviation airport and this meant that Essendon's future was uncertain. The two major domestic airlines continued to use Essendon for a short time as a maintenance facility, before these functions were also transferred to Tullamarine.[64] Following the transfer of domestic airline activities to Tullamarine on 20 June 1971, an investigation was made into the consequences of retention or disposal of Essendon, however on 13 January 1976 it was decided to retain Essendon as an airport for the foreseeable future.[65]

2.10 Privatisation and renewal of the airport

In 1998 the continued status of at least some of the 305 hectare site as a centre for aviation was assured when a 99 year lease over the airport was granted to Essendon Airport Limited (EAL), an unlisted public company wholly owned by the Commonwealth of Australia. Privatisation was completed in 2001 when EAL was transferred to private interests, a joint venture between Linfox and developer Becton. Since then, parts of the site have been developed for commercial use and the airport infrastructure has been upgraded. These works have also involved the restoration of heritage buildings and the introduction of a heritage zone and walk.

In 2006, a Heritage Management Strategy was prepared for the airport, which identified sites of heritage value.[66] Following this report, in 2008 Essendon Airport Pty Ltd (EAPL) proposed the establishment of a Heritage Walk, which aimed to encompass the many social and historic aspects of the place.[67] The Wirraway Road Heritage Zone appears to have been established as part of these works in c. 2010-11. This zone extends along Wirraway Road and encompasses a number of the early airport buildings, including Hangar 4, which was constructed in 1938 for ANA and was the largest hangar in Australia at the time.[68] The accompanying Heritage Walk introduced signage at the intersection of English Street and Wirraway Road, which provides information about the history of Essendon Airport, including its development, its use during World War II, and notable events such as the arrival of Queen Elizabeth II in the 1960s. A number of streets in the area were also named after significant aviation figures as part of these works.[69]

3.0 PHYSICAL ANALYSIS

The following provides a description of the Essendon ATC tower no. 3 as it exists. A key objective of the physical analysis is to identify alterations to the building as completed in 1954.

A site visit was conducted on 16 May 2016. The inspection was limited to visible surfaces only, internally and externally, and did not involve removal of fabric to inspect concealed elements, including framing. Documentation referenced in the preparation of this analysis included historic photography (as reproduced below and in Chapter 2) and the following architectural drawings:

- Commonwealth of Australia Department of Works , Victoria and Tasmania Branch:
  - Elevations, 7 August 1953 (CA 619 VA 6585)
  - Plans, 3 August 1953 (drawing number unclear)
  - Sections & Site Plan, 7 August 1953 (CA 619 VA 6588)
  - Wall & Ceiling Details, 28 July 1953 (CA 619 VA 6805)
- Airservices Australia
  - Floor Plans, 14 October 1999 (as amended) (MR 20 10 0607, Sheet 1)
  - Elevations, 14 October 1999 (as amended) (MR 20 10 0607, Sheet 2)

Copies of these drawings are included at Appendix B.

Hazardous Building Materials Survey report, JTS Health, Safety & Noise Specialists, June 2013.

All photography is by Lovell Chen unless otherwise stated.

3.1 Summary site description

Essendon ATC tower is located in the approximate centre of the airport complex, to the east of a 90 degree bend in Wirraway Road. The historic strip of hangars and workshops, including the location of the Airways Museum, is a short distance (c. 200m) to the north-west. A new retail precinct and the former Essendon Operations-Meteorology building (Building 79) are located to the west.

Development at the airfield is generally of one and two storeys. The ATC tower is among the tallest structures at the site (14.8 metres to the cabin roof). The only equivalent is a concrete water tower located to the north of the airfield.

The control tower is located on a 616.5-square-metre reserve that is leased by Airservices Australia (Figure 19). The reserve is enclosed to the south and east by chain link fencing, securing access airside. The control tower, as completed in 1954 and extended in 1967, is the only building within the reserve. A freestanding back-up generator is to the north-east of the building. The balance of the reserve is an asphalt at-grade car park. The footings of the former DCA hangar are in close proximity to the south.

The west elevation of the tower addresses Wirraway Road, and access to the interior is from the south. There are lines of sight from the tower to the apron and the two runways, to the east and south.

3.2 Exterior

Essendon ATC tower comprises a rectangular (almost square), three-storey, steel-framed base structure surmounted by an octagonal cabin. The building is of utilitarian presentation and character, and is generally devoid of embellishments or details. It is largely intact as built. Notable external alterations are identified at Table 2.

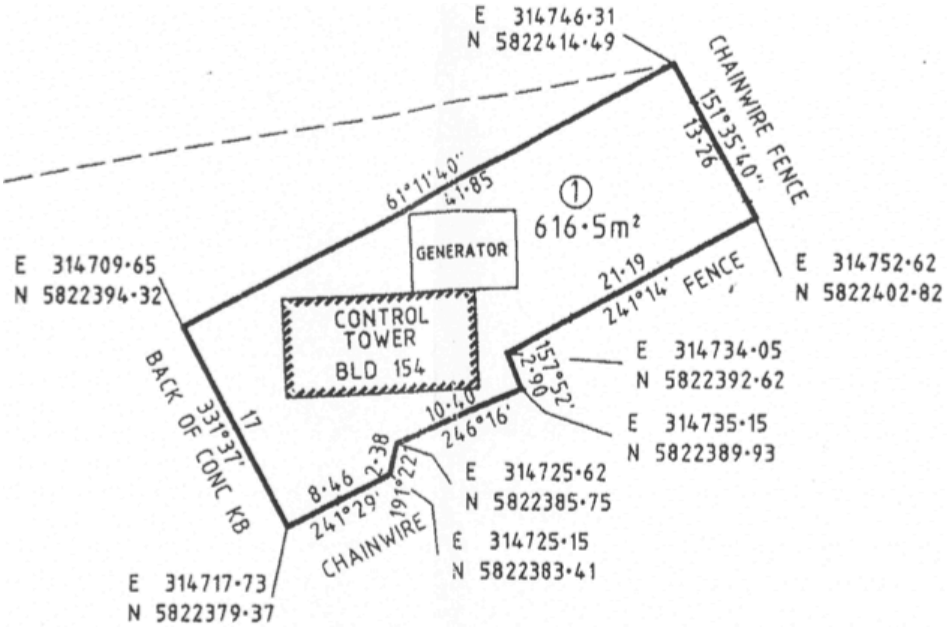


Figure 19 Control tower reserve at Essendon Airport
Source: Lease Plan, 20 April 1995, Australian Surveying and Land Information Group

3.2.1 Overview

The base structure of the original building (completed in 1954) is clad in square sheets of asbestos cement joined under battens. The original building measures 8.35 metres by 7.35 metres, and the cabin roof is 14.8 metres above ground. The 1966/67 single-storey, skillion-roofed addition to the east (7.35 metres by 6 metres) is clad in larger rectangular sheets of asbestos cement joined under battens. The building is painted a pale beige colour, including all joinery and details.

The cabin is in the form of an elongated octagon – it is wider at the north and south – with outward-canted windows. The perimeter of the base structure's roof forms a 360-degree external walkway.

The windows of the base structure are generally square or oblong, and quite small, presumably to minimise heat gain, as the building features no sun-shield on any elevation. One exception is a larger square window to the first floor office on the south elevation. This opening has been adapted from an original full-height service entry. The goods entry to air conditioning plant room on the second floor is extant, although the original doors have been replaced. A steel boom projects above the doorway.

The steel-framed awning over the ground floor entry, on the south elevation, is a later replacement of an original canted awning. External air conditioning units have been added to the west, north and east elevations. Down pipes to all elevations are later additions.

The cabin is raised on an octagonal base, enclosing crawl space and ducting. The walls of the base are clad in vertical box profile sheet metal (not original). The floor of the perimeter walkway is bituminous felt. A section of the walkway perimeter wall at the east end of the north elevation has been removed. In its place, steel piping has been installed as a protective barrier. A modern escape ladder with steel safety hoop is to the east of the south elevation.

The cabin's outward canted windows are single-glazed, but may originally have been double-glazed. The control cabin has a shallow flat roof supported on the principal glazing bars. The roof,

which supports the tower light beacon and antennae, is accessed via a fixed external ladder in the north-west corner of the walkway. The original ladder has been replaced with a steel safety hoop. The roof railing, like the railing on the walkway below, is steel piping.

The framing to the tower block includes steel I-beams forming intermediate columns, steel angles at the corners, and a mixture of 3”x2” and 4”x1.5” timber fillers, and 6” x 2” floor joists. The vertical I-beams are set into reinforced concrete footings sewn together with a 5” concrete slab.

3.2.2 Alterations

Alterations to the building exterior are noted below (Table 2). See also Figure 20 and Figure 22.

Table 3 Summary of external alterations

Element/space	Alterations	Photograph(s)
South elevation	The original entry canopy, with canted framing to each side, has been replaced with a simple post-mounted canopy. This is enclosed with fibro panels to the west and open to the east (see right). The timber enclosure that houses the handset to request access to the tower may be original. The doors to the ‘GCA’ equipment room (first floor) have been replaced with a large timber-framed window, with spandrel panel below. The original doorway opening has been widened (see right below) The doors to the air-conditioning plant room (second floor) have been replaced. There were small square windows in the original door leafs. The escape stair has been replaced, with a steel safety hoop. It remains in its original location at the east of the south elevation. The south elevation of the 1966/67 addition is flush with the elevation of the original building.	 Entry canopy The original Level 1 service has been modified to a window

Element/space	Alterations	Photograph(s)
West elevation	The west elevation is very largely intact as built. A packaged air conditioning unit has been installed in the lower section of the northern-most opening at ground level.	
North elevation	A section of walkway balcony, to the east of the north elevation, has been removed. A vent above the first floor windows has been covered over, and a hood has been introduced over the vent above the ground floor windows. The north elevation of the 1966/67 addition is flush with the elevation of the original building. Part of this elevation is obscured by a freestanding power generator.	
East elevation	The lower section of the east elevation was removed in 1966, to accommodate an extension to the equipment room – the extension was required to house additional radar equipment, and related to the development of Tullamarine Airport. The extension continues the simple panel and batten treatment of the original building, albeit with larger rectangular panels of larger dimensions than the square panels of the original building. The two southernmost windows at the second floor have been removed, and replaced with a large panel flush with the elevation. A steel platform carrying l air conditioning is located outside this panel.	

Element/space	Alterations	Photograph(s)
Cabin	The framing and mullions are original. It is possible that the glazing has been replaced.	
Cabin roof	The steel pipe railing to the cabin roof appears to be original. Additions to the roof include a large rotating beacon in the centre of the roof and a number of antennae and aerials generally mounted to the steel piping.	
Walkway level	The original treatment of the cabin base has been replaced with profiled metal sheeting. This has resulted in the removal of the opening for firing a Very pistol located in the east face of the drum (the opening survives in the cabin interior). The original metal ladder to the cabin roof, located to the north-west of walkway, has been replaced with a steel safety hoop. It remains in the same location. Steel piping has been installed as a protective barrier where a section of the original balcony has been removed, at the east end of the north elevation.	

Figure 20 South and west elevations, 1956
Source: Civil Aviation Historical Society

Figure 21 South and west elevations, 2016

Figure 22 North and east elevations, 1954
Source: Civil Aviation Historical Society

Figure 23 North and east elevations, 2016

3.3 Interior

The following provides a description of the ATC tower interior, with an emphasis on the key operational spaces, notably the equipment room (as extended) and the control tower cabin. The interior has been subject to some alterations, particularly to the first and second floors. However, evidence remains of the original planning and details. Finishes throughout are hardwearing and utilitarian. The colour scheme is cream, including walls, doors, skirting boards, cornices and door frames. A number of the light switches are original.

The following should be read in conjunction with the floor plans at Figures 24-28.

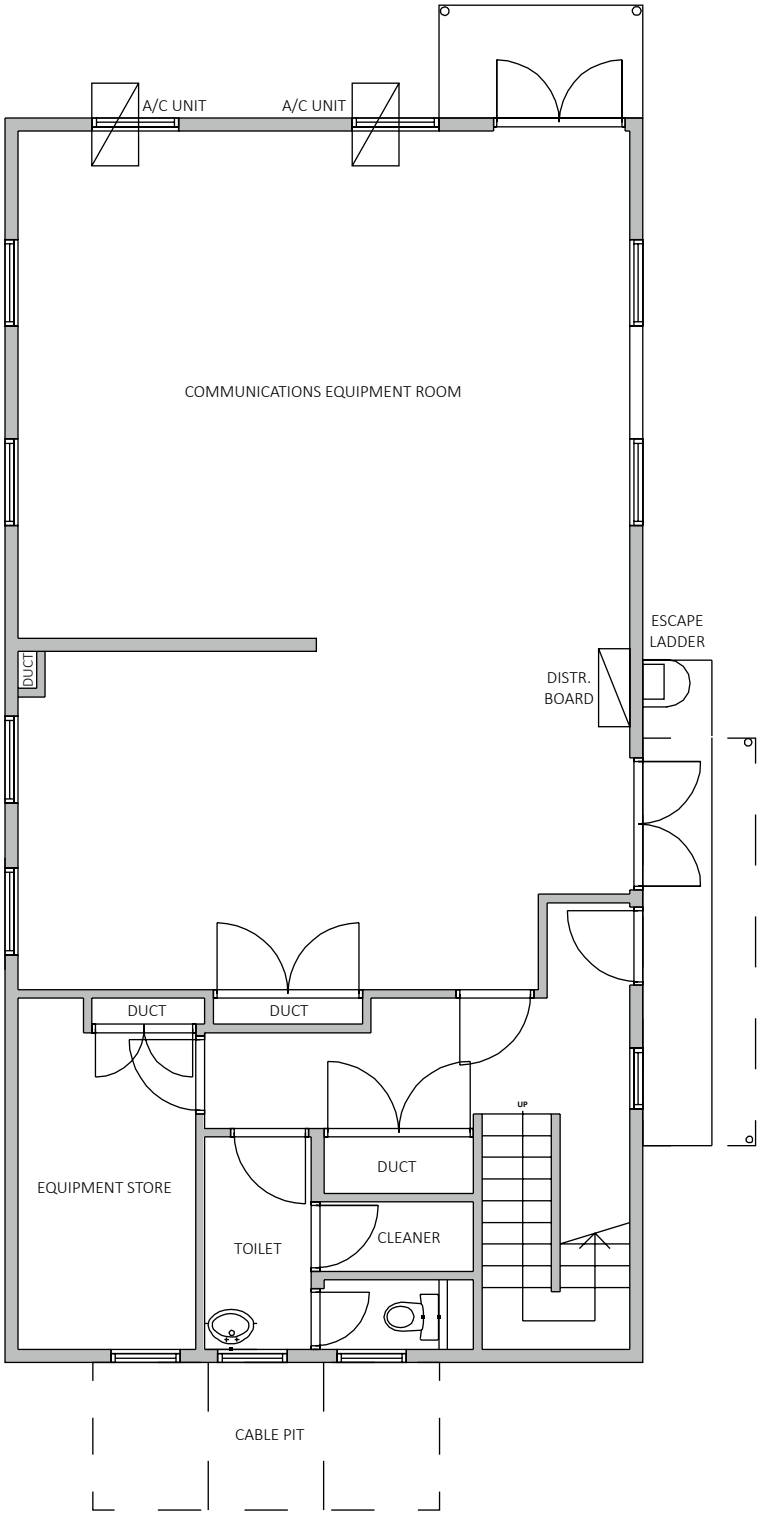


Figure 24 Ground floor plan

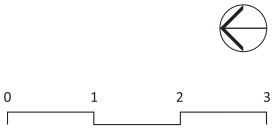


Figure 25 First floor plan

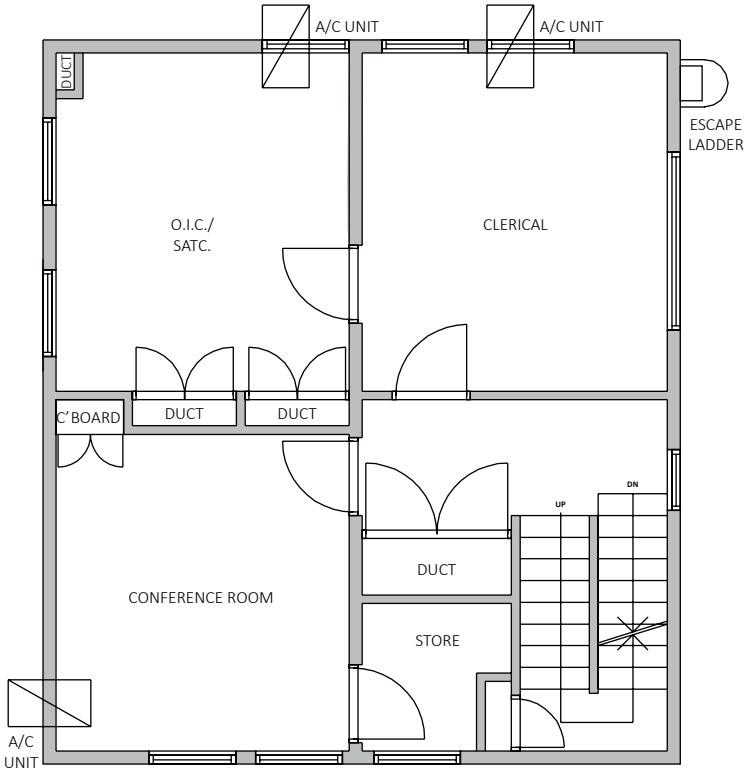
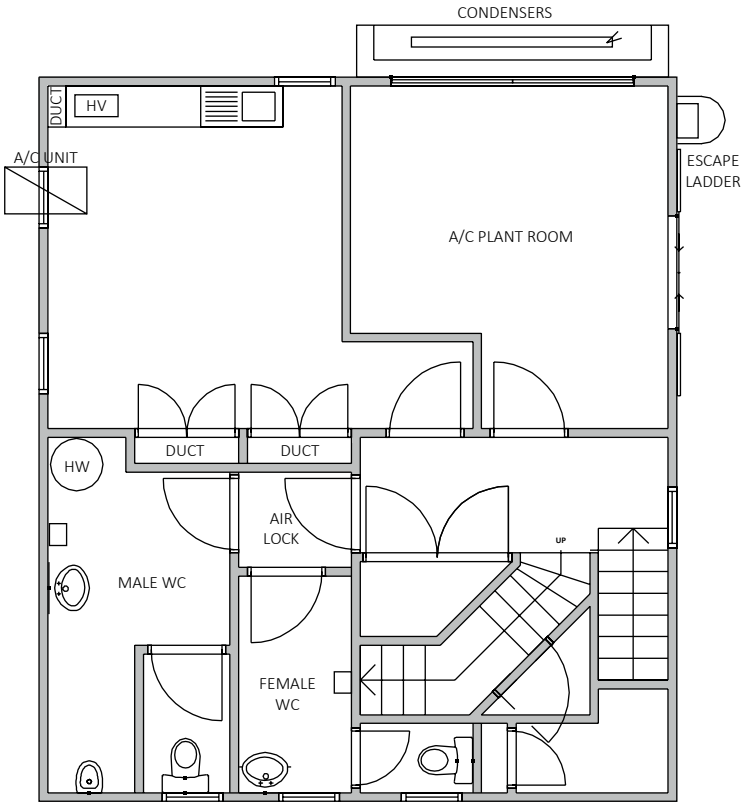
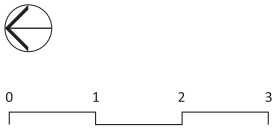


Figure 26 Second floor plan





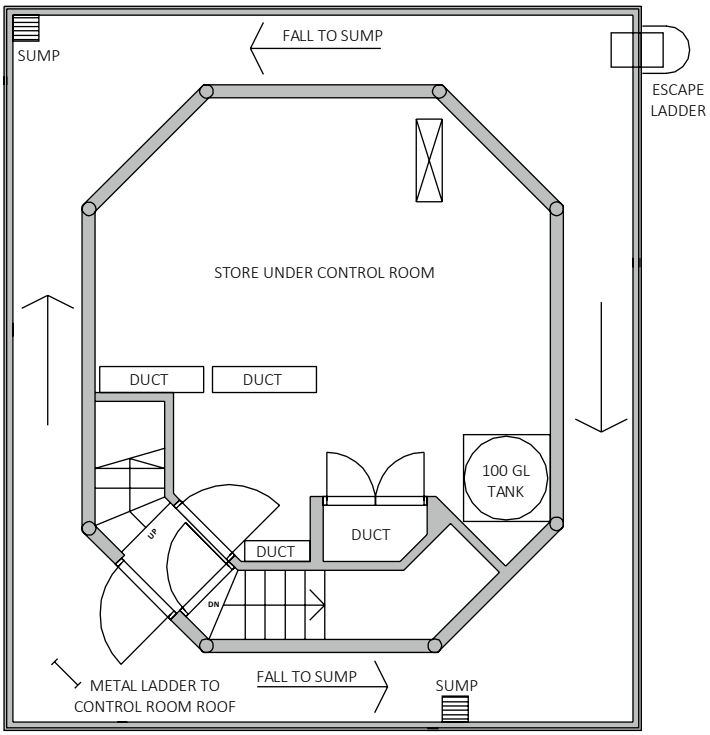


Figure 27 Walkway floor plan

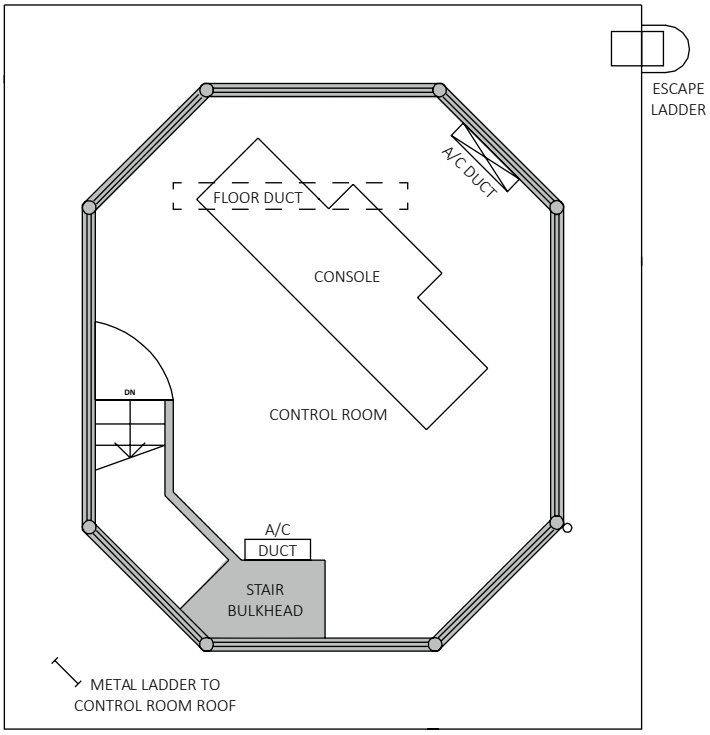
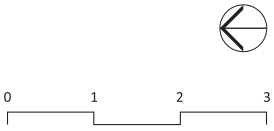


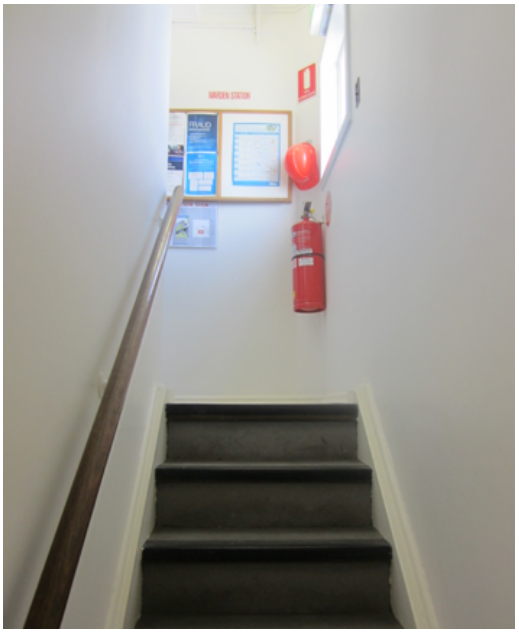
Figure 28 Control room floor plan



Ground level

There are three entries to the ATC tower, two providing access to the equipment room only, and the other providing access to the balance of the building. This main entry is in the approximate centre of the original extent of the south elevation. It gives access to a corridor, with the large equipment room to the east and a smaller equipment room to the north-west. The main equipment room includes batteries, amplifiers and equipment for remote navigations facilities. Modern equipment, which is much more space-efficient than earlier equivalents is generally located to the north-east of space. The equipment is standardised, and not unique to the Essendon ATC tower.

The equipment room also retains early or original racks, some of which remain in use (Figure 29). All racks are arranged in an east-west configuration. The concrete floor is lined with vinyl tiles, possibly original, or contemporary with the extension of the space.



29

30 31

Figure 29 Ground level: main equipment room, view looking east

Figure 30 Ground floor: toilet and cleaner's facilities

Figure 31 The narrow staircase extends the height of the ATC tower

First floor

As constructed, the eastern half of the first floor comprised a single space for the Ground Control Approach equipment room. It has been subdivided into two offices by a central timber and glass partition. The decorative scheme in both halves is timber veneer to the walls, with carpet to the timber floor (Figure 32). The original service entry to the south has been modified as a large square window opening. The remainder of the first floor is intact, including built-in cabinetry/ storage in the former Senior Area Controller's (SAC) office to the north-west of the plan (Figure 33). The small store off the former SAC's office includes original joinery (shelving). The brown vinyl to the timber floor boards may be original.

Second floor

As built the second floor originally comprised Off Duty (mess) and Air Conditioning rooms to the east, with a locker room in the north-west, next to the stair to the walkway level and cabin above. As existing, the air conditioning room has been extended to the north, reducing the size of the off duty room, which has a modern decorative treatment. The locker room has been adapted as ladies and gents toilets.

Walkway level

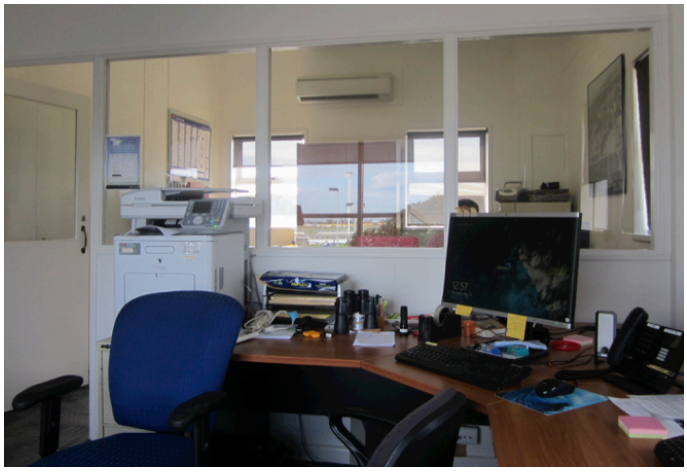
The cabin is raised on a c.1.5 metre-high crawl space (or 'dwarf room') that houses ducting and services to support the cabin above. This space is of utilitarian character and presentation, including exposed timber floorboards and conduits. There are a number of small openings in the sides of the crawl space. These have been enclosed with the introduction of profiled metal sheeting to the exterior.

Cabin

Access to the cabin is from the north-east of the plan, and the console is oriented north-east to south-west at the east of the space, with views over the apron and both runways. With the exception of the steel-framed windows, the ATC cabin's fittings and finishes are largely non-original. The floor and a number of the walls surfaces are clad with carpet, for acoustic purposes – the floor was originally vinyl tiles (Figure 36). Acoustic panels are fitted to the dropped ceiling. Egg-crate lighting over the console and a beacon are also mounted to the ceiling (Figure 37). The hatch for firing a Very pistol survives to the south-east-facing section of the octagonal drum (Figure 38).

Roller blinds to each of the tall, single-glazed windows have replaced the original Perspex visor which hung from a circular track attached to the ceiling. The three original vents remain in use, although concealed behind modern cabinetry.

The present console was installed in September 1967, at the same time as the removal of the original Cossor Radar, a cubicle enclosed by a black curtain, in the south of the cabin. These works, as well as the extension of the equipment room, were carried out as part of an upgrade to ensure operational compatibility with the tower at the new international airport at Tullamarine. The existing console frame has been modified to accommodate contemporary equipment (Figure 39). An equivalent to the original 1956 console is held by the nearby Airways Museum, at Essendon Airport.



32	33
34	35
36	

Figure 32 Level 1: modern office fit-out in the former Ground Control Approach equipment room

Figure 33 Level 1: built-in cabinetry in the former Senior Area Controller's office

Figure 34 Level 2: service entry to air conditioning room

Figure 35 Level 2: Off duty room

Figure 36 Cabin: surfaces are generally clad with carpet for acoustic purposes

37 38

39

Figure 37 Cabin: dropped ceiling, with egg-crate light and hand-held beacon over the console

Figure 38 Cabin: Very pistol hatch

Figure 39 Console

3.4 Views

As one of the tallest structures at the airport, Essendon ATC tower no. 3 is visible from all sides. As seen from airside, it reads as part of the historic strip of development to the north side of Wirraway Road (formerly Bulla Road) (Figure 40). As perceived from the public domain, the tower has a high level of visibility looking east from the retail precinct, and looking south along Wirraway Road.

Figure 40 View of Essendon ATC tower no. 3 from airside, looking north-west

Figure 41 View of Essendon ATC tower no. 3 from the public domain, looking east

4.0 ASSESSMENT OF SIGNIFICANCE

This chapter provides an assessment of cultural heritage values associated with Essendon ATC tower no. 3 against the Commonwealth Heritage criteria. The assessment (Section 4.2), which draws on evidence presented in chapters 2 and 3, is preceded by a comparative analysis. A Statement of Significance is at Section 4.3.

4.1 Comparative analysis

The following considers the present Essendon ATC tower within the development of Australian control towers, as well as in an international context, since the 1920s. It draws on the typological study of ATC towers in Australia and overseas prepared by Lovell Chen as part of the Stage 2 *National Control Towers Heritage Assessment* (2007-2009).

4.1.1 ATC tower development in Australia (1920s-1990s)

The first ATC towers were square timber structures raised only slightly off the ground. Contact with aircraft was purely visual, through devices including flags, flares and cane spheres mounted on a rooftop flagstaff. Towers of this type were introduced in Australia from the mid-1930s, and were based on standard RAAF designs.

Following a review of air safety standards and procedures in 1938, Australia's first standardised control tower model, the Integrated Operations and Administration building (Ops & Admin Buildings), was developed. This was based on overseas precedents (Figure 42) and comprised a three-storey Streamlined Moderne building with the air traffic control cabin located on the roof. The small flat-roofed cabins featured steel-framed windows with curved windows facing the apron, and although they were fitted with radio facilities, communication with aircraft was still almost exclusively visual. Three of these Ops & Admin facilities were built in Australia, at Parafield Aerodrome (Adelaide, Figure 42), Archerfield Aerodrome (Brisbane), and Mascot (Sydney). Others were planned for Essendon, Cambridge Aerodrome (Hobart) and Maylands (Perth), but were not constructed because of the outbreak of World War II.

In the post-war period, international cooperation in air traffic control was initiated (see Chapter 2). In Australia a number of different approaches were tried in the design of control towers, including the use of different construction materials and tower forms. By the early-1950s, a standard control tower format had emerged. It consisted of a square base, typically of between two and four storeys, below a perimeter walkway, also in reinforced concrete, around an octagonal cabin with sloping glass panels fixed in steel mullions. Depending on the nature of the airport, the cabins were fitted with two or three consoles, and featured a range of noise abatement and cooling devices. Examples of this type of tower were constructed in Sydney (commissioned 1953), Melbourne (Essendon, 1956), Adelaide (1957), Hobart (1958, Figure 43), Launceston (1958), Darwin (1959), Brisbane (1959) and Tamworth (1959).

The 1960s was a period of continuing advances in the size and speed of aircraft and affordability of air travel. During this period the number of airports with control towers increased dramatically, and there were also major advances in terms of the equipment used to manage aircraft. This included consoles of modular construction, facilitating changes and additions. However, the control towers themselves barely changed from the format of the 1950s. Towers based on this model, but refined and improved over time, continued to be built throughout Australia until well into the 1970s.

From the late 1960s a standardised low-cost tower, comprising an exposed steel frame base in a triangular plan and small single-glazed cabins, was introduced generally (but not exclusively) at general aviation or secondary airports (Figure 45). Until the late-1980s, this model of low-cost, perimeter-frame tower, with minor refinements and modifications, was constructed at airports across Australia and may be the most widely built control tower type in Australia.

Figure 42. Administration building and control tower at Newark Airport during demolition: the tower was built in 1934
Source: Historic American Building Survey

Figure 43. Parafield Operations and Administration Building, image date 1940
Source: Civil Aviation Historical Society

Figure 44. Avalon control tower, commissioned 1978
Source: Civil Aviation Historical Society

Figure 45. Hobart ATC tower under construction, May 1957
Source: Civil Aviation Historical Society

The other tower type introduced in Australia in the late 1960s was column towers, first introduced in Australia at Melbourne (Tullamarine) in 1969 (Figure 44). This type comprised an integrated cabin and services pod on top of a slender concrete column, typically in the order of 50m in height. The unprecedented height of the columns towers required a new approach to the physical relationship between the ATC cabin and the equipment required for its operation. Proximity of radio, audio and other systems was required to ensure reliable feeds and signals, which had not presented a problem in lower, earlier towers. The new column towers resolved this issue by dividing the equipment that services the cabin into two sections: the main equipment room at ground level, and a subsidiary equipment space immediately below the cabin. Later column towers in Australia, in Perth (commissioned in 1986) and Brisbane (commissioned in 1988) were taller and more sculptural than the Melbourne tower, however towers including Cairns (1990), Coolangatta (1990) and Tamworth (1997) did not repeat the sculptural form of Brisbane and Perth. Rather, these later towers were generally composed of broad cylinders housing services/amenities and cabins positioned on top of slender columns, more like the Melbourne tower. In more recent times, in terms of their external form, control towers have generally followed the Melbourne model established in the late-1960s. But since the mid-1990s, perhaps led by the present Sydney tower (1995) – a cable-stayed structure designed as a landmark by architect Ken Woolley – there has been a marked international trend in the design of control towers as conspicuous civic markers/landmarks by name architects.

Figure 46. View of the Tullamarine ATC tower, c. late-1960s
Source: Civil Aviation Historical Society

4.1.2 Australian control towers of the 1950s

Developments in radio and navigations systems and in the speed of aircraft were accelerated enormously by World War II. The volume of air traffic also increased exponentially following the war.

As noted, the requirement for international standards to regulate civil aviation had been recognised before the end of the conflict. The Convention on International Civil Aviation was held in Chicago at the end of 1944, and resulted in the establishment of the (Provisional) International Civil Aviation Organisation (ICAO) directed at the regulation of civil aviation and air navigation in particular with the ultimate ambition of improving safety standards. Article 28 of the convention required contracting States to undertake, 'as far as it may find practicable':

> (a) [The provision] in its territory, airports, radio services, meteorological services and other air navigation facilities to facilitate international air navigation, in accordance with the standards and practices recommended or established from time to time, pursuant to this Convention;
>
> (b) [The adoption] of the appropriate standard systems of communications procedure, codes, markings, signals, lighting and other operational practices and rules which may be recommended or established from time to time pursuant to this Convention;
>
> (c) [Collaboration] in international measures to secure the publication of aeronautical maps and charts in accordance with standard which may be recommended or established from time to time, pursuant to this Convention.[70]

The implications for control towers of the post-war civil aviation environment were multiple. Two of the most significant factors were the introduction of standardised communications, navigation and signalling systems which demanded sizeable storage spaces for equipment and power houses; and the increasing speed of aircraft, which demanded larger airstrips and taller control towers. Post-World War II control towers had also become free-standing elements within airport complexes, and often the tallest (2-4-storey towers typically being c. 15-20m-high to their cabin roofs). The plan form and appearance of control cabins also fell into a pattern during this period: they were typically octagonal with canted windows and raised on a half-height drum which housed crawl spaces for circuitry access, cooling and radio equipment.

The use of forward slanted windows in control towers evolved from airplanes, such as the Stinson Trimotor and the Boeing 247, in which the problem of window reflections interfering with airfield views had been tackled by the introduction of slanted windows in the 1930s. Outward-leaning window frames also allowed a pin-jointing linkage to the roof, which could be a lightweight canopy or a hollow-ceiling cantilever in which columns could be omitted. This arrangement later became almost universal in control towers. Because of the window slant the cabin volume in this type lent itself either to a mitred tapering square, a chamfered square with triangular corner windows mounted on their apexes, or a tapered octagon. This system had the added advantage of allowing a large window area but presenting virtually no window surface to high angle sunlight, countering the hothouse effect of glass-topped control towers.

In Australia, the DCA was working on a standard approach to the design of control towers from at least 1948.[71] As noted in Chapter 2, in June 1951 it was reported that new ATC towers of a standard design were to be built at Essendon, Mascot (Sydney) and Eagle Farm (Brisbane) (Figure 16). Between 1952 and 1959 at least eight new towers were constructed in Australia, at Sydney

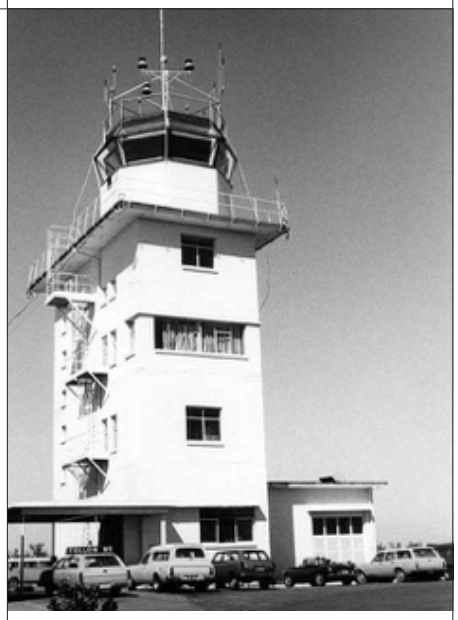
(commissioned 1953), Essendon (1956), Adelaide (1957), Hobart (1958), Launceston (1958), Darwin (1959), Brisbane (1959) and Tamworth (1959).[72] With the exception of Adelaide, which was a late version of the integrated tower and terminal type, these towers were of between two and four storeys. Some were surmounted by service/duct drums with walkways around, with the cabins on top, such as Essendon and Sydney. Others featured cantilevered walkways around the service/duct drums, as at Launceston, Hobart, Tamworth and Brisbane. Structural systems and materials used in these early towers also varied. The *Civil Aviation Journal* in 1951 noted that the standard design of the towers for Essendon, Sydney and Brisbane was originally designed for brick construction but that these towers would instead be clad with fibro-cement sheeting. Essendon and Brisbane followed this model, although Sydney was clad in brick (the Sydney tower was integrated with a fire station). The remaining five control towers in this group were all either brick or fibro-cement sheet clad, with the exception of Launceston which was originally clad corrugated asbestos cement sheeting (see Table 3).

The service block surmounted by control cabin type endured as the international standard in ATC tower design for over 20 years, from the immediate aftermath of World War II to the early 1970s. Over this period it was refined and revised, but the essential composition of a square base tower (2-4 storeys) in reinforced concrete typically with a face brick cladding below a rectangular cantilevered walkway around an octagonal cabin remained largely unchanged.

Table 4 Australian control towers of the 1950s (note: excluding Essendon control tower)

Tower	Description	Photograph
Sydney No. 3 control tower (1953) (Demolished)	In 1951 it was announced that Sydney (Mascot) as well as Brisbane (Eagle Farm) and Melbourne (Essendon) were to receive a new standard form of control tower. The new No. 3 control tower was commissioned in Sydney on 2 November 1953, the first of the three identified towers to be completed (Essendon was commissioned in 1956 and Brisbane in 1959). The Sydney No. 3 control tower was constructed at the intersection of the runways and incorporated the airport fire station. The tower stood at approximately 16m in height and was clad in brick. On the lower floors were equipment rooms, an amenities area and offices, as well as a diesel generator on the ground floor which provided emergency power. Early innovations in the Sydney tower included the use of double-thick glass windows with an intervening layer of dry air to prevent the glass from misting and angling the windows at 21 degrees to eliminate reflections in the glass at night.[74]	 Sydney-Mascot ATC tower no. 3, 1953 Source: Civil Aviation Historical Society

Tower	Description	Photograph
Adelaide (1957) (Demolished)	A new main airport in Adelaide (at West Beach) opened to regular services in 1955, replacing the earlier Parafield aerodrome. There was a rush to finish a temporary control tower prior to the opening of the airport[75], and this temporary control tower remained in use until the second control tower was constructed in 1957. The 1957 control tower was unusual in this group of air traffic control towers constructed in the c. 1950s as it was integrated into the terminal building. The Adelaide control tower remained in use until it was replaced by a new tower in 1982. A new passenger terminal was constructed in 2006 and the 1957 terminal and tower were demolished in 2008.[76]	 Source: Civil Aviation Historical Society
Hobart (1958)	Construction began on a new airport in Hobart in 1949, although the airport was not operational until June 1956. At that time, the terminal building and control tower were still under construction. Until the new control tower was completed in 1958, air traffic control was managed from the earlier Cambridge Aerodrome (developed from 1936 and located two kilometres west of the existing Hobart airport). The Hobart control tower comprises an octagonal cabin on top of an asymmetrical two-storey red brick base building. The cabin is raised on a partly chamfered and partly square duct and service drum. The control tower remains extant and is largely intact to its original construction.	 Source: Civil Aviation Historical Society

Tower	Description	Photograph
	Air traffic control was established at Launceston in 1947, with the construction of a temporary tower south of the present terminal. The current tower, a steel-framed structure originally clad in asbestos cement sheeting, was designed in 1955 and constructed between 1956 and 1958. The Launceston control tower comprises an octagonal cabin on top of an asymmetrical steel-framed two-storey base building currently sheathed in corrugated Colorbond. This is the building's third cladding system, following the original corrugated asbestos cement sheeting and later ribbed steel. The control tower remains extant although the base building has been significantly altered and extended, notably the addition to the large equipment room. The cabin, including the console, is largely intact in form and fabric, more so than at the Essendon and Hobart towers.	 Source: Civil Aviation Historical Society
Darwin (1959) (Demolished)	When civil operations moved into Darwin's military aerodrome in mid-1950, the Department of Civil Aviation (DCA) took over air traffic control responsibility and constructed a civil control tower within the frame and beneath the reservoir of a 1940 water tank. In late 1959, a new steel-framed four-storey control tower was constructed. The 1959 tower remained in civil use until 1965 when the RAAF resumed responsibility from DCA for air traffic control at Darwin. The RAAF operated tower control tower was demolished in c. 2000.[77]	 Source: Civil Aviation Historical Society

Tower	Description	Photograph
Brisbane (1959) (Demolished)	Eagle Farm was designated a Government Aerodrome in 1925, and although Archerfield superseded Eagle Farm as Brisbane's primary airport from 1931-1949, Eagle Farm was reactivated as a commercial airfield following WWII. In 1951 it was announced that Eagle Farm as well as Sydney and Melbourne (Essendon) were to receive a new standard form of control tower. Eagle Farm was the last of the three identified towers to be constructed. The new tower, with attached fire station, was commissioned in 1959. It comprised a square three-storey steel-framed base building, clad in asbestos cement sheeting joined under battens, and surmounted by an elongated octagonal cabin with outward canted windows. The cabin was raised on an elongated octagonal duct and service drum. The roof of the base building formed a walkway around the drum with a backward-canted balustrade.	 Source: Civil Aviation Historical Society
Tamworth (1959)	In 1951 a decision was made to relocate the original 1940 RAAF aerodrome in Tamworth. Tamworth Regional Council commenced construction in 1952, with the official opening of the new airport in 1956.[78] The Tamworth control tower was commissioned on 1 October 1959.[79] It is a three-storey brick base building surmounted by an octagonal tower. It was attached to a power house and generator and a single-storey passenger terminal. In 2011, Council commenced work on the redevelopment of the terminal building which doubled the size of the terminal building and retaining the 1969 control tower. The tower appears to be substantially intact externally, but the condition of the tower internally is unknown.	 Source: Civil Aviation Historical Society

Comment

The Essendon ATC tower is one of a relatively small group of major new ATC towers constructed in Australia in the 1950s as part of a co-ordinated effort on the part of the Australian Government to upgrade air traffic control services nationally. Collectively, this group represents a major initiative to upgrade air traffic control facilities in Australia following the Chicago meeting of the ICAO in 1944, and the ICAO convention which came into effect in April 1947.

Of the eight towers known to have been constructed in this basic form in the 1950s, four remain extant and four have been demolished. The towers at Essendon, Hobart, Launceston are managed by Airservices Australia and remain operational. Over their operational life, all three have been altered to some extent (both internally and externally) but all remain legible to the extent of their overall external form and design. Unlike Essendon, Hobart and Launceston, Tamworth is extant and is likely to be substantially intact externally, but has been decommissioned. The Adelaide, Brisbane, Sydney and Darwin control towers have all been demolished.

Essendon is the earliest of the remaining 1950s towers, and the only tower to remain extant of the three towers originally identified for construction to this standard design in the *Civil Aviation Journal* in June 1951, at Essendon, Sydney (Mascot) and Eagle Farm (Brisbane).

4.2 Analysis of cultural heritage values

This section provides an analysis of the evidence presented above and in chapters 2 and 3 against the Commonwealth Heritage criteria.

4.2.1 Analysis of historic value

The analysis of evidence of historic value is made against the following Commonwealth Heritage criteria:

> *Criterion A: the place has significant heritage value because of the place's importance in the course, or pattern, of Australia's natural or cultural history*
>
> *Criterion B: the place has significant heritage value because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history*
>
> *Criterion H: the place has significant heritage value because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history*

Essendon ATC tower no. 3 is of historical significance for its association with an initiative to introduce standardised control towers at major airfields in Australia. The initiative was undertaken by the Department of Civil Aviation for the Australian Government, and was a response to the regulation of international civil aviation and air navigation safety by the International Civil Aviation Organisation. The Essendon tower was designed in 1953, built in 1954 and commissioned in October 1956, a month before the opening of the Melbourne Olympic Games.

The control tower is largely intact as built. Alterations to the building generally relate to systems upgrades, including the replacement of the original console with a modular equivalent, and works completed in 1966/67 to ensure operational compatibility with Melbourne's new airport at Tullamarine. The OPS-MET building that housed the flight progress board survives, although the board and related technology has been removed. The VHF receiver station at Mount Macedon remains in use.

The 1950s was a formative period in the evolution of air traffic control facilities in Australia. Towers of this era are generally characterised by a degree of experimentation and invention. This generation of control towers formed the stylistic prototype for towers built throughout Australia and Papua New Guinea until the late-1960s. The Very pistol hatch to the east face of the cabin in the Essendon tower is a tangible link to pre-World War II methods of air traffic control using visual devices, including flags and flares.

The Essendon tower is the oldest operational tower in Australia. It is one of four towers that survive from the 1950s. The others are Launceston and Hobart (both of which are operational) and Tamworth (decommissioned).

As built, the Essendon ATC tower was part of an experimental system for the control of civil aircraft at Essendon Airport, then one of the busiest airports in the British Commonwealth. As well as the tower, the system included a flight progress board and a remote Very High Frequency repeater. The FPB was a forerunner of present systems of en route control. Operatives in the Essendon Operations-Meteorology (OPS-MET) building (Building 79) monitored the position and altitude of aircraft under Melbourne control along each air route, and provided the data to the control tower. The VHF repeater at Mount Macedon enabled direct contact between aircraft and air traffic controllers up to 300km away, a significant improvement on previous arrangements. This tri-partite system was the first installation of its type to be introduced in Australia and was, at that time, the most extensive combined work that the DCA had undertaken. It was envisaged as a prototype to be replicated throughout the air routes of eastern Australia, and represented a wholesale improvement in civilian air safety protocols.

The Essendon ATC tower is a rare surviving example of a standard ATC tower design introduced in Australia in the 1950s. Three towers were identified for construction to this standard design in the Civil Aviation Journal in June 1951, at Essendon, Sydney (Mascot) and Eagle Farm (Brisbane). Of this group, only Essendon survives.

No special associations with notable individuals or groups of individuals were revealed during research for this Heritage Management Plan.

4.2.2 Analysis of scientific value

The analysis of evidence of scientific value is made against the following Commonwealth Heritage criterion:

> *Criterion C: the place has significant heritage value because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history*

As noted, Essendon ATC tower no. 3 was part of an experimental system for the control of civil aircraft, which also included a forerunner of en route control (the Flight Progress Board) and a VHF repeater at Mount Macedon. The building that housed the FPB survives, although the board and related technology has been removed. The VHF receiver station at Mount Macedon remains in use.

There exists some limited potential for the surviving elements of the 1950s system to yield information about a significant period in the evolution of modern air safety systems in Australia. However, it is not considered that the Essendon ATC tower meets this criterion at a level that is indicative of Commonwealth heritage value.

4.2.3 Analysis of aesthetic/architectural value

The analysis of evidence of aesthetic value is made against the relevant Commonwealth Heritage criteria specifically:

> *Criterion D: the place has significant heritage value because of the place's importance in demonstrating the principal characteristics of:*
>
> › *a class of Australia's natural or cultural places*
>
> › *a class of Australia's natural or cultural environments*
>
> *Criterion E: the place has significant heritage value because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group*
>
> *Criterion F: the place has significant heritage value because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period*

Essendon ATC tower no. 3 is a representative and largely intact example of a standard ATC tower type surviving from the 1950s. The building comprises a rectangular, three-storey base structure surmounted by an octagonal cabin. The steel-framed base structure is clad in asbestos-cement sheeting. The building is of utilitarian presentation and character, and is generally devoid of embellishments or details. The tower is a tall (in the airport context), freestanding building that is a notable marker in the flat airfield setting.

The Essendon tower is a standard and aesthetically unprepossessing example of architectural design of the early 1950s. No evidence of the aesthetic characteristics being valued by a community or cultural group has been identified in the course of research for this Heritage Management Plan.

The Essendon ATC tower is associated with a major upgrade in air traffic management and safety. Equipment, plant and services were standardised across the new generation of towers. The design of the Essendon tower itself is responsive to technical and other functional requirements, but is not exceptional or important in terms of creative design or technical achievements.

4.2.4 Analysis of social value

The analysis of evidence of social value is made against the relevant Commonwealth Heritage criterion specifically:

> *Criterion G: the place has significant heritage value because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.*
>
> *Criterion I: the place has significant heritage value because of the place's importance as part of Indigenous tradition.*

Essendon ATC tower no. 3 is of interest to specialist aviation groups, notably the staff of the Airways Museum (located nearby). However, no associations of this nature that would indicate that the building g satisfies the threshold for Commonwealth Heritage significance came to light during research for this Heritage Management Plan.

Essendon Airport is not in an identified area of Aboriginal cultural heritage sensitivity, and there is no evidence that the control tower is significant because of its importance as part of Indigenous tradition.

4.3 Statement of significance

What is significant?

Essendon ATC tower no. 3 was designed in 1953, built in 1954 and commissioned in October 1956. It comprises a rectangular, three-storey base structure surmounted by an octagonal cabin with outward canted steel-framed windows. The base structure, also steel-framed, is clad in asbestos-cement sheeting.

The control tower is largely intact as built. Alterations to the building generally relate to systems upgrades, including the replacement of the original console with a modular equivalent, and works completed in 1966/67 to ensure operational compatibility with Melbourne's new airport at Tullamarine.

How is it significant?

The Essendon ATC tower is of historical significance to Australia (CHL criteria A and B). It is also significant for demonstrating the principal characteristics of control towers of the early post-World War II period (CHL criterion D).

Why is it significant?

Essendon ATC tower no. 3 is of historical significance for its association with an initiative to introduce standardised control towers at major airfields in Australia. The initiative was undertaken by the Department of Civil Aviation for the Australian Government, and was a response to the regulation of international civil aviation and air navigation safety by the International Civil Aviation Organisation.

The 1950s was a formative period in the evolution of air traffic control facilities in Australia. Towers of this era are generally characterised by a degree of experimentation and invention. This generation of control towers formed the stylistic prototype for towers built throughout Australia and Papua New Guinea until the late-1960s. The Very pistol hatch to the east face of the cabin in the Essendon tower is a tangible link to pre-World War II methods of air traffic control using visual devices, including flags and flares.

Essendon no.3 is the oldest operational tower in Australia, and one of four towers in Australia that survive from the 1950s. The others are Launceston and Hobart (both of which are operational) and Tamworth (decommissioned). It is also the only survivor of the three towers identified as prototypes by the DCA in 1951. The examples and Sydney (Mascot) and Eagle Farm (Brisbane) have been demolished.

Essendon ATC tower no. 3 was a core component of experimental system for the control of civil aircraft at what was then one of the busiest airports in the British Commonwealth. This system included the ATC control tower, a remote VHF repeater (at Mount Macedon) and the flight progress board. At the time of its design and installation, the Essendon Airport system was envisaged as a prototype to be replicated throughout the air routes of eastern Australia.

The Operations-Meteorology (OPS-MET) building monitored that housed the flight progress board survives a short distance to the south of the control tower, although the board and related technology has been removed. The VHF receiver station at Mount Macedon remains in use. The system represented a wholesale improvement in civilian air safety protocols.

The Essendon ATC tower is a representative and largely intact example of a standard ATC tower type surviving from the 1950s. The building comprises a rectangular, three-storey base structure surmounted by an octagonal cabin. The steel-framed base structure is clad in asbestos-cement sheeting. The building is of utilitarian presentation and character, and is generally devoid of embellishments or details. The ATC tower is a tall (in the airport context), freestanding building that is a notable marker in the flat airfield setting.

4.3.1 Commonwealth heritage values and attributes

The table below (Table 4) identifies Commonwealth Heritage values and related attributes at Essendon ATC tower.

Table 5 Commonwealth Heritage values and related attributes

Criteria	Values	Attributes
(A) History	The ATC tower is the earliest operational control tower in Australia It relates directly to a formative period in the development of air safety controls following the significant technical advances and increase in air traffic precipitated by World War II	The whole ATC tower, as modified and amended The Very pistol hatch to the east face of the cabin, a link to earlier methods of air safety The historical relationship between the ATC tower and the former Operations-Meteorology (OPS-MET) building (Building 79), at Essendon Airport, and the VHF repeater station at Mount Macedon
(B) Rarity	The ATC tower is the sole surviving example of the three prototype towers announced by the DCA in 1951 It is also one of the three surviving operational towers of the 1950s, and one of four in total	The ATC tower (1954 extent and presentation)

5.0 OPPORTUNITIES AND CONSTRAINTS

The following establishes a framework for the conservation policy at Chapter 6.

5.1 Implications arising from significance

The Statement of Significance at Chapter 4 demonstrates that Essendon ATC tower no. 3 is of historical significance to Australia for its strong association with a formative period in the evolution of civilian air safety and management following the ICAO convention which came into effect in April 1947 (CHL criterion A). It is the earliest operational ATC tower in Australia, and one only four surviving towers dating to the 1950s in Australia (CHL criterion B). It is also significant for demonstrating the principal characteristics of control towers of the early post-World War II period (CHL criterion D).

The implication arising from this assessment is that key aspects of the place should be conserved to retain this significance. The key features requiring conservation include:

- The external presentation of the building, as a tall (in the local context), free-standing structure which is recognisable as a control tower primarily as a consequence of its octagonal cabin, with full-height canted glazing to all sides
- The building's functional, utilitarian design aesthetic, which is evocative of its design and development during the early post-World War II period
- The functional, hardwearing internal finishes and presentation
- Unimpeded lines of sight from the cabin to the apron and runways

5.2 Legislative requirements

5.2.1 *Airports Act 1996* (Australia)

The Department of Infrastructure and Regional Development (DIRD) owns 21 federally leased airports in Australia, including Essendon. These airports are leased to long-term airport lessee companies (ALCs, Essendon Fields in the case the Essendon). DIRD takes on a regulatory role managing these airports through the *Airports Act 1996* and, with respect to the environment, the *Airports (Environment Protection) Regulations 1997*. The management of heritage places at federally-leased airports is subject to controls under both the EPBC Act and the Airports Act.

The *Airports Act* requires that a Master Plan be prepared for each airport that, 'incorporates an Environment Strategy. The Master Plan is a 20 year strategic vision for the airport site which is renewed every five years. The Master Plan includes future land uses, types of permitted development, and noise and environmental impacts. The Environment Strategy sets out the airport's strategy to manage environmental issues within a five year period and beyond. It is the basis on which the Commonwealth measures the environmental performance of airports and the document by which airport tenants will determine their environmental responsibilities.'[80] Further, DIRD's Heritage Strategy (2016) places responsibility for management of heritage assets, including the preparation of management plans for Commonwealth Heritage places, with the ALCs. In the case of sub-lessees on a federally leased airport (in this case Airservices Australia), the ALC is obliged to work collaboratively in managing heritage values at the airport.

The Essendon Airport Masterplan 2013 was prepared in accordance with the requirements of the *Airports Act 1996*. The Master Plan was approved in 2014 and outlines the objectives for the airport for the period 2013-2033.[81] The Environmental Strategy (2013-2018) included in the Master Plan includes consideration of heritage at the airport (including Indigenous cultural heritage) and recognises that the *EPBC Act 1999* applies to the Essendon Airport (refer below).

With specific regard to heritage matters, the Environmental Strategy (2013-2018) refers to the Essendon Airport Heritage Management Strategy which was prepared by Godden Mackay Logan in 2006 as part of the Environmental Strategy. The objective with regard to heritage in Environmental Strategy is that, 'any works on heritage buildings are [to be] in accordance with the Heritage Management Strategy for Essendon Airport.'[82]

The Essendon ATC tower (Building 154) is identified as an element of moderate heritage value in the 2006 Heritage Management Strategy (in a hierarchy of three designations – 'High', 'Moderate' and 'Some').[83] The Heritage Asset Management Schedule for the building (included at Appendix A), provides a brief Statement of Primary Heritage Values, and high level advice regarding maintenance of the facility; change and new works; development in proximity to the ATC tower; access; curtilage; landscape; and views.

Management of heritage values

The management of development at airports is controlled by the Airports Act 1996. Under Part 5 – Land Use, Planning and Building Controls – of the Act, a Major Development Plan is required for significant developments at airports, including where the development is likely to have a significant environmental or ecological impact. Where a development proposal may constitute a Controlled Action (an action that is likely to have a significant impact on a matter of national and/or Commonwealth environmental significance) the development should be referred to the Minister for the Environment under Section 68 of the EPBC Act (see below).[84]

In addition, building and construction activities at leased federal airports must be approved by the Airport Building Controller (ABC). The ABC is appointed under Commonwealth law to administer the airport building control regime.[85]

5.2.2 *Environment Protection and Biodiversity Conservation Act 1999* (Australia)

The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places—defined in the EPBC Act as matters of national environmental significance.[86] The Act imposes obligations on Commonwealth agencies to protect and maintain the environment, including the cultural heritage values, of assets that they own or lease.

Section 341ZA of the EPBC Act requires that Commonwealth Agencies prepare a Heritage Strategy to provide for the management of any place which has, or might have, one or more Commonwealth Heritage values. Airservices Heritage Management Strategy 2014-2017 identifies how Airservices will meet its heritage responsibilities under the EPBC Act. The objectives of this strategy primarily relate to:

- ensuring continued integration of heritage management into Airservices corporate planning framework
- educating and training Airservices staff to be aware of their heritage obligations
- continuing the programme of identifying and assessing likely Commonwealth heritage values of places owned or controlled by Airservices
- ensuring effective inter-governmental, aviation industry and community consultation, and conflict resolution processes exist in relation to heritage matters
- maintaining a register of heritage places under Airservices ownership and control.[87]

The Regulations to the EPBC Act, at Schedules 7A and 7B, identify matters to be addressed in a HMP for places included in the CHL – including Essendon ATC tower no. 3.

As noted in Chapter 1, the ATC tower is also the only element at Essendon Airport to be included in the CHL. As such, its management must be in accordance with sections 26 and 28 of the EPBC Act.

The provisions of the EPBC Act provide protection of the Commonwealth Heritage values of all places which are either entirely within a Commonwealth area or are owned or leased by the Commonwealth or a Commonwealth Authority, including but not limited to places which are included in the CHL. Should Airservices Australia end its lease and cease to operate or function from within the Essendon ATC tower, or if Essendon Airport is no longer Commonwealth owned or controlled, the above statutory framework would cease to apply, and the airport (including the ATC tower) would come under Victorian legislation, including the Heritage Act 1995 (see Section 5.2.5) and the Planning and Environment Act 1987 (see Section 5.2.6).

Management of heritage values

Any place which is either entirely within a Commonwealth area or is owned or leased by the Commonwealth or a Commonwealth Authority is protected by the EPBC Act, regardless of whether it is included on the CHL. Generally, any action which will have a significant impact on the environment of a Commonwealth Heritage Place, including Commonwealth Heritage values, requires approval of the Minister for the Environment. If an agency is unsure that a proposed action will result in a significant impact it can refer the proposal to the Minister for a determination. The decision on whether to refer a proposal is a matter for the agency concerned, being a matter of judgement as to whether the action could have a significant impact on heritage values.

However, Section 9(1) of the EPBC Act states that this Act does not affect the operation of the Airports Act 1996. As such, if an action is likely to have a significant impact on the environment of a listed place, this action requires assessment and approval under the Airports Act and associated Regulations rather than the EPBC Act. As outlined in Section 5.2.1 where a development proposal may constitute a controlled action, this development may be referred to the Minister for the Environment under Section 68 of the EPBC Act, however 'where there are processes in place under the Airports Act, airports use these rather than referral process under the EPBC Act.'[88]

5.2.3 *Air Services Act 1995* (Australia)

The Air Services Act 1995 establishes Airservices Australia which provides air traffic services, aeronautical information, radio navigation and telecommunications services and rescue and fire-fighting services at federal airports. Section 8 subsection 1 (m) of the Act states that Airservices Australia is responsible for carrying out activities to protect the environment from the effects of, and effects associated with, the operation of Commonwealth jurisdiction aircraft.

5.2.4 *Aboriginal Heritage Act 2006* (Victoria)

The main purpose of the Aboriginal Heritage Act 2006 is to provide for the protection of Aboriginal cultural heritage in Victoria. Large developments and other high impact activities in culturally sensitive landscapes have the potential to cause harm to Aboriginal cultural heritage. In order to mitigate potential harm, a cultural heritage management plan may be required to assess an area to determine the nature of any Aboriginal cultural heritage present in the area and recommend measures to manage and protect the identified cultural heritage. Regulation 6 of the Aboriginal

Heritage Regulations 2007 states that 'a cultural heritage management plan is required for an activity if— (a) all or part of the activity area for the activity is an area of cultural heritage sensitivity; and (b) all or part of the activity is a high impact activity.'[89]

Essendon Airport is not in an identified area of Aboriginal cultural heritage sensitivity. Accordingly, a cultural heritage management plan will not be required for development within the airport.

The Essendon Airport Environmental Strategy 2013-2018 includes procedures prepared by Aboriginal Affairs Victoria to be followed 'in the event that Aboriginal archaeological material is uncovered during development or future land management works.'[90]

5.2.5 *Heritage Act 2017* (Victoria)

The Victorian *Heritage Act 2017* is the Victorian Government's key piece of (non-Indigenous) cultural heritage legislation, which provides a legislative framework for the protection and conservation of places and objects of cultural heritage significance in Victoria. The Act identifies and protects heritage places and objects that are of significance to Victoria, including:

- historic archaeological sites and artefacts
- historic buildings, structures and precincts
- gardens, trees and cemeteries
- cultural landscapes
- shipwrecks and relics
- significant objects

The Act also establishes the Victorian Heritage Register (VHR), the Heritage Inventory (HI) and the Heritage Council of Victoria.[91]

Should the Commonwealth ownership of Essendon Airport cease, the statutory requirements of the EPBC Act would cease to apply and the Essendon ATC tower may be nominated for inclusion in the VHR. The VHR is a list of places and objects of state significance. To be included in the VHR, places and objects must meet the assessment criteria of the Heritage Council of Victoria. The statutory implications of the VHR listing include an approval process for works to registered places other than regular maintenance and repairs.

Known historical (non-indigenous) archaeological sites in Victoria are included in the HI and are also protected under the Heritage Act 1995. Additionally, all archaeological sites more than 50 years in age in Victoria are protected by the Heritage Act 2017, regardless of whether they are included in the VHI.

However, the Heritage Act 2017 does not apply to Commonwealth owned places and as such, there are currently no obligations under the Heritage Act for archaeological remains within Essendon Airport. Should Essendon Airport be sold, the requirements of the Heritage Act which relate to non-indigenous archaeological remains would apply to the site.

5.2.6 *Planning and Environment Act 1987* (Victoria)

In the event that the Executive Director, Heritage Victoria, recommends to the Heritage Council that a place not be included in the VHR, the Executive Director may refer the nomination to the relevant planning authority or the Minister administering the Planning and *Environment Act* 1987

for inclusion of the place in a planning scheme in accordance with the objectives set out in section 4(1)(d) of that Act.

Heritage places of local heritage significance are identified within the local planning scheme and protected through a Heritage Overlay. Councils are responsible for issuing planning permits for the use and development of heritage places under the Planning and Environment Act 1987.[92]

5.2.7 *National Construction Code*

The National Construction Code (NCC) provides the minimum necessary requirements for safety, health, amenity and sustainability in the design and construction of new buildings, and new work in existing buildings, throughout Australia. The NCC was developed to incorporate all on-site construction requirements into a single code. It covers the Building Code of Australia and Plumbing Code of Australia and is managed by the Australian Building Codes Board (ABCB).

The NCC provides a nationally accepted and uniform approach to technical requirements for the building industry. It contains provisions for the design and construction of buildings and other structures, covering such matters as structure, fire resistance, access and egress, environmental sustainability, services and equipment and aspects of health and amenity.

In cases of existing buildings undergoing alterations and/or additions, some discretion may be available with regard to upgrading the existing part of the building to meet the NCC.

5.2.8 *Disability Discrimination Act 1992* (Australia)

The *Disability Discrimination Act* makes it illegal to discriminate against a person on the basis of their disability. It is not specifically about buildings, but it has an effect on buildings in which the design and construction prevents access by people with a disability, as the owners of those buildings are deemed to be discriminating against people on the basis of a disability.

The DDA is philosophical in approach and:

- Is complaints based
- Has no construction standards
- Applies to actions of discrimination wherever they occur
- Can apply retrospectively to both new and existing buildings, wherever the discrimination occurs

On 1 May 2011, the Disability (access to Premises – Buildings) Standards (Premises Standards) took effect under the *Disability Discrimination Act 1992*.

Commonwealth agencies are bound to meet the objectives of the DDA as far as possible. In the context of the Essendon ATC tower, a key implication will relate to vertical access: the staircase is very narrow, and there is no lift.

5.3 Lease agreement

Airservices Australia entered into a 39 year lease arrangement (commencing 6 July 1995) with the Federal Airports Corporation (FAC) for the Essendon ATC tower.

Under the terms of this lease, the FAC may carry out construction or demolition works in any part of Essendon Airport other than the ATC tower and associated land, but no works may be carried

out to the control tower without Airservices Australia's consent. Should wider airport planning and development objectives require Airservices Australia to vacate the control tower, negotiations will be entered into to relocate Airservices Australia to an alternative suitable substitute location on the Airport site.[93] In such circumstances, relocation would be at the lessor's cost. [94]

Airservices Australia's obligations under the terms of this lease are that the control tower must not be used for any purpose other than the permitted use (i.e. for any purpose that is consistent with the functions of Airservices Australia as prescribed by legislation). Should the lease expire or be terminated, Airservices Australia is obliged to remove all or part of any works (buildings (including portable or relocatable buildings), improvements, fixtures, fittings, facilities, paving and landscaping) other than those belong to the FAC (which no longer exists). The lease does not explicitly exclude the ATC tower from makegood at the end/ termination of the contract.[95]

5.4 Stakeholders

At a general level, stakeholders (people or organisations with an interest in Essendon ATC tower) fall into two categories: statutory authorities responsible for ensuring the appropriate management of the asset, and individuals/groups/businesses with a particular interest in the place. There are a range of stakeholders with an interest in and concern for Essendon ATC tower no. 3, including the following:

- Department of Agriculture, Water and the Environment
- Department of Infrastructure, Transport and Regional Development
- Essendon Fields
- The Airways Museum and Civil Aviation Historical Society
- Aviation operators

5.4.1 Department of Agriculture, Water and the Environment

As a Commonwealth Heritage Place, the Department of Agriculture, Water and the Environment is concerned with the identification, protection and conservation of the identified Commonwealth Heritage values of the Essendon ATC tower. In the event that the tower is decommissioned, the management of the present tower and preservation of the identified Commonwealth Heritage values will be matters of interest to the Department of Agriculture, Water and the Environment.

5.4.2 Department of Infrastructure, Transport and Regional Development

The Department of Infrastructure, Transport and Regional Development (DITRD) owns 21 federally leased airports in Australia, including Essendon. These airports are leased to long-term airport lessee companies (ALCs, Essendon Fields in the case the Essendon – see Section 5.4.3 below). DITRD takes on a regulatory role managing these airports through the *Airports Act 1996* and, with respect to the environment, the *Airports (Environment Protection) Regulations 1997*.

5.4.3 Essendon Fields/Essendon Airport Pty Ltd

Essendon Fields comprises part of the Essendon Airport Site, which is leased from the Australian Government to Essendon Airport Pty Ltd (EAPL).[96] In addition to Essendon Airport, Essendon Fields comprises a number of surrounding commercial, business and leisure operations, some of which are provided in airport hangars.

Anticipated use and development of Essendon Fields

The Essendon ATC tower is located within Essendon Airport and is critical to the operation of the airport. There have been some operational issues associated with the current ATC tower and 'in recent years, Airservices Australia has contemplated the establishment of a new ATC tower at Essendon Airport… the final location of the new control tower will be agreed by EAPL and Airservices Australia.'[97] This HMP anticipates the eventual replacement of the existing control tower with another tower within the airport site, however as indicated, the location of a new tower and timeframe for replacement have not yet been determined.

There are heritage implications associated with the removal of air traffic services from the current ATC tower. These relate to management and conservation of the identified Commonwealth Heritage values of the control tower and the potential use/adaptive reuse of the decommissioned tower once a new tower has been established.

Wirraway Road Precinct

The Wirraway Road Precinct comprises a number of the early airport buildings on both sides of Wirraway Road, north of the Essendon ATC tower. The Wirraway Road Precinct as is included in the Godden Mackay Logan Heritage Management Strategy for Essendon Airport. This report includes identification of elements of high, moderate and some heritage values, including the ATC tower, as follows:

High heritage value:

- Hangar 3
- Hangar 4
- Hangar 5
- Hangar 6
- Former ANA Airframe Shop (Building 44)
- Wirraway Road view lines

Moderate heritage value:

- Air Traffic Control Tower (Building 154)
- Wirraway Road

Some heritage value:

- North-south runway

The statement of significance for the Wirraway Road Precinct included in the Essendon Airport Heritage Management Strategy is as follows:

> The Wirraway Road Precinct captures and illustrates the principal characteristics of the history of the use and development of Essendon Airport. Wirraway Road is a remnant of the original Bulla Road and its distinct alignment, with a series of buildings oriented both to the road and former airfield, indicates the early layout of the airport.

> The group of hangars and buildings located in the precinct are historically significant as the oldest set of buildings on the site still in their original locations. The complex of hangars also demonstrates the different forms and construction types of hangars used in the 1930s and 1940s.
>
> The collection of elements that make up the precinct are important reflections of the eclectic growth of the airport. The function, spatial relationships, design, envelope and curtilage of each building/element is an important component and identifiable characteristic of that growth and change.
>
> A key component of the precinct is the open and unbroken view lines between the eastern façade of the built elements at the eastern side of Wirraway Road and the North-South Runway.[98]

As noted at Section 5.2.2 above, the ATC tower is the only element at Essendon Airport which is included on the CHL, however the Commonwealth heritage values of all buildings and elements at Essendon Airport, including those in the Wirraway Road Precinct, are protected under the *EPBC Act*.

5.4.4 The Airways Museum & Civil Aviation Historical Society

The Airways Museum is located at Essendon Airport and comprises a collection associated with the development of Australia's civil aviation airways system. Included in the museum collection are:

- air traffic services:
  - tower control
  - approach control
  - en route control
  - aeradio/flight service
- air/ground & ground/ground communications equipment
- radio navigation beacons and radar
- airport lighting & visual approach guidance
- flight calibration of navigation aids[99]

The Civil Aviation Historical Society (CAHS) operates the Airways Museum on behalf of Airservices Australia. General issues associated with the Essendon ATC tower likely to be of concern to the CAHS include the retention of the visible exterior form and fabric of the control tower in situ and retention of its visual relationship to the former Operations-Meteorology building (Building 79). The management of the console and other operational equipment currently located within the control tower of the tower would also be of interest to the CAHS in the event of decommissioning.

5.4.5 Aviation operators

There are a number of aviation operators who use Essendon Airport and rely on the ATC tower services. These operators include:

- Emergency services
- Helicopter charter
- Aircraft charter/private jet
- Regional passenger transport
- Flying school
- Light freight operators

Air traffic services at Essendon Airport are required to allow for the use of the airport by the above aviation operators however it is unlikely that the manner of the provision of this service (i.e. continued use of the current tower or introduction of a new tower) is a concern to these operators.

5.5 Presentation and condition

Presentation

Essendon ATC tower no. 3 is largely intact as built and presents very much as completed in 1954. Alterations to the building include the colour of the paint finish asbestos cement sheets, which has changed on a number of occasions; the single-storey addition to the east (1966/67); and the modifications to the entry canopy. Changes to the setting include the demolition of the DCA hangar to the south of the tower (1961).

Condition

The ATC tower is generally in sound condition, and there are no known impediments to the on-going use of the facility, or its adaptation as a consequence of structural integrity. One matter that should be investigated is the condition of the timber framing elements to which the battens are fixed. In 2014, it is understood that a panel detached during strong winds, revealing deteriorated timber.[100]

A hazardous building materials survey was carried out in 2013 (JTS Health, Safety & Noise Specialists, June 2013). The building includes asbestos-containing materials, Synthetic Mineral Fibre materials, Polychlorinated Biphenyl Capacitors and lead paint. The majority of the asbestos-containing materials are in a stable condition – Priority 4 rating. These include the flat asbestos cement sheeting, bituminous external membrane and asbestos-containing electrical backing boards. Damaged or deteriorating asbestos-containing materials include cement sheet debris in the cable riser in the equipment room (Priority 3) – recommended for removal and disposal.

6.0 CONSERVATION POLICY AND MANAGEMENT GUIDELINES

This conservation policy is based on the assessment of cultural significance at Chapter 4, and informed by the opportunities and constraints identified at Chapter 5. The policy provides direction and guidance on the conservation and management of Essendon ATC tower no. 3 consistent with its on-going operation as a control tower. It also considers heritage management implications in the event that the tower is decommissioned or replaced.

6.1 Definitions

The terminology used in this chapter is of a specific nature. The following definitions are from the *Burra Charter, 2013* (Article 1), as endorsed by a large number of statutory and national heritage bodies.

Place means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions.

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

- Cultural significance is embodied in the *place* itself, its *fabric, setting, use, associations, meanings*, records, *related places* and *related objects*.
- Places may have a range of values for different individuals or groups.

Fabric means all the physical material of the *place* including elements, fixtures, contents and objects.

Conservation means all the processes of looking after a *place* so as to retain its *cultural significance*.

Maintenance means the continuous protective care of a *place*, and its *setting*.

Maintenance is to be distinguished from repair which involves *restoration* or *reconstruction*.

Preservation means maintaining a *place* in its existing state and retarding deterioration.

Restoration means returning a *place* to a known earlier state by removing accretions or by reassembling existing elements without the introduction of new material.

Reconstruction means returning a *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material.

Adaptation means modifying a *place* to suit the existing ***use*** or a proposed use.

Use means the functions of a *place*, including the activities and traditional and customary practices that may occur at the place or are dependent on the place.

Compatible use means a *use* which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.

Setting means the immediate and extended environment of a *place* that is part of or contributes to its cultural significance and distinctive character.

Related place means a *place* that contributes to the *cultural significance* of another place.

Related object means an object that contributes to the *cultural significance* of a *place* but is not at the place.

Associations mean the special connections that exist between people and a *place*.

Meanings denote what a *place* signifies, indicates, evokes or expresses to people.

Interpretation means all the ways of presenting the *cultural significance* of a *place*.

6.2 General policies

Policy 1 Significance as the basis for future conservation and management

The Statement of Significance included in this HMP should be the principal basis for the future management and conservation of Essendon ATC tower no. 3.

Specific conservation objectives should include:

- Managing in accordance with the significance attributed in this HMP (Chapter 4). In general terms, the implications of the identification of significance are as follows:
  - Significant elements and attributes should be retained and conserved according to the principles of the Burra Charter (2013)- significant elements and attributes are identified at Section 4.3.1 and Section 5.1
  - Elements and attributes that are not identified as significant can be retained, re-used or replaced by new construction or works in a way which has a minimum or no adverse effect on significant buildings and elements
- The retention and conservation of significant elements and attributes in accordance with the policies and recommendations in this HMP.
- A sensitive and respectful approach to adaptation, new works and future development where significant fabric and elements may be affected.

If alterations or changes are proposed which support an appropriate and viable use for the control tower, the works should be undertaken in a manner which has minimal impact on significant fabric. A summary of significant fabric/elements, and the implications of these assessments, is included in the Essendon ATC tower 'User Guide' (Appendix C). This brief document was prepared by Airservices to provide guidance to contractors and staff about obligations relating to heritage at the site. The User Guide has been updated for consistency with the findings of this HMP.

It is recommended that the CHL entry for the control tower should be updated to include the Statement of Significance in this HMP.

Policy 2 Adoption of the Burra Charter

The conservation and management of the subject site should be carried out in accordance with the principles of the Burra Charter (2013).

When assessing the suitability of proposed works to significant elements and attributes at the Essendon control tower, the principles of the Burra Charter and its practice notes should be referenced. These principles provide guidance on the conservation and adaptation of places and elements identified as being of cultural heritage significance.

Policy 3 Adoption of policies

The policies included in this HMP should be endorsed and adopted by the present and future owners, or managers, of the Essendon ATC tower no. 3, and should form the primary guide for its management.

This HMP should inform future development of the Essendon ATC tower no. 3. The present and future owners of the tower should adopt and implement the policies of the HMP as the key guiding reference in terms of managing change and future development within the site.

Policy 4 Specialist advice and skills

Advice from qualified heritage practitioners should be sought before any action is proposed or undertaken that could have an impact on the Commonwealth Heritage values of Essendon ATC tower no. 3.

Where works to significant elements or attributes are proposed, or where technical advice is needed, it is important to select consultants and contractors with proven experience in the relevant field. This applies to the development of strategic approaches to undertaking works, as well as to the delivery of conservation works.

Policy 5 Compliance with legislation

Airservices Australia should develop and implement protocols for compliance with all legislation, including the EPBC Act and the Airports Act.

The development of protocols to ensure compliance with all applicable legislation should include triggers to ensure compliance with the EPBC Act, being the key piece of legislation that applies directly to management of heritage values. A department within Airservices should be tasked with preparing an information sheet identifying processes to be followed when contemplating works at the control tower, and disseminating the outcomes.

In the event that actions with the potential to have a significant impact on the Commonwealth Heritage values of Essendon ATC tower no. 3 are contemplated, Airservices Australia should consult with the Minister for the Environment. This consultation is not a formal requirement of the EPBC Act, but is recommended in recognition of the fact that the Airports Act supersedes the EPBC Act in a range of matters, including issues that affect the operation of the place.

Policy 6 Stakeholder liaison

Airservices Australia should consult with all stakeholders identified at Chapter 5 (Section 5.4) and other parties/individuals as relevant, on matters affecting the heritage values of Essendon ATC tower no.3.

Key stakeholders – being individuals and organisations with a particular interest in the ATC tower – should be advised of any proposals with the potential to impact on the identified values of the place, and provided with opportunities to comment.

While the there are no identified Aboriginal places at Essendon Airport, and the ATC tower is not within an Area of Cultural Heritage Sensitivity, it would be appropriate for the local Registered Aboriginal Party to be included in the group of stakeholders consulted. This recommendation complies with EPBC Act Regulations, 2000, Schedule 7a (h) (iv).

Policy 7 Managing sensitive information

Airservices Australia should develop and implement protocols to protect sensitive information and equipment relating to the operation of the ATC tower.

Essendon ATC tower is a critical component of Melbourne's air safety infrastructure. It includes sensitive information and equipment. Protocols to ensure that this information and equipment is not compromised, or accessed by unauthorised parties should be developed and implemented bv Airservices Australia. This policy complies with EPBC Act Regulations, 2000, Schedule 7a (h) (v).

Policy 8 Review of the HMP

Consistent with best practice, and the requirements of the EPBC Act, this HMP should be reviewed and updated every five years (by 2021).

Relevant considerations in undertaking a review of this HMP are to incorporate any new information that comes to light, particularly where there is the potential for the new information to result in a reassessment of values. Major physical change to the place would be a trigger for a review of this HMP. Other triggers include instances where: major change occurs as a result of an accident or misadventure (i.e. vandalism or fire); or the HMP is found to be out of date with regard to significance.

6.3 Conservation policies

Policy 9 Conservation of significant attributes and elements

Significant attributes and elements at Essendon ATC tower no. 3 should be conserved.

Significant attributes and elements are:

- The external form and presentation of the three-storey control tower base as built in 1954, and extended in 1966/67
- The form and presentation of the control tower cabin, as built in 1954
- Original internal finishes, which are generally of utilitarian character
- Unimpeded views from the cabin to the apron and runways

Implementation of this policy will require recognition of and respect for the attributes and elements identified above on the part building occupant and managers, and the adherence to Policy 4, which recommends engaging the services of professional heritage consultants in planning and designing outcomes that are compatible with the ATC tower's heritage values. Consistent with the Burra Charter, appropriate heritage outcomes may include: maintenance, preservation, restoration and adaptation.

Policy 10 Heritage curtilage

The heritage curtilage for Essendon ATC tower no.3 should be defined as the Airservices Australia lease at Essendon Airport.

The 'heritage curtilage' for a building, complex or site has been defined as, 'the area of land (including land covered by water) surrounding an item or area of heritage significance which is essential for retaining and interpreting its heritage significance'.[101] A heritage curtilage should include all significant elements and establish an area which is managed to ensure the maintenance of heritage significance. Identification of land to be included within a heritage curtilage does not preclude change within this area. Land within a heritage curtilage does, however, need to be managed so as not to adversely impact on setting, presentation or significance of a heritage place.

Essendon ATC tower no.3 is a freestanding element that has a distinct and singular character in the airport context, primarily as a result of its cabin. The Airservices lease at Essendon affords views to and from the tower to all sides. There is no heritage imperative to consider a heritage curtilage that extends beyond the boundaries of area leased by Airservices Australia (616.5sqm).

Policy 11 Views and visual relationships

Views and visual relationships that support an understanding of the site's historical and aesthetic significance should be maintained.

Essendon ATC tower no 3 does not rely for its significance on visual relationships with other buildings for its historic or aesthetic significance. Its proximity to the apron and north-south runway, however, does enhance an understanding of the building's function. In addition the historical significance of the tower is enhanced by its location on Wirraway Road (formerly Bulla Road), the thoroughfare along which development at the airport was concentrated from its origins in the early 1920s. The location of the tower on a 90 degree bend in Wirraway Road also affords it a high level of visibility from the public/retail areas in the airport. From a heritage perspective, it would be a preference for these views of the ATC tower to be taken into account in future site planning (managed by Essendon Fields).

It would be desirable for visual connections between the ATC tower and the historic strip to the north (Wirraway Road)to be maintained, and in the event that the tower is decommissioned, it would be a preference to maintain unimpeded view lines between the tower and the apron/ runway. It would also be desirable to maintain a visual connection between the ATC tower and the OPS-MET building (Building 79), relating to their historic connection as part of the experimental system for the management of civil aircraft in the 1950s.

Policy 12 Remedial works and cyclical maintenance of significant built fabric

Programs of priority maintenance, remedial works and cyclical maintenance should form the basis for on-going care of the significant built fabric at Essendon ATC tower no. 3.

The fabric of historic buildings and fabric will deteriorate over time due to the effects of age, weather and use. Poor maintenance can hasten the decline and decay of fabric, which can be expensive to rectify if not promptly addressed. It may also result in the loss of significant heritage fabric which can in turn impact on the heritage values of the place.

The establishment of a cyclical maintenance programme will help to retard deterioration and, following any refurbishment works, to prevent future deterioration of restored original or introduced new material. Broadly, the approach to maintenance should firstly be to maintain and ensure that the significant original and early fabric does not deteriorate further and secondly to maintain all existing fabric. *Ad hoc* repairs or patch ups should be avoided.

Regular inspections of the building's fabric should occur, with an emphasis on susceptible areas such as guttering and downpipes, door and window openings. Generally, day-to-day maintenance work can be carried out in accordance with the conservation policies and without reference to a conservation specialist. However, major maintenance works should be undertaken under the direction of an appropriately qualified conservation practitioner.

The primary aim of repair work should be to retain as much of the historic material as possible. In most cases involving repairs to significant fabric, the advice of a heritage practitioner will be required prior to undertaking the works, to ensure the significant fabric is treated appropriately.

Maintenance

Maintenance addresses all existing components of the place, including fabric and setting. Introducing new elements (such as new structures) or changing and adapting the existing building are not matters of maintenance, and are addressed in policies and recommendations included elsewhere in this HMP.

Typical maintenance works at Essendon ATC tower no.3 include:

- Cleaning out drainage systems and other water storage and drainage areas
- Maintaining and securing external wall fabric, battens, glazing and joinery in an appropriate and sympathetic manner (may require specialist input)
- Maintaining equipment and services (i.e. building services, not services related to the operation of the building as a control tower)
- Replacing or upgrading services (may require specialist input for substantial works)
- Maintaining existing power or pipelines or other services where this involves no alteration to the fabric of the place

With regard to the recommended cyclical inspection and maintenance programme, the following sets out a desirable annual program for cyclical maintenance at Essendon ATC tower no.3:

- Finishes to the cabin roof and external walkway, external wall panels, downpipes, drains and surface drainage, security and fire precautions, plumbing, electrical and data cables and appliances, windows and doors and general safety. Ceilings, floors, stairs, joinery, fixtures and fittings, tiling and building services.

Repairs

From a heritage perspective it is generally recommended that repairs of significant buildings and structures should involve replacing 'like with like,' i.e. the replacement of material (missing, deteriorated or broken) with fabric to match the existing. Accepting this principle, it is also important to determine if the material proposed for replacement is appropriate (it may not be original). The advice of a qualified heritage practitioner should be sought on this. Wherever possible, only actual decayed fabric of a heritage structure should be replaced, instead of the whole host element. Subject to further analysis, this may apply to the timber framing concealed by the asbestos cement sheets.

Repairs to significant structures should also, in preference, be carried out by appropriately skilled staff or contractors, and may require in some cases prior analysis of the composition of the fabric to be repaired/replaced.

Specialist input may also be required for the identification and eradication of any damage caused by pest infestations. Rectification may involve repair to, or replacement of, damaged fabric.

Policy 13 Hazardous materials

Removal of hazardous materials from Essendon ATC tower no. 3 should seek to minimise physical impacts on significant values and attributes.

Essendon ATC tower no. 3 includes some hazardous materials, as confirmed in a report prepared by JTS Health, Safety & Noise Specialists (June 2013). The report identifies that asbestos is present in some significant buildings and elements. The building includes asbestos-containing materials, Synthetic Mineral Fibre materials, Polychlorinated Biphenyl Capacitors and lead paint. The majority of the asbestos-containing materials are in a stable condition – Priority 4 rating. Damaged or deteriorating asbestos-containing materials include cement sheet debris in the cable riser in the equipment room (Priority 3), and is recommended for removal and disposal.

Where hazardous materials are removed, the key consideration from a heritage perspective will be to conduct their removal with minimal physical impacts on the presentation and character of the tower. In the event that the flat asbestos cement sheeting to the exterior is removed, it should be replaced with a system that matches the dimensions, details and presentation of the existing.

6.4 Use, adaptation and change

Policy 14 Use

Future uses of Essendon ATC tower no. 3 should be compatible with the assessed values of the place so that its cultural significance is maintained and conserved.

Air traffic control towers are prone to obsolescence. The two earlier towers at Essendon (1938 and 1946) were replaced because of technological advances and the introduction of new safety standards. Other common determinants for the replacement of towers are the introduction of larger and faster aircraft, which require larger airfields to accommodate them, and the introduction of development that obscures sight lines from the air traffic control towers.

Essendon ATC tower no. 3 is significant primarily for its historical values, as a largely intact ATC tower from a formative period in the development of systems for the management of civilian airspace. Its continuity of use, which relates largely to uncertainty about the future of Essendon Airport and an associated lack of development activity there, is of interest. At the time of writing, it was anticipated that there would be a requirement to replace the present tower relating to works proposed to the passenger terminal at Essendon.

Despite the specialised nature of the building, and the spatial constraints of the interior, Essendon is a control tower that can reasonably be anticipated for adaptive re-use. Key to this is its location between the historic strip at Essendon, and the new retail areas at the airport. The tower is also part of the public domain; unlike many ATC towers, it is not quarantined airside. Further, the equipment at the control tower has not been assessed as being of significance in its own right (see Policy 16), potentially enabling the delivery of unencumbered internal spaces.

The key issue in considering future uses of the building is to avoid or minimise the potential for impacts on the tower's Commonwealth Heritage values. The advice of heritage professionals should be sought in analysing options. One possibility for the re-use of Essendon ATC tower no. 3 is adaptation as food and beverage premises, with external viewing decks on the walkway and cabin roof to optimise views over Melbourne and the airport. It may also be considered as an exhibit as part of the nearby Airways Museum, although financial support would be required to support on-going maintenance costs.

Policy 15 Changes to significant elements and attributes

Physical alterations to significant fabric and attributes should be limited to works that do not diminish the cultural heritage values of Essendon ATC tower no. 3.

The subject building is adequate for its operation as an ATC tower. In the event of disposal by Airservices Australia, however, it can be anticipated that physical change will be required to support a new use, including internal reconfiguration, the introduction of a lift and widening of the stairs. A key to maintaining the building's cultural heritage significance will be to minimise impacts on its external presentation.

Where works are required the over-riding objectives are firstly to retain and conserve significant fabric and attributes, and secondly to plan and undertake works in a manner that is sensitive to the valued form and presentation of significant fabric. All alternative approaches should be investigated before removal of significant elements, and new works should be clearly identifiable as such.

This is not a site where reconstruction of modified elements or reinstatement of original details is required or recommended.

The commentary at Table 5 provides guidance on approaches to future change.

Table 5 Strategies for change to significant elements and attributes

Building/element	Principles to guide future change
ATC tower base, exterior	◦ As far as possible the external building envelope should be retained, to maintain an understanding of the original form, scale and presentation of the control tower ◦ The 1966/67 addition to the east can be retained, modified or replaced. In the event of replacement, new works should be of comparable scale to the existing. ◦ There is also some potential for the introduction of low-scale development to the north and north-east of the control tower, on the site of back-up generator ◦ Extensions of more than one storey should not be contemplated ◦ The one exception to the above is an external lift core, which can be contemplated to either the south or north elevation. The west elevation (which is intact as built) should, in preference, remain unaltered to maintain the presentation of the tower from the public domain ◦ The south elevation should be retained as the primary entry to the building, to provide an understanding of the original planning ◦ New works/additions should adopt a utilitarian character, with limited decorative detail or embellishment, consistent with the original building ◦ New window openings should be small, and avoid sun shades ◦ The building has been painted in a number of colours over the years, including pale green, pale green with red details (joinery) and white. In preference, future paint treatments would be based on paint analysis, to determine the original treatment
ATC tower base, interior	◦ An understanding of the existing floor levels, including the crawl space under the cabin, should be maintained ◦ Evidence of the original planning and original fittings/ finishes (where they survive) should, in preference be retained
Control tower cabin, exterior	◦ The cabin is intact as built, and a key identifier of the building as a control tower. There is no potential for significant change to the cabin externally ◦ Maintain the transparency of the cabin as viewed from ground level ◦ The Very pistol hatch should be expressed externally, and interpreted (see Policy 21)
Control tower cabin, interior	◦ Maintain the cabin interior as a single volume ◦ Remove non-original finishes and accretions

Policy 16 Equipment

In the event of disposal, original equipment and fittings should be catalogued and stored appropriately.

Equipment, plant and services at ATC towers are standardised. The equipment and plant at the Essendon tower has not been assessed as significant in its own right, including the console (1966, with later alterations). However, some of the equipment and fittings are original, and have the potential to support an understanding of the building's use and operation.

In the event of disposal or termination of the lease, Airservices Australia 's obligations include removing fixtures and fittings. Prior to this obligation being implemented, an audit of equipment and fittings should be prepared. The audit should include recommendations for salvage, and identify options for appropriate management – i.e. integration into site interpretation; display in the Airways Museum.

Policy 17 Recording

Airservices Australia, and subsequent owners, should maintain a record of significant interventions to Essendon ATC tower no.3.

Records of works/interventions to the tower should be maintained by Airservices Australia. The record (or file) should include copies of all superseded architectural drawings, and photography of the affected areas before and after the works.

This policy complies with EPBC Act Regulations, 2000, Schedule 7a (h) (x).

6.5 Management policies

Policy 18 Statutory controls

Essendon ATC tower no. 3 should continue to be recognised as a place of cultural heritage significance to Australia through its inclusion in the Commonwealth Heritage list.

It is recommended that the CHL entry for the control tower should be updated to reference this HMP, and to include the Statement of Significance in this HMP.

Essendon ATC tower no. 3 has been assessed as a place of historical and aesthetic (representative values) significance to Australia. As such, it should continue to be managed in compliance with the heritage obligations under the *Airports Act 1996* and the provisions of the EPBC Act 1999. It is recommended that the CHL entry for the control tower should be updated to reference this HMP, and to include the Statement of Significance in this HMP.

In the event that the asset is divested Airservices Australia will ensure that the Commonwealth Heritage values of the asset are protected. As per Section 341ZE of the EPBC Act, in the event that the tower is sold or leased, Airservices will advise the Minister at least 40 business days prior to the execution of the contract, and follow all appropriate measures to ensure the Commonwealth Heritage values of the tower are protected. Assuming that Essendon Airport remains Commonwealth-owned land, the ATC tower would remain in the CH list.

In the event that Essendon Airport were to be sold by the Commonwealth, Essendon ATC tower no. 3 should be nominated for inclusion in the Victorian Heritage Register.

Anyone is able to nominate a place/object for listing in the Victorian Heritage Register, which is established under the *Heritage Act 2017* (Victoria). The process, set out on the Victorian Government Department of Environment, Land, Water and Environment website (https://www.heritage.vic.gov.au/heritage-registration-and-certificates/registration) would require the ATC tower to satisfy at least one of the following criteria listed below.

The Victorian heritage criteria are as follows:

- Criterion A: Importance to the course, or pattern, of Victoria's cultural history
- Criterion B: Possession of uncommon, rare or endangered aspects of Victoria's cultural history
- Criterion C: Potential to yield information that will contribute to an understanding of Victoria's cultural history
- Criterion D: Importance in demonstrating the principal characteristics of a class of cultural places and objects
- Criterion E: Importance in exhibiting particular aesthetic characteristics
- Criterion F: Importance in demonstrating a high degree of creative or technical achievement at a particular period
- Criterion G: Strong or special association with a particular present-day community or cultural group for social, cultural or spiritual reasons
- Criterion H: Special association with the life or works of a person, or group of persons, of importance in Victoria's history

It is noted that Essendon ATC tower no.3 may not satisfy the threshold for inclusion in the Victorian Heritage Register.

Policy 19 Access and security

To maintain security, all visitors to the ATC tower should report to the Senior Area Controller.

While the tower remains operational, Airservices should maintain the current security arrangement, whereby visitors report to the Senior Area Controller via a telephone next to the ground level entry to request access. .

This policy complies with EPBC Act Regulations, 2000, Schedule 7a (h) (ii).

Policy 20 Training and awareness

A training program should be instigated to raise awareness of the heritage significance of Essendon ATC tower no.3 among the staff of Airservices Australia and Essendon Airport Pty Ltd.

The heritage significance of the Essendon ATC tower no.3 is unlikely to be self-evident to casual observers, and those outside the heritage profession. It is recommended that a training program to promote awareness of the building's heritage values is developed and implemented by Airservices Australia. Key audiences for the program are Airservices Australia personnel, and staff of Essendon Fields, which leases the land around the ATC tower.

The training manual included at Appendix C is provided to all new staff.

Policy 21 Interpretation and promotion of heritage values

Airservices Australia, and subsequent owners of Essendon ATC tower no. 3, should promote and disseminate information about the cultural heritage values of the building.

Strategies for the promotion and dissemination of information about the cultural heritage values of the ATC tower should be prepared in the form of an interpretation plan. Recommendations for interpretation should be informed by but not limited to consideration of: best practice principles (including the Burra Charter 2013 practice note 'Interpretation'); the identified heritage values of the place; the anticipated audience for interpretation; and existing interpretative programs at Essendon Airport.

Interpretation can be undertaken via a range of tools and methods. Information can be presented in a readable format (printed or electronic, including brochures, pamphlets, books and websites); through on-site signage; through the display of objects/artefacts; and through art works.

In the event that the ATC tower is adapted to a new use, especially a new use that provides public access to the building, the nature of the interpretive program is likely to change.

Policy 22 Archaeology

The discovery of historical archaeological artefacts and objects, which can contribute to an understanding of the history, technology and operation of the site, should be reported to the Department of the Environment.

The area leased by Airservices at Essendon Airport has been at the interface between the airside and public areas of the airport since the 1920s. There is the potential for subsurface artefacts relating to earlier occupation and/or land use at the site. In the event of archaeological remains being uncovered at the site, the Department of Agriculture, Water and the Environment should be informed of the discovery before proceeding with further work. This is also consistent with regulation 4.05 'Duty to give notice of cultural etc discovery' in the *Airports (Environment Protection) Regulations 1997*.

Policy 23 Risk preparedness

A Risk Management Strategy should be integrated into the broader management and administration of Essendon ATC tower no.3.

Risk preparedness and management is an important means of protecting and conserving the heritage values of heritage places. While a detailed assessment of risk is beyond the scope of this report, the following table describes potential threats and hazards posed to the physical fabric at the subject site by environmental and man-made factors.

Table 6 Analysis of risk to Essendon ATC tower no.3

Threat	Probability	Preparation/ Response
Vandalism and theft	Moderate	Vandalism and theft are always possible and a normal level of awareness and security should be maintained. Installation of security cameras could be considered in discrete locations. These should be fixed to cause the minimum possible impact on the presentation of the tower.
Fire	Always present	Establish a fire suppression and warning system as part of any adaptive re-use, and upgrade as required. Ensure there is an evacuation plan in place, and conduct regular training and rehearsals. Ensure that combustible materials do not come into contact with hot lights. Ensure that extinguishers, fire blankets etc, are located within reach of potential sources of fire. Maintain electrical systems in good order. Maintain liaison with fire brigade to regularly test and monitor systems.
Flood	Possible	Localised internal flooding, from toilets, sinks and pipe work, is always possible. Maintenance of wet areas and pipe work is a means of minimising this possibility.
Water ingress	Moderate	Rainwater goods (gutters, downpipes and sumps) should be repaired (where required), maintained, installed and kept clear. Inspect and maintain roofs, windows and doors regularly.
Damage by vehicles	Always present	There is no protection between Wirraway Road and the ATC tower. Given the increasing volume of traffic at Essendon Airport, consideration may be given to the introduction of a protective barrier at the side of the road. Any barriers in this location should be as far away from the tower as possible, to minimise visual impacts.

6.6 Implementation plan

A plan for the implementation of the policies set out at Section 6.2 'General policies', 6.3 'Conservation policies', 6.4 'Use, adaptation and change' and 6.5 'Management policies' is included at Table 3. This complies with EPBC Act Regulations, 2000, Schedule 7a (i).

Essendon ATC tower no. 2 is an operational asset, and as such is managed and maintained in accordance with Airservices' corporate Environmental Management System (EMS), which is certified (and independently audited) against ISO14001:2015. This includes compliance with a range of on-ground environmental standards, procedures, plans and guides, including heritage matters.

Essendon ATC tower no.2 is operated and maintained as part of Airservices annual operational budget for Air Navigation Services (ANS) operations (Southern Region).

Table 7 Implementation plan

Policy	Responsibility	Timing	Funding
Policy 1: Ensure that the Statement of Significance included at Section 4.3 of this report is referred to prior to any proposed works or alterations, including conservation and management, being undertaken to the ATC tower.	Airservices project managers	On-going	N/A
Policy 2: Ensure that conservation, maintenance, preservation, restoration or adaptation works to the ATC tower, or within the area leased by Airservices, are consistent with the Burra Charter.	Airservices project managers	On-going	N/A
Policy 3: Ensure that the policies in this HMP are endorsed and form the primary guide for the management of the ATC tower.	Airservices project managers	On-going	N/A
Policy 4: Maintain access to specialist contractors and consultants	Airservices project managers	On-going	N/A
Policies 5 and 22: Maintain protocols for compliance with legislation, including with regard to unexpected discoveries (archaeology)	Airservices project managers	On-going	N/A
Policy 6: Ensure that stakeholders identified at Section 5.4 of this report are provided with opportunities to comment on proposed changes to the ATC tower	Airservices project managers	On-going	Funds to be identified in project budgets

Policy	Responsibility	Timing	Funding
Policy 7: Protocols to protect sensitive data and equipment should be maintained.	Environment Team Leader	On-going	Airservices' annual operating budget
Policy 8: Ensure that a review of this HMP is undertaken by 2026	Environment Team Leader	By 2026	Funds to be allocated for HMP review in 2026
Policy 9: Ensure than elements and attributes intrinsic to the significance of the ATC tower, as listed at page 76 of this report, are conserved	Airservices project managers	Within the life of this plan, 2021-2026	Airservices' annual operating budget
Policy 10: Ensure that works within the area leased by Airservices,do not impact detrimentally on the setting or presentation of the ATC tower.	Airservices project managers	On-going	N/A
Policy 11: Consider key views and visual relationships as part of the on-going management of the ATC tower. These views are detailed at p. 77 of this report.	Airservices project managers, in concert with Essendon Fields	On-going	N/A
Policy 12: Monitor and document the condition of the built fabric (annual maintenance regime). Undertake maintenance works as required.	Airservices project managers	On-going	Airservices' annual operating budget
Policy 13: Observe recommendations for removal of damaged and/or deteriorating asbestos-containing materials (including cement sheet debris in the equipment room)	Airservices project managers	Within the life of this plan, 2021-2026. See also JTS Health, Safety & Noise Specialists report, June 2013.	Airservices Work Health and Safety budget (asbestos removal allocation)
Policies 14 and 15: In the event of disposal by Airservices, ensure that changes associated with adaptation to a new use are compatible with the building's assessed significance and CHL values	Future owner/ operator	N/A	N/A

Policy	Responsibility	Timing	Funding
Policy 16: In the event of disposal by Airservices, ensure that original equipment and fittings are catalogued and stored.	Airservices project managers	N/A	N/A
Policy 17: Maintain a record of significant interventions to the ATC tower.	Airservices project managers	On-going	N/A
Policy 18: Amend the CHL entry for the ATC tower to include the Statement of Significance in this HMP.	Environment Team Leader	Within the life of this plan (2021-2026)	As required
Policy 18: In the event of disposal by Airservices, the ATC tower should be nominated for inclusion in the Victorian Heritage Register.	Environment Team Leader	N/A	N/A
Policy 19: Ensure that access and security protocols are maintained while the tower is operational.	Airservices staff	On-going	N/A
Policy 20: Instigate heritage awareness training program, to raise awareness of the tower's significance	Environment Team Leader	Within the life of this plan (2021-2026)	Heritage matters are covered under site inductions for Essendon ATC and through mandatory online
Policy 21: Develop and implement an interpretation plan for the ATC tower	Environment Team Leader	Within the life of this plan (2021-2026)	As required

Policy	Responsibility	Timing	Funding
Policy 23: Ensure that risks associated with vandalism, theft, fire, flood and damage by vehicles are managed in line with the recommendations set out in this report. Actions that should be implemented within the life of this HMP are: a review of the merits of a protective barrier at Wirraway Road and the introduction of external security cameras.	Airservices project managers	Ongoing and within the life of this plan (actions noted in the left-hand column)	These risks are evaluated, managed and mitigated to a level of ALARP (as low as reasonably practical) through Airservices corporate risk management system (CIRRIS)

6.6.1 Monitoring of implementation

The implementation of the management plan, and its effectiveness in conserving the ATC tower's CHL values will be managed by the ANS Senior Environmental Specialist and assessed by the relevant ANS Technical Services Officer (using the ANS Annual Site Condition Checklist – Form 081, v19, 1 February 2017).

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APPENDIX A HERITAGE CITATIONS

A.1 Commonwealth Heritage list entry for Essendon ATC tower no.3

A.2 Extracts from Essendon Airport Heritage Management Strategy, GML, 2006

A.3 Register of the National Estate entry for Essendon Airport

A.1 Commonwealth Heritage list entry for Essendon ATC tower no.3

Place Details

Essendon Airport Air Traffic Control Tower, Wirraway Rd, Strathmore, VIC, Australia

Photographs	None
List	Commonwealth Heritage List
Class	Historic
Legal Status	Listed place (22/01/2016)
Place ID	106119
Place File No	2/13/005/0011

Nominator's Summary Statement of Significance

The Essendon ATC tower is of historical significance in a national context as an early and relatively rare example of a post-World War II era control tower equipped to an international standard following guidelines devised by the International Civil Aviation Organization (ICAO). It was one of eight Australian ATC towers built to the same operational specifications between 1952 and 1959 in the first major phase of control towers development in the post-World War II period. Essendon ATC tower is now one of three surviving operational and two decommissioned ATC towers of this period and is now thought to be the earliest surviving example of this group. When commissioned, it formed part of an experimental system for the control of civil aircraft at Melbourne Airport (now known as Essendon Airport), which was at the time one of the busiest airports in the British Empire. This system comprised the air traffic control tower, remote VHF repeater and flight progress board. At the time of its design and installation, the Melbourne Airport system was envisaged as a prototype to be replicated throughout the air routes of eastern Australia.
The building itself was designed by the Commonwealth of Australia Department of Works (Victoria & Tasmania Branch) for the Department of Civil Aviation. It comprises a square three-storey base building, clad in asbestos cement sheeting supporting an elongated octagonal cabin. The cabin is raised on an elongated octagonal duct and service drum. The roof of the base building forms a walkway around the drum. The building's form and fabric are remarkably intact for a building that has operated continuously for over 50 years. The decision to construct a new airport for Melbourne only a few years after the completion of the tower, as well as a protracted period of uncertainty about the long term viability of Essendon as an airport are both factors that may have contributed to the tower's survival and relative integrity. External and internal modifications to Essendon ATC tower have primarily been associated with systems upgrades, notably in the late-1960s. External changes include modifications to original openings and the construction of a large ground floor extension to the east. Internally, there have been a number of alterations, principally to the first and second floors though evidence remains of the original planning and some finishes. The original console (now at the nearby Airways Museum at Essendon Airport) and all original equipment have been removed.
The Essendon ATC tower is considered to meet the Commonwealth Heritage List criteria at a level indicative of Commonwealth Heritage Value/s.

Official Values Not Available

Description

External:
Melbourne-Essendon ATC tower comprises a square, three-storey, steel-framed base clad in square sheets of asbestos cement joined under battens. The base building is surmounted by a cabin in the form of an elongated octagon – it is wider at the north and south – with outward-canted windows. The perimeter of the base structure's roof forms a 360-degree external walkway. A single-storey addition with a skillion roof of sheet metal was added to the east in the late-1960s, to house electronic and radar equipment linked to the new Melbourne Airport at Tullamarine. The windows are generally square or oblong, and quite small, presumably to minimise heat gain, as the building features no sun-shield on any elevation. One exception is a larger square window to the first floor office on the south elevation. This opening has been adapted from an original full-height service entry. The goods entry to the second floor is extant. A steel boom projects approximately one metre from the centre of the lintel. Window frames, balustrades and the steel frame of the cabin are painted a

vivid shade of red, a contrast with the pale asbestos cement panels. The steel-framed awning over the ground floor entry, on the south elevation, is a later replacement of an original canted awning. External air conditioning units have been added to the west, north and east elevations. Down pipes to all elevations are later additions. The cabin is raised on an octagonal base, enclosing crawl space and ducting. The walls of the base are clad in vertical box profile sheet metal. The floor of the perimeter walkway is bituminous felt. A section of the walkway perimeter wall at the west end of the north elevation has been removed. In its place, steel piping has been installed as a protective barrier. A modern escape ladder with steel safety hoop is to the east of the south elevation. The cabin's outward canted windows are single-glazed, but may originally have been double glazed, as at the Hobart Tower (1956-58), and as indicated in the 1951 Civil Aviation Journal article. The control cabin has a shallow flat roof supported on the principal glazing bars. The roof, which supports the tower light beacon and antennae, is accessed via a fixed external ladder in the northwest corner of the walkway. The original ladder has been replaced with a steel safety hoop. The roof railing, like the railing on the walkway below, is steel piping. The framing to the tower block includes steel I-beams forming intermediate columns, steel angles at the corners, and a mixture of 3"x2" and 4"x1.5" timber fillers, and 6" x 2" floor joists. The vertical I-beams were set into reinforced concrete footings sewn together with a 5" concrete slab.

Interior:
The ground floor houses a central entry vestibule, with a large equipment room to the east and a secondary equipment room to the northwest. A WC and cleaning facilities, with terrazzo floor and original skirting boards, are to the west. A riser is adjacent to the steep, narrow staircase which runs the full height of the base building. The colour scheme is cream to the walls, with doors, skirting boards and door frames in blue. Light switches are original, as throughout the building. The single-storey addition to the east has a separate entrance to the east.

As constructed, the eastern half of the first floor comprised a single space for Ground Control Approach. It has subsequently been subdivided into two offices by a central timber and glass partition. The decorative scheme in both halves is timber veneer to the walls, with carpet to the timber floor. The original service entry to the south has been modified as a large square window opening. The remainder of the first floor appears intact. The small store off the office in the northwest has brown vinyl to the timber floor boards, possibly original.

The second floor originally comprised 'Off Duty' and Air Conditioning rooms to the east, with a locker room in the northwest, next to the stair to the walkway level and cabin above. As existing, the air conditioning room has been extended to the north, reducing the size of the off duty room, which has a modern decorative treatment. The locker room has been adapted as ladies and gents WCs. With the exception of the steel-framed windows, the ATC cabin's fittings and finishes are largely non-original. Roller blinds to each of the tall, single-glazed windows have replaced the original Perspex visor which hung from a circular track attached to the ceiling. The three original vents remain in use, although concealed behind modern cabinetry. An original switch, possibly related to the management of air flow, is extant to the east wall. The modern suspended acoustic ceiling may conceal the original treatment. The present console was installed in September 1967, at the same time as the removal of the original Cossor Radar, a cubicle enclosed by a black curtain, in the south of the cabin. These works, as well as the extension to the east, were carried out as part of an upgrade to ensure operational compatibility with the tower at the new international airport at Tullamarine. The existing console frame has been modified to accommodate contemporary equipment. Note that the 1956 console is held by the nearby Airways Museum, based at Essendon Airport.

Conclusions:
The building is relatively intact externally other than for some modifications to original openings and the construction of a large ground floor extension to the east. Internally, there have been a number of alterations, principally to the first and second floors though evidence remains of the original planning and some finishes.

History

The Melbourne-Essendon Airport is Australia's second oldest operational airport, after Sydney. The present ATC Tower, the third at the airport, is one of the oldest operational ATC towers in the country.

Originally known as Melbourne Airport, Essendon Airport was developed from 11 August 1921, when notice of the Commonwealth's purchase of 91 acres of land at North Essendon, a site known locally as St John's, was published in the Commonwealth Gazette. The notice ended a debate about the location of Melbourne's new aerodrome. Airfields at Glenhuntly, Glenroy, Fisherman's Bend and Coode Island had all been considered.

The North Essendon site was approximately eight miles (15km) from the city centre. Early developments and infrastructure improvements at the new airport were slow. In 1926 it was reported that the surface was, 'too uneven for the operation of the Moth machines'. A four-horse team and driver were hired to address the problem. The speed of progress increased in the 1930s, notably with the 1935 acquisition of a further 91 acres of land, and the unveiling in 1938 of a series of new facilities, including hangars, workshops, offices and the new £15,000 Australian National Airlines (ANA) terminal building for 'public accommodation' designed by Howard Garnet Alsop. This phase of works also included the airport's first ATC tower, a timber-framed cabin built into the roof of the Aero Club building, similar to the first ATC tower at Sydney-Mascot Airport.

The present Melbourne-Essendon ATC tower was conceived of as a core component of an extensive and experimental system for the control of civil aircraft at what was then the busiest airport in the British Empire. In October 1956, the Department of Civil Aviation issued a press release to announce the completion of the system:

It has often been suggested that Essendon ATC tower was a temporary facility, built to service the anticipated increase in air movements for the Melbourne Olympics, which began on 22 November 1956. However, no evidence to support this theory has been discovered during the research for this assessment, and Roger Meyer, current President of the Civil Aviation Historical Society, suggests: 'This is a myth that nobody has stopped to challenge'. During the Olympic Games, to compensate for the lack of radar and a full Instrument Landing System at the new tower, the RAAF provided a portable Ground Control Approach radar unit to assist aircraft landing in darkness and inclement weather. In 1958, discussions about the development of a new international airport for Melbourne began in earnest. The decision to replace Essendon was driven by its proximity to established residential areas. An upgrade to the scale and standard required to take heavy four-engine jets would have demanded large-scale residential demolitions. The need to minimise noise pollution from jet aircraft was another consideration. Construction of the new Melbourne airport at Tullamarine began in 1964. It opened for international services on 1 July 1970. By then, a third airport, the Moorabbin Airport, which opened in 1949, had become well established as Melbourne's general aviation airport. This meant that Essendon's future was uncertain. Following the transfer of domestic airline activities to Tullamarine on 20 June 1971, an investigation was made into the consequences of retention or disposal of Essendon, however on 13 January 1976 it was decided to retain Essendon as an airport for the foreseeable future. In 2001, the continued status of at least some of the 305 hectare site as a centre for aviation was assured when the airport was acquired by Lindsay Fox and developer Becton. The joint venture partners paid $22 million for a 99-year lease, since when parts of the site have been developed for office and commercial use, and the airport infrastructure has been upgraded. Approximately two-thirds of the airport, including the terminal, control tower and some open space, was included on the Register of the National Estate and has also been identified as an Indicative Place in the Commonwealth Heritage List.

Condition and Integrity

Modifications undertaken are as per description.

Location

Approximately 140 sq metres, Wirraway Road, Essendon Airport, comprising the Air Traffic Control Tower and its base building located within Land Parcel PC354871 and centred on approximate MGA point Zone 55 314836mE 5822577mN.

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The material provided in this nomination is sourced from Airservices Australia's commissioned Detailed Heritage Study (DHA) on Essendon Airport Control Tower. The Heritage study was undertaken by Lovell Chen Architects and Heritage Consultants. IE. *Lovell Chen Architects and Heritage Consultants, June 2009. National Control Towers, Volume 2 -Appendix B, Detailed Heritage Assessments.* The DHA identifies sources of information used in the study and in this nomination.

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Element: Current Control Tower (Building 154) **Heritage Value Ranking:** Moderate

Description:

The Air Traffic Control Tower for Essendon Airport was completed in 1956 by the Department of Civil Aviation. Although similar in design and contemporary with ATC Towers at other major Australian airports, its atypical construction materials suggest that its construction was 'fast-tracked' in anticipation of the Melbourne Olympic Games in October. The ATC Tower has operated continuously since 1956.

The Air Traffic Control (ATC) Tower is three-storey square steel-framed building clad with fibre-concrete panels. Windows are small and square or rectangular and are painted red to provide a striking contrast to the pale green wall surfaces. The building is surmounted by an octagonal Control Room which is flat roofed and glazed on all sides, and the angled frameless glass windows slope inward toward the base. Architecturally, it is very similar to other Australian airport control towers of similar age but utilises different materials. The Control Room roof is accessible by ladder and the flat roof of the main building forms an encircling balcony with a metal handrail. The tower remains in use.

Location: Wirraway Road, midway along the North–South Runway.

Heritage Values:

The Air Traffic Control Tower is an important technical and operational facility which has served Essendon for a half century. It demonstrates the primary operational characteristics of ATC Towers at all airports and it exhibits the same architectural stylisation as its contemporaries but is the only ATC of this design in Australia which is not constructed of load-bearing brick masonry.

The ATC Tower is a landmark feature in the airport landscape.

Essendon Airport—Heritage Asset Management Schedule

Asset: Air Traffic Control Tower (Building 154)

Location: Wirraway Road, Wirraway Road Precinct | **Heritage Values: MODERATE**

Physical Description:

The Air Traffic Control (ATC) Tower is three-storey square steel-framed building clad with fibre-concrete panels. Windows are small and square or rectangular and are painted red to provide a striking contrast to the pale green wall surfaces. The building is surmounted by an octagonal Control Room which is flat roofed and glazed on all sides, and the angled frameless glass windows slope inward toward the base. Architecturally, it is very similar to other Australian airport control towers of similar age but utilises different materials. The Control Room roof is accessible by ladder and the flat roof of the main building forms an encircling balcony with a metal handrail. The tower remains in use.

Statement of Primary Heritage Values: Air Traffic Control Tower

The Air Traffic Control Tower is an important technical and operational facility which has served Essendon for a half century. It demonstrates the primary operational characteristics of ATC Towers at all airports and it exhibits the same architectural stylisation as its contemporaries but is the only ATC of this design in Australia which is not constructed of load-bearing brick masonry.

The ATC Tower is a landmark feature in the airport landscape.

History:

The Air Traffic Control Tower for Essendon Airport was completed in 1956 by the Department of Civil Aviation. Although similar in design and contemporary with ATC Towers at other major Australian airports, its atypical construction materials suggest that its construction was 'fast-tracked' in anticipation of the Melbourne Olympic Games in October. The ATC Tower has operated continuously since 1956.

Activity	Do ✓	Don't ✗
Maintenance	• Reinstate original colour schemes (determined through paint scrapes), where practical • Significant fabric should be preserved, restored or reconstructed with minimal change. • Where damage occurs, replace damaged elements with the same fabric or, at least, match the existing as closely as possible. • Alterations to facades are permitted where they are consistent with the overall architectural treatment. • Locate new openings, services, information fixtures, movable fixtures and fittings and movable elements in a sympathetic manner and should utilise existing openings, mountings and facilities as much as possible. • Subtly identify non-original elements through the use of colour and detail.	• Buildings and elements of High heritage values should be retained with minimal change. Do not alter or remove elements with heritage values or associated with the buildings heritage values unless considered essential for safety, structural or critical operational reasons. • Alterations to significant facades should not occur: • Alterations to significant roofscapes should not occur unless undertaken in sympathetic materials and such that they may be removed without damage to the original fabric. • Elements, such as brickwork, concrete, metal or tiled surfaces, that have not previously been painted, should not be painted. • Avoid new penetrations in building fabric where an existing one can be utilised or alternatives (such as through glazing) can be achieved. • Don't use dissimilar materials that will chemically react with each other, eg lead flashings with zincalume roof sheeting.
New Development	• Allow adaptation through physical chance or change of use. • Ensure new uses of internal spaces are compatible with current and historical uses. • Any new fabric should be sympathetic to the adjacent heritage buildings.	• Do not destroy or dismantle installed equipment unless an assessment of its technical significance is undertaken and an appropriate policy for its management is adopted.
Adjacent Development	• Adjacent development should take into account the architecture and arrangement of this building as well as its setting and important views to and from its facade.	• Adjacent development should not interfere or obscure the interface of the building to the airport tarmac and view eastwards.

Activity	Do ✓	Don't ✗
Access	• Public access to the Wirraway Road frontage of this building is desirable but not imperative from a heritage perspective.	• Public access to the interior of this building is not a heritage objective.
Curtilage	• Respect the heritage curtilage, in particular the eastern side of this building.	• Do not add new structures or elements within the curtilage that will impede the view from the building without consideration of the effect upon its operational and heritage values.
Landscape	• Landscape treatment should demonstrate or continue the historic use of the area. • Paved areas should remain paved. • Ensure landscape works drain away from the building.	• Do not allow vegetation that is unsympathetic or likely to damage or disturb masonry, walls, pavement etc.
Views	• The view of the building towards the east should be protected and enhanced.	• Do not compromise the distinctive external profile of the building by introduction of contrasting and intrusive vertical elements.

A.3 Register of the National Estate entry for Essendon Airport

Place Details

- edit search
- new search

Send Feedback

Essendon Airport, Tullamarine Fwy, Strathmore, VIC, Australia

Photographs	None
List	Register of the National Estate (Non-statutory archive)
Class	Historic
Legal Status	Registered (20/05/2003)
Place ID	102718
Place File No	2/13/005/0010

Statement of Significance

The Essendon Airport is historically significant as Melbourne's main civilian airport and one of Australia's major civilian airports from 1921 to 1971. The airport's layout, runways, control tower, certain buildings and elements of the grounds, contribute strongly to the overall story of Australia's aviation industry during this period. Essendon was selected in 1921 by the Commonwealth's Civil Aviation Branch as a means of amalgamating Melbourne's aviation activities into one location, replacing four previous aerodromes at Glenhuntly, Glenroy, Fisherman's Bend and Coode Island. It survives today as the oldest intact substantial civilian airfield in Victoria and, after Sydney (Kingsford Smith), is the oldest main capital city airport in Australia. In the ensuing years the airport grew in association with the aviation industry, including the development of Australia's key commercial airlines. By the 1940s it had become the busiest airport in Australia, and one of the busiest in the British Commonwealth. (Criteria A.4, B.2 Australian Historic Themes 3.8.9 Moving goods and people by air; 3.23 Catering for tourists).

Essendon Airport has had some notable moments in its history. It played an important role in

regulating and accommodating air traffic in two of the most important events in Melbourne's 20th Century history, World War II and the 1956 Olympic Games. The airport was substantially commandeered by the RAAF and played a strategic role in Australia's defence during the war. It became Melbourne's first International Airport in 1950 and received significant levels of domestic and international air traffic during the Olympics. In 1964 Essendon became home to Australia's first domestic jet airliner, an Ansett Boeing 727. (Criteria A.4, B.2.)

Essendon Airport is also historically significant for its role as Victoria's main airport and Australia's second international airport, and therefore a main gateway into Victoria and Australia over five decades. It was the backdrop for many significant historical events, especially visits to Melbourne by Royalty, international dignitaries and celebrities, such as the infamous visit by the Beatles in 1964 (Criterion A.4).

Essendon Airport is significant for its association with and role in the development of Australia's key domestic airlines. Ansett Airways Ltd, established privately in 1935, was incorporated as a public company from 1937 and was based at Essendon from 1937 until the 1970s. The Holyman company, which came to Essendon as Tasmanian Aerial Services and merged with Adelaide Airways to form Australian National Airways, was based at Essendon for two decades before merging with Ansett in the 1950s. The 1937 Ansett hangar was the first building erected and used as home base by the recently incorporated Ansett Airways and is the oldest surviving building known to be associated with the establishment of this airline. The ANA and Holyman hangars and terminal building, built between 1936 and 1938, demonstrate the early activities of ANA and Holyman, two of the pioneer companies of the domestic airline industry (later to be absorbed into Ansett). The 1944 Beaufort buildings were the first home depot of the government-owned Trans Australia Airways, which later became Australian Airlines, then merged with QANTAS as its domestic arm (Criteria H.1, A.4).

Essendon Airport is an operational air transport terminal facility with a continuous history dating back to the introduction of aircraft and air services into Australia, whose expansion and growth has occurred in line with the growth and development of this industry. Its history, associations and its present fabric reflect the changes associated with over seventy five years of continuous use as a large and busy airport and also as an important urban transport terminal for a major Australian city for a significant part of this time. It is also significant for its role as a major general aviation airport in Melbourne after the opening of Tullamarine International Airport in 1970. The airport supports a range of smaller commercial aviation franchises, flying schools and community services, including the Victoria Police helicopter squadron and the Air Ambulance (Royal Flying Doctor Service) (Criteria A.4, G.1, C.2)

The former Government Hangar, which was built in 1924, was moved from its original location to another site in the airport complex. It is an important link to the pioneering phase in Australia's civil aviation history. It was one of the four earliest structures to be erected at Essendon Airport

and is the only surviving structure from Essendon's establishment period, although its fabric has undergone major modification. The hangar was originally located within the Wirraway Road precinct, facing the airfield and its present location makes no contribution to its national estate values. (Criteria B.2, A.4).

Essendon Airport retains a number of adjoining buildings from the pre World War 11 phase of its development and retains some evidence of its original layout in its arrangement of roads and buildings. Owing to the rapid growth of airports through the Twentieth Century, the survival of this historic fabric is unusual and reflects the circumstance of this major airport being superseded by a newer facility at a different location. The Wirraway Road complex of buildings, especially those ANA, Ansett and Holyman buildings constructed in the 1930s, form an especially intact example of a 1930s commercial airline precinct at a major Australian airport. Together, the buildings and the alignment of Wirraway Road provide insights into the important characteristics of major airports of this period (Criteria D.2, B.2).

The 1959 International Terminal is an outstanding example of an Australian airport terminal prior to the days of domestic jet services. It displays characteristic architecture of the Postwar International Style, and period features, such as a ground-floor terminal with air side / land side passenger flows, walls of glazing, enclosed upper level Lounge Bar with viewing windows, covered walkways to the boarding gates and external viewing verandahs. This terminal has avoided the extensive re-modelling of other contemporary terminals that have been upgraded in line with progress in the aviation industry, due to the relocation of Melbourne's main airport facilities to Tullamarine (Criteria D.2, B.2).

The former ANA Terminal and Hangar, constructed in 1938, is a notable example of the architecture of respected aviation building designer Howard Garnet Alsop, a member of a well-known Melbourne family of architects. At the time of its completion, the terminal was regarded as the largest and most impressive in Australia and one of the largest in the world. The former ANA Airframe shop, opposite the terminal, was also designed by Alsop to match the Terminal, forming a corridor precinct on Wirraway Road (Criterion F.1).

Essendon Airport is historically associated with military aircraft manufacture during World War Two with several large buildings, such as the Beaufort Buildings erected to house the construction of Beaufort Bombers and other aircraft, surviving on the site. This historical association is reflected in the local community, with the local Australian Rules football team, the Essendon Football Club, known as The Bombers. The Beaufort Buildings, later associated with TAA, are also notable as examples of the work of prominent Australian architect Arthur Baldwinson, a respected practitioner of the Postwar International style and then official architect of the Beaufort Division of the wartime Department of Aircraft Production (Criteria A.4, G.1).

The history of Essendon Airport in the local context is also symbolic of community tensions

surrounding the juxtaposition of large commercial airports and densely populated residential areas. These tensions were heightened by the tragic crash of light aircraft bound for Essendon Airport in a nearby suburban street in 1978 (Criterion A.4).

It is possible that features of historical archaeological significance may be present at this site. As yet the Commission has not been able to identify or assess these items.

Official Values Not Available

Description

The entire Essendon Airport occupies approximately 305 hectares of flat, grassy land, the majority of which is occupied by the two intersecting runways, the east-west runway set at the southern end of the north-south. The control tower, terminals, hangars and other buildings are grouped together in a cluster around several streets on the western side of the airport, with a small service precinct on the southern boundary. Together, these elements help to illustrate the unfolding of aviation history in Australia. The airport is bound on its west and south sides by the Tullamarine Freeway and by residential housing along the north-east.

The main buildings of the airport are grouped on either side of what is now Wirraway Road, a remnant of the original alignment of Bulla Road, sections of which were later absorbed into the airport (the alignment continues to the north of the airport as Bulla Road and to the south as Mount Andrew Drive). The four oldest hangars and terminals built by Holyman, Ansett and Australian National Airlines (Buildings 3, 4, 5 & 6) are located on the eastern side of this road, with the former ANA Airframe Shop (Building 44) opposite the ANA Terminal (Building 4) on the western side of Wirraway Road. The earliest building on the site, the former Government Hangar (Building 10), was relocated from this road to another part of the site.

The current Control Tower (Building 154) is located on the southern extremity of this road. All other service roads within the airport have a conventional rectangular alignment and a small grid of streets is located between Wirraway Road and the Tullamarine Freeway. There are a number of mostly functional workshop, garage and stores type industrial buildings of a variety of ages located in this latter zone.

The most historically significant elements of the airport complex are described below:

1. Wirraway Road, which is the remaining component of the original thoroughfare through the airport, formerly an extension of Bulla Road, which provided the boundary between the Municipalities of Keilor and Essendon.
2. The former Ansett Hangar, which was built in 1937 by the newly formed Ansett Airlines. Designed by architectural company Seabrook and Fildes, it is a steel-framed brick building with a galvanised iron roof. It has been altered somewhat over the years.
3. Former ANA terminal and hangar, a brick building erected in 1938 to the design of Howard

Garnet Alsop.
4. The former Holyman Company hangar, constructed in 1936.
5. Former ANA hangar, built in 1938.
6. Former Government Hangar, built in 1924 but relocated from its original site on what is now Wirraway Road. Alterations and additions have been made.
7. Former ANA airframe shop, built by ANA in the early 1940s. This brick building was designed by Alsop in the intra-war Moderne style.
8. Former Air Traffic Control Centre, a red brick building built in the 1940s to the design of Percy Everett of the Public Works Department, in the Moderne style of the 1940s.
9. The 1959 International terminal, which remains a dominant element in the airport as the complex's largest building. This building is regarded as a good example of its type, given the fact that it has not been redeveloped and altered in the same way that similar buildings at other airports have, due to the erection of the new complex at Tullamarine.
10. Former Beaufort buildings, erected during the war in 1944 and transferred to the newly formed TAA in 1946, which are large red brick buildings in the Intra-War Mo
11. The intersecting runway, laid down in 1946-47 as part of the redevelopment of Essendon's facilities to cope with the escalation of domestic air traffic.
12. The present air traffic control tower, which was erected in 1956 in anticipation of increased traffic during the Olympic Games.
13. Reinforced concrete water tower, built in 1948 for firefighting purposes.

All of these features essentially remain in good to excellent condition. Although renovations have been made, most buildings are in their original locations and retain the same or similar appearance to when they were first constructed and used. The Essendon Airport complex therefore provides within its fabric and layout evidence of the development of Melbourne's aviation history spanning some five decades - from the 1920s to the 1970s.

History

The earliest non-military aerodromes in Melbourne were established prior to 1920 at Coode Island, Fisherman's Bend, Glenhuntly and Glenroy. With the formation of the Civil Aviation Branch of the Department of Defence a proposal was made to consolidate all of Melbourne's civil aviation activities into one place. After considerable deliberations, it was decided that a new site at Essendon, in Melbourne's north, would be established. Ninety three acres for this purpose were gazetted in 1921, and aviation services began at the site that same year. The four other aerodromes became redundant and devoted to other purposes. There is no longer any evidence of these earliest airfields, making Essendon the oldest example of a large aerodrome for civil aviation purposes in Melbourne.

The first building to be erected at the Essendon Airport was a steel framed two-bay timber clad hangar, relocated from the defunct Glenhuntly aerodrome in 1921and occupied by Larkin Aerial Supply Company. In 1924 a second building, known as the Government Hangar, was erected by

the Civil Aviation Division. This was followed in 1925 by another two hangars, one by Captain Matthews of the Aero, Engineering and Construction Company and the other for the Hart Aviation Company. The first substantially permanent building was the Aero Clubhouse, a brick building constructed by the Commonwealth's Civil Aviation Division in 1926 and leased to the Aero Club, an association of ex-military and private pilots who provided flying training. These buildings housed the aircraft when not in operation and provided an administrative base for the airport's activities.

At that point, all the major buildings were aligned along a single road, now known as Wirraway Road, which ran through the aerodrome. This road was originally an extension of Bulla Road, which forms the boundary between the Municipalities of Keilor and Essendon. Only a small section of this original road survives today, but its alignment still strongly portrays the original thoroughfare. The only one of the 1920s buildings that still survives at the airport today is the 1924 Government Hangar, which has been moved from its original location.

In 1935 the airport acquired another 91 acres of adjacent land, which promoted further development in the late 1930s when large private airline companies began to make use of Essendon's facilities. The first of these was the Holyman Company, which had established itself with weekly flights between Melbourne and Tasmania in the early 1930s. Ivan Holyman constructed a hangar for his company, Holyman Airways, at Essendon in 1936, using this airport as its home base. Ansett Airways was established by Reg Ansett's as part of transport business that same year, with its first commercial flight taking place between Hamilton, in Western Victoria, and Essendon. Following a successful bid for several mail contracts and the setting up of a Melbourne-Sydney route, Ansett became publicly incorporated as Ansett Airways Limited and transferred its home depot from Hamilton to Essendon in 1937. Ansett erected a hangar, the company's first building, designed by Melbourne architectural company Seabrook and Fildes, on what is now Wirraway Road (building 3).

At the end of 1936 Holyman had merged with Adelaide Airways to form the Australian National Airways (ANA). This new airline took on the name of a previously unsuccessful airline established by Charles Kingsford Smith and Charles Ulm at Mascot in 1928. The later version of ANA was more successful, but was eventually bought out by Ansett in 1957. In 1936 ANA established a new terminal and a new hangar adjacent to the existing Holyman hangar. These buildings were designed by architect Howard Garnet Alsop, who used an amalgam of airport designs he had inspected from around the world. The ANA hangar was officially opened in August 1938 by Prime Minister Joseph Lyons. At the time it was believed to have been the largest aircraft hangar in Australia and one of the largest in the world. The following year ANA established another hangar, on the opposite side of the Holyman hangar.

This cluster of buildings, including the Ansett hangar, is the oldest set of buildings on the site still in their original locations.

The development of the ANA precinct continued into the early 1940s, with Alsop retained as the main architect for the new buildings. With the onset of World War II a number of the older buildings were commandeered by the military and devoted to wartime use, while a large number of barracks (no longer extant) appeared on the western side of Wirraway Road. Machine gun batteries and defensive trenches were also established. Two substantial brick buildings were also constructed by the Beaufort division of the Department of Aircraft Production. Erected to house the production of Beaufort Bombers and other aircraft, as well as the manufacture of aircraft parts, the Beaufort factories also undertook the manufacture of prefabricated steel houses, a large number of which were used in Victoria during the 1940s to relieve the wartime shortage of building materials. In addition to being involved in the manufacture of aircraft parts these buildings were responsible for the manufacture of prefabricated steel homes.

In 1946 the Beaufort buildings (including buildings 12, 102 and 86) were transferred to the use of the newly formed government airline Trans Australia Airlines (TAA), who proceeded to establish a considerable presence at Essendon over the following decade, erecting several new hangar buildings. The development of the commercial airlines was essentially halted during World War II. Ansett, for example, ceased regular operations and flew on contract for the RAAF and the United States Air Force, flying personnel to various locations around Australia. Ansett also assisted with the evacuations of civilians out of Broome and Darwin after the Japanese bombings in 1942. After the war, the commercial airlines benefited greatly from the ready availability of ex-military aircraft and began to build their fleets. Simultaneously, though, post-war government policy was for greater control of the airline industry and established itw own airline, TAA. Government policy and tight competition nationalisation of the airline industry essentially provided a duopoly for two main airlines, ANA and TAA on the domestic scene by 1950. It was not until Ansett was able to buy out ANA in 1957 that it was able to truly assert itself outside the southern States as a national airline. During this period QANTAS was Australia's international carrier.

Throughout the 1940s and the early 1950s Essendon Airport was regarded as the busiest airport in Australia and one of the busiest in the British Commonwealth, with in excess of 120 take offs and landings per day. A new layout for the airport was effected in this period, including the construction of a larger, intersecting runway. A new traffic control centre, a Moderne red brick building, was also constructed, designed by Percy Everett of the Public Works Department. The old Aero Club building was used as an office for the Senior Air Traffic Controller.

In 1950 Essendon was officially designated an international airport. Until then, Sydney's Kingsford Smith Airport had been the main centre for overseas air traffic into Australia, with domestic flights taking visitors further afield. Essendon was therefore Melbourne's first official international airport and Australia's second main international airport after Kingsford Smith. The Aero Club building was converted to a makeshift terminal and customs area, and a Nissen hut was attached for baggage examination and banking facilities. The international terminal was

completed on 20 December 1950, just fifteen minutes before the first international flight (from New Zealand) touched down. Despite the temporary and crude nature of arrangements for overseas passengers the Aero Club building and Nissen hut were not replaced until 1959, when the new (present) international terminal building was built.

The mid-1950s saw a great deal of development at the site, connected with the increase in international traffic, and escalating competition for the domestic market. TAA also erected a new terminal and passenger lounge in 1957. The former Government Hangar (building 10) was relocated to another part of the airport in this period.

Apart from its wartime use, one of the most significant events in Essendon Airport's history was the build-up of domestic and international traffic in the leadup to the 1956 Olympics in Melbourne. While the majority of international visitors still came into Australia via Sydney (6,241 passengers), many of these took connecting domestic flights into Melbourne with ANA or TAA. Essendon also had to cope with a significant increase in international arrivals (4,308 passengers on 73 international airliners). In order to manage the extra traffic created by the games, one of the new northern hangars (building 103) was converted into a temporary overflow terminal for international flights.

A new control tower (which is still in use) had been constructed just prior to the Olympics in anticipation of the increased traffic. However, the tower had neither radar capabilities nor a full Instrument Landing System. The airport called upon the RAAF, which provided a portable Ground Control Approach radar unit to assist planes landing in the dark and in inclement weather.

After the Olympics, Essendon remained one of Australia's two busiest airports, bolstered by considerable investments by the two major domestic carriers, Ansett-ANA and TAA. It was also the major landing point for royalty, dignitaries and celebrities entering Melbourne. One of the more famous historic scenes at Essendon Airport was the arrival of the pop group The Beatles in 1964, to an overwhelming reception from thousands of screaming fans.

By the early 1960s, Essendon's limitations as a major airport were becoming apparent. The encroachment of residential development and lack of room to expand forced the government to look elsewhere for its expansion. A new site was selected and the development of a new airport began at nearby Tullamarine. In the meantime, the facilities at Essendon continued to be increasingly taxed by expanding commercial flights. Ansett unveiled Australia's first jet airliner, the Boeing 727, at Essendon in October 1964. Although the jet was based at Essendon, the extra resources required by the new technology ensured that Essendon would not be seen as an airport for the future.

Melbourne's Tullamarine International Airport was opened to overseas flights in 1970 and to domestic flights in 1971. The major airlines continued to use Essendon for a short time as

maintenance facility before these functions were also transferred to Tullamarine.

Since the transfer of operations to Tullamarine, Essendon has continued to be used for small-scale aviation operations, including charters, freight, tourist flights, as well as some police and military operations. Most significantly, it remains the Victorian home of the Royal Flying Doctor Service (air Ambulance) and the helicopter fleet of the Victoria Police.
Many of its buildings, however, are leased by commercial enterprises with no real connection to the aviation industry. Nonetheless, the site has undergone little development since the 1970s.

In 1978 Essendon Airport was involved in one of the more tragic events in Australia's aviation history. A light plane coming into land at Essendon miscalculated its flight path and crashed into a suburban residence in nearby Airport West, killing the occupants of both the plane and the house. A similar incident occurred in 1993 when a plane carrying 10 passengers crashed in suburban street near the airport, damaging four houses, although no one was killed. Fear of such incidents has been foremost in the general tensions that have surrounded the associations of busy airports with residential areas in Australia. The continued use of Essendon Airport for large volumes of air traffic has been a constant source of concern for local residents.

Condition and Integrity

Essendon Airport is in good condition and has a high level of integrity.

The old Government Hangar, however, is not in its original location (2001).

Building 10 (Old Government Hanger) reported demolished. (August 2004).

Location

About 220ha, Tullamarine Freeway, Airport West and Strathmore, being an area enclosed by a line commencing at the intersection of the western boundary of Essendon Airport and AMG northing 5023020mN (approximate AMG point 14162302), then consecutively via the following AMG points:14962302, 15082180, then easterly to the intersection of the eastern boundary of the airport and AMG northing 5821900mN (approximate AMG point 16262190), then southerly, westerly and northerly via the airport boundary to the point of commencement, and including the airport layout, runways and buildings. Excluded from this listing are any parts of Buildings 103 or 104 within the above area.

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APPENDIX B ARCHITECTURAL DRAWINGS

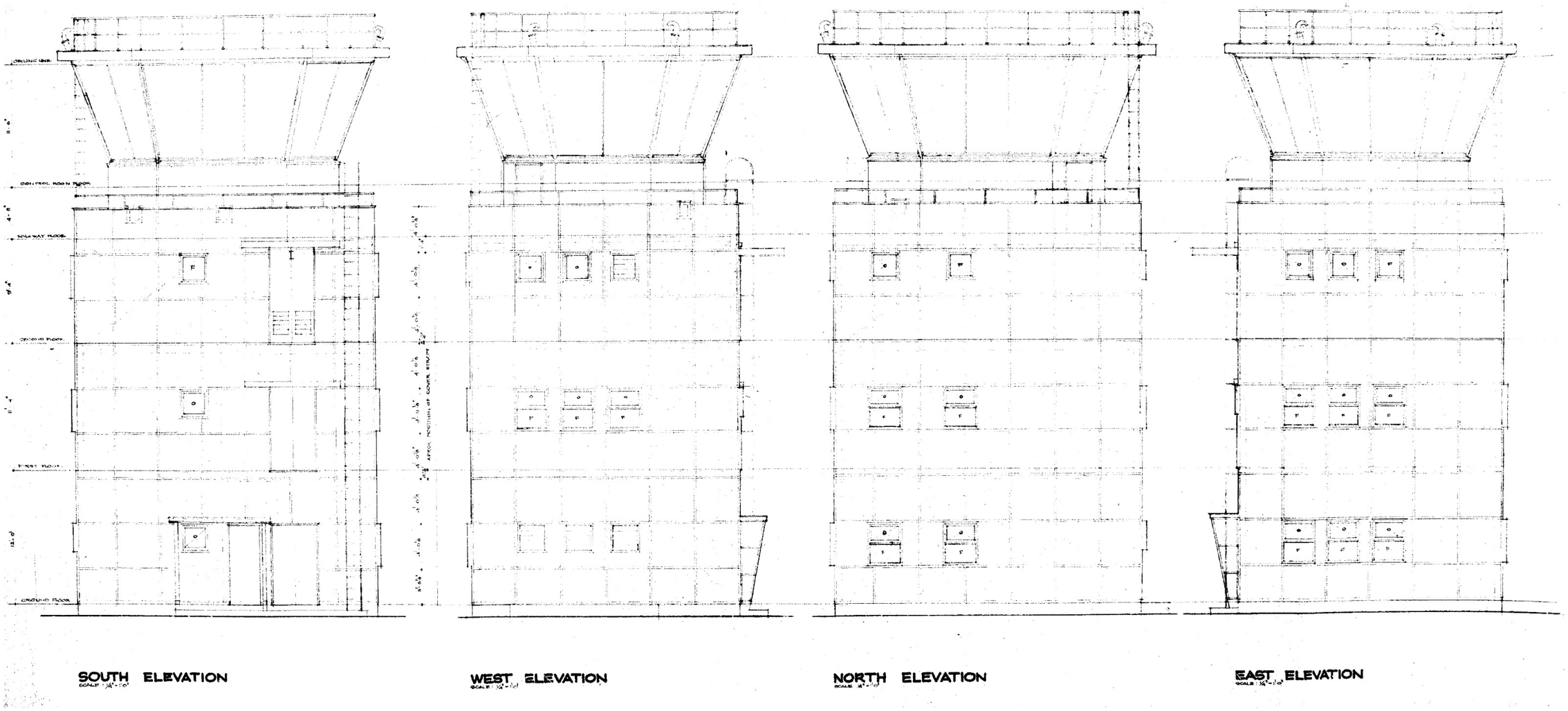

Figure 1 Elevations, 7 August 1953 (CA 619 VA 6585)
Source: Airservices Australia

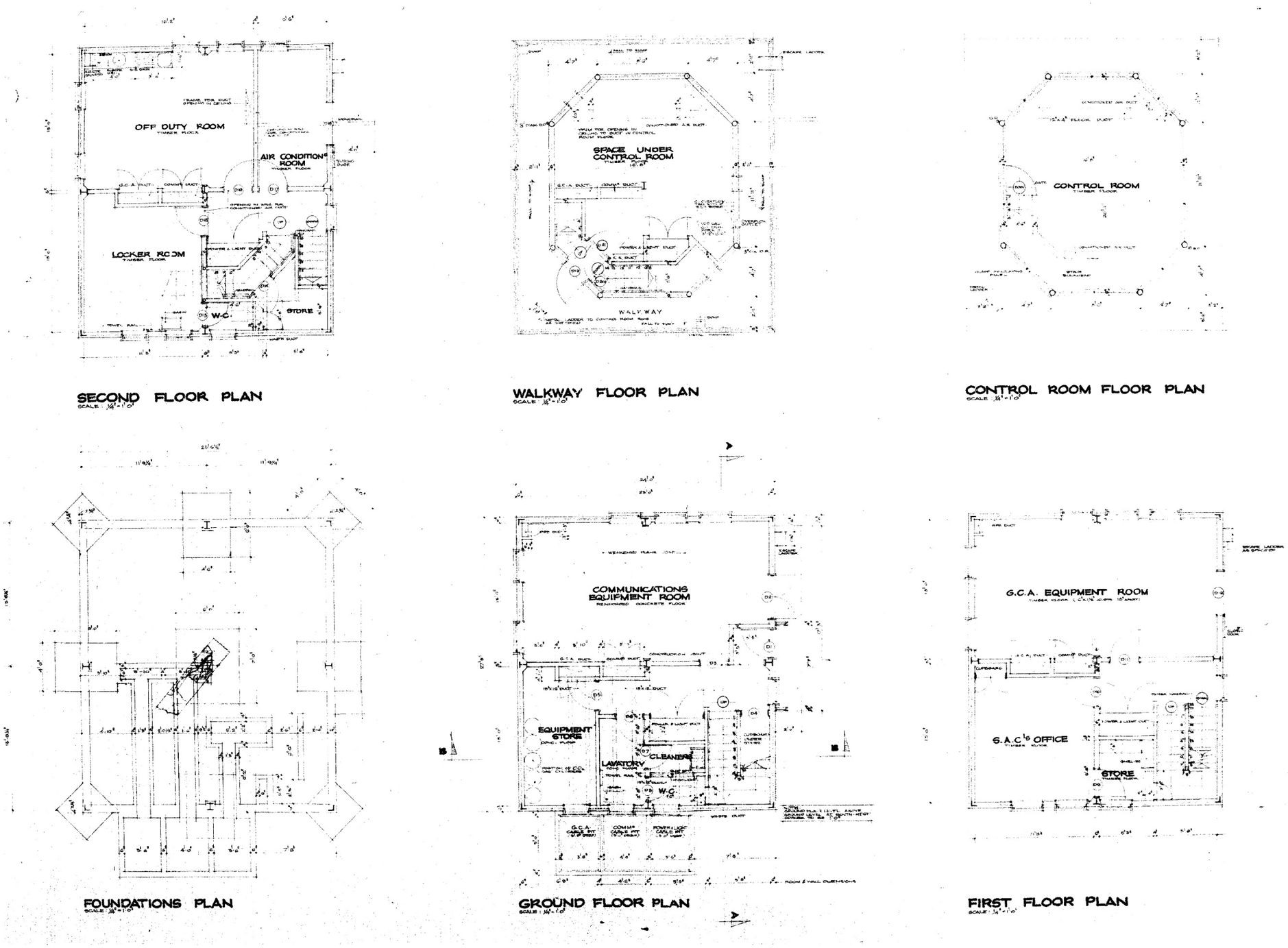

Figure 2 Plans, 3 August 1953 (drawing number unclear)
Source: Airservices Australia

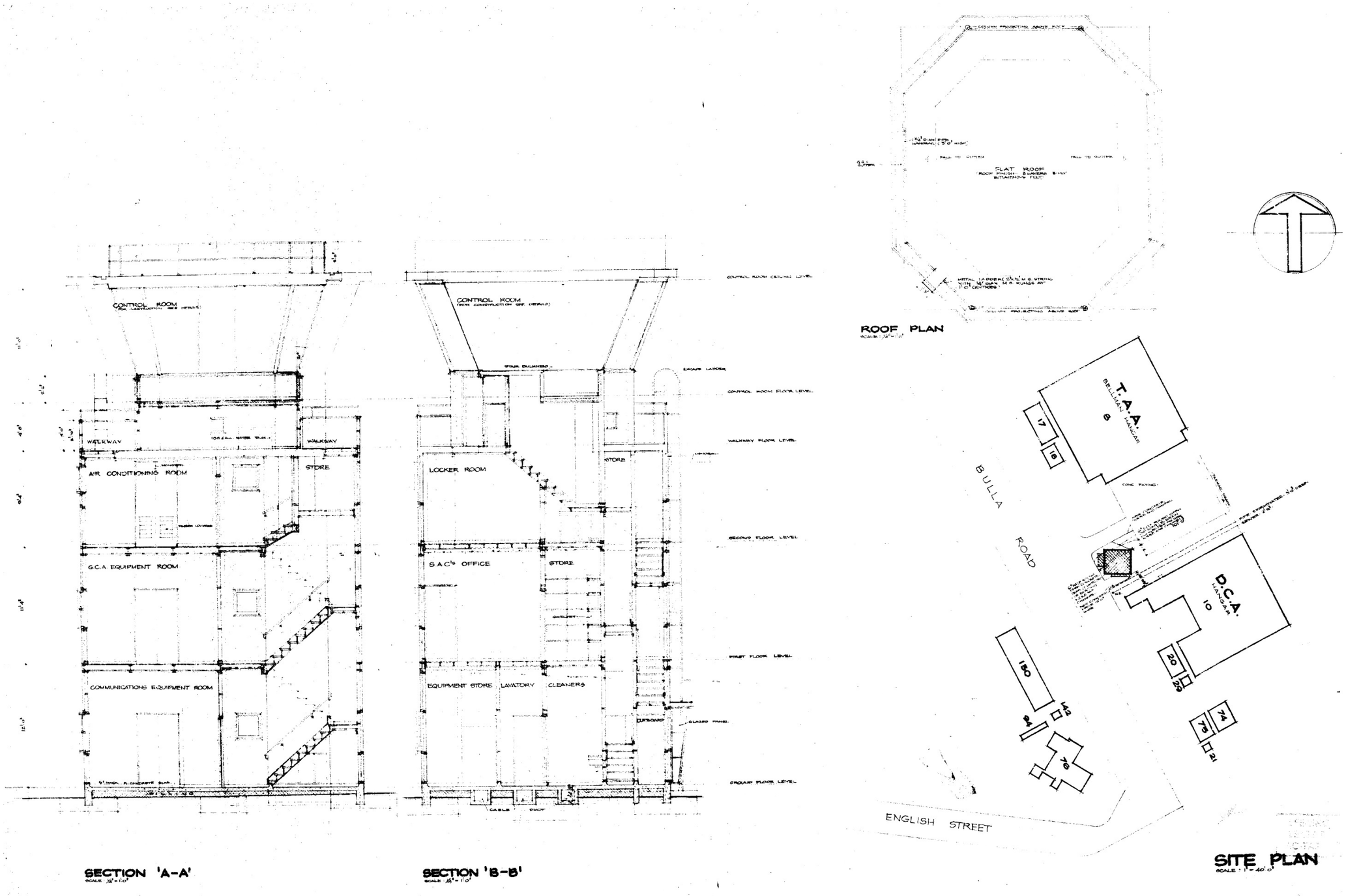

Figure 3 Sections & Site Plan, 7 August 1953 (CA 619 VA 6588)
Source: Airservices Australia

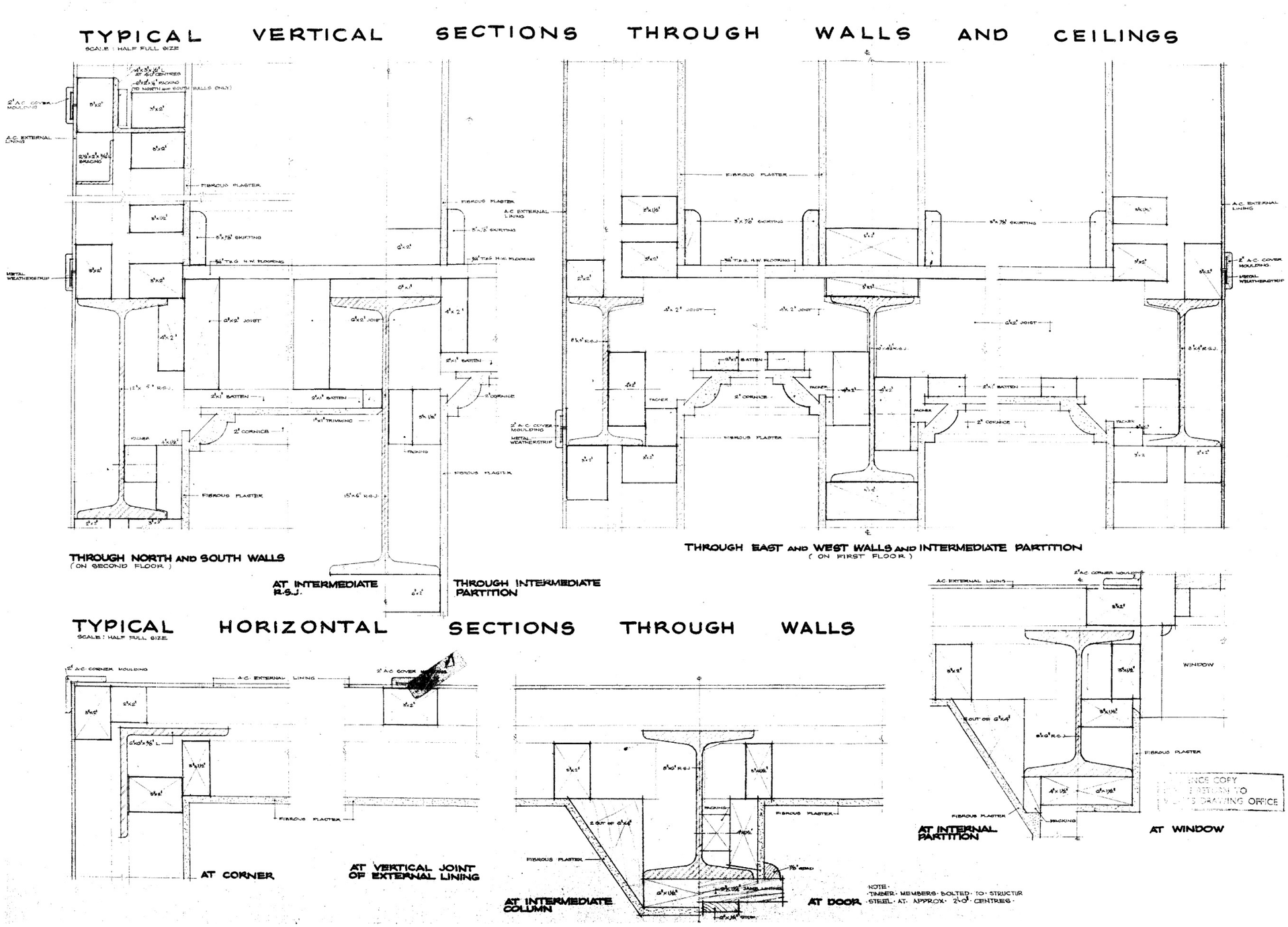

Figure 4 Wall & Ceiling Details, 28 July 1953 (CA 619 VA 6805)
Source: Airservices Australia

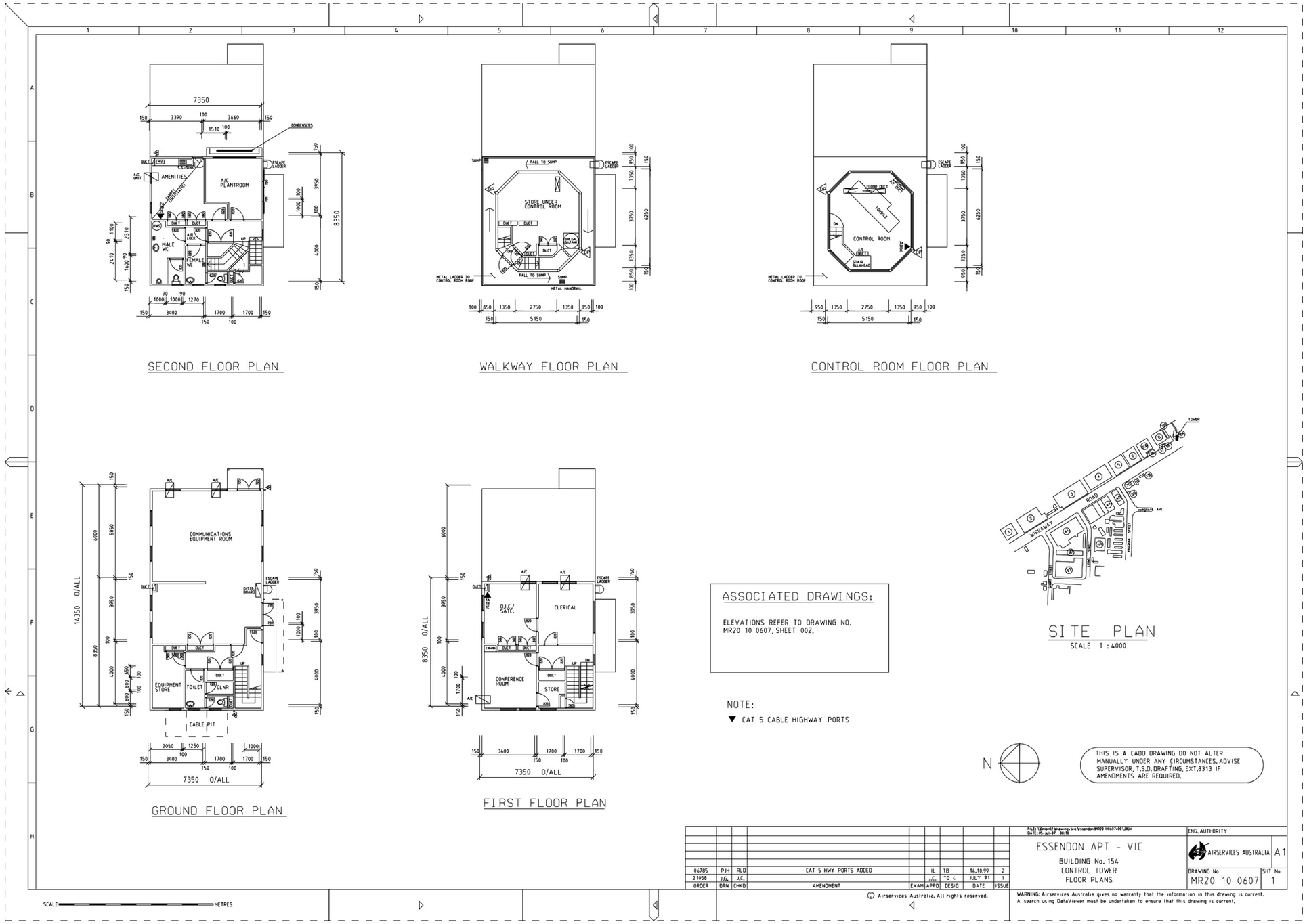

Figure 5 Floor Plans, 14 October 1999 (as amended) (MR 20 10 0607, Sheet 1)
Source: Airservices Australia

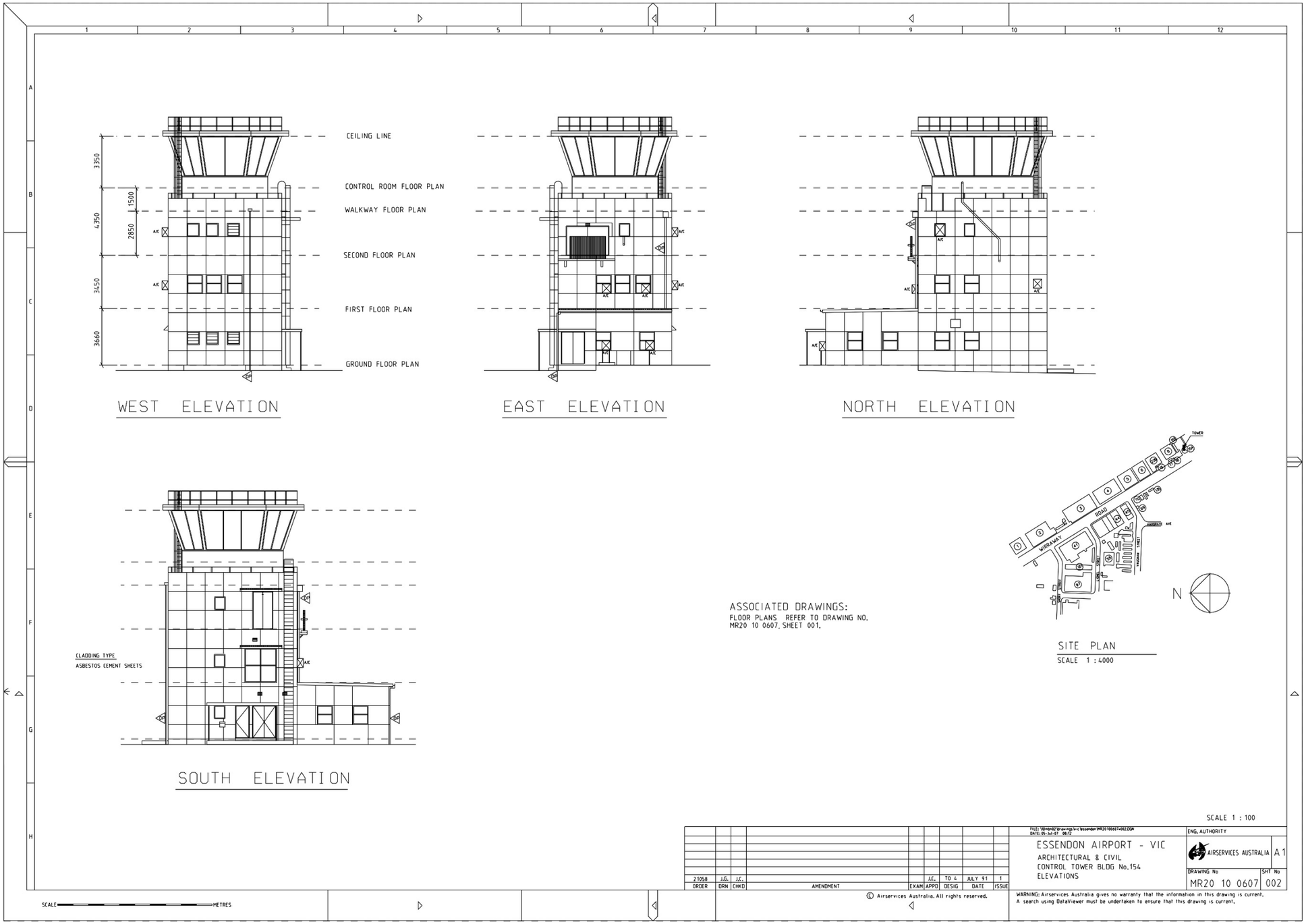

Figure 6 Elevations, 14 October 1999 (as amended) (MR 20 10 0607, Sheet 2)
Source: Airservices Australia

APPENDIX C ESSENDON ATC TOWER 'USER GUIDE'

Essendon Air Traffic Control Tower – Heritage User Guide

ENV-GUIDE-0008

Version 2

Effective 3 May 2017

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Senior Environmental Specialist
Property Services

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Technical Services Manager
Air Navigation Services

***Information sourced from Lovell Chen National Control Towers Heritage Assessment, June 2009**

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Change summary

Version	Date	Change description
1	17 November 2014	Initial Issue.
2	3 May 2017	Updated to include Airservices organisational changes and edits from Lovell Chen (heritage consultants), so document can be included as an attachment to the new Heritage Management Plan (HMP) for this building.

This document was created using Generic Document Template C-TEMP0047 Version 5.

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1 Purpose

The purpose of this document is to guide the management and maintenance of Essendon Air Traffic Control Tower, so that any development, works, or modifications are carried out in a manner that does not impact on the heritage values (known or potential) of the site.

2 Scope

The guide sets out the type of works that may be undertaken without heritage advice from Property Services or legal approval from the federal Minister for the Environment, works that typically require advice or approval, and those works that are likely to require approval.

This guide applies to all staff (including contractors) responsible for the management, development and maintenance of Essendon Air Traffic Control Tower. It also applies to people responsible for works within the vicinity that may affect the tower.

The heritage values (known or potential) of Essendon Air Traffic Control Tower and a brief history are also described in this document.

3 Context

Airservices has a responsibility under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) to conserve and protect the Commonwealth heritage values of places that it owns or controls.

An approval for works is required from the federal Minister for the environment, where the proposal is likely to have a significant impact on a matter of national heritage significance.

4 Site details

Site Address	**Essendon Airport, Wirraway St, Airport West VIC 3041**
SAP functional location	EN-APT-CTC
SAP BE/BU	BE 418 BU 1
Heritage Listings	
• Included in the Commonwealth Heritage List • Essendon Airport, Commonwealth Heritage List Indicative Place (ID 105161) • National Trust – File only B7158 • Conservation Study – Gary Vines, Western Regional Industrial Heritage Study, 1989 (conservation level C)	

5 History

Melbourne-Essendon Airport is Australia's second oldest operational airport, after Sydney. The present ATC Tower, the third at the airport, is one of the oldest operational ATC towers in the country. Originally known as Melbourne Airport, Essendon Airport was developed from 11 August 1921, when the Commonwealth purchased 91 acres of land at North Essendon. In the 1930s the airport expanded with the acquisition of a further 91 acres of land, and the unveiling in 1938 of a series of new facilities, including hangars, workshops and the new Australian National Airlines

(ANA) terminal building. The airport's first ATC tower was also built; a timber-framed cabin built into the roof of the Aero Club building, similar to the first ATC tower at Sydney-Mascot Airport.

By the early 1940s, the airport was among the busiest in Australia and the British Empire. The second ATC tower at the airport, completed in 1947, was a glass-enclosed cabin raised on a timber frame. On 14 February 1950, the Federal Cabinet declared the airport an international airport. The present Melbourne-Essendon Airport ATC tower was part of an experimental system for the control of civil aircraft and was commissioned 4 October 1956. The building was designed by the Commonwealth of Australia Department of Works for the Department of Civil Aviation (DCA).

6 Significant aspects

This was one of eight Australian ATC towers built to the same operational specifications between 1952 and 1959 and is the earliest surviving example of this group. The building's form and fabric are remarkably intact for a building that has operated continuously for over 50 years. External and internal modifications to Essendon ATC tower have primarily been associated with systems upgrades, notably in the late-1960s.

Above: View of Essendon's present ATC

Above: South-east elevation of Essendon Tower, 2008

7 Implications of significance

Table 1 describes the major structural elements, and associated significant aspects, of the Essendon Air Traffic Control Tower.

Table 1: Essendon Air Traffic Control Tower – Structural significance

Major structural element	Significant aspects
Tower and cabin structure	A square, three-storey, steel-framed base clad in square sheets of asbestos cement under battens. The cabin is an elongated octagon – wider at the north and south – with outward-canted windows. A single-storey addition with a skillion roof of sheet metal was added to the east in the late-1960s. Most of the ATC cabin's internal fittings and finishes are non-original. The original console (now at the nearby Airways Museum at Essendon Airport) and all original equipment have been removed.
External features	Window frames, balustrades and steel frame of the cabin are painted a vivid shade of red. Goods entry second floor. Cabin windows are single-glazed but may have originally been double-glazed. External changes include modifications to original openings, awnings, air conditioning, down pipes, ground floor extension to the east.
Internal features	Original features include; terrazzo floors, timber veneer on walls (first floor), brown vinyl, light switches, skirting boards, cream colour scheme and blue door frames. The second floor has had more alterations.

Essendon ATC tower should be retained and conserved to the extent of its original external form and fabric (the square three-storey asbestos-clad base building and elongated octagonal cabin and service drum). There is greater scope for adaptation of the interior. While new development could occur in the general vicinity if required, the building should be retained as an essentially free-standing structure in order to preserve its heritage values.

8 Works approval and advice

8.1 Works not requiring heritage advice or legal approval

- Repainting and repairs of the external structure provided treatment/colours match existing
- Maintenance/repair of windows can occur where there is no alteration to original elements
- Maintenance/repair of equipment and services can occur as required e.g. equipment in the cabin
- Servicing and repair of existing equipment and services including power or pipelines where there is no alteration to building fabric
- Replacing or modifying original internal fittings where they match the existing
- Alterations to internal features of the cabin, such as technical equipment, can occur without approval
- Cleaning and landscaping maintenance

8.2 Works requiring heritage advice

- Demolishing any building components
- Constructing an addition to the building or a new structure or building on the property
- Any plans to change/alter the surrounding around the control tower e.g. the addition of another building close to the control tower
- Replacing or repairing original external materials or elements such original windows
- Changing the paint treatment/colour scheme
- Introducing new external awnings/shades or other significant fixtures
- If an action is proposed for the site and it is unknown if heritage values will be affected
- Any works which impact on the aspects identified as significant above

8.3 Works which are likely to require statutory heritage approval

All of the actions identified under Section B above, unless heritage advice has been received that states no statutory approval is required. For example, repairs to fittings and fabric typically don’t need approval where the works are undertaken in a sympathetic manner including replacing like with like. Heritage input from the contact below is required to clarify and confirm this.

9 Contact

For questions and advice regarding the management of built heritage values, contact the Senior Environmental Specialist, Property Services on paul.zissermann@airservicesaustralia.com or (02) 6268 4090.

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