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Parliamentary Standing Committee on Public Works

REPORT

relating to the proposed construction of a

NEW HANGAR COMPLEX

at

HMAS Albatross, Nowra,
New South Wales

(EIGHTH REPORT OF 1980)

1980

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

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(Eighth Report of 1980)

Australian Government Publishing Service
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PUBLIC WORKS COMMITTEE ACT 1969

ORDER UNDER SUB-SECTION 18(4)

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I, SIR ZELMAN COWEN, the Governor-General of the Commonwealth of Australia, acting with the advice of the Federal Executive Council, in pursuance of Sub-Section 18(4) of the Public Works Committee Act 1969, hereby, by this Order, declare that the public work described in the schedule be referred to the Parliamentary Standing Committee on Public Works for consideration and report.

SCHEDULE

CONSTRUCTION OF A NEW HANGAR COMPLEX AT HMAS ALBATROSS, NOWRA,
NEW SOUTH WALES.

L.S.

Given under my Hand and the
Great Seal of Australia
on 6 June 1980.

ZELMAN COWEN
Governor-General

By His Excellency's Command.

(Signed) R.J. GROOM
Minister of State for
Housing and Construction

WITNESSES

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

NEW HANGAR COMPLEX,
HMAS ALBATROSS, NOWRA, N.S.W.

R E P O R T

On 6 June 1980, His Excellency the Governor-General in Council referred to the Parliamentary Standing Committee on Public Works for investigation and report to Parliament the proposal to construct a new hangar complex at HMAS Albatross, Nowra, New South Wales.

The Committee has the honour to report as follows:

THE REFERENCE

1. The proposal is for the construction of permanent working accommodation at HMAS Albatross, Naval Air Station, Nowra, comprising:

- a new hangar;
- a technical services workshop;
- an administration building;
- storage facilities and all necessary engineering services.

2. It will replace the facilities destroyed by fire in December 1976 and will form a focal point for all fixed wing operations on the airfield, embracing four squadrons, while providing servicing and maintenance facilities for two of them. The estimated cost of the proposal is \$5.6 million at May 1980 prices.

THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions^{u&of} and drawings from the Department of Defence and the Department^{of} of Housing and Construction and took evidence from their representatives at a public hearing in Perth on 15 July 1980. A letter^{relating} relating to some aspects of pollution control measures associated with the proposed works was received from the Shoalhaven City Council.

4. The Committee inspected the existing facilities and the site for the proposed hangar complex on 13 May 1980.

5. The Committee's proceedings will be printed as Minutes of Evidence.

BACKGROUND

6. The airfield was constructed for the RAAF during World War II but in 1944 control passed to the Royal Navy for Fleet Air Arm training and use as a shore base for Carrier Air Groups of the British Fleet. Recommissioned in 1948 as an RAN Air Station, HMAS Albatross is now the Fleet Air Arm shore base for the Royal Australian Navy.

THE NEED

7. Existing Facilities Prior to its destruction by fire in December 1976, 'H' hangar provided the required space for covered maintenance of Tracker and HS 748 aircraft plus a range of workshop and administrative support facilities. Some interim facilities have been provided in 'D' hangar but due to space limitations a variety of maintenance activities are carried out in the open. These arrangements are made more unsatisfactory by 'D' hangar being poorly serviced and located in a helicopter operational area some distance from squadron administrative facilities. Administration is carried out from portable

buildings on loan from the RAAF and some old wooden huts. (see Site Plan B for location of hangars)

8. Future Requirements Maintenance activities involving exposure of aircraft should only be performed under cover to protect the systems from avoidable damage and deterioration. Moreover, the requirements of close maintenance support for activities on both the flight line and in the hangar make a centralised complex essential.

9. Working accommodation is also required for personnel engaged in the administration of squadron activities and to promote greater administrative efficiency this accommodation should be located adjacent to the aircraft flight line and maintenance areas with ready access to each.

10. Relationship to HMAS Melbourne Replacement Irrespective of decisions on replacement of Tracker aircraft, the HS 748 or HMAS Melbourne, current planning envisages a substantial increase in rotary wing aircraft strength to meet the requirements of new vessels including the Amphibious Heavy Lift Ship, the two Fleet Underway Replenishment Ships, the guided Missile Frigates (FFGs) and the destroyer force. Future requirements for new facilities may well be reduced because additional rotary wing aircraft could use the presently proposed facilities if there is a reduction in numbers of fixed wing aircraft.

11. Committee's Conclusion The existing aircraft maintenance facilities at HMAS Albatross are inadequate. The provision of technical support facilities as proposed will increase the current capacity for the maintenance of both fixed and rotary wing aircraft.

THE PROPOSED WORKS

12. Planning and Design In accordance with principles adopted by the RAAF in recent hangar construction, separate buildings will be constructed for each of administration, workshop and aircraft maintenance functions and which has the further advantage of minimising fire risk.
13. The hangar will provide a floor area of 2200 m² enabling maintenance on six Trackers and one HS 748 to be carried out simultaneously. The proposed design incorporates a front opening concept to give access for aircraft direct from the flight line and activities inside will be limited to those directly connected with the maintenance of aircraft. Repair of component parts will be done in specialist workshops located elsewhere.
14. Control of aircraft maintenance, squadron workshops, tool stores, technical library, staff training, administration, domestic facilities and staff amenities will be located in the proposed Technical Services and Flight Line Building. To optimise this control it will be situated adjacent to the hangar and will have access to, as well as surveillance of, the aircraft flight line.
15. The administration building will provide working accommodation for the Command and Operations functions of the two Skyhawk squadrons and the two Tracker squadrons. It will also contribute to a lowering of fire risk in 'J' hangar by removing the Skyhawk squadrons' administration as well as providing maximum use of joint operations/administrative facilities.
16. The proposal also calls for construction of a flammable liquid and oil store as well as aircraft pavements, washdown area, roadworks, car parks, landscaping and engineering services.

17. Committee's Conclusion The overall design of the hangar, technical and flight line and administration buildings plus associated facilities is satisfactory.

SITE

18. The complex will be located within the existing HMAS Albatross establishment some 8 km south-west of Nowra and approximately 176 km south of Sydney. The site is 110 metres above sea level and is traversed by Fury Road running in a north-westerly - south-easterly direction following a shallow ridge which drains to the east and west. Immediately to the east of the site the ground falls away sharply into a rural valley used predominantly for farming. Vegetation on the site consists of grassed areas east of Fury Road with shrubs occurring in isolated positions and existing mature native gums bordering the west side of the road.
19. Positioning of the complex is in conformity with master planning policy for the establishment. The location of buildings within the complex reflects the appropriate functional relationships between the various facilities for the squadrons concerned. Development of the site requires the removal of six temporary structures housing various administrative and technical activities which will eventually occupy space in the new complex.
20. Committee's Conclusion The site selected is suitable.

CONSTRUCTION

21. Structure The buildings will be constructed as a compatible architectural group and will be insulated to reduce noise penetration and heat transfer.

22. The hangar will be a steel framed structure on bored foundation piers with lightweight wall and roof cladding, insulated against heat gain. The design incorporates many associated facilities which will be located along the rear wall of the hangar with a separating fire rated masonry wall and concrete slab roofs complying with fire regulations and externally clad to complement the hangar finishes. Ground servicing equipment, covered parking area and some bulky storage will be located in a small adjoining demountable structure.

23. A steel framed single storey maintenance control facility for two squadrons will be provided as the Technical Services and Flight Line Building. The building will have a reinforced concrete slab floor and an adjacent area of concrete pavement as parking space for aircraft undergoing fault diagnosis and an aircraft wash down facility.

24. The administrative building will be of two storeys using a reinforced concrete frame on bored foundation piers and clad with prefabricated panels. A store for small quantities of flammable liquids and oils used in the hangar and technical services building will be constructed of masonry in conformity with relevant Department of Housing and Construction standards.

25. During the hearing Commodore Lee, Commanding Officer, HMAS Albatross, expressed Navy's desire for the buildings to be aesthetically pleasing stating that this contributes to both morale and efficiency.

26. Exterior External wall cladding will be of prefabricated panels except for the flammable liquid store which will have untreated masonry walls. Roofing material on all buildings will be of suitably insulated metal decking. The administration and technical services buildings will have sealed external perimeters using laminated glass as well as insulation in the exterior wall panels to achieve the desired level of noise reduction.

27. Interior All internal finishes will be appropriate to the particular function of each area. Floors in the maintenance, workshop, stores and hangar areas will be concrete with a dust-free oil resistant finish. Carpet will be used in selected administration areas, ceramic tiles in wet areas and sheet vinyl elsewhere. The technical services building administration area and administration building first floor will have suspended ceilings to provide the required acoustic level. Building structure and services will be exposed in other areas. Walls will generally be prefabricated panel partitions with ceramic tiles on masonry in wet areas.

28. Mechanical Engineering Services Within the hangar these will comprise a compressed air ring main with outlets on three sides which is capable of operating a roof ventilation system. The main doors will be sliding electrically-operated type with an alternative method of operation and safety features in the event of power failure. Although the Department of Defence had requested the Department of Housing and Construction to incorporate electrically operated doors in the design, the former indicated that it would reconsider the use of manually operated doors if the design being developed for the RAAF hangar at Darwin could be shown as being successful. The Committee noted that considerable savings in cost would be achieved if manually operated doors were used.

29. The technical services and flight line building will be air conditioned with mechanical ventilation being provided in ready use stores, tool control rooms, locker rooms, toilets and shower areas. Compressed air will be supplied to the aircraft engineering workshop.

30. Hot water and refrigerated drinking water will be provided as necessary in each of the latter buildings.

31. Electrical Services Light and power, including 400 hertz outlets in the hangar and technical services workshop and self-contained emergency lights and exit signs will be installed. Security lighting on the proposed buildings will be compatible with the new installation currently planned for existing buildings. A security detection and alarm system with connection to a central monitoring point will be provided to Department of Defence specifications.

32. As the existing high voltage reticulation to the hangar area is adequate for the proposed development, a new substation and 11000 volt underground mains will be provided. Ducting within all buildings will be provided to enable Telecom installation of cables and equipment for connection to the existing communication facilities.

33. Civil Engineering Adequate water supplies are available from the existing reticulation systems for domestic and fire fighting services but minor deviations are required in some mains. The administration and technical services buildings will be connected to the existing sewerage system without increasing the load on the system. Again, some minor deviations will be required in existing mains.

34. Stormwater will be piped from buildings and paved areas to existing outfalls on natural water courses with care being taken not to increase the area discharging into farmland east of the runways. Polluted water from the aircraft wash down areas and hangar floor will be isolated from the stormwater system by collection in pump-out pits, the contents of which will be taken to an industrial waste disposal area.

35. During the hearing an undertaking was given to the Committee by the Department of Housing and Construction that an examination of the total pollution requirements of the establishment will be made in consultation with the Shoalhaven City Council.

36. Fire Protection The hangar fire suppression system will be an aqueous film forming foam (AFFF) installation comprising four floor mounted foam monitors capable of both automatic and manual operation. Water supply will be from a static storage tank with its own pumping station. This system will be capable of extension to provide protection to other hangars. Existing water supply systems will serve as back-up supplies to this new primary system although their limited capacity will require improvement if future development is undertaken.

37. Conventional first aid fire suppression equipment will be provided at strategic locations throughout the buildings. A combination of detectors for smoke, flame and heat will be used in the hangar in conjunction with closed circuit television surveillance to provide an improved fire detection capability and improved control.

38. Car Parking Vehicular access will be provided to the technical services building from the existing road system with a formal entrance being developed for the administration building.

39. A bitumen surfaced car park capable of taking 85 vehicles will be located adjacent to the administration building. Due to the restricted site, this is the maximum number of vehicles which can be accommodated.

40. Departmental Liaison The buildings have been developed in close consultation between the Department of Defence and the Department of Housing and Construction and cleared by the Department of Science and the Environment as regards environmental impact.

41. Committee's Conclusion The Committee recommends the construction of the work in this reference.

ESTIMATE OF COST

42. The estimated cost of the work when referred to the Committee is \$5.6 million at May 1980 prices made up as follows:

Building work	3 006 000
Civil work	739 000
Hydraulic services	125 000
Electrical services	830 000
Mechanical services	900 000
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	5 600 000
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PROGRAM

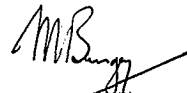
43. During the hearing the Committee was informed that due to re-calculation of quantities for wall cladding the estimated cost will be reduced by approximately \$97,000.

44. Following approval for the work to proceed, the program requires design development to commence in August 1980 and a contract to be let in May 1981 to achieve the target completion date of February 1983. The project is planned as a single lump sum contract with nominated sub-contracts for the hangar fire suppression system, electrical and mechanical services.

RECOMMENDATIONS AND CONCLUSIONS

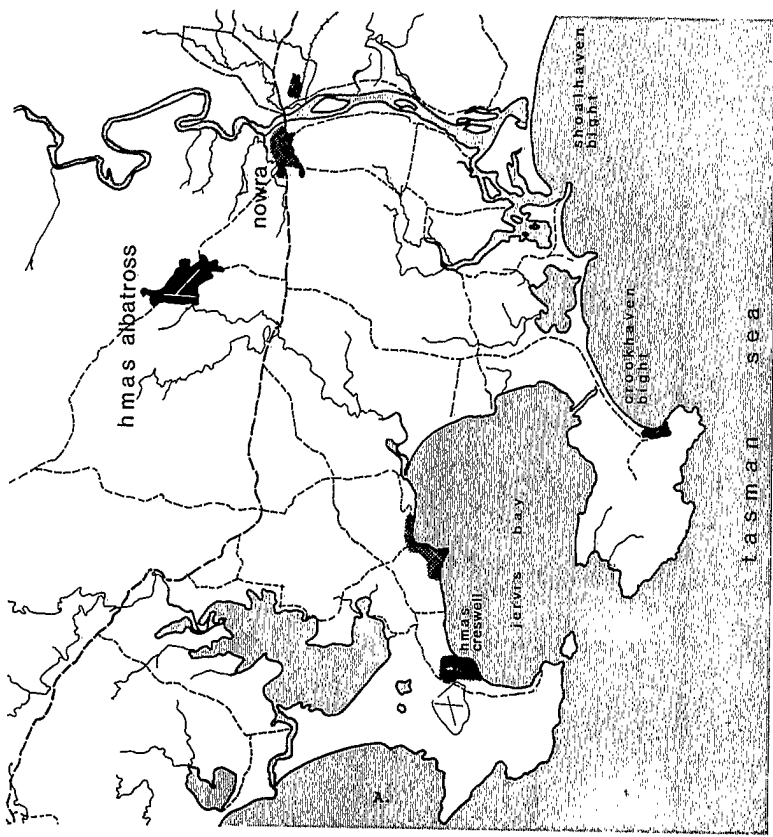
45. The summary of recommendations and conclusions of the Committee is set out below. Alongside each is shown the paragraph in the report to which it refers.

	<u>Paragraph</u>
1. THE EXISTING AIRCRAFT MAINTENANCE FACILITIES AT HMAS ALBATROSS ARE INADEQUATE. THE PROVISION OF TECHNICAL SUPPORT FACILITIES AS PROPOSED WILL INCREASE THE CURRENT CAPACITY FOR MAINTENANCE OF BOTH FIXED AND ROTARY WING AIRCRAFT.	11
2. THE OVERALL DESIGN OF THE HANGAR, TECHNICAL AND FLIGHT LINE AND ADMINISTRATION BUILDINGS PLUS ASSOCIATED FACILITIES IS SATISFACTORY.	17
3. THE SITE SELECTED IS SUITABLE	20
4. THE COMMITTEE RECOMMENDS THE CONSTRUCTION OF THE WORK IN THIS REFERENCE.	41
5. THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE IS \$5.6 MILLION AT MAY 1980 PRICES.	42

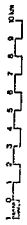

(M.H. BUNGEY)
Chairman

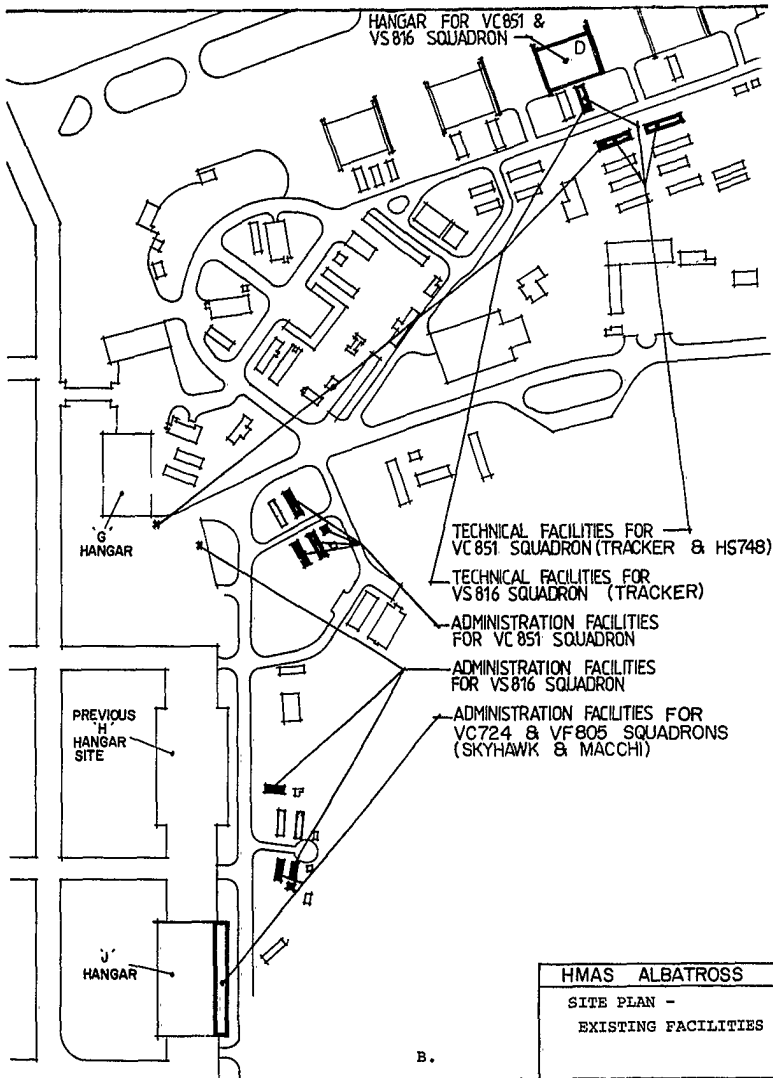
Parliamentary Standing Committee
on Public Works
Parliament House
CANBERRA, ACT 2600

21 August 1980



position plan

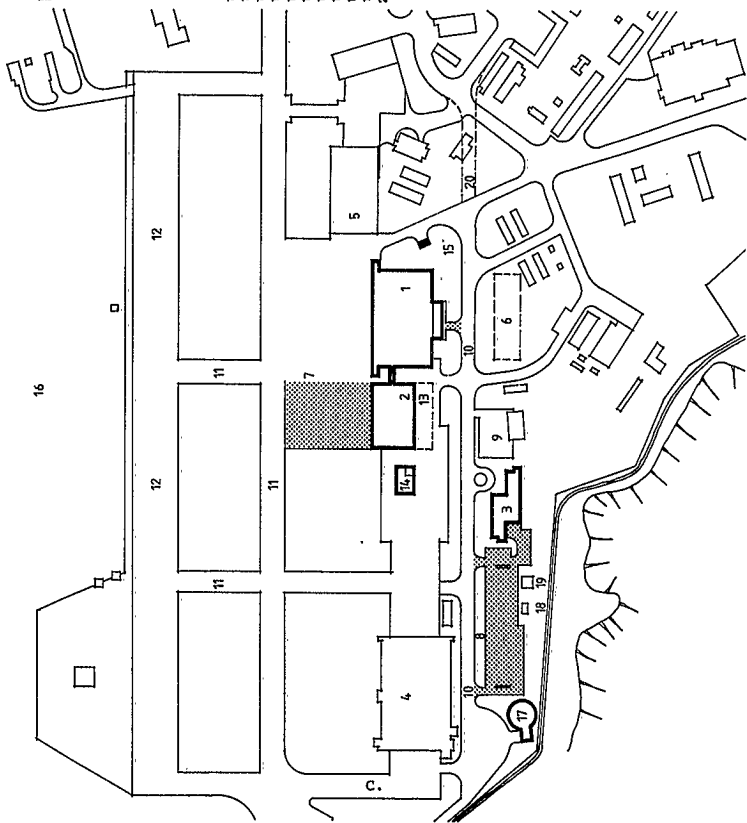




Legend



- 1 hangar h
- 2 technical services and flightline building
- 3 administration building
- 4 existing hangar j
- 5 existing hangar g (to be relocated) -- stage 2
- 6 future enhance workshop
- 7 aircraft wash down area
- 8 car park
- 9 existing car park
- 10 fury road
- 11 aircraft taxiway
- 12 flightline
- 13 future extension to tech services & flightline bldg.
- 14 ground servicing equipment storage
- 15 flammable liquid store
- 16 pollution control area
- 17 static tank & pump house
- 18 existing sub-station no. 12
- 19 existing guard dog isolation compound
- 20 future extension of fury road



site plan - Proposed Facilities.

