



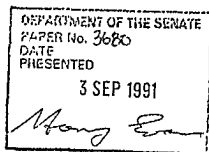
Parliamentary Standing Committee on Public Works

REPORT

relating to the

DEVELOPMENT OF HMAS ALBATROSS, NOWRA, NSW, STAGE 2

(Seventh Report of 1991)



THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
1991

The Parliament of the Commonwealth of Australia
Parliamentary Standing Committee on Public Works



Report Relating

to the

Development of HMAS Albatross, Nowra, NSW, Stage 2

(Seventh Report of 1991)

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MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS

(Thirtieth Committee)

Mr Colin Hollis MP (Chairman)
Mr William Leonard Taylor MP (Vice-Chairman)

Senate

Senator Bryant Robert Burns
Senator Paul Henry Calvert*
Senator John Robert Devereux

House of Representatives

Mr Ewen Colin Cameron MP
Mr Lloyd Reginald O'Neil MP
Mr Russell Neville Gorman MP
Mr Bruce Craig Scott MP

* Appointed on 24.8.90 following the retirement of
Senator Dr Glenister Sheil

Committee Secretary: Peter Roberts

Inquiry Secretary: Sally Dunn

Secretarial Support: Di Singleton

EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES

No. 57 dated Thursday, 11 April 1991

- 17 PUBLIC WORKS - PARLIAMENTARY STANDING
COMMITTEE - REFERENCE OF WORK -
DEVELOPMENT OF HMAS ALBATROSS, NOWRA, NSW,
STAGE 2: Mr Beddall (Minister representing the Minister for
Administrative Services), pursuant to notice, moved - That, in
accordance with the provisions of the *Public Works Committee
Act 1969*, the following proposed work be referred to the
Parliamentary Standing Committee on Public Works for
consideration and report: Development of HMAS *Albatross*,
Nowra, NSW, stage 2.
Mr Beddall presented plans in connection with the proposed work.
Debate ensued.
Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

DEVELOPMENT OF HMAS ALBATROSS, NOWRA, NSW, STAGE 2

By resolution on 11 April 1991 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the development of HMAS Albatross, Nowra, NSW, Stage 2.

THE REFERENCE

1. The works in this reference consist of buildings and associated engineering works at HMAS Albatross, Nowra, for the provision of facilities to accommodate support functions of Naval Air Station (NAS) Nowra and squadron staff, and the upgrading of high voltage electrical services and emergency generation. The works form the second stage of the development program for HMAS Albatross.

2. The proposed works will comprise:

STAGE 2A

- a new building to house the command operations, communication and administration centres of NAS Nowra
- a new building to provide office facilities for both technical and administrative staff of two squadrons, together with the upgrading of associated hangar annexes.

STAGE 2B

- upgrading of high voltage reticulation and emergency power supply.

3. The estimated cost of the project when referred to the Committee was \$9.9m at December 1990 prices.

THE COMMITTEE'S INVESTIGATION

4. The Committee received written submissions from the Department of Defence (Defence) and Australian Construction Services (ACS), and took evidence from departmental representatives at a public hearing held at HMAS Albatross on 27 May 1991.

5. The Committee also received a submission and took evidence from the following:

. G A & M C Murray .

6. Written submissions on the proposal were received from the following and are incorporated in the transcript of proceedings:

- . Childcare At Work Ltd
- . State Pollution Control Commission (NSW)
- . Shoalhaven City Council
- . Regular Defence Force Welfare Association
- . Jervis Bay Protection Committee Inc.

7. Prior to the hearing the Committee inspected the completed works of the Stage 1 development of the base, as well as the sites for the proposed works.

8. Witnesses who appeared at the public hearing are listed at Appendix A. The Committee's proceedings will be printed as Minutes of Evidence.

BACKGROUND

9. HMAS Albatross is located approximately eight km southwest of Nowra and approximately 170 km south of Sydney.

10. HMAS Albatross provides operational, maintenance, supply and administrative support for the aircraft, equipment and personnel of resident squadrons and RAN ships helicopter flights when disembarked. In addition, the base provides support for RAAF, Army and civilian aircraft operating in the area in support of the Fleet or on other tasks. It supports the National Task, operations in the Jervis Bay and East Australia Exercise

Areas and hosts the Australian Joint Acoustic Analysis Centre, Aircraft Maintenance and Flight Trials Unit, RAN Tactical Electronic Warfare Support Section, RAN Aircraft Maintenance Examination Board, the Army Parachute Training School and No. 2 Squadron RNZAF. The current established strength is approximately 1200 service personnel and 200 civilians.

THE NEED

Operations, Communications and Administration Building (OCAB)

11. At present the command, operations, communications and administration functions of NAS Nowra are conducted from six widely separated buildings - two of which are 'temporary' buildings of Second World War design. The working conditions in the older buildings are not conducive to good staff morale and the separated locations lead to administrative and operational inefficiencies.

12. The existing communications centre has been recognised as being susceptible to possible external electromagnetic monitoring and is remote from the main administration building. The building is old and requires considerable maintenance. Its environment is unsuitable for harmonious working conditions and cleaning of the building is an almost continuous task which detracts from the primary task of skilled communications personnel. Because of the sensitive nature and classification of the work being carried out, civilian cleaners cannot be employed. Additionally, the Central Receiving Room where the operation of radio equipment is carried out, is remote from the communications centre, making it necessary to use significantly more manpower than if a combined facility were available.

13. The operational effectiveness of the air station is greatly dependent upon the timely receipt and actioning of operational information to ensure the rapid dissemination of resulting directives or information to aircraft, squadrons or Fleet units. Therefore, to ensure that delays resulting from the internal distribution of information are minimised, the command operations and communications facilities should be as closely located to each other as is practicable. In addition, from a security stand point, collocation of these facilities would reduce or eliminate the threat posed at present by the transmission of operational information between functional areas on *electromagnetically insecure communication links*.

14. Expansion of the Seahawk helicopter squadron as completion of delivery of the new aircraft approaches is placing demands on office space in the Squadron Administration Building - South (SAB-S). It is expected squadron aircrew, support staff and trainees will number 72 by the end of 1992. This number of personnel cannot be accommodated in the building together with the current non-squadron personnel comprising the command cell and administrative service group.

Squadron Administration Building - North (SAB-N)

15. In order to provide accommodation for the new Seahawk helicopters and the RNZAF Skyhawk aircraft in J Hangar, 723 Squadron has been relocated from J Hangar to the northern area of the air station. With insufficient office and amenities space available temporary demountable buildings have been provided adjacent to B Hangar.

16. Technical staff of 723 (including HS748 Flight) and 817 Squadrons operate from A and B Hangars and the demountable buildings, the squadron administration and aircrew operate from adjacent old corrugated iron and timber huts. These latter buildings are energy inefficient, noisy and continually require repair. To raise these huts to a reasonable level of habitability would be costly and even then would not solve the problems of poor acoustic isolation from nearby aircraft noise nor the inefficiencies of operating from nine separate huts.

High Voltage Electrical Distribution System

17. Reliability of the power supply to and throughout the base is an important requirement for all operations; however it is essential for those functions directly connected with airfield operations and safety of flight.

18. The original high voltage (HV) distribution system comprised three feeder mains in a radial arrangement. A portion of the system was converted to a ring main configuration when providing power supplies to the new Stage 1 facilities. There are, however, significant areas of the base still served only by the radial system and sections of the ring mains which utilise old and unreliable components. This arrangement does not form a sound basic system for the supply of the existing base loads and is inadequate for future expansion.

19. Many parts of the system are 40 to 50 years old and are now becoming unreliable. Also, as the base has developed, connected loads have increased to the point where a severe imbalance of loads exists between the feeders. One of the feeders is now close to its load capacity, thus inhibiting significant expansion in the areas fed by it.

20. The capacity of cables to a number of the substations is also not sufficient for them to survive through a fault condition on the system. Failure of any component in a radial main causes a complete downstream system outage for as long as it takes to replace the component. This inflexible feature of the system not only causes extreme disruption during failures but also inhibits routine maintenance.

Emergency Power Generation System

21. The main emergency power generating source is two diesel generators at the Central Emergency Powerhouse (CEPH). These generators were installed 40 years ago and the initial combined output of 700 kVA is now limited to 500 kVA, mainly because of the loss in performance of the diesel prime movers. The original synchronisation and voltage regulation equipment, still in service, is unreliable and unstable requiring constant supervision when in operation to prevent overloading and failure of supply.

22. A number of small generators supporting specific air navigation aids and communications, together with the CEPH generators produce 1200 kVA, whilst the total air station requirement is currently 2800 kVA. To make use of all the existing generating capacity considerable time consuming remote manual switching is required to limit the load to 1200 kVA. Further, for safety reasons this switching must be carried out by non-service licensed tradespersons with the result that application of emergency power to selected buildings takes between one and a half and four hours, depending on the time of the day.

23. Areas supplied by the main emergency generators include all mechanical and electrical workshops, hangars, refuelling facilities, accommodation, administration, galleys and stores complex. In the event of a failure of the main emergency generation equipment following failure of the Illawarra County Council supply, all activity in aircraft component workshops would cease and only limited maintenance could be achieved on aircraft in the hangars and then only during daylight hours. Such a failure would place severe operational limitations on the air station.

COMMITTEE'S CONCLUSION

24. There is a need to construct buildings and associated engineering works at HMAS Albatross for the provision of facilities to accommodate support functions of Naval Air Station Nowra and squadron staff, and the upgrading of high voltage electrical services and emergency generation.

THE PROPOSAL

25. The proposal is for:

- . the construction of a new building to house the command operations, communication and administration centres of NAS Nowra
- . a new building to provide office facilities for both technical and administrative staff of two squadrons, together with the upgrading of associated hangar annexes
- . the upgrading of high voltage reticulation and emergency power supply.

26. The proposed siting of each of the elements of this proposal is in accordance with the approved Zone Plan and the existing Master Plan (see Appendix B) for overall development of HMAS Albatross.

27. General planning and design of the proposal has been guided by the following considerations:

- . integration of the existing facilities and planned road systems
- . security requirements
- . airfield sound levels
- . economy of construction and the incorporation of low energy consumption and low maintenance characteristics

- . improvement of the visual form of building development on the base
- . creation of planned precincts around the buildings.

28. Consideration has been given to sound attenuation in the choice of the building fabric. Openings have been oriented away from prevailing westerly winds.

29. The buildings will incorporate a range of services as appropriate to their specific functions, including air conditioning, ventilation, light and power, hot and cold water, sewerage, drainage, fire detection and protection. intruder alarms, lightning protection and earthing provisions.

30. The high voltage supply and reticulation and load management and the emergency power supply on the base are to be upgraded to improve the management and reliability of these systems.

31. All construction works will be planned to allow services to existing facilities to be maintained.

Operations, Communications and Administration Building (OCAB)

32. It is proposed to locate the new OCAB at the junction of the major axes of the base. One outmoded building is to be demolished to clear the site.

33. The building, the prime administration centre for HMAS Albatross, is to be a two-storey design to maximise efficiency of land use and provide satisfactory separation from adjacent buildings and roads. Each floor is functionally zoned to ensure that compatible and/or related activities are in the optimum relationship to each other. There are views from the command areas of the building to aircraft aprons and runways.

34. Recommendations on methods of noise reduction arising from an acoustic analysis report of the site have been incorporated in the design.

35. The facility is to have two access points. The southern entry is via a porte cochere and leads to a formal entry foyer, while the northern entry is from a large alcove and is to be used as the principal entry for day-to-day base operations and business.

Structure and Construction

36. The two-storey reinforced concrete building is to be constructed on cast-in-place piers founded on rock.

37. The ground floor is to be a concrete beam and slab system. The first floor is to have a flat slab with perimeter beams and drop panels at column capitals. The roof is to be ribbed profile sheet metal fixed to purlins with steel supporting beams bearing on reinforced concrete columns.

Materials and Finishes

38. The metal deck roof is to be sarked and insulated for thermal and acoustic loads caused by aircraft noise. This will provide occupant comfort and energy efficiency. Roofing is to be precoloured preformed steel sheeting to minimise glare.

39. External walls are to be constructed from bricks to match existing buildings. Windows will be aluminium framed, double glazed for sound control and energy efficiency. Sun control on windows to north, east and west facades will be provided by mini-venetian blinds in the cavity of the windows. The balcony to the west will be protected from the sun by expanded metal mesh. Internal partitions to wet areas are to be of masonry construction. Elsewhere, partitions are to be steel stud framing with plasterboard lining.

40. The ceilings are to be predominantly pre-painted acoustic mineral fibre tile in an aluminium suspended grid. Plant room areas are to be painted off-form concrete soffits, while toilet areas are to be vinyl-laminated plasterboard.

41. Internal doors are to be of solid core construction with standard door hardware, while external doors are to be aluminium framed with laminated safety glass.

Electrical Services

42. Supply to the building is to be from a proposed new substation which will also supply the surrounding buildings. The building will also be provided with standby power from an existing local emergency generator.

43. A programmable logic controller is to be provided for energy management and load control and will control the air-conditioning, external lighting and all equipment requiring to be time switched. The controller is to be integrated as part of the establishment's master controller being provided under the HV reticulation.

Mechanical Services

44. Comfort air-conditioning is to be provided to all areas of the building. The communications area is to be occupied 24 hours a day and is to be provided with a separate economy cycle air-conditioning system.

45. The system is to comprise a packaged air cooled water chiller, feeding chilled water to individual air handling units, serving various zones within the building. Heating shall be via hot water coils fed from an LPG fired hot water boiler, thus minimising the electrical maximum demand in winter. Reverse cycle air-conditioning was not considered appropriate because of the scale and complexity of the building. The air-conditioning system is to be controlled by a programmable logic controller. An outside air economy cycle and night time purge cycle are to be incorporated into the system design.

46. Mechanical ventilation will be provided to all toilet, shower and change room areas and hot water to all toilet, shower and crew room areas.

Fire Protection

47. Internal hose reels, fire extinguishers and external fire hydrants are to be provided. Passive thermal fire detectors are to be provided throughout the building and are to be monitored at the guardhouse. A very early smoke detection alarm system is to be installed in rooms containing communications equipment.

Hydraulic Services

48. Existing sewer and stormwater pipes under the building are to be relocated. All water supply, sewerage and stormwater systems are to be connected into existing service mains.

Roadworks and Landscaping

49. An access road is to be provided with limited visitor and official parking on the south of the building. A larger car park is to be provided to the north of the building. The area adjacent to the building is to be appropriately landscaped.

Security Services

50. A Grade 1 intruder alarm system is to be provided and connected to the existing Central Supervisory System (CSS) located at the guardhouse.

Squadron Administration Building - North (SAB-N) and Associated Hangar Annexes Upgrade

51. The proposed building will be sited within an existing car park east of Swordfish and Walrus Roads, relating to the operational and administrative functions of the adjacent maintenance units occupying A and B Hangars. The remaining area of the car park which will not be developed will provide adequate parking accommodation.

52. The building is to be a two-storey design, with each floor to be functionally zoned to ensure that compatible and/or related activities are in the optimum relationship to each other.

53. Recommendations on methods of noise reduction arising from an acoustic analysis report of the site have been incorporated in the design.

54. The building will have three access points. Two main entry points from the south give separate identity to the associated Squadrons, while entry from the north provides access from hangars, hardstand and car parks. All entries are designed to provide protection from inclement weather and lead to respective operational lobbies and stairs. An access road will be provided incorporating visitor car parking to the forecourt.

55. The building fabric design allows for attenuation of sound pressure levels being generated by the operation of fixed wing aircraft and helicopters at the adjacent flight line.

56. Additions will be made to A and B Hangars at the ground floor to A Hangar and first floor level to the northern annexes to both A and B Hangars. These provide requisite amenity areas for aircraft maintenance staff including crew rooms and locker rooms as well as additional toilets and showers to B Hangar.

Structure and Construction

57. The two-storey reinforced concrete building is to be constructed on cast-in-place piers founded on rock.

58. The ground floor is to be a beam and slab system, while the first floor is to be a flat slab with perimeter beams. The roof is to be a flat slab with roof sheeting supported off the slab by steel framing.

59. The addition to A Hangar is to be a steel frame structure built on the concrete roof slab, while the extension to B Hangar is to be a steel frame structure built over the existing annex. The first floor is to be a reinforced concrete slab on permanent steel formwork supported on steel beams. Roofing is to be constructed from prefinished sheet metal supported by steel framing to both hangar annexes.

Materials and Finishes

60. External walls to the SAB-N building are to be of brick veneer construction to sill height. Windows are to be double glazed incorporating mini-venetian blinds in the cavity, and will have deep bulkheads to facilitate sun control as well as to provide the requisite larger areas at first floor level. Prefinished compressed fibre cement sheet cladding is to be fixed above the windows.

61. A prefinished metal deck roof is to be provided, and ceilings are to be suspended acoustic mineral fibre tiles. Internal walls will be either masonry or steel stud lined with plasterboard, while floors are to be carpeted to corridors and offices with tiled finishes to the entries, high usage circulation areas, stairs and wet areas.

62. Walls to the upgraded hangar annexes are to be framed steel stud with plasterboard linings for paint finish. A fire rated masonry wall and doors will separate the hangars from annexe areas. Floor finishes to the upgraded hangar annexes are to be ceramic tiles to the wet areas and welded sheet vinyl to all other areas. First floor ceilings will be fire rated plasterboard.

Electrical Services

63. Supply to the new building is to be provided from the existing substation 10 and energy efficient lighting fixtures are proposed. The building will also incorporate a multi-channel time clock for control of selected services when not occupied.

Mechanical Services

64. Occupied areas of the SAB-N building will be air-conditioned to comfort levels (19°-25°C), while the Survival Equipment Room is to be 24 hour operation and is to be served by a separate air-conditioning system. The air-conditioning plant is to be of the reverse cycle, air-cooled, split package ducted type, while the system is to be controlled from a multi-channelled programmable clock.

65. Toilets, shower and change rooms will have mechanical ventilation systems and hot water will be provided to the toilet, shower and crew areas.

Fire Protection

66. External fire hydrant, internal fire hose reels and fire extinguishers are to be provided. For the SAB-N building, thermal fire detectors are to be used and are to be monitored at the guardhouse. Furthermore, the existing wet pipe sprinkler system will be extended to all new areas of the hangar annexes.

Hydraulic Services

67. Water, sewerage and stormwater systems for the SAB-N building and A and B Hangars are to be connected into existing mains.

Roadworks and Landscaping

68. The existing road network will be maintained as the new building is to be sited on an existing car park, thus requiring the removal of the bitumen surface and provision of landscaping external to the building. A new one-way access road is to be located between the existing assets and the new facility with six bays of visitor parking adjacent. The area adjacent to the building is to be landscaped with minimum maintenance areas to enhance the immediate environs.

Security

69. A Grade 1 intruder alarm system is to be provided and connected to the existing CSS located in the guardhouse. No additional security is required for the hangar annexe extensions.

High Voltage and Emergency Generation Upgrade

70. The electricity service to HMAS Albatross has previously been augmented and work was carried out to upgrade the high voltage system associated with the various Stage 1 works, including the creation of one ring main.

71. Stage 2B may be considered in two parts:

- Part 1 - the completion of the high voltage upgrade and base load management
- Part 2 - the upgrading of the central emergency power generation for the establishment.

HIGH VOLTAGE UPGRADE AND LOAD MANAGEMENT (STAGE 2B PART 1)

72. While at present much of the HV cabling at the establishment is by aerial conductors in a radial feed configuration, the proposed works are to replace all HV aerial cables with underground cables in a ring main configuration.

73. Two additional HV rings are to be created which will enable electricity to be reticulated to the extremities of the establishment (see Appendix B). The rings are to be closed at the CEPH by connection to a new HV switchboard.

74. The proposed works will also involve the upgrading of existing substations to current installation and safety standards.

75. Two uninterruptable power supply units are to be installed for the Precision Approach Radar and the Airfield Surveillance Control Systems in the control tower.

76. At present the establishment is supplied by two Illawarra County Council electricity services which are connected to an existing HV switchboard at the Incomer Station. One of these services is equipped with a Power Factor Correction Cubicle (PFCC). As part of this project a second PFCC is to be provided for the remaining service.

77. The proposed works will, furthermore, provide for a means of automatic load reduction which is required during a black-out condition to enable the generated output to be matched to the base requirements.

78. The upgrading and conversion to a ring main system will improve reliability and permit flexibility in operation for repair and maintenance, backup supply and connection of emergency generation where required. It will also result in more evenly balanced loads on the feeders and switchgear and will facilitate future expansion.

79. Both the additional power factor correction equipment and the load shedding system will contribute to the aims of optimising energy conservation and reducing electricity costs at HMAS Albatross.

EMERGENCY GENERATION UPGRADE (STAGE 2B PART 2)

80. To overcome problems with the existing emergency generation system which is located in the CEPH, it is proposed to replace the existing generators with two new diesel generators.

81. The output of the new generators will be reticulated by the three 11 kV ring mains to supply the establishment's substations.

82. The load shedding system to be installed as part of the HV distribution upgrade will be utilised to disconnect non-essential loads until the base requirements match the generated output.

Building Components

83. The existing CEPH building is structurally sound; however it requires additions and alterations in order to accommodate the new equipment and services.

84. The existing wall and roof structure of the CEPH is to be re-clad in precoloured zinc coated steel sheeting while internally the structure is to be lined with acoustic panelling to attenuate the noise output from the diesel generators.

85. The control room and diesel generator cooling tower compound is to be added to the existing facility.

86. The building electrical services are to be upgraded to cater for the new installations. These services include lighting, power, fire detection and the provision of commercial grade security for the building.

Mechanical Services

87. Two 1000 kVA capacity 415 volt diesel generators are to replace two existing 350 kVA units and provision is to be made for a future third unit. The provision of alternative engines using LPG was examined but rejected because of the life cycle costing factor which takes into account higher capital and maintenance costs.

COMMITTEE'S CONCLUSION

88. The Committee agrees that the works proposed in this reference will be adequate to provide working accommodation and engineering services to support the functions of the Naval Air Station Nowra.

LONGER TERM PLANNING

89. The Stage 2 proposals will complete the current major development project at HMAS Albatross. There are no plans at this stage for further combined major developments; however, two individual major projects are under consideration. These involve the provision of a medical facility to replace the present hospital buildings and the transfer of aircraft wholesale stores and associated personnel from Sydney to Nowra as part of the Defence Logistics Redevelopment Project. These projects are not fully developed yet and are subject to various policy and siting considerations.

90. Defence advised that the impact of the Force Structure Review (FSR) on HMAS Albatross would be minimal. Subject to further studies there could be some minor reduction in the number of air technical trade personnel receiving on-the-job training at the base as a result of Navy air technical trade training being relocated from HMAS Nirimba to a joint facility at RAAF Base Wagga.

91. Defence also advised the Committee that a proposal, put forward by HMAS Albatross to provide a long stay day-care centre for 20 children aged up to 5 years by carrying out minor repairs and modifications to an existing building, was currently under consideration.

ENVIRONMENTAL IMPACT

92. The proposal has been assessed by the Department of Defence in accordance with the administrative procedures under the *Environment Protection (Impact of Proposals) Act 1974* and its impact has been determined to be minimal.

93. The building proposals will enable the removal of a significant number of unsightly old buildings and will thus have the effect of improving the visual appearance of the base. Provision of a load control facility, as part of the HV distribution upgrade, will reduce the peak electricity demand of the base and, consequently, make a contribution to the reduction of greenhouse gas emissions.

94. Concerns were raised by the State Pollution Control Commission and the Jervis Bay Protection Committee Inc. (JBPC) regarding the potential for pollutant run-off during the construction phase of the Stage 2 proposal.

This was understood to be related to silt from disturbed sites. ACS assured the Committee that all areas of construction would be within a developed area and run-off from the construction site would flow into a stormwater drainage system which would be piped to the west of the site where it would discharge onto Commonwealth property west of the runway. No silt was expected to be carried off Commonwealth property and into natural waterways because of the configuration of the stormwater drainage system. Defence also advised that as an added precaution, the contract documentation would oblige contractors to take measures to ensure that chemicals, fuels, silt, etc would not reach waterways. In order to further maintain pollution control the works would be supervised daily and managed on site.

95. The Committee queried the progress of a trade waste collection system on the base, particularly in relation to criticisms arising from its 1986 inquiry into the Stage 1 works concerning liquid wastes produced from the washing down of aircraft and hangar floors. Defence advised that it had received a consultant's report identifying the sources of trade wastes and recommending treatment for such wastes, and that all recommendations had been implemented. Furthermore, the Committee was informed of trade waste collection facilities utilised by the base, as well as oil separation facilities and upgraded sewerage treatment works which were used in the disposal of washing liquid wastes.

96. As land owners adjacent to the base, G A & M C Murray have requested that they and other land owners, whose properties were located in high noise forecast zones as outlined in the Australian Noise Exposure Forecast (ANEF) for HMAS Albatross, be compensated by the Commonwealth Government. Defence advised that while the G A & M C Murray property is contained between the 30 and 35 ANEF contours, the Commonwealth's responsibility did not extend to compensating existing land owners whose properties are located in such noise exposure zones.

ENERGY ISSUES

97. The subject of energy conservation has been highlighted in a number of recent reports by the Committee. The Committee is mindful of the government's objective to reduce greenhouse gas emissions by 20 per cent

by the year 2005. This objective is highlighted by the Prime Minister in a foreword to 'the Energy Guide' which was recently circulated to every Australian Household.

98. The JBPC submitted that all building should be designed utilising passive solar principles, negating much of the need for air conditioning, electric lighting and heating. The JBPC also submitted that the proposal should adopt the government target and that its application should not be limited to the HV upgrade.

99. Defence advised that despite the replacement of older structures with air conditioned buildings, there will be a reduction in the overall energy requirement because of the provision of the load control and load management system as part of the HV upgrade. Furthermore, a number of passive energy conservation measures would be used in the design and siting of the proposed buildings, including:

- . optimum orientation of the buildings
- . the provision of thermal insulation
- . by using skylights, the introduction of daylight into central spaces
- . overhangs and eaves to minimise sun penetration the summer and to maximise it in the winter.

Active energy conservation measures to be included are:

- . programmable logic controllers for lights and air conditioning
- . economy cycles and heat pumps in the air conditioning system where appropriate
- . energy efficient light fittings.

100. The Committee queried the choice of electric heating for hot water over solar hot water heating. ACS advised that while the running costs for solar heating would be much lower than alternative energy sources, the capital cost of solar heating would be higher. Therefore, on the basis of life cycle costing, the provision of solar hot water heating would cost 70 per cent

more than an electric system. The Committee understands that the technique of life cycle costing is one of a number of techniques available for use in analysing capital and recurrent costs associated with investment decisions. The technique is limited in its focus in this instance because it does not take account of other factors such as investment in power stations nor greenhouse gas emissions. The Committee believes that if the citizens of Australia are asked to contribute towards the achievement of the government's objectives, it follows that government departments and agencies should provide leadership in the achievement of the objectives.

COMMITTEE'S RECOMMENDATIONS

101. As part of the Stage 2 development of HMAS Albatross, an energy audit should be undertaken to identify methods by which the use of electricity can be reduced.

102. Consistent with the foregoing recommendation, the buildings in this proposal requiring the provision of hot water should be provided with adequate solar hot water heaters.

CONSULTATION

103. Consultations have taken place with the Illawarra County Council during the development of the stage 2 proposals and its requirements have been incorporated. The Shoalhaven City Council, the New South Wales State Pollution Control Commission, the Commonwealth Employment Service and the local business community have also been contacted.

STAGE 1 PROPOSAL

104. The Committee queried the progress of matters arising from the public hearing into the Stage 1 development of HMAS Albatross, namely the construction of a cycle way between the base and the Nowra township and the effect of urban encroachment on the base. Defence advised that negotiations were continuing with the Shoalhaven City Council in an effort to provide a cycle way. It was suggested that an alternative solution to creating a safer road for vehicle and bicycle access may be to widen the existing road. Furthermore, Defence did not consider urban encroachment to be a major problem and advised that the Shoalhaven City Council had instituted planning controls in the light of recent developments such as the ANEF contours, which provide future noise exposure forecasts to assist local planning authorities in determining appropriate land-use controls for new developments around airports.

PROGRAM

105. Subject to the project's approval, tenders for the first phase of the works (Stage 2A) are to be invited in September 1991, with all the Stage 2A project works to be completed by early 1993.

LIMIT OF COST

106. The limit of cost estimate of the proposed works is \$9.9m at December 1990 prices.

The component costs are:

Operation, Communication and Administration Building (OCAB)	\$3.65m
Squadron Administration Building North (SAB-N) and Associated Hangar Annexe Upgrade	\$2.45m
Upgrade of High Voltage Electrical Services	\$3.8m

107. In addition to the cost of the works, it is estimated that an expenditure of approximately \$2.5m will be required to fit out the buildings with new furniture and office equipment and to relocate existing communications centre equipment. The estimated completed cost of the project including allowances for escalation and contingencies, is \$10.94m.

COMMITTEE'S RECOMMENDATION

108. The Committee recommends the construction of the works in this reference at an estimated cost of \$9.9m at December 1990 prices.

CONCLUSIONS AND RECOMMENDATIONS

109. The Committee's conclusions and recommendations, and the paragraph in the report to which each refers, are set out below:

- | | Paragraph |
|--|-----------|
| 1. There is a need to construct buildings and associated engineering works at HMAS Albatross for the provision of facilities to accommodate support functions of Naval Air Station Nowra and squadron staff, and the upgrading of high voltage electrical services and emergency generation. | 24 |
| 2. The Committee agrees that the works proposed in this reference will be adequate to provide working accommodation and engineering services to support the functions of the Naval Air Station Nowra. | 88 |
| 3. As part of the Stage 2 development of HMAS Albatross, an energy audit should be undertaken to identify methods by which the use of electricity can be reduced. | 101 |
| 4. Consistent with the foregoing recommendation, the buildings in this proposal requiring the provision of hot water should be provided with adequate solar hot water heaters. | 102 |
| 5. The Committee recommends the construction of the works in this reference at an estimated cost of \$9.9m at December 1990 prices. | 108 |


Colin Hollis
Chairman

22 August 1991

APPENDIX A

LIST OF WITNESSES

FRASER, Mr Jeffrey William, Assistant Director Facilities Engineering - Navy, Department of Defence, Russell Offices, Canberra, ACT, 2600

McCAFFRIE, Captain John Henry, Director-General Facilities - Navy, Department of Defence, Russell Offices, Canberra, ACT, 2600

McKENZIE, Mr Alan Robert, Acting Deputy State Manager (Defence and Engineering), Australian Construction Services, Department of Administrative Services, 821 Pacific Highway, Chatswood, NSW, 2067

MURRAY, Mr John Alan, PO Box 44, Nowra, NSW, 2541

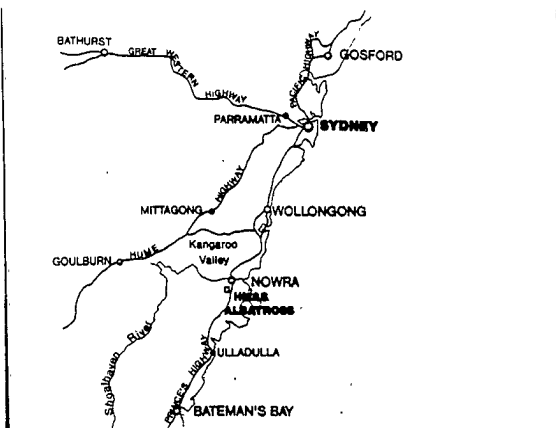
PARTINGTON, AM, RAN, Commodore Robin Nyren, Commanding Officer, RAN Air Station (HMAS Albatross), Nowra, NSW, 2540

PRYOR, Mr Robert Frederick, NSW State Manager (Project Services), Australian Construction Services, Department of Administrative Services, 821 Pacific Highway, Chatswood, NSW 2067

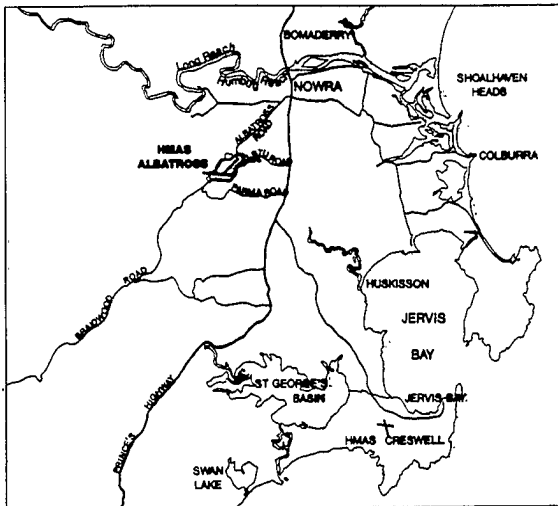
SILVA, Mr Max Edward, Project Manager (Navy), Australian Construction Services, Department of Administrative Services, 821 Pacific Highway, Chatswood, NSW, 2067.

APPENDIX B

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A & B Hangars - Site Plan	B-9
High Voltage Reticulation	
Site Plan	B-10
Central Emergency Powerhouse (CEPH)	
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LOCATION PLAN



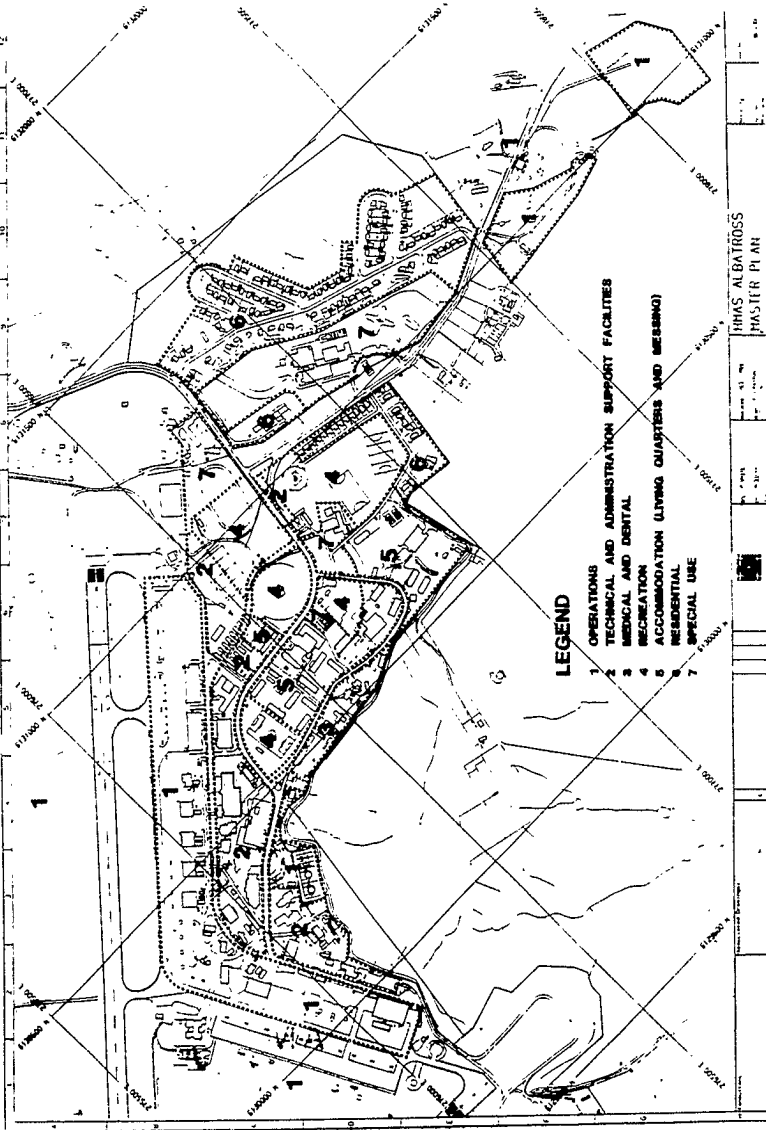
LOCALITY PLAN

NOWRA ; HMAS ALBATROSS

LOCALITY AND LOCATION PLANS

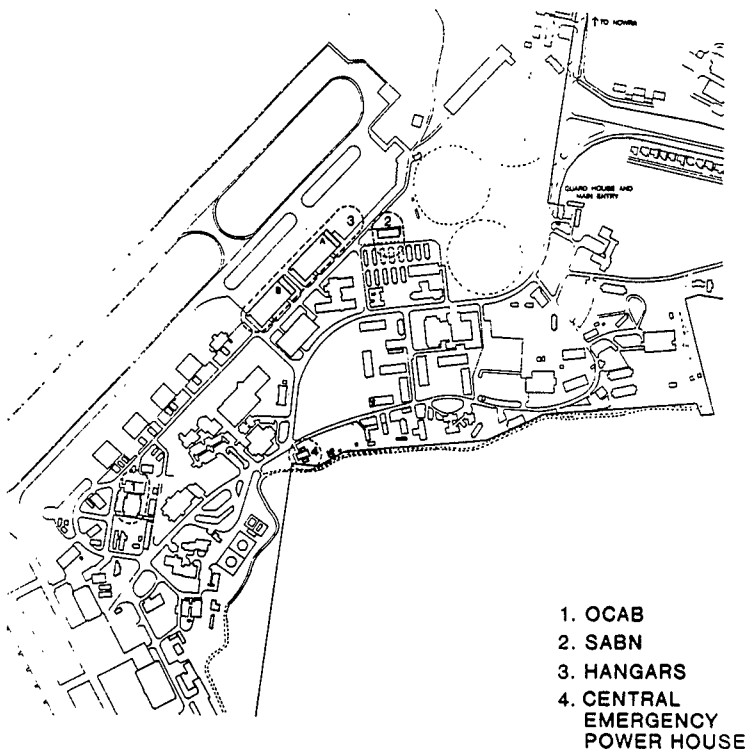


IRHAS ALBATROSS MASTER PLAN



LEGEND

- 1 OPERATIONS
- 2 TECHNICAL AND ADMINISTRATION SUPPORT FACILITIES
- 3 MEDICAL AND DENTAL
- 4 RECREATION
- 5 ACCOMMODATION (LIVING QUARTERS AND MESSING)
- 6 RESIDENTIAL
- 7 SPECIAL USE

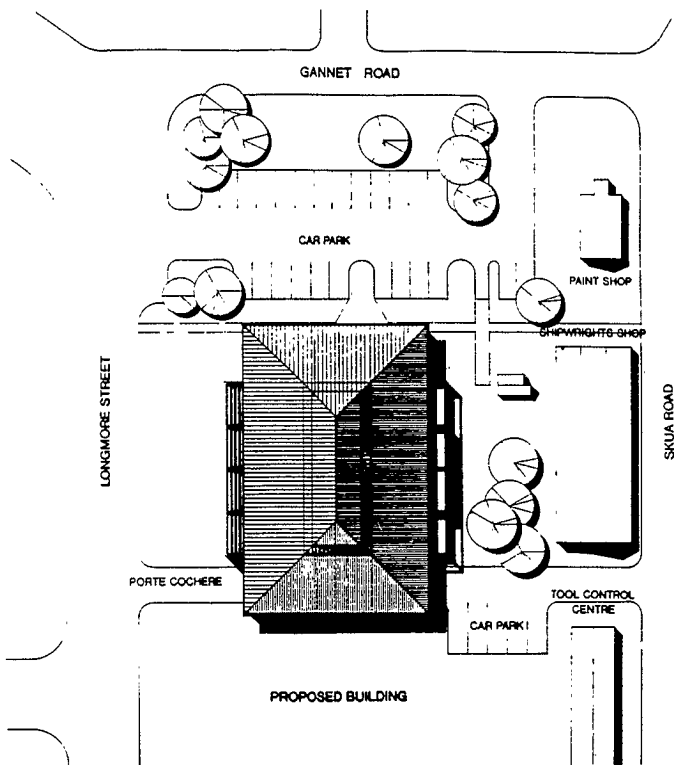


NOWRA ; HMAS ALBATROSS

LOCATION PLAN : STAGE 2 BUILDINGS

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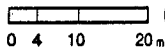




SITE PLAN

NOWRA ; HMAS ALBATROSS

OPERATIONS, COMMUNICATIONS AND
ADMINISTRATION BUILDING.





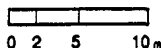
EAST ELEVATION



WEST ELEVATION

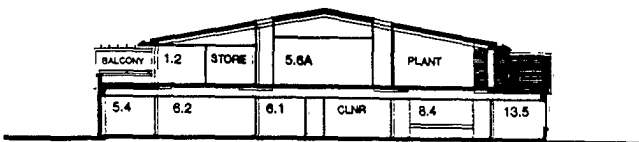
NOWRA ; HMAS ALBATROSS

OPERATIONS, COMMUNICATIONS AND
ADMINISTRATION BUILDING.





NORTH ELEVATION



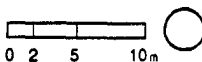
CROSS SECTION

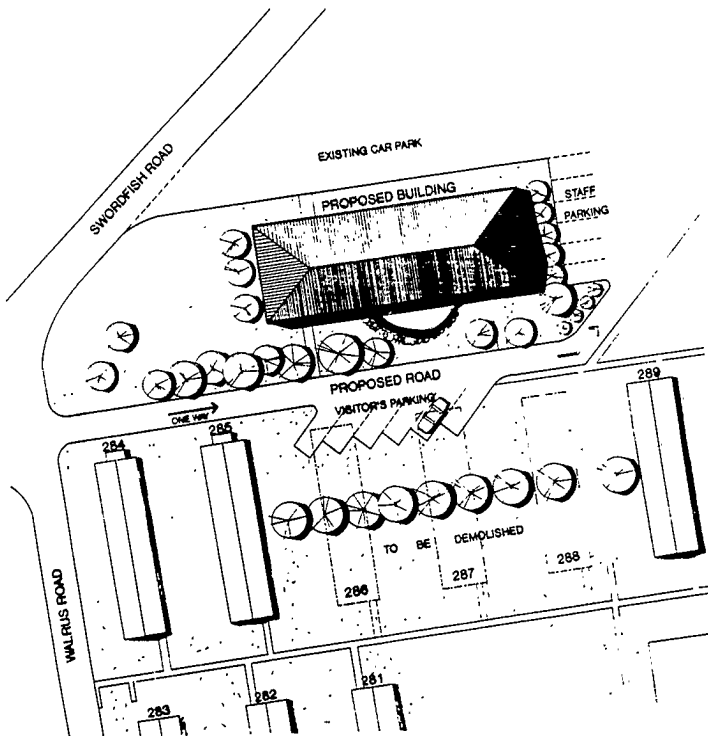


SOUTH ELEVATION

NOWRA ; HMAS ALBATROSS

OPERATIONS, COMMUNICATIONS AND
ADMINISTRATION BUILDING.

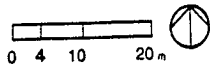


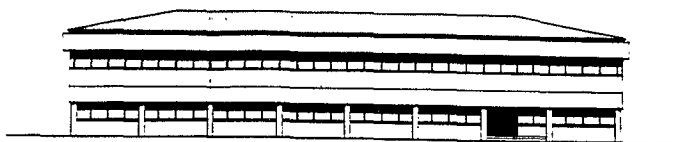


SITE PLAN

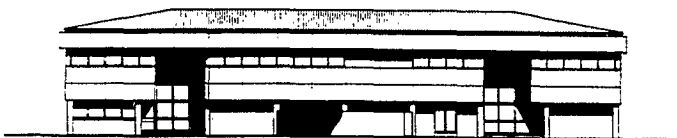
NOWRA ; HMAS ALBATROSS

SQUADRON ADMINISTRATION BUILDING
NORTH





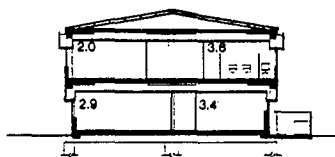
NORTH ELEVATION



SOUTH ELEVATION



END ELEVATION

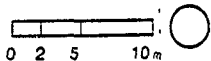


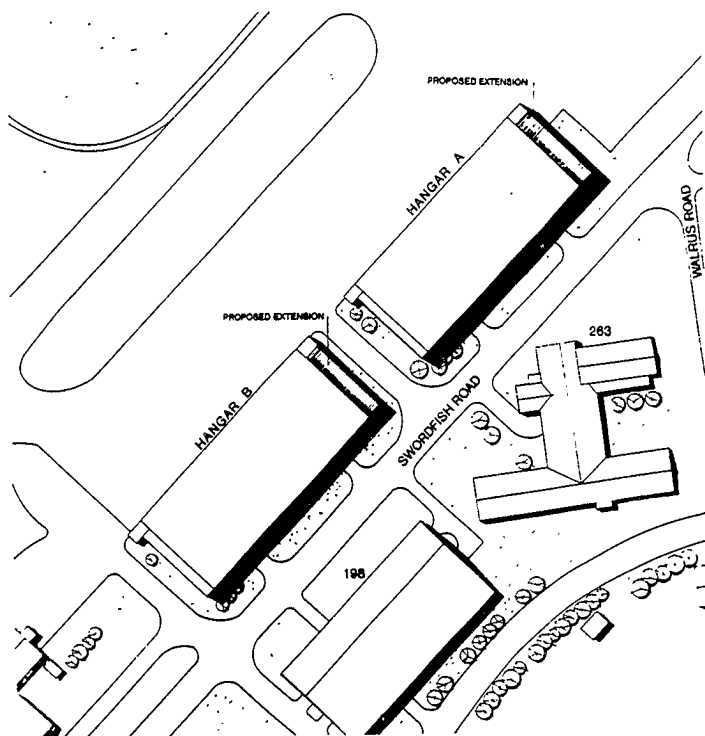
CROSS SECTION

NOWRA ; HMAS ALBATROSS

SQUADRON ADMINISTRATION BUILDING

NORTH





SITE PLAN

NOWRA ; HMAS ALBATROSS

HANGARS A AND B, SITE PLAN.

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