

Parliamentary Standing Committee on Public Works

REPORT

relating to the proposal for

ARMoured CENTRE REDEVELOPMENT PUCKAPUNYAL, VICTORIA

(Eighth Report of 1981)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

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ARMOURED CENTRE REDEVELOPMENT
PUCKAPUNYAL, VICTORIA

(Eighth Report of 1981)

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS
(Twenty-sixth Committee)

Melville Harold Bungey, Esq., M.P. (Chairman)

Senator Jean Isabel Melzer (Vice-Chairman)¹

Senate

House of Representatives

Senator Dominic John Foreman ³

David Bruce Cowan, Esq., M.P.

Senator Bernard Francis
Kilgariff

Benjamin Charles Humphreys, Esq., M.P.

Senator John Raymond Martyr ⁴

Urquhart Edward Innes, Esq., M.P.

Senator Harold William Young ²

James Leslie McMahon, Esq., M.P. ⁵

Murray Evan Sainsbury, Esq., M.P.

1 Retired 30 June 1981.

2 Ceased to be member on election as
President of the Senate on 18 August 1981.

3 Appointed 25 August 1981.

4 Appointed 25 August 1981.

5 Appointed Vice-Chairman 27 August 1981.

EXTRACT FROM
THE JOURNALS OF THE SENATE
NO. 46 DATED 12 JUNE 1981

- 14 PUBLIC WORKS JOINT STATUTORY COMMITTEE - REFERENCE OF WORK -
ARMOURED CENTRE REDEVELOPMENT, PUCKAPUNYAL, VICTORIA:
The Minister for Veterans' Affairs (Senator Messner),
pursuant to Notice of Motion not objected to as a Formal
Motion, 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:
Armoured Centre redevelopment, Puckapunyal, Victoria.

Paper: Senator Messner, pursuant to Statute, presented
plans in connection with the proposed work.

Question - put and passed.

WITNESSES

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Armoured Centre, MILPO, Puckapunyal,
Victoria

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Construction, Tivoli Court,
239-241 Bourke Street, Melbourne,
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Cole, K.H., Esq., Associate Director, Projects,
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Day, Brigadier P.J., Director-General, Accommodation
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Knight, Lieutenant Colonel, P.D., Project Manager,
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Department of Defence, Russell Offices,
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Larsen, J.McK., Esq., Project Manager,
Department of Housing and Construction,
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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

ARMoured CENTRE REDEVELOPMENT
PUCKAPUNYAL, VICTORIA

R E P O R T

By resolution on 12 June 1981, the Senate referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the Armoured Centre Redevelopment at Puckapunyal, Victoria.

The Committee has the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee is for redevelopment of the Armoured Centre comprising:
 - a headquarters and instructional building;
 - driving and servicing training facilities;
 - a technical support building;
 - a Q-store and guard complex;
 - sleeping accommodation and new and refurbished mess facilities;
 - refurbishing of tank hangars;
 - a parade ground, roads and car parks and engineering services.
2. The estimated cost of the proposed works is \$12 million at May 1981 prices.

THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions and drawings from the Department of Defence and the Department of Housing and Construction. A Sectional Committee was formed and took evidence from their representatives at a public hearing in Puckapunyal on 10 August 1981. Written submissions were received from the Australian War Memorial and Mr. John Bouchier, M.P., Member for Bendigo.

4. Prior to the public hearing, the Sectional Committee inspected the existing facilities and the site for the proposed works.

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

BACKGROUND

6. Puckapunyal is a large military complex of approximately 40 000 hectares located 11 kms west of Seymour and 104 kms north of Melbourne. The following units are located at Puckapunyal:

- Armoured Centre;
- 1st Armoured Regiment RAAC;
- 21st Construction Squadron;
- Army School of Transport;
- Army School of Catering.

7. A number of smaller headquarters and units provide command, training, transport, supply, repair, medical and Military Police functions. The area has a military population (including students) which varies from about 3500 to 4000 with a total of 880 married quarters being provided in the Seymour and Puckapunyal Military Area.

8. The role of the Armoured Centre is to conduct corps training for the Royal Australian Armoured Corps (RAAC) and to conduct relevant equipment trials.

9. The present accommodation was constructed in 1940 as wartime general purpose buildings and has been occupied by the Armoured Centre since 1941. Some special purpose facilities such as concrete tank roads, two tank hangars and a classroom instructional model building with a field miniature range (now used for other purposes) were added as temporary facilities. Introduction of the new Leopard tanks and Fire Support Vehicles between 1975 and 1980 created an urgent need to house specialist equipments for gunnery training and this resulted in the construction of a new Gunnery Wing in 1977 at a cost of \$0.85 million.

THE NEED

10. Training The Armoured Centre conducts corps training for the Royal Australian Armoured Corps and relevant equipment trials. The new Gunnery Wing satisfied short term requirements arising from the introduction of new Leopard tanks and Fire Support Vehicles since 1975.

11. The Armoured Centre is responsible for providing corps training and this is carried out under inadequate conditions. Four wings have been established within the Training Squadron to teach corps training, radio, driving and servicing and gunnery with the Tactics Wing being separated from the Training Squadron. The standard of training achieved is high although the existing buildings were not designed for instructional or logistic functions.

12. Morale is a significant problem particularly in an intensive training environment and the continued use of substandard facilities would not improve the situation. In evidence it was stated by the Department of Defence that it would be easier to achieve high morale with improved facilities and the current level of morale resulted from willingness to accept the present situation in the recognition that something is being done. The Committee commends the Armoured Centre for the high standards of training and morale which have been achieved under difficult circumstances.

13. Existing Buildings With the exception of the Gunnery Wing, the existing buildings at the Armoured Centre are below standard and difficult to secure. They were erected in 1940 and 1941 as a temporary wartime measure to provide general purpose accommodation and are no longer of an acceptable standard.

14. By their design and construction, the buildings are not economical to maintain and are inadequate for the prevailing climatic conditions. The tank hangars are in a usable condition but with appropriate refurbishing they will have an extended usable life of around thirty years. The remainder of the buildings have an estimated usable life of only two to three years even with reasonable levels of maintenance and are therefore long overdue for replacement.

15. Officers' and Sergeants' Messes During 1977, the Department of Housing and Construction prepared a report on the Officers' Mess building which reflects the state of this entire group of buildings. The worst aspects noted in the report were poor kitchen facilities, lack of insulation, inadequate heating and lack of fire protection. The report recommended renovation of the Mess and total replacement of the kitchen with modern facilities constructed to scale. The Committee is concerned that it has taken from November 1977 to June 1981 to develop this portion of the proposal which bears directly on the standards of accommodation provided for officers and senior non-commissioned officers.

16. Committee's Conclusion The existing facilities at the Armoured Centre, with the exception of the Gunnery Wing, are inadequate, inefficient and in need of replacement.

THE PROPOSED WORKS

17. Design Influences Three separate factors have exerted major influences on the design of this redevelopment proposal: existing facilities, the site and the armoured vehicle.

18. The existing heavy duty concrete tank roads were used as the basis for zoning of facilities and the final site plan. The decision to refurbish the two existing large tank hangars has meant they have exerted a strong influence on the design of other buildings and the selection of roofing material. A requirement for new buildings and roads to be located with their longitudinal axes parallel to the existing surface contours was determined by the sloping nature of the site and will minimise site benching costs.

19. Selection of materials, building forms, siting and orientation have all been influenced by the physical dimensions of armoured vehicles, their mass and the noise they generate.

20. Planning and Design The proposed buildings will comprise a mixture of office/administrative, teaching, industrial, commercial, living and sleeping accommodation and therefore require a variety of design solutions. The buildings conform to the zone plan developed for the Puckapunyal Military Area.

21. The office type building, the Headquarters and Instructional Building will have a two-storey reinforced concrete frame with concrete floors.

22. The industrial buildings, the Driving and Servicing Wing and Technical Support Wing will be steel framed with concrete floors, structural concrete and brick walls. The commercial buildings, including the Q store, Guardroom and Staff Amenities Building, are to be a combination of steel frames and brick load-bearing walls with concrete floors.

23. The design of the new Armoured Centre includes provision for retention of the two existing tank hangars following major above ground refurbishing and minor repairs to the structural steel frame. This together with the refurbishing of the Officers' and Sergeants' Messes will achieve considerable cost savings over all new construction while attaining the same anticipated usable life.

Construction details of the proposed new works and refurbishing of existing buildings are noted at Appendix A of this report.

24. The design of the buildings and all services will conform where appropriate with relevant standards, codes, regulations and by-laws.

25. Committee's Conclusion The design of the proposed buildings is satisfactory.

THE SITE

26. Present and Alternative Locations Arguments couched in terms of previous expenditure on the Puckapunyal Military Area were cited to support the continued location of the Armoured Centre in the same general area. It cannot be doubted that the existence of previous infrastructure is a strong supportive argument for further development, but it should not prima facie preclude consideration of alternative locations in a major rebuilding project. The present location of the Armoured Centre, with the exception of the tank roads and hangars, is not completely adequate for redevelopment.

27. Proposed Location The proposed location for the redevelopment of the Armoured Centre is set back approximately 400 metres from the front of its present location. This will enable the separation of working and living accommodation and better meet the operational and security requirements of the Armoured Centre. The proposed site is sloping with a varying fall across the slopes of two hills with a south-westerly aspect. The undeveloped parts are lightly wooded with native trees, shrubs and natural grasslands and present no problems for site development. Subsoil investigations show the site to be stabled clays to depths of 1.5 to 2.5 metres on a mudstone base. Some site benching already exists on the slopes to alleviate potential soil erosion.

28. Committee's Conclusion The site proposed is suitable.

ENVIRONMENTAL CONSIDERATIONS

29. Noise Attenuation The primary function of the Armoured Centre is the provision of corps training. Noise interference in the classroom setting is a major problem. The training role requires a close integration between practical and classroom instruction and consequently location of all facilities in reasonable proximity to each other is desirable. This integration combined with anticipated noise levels and the physical size of the Leopard tank, have exerted a noticeable influence on the design and siting of the proposed buildings.

30. The Driving and Servicing Wings have been sited with the openings to the vehicle bays facing away from the remainder of the buildings into a cut formed during the site benching stage. This orientation also makes the longitudinal axis follow the contour lines. Sound absorbing materials will be selected for use throughout buildings where the generation of noise creates environmental discomfort. Where practical, such as vehicle bays, additional bulk will also be included in dividing walls as a sound absorption measure. These measures will bring noise penetration in classroom and instructional areas down to acceptable levels.

31. Environmental Impact Statement The evidence submitted by the Department of Housing and Construction stated that "the Department of Defence has advised that the procedures required under the Environment Protection (Impact of Proposals) Act 1974-75 have been complied with". In spite of this, the Committee was disturbed to learn of the environmental abuse connected with the disposal of waste oils in the range areas.

32. The Department of Defence advised that approximately 5000 litres of waste oils produced by the Armoured Centre every quarter "are used at present for laying dust in the range areas". The range area roads drain via creeks and stormwater drains into the river system. Evidence was also given that the local council and the Victorian Environment Protection Authority have not registered any complaints with

the Department of Defence regarding this practice. As neither of the abovementioned organisations appeared before the Committee, the cause of their lack of interest could not be determined. It must, however, remain a matter for adverse reflection that a pollution problem of this magnitude could be allowed to develop. The situation will be rectified by the recycling proposal contained within the present works but this will not be operative until 1984 at the latest.

33. Further pollution problems could arise from the refurbishing of the tank hangars where the waste water from the floor area is to be channelled, without treatment, into the stormwater system. The addition of one or two grease traps at a capital cost of approximately \$500 each would minimise any potential pollution dangers. Again the responsible authorities have not exhibited concern.

34. While realising that every proposal does not require the preparation of an Environmental Impact Statement, the Committee is concerned that the approval for this project was issued in 1977 when, according to the Department of Defence evidence, the project was only in embryo form. In this case, it appears unreasonable to issue an environmental approval for this project (costing \$12 million today) which was not, by the Department's own admission, "ready to be put as a proposal for the full work". The Committee is further concerned by the fact that doubt was expressed during the hearing by the Department of Housing and Construction as to the precise terms of the original exemption given under the Environment Protection (Impact of Proposals) Act 1974-75.

35. Range Areas The Department of Defence has since 1970 utilised the services of the CSIRO as consultants on the landscaping and preservation of range areas. The Committee commends the efforts of the Department in this matter and their expenditure of \$7 million over 11 years on this project.

In spite of the foregoing, the Committee is unable to accept that the CSIRO could act as environmental consultants for this period and have permitted the Department of Defence to dispose of pollutants by spraying them on unsealed roads to lay the dust in dry weather. The Department of Defence, by its own admission, cannot support the laying of dust as a valid training measure as this is inconsistent with the stated objective that the Armoured Corps must achieve its standards by training under all existing conditions.

36. Waterborne Pollutants Waterborne pollutants will be treated to conform with the quality standards of the Environment Protection Authority.

37. Waste Oils Oil waste from routine and training servicing of the armoured vehicles will be collected and stored and disposal of the waste will be arranged by the Army.

38. Vehicle Wash Facility Oils and silt removed from the tanks and other vehicles during washing and steam cleaning will be collected in specially designed oil and silt traps. There will be provisions for the wash water to be either recirculated or discharged to stormwater drains as required.

39. Exhaust Fumes A vehicle exhaust collection system will be connected to each vehicle bay in the Driving and Servicing Wing and the Technical Support Wing to remove engine exhaust gases from the buildings and to provide noise attenuation.

40. Committee's Conclusion The Committee recommends that the Department of Defence in conjunction with the Department of Home Affairs and Environment review the methods of disposal for all pollutant substances throughout Australia to ensure its practices are in accordance with the requirements of existing legislation and relevant local authorities.

THE ARMOURD CORPS MUSEUM

41. The Armoured Centre manages the Royal Australian Armoured Corps Museum which is housed in outdated Second World War buildings within the Armoured Centre area boundary.

The museum displays armoured fighting vehicles and other military equipment used by Australia, her allies and enemies dating from the Light Horse era. It attracts over 30 000 military and civilian visitors annually and is used as a training aid by the Armoured Centre for corps training.

42. Staff at the Armoured Centre work at the museum on a part-time basis with some funds being raised from bookshop and souvenir sales as well as a small entrance fee. The Department of Defence assists by providing the buildings and their repairs and maintenance free of cost. The normal Services accounting system for non-public moneys is applied with the funds being audited every three months.

43. The Australian War Memorial has proposed the construction of new facilities, equivalent in size to the existing ones (5000m²) completely under cover. The Committee was pleased to note the proposed relocation of the museum to the old Engineering Workshop which will be vacated as part of the present proposal. The Department of Housing and Construction advised that it would cost approximately \$1.3 million to rehouse the museum. The Committee cannot recommend this as an urgent priority although planning for the relocation should start as soon as possible.

44. Committee's Conclusions The Committee commends the efforts of those who have donated their time and labour to the development and maintenance of the Armoured Corps Museum. The Department of Defence should begin planning now for the eventual reconstruction of the museum on a new site at Puckapunyal in consultation with the Australian War Memorial.

OTHER OBSERVATIONS

45. Fire Protection The existing Puckapunyal water supply system is capable of supplying sufficient water quantity and pressure to service external fire hydrants, internal fire sprinkler systems and internal hose reels. An emergency

source of water for fire sprinklers is to be provided in the form of a 135 000 litre water storage tank with associated pump and pipework.

46. Fire extinguishers of the various types suitable to the installation to be protected will be provided to Department of Defence standards.

47. Automatic thermal fire detection systems and manual fire alarm call points will be installed in accordance with regulations. Fire alarm signals emerging from these systems are to be monitored at the Armoured Centre guardroom and at the Puckapunyal area fire station.

48. Landscaping Existing flora is principally native with some exotics restricted to the present headquarters and mess area. Loss of plants due to the redevelopment will be minimal.

49. The design will be carried out with the use of indigenous native plants and will have regard to the need to provide shade, control noise, allow for pedestrian movement and improve the environment. Landscaping techniques such as bunding and plant selection and placement will be used and will contribute effectively to the control of noise.

LIMIT OF COST

50. The limit of cost for the proposed works is \$12 million at May 1981 prices, made up as follows:

	\$
Building works	10 000 000
Site works and services	2 000 000
	12 000 000

PROGRAM

51. The proposed works are schedule for completion, subject to approval, in July 1984. Expenditure will be programmed as follows:

<u>1981/82</u>	<u>1982/83</u>	<u>1983/84</u>	<u>1984/85</u>
\$0.20m	\$4.40m	\$5.5m	\$1.8m

52. The main tender target dates are:

Site Works - January 1982

First Building Contract - April 1982

53. The long term program time required for these works is determined by the need for the Armoured Centre to remain fully operational at each stage of construction. This will necessitate using a slower program than would be possible under other circumstances.

54. Committee's Conclusion The Committee recommends the construction of the works in this reference.

RECOMMENDATIONS AND CONCLUSIONS

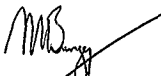
55. The summary of recommendations and conclusions of the Committee and the paragraph in the report to which each refers is set out below.

Paragraph

- | | | |
|----|---|----|
| 1. | THE EXISTING FACILITIES AT THE ARMOURD CENTRE, WITH THE EXCEPTION OF THE GUNNERY WING, ARE INADEQUATE, INEFFICIENT AND IN NEED OF REPLACEMENT. | 16 |
| 2. | THE DESIGN OF THE PROPOSED BUILDINGS IS SATISFACTORY. | 25 |
| 3. | THE SITE PROPOSED IS SUITABLE. | 28 |
| 4. | THE COMMITTEE RECOMMENDS THAT THE DEPARTMENT OF DEFENCE IN CONJUNCTION WITH THE DEPARTMENT OF HOME AFFAIRS AND ENVIRONMENT REVIEW THE METHODS OF DISPOSAL FOR ALL POLLUTANT SUBSTANCES THROUGHOUT AUSTRALIA TO ENSURE ITS PRACTICES ARE IN ACCORDANCE WITH THE REQUIREMENTS OF EXISTING LEGISLATION AND RELEVANT LOCAL AUTHORITIES. | 40 |
| 5. | THE COMMITTEE COMMENDS THE EFFORTS OF THOSE WHO HAVE DONATED THEIR TIME AND LABOUR TO THE DEVELOPMENT AND MAINTENANCE OF THE ARMOURD CORPS MUSEUM. | 44 |

Paragraph

6. THE DEPARTMENT OF DEFENCE SHOULD BEGIN
PLANNING NOW FOR THE EVENTUAL
RECONSTRUCTION OF THE MUSEUM ON A NEW
SITE AT PUCKAPUNAL IN CONSULTATION
WITH THE AUSTRALIAN WAR MEMORIAL. 44
7. THE LIMIT OF COST FOR THE PROPOSED WORKS
IS \$12 MILLION AT MAY 1981 PRICES. 50
8. THE COMMITTEE RECOMMENDS THE CONSTRUCTION
OF THE WORKS IN THIS REFERENCE. 54


(M.H. BUNGEY)
Chairman

Parliamentary Standing Committee on Public Works,
Parliament House,
CANBERRA, A.C.T.

10 September 1981.

CONSTRUCTION

EXTERNAL SERVICES

56. Site Works Site clearing and benching for roads and buildings will involve extensive earth work operations. Partial diversion of the existing raw water supply pipeline and reticulation mains is required to achieve the planned siting of buildings and services.

57. Vehicle Movement Areas The existing concrete road system will be extended to provide access for tanks and other military vehicles to the new training and servicing facilities. Some reconstruction and remedial work is necessary due to minor deterioration of the existing tank roads. Parking areas for official and private vehicles and minor access roads will be constructed in bitumen surfaced gravel pavement.

58. Water Supply The existing water reticulation system on the Puckapunyal base can be extended to provide water for domestic and fire fighting purposes at the new facilities. Existing reticulation to the domestic area will be upgraded.

59. Stormwater Collection Stormwater drainage will make maximum use of the existing system which is capable of accepting the extra load. The system will be extended to collect water from grassed areas, road pavements and the roofs of new buildings.

60. Sewage Collection As no significant increase in population will result from this proposal the Puckapunyal sewage treatment facility will not receive extra load therefore its current satisfactory operation will not be affected. The existing collection system is to be extended to serve the new facilities.

61. Parade Ground A new grassed parade ground will serve the multiple purpose of parade area, helicopter landing area and four ball courts.

62. Security Fencing Manproof security fencing is to be constructed to enclose the holding area for military vehicles, logistics and the radio aerial farm.

63. Electric Power Power is to be supplied from existing State Electricity Commission overhead mains at Puckapunyal. Two new kiosk type substations will be installed and all new high and low voltage reticulation will be underground to minimise the possibility of damage to the mains by armoured vehicles.

64. External Lighting Street lighting will be provided from the Armoured Centre entrance to the Headquarters and Instructional Building. In addition, external security lighting will serve all new facilities except for the tank wash and the smaller tank hangar security lighting will have a battery powered back-up system. The Driving and Servicing Wing aprons, the boom gate at the guardhouse and the tennis courts will be floodlit.

65. Telephone Network The existing telephone cable network is to be altered and extended to serve the new facilities.

INTERNAL SERVICES

66. Energy Sources Natural gas is not available at Puckapunyal. An economic analysis by the "present worth" method has been done to compare the use of electricity, oil and liquid petroleum gas (L.P.G.) and the results favoured L.P.G. which will be used for space heating.

67. A study of solar energy showed that at Puckapunyal a system of solar collectors boosted by another fuel at periods of low solar gain is economically viable for domestic hot water heating. Facilities having a high demand for hot water will be served by solar collectors plus L.P.G. fuel and those with low demand by solar plus off-peak electricity.

68. Air Conditioning The Department of Defence has a requirement for various levels of environmental control for operational purposes within certain buildings. As a result it is proposed to air condition conference, lecture, projection, drafting and dark rooms, radio and electronics areas as well as the armoury. This covers approximately 50% of the gross floor area of the Headquarters and Instructional Building and portions of the 'Q' Store Building and Technical Support Wing.

69. Heating and Ventilation Due to a requirement for fixed glazing to windows in the Headquarters and Instructional Building to reduce noise penetration, those areas not air conditioned will be mechanically ventilated and heated with warm air. For the same reason, mechanical ventilation and warm air heating will be used in the Guard House and in the office and first aid areas of the Staff Amenities Building. Elsewhere in the Armoured Centre ventilation will be by natural means and heating by hot water coils in floor slabs, hot water radiant panels or a combination of these.

70. Evaporative cooling is proposed for the officers' and sergeants' messes and kitchen.

71. Domestic Hot Water Hot water produced from augmented solar energy will be piped from localised hot water storage units to kitchen, showers and basins. Electric boiling water units will serve tea making facilities.

72. Cranes Pendant operated overhead travelling cranes are to be provided as follows:

- Driving and Servicing Wing - one 7 tonne capacity;
- Technical Support Wing - one 20 tonne capacity.

73. Compressed Air A piped compressed air system for engineering and servicing purposes is to be installed in the Technical Support Wing.

74. Hydraulic Services Water is to be reticulated within buildings to supply hot water units, sinks, showers, basins, water closets and urinals. These latter items will be wasted to the sewage collection system.

75. Light and Power Internal light and power is to be provided in accordance with the relative codes and standards and will be designed to be appropriate for the various activities and usages. Emergency evacuation lighting will conform with AS 2293.

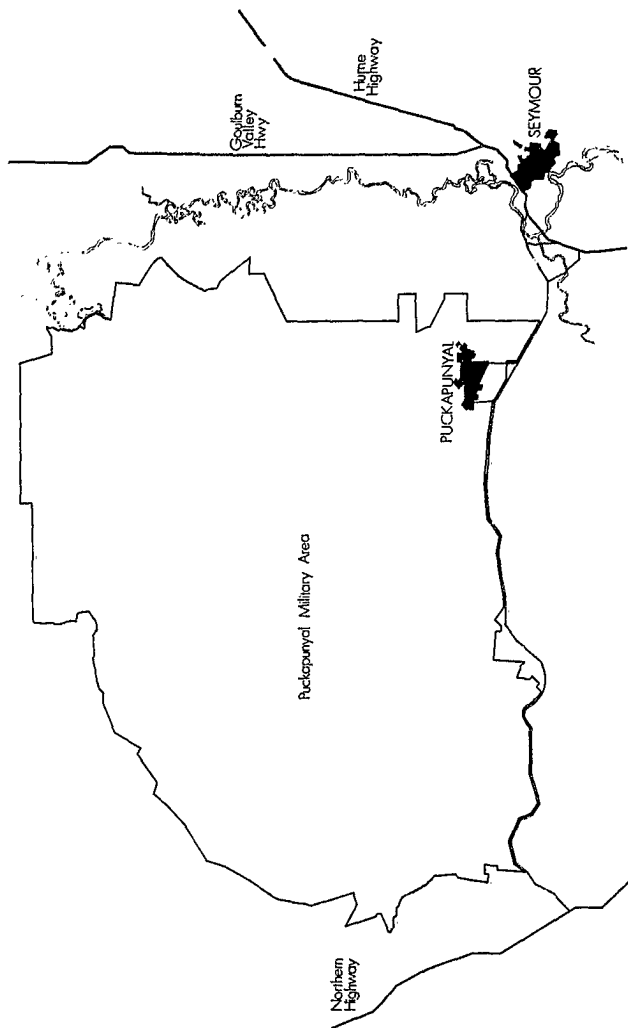
76. Intruder Alarms Alarm systems to Department of Defence requirements will be installed in the armoury and tank hangar areas and will be monitored at the guardroom.

77. Clocks and Public Address Master clock and public address systems will be installed in areas where they are required for operational purposes.

78. Telephones Block cabling is to be provided in each facility to nominated outlets for telephones.



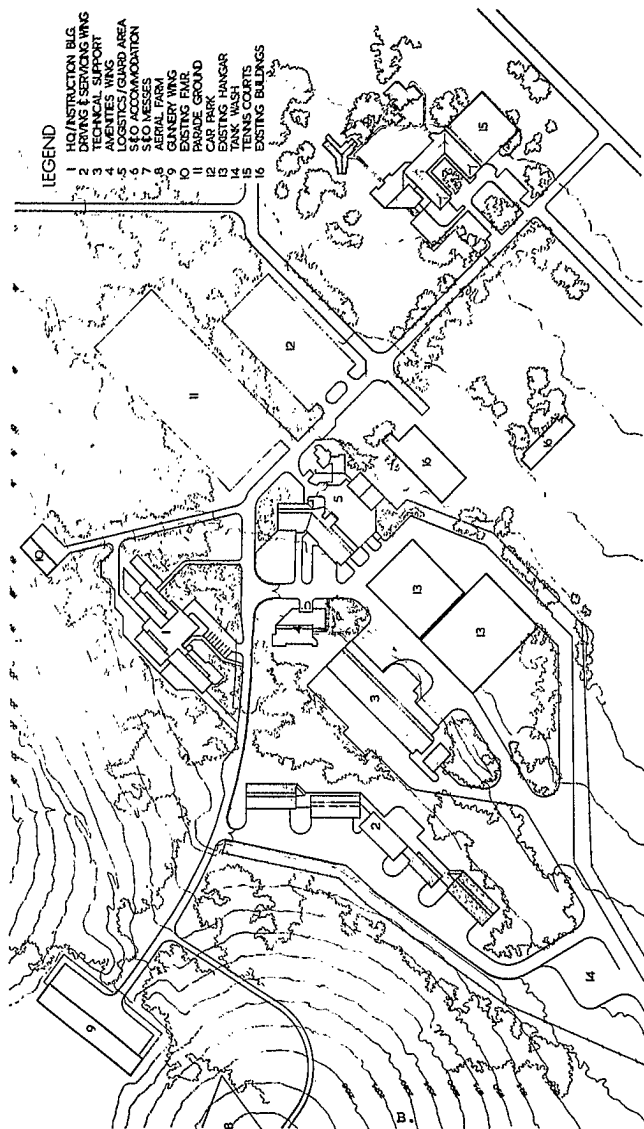
LOCALITY PLAN



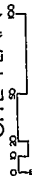
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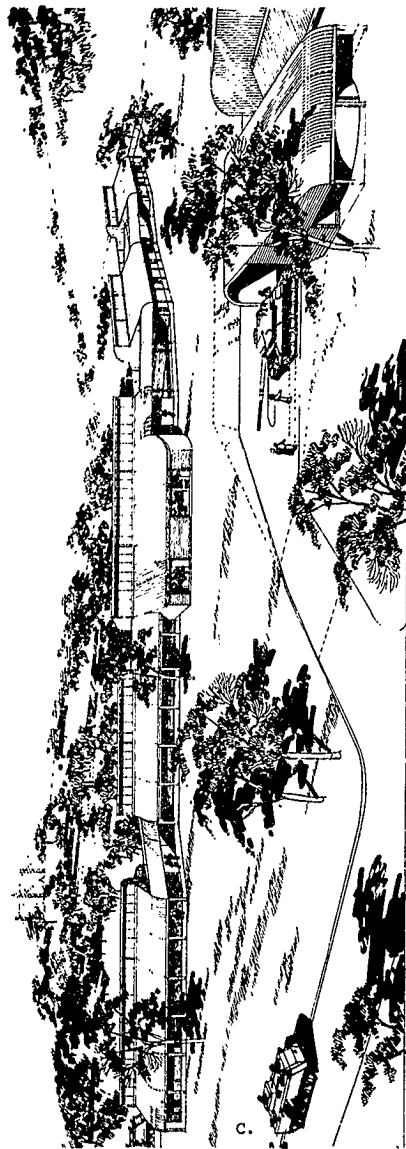
LEGEND

- 1 HQ/INSTRUCTION BLDG
- 2 DRIVING & SERVICES WING
- 3 TECHNICAL SUPPORT
- 4 AGENCIES WING
- 5 LOGISTICS/GUARD AREA
- 6 SLO ACCOMMODATION
- 7 SLO ACCOMMODATION
- 8 AERIAL PARK
- 9 GALLERY WING
- 10 EXISTING FAIR
- 11 PARADE GROUND
- 12 CAR PARK
- 13 EXISTING HANGAR
- 14 TANK WASH
- 15 TENNIS COURTS
- 16 EXISTING BUILDINGS



SITE PLAN





VIEW OF DRIVING & SERVICING



VIEW BETWEEN HANGARS AND TECHNICAL SUPPORT

