1 9 8 2

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to the proposal for

CONSTRUCTION OF

ADDITIONAL TRAINING

AND SLEEPING ACCOMMODATION

at

RAAF Base Laverton,

Victoria

(First Report of 1982)

Australian Government Publishing Service
Canberra 1982

Printed by C.J. THOMPSON, Commonwealth Government Printer, Canberra

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

Melville Harold Bungey, Esq., M.P. (Chairman)
James Leslie McMahon, Esq., M.P. (Vice-Chairman)[5]

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 Jean Isabel Melzer[1]	Murray Evan Sainsbury, Esq., M.P.
Senator Harold William Young[2]	

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 VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES,
NO. 68 DATED 18 NOVEMBER 1981

13 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - R.A.A.F. BASE, LAVERTON, VIC.: Mr. McVeigh (Minister for Housing and Construction), 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: Construction of additional training and sleeping accommodation at R.A.A.F. Base, Laverton, Vic.

Mr. McVeigh presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

WITNESSES

Cole, K.H. Esq., Associate Director, Projects, Department of Housing and Construction, Victoria-Tasmania Region, Tivoli Court, 239 Bourke Street, Melbourne, Victoria

Gurevitch, Group Captain R.N., Director of Facilities, Planning and Programming, Directorate-General of Accommodation and Works, Air Force, Department of Defence, Russell Offices, Canberra, Australian Capital Territory

Lessels, Air Commodore J.D.G., O.B.E., Director-General, Accommodation and Works, Air Force, Department of Defence, Russell Offices, Canberra, Australian Capital Territory

Paice, B.H. Esq., Project Manager, Department of Housing and Construction, Victoria-Tasmania Region, Tivoli Court, 239 Bourke Street, Melbourne, Victoria

Roser, Group Captain H.J.F., Officer Commanding, RAAF Base, Laverton, Victoria

CONTENTS

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

CONSTRUCTION OF ADDITIONAL TRAINING AND SLEEPING ACCOMMODATION, RAAF BASE, LAVERTON, VICTORIA

REPORT

By resolution on 18 November 1981, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report the proposal for construction of additional training and sleeping accommodation at RAAF Base Laverton, Victoria.

The Committee has the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee is for new facilities to support an increase of about 17% in the number of staff and students at the RAAF School of Radio. These facilities will make it possible for the RAAF to increase its personnel skilled in electronics and radio for new equipments being introduced into the service such as the new tactical fighter.

2. The proposal consists of:

- two-storey cluster groups of accommodation units for 208 airmen;
- a three-storey training building;
- associated external works, services and landscaping.

3. The limit of cost estimate is $5.6 million at August 1981 prices.

THE COMMITTEE'S INVESTIGATION

4. The Committee received written submissions and drawings from the Department of Defence and the Department of Housing and Construction and took evidence from their representatives at a public hearing at RAAF Base, Laverton on 26 January 1982. Written submissions were also received from the Werribee Shire Council and Cemac Constructions and Manufacturing.

5. Prior to the public hearing, the Committee inspected existing accommodation and training facilities at the School of Radio as well as the sites for the proposed buildings.

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

BACKGROUND

7. RAAF Base, Laverton In 1913 Central Flying School, Laverton was established on the site of the present RAAF Base, Point Cook. This continued until 1926 when No. 1 Aircraft Depot was established at Laverton. Substantial development was undertaken and by late 1939 the base accommodated an aircraft depot and flying squadrons.

8. During World War II, temporary buildings were constructed to meet the immediate demands of Laverton's expanded wartime role. The post war years saw the responsibilities of the base continue to be substantially in excess of the pre-1939 situation. Despite signficant major works constructed over recent years, a number of old temporary buildings remain in use. In July 1971 the Committee recommended to Parliament the construction of works then estimated at $6.2 million for the further development of the base.

9. RAAF School of Radio The RAAF School of Radio (RADS) at Laverton is responsible for telecommunications operative and technician training and Engineer (Radio) Officer familiarisation training.

10. A number of changes have been made to technician training since 1975 which have in turn affected the type of equipment, classrooms in use and trainee population at RADS. With increasing integration of aircraft and ground electronic systems, training was adjusted away from individual equipments towards system maintenance. The trend to system maintenance training is expected to increase, creating greater demand for specialist classrooms. With the miniaturisation of electronic equipment using integrated circuits, the techniques required to repair printed circuit boards have been included in the syllabus. Again the syllabus was amended to include the application of digital techniques and computers in electronic equipment which have required appropriate specialist classrooms.

11. Prior to 1975 the apprentices spent approximately two-thirds of their time at the Royal Melbourne Institute of Technology (RMIT), but when this became inappropriate, arrangements were made for their training to be undertaken totally at RADS. Consequently the apprentice population in RADS expanded from 50 to a maximum of 150 apprentices.

12. The first course of the new Technologist Apprentices scheme began in January 1982 and when fully developed this will expand the trainee population by up to 150 personnel.

THE NEED

13. Existing Facilities - Sleeping Accommodation Laverton has 163 four-man rooms and 65 one-man rooms in permanent construction. The former were built to the now superceded scale of 80 square feet per man and are allocated

to staff personnel as three-man rooms in accordance with the current scale of 9.9 square matres (108 square feet) per man.

14. Students at RADS are required to undertake intensive study outside working hours, with two hours per night being the minimum for a good student. As staff resources and security requirements do not allow other areas to be available for after hours study, it is mainly carried out in the student's bedroom. To facilitate good study practices, it is necessary to have only two students in each four-man room, thus allowing reasonable visual and some acoustic separation of bedspaces utilising wardrobes as a dividing partition. With increasing student numbers at the School of Radio it is becoming neccesary to allocate three students to each room.

15. - School of Radio Part of the Committee's 1971 hearings (Report 12/71), the school was opened in 1974 but is constructed to a design brief which was formulated in 1969. Although a three-storey building of permanent masonry construction, it incorporates features which pertain to training as perceived in 1969 as relevant to electronics and telecommunications technology. Setting aside any projected increases in student numbers, RADS is deficient in the training facilities necessary to cope with recent rapid advances in electronics and computer technology.

16. RADS at present has twenty general theory/practical classrooms, fourteen specialist practical classrooms and 47 dedicated classrooms for post graduate training and/or operative training in such subjects as high reliability soldering, quad radar maintenance, communications systems, advanced electronics and mini computer operation. Prior to 1981, these facilities were almost fully utilised by up to 30 courses at any one time. The increased training commitment which will mature in 1984 will involve 42 courses at any one time.

17. To compensate for the existing deficiencies and cope with the additional training commitment, sizeable extensions are required at the School. A critical need exists for computer operation and maintenance training facilities and practical classrooms designed for the safe use of toxic materials related to new generation micro-circuitry technology.

18. Personnel Numbers The 'Live-in' Other Ranks population at Laverton in January 1981 was 500 of which 259 were RADS students. This population has been forecast to reach 724 by July 1984 of which 472 will be RADS students. These figures exclude other trainees who have their own separate sleeping accommodation.

19. These personnel levels will create a deficiency of 208 Other Ranks' bedspaces by 1984. This projected deficiency is calculated using the old four-man rooms as three and two-man rooms for staff personnel and RADS students respectively. As the number of students at RADS is already increasing and as this trend will continue until 1984, the proposed works are therefore essential.

20. Increased Training Commitment The increased training commitment at Laverton has resulted from:

- a small but steady increase in the size of the RAAF;
- a need to train replacements for increasing numbers of Other Ranks not re-engaging and officer resignations and retirements anticipated over the next five years; and
- the introduction of new courses covering higher levels of technological training with a consequent extension of training periods, e.g. a new Technical Apprentices' Course of three years duration at Certificate of Technology level was commenced at RADS in January 1982.

21. Committee's Conclusion Changes in technology combined with an increased training commitment have made the School of Radio facilities inadequate for present and projected requirements. There is a need to increase the available sleeping accommodation for O.R.s and to improve the classroom facilities at the School of Radio.

THE PROPOSED WORKS

22. Sleeping Accommodation The sleeping accommodation will consist of thirteen two-storey accommodation buildings with two units of four bedrooms on each floor. The accommodation buildings will be constructed on reinforced concrete raft slabs with load bearing brick walls supporting suspended reinforced concrete first floor slabs. They will be constructed in a similar coloured brickwork to the existing RADS building, with plain off-form concrete, anodised aluminium framed windows and profiled steel deck roofing. Associated external works, services and landscaping will also be provided.

23. School of Radio The proposed works consist of:

- construction of a new three-storey extension for instructional facilities;
- internal alterations within the existing buildings to convert trades practical rooms to classrooms and a student common room; and
- external works, services and landscaping.

24. The reinforced concrete structure for the RADS extension will be carried on pad footings founded on rock with connecting ground beams supporting the external cladding. All floors will be suspended reinforced concrete with a dropped slab for the computer area. Again the materials used in construction of the extension will be the same as or similar to those used in the existing RADS building. The RADS extension will include computer rooms,

computer training facilities, a radio practical training room, printed circuit board training rooms, lecturers' offices, amenities, associated stores, plant rooms and building services.

25. Construction details of the proposed work are noted at Appendix A of this report.

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

THE SITES

27. The sites for the proposed work are within the perimeter of the RAAF Base at Laverton and lie in the area bounded by Sir Richard Williams Avenue, Bell Parade, Bourke Road and Charlesworth Parade. Site investigations have established the level of base basalt rock, generally one to two metres below the natural surface with overlying layers of calcerous deposits and expansive clays. As a result, the pad footings for the RADS extension will need to be founded on the base basalt rock. The sites present no other construction problems.

28. Committee's Conclusion The sites selected are suitable.

OTHER OBSERVATIONS

29. Course Failure Rates The Committee was disturbed to hear evidence of a failure rate of 50% at RADS among apprentice recruits. Although this is alleviated by considering failures for placement elsewhere in the RAAF, the outright failure rate for the last three courses remains high. The following table illustrates the extent of the problem:

DISPERSAL OF RADIO TRADE APPRENTICE FAILURES

Course No.	Commencement No.	Graduated No.	Dispersal of Failures
31 Jan 77/ Nov 79.	53	38	2 Permanent Air Force (PAF) as Radio Mechanics. 13 Discharged.
32 Jan 78/ Nov 80.	37	22	1 PAF for Adult Radio Training at RADS 2 PAF for Adult Technical Training at RAAFSTT (Wagga Wagga) 1 PAF for Medical Orderly Training 1 PAF for Clerical Training 10 Discharged.
33 Jan 79/ Nov 81.	50	29	1 Backcoursed 2 PAF for Adult Technical Training at RAAFSTT 1 PAF as a General Hand 1 PAF for Photographer 16 Discharged.

30. The Committee was advised that during 1981 an inquiry had been conducted into the causes of, and possible solutions to this high failure rate. Three major problems were identified:

(1) the knowledge gap which students have in physics and mathematics on entry to the School;

(2) difficulty in providing facilities for students to do after hours study; and

(3) motivational problems associated with moving from school into the structured Air Force environment.

31. In attempting to overcome these problems the RAAF are revising the syllabus during 1982, establishing a pre-course remedial training program particularly in mathematics and increasing the amount of remedial training being given to students who fail exams. The RAAF is also establishing a position of chief instructor who will be responsible for implementing these programs and achieving a consequent lowering of the failure rate. Of those students failing the course at present, 80% do so in the first two phases with some failures occurring in the third phase.

32. The Committee is pleased to note the efforts being made to overcome this high failure rate but feels the problem may also originate from initial recruitment and selection processes. Consequently, these should also be subject to careful review.

33. Female Apprentices The Committee was advised that no young women are able to take up an apprenticeship course in the RAAF. Instead they enter as adult trainees through Laverton and Wagga. As young women are not encouraged to become apprentices, which naturally dampens down demand, this reduced demand was cited as the reason why young women are not able to become apprentices. Given this type of reasoning, it is difficult to sustain the assertion that " ... the RAAF has no opposition to this at all". (Minutes of Evidence, page 56) The basic principle for equal opportunities would in this case appear to be selectively applied and in need of urgent review. The Committee suggests a reconsideration of the recruitment of young women as trade apprentices in the RAAF.

LIMIT OF COST

34. The Limit of Cost estimate is $5.6 million at August 1981 prices, made up as follows:

	$
Sleeping Accommodation	
Building works	2 200 000
Site works and services	500 000
	2 700 000
School of Radio	
Building works	2 700 000
Site works and services	200 000
	2 900 000

PROGRAM

35. The Department of Defence requires, subject to approval, completion and occupation of the sleeping accommodation by mid 1983 and the School of Radio extension by mid October 1983. This program will necessitate the letting of contracts in March 1982 and mid-1982 respectively.

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

RECOMMENDATIONS AND CONCLUSIONS

37. 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.	CHANGES IN TECHNOLOGY COMBINED WITH AN INCREASED TRAINING COMMITMENT HAVE MADE THE SCHOOL OF RADIO FACILITIES INADEQUATE FOR PRESENT AND PROJECTED REQUIREMENTS.	21
2.	THERE IS A NEED TO INCREASE THE AVAILABLE SLEEPING ACCOMMODATION FOR O.R.s AND TO IMPROVE THE CLASS-ROOM FACILITIES AT THE SCHOOL OF RADIO.	21
3.	THE DESIGN OF THE PROPOSED BUILDINGS IS SATISFACTORY.	26
4.	THE SITES SELECTED ARE SUITABLE.	28
5.	THE LIMIT OF COST FOR THE PROPOSED WORKS IS $5.6 MILLION AT AUGUST 1981 PRICES.	34
6.	THE COMMITTEE RECOMMENDS THE CONSTRUCTION OF THE WORKS IN THIS REFERENCE.	36

(M.H. BUNGEY)
Chairman

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

18 February 1982.

APPENDIX A

CONSTRUCTION

EXTERNAL SERVICES

38. Site Works Sites for both components of this proposal are generally level and clear of vegetation. Development areas will require only minor diversions of sewer, stormwater and water supply reticulation with main trunking undisturbed.

39. Vehicle Movement Areas The existing roadway system will provide adequate access to all areas of the development and extension is not required. Existing car parks will provide approximately 40% of the space requirements and will be extended to give the balance of the scaled requirements.

40. Water Supply The existing water reticulation system has sufficient capacity to provide water for domestic and fire fighting purposes in the new facilities. Branches will be taken from existing mains to serve each building or cluster of buildings. Minor alterations are proposed to the existing mains to improve the water supply reticulation.

41. Stormwater Collection Stormwater from the development will be connected to the existing drainage system.

42. Sewage Disposal Sewage will be discharged to the existing on-base treatment facility which has adequate capacity for the increased load and the effluent will be pumped to the M.M.B.W. sewers.

43. Power Supply Power will be supplied from the existing S.E.C. underground mains. Relocation of a LV main will be required to clear the RADS extension site which will be serviced from an existing substation

in the adjacent Radio School building. Accommodation will be supplied from an existing substation adjacent to the airmen's quarters.

44. External Lighting The existing street lighting adjacent to the proposed RADS extension will be augmented by matching light standards. The accommodation zone will be lit by bollard type lights.

45. Natural Gas Supply Gas supplied by the Gas and Fuel Corporation of Victoria from on-base mains will be used for space heating and domestic hot water.

46. Landscaping Landscaping will use native plants and have regard for shade and environmental quality.

INTERNAL SERVICES

47. Energy Sources High voltage and low voltage electric power and natural gas are available at the RAAF Base Laverton. An economic analysis by the "present worth" method compared the use of electricity and natural gas for domestic hot water and space heating for the accommodation units.

48. A study of solar energy has shown that at Laverton a system of solar collectors boosted by another fuel at periods of low solar gain is not economically viable for domestic hot water. Accordingly, facilities will be served by natural gas.

49. RADS extension will use natural gas for space heating and electricity for cooling, by means of refrigerated air conditioning plant.

50. Air Conditioning Air conditioning will be provided to achieve comfort conditions in occupied areas and to meet functional requirements for equipment operation within the RADS extension except for the toilet/change rooms which will be mechanically ventilated.

51. Heating and Ventilation Accommodation buildings will be naturally ventilated with domestic heating for each bedroom and common room.

52. Domestic Hot Water Hot water will be piped to basins, showers and accommodation laundry facilities from localised gas fired hot water storage units.

53. Compressed Air A piped compressed air system will be installed in the RADS extension for process work in the Printed Circuit Board and Radio Trades Practice rooms. Fume and dust exhaust systems to maintain health standards will be provided in both these rooms.

54. Hydraulic Services Normal hydraulic services will be provided to the buildings.

55. Light and Power Internal light and power will be provided in accordance with the relative codes and standards. Emergency lighting to stairs and other areas will be included.

56. Clocks Clocks shall be supply by the Department of Defence (Air) and will be powered by batteries.

57. Telephones Conduits will be provided in each of the new buildings to allow provision for extension of the existing telephone system.

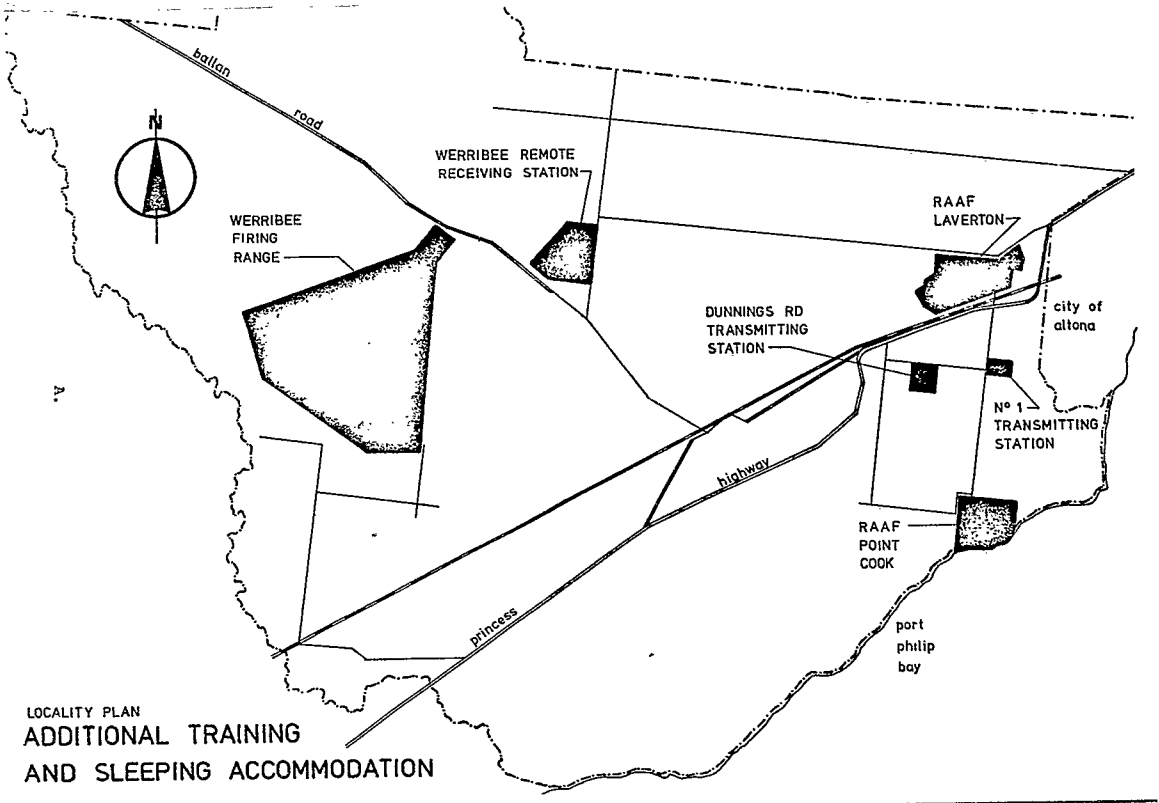
FIRE PROTECTION

58. The computer equipment area will be protected with smoke detectors and underfloor Halon gas flooding systems. All other areas of the RADS building will be

provided with automatic thermal fire detection system, hose reels and manual break glass alarms. Fire alarm signals will be monitored at the Laverton Base main fire indicator board.

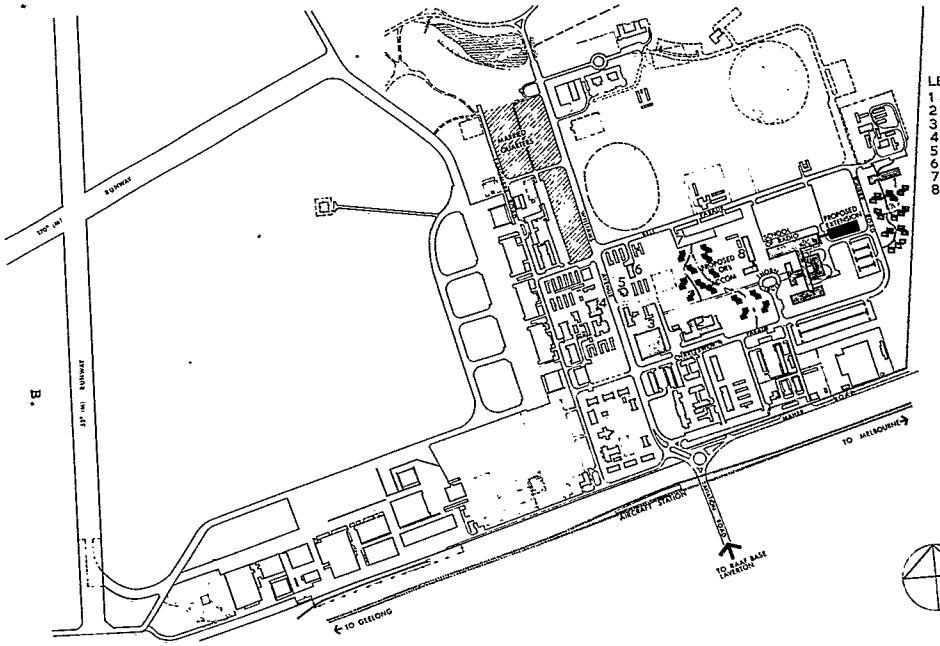
59. Flammable liquids will be stored in flammable storage cabinets.

60. The accommodation building will be served by hose reels, manual break glass alarms and portable fire extinguishers. The existing water supply system will be utilised for the fire fighting requirements as it is adequate in quantity and pressure.



LOCALITY PLAN

ADDITIONAL TRAINING AND SLEEPING ACCOMMODATION

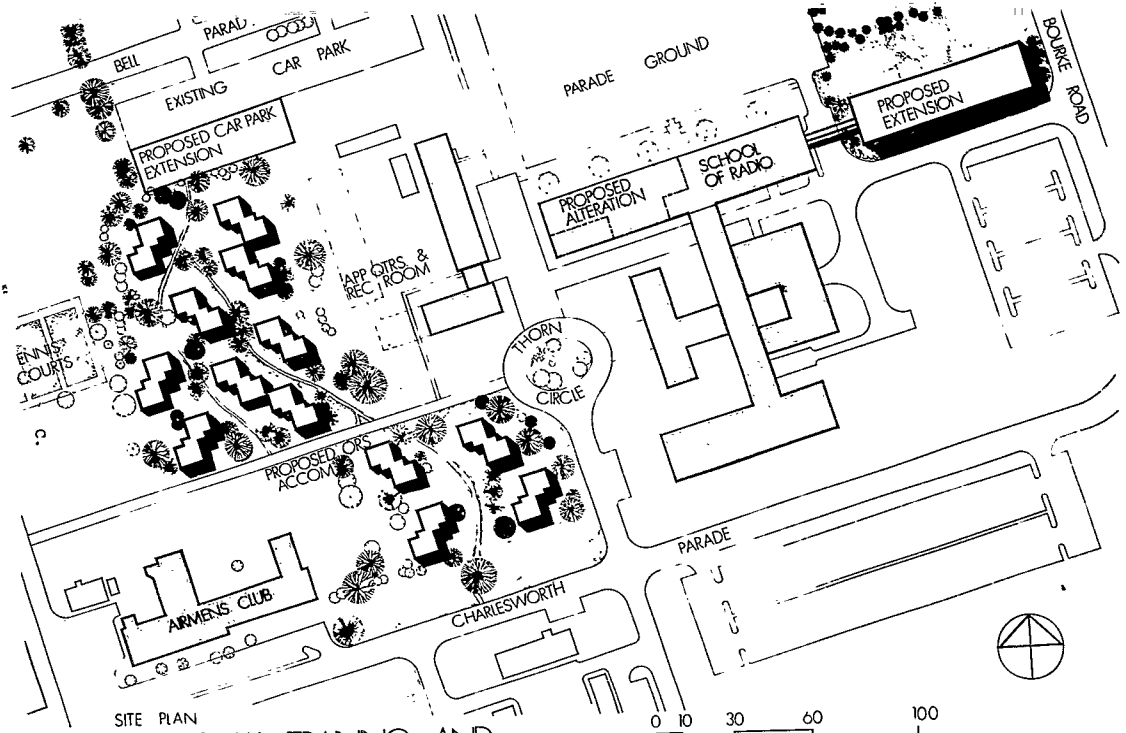


GENERAL SITE PLAN

ADDITIONAL TRAINING AND SLEEPING ACCOMMODATION

50 0 100 400 1200

m



SITE PLAN

ADDITIONAL TRAINING AND SLEEPING ACCOMMODATION

Message No. 233

PRESENTED 31
25 FEB 1982
Clerk of the Senate

MR PRESIDENT,

The House of Representatives returns to the Senate the Bill intituled "A Bill for an Act to give to members of the public rights of access to official documents of the Government of the Commonwealth and of its agencies",

and acquaints the Senate that the House of Representatives has agreed to the Bill without amendment.

SPEAKER

House of Representatives,
Canberra, 24 February 1982