

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

REPORT
relating to the
REDEVELOPMENT OF THE ARMY AVIATION CENTRE
AT
QAKEY, QLD.

(First Report of 1990)

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 Commonwealth of Australia 1990

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MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS

(Twenty-ninth Committee)

Mr Colin Hollis MP (Chairman)

Mr Percival Clarence Millar MP (Vice-Chairman)

Senate	House of Representatives
Senator Bryant Robert Burns	Mr George Gear MP
Senator John Robert Devereux	Mr Robert George Halverson OBE MP
Senator Dr Glenister Sheil	Mr John Graham Mountford MP
	Mr William Leonard Taylor MP *

* Appointed on 29.9.88 following resignation of
Mr Maxwell Arthur Burr MP

Inquiry Staff: Mr Peter Roberts (Secretary)
 Mrs Denise Denahy (Assistant Secretary)
 Ms Helen Fyfe (Clerical Support)

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 John Robert Devereux
Senator Dr Glenister Sheil

House of Representatives

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

Peter Roberts (Secretary)

EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES

NO. 151 DATED WEDNESDAY, 22 NOVEMBER 1989

10 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - ARMY AVIATION
CENTRE, OKEY, QLD - REDEVELOPMENT: Mr West (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: Redevelopment
of the Army Aviation Centre at Okey, Qld.

Mr West presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES

NO.4 DATED MONDAY, 14 MAY 1990

15 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - ARMY
AVIATION CENTRE, OKEY, QLD - REDEVELOPMENT: 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:
Redevelopment of the Army Aviation Centre at Oakey, Qld.

Mr Beddall presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REDEVELOPMENT OF THE ARMY AVIATION CENTRE
AT OAKLEY, QUEENSLAND

By resolution on 22 November 1989 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the redevelopment of the Army Aviation Centre at Oakey, Queensland. However, with the dissolution of the House of Representatives on the 19 February 1990, the reference lapsed and the previous Committee was unable to present its report, although it had completed its investigation.

Following the re-appointment of the Parliamentary Standing Committee on Public Works by the 36th Parliament, the project was again referred to it by the House of Representatives on 14 May 1990. The present Committee empowered by Section 24 of the *Public Works Committee Act 1969* agreed to consider the evidence placed before the previous Committee. The report which follows is based on the investigation conducted by the previous Committee and the evidence considered by it. The report has been endorsed by the present Committee.

THE REFERENCE

1. The works referred to the Committee are for the construction of facilities for the first stage of the redevelopment of the Army Aviation Centre at Oakey. The redevelopment will rectify current occupational health and safety deficiencies on the base, and upgrade airfield safety, operational maintenance and administrative facilities.

2. The scope of the work comprises the construction of permanent facilities for 1 Aviation Regiment and 173 General Support Squadron; extension of the existing hangar and technical facilities used by the 1 Aviation Regiment Workshop; extension and refurbishment of 5 Base Workshop Battalion aircraft maintenance facilities and relocation of the police guard dog section.

3. The estimated cost of the proposed work when referred to the Committee was \$14.6m at September 1989 prices.

THE COMMITTEE'S INVESTIGATION

4. The Committee received written submissions and plans from the Department of Defence (Defence) and Australian Construction Services (ACS) and a sectional committee took evidence from Defence and ACS at a public hearing held in Oakey on 13 December 1989.

5. The Committee also received submissions and took evidence from:

- Oakey Chamber of Commerce
- Jondaryan Shire Council

6. Prior to the public hearing the Sectional Committee inspected the sites for the proposed work.

7. A list of witnesses who gave evidence at the hearing may be found at Appendix A.

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

BACKGROUND

History

9. Oakey Army Airfield is located adjacent to the township of Oakey on the Darling Downs, 33 km west of Toowoomba and approximately 160km by road west of Brisbane. The airfield is surrounded by privately owned rural holdings consisting of open or lightly timbered areas of undulating farming country.

10. The airfield was established for the RAAF in 1941 as No 6 Aircraft Depot until the end of the Second World War. Army took control of the area in 1969 when 16 Aviation Squadron, equipped with Sioux helicopters, moved into temporary facilities constructed by 7 Field Squadron Royal Australian Engineers. In the same year, an area development plan was prepared. This plan proposed the phased construction of permanent facilities for 1 Aviation Regiment, the School of Army Aviation and 5 Base Workshop Battalion.

11. The airfield is owned by the Commonwealth and except for the civil terminal and its access road, is controlled by Army. It occupies an area of approximately 220 hectares. Local flying training areas cover approximately 800 square kilometres of airspace above the surrounding countryside. Helicopter landing pads and fixed wing landing grounds located on private property are used by Army Aviation under permissive, no payment agreements with the landowners.

12. The following units, administratively co-ordinated and controlled by Headquarters Army Aviation Centre, occupy the base:

- 1 Aviation Regiment Group (which includes 1 Aviation Regiment less two squadrons located in Sydney and Townsville, 1 Aviation Regiment Workshop, 173 General

- Support Squadron and 173 General Support Squadron Workshop);
- School of Army Aviation;
- 5 Base Workshop Battalion;
- Base Support Unit; and
- the RAEME Aircraft Maintenance School.

Current Works at Oakey

Black Hawk Helicopter Conversion Training Facilities

13. The new facilities for Black Hawk helicopter conversion training are currently under construction at an estimated cost of \$6.5m. This project was reported on by the Committee in 1988. (Eighth report of 1988) The project includes extensions to five buildings and construction of a new aircraft workshop and shelters and apron. The new facilities are programmed for completion in May 1990.

Rank and File Accommodation Upgrade Program

14. The Australia wide rank and file living-in accommodation upgrade project was approved by Parliament in March 1988 at an estimated cost of \$57.6m. Oakey's portion is \$1.61m for two buildings which were completed in 1989.

Air Traffic Control Radar

15. An air traffic control radar is being installed at a cost of \$16m, of which \$1.4m is for facilities. The facilities include a small workshop and store, an access road at the radar site on a

hill 15 km north of the base and extensions to the existing air traffic control complex on base. The project is due for completion in April 1990.

Nomad Aircraft Shelters

16. In 1990 Army will gradually replace the ageing Pilatus Porter aircraft fleet with Nomad aircraft. Due to limited workshop space to shelter the aircraft from storms, six aircraft shelters are to be constructed. The works are estimated to cost \$1.5m and are programmed to commence in December 1989 and be completed by June 1990.

THE NEED

17. There has been major expansion at Oakey since the base was first occupied by Army in 1969. Aircraft movements have increased in the last twelve years from 25 800 in 1977 to 50 176 in 1988 with civilian movements accounting for 15% of the total. These are primarily aircraft in transit through the Oakey airspace or practising instrument approach procedures using Oakey navigation aids.

18. Civilian air traffic is expected to remain limited for the foreseeable future. The current Joint User status of the airfield, with Army as the principal and the Department of Transport and Communications as the tenant, allows Defence to control development so that future civilian use is unlikely to conflict with the airspace needs of military flying training. Oakey is also favourably located in relation to the formations and units with which the centre works. As the climate and topography of the Oakey region are conducive to aircraft operations, Army intends to retain Oakey as an aviation centre.

19. By 1992 aircraft numbers located at Oakey are projected by Army to be 22 Kiowa, 24 Nomad and 6 Black Hawk. The Black Hawk

helicopters will be relocated from Townsville in 1990 when training facilities are completed at Oakey.

20. Development at Oakey has tended to be on an ad-hoc basis and some Army units currently housed at the base still occupy temporary accommodation and facilities constructed between 1969 and the early 1970s.

21. Serious occupational health and safety deficiencies also exist on the base. This is due to working areas being located too close to the areas used by aircraft which create unacceptably high noise levels. This problem was recognised by a survey undertaken at Oakey in May 1989 by the National Acoustics Laboratories.

Personnel

22. The present establishment is 734 Army personnel and 51 civilian staff. By 1995 the working population on the base will increase to 811 Army, while civilian numbers will remain at 51.

Defence Helicopter School

23. Since the end of 1989 Army has been responsible for helicopter flying training for all three Services. The Defence Helicopter School will initially be established at RAAF Fairbairn using existing 5SQN (RAAF) facilities. Although Oakey is the preferred permanent site, relocation to Oakey is not expected within the current Five Year Defence Program.

Facilities

24. In 1971 it was decided that 1 Aviation Regiment's temporary facilities at Oakey would be retained until the early 1980s and that a major development plan for Oakey would then be required. Permanent facilities were completed in 1972 for the School of

Army Aviation, 5 Base Workshop Battalion, Headquarters Army Aviation Centre and Base Support Unit. Additional temporary facilities were constructed at Oakey in 1972 to alleviate the shortage of working accommodation. Accommodation for 1 Aviation Regiment Workshop and 173 General Support Squadron Workshop was constructed in 1980. There has been no other significant construction of facilities for 1 Aviation Regiment and 173 General Support Squadron at Oakey since the erection of these temporary buildings which are still occupied.

Committee's Conclusion

25. The Committee agrees that a need exists to overcome serious occupational health and safety deficiencies at the Army Aviation Centre at Oakey. It also recognises the need to replace the 1972 temporary buildings with facilities meeting current Services Scales and Standards of Accommodation.

THE PROPOSAL

26. It is proposed to redevelop the base in stages due to funding constraints. The first stage will rectify the worst of the occupational health and safety (OHS) deficiencies on the base. There is no living-in accommodation proposed in Stage 1. Other ranks living accommodation has been improved as part of the national upgrading program. Additional accommodation will not be required until Stage 2, at which time the officers and senior non-commissioned officers' accommodation will also be refurbished. The second stage will rectify the less urgent OHS problems, relieve cramped and inefficient working conditions and provide scaled amenities for the remainder of the base.

27. A list of works proposed for Stage 2 may be found at Appendix D.

28. The proposed Stage I works encompass:

- relocation of the guard dog section to new facilities constructed in the proposed land acquisition area
- works associated with the relocation of 1 Aviation Regiment and 173 General Support Squadron comprising:-
 - new administrative facilities for the Regimental Headquarters, Headquarters Squadron, 171 Squadron and 173 Squadron
 - new storage facilities for Headquarters Squadron Logistics and 173 Squadron Logistics
 - extension and upgrading of building B23 to provide additional technical support and storage facilities for 1 Aviation Regiment Workshop
 - a new transport maintenance facility and compound for the Regiment Group
 - demolition and removal of existing temporary 1 Aviation Regiment and 173 General Support Squadron facilities and services
- works associated with the upgrading of occupational health and safety standards for 5 Base Workshop Battalion comprising:-
 - new nickel cadmium battery shop
 - extension and upgrading of Building B9 to provide improved painting facilities and

associated site works and engineering services.

Facility Planning

29. As part of the proposed transfer of 1 Aviation Regiment Group to its new location, the existing guard dog section will be relocated to a new site. The proposed new facility will consist of a single storey administration building, dog kennels, isolation kennels and dog training compound. The access road to the new site will also lead to the proposed future relocated bulk aviation fuel facility.

30. Sixteen guard dogs are located on the base. The Committee was advised that a detailed study conducted by the RAAF on the cost-effectiveness of dogs has concluded that the use of dogs is more economical than using personnel to patrol the base. The dogs also act as a deterrent to potential intruders.

31. The proposed 1 Aviation Regiment group administration facility will consist of a two storey building housing 171 Squadron, 173 Squadron and Headquarters Squadron linked to a single storey building housing the Regimental Headquarters. All will have a northerly aspect. The various squadrons will be located around a central entrance foyer in order to give each its own separate identity, allow easy access to the flightline and provide convenient internal circulation between squadrons.

32. The new Q store will provide separate storage areas for the Headquarters Squadron and 173 Squadron with a central core housing offices and shared amenities, plant and loading areas. The loading dock will be positioned to allow for varying vehicle tray heights.

33. Extensions to the existing 1 Aviation Regiment Workshop located in building B23 will provide additional storage, administration and technical support areas and will include

upgrading of existing ablutions to scaled entitlements. The 1 Aviation Regiment Group transport compound will provide parking, maintenance and storage facilities for the Regiment's vehicles. The parking area will be landscaped to improve its visual impact.

34. The new nickel cadmium battery workshop will replace existing sub-standard facilities with a single storey purpose designed building located in the 5 Base Workshop Battalion precinct.

35. Extensions and upgrading of the existing paint shop in building B9 will upgrade occupational health and safety standards and improve the efficiency of painting of aircraft, vehicles and component parts. A separate preparation area will be provided connected to a main painting area and a component painting section. A central zone of office, storage and support functions will access both painting areas. The building has been designed to allow for Black Hawk helicopters and Nomad aircraft and has been planned to provide efficient work flow through the facility.

Land Acquisition

36. A Base Zone plan developed by ACS allowed two options for the base layout - the first requiring the acquisition of land to the west of the base and the second restricting planning to the existing area.

37. The Committee was advised that Defence is in the process of purchasing three properties to the west of the base for both proposed and future expansion. These will provide a buffer zone against future encroachment as well as bring much of the high noise level areas under the flight paths under Army's control. Defence advised that land not required for building purposes will be leased back to the present owner. Should land to the east of the base become available in the future then Defence would be interested in its purchase.

Location Planning

38. The "Defence of Australia" report (1987) referred to as the Defence Policy Information Paper, stressed the need for Army aviation assets and 'an extensive infrastructure of bases, airfields, training and other facilities to support the ADF and its operations'. The Army Aviation Centre at Oakey is a significant part of that infrastructure. It is the base which provides the majority of Army Aviation training and support throughout Australia.

39. The "Review of Australia's Defence Facilities" (1988) by Ministerial consultant Robert Cooksey, stated that the Oakey environment is conducive to increased military aviation activity. The Review supported acquisition of additional land as necessary. On balance it preferred Oakey over Fairbairn as a possible site for any tri-Service basic helicopter pilot training school. It also noted that a satellite airfield would be required at either location.

40. Defence advised the Committee that although no firm decision has yet been taken on the move of the helicopter school to Oakey, the facilities required to be built, should this occur, would not be extensive. Defence proposes to acquire land eventually for a satellite airfield. The Committee was assured that the proposed works are consistent with the progressive development of the centre towards the possibility of its being involved on a tri-Services basis. Defence advised that the acquisition of land to the west will allow for the future helicopter school. The location of the helicopter school at Oakey would result in a further 120 personnel on the base.

Site Investigations

41. Site soil investigations and surveys have been carried out and the proposed work includes pavement and footing designs

appropriate to the soil conditions present on site and building designs appropriate to local environmental conditions.

42. ACS advised the Committee that the clay soils at Oakey are very reactive. A reactive clay is one that has large changes in its volume when it gets wet. All buildings of any substantial nature at Oakey are built on bored piers and their slabs are suspended above ground so that, whilst the ground may move, the buildings do not.

Housing

43. The Oakey Chamber of Commerce expressed concern over the present standard of Defence housing in Oakey and queried the housing requirements for the increased number of personnel on the base.

44. Defence advised that the present redevelopment at the base will not result in an increase in the number of personnel in the area. The Defence Housing Authority is presently replacing sub-standard Defence housing around Australia. However, the large number of houses involved means that all sub-standard houses cannot be replaced immediately. Defence stressed that it is happy with the rate with which DHA is replacing these houses.

Water Supply

45. At present Jondaryan Shire Council provides the water supply for Oakey while the Army base provides its own water. A recent application to the Federal Government for a local government grant to carry out a feasibility study into the augmentation of the town and base water supplies had been refused. Council stressed the importance of above ground storage for water

harvesting and its belief that mutual co-operation with the Army and the surrounding community would result in water harvesting schemes and water treatment works to the benefit of the Army and the local community.

Committee's Conclusion

46. The Committee believes that a local government grant should be made available to the Jondaryan Shire Council, to enable it to carry out a feasibility study into the augmentation of the town and base water supplies.

Trade Waste

47. Trade waste will be disposed of in accordance with State and Federal Government legislation.

48. ACS advised that there is no trade waste evident in the sewerage system at present and endeavours would be made to ensure that this situation continued.

49. The Committee was advised that there are two collection points for oils and greases on the base. It is the responsibility of a contractor to dispose of this waste.

Sewerage

50. The Jondaryan Shire Council advised that the sewerage treatment works have the capacity for limited expansion. Council stressed the importance of being kept informed by Army on future planning so that the necessity for augmentation of the sewerage treatment will be known at an early stage.

Committee's Conclusion

51. The Committee is satisfied that the proposal will overcome the more serious occupational health and safety problems at the Army Aviation Centre at Oakey.

ENVIRONMENTAL CONSIDERATIONS

52. The proposal has been assessed internally by Defence in accordance with the Ministerial understanding between the Minister for the Arts, Sport, the Environment, Tourism and Territories and the Minister for Defence. A number of actions have been initiated to satisfy the ambit of the Environment Protection (Impact of Proposals) Act 1974 and a Certificate of Compliance has been issued.

53. Local flora and fauna have been considered in the planning, and the base is actively pursuing a tree-planting program to enhance the environment for the local koala population. Any removal of trees in the future will be offset by plantings and will cause little disturbance to the native fauna.

54. The environmental impact of the building and civil works has been determined to be minimal. The proposed works involve extensions or conversion of existing facilities with the exception of 1 Aviation Regiment. The new works will utilise a repetition of existing structural systems and finishes such that the appearance of the new facilities will harmonise with the existing buildings.

CONSULTATIONS

55. During the development of the new Utility Helicopter Project in 1988, Defence and ACS consulted with federal, state and local government authorities including:

- Department of Transport and Communication (Aviation Group)
- Department of Administrative Services (Property Group)
- Premiers Department
- Lands Department
- Mains Road Department
- Crows Nest Shire Council
- Jondaryan Shire Council
- Pittsworth Shire Council
- Rosalie Shire Council
- Toowoomba City Council

56. The discussions referred to both the acquisition of Black Hawk helicopters and to the development of the base. Where appropriate, discussions have continued during the development of this project.

57. The Committee was advised that a public meeting was held at Oakey on 3 March 1988 to inform the public of proposed developments at the base. Defence advised that the local population had been supportive of the proposed development. The Committee was assured by Defence that it is always willing to discuss base activities with the public, the Jondaryan Shire Council and the Oakey Chamber of Commerce.

CONSTRUCTION DETAILS

58. Construction details may be found at Appendix C.

CONSTRUCTION PROGRAM

59. It is proposed to commence construction in late 1990. The works will be scheduled to be completed progressively with a final completion date in 1994.

LIMIT OF COST

60. The limit of cost for the proposed works is \$14.6m at September 1989 prices.

61. The breakdown of this cost is as follows:-

Operational Facilities

- construction of permanent working accommodation for 1 Aviation Regiment and 173 General Support Squadron - \$5.74m
- relocation of the dog kennels required because the present dog compound is located in the area to be occupied by the Aviation Regiment - \$0.76m

Maintenance Facilities

- extension of 1 Aviation Regiment Workshop facilities - \$0.9m
- extension of 5 Base Workshop Battalion facilities to provide upgraded painting and aircraft battery maintenance facilities - \$4.73m

Engineering Services

extensions to the existing engineering services - \$2.47m

Committee's Recommendation

62. The Committee recommends the redevelopment of the Army Aviation Centre at Oakey, Queensland at an estimated cost of \$14.6m at September 1989 prices.

Conclusions and Recommendations

63. The conclusions and recommendations of the Committee and the paragraph in the report to which each refers are set out below:

	Paragragh
1. The Committee agrees that a need exists to overcome serious occupational health and safety deficiencies at the Army Aviation Centre at Oakey. It also recognises the need to replace the 1972 temporary buildings with facilities meeting current Services Scales and Standards of Accommodation.	25
2. The Committee believes that a local government grant should be made available to the Jondaryan Shire Council, to enable it to carry out a feasibility study into the augmentation of the town and base water supplies.	46
3. The Committee is satisfied that the proposal will overcome the more serious occupational health and safety problems at the Army Aviation Centre at Oakey.	51
4. The Committee recommends the redevelopment of the Army Aviation Centre at Oakey, Queensland at an estimated cost of \$14.6m at September 1989 prices.	62


Colin Hollis
Chairman
14 May 1990

WITNESSES

CONNELLY, Mr Joseph Daniell, Member, Oakey Chamber of Commerce, PO Box 35, Oakey, Queensland.

CORNISH, Mr Bernard Harold, Project Manager Defence, Queensland Region, Australian Construction Services, GPO Box 1381, Brisbane Queensland.

DICKINS, Mr Geoffrey Martin, Member, Oakey Chamber of Commerce, PO Box 35, Oakey, Queensland.

FLORENTZOS, Mr George, President, Oakey Chamber of Commerce, PO Box 35, Oakey, Queensland.

FRITSCH, Colonel Adam John, Commandant, Army Aviation Centre, Oakey, Queensland.

HELLYER, Brigadier Grahame Leslie Alwynne, Director General, Accommodation and Works, Army, Department of Defence, Russell Offices, Canberra, Australian Capital Territory.

JEWELL, Lieutenant-Colonel Roderick Ernest, Army Facilities Project Manager, Directorate General Accommodation and Works, Army, Department of Defence, Russell Offices, Canberra, Australian Capital Territory.

LEWIS, Colonel Kevin Tony, Ex-Commander, Army Aviation Centre, Oakey, Queensland.

RICHARDS, Mr Rodney Arthur, Deputy State Manager (Projects), Australian Construction Services, GPO Box 1381, Brisbane, Queensland.

TAYLOR, Mr Peter Maxwell, Chairman, Jondaryan Shire Council, Oakey, Queensland.

APPENDIX B

PLANNING AND DESIGN CONCEPTS

Planning Concepts

The requirements of the brief and analysis of the site have resulted in planning of the proposed facilities such that existing on-base operational and functional relationships will be maintained and masterplanning requirements satisfied.

Construction of 1 Aviation Regiment Group facilities on a site adjacent to the existing workshop and Nomad shelters will establish a functional, coherent and distinct administrative and technical support precinct for the Regiment Group and its aircraft.

Siting of the guard dog section in the western land acquisition area provides an adequate buffer for its activities both now and in the future and ensures that its proper functioning will not be compromised by proximity to other units.

Extensions and new facilities proposed for 5 Base Workshop Battalion will upgrade the occupational health and safety standards associated with its activities.

Site works, services and roads proposed for Stage 1 have been designed as an integral part of the base development and take into account future works on the base.

Design Concepts

The proposed works will satisfy the briefed requirements of the Department of Defence, conform with the Scales and Standards of Service Accommodation and comply with relevant statutes, codes and ordinances.

Internal planning and the structural and cladding systems proposed will provide efficient and cost effective solutions to the functional requirements.

Upgrading and extensions will match existing buildings and new facilities will be designed so that their scale, materials and finishes will be compatible with the existing surroundings. The various buildings will express the utilitarian nature of their functions which range from storage and workshop activities to administrative functions.

APPENDIX C

CONSTRUCTION DETAILS

BUILDING CONSTRUCTION

The building works generally will match existing structural systems, construction techniques and finishes. Structural steel framing and reinforced concrete construction will be utilised and no unique construction techniques will be required. Finishes will be low maintenance.

To cater for local soil conditions bored pier foundations with suspended ground floor slabs will be provided for two storey buildings and reinforced concrete raft slabs will be used for single storey buildings.

MECHANICAL SERVICES

Generally the proposed buildings will be heated and naturally ventilated, with exhaust ventilation provided to toilet and ablution areas. Air conditioning will be provided only to workshop and stores areas required to have a controlled environment. Specialised mechanical services including compressed air, fume extraction, demineralised water and vehicle hoists will be provided to workshops and services points as required. The paint shop will include purpose designed mechanical air supply, filtration and exhaust plant to comply with occupational health and safety standards.

ELECTRICAL SERVICES

Light, power, telephones and fire alarms will be provided. Specialised light and power will be provided to workshops and stores as required. External electrical services will be upgraded and extended to service the new buildings and provision will be made for future works. Street lighting will be provided to new roads and vehicle parking area.

FIRE PROTECTION

Fire protection including sprinkler systems, thermal and smoke detection, roof vents, fire hydrants and extinguishers will be installed as necessary.

CIVIL AND HYDRAULIC WORKS

The existing aircraft apron pavement will be extended to provide access to the paint shop. New roads, vehicle parking areas and hardstand areas will be constructed as necessary. External hydraulic services will be extended and upgraded to service the proposed facilities. A system for pollution control of wastes and solvents from the paint shop and vehicle servicing area will be provided. Landscaping will be included with the facilities and will enhance environmental conditions for the local fauna. Car parking will be provided in accordance with the Service Scales and Standards of Accommodation.

SECURITY

Intruder detection systems and external security lighting will be installed to those areas specified by Army.

APPENDIX D

PROPOSED STAGE 2 REDEVELOPMENT

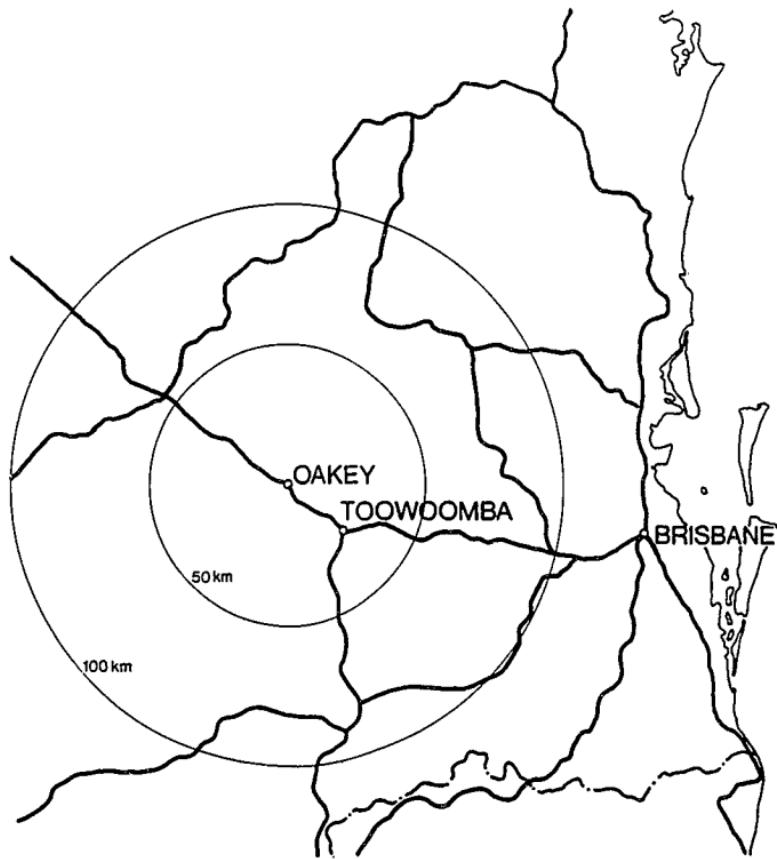
Stage 2 of the base redevelopment will include:

- relocation of the bulk aviation fuel storage facility away from the aircraft movement area;
- provision of sound attenuation to the School of Army Aviation (Building 14);
- extension and upgrading of the area medical and dental facilities;
- upgrading of the 'B' vehicle repair facility;
- extension and upgrading of the Officers' and Sergeants' messes and accommodation to current SSSA requirements;
- extension and upgrading of the Rank and File canteen to current SSSA requirements;
- additional Rank and File accommodation;
- upgrading of base entrance and security provisions;
- additional car parking to SSSA;
- extension of area sporting facilities; and
- provision of an area Movements facility.

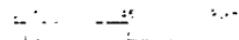
APPENDIX E

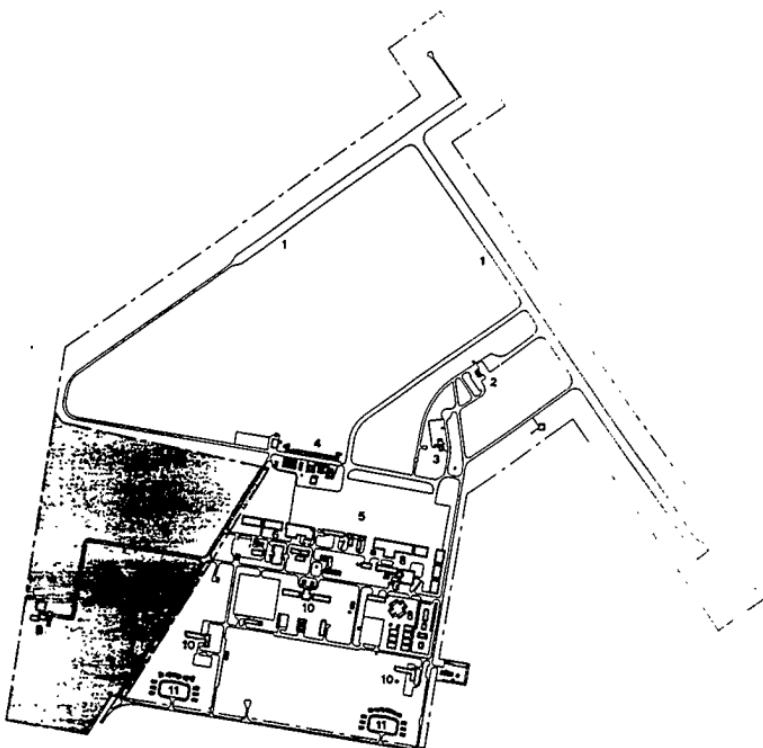
Project Drawings

Regional Plan	E2
Overall Site Plan	E3
Zone Plan	E4



REGIONAL PLAN





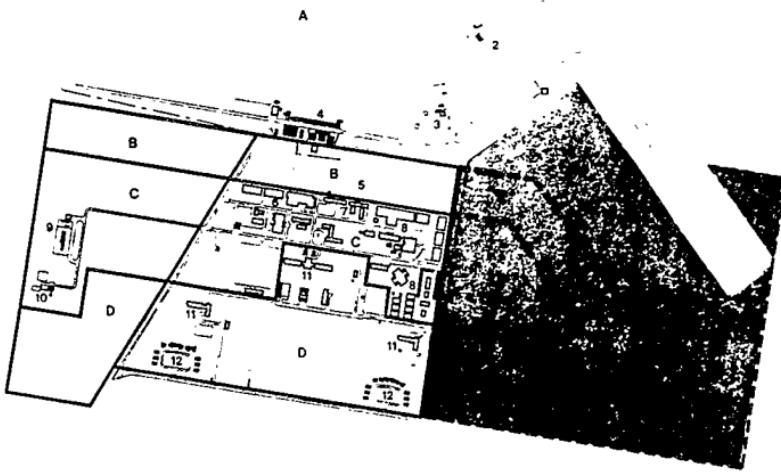
Proposed Western Land Acquisition

OVERALL SITE PLAN

0 60 120 300 75'

Legend

- 1. Runway
- 2. Civil Aviation Facilities
- 3. Existing Fuel Compound
- 4. Existing 1 Aviation Regiment
- 5. Operations Areas
- 6. Relocated 1 Aviation Regiment
- 7. School of Army Aviation
- 8. 3 Base Workshop
- 9. Dog Section
- 10. Accommodation and Messing
- 11. Married Quarters



ZONE PLAN

Schedule of Zones

- A - Armed Zone
- B - Control Zone
- C - Combat Zone
- D - Operations Possible Future Expansion
- E - Possible Future Expansion
- F - Strategic Possible Future Expansion
- G - Aviation Possible Future Expansion

Legend

- 1 - Runway
- 2 - 2nd Aviation Regiment
- 3 - Existing Fuel Compound
- 4 - Existing 1st Aviation Regiment
- 5 - Operations Area
- 6 - Relocated 1st Aviation Regiment
- 7 - School of Army Aviation
- 8 - 5 Base Workshops
- 9 - Future Fuel Compound
- 10 - Dug Bunkers
- 11 - Ammunition and Munitions
- 12 - Maintained Workshops