

Parliamentary Standing Committee on Public Works

REPORT

relating to the

REDEVELOPMENT OF HOUSING FOR SERVICE FAMILIES AT LAND WARFARE CENTRE, CANUNGRA, QLD

(Second Report of 1995)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
1995

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

Report Relating

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**Redevelopment of housing for service
families at Land Warfare Centre,
Canungra, Qld**

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**MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS**

(Thirty-First Committee)

Mr Colin Hollis MP (Chair)
Senator Paul Henry Calvert (Vice-Chair)

Senate

Senator Bryant Robert Burns
Senator Shayne Michael Murphy*

House of Representatives

Mr John Neil Andrew MP
Mr Raymond Allen Braithwaite MP
Mr Russell Neville Gorman MP
Mr Robert George Halverson OBE MP
Hon. Benjamin Charles Humphreys MP

* replaced Senator John Devereux on 10 February 1995

**SECTIONAL COMMITTEE ON THE REDEVELOPMENT OF
HOUSING FOR SERVICE FAMILIES AT LAND WARFARE CENTRE,
CANUNGRA, QLD**

Mr Colin Hollis MP (Chair)
Mr Raymond Allen Braithwaite (Vice-Chair)
Mr Russell Neville Gorman MP
Hon. Benjamin Charles Humphreys MP

Committee Secretary: Peter Roberts

Inquiry Secretary: Denise Denahy

Secretarial Support: Sue Whalan

**EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES**

No. 102 dated Thursday, 20 October 1994

**4 PUBLIC WORKS—PARLIAMENTARY STANDING
COMMITTEE—REFERENCE OF WORK—REDEVELOPMENT OF
HOUSING FOR SERVICE FAMILIES AT LAND WARFARE
CENTRE, CANUNGRA, QLD**

Mr Walker (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 housing for service families at Land Warfare Centre, Canungra, Qld.

Mr Walker presented plans in connection with the proposed work. Debate ensued.

Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REDEVELOPMENT OF HOUSING FOR SERVICE FAMILIES AT LAND WARFARE CENTRE, CANUNGRA, QLD

By resolution on 20 October 1994 the House of Representatives referred to the Parliamentary Committee on Public Works for consideration and report to Parliament the proposed redevelopment of housing for service families at Land Warfare Centre, Canungra, Qld.

THE REFERENCE

1. The Defence Housing Authority (DHA) proposes to redevelop the Boike Road and Corcoran Crescent precincts at the Land Warfare Centre (LWC), Canungra, Qld. The proposed redevelopment includes the replacement and construction of 55 houses on revised and larger landscaped lots and the substantial upgrade of one existing brick house.
2. The estimated cost of the proposal when referred to the Committee was \$7.6m.

THE COMMITTEE'S INVESTIGATION

3. On 8 December 1994 the Committee appointed a Sectional Committee comprising Mr C Hollis MP (Chair), Mr R Braithwaite MP (Vice-Chair), Mr R Gorman MP and Hon B Humphreys MP to undertake this inquiry.
4. The Committee received a written submission from DHA and evidence was taken from its representatives at a public hearing at Canungra on 20 January 1995. Prior to the public hearing the Sectional Committee inspected housing presently being provided at Canungra.
5. The Canungra Tenants Consultative Group (CTCG) also presented a submission and appeared before the Sectional Committee at the public hearing.

6. Written submissions were also received from the following:
- . Australian Heritage Commission (AHC)
 - . Construction Industry Development Agency
 - . Australian Nature Conservation Agency (ANCA)
 - . Commonwealth Fire Board (CFB)
 - . Environment Protection Agency (EPA)
 - . Commonwealth Department of Primary Industries and Energy
 - . ACROD Access and Mobility
7. A list of witnesses who gave evidence at the public hearing is at Appendix A. The Sectional Committee's proceedings will be printed as Minutes of Evidence.

BACKGROUND

Functions of the Defence Housing Authority

8. DHA was established by the Commonwealth Government as a Statutory Authority to operate from 1 January 1988.
9. DHA aims to provide Defence personnel and their families with good housing consistent with community standards and which will contribute positively to their quality of life. In achieving this, DHA aims to meet Defence operational needs, follow sound commercial principles and be a responsive and innovative organisation.
10. Notwithstanding DHA's strategy to move away from on-base housing, DHA aims to remain flexible and responsive to operational requirements of the Services where a need for on-base housing exists.
11. In line with its functions, DHA, through its Housing Management Centre (HMC) in Brisbane, Queensland, is responsible for the provision of housing for Defence personnel at the LWC Canungra.

Historical Background of the Land Warfare Centre

12. The LWC Canungra is situated in the McPherson Ranges approximately 90km south of Brisbane and 35km west of Surfers Paradise by road.

13. The LWC was established in 1942 in response to a need for suitable training of Australian soldiers involved in fighting the Japanese in the Pacific during the Second World War. The centre was closed in 1946 and reopened and expanded to its present size in 1954 with the emergence of the communist threat in South East Asia. Between 1962 and 1972 approximately 40 000 troops were trained at the LWC. In 1974 the School of Military Intelligence was relocated to Canungra and the newly established Defence Intelligence Wing was added in January 1994. As one of the Army's premier training establishments, the LWC trains several thousand students each year.

THE NEED

14. There are 364 military personnel posted to units located at Canungra. Housing for married personnel is as follows:

- . 121 on-base quarters
- . 90 DHA-owned or leased houses in the surrounding civilian communities
- . approximately 20 families living in Temporary Rental Allowance accommodation
- . approximately 15 owner-occupied homes.

15. In 1993 a survey of the Canungra military community, as well as consultation with the CTCG and surrounding civilian communities, was conducted for the purpose of determining the ratio of housing stock desired in Canungra and on the Gold Coast. The result of that survey was that a 60:40 ratio (Canungra:Gold Coast) was seen as desirable. Factors which influenced community decision making included spouse employment, travel to and from work, Isolated Establishment Allowance, secondary and tertiary education and general housing standards in each area.

16. Due to the necessity to meet the housing requirements resulting from the renegotiation of the Commonwealth State Housing Agreement (Services), DHA was not able to respond to the unsatisfactory standard of housing at Canungra until now.

17. The need to address the standard of housing at Canungra is highlighted by:

- . the disparity in standards between houses occupied by LWC personnel on the Gold Coast compared to Canungra
- . the need for adequate housing on-base to meet operational requirements
- . the welfare and morale of families at Canungra.

18. Prior to the commencement of the redevelopment, 120 houses were assessed as being below current community standards, in addition to being increasingly expensive to maintain.

19. The existing houses are timber frame clad with asbestos cement sheeting and situated on concrete stumps of different heights to accommodate the varying slopes. Each lot is defined by low chain mesh fences which offer little screening and privacy. The landscape development is characterised by significant large trees, worn out lawns and dilapidated gardens beds. Wherever possible, the new planning proposals retain the existing mature trees.

20. The CTCG advised the Committee that personnel posted to Canungra find it disparaging to return to pre-1960 style housing after recently living in community standard homes. The Committee was also advised that the morale of families currently occupying the rapidly ageing and deteriorating quarters is at its lowest ebb. The CTCG stressed that priority should be given to the redevelopment of the housing at Canungra in order to correct the disparity between the standards of housing allocated to personnel. This would prevent resultant personnel/family management problems.

Committee's Conclusions

21. The existing timber frame houses clad with asbestos sheeting at the Land Warfare Centre, Canungra are substandard and in need of replacement.

22. A need exists to provide suitable accommodation for Defence personnel who are presently living in substandard accommodation at the Land Warfare Centre, Canungra.

THE PROPOSAL

23. A number of master planning options were prepared and presented to the Army for review and consideration. They included different housing yields and planning layouts, various street closures and traffic calming devices and different sizes and locations of the new neighbourhood parks.

24. It is proposed to replace 55 existing substandard houses with new houses and upgrade one house in the Boike Road and Corcoran Crescent Precincts.

25. The Committee queried the cost of upgrading the existing houses as opposed to building new ones. DHA advised that it considers whether it is potentially better to upgrade houses or cheaper to build new houses. Some houses, however, are not amenable to total upgrading due to the maintenance liability and internal refurbishment required.

26. DHA advised the Committee that its assessment of housing in Ipswich and Toowoomba revealed that to refurbish houses to an acceptable amenity would cost between \$45 000 and \$80 000 for low set housing. Families would still be left with a small house without the inclusions of community standard amenities such as ensuites and family rooms. More extensive work would cost between \$80 000 and \$100 000 depending on the fibro content of the existing house. DHA stressed that as the houses are on-base it would have limited options in disposing of these overcapitalised houses which would not meet service standards.

27. The scope of work will include:

- . the selling and removal of the existing housing stock
- . the replanning of the existing lot boundaries to accommodate the required number of houses on revised blocks
- . the master planning of each precinct to provide improved streetscapes, pedestrian networks, and neighbourhood parks
- . the selection and construction of a variety of houses that satisfy the Army's requirements and respond favourably to the existing natural characteristics of the site
- . the retention of 39 existing houses.

28. The total number of houses for Defence families available on-base upon completion of the works will be 121. It is anticipated that this number of houses will accommodate the housing requirements of the LWC in the foreseeable future. However, to allow for any unforeseen circumstances, the Master Plan makes provisions for the addition of 10 more houses, five in each redevelopment precinct. A further 90 houses will be made available in the Gold Coast area (primarily Nerang) giving a total housing stock of 211.

29. The proposed redevelopment is contained within the existing developed area in the Boike Road Precinct and encroaches marginally beyond the present allotment boundaries in the Corcoran Road Precinct. These drawings may be found at Appendix B. The Boike Road redevelopment reduces the area of existing housing and allows for eight houses to be sold, removed and the land returned to form part of the indigenous bushland that surrounds and characterises this area. The houses in Corcoran Crescent will be replaced with larger new houses on bigger blocks of land. The reduction from 35 to 27 houses has also provided the space for a significant community park to be included in the plans. The larger blocks extend beyond the existing lot boundaries but do not encroach on the surrounding bushland.

Boike Road Precinct

30. Twenty-nine new houses will be constructed in this precinct. Upon completion of the planned houses, 25% of the homes in this precinct will be four bedroom and the remaining three bedroom units. If required at a future date, provision has been made to allow expansion by an additional five houses. All quarters in this precinct will be classified A and B1 for occupation by junior ranks (Private to Staff Sergeant).

31. It is proposed to close Boike Road at the eastern end to through traffic and construct traffic calming devices adjacent to the parks and the child care centre. A reduction in the number of existing houses will increase the landscape buffer between the houses and the Beaudesert/Nerang Road. It is proposed to link new streetscape proposals to a series of neighbourhood parks that contain playground equipment, barbeques and shelters. Two groups of 5 two-storey houses will be on 450m² lots. The balance of the housing blocks will be replanned to 600m² lots. There is provision for five additional blocks if required for future requirements. It is intended to retain the kindergarten.

32. New houses at Canungra are of brick veneer on concrete slabs. They are stepped to accommodate the varying topography. Stepping the slabs in this manner ensures better integration with the land form and reduces the need for extensive retaining structures which limit the development potential of the garden areas. Houses covered by this project will be of similar construction. New timber paling fencing provides security and privacy at the sides and rear of each house.

Corcoran Crescent Precinct

33. There will be a total of 26 new houses and upgrade of one existing house in this precinct. Of these, 25% (six) will be four bedroom and the remaining three bedroom homes, not including the Commandant's house. The houses in this precinct will have the following classifications:

- . 6 x B2
- . 19 x C
- . 1 x D (Commandant's house)
- . 1 x existing house B2.

34. The plan also makes provisions to allow for an additional five housing blocks, if required. The houses in this precinct will accommodate ranks from Warrant Officer Class 1 to Colonel.

35. The Committee was advised that two-storey houses will be built on the smaller blocks. This will also provide a variety of housing in the area. It is planned to introduce traffic calming devices adjacent to parks. New streetscape proposals will be linked to a series of neighbourhood parks that contain playground equipment, barbeques and shelters. There will be two groups of 3 two-storey houses. The new larger housing blocks will range in size from 600m² to 800m². There will be provision for five additional blocks if required for future development.

36. The Committee queried the safe disposal of asbestos from the houses which will be sold. DHA advised that there is asbestos in some of the fibro cladding and also in some of the material in the bathrooms. Buyers are made aware of this and are required as part of the removal, to take due care.

37. DHA advised that the houses will be sold by private treaty or by auction. DHA aims to realise an average of \$12 000 per house.

Community Facilities and Services

Road System

38. The housing for Defence families is located adjacent to two main access roads, one leading to Nerang/Gold Coast and the other to Beechmont and Beaudesert. Within the housing area it is planned to make use of the existing road structure with the addition of traffic calming devices. At present, the Boike Road precinct offers easy access to the Nerang Road and the Corcoran Crescent precinct to the Beechmont Road.

Public Transport

39. There is no public transport available for residents of the Canungra military base and Canungra township. A private bus service operates between Canungra and the Gold Coast three times a week.

40. The Army provides a bus service to the primary school in Canungra township for children in the Boike Road area and additional service for

students to other schools on the Gold Coast. This service is provided by the Army on a fee for use basis. The Department of Education operates a bus service for students of the primary school in Canungra township who live in the Corcoran Crescent precinct, as this area is located outside the 3.2km radius. Government bus services are also provided to the high school in Beaudesert and from Canungra township to the bus exchange in Nerang.

Shopping Facilities

41. On-base shopping facilities are restricted to the Australian Armed Forces Canteen Services. Service is limited, both in available hours and the variety of grocery lines. A supermarket and a range of other shops exist at Canungra township (2.2km from the family housing area). Shopping facilities at a regional level are at Nerang (28km), and at Beaudesert (30km). A supermarket and a range of other shops, including banks, are located at Mt Tamborine, 10km from Canungra. Access to this township is by a single-lane gravel track.

Educational Establishments

42. A child minding centre (with limited hours), as well as a kindergarten run by the Shire Council, are provided on-base. A second child minding centre and a primary school are located in Canungra township. The town of Beaudesert provides both high school and primary school facilities. A wide range of other educational facilities, both public and private, can be found at Nerang/Gold Coast.

Health Facilities and Family Services

43. An on-base medical centre caters to serving members only. The Canungra township has two doctors' surgeries and one dental surgery. Limited pathology services are also provided within the township. Both Beaudesert and Nerang provide substantial health facilities, including hospitals and specialist care.

44. Canungra base has a chaplain who ministers to the spiritual needs of members of all denominations. Sunday services are provided on-base. Canungra township provides most religious denominations with regular church services.

45. The Canungra Army Wives Association and a family liaison officer are active on-base.

Recreation and Public Open Space

46. A range of recreational facilities (gymnasium, squash courts, tennis courts, outdoor swimming pool) are provided on-base for Service members and their families. Canungra township offers substantial open spaces with a recreational reserve, public tennis courts, barbeque and picnic facilities. There are several other outdoor recreation areas with barbeque facilities, shelters and play equipment. A 9-hole golf course for use by Service personnel, their families and civilians, is provided on-base. A Shire Library in Canungra township is for the use of all area residents. Other sporting facilities in the Canungra township area include pony, soccer and cricket clubs. A bowling club is also available to residents.

47. Boike Road Precinct: The park adjacent to the child care centre on Boike Road is to be retained and upgraded. The existing playground equipment will be replaced and new equipment installed adjacent to a park rotunda which will be the main focus of the park. This rotunda will have associated paving, barbeque and seating facilities. It will be linked to a pedestrian path system from the housing development to the LWC. Car parking is also planned along the Boike Road frontage to alleviate traffic congestion in the area. The park will be connected to the housing development by new footpaths and a small park on the opposite side of Boike Road. Small parks are also included at each end of the two-storey blocks of houses, ensuring privacy for the nearby single storey houses and providing a link to the surrounding bushland and variety of streetscape.

48. Corcoran Crescent Precinct: The existing small park in Corcoran Crescent will be retained and upgraded and will connect the housing development and LWC. The existing island of housing created by Corcoran Crescent will be replaced with six new houses and a large park which will be the focal point of the new development. The park is centrally located with two blocks of two-storey houses around one side providing an enclosure and a sense of community. The park arrangement includes a rotunda, barbeque facilities and playground equipment and the area will be linked to the housing development by a network of footpaths and walking trails.

Access for People with Disabilities

49. The ACROD Access and Mobility submission stressed that the needs of people with disabilities have not been taken into account in the design of the proposed houses. As a minimum the principles of "visitability" should be adopted. Designs should permit a friend, relative or business associate who cannot use stairs, access to the dwelling from the street.

50. DHA advised the Committee that many of the houses in the Boike Road precinct have been and will be built on blocks that are relatively flat and which do not necessitate the stepping of the house floor slab. The principles of "adaptable housing" and "visitability" are adopted in these circumstances. DHA advised that it has required house plans that are stepped and integrated into the sloping block to avoid these problems. On steeply sloping blocks the access via driveways or footpaths could be too steep for access by people with disabilities. However, DHA stressed that every effort is being and will be made to provide wherever possible the principles of "visitability" and "adaptable housing".

51. DHA stressed that it has a policy whereby it will modify a house in which there is a person with disabilities. The Committee was advised that the proposed housing would be far more amenable to people with disabilities, and far easier to adapt, than the older style housing which is on site at present.

52. In response to a query from the Committee concerning the width of the hallways, DHA advised that present trends are towards reducing hallway sizes thus decreasing the amount of "dead space" in house plans. While wheelchair access is regarded as adequate, DHA agreed that manoeuvrability would be restricted to doorway areas or to where hallways intersect. DHA has agreed to further investigate the Committee's view that hallways are too narrow and will incorporate this in its review of design portfolios.

Committee's Conclusion

53. The Committee notes that the Defence Housing Authority will investigate the possibility of increasing the width of hallways in defence housing in its review of design portfolios.

54. Since the public hearing ACROD Access and Mobility has advised the Committee that a Draft Standard for Adaptable Housing has been prepared by the Standards Association of Australia. ACROD Access and Mobility has stressed that the proposed redevelopment should conform to this standard.

Committee's Recommendation

55. The Committee recommends that the Defence Housing Authority take into consideration recommendations from the Draft Standard for Adaptable Housing in its review of design portfolios.

Engineering Services

Water Supply

56. No physical condition assessment of the water supply has been undertaken. In both redevelopment areas, the existing water system is approximately 30 years old and is considered adequate. Defence has indicated that a review of the system is under consideration but has not yet been programmed.

Sewerage

57. Defence has commissioned Maunsell Pty Ltd (Consulting Engineers) to complete an assessment of the existing sewers. Maunsell Pty Ltd have advised that the system is in relatively poor condition, evidenced by substantial root ingress into the manholes and sewers. It is anticipated that repairs to various manholes and some sewer lines will be recommended. The repairs would entail cleaning and chemical treatment of the sewer and regrouting of manholes. Some of the sewers may require replacement due to their poor physical condition.

58. As the sewerage system is owned and controlled by Defence, DHA will liaise with local representatives to ensure rectification work is completed before construction commences. A cost for this work has not yet been determined. However, this cost will be the responsibility of Defence.

Electricity

59. All electric service is provided from the existing LWC infrastructure. Each house is individually metered in order for Defence to be able to bill individual tenants for power consumption.

Telecommunications

60. No upgrading of existing facilities is planned. The Committee, however, was advised by Defence that mobile phone reception in the area is poor.

Stormwater Drainage

61. The redevelopment will be serviced by the existing drainage infrastructure.

Committee's Conclusion

62. Redevelopment of housing in the Boike Road and Corcoran Crescent precincts at Canungra will provide Defence personnel and their families with good quality housing consistent with community standards.

ENVIRONMENTAL CONSIDERATIONS

Site Planning and Energy Conservation

63. The siting of each house on the blocks is a very important component of the redevelopment. The living areas have been orientated, where possible, to the north with roofed outdoor pergola areas forming an integral part of the living spaces. The garages, bathrooms, toilets and laundries are generally located along the western boundaries with their requirements for minimal light penetration providing an effective solar buffer to the remaining living areas. Bedrooms are located to the rear of the houses away from the streets.

64. Safety features include earth leakage circuit breakers and smoke detectors. The Committee was advised that DHA also has a retrofit program for earth leakage circuit breakers and smoke detectors in all of its houses already constructed. The Committee was advised that dual-flush toilets and water saving roses in showers are included in all houses.

Committee's Conclusion

65. The Committee commends the Defence Housing Authority on its decision to retrofit existing houses with earth leakage circuit breakers and smoke detectors.

66. The living area is equipped with a wood burning stove enabling tenants to take advantage of the abundantly available firewood at reasonable prices. The CTCG advised the Committee that in the past many discussions had been held concerning heating. Electric fan heaters had been installed in some of the brick houses in Mahony Crescent. However, tenants were not completely happy as electricity bills rose to such an extent that they were not able to maintain adequate heating and pay the electricity bills. The option of slow combustion heating was therefore chosen. The Committee was advised that the majority of people prefer to buy wood although it is possible to gather some wood from the range.

67. DHA advised that it had considered the installation of solar hot water systems. However, the Committee was advised that hailstones have been a problem in the area and the installation of the solar hot water systems was not considered appropriate, particularly in regard to responsive maintenance on the systems. DHA advised that the issue of solar hot water systems is being reviewed and a report to the DHA Board is expected later this year.

Committee's Recommendations

68. The Committee recommends that the Defence Housing Authority advise it of the outcome of its review of solar hot water systems which will be carried out later this year.

69. The Committee recommends that should the Defence Housing Authority review decide in favour of solar hot water systems, then these systems should be installed in the redevelopment at the Land Warfare Centre, Canungra.

Landscape Design

70. Timber paling fences define the sides and rear boundaries of each block. Side fences will be 1.8m high and return to the houses 1.0m back from the front wall. These fences provide privacy from neighbours and offer a place to keep rubbish bins out of sight.

71. The Committee queried the possibility of erecting metal fences instead of timber fences which dilapidate quickly. DHA advised that advice from contractors on the Gold Coast indicates cost differences between \$7 and \$10 per metre plus approximately \$150 per set of gates. Metal fencing and gates would therefore cost between \$450 and \$500 more than timber fencing per house. DHA advised that metal fencing is not community standard and is not extensively used in the Gold Coast/Hinterland area.

72. The front landscape design of the houses forms an integral part of the streetscape. Footpaths, street trees and turfed road reserves are typical components of the streetscape. Picket fences in front of some houses add variety and provide additional secure garden space. Some front lawns form extensions to the road reserve while others have mulched planting beds. Rear gardens maximise flat or gently sloping turf as play areas for children and provide screen planting to fences and neighbouring houses with shade trees in lawn areas. Paths are provided around each house for easy access and house footing protection, and concrete driveways give direct access to the garages.

73. The landscape design also contributes to the energy efficiency of the houses. Evergreen trees shade the western side of the houses where appropriate and deciduous trees to the north and east allow winter sun into the living areas and provide shade in summer.

Environmental Assessment

74. By incorporating the new housing development in a more compatible way with the existing landform, the environmental impact will be substantially less than that of the existing houses. The majority of the existing floor plans are flat with the slope of the land being taken up with concrete piers of varying heights. In some instances, on the more steeply sloping blocks, the downward side of the houses is as much as 3m above ground level. The houses stand out prominently in the landscape and optimum site use is limited because of the significant difference in levels between houses and gardens. The new houses have floor slabs stepped in one or two places in order to integrate the house design into the sloping blocks. The result is a series of houses that fit comfortably into the landscape and have a direct relationship with the exterior garden spaces. In addition, the environmental impact will also be softened by the planting of advanced street trees and the provision of new community parks, as well as the upgrading of existing ones.

75. The surrounding bushland comprises mainly gums, native pines, wattles, bottlebrushes, casuarinas, grevilleas, melaleucas and some banksias. The total number of houses in both precincts has been reduced making it possible to include significant community parks and larger house blocks in the planned redevelopment. Combined with a network of paths, upgraded streetscapes, newly landscaped blocks and buffer planting zones, the parks will contribute significantly to the integration of the development with the natural landscape.

76. The Australian Nature Conservation Agency queried the presence in the area of endangered or vulnerable species. DHA advised that the development is on land already containing service family housing. Gardens of the older and removed houses principally contain or contained exotics while the street trees, other than some undesirable species, are being retained. None of the plant species listed by the ANCA is growing in the areas to be developed.

77. DHA advised the Committee that the Environment Protection Agency supported the recommendation by ANCA that a brief survey of the redevelopment site take place by a qualified botanist. DHA also confirmed that a heritage assessment is to be undertaken of the Canungra area to identify if the built environment has national estate significance. Any redevelopment will have full regard to the results of the heritage study.

78. The Australian Heritage Commission advised the Committee that although the complex is not listed in the register of the National Estate, it believes that Canungra has potential national estate significance for cultural value. The historic importance of the base is important due to its being the first jungle training base in the world and for its association with the American troops during the Second World War. DHA advised that the proposed redevelopment will have no adverse effects on the natural national estate value of the LWC. The housing development will take into account the findings of the heritage architect who will undertake an assessment of the existing built environment.

79. The existing road infrastructure is essentially east-west, making it possible to orientate and plan the new houses to maximise winter solar gain in the living areas. The topography varies considerably within the two precincts containing a mixture of flat and steeply sloping blocks. House plans selected are appropriate for the varying elevations and are stepped in their floor plans to accommodate existing slopes without requiring substantial

retaining walls.

80. The climate of the area is one of extremes. Frequent and prolonged dry spells place a heavy demand on the water supply. Frosts are common in winter with temperatures often below zero degrees. Due to its altitude, Canungra frequently receives heavy falls of rain in the hot summer months. These climatic extremes impact significantly on house design. Orientation becomes an important factor in order to maximise solar benefit and prevailing cooling winds.

81. Slow combustion heaters are needed to warm houses during winter, while fans are required for cooling during the summer. Efficient and rapid stormwater disposal is mandatory to cope with the prevalent, sudden deluges of rain. The average annual rainfall is 1400mm.

82. DHA advised that airconditioning in homes is not provided. The Committee queried whether airconditioning should be installed in all homes. DHA advised that discussions with installers indicated that a split-cycle ducted system would be required for summer and winter. Cost estimates varied from \$8 000 to \$10 000 depending on the size of the house and system to be installed. Three phase electricity could also be required. Alternatively, window airconditioners could be used in each of the rooms/living areas of the house. This would cost between \$4 800 and \$6 000. This compares to a cost of installation of six fans plus a slow combustion stove of approximately \$2 600. The CTCG confirmed that although airconditioning as an option has not been discussed by its members, most residents are of the opinion that fans work fairly well. DHA advised that it will discuss the issue of airconditioning at Canungra with Headquarters Australian Defence Force.

83. The soils of the area are sandy and light and of varying depths over sandstone. This contributes to the cost of the houses, as many require the addition of substantial piers to the footings in order to reach the solid sandstone base.

84. The Committee queried the possible presence of hazardous waste on the site. DHA advised that it examines previous use of its land and if there is any indication that it may have had a use which could pose a risk, then a geotechnical survey and soil testing are conducted. The appropriate Australian standard for the treatment and removal of hazardous materials is then adopted. DHA advised that it carries a complete public liability

insurance with private sector underwriters. The Committee was advised that the areas to be redeveloped have been used for housing for the past 30 years.

PLANNING CONTROL

85. LWC Canungra, being contained on Crown Land under the control of the Commonwealth, is outside the jurisdiction of local planning authorities. Nevertheless, the Army and DHA promote the advantages of good relations with civil authorities by consultation and liaison. All new development is therefore constructed in accordance with prevailing local authority requirements.

86. The Committee was advised that DHA does not insist on its builders being quality assurance certified, although its builders are licensed by the appropriate licensing boards. Previous works of the builders are inspected and previous clients contacted by DHA. Checks are also conducted by DHA through technical staff and consultants. A financial check is also completed before contracts are signed.

POSSIBLE FUTURE DEVELOPMENT

87. The master plans for the Boike Road and Corcoran Crescent Precincts contain provisions for the future development of five additional houses each. Their **respective** positions in the plans are such that, if required, connections to existing services will be simple and the streetscape character will form a logical extension of the current proposals. This should be sufficient to satisfy the long term housing requirements of the LWC.

CONSULTATIONS

88. Between June and December 1993 DHA, with the assistance of Woods Bagot Architects, held discussions with the local Service commander and prepared a range of concept plans for the redevelopment of the Boike Road precinct.

89. On 24 March 1994 the first of two formal presentations was made at a meeting of senior Army personnel and members of the community. Four concept plans were presented. Considerable discussion followed and the preferred option was adopted, subject to adjustments.

90. DHA advised the Committee that no house is bought, leased or built without the tenant consultative group having had an opportunity to look at the plans or look at the same type of house in a completed stage. The CTCG inspected housing developments in Brisbane and Ipswich and viewed completed houses of the type proposed for Canungra.

91. The Committee was advised that after 12 months occupancy, each family will be asked to survey its house on the level of amenity, liveability and functionality. Any problems experienced will then be investigated by the manager of the HMC.

92. The CTCG confirmed that DHA has always been willing to listen to its views and has conducted tours to other housing areas. Opinions have been sought from the CTCG on issues such as the sizing of rooms, position of houses on the blocks and inclusions in the houses. Its suggestion of increasing the size of bedrooms to accommodate two beds on the floor in lieu of bunk beds has been adopted by DHA. The CTCG advised that it is satisfied with the consultative process with DHA.

PROJECT COSTINGS

93. When referred to the Committee in October 1994 the estimated cost of the proposal was \$7.6m. DHA has advised the Committee that the estimated cost is now \$7.86m. This increase is due to a refining of costs as well as the construction of additional traffic calming devices in Boike Road.

Details concerning these costs are as follows:

Item	Timing	Cost
BOIKE ROAD PRECINCT		
Removal of existing houses (12 @ \$8000 ea)	1995	(\$96 000)
Construction of new houses (29 @ \$130 000 ea)	1995-1996	\$3 770 000
Construction of traffic calming devices, streetscaping parks and bus shelters	1995-1996	\$200 000
CORCORAN CRESCENT PRECINCT		
Removal of existing houses (35 @ \$6000 ea)	1995-1996	(\$210 000)
Construction of new houses x 26 (26 @ \$140 000 ea)	1995-1996	\$3 640 000
Upgrade existing houses - 1	1995	\$50 000
Construction of traffic calming devices, streetscaping, parks and bus shelters	1995-1996	\$200 000
TOTAL		\$7 860 000

NOTE: Total above includes small allowances for contingencies and consultant fees. Removal of existing houses is expected to generate net income revenue based on previous experience.

Committee's Recommendation

94. The Committee recommends redevelopment of housing for service families at Land Warfare Centre, Canungra, Qld at an estimated cost of \$7.86m.

CONCLUSIONS AND RECOMMENDATIONS

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

	Paragraph
1. The existing timber frame houses clad with asbestos sheeting at the Land Warfare Centre, Canungra are substandard and in need of replacement.	21
2. A need exists to provide suitable accommodation for Defence personnel who are presently living in substandard accommodation at the Land Warfare Centre, Canungra.	22
3. The Committee notes that the Defence Housing Authority will investigate the possibility of increasing the width of hallways in defence housing in its review of design portfolios.	53
4. The Committee recommends that the Defence Housing Authority take into consideration recommendations from the Draft Standard for Adaptable Housing in its review of design portfolios.	55
5. Redevelopment of housing in the Boike Road and Corcoran Crescent precincts at Canungra will provide Defence personnel and their families with good quality housing consistent with community standards.	62
6. The Committee commends the Defence Housing Authority on its decision to retrofit existing houses with earth leakage circuit breakers and smoke detectors.	65

7. **The Committee recommends that the Defence Housing Authority advise it of the outcome of its review of solar hot water systems which will be carried out later this year.** 68
8. **The Committee recommends that should the Defence Housing Authority review decide in favour of solar hot water systems, then these systems should be installed in the redevelopment at the Land Warfare Centre, Canungra.** 69
9. **The Committee recommends redevelopment of housing for service families at Land Warfare Centre, Canungra, Qld at an estimated cost of \$7.86m.** 94



Colin Hollis MP
Chair

9 March 1995

APPENDIX A

WITNESSES

DAVID, Mr Edwin Joel Sherring, General Manager, Operations, Defence Housing Authority, 2 Brisbane Avenue, Barton, ACT, 2600

DUNSTAN, Mr Antony Mark, Associate, Woods Bagot Pty Ltd, Waterfront Place, 1 Eagle Street, Brisbane, QLD, 4000

HONEY, Mr John Peter, Project Officer, Canungra Region, Defence Housing Authority, Level 2, 80 Petrie Terrace, Brisbane, QLD, 4000

KIRKHAM, Major Peter Hunter Neil, Staff Officer Grade 2, Personnel, Department of Defence, Army, Land Warfare Centre, Canungra, QLD, 4275

PRINCE, Mr Lawrence Paul, Regional Manager, South Queensland, Defence Housing Authority, Level 2, 80 Petrie Terrace, Brisbane, QLD, 4000

PURSEY, Colonel Peter Louis George, Department of Defence, Commandant, Army Land Warfare Centre, Canungra, QLD, 4275

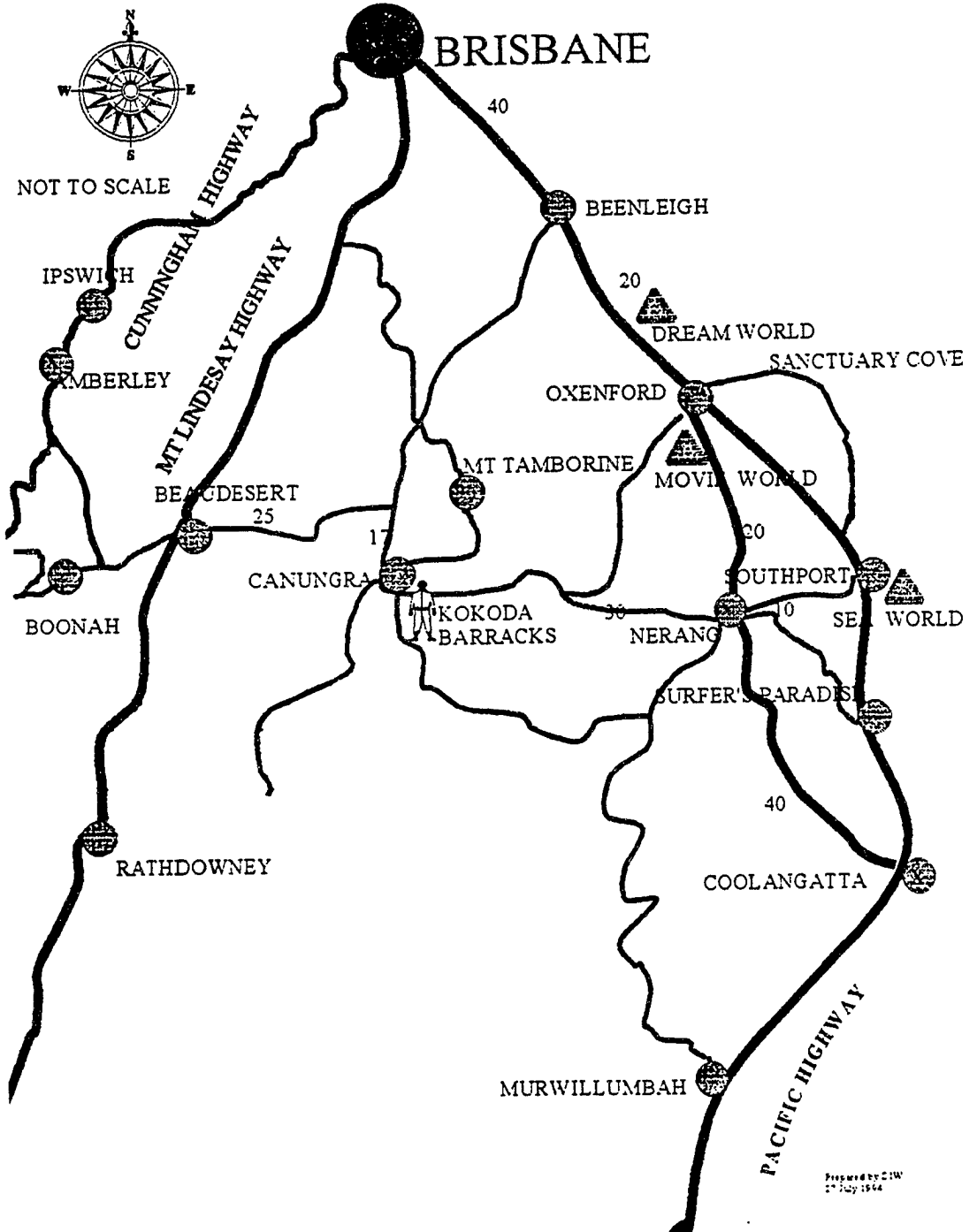
SMITH, Ms Helen Frances, Chairperson, Canungra Tenants Consultative Group, 21 Mahony Crescent, Canungra, QLD, 4275

APPENDIX B

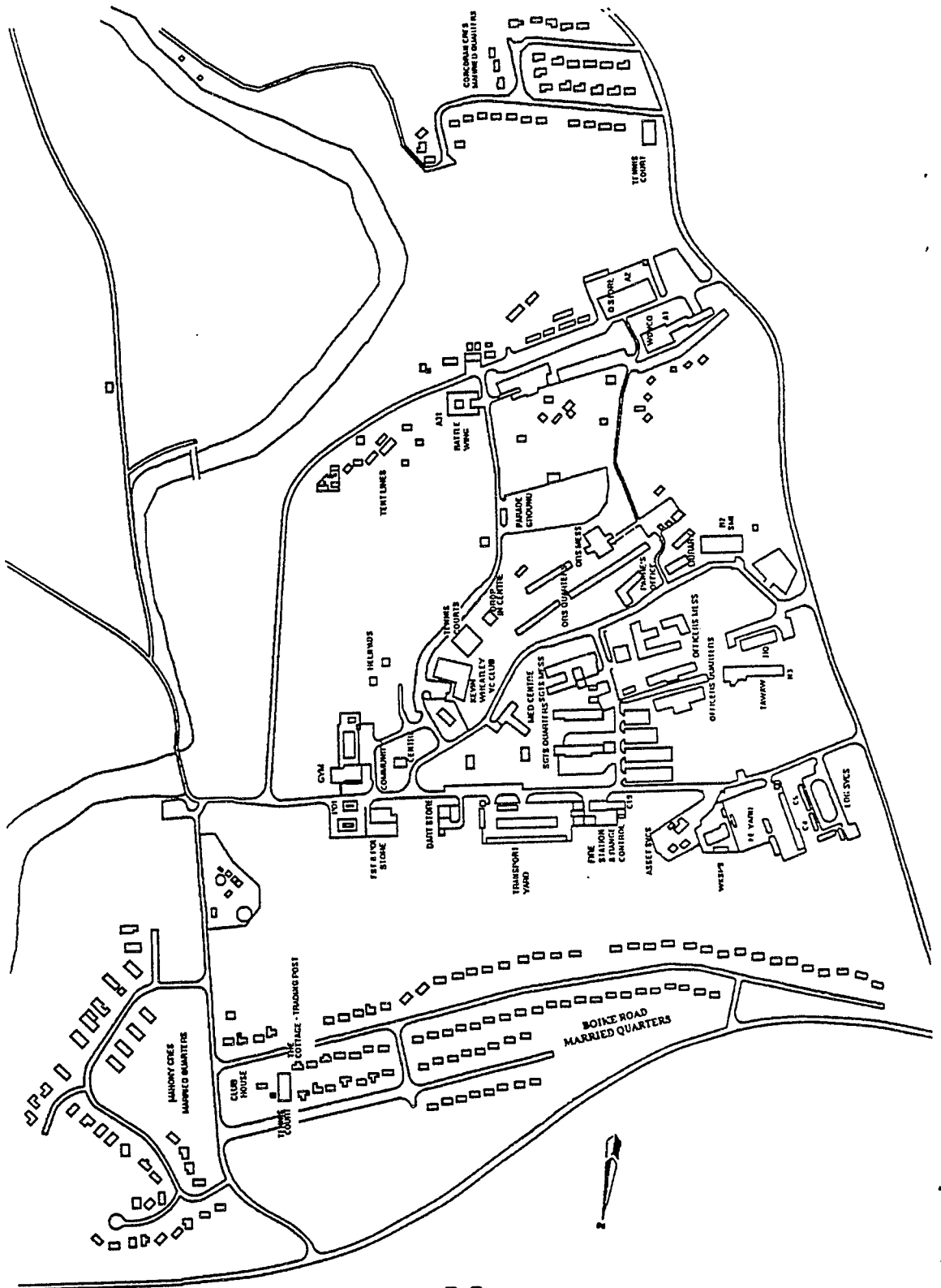
PROJECT DRAWINGS

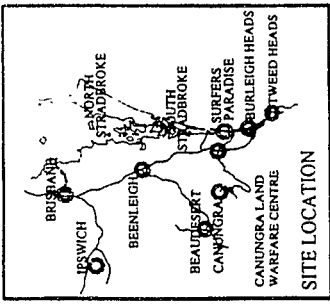
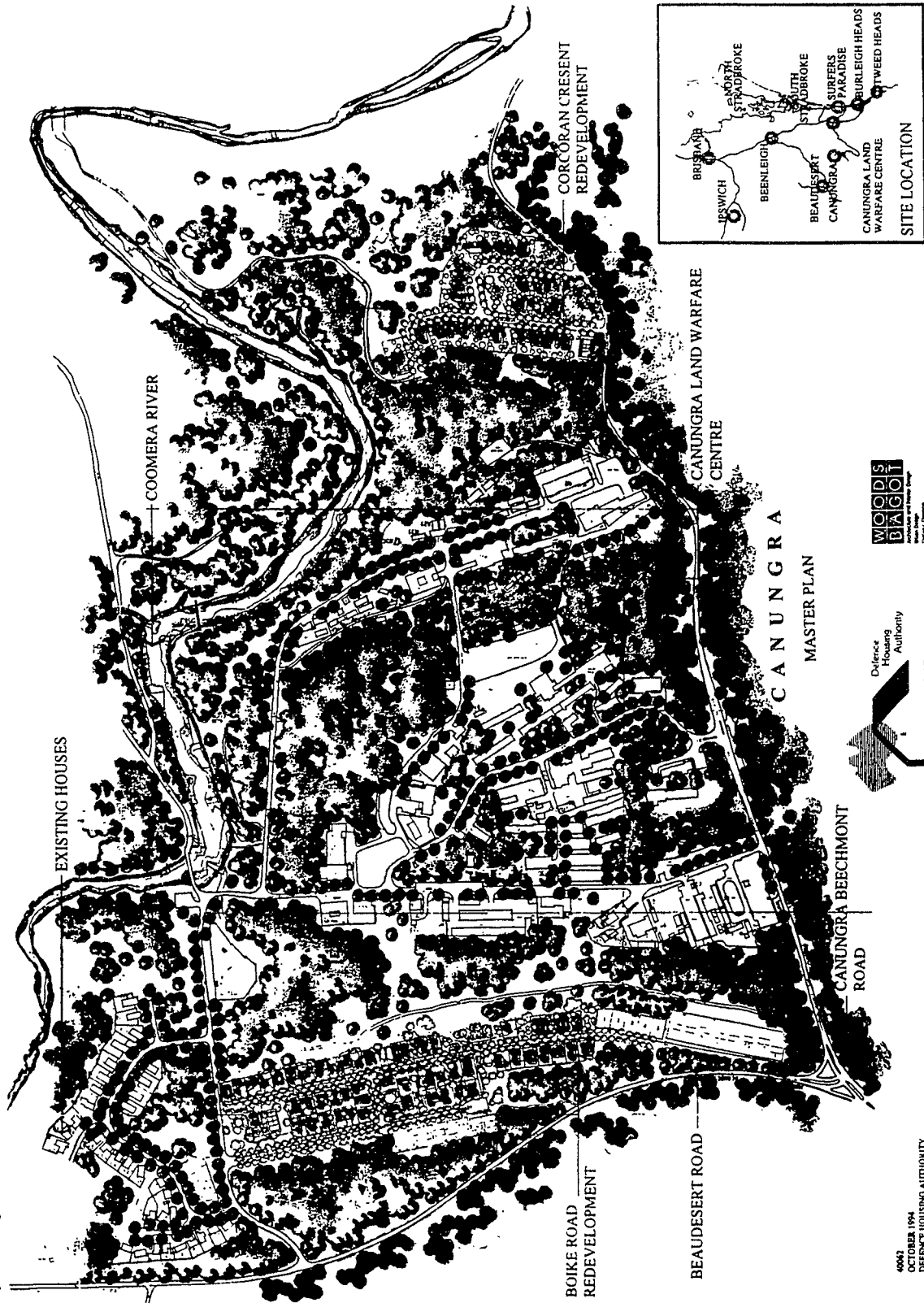
Location Map	B-1
Area Map	B-2
Master Plan	B-3
Master Plan of Corcoran Street	B-4
Master Plan of Boike Road	B-5
Typical 3 Bedroom House	B-6
Typical 3 Bedroom Townhouse	B-7
Typical 4 Bedroom House	B-8

CANUNGRA LOCATION MAP



CANUNGRA AREA MAP





EXISTING HOUSES

COOMERA RIVER

BOIKE ROAD REDEVELOPMENT

CORCORAN CRESENT REDEVELOPMENT

BEAUDESERT ROAD

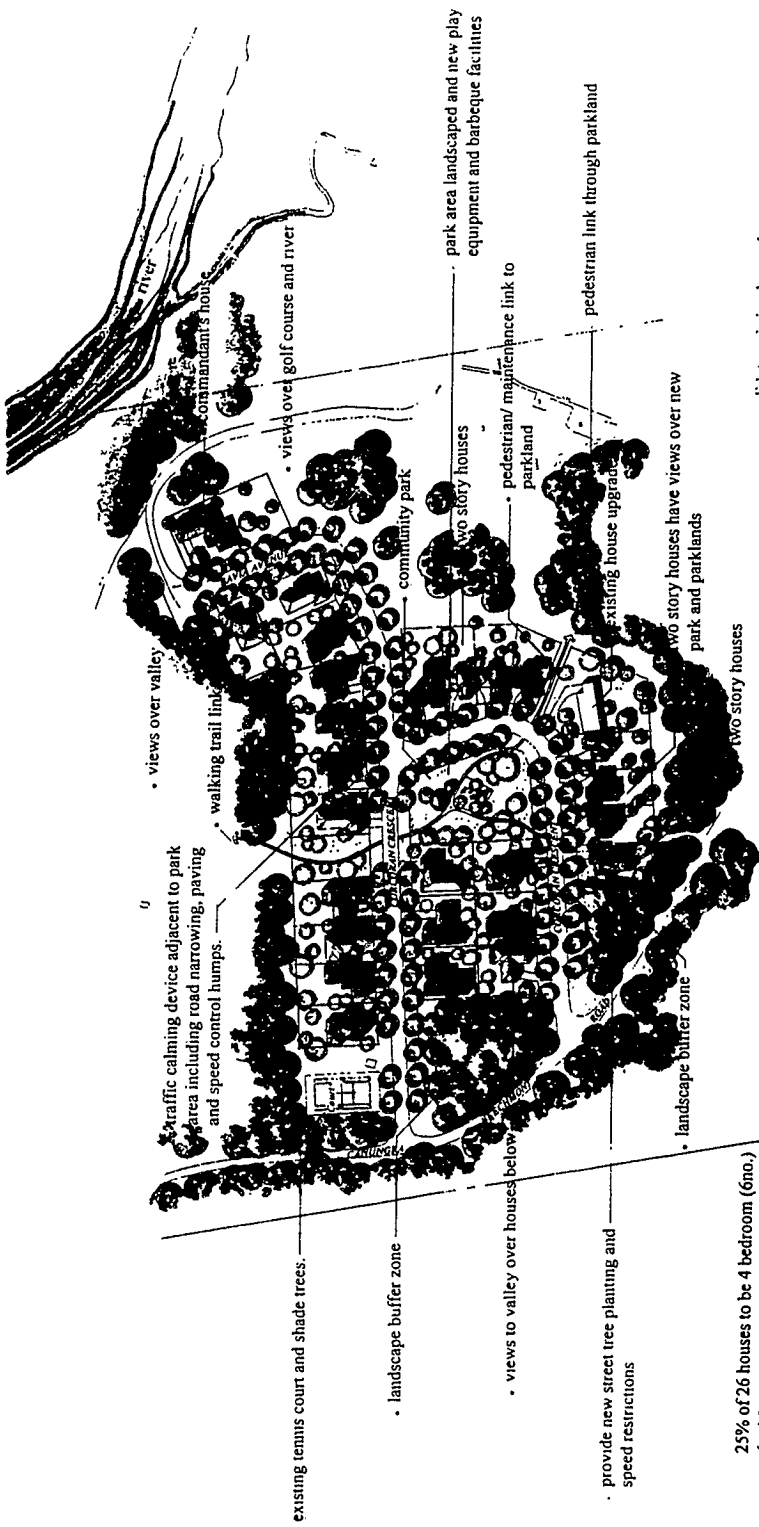
CANUNGRA LAND WARFARE CENTRE

CANUNGRA

MASTER PLAN

CANUNGRA BEECHMONT ROAD





existing tennis court and shade trees.

landscape buffer zone

views to valley over houses below

provide new street tree planting and speed restrictions

landscape buffer zone

25% of 26 houses to be 4 bedroom (6no.)

6 x b2

1 x d

19 x c

1 x existing house

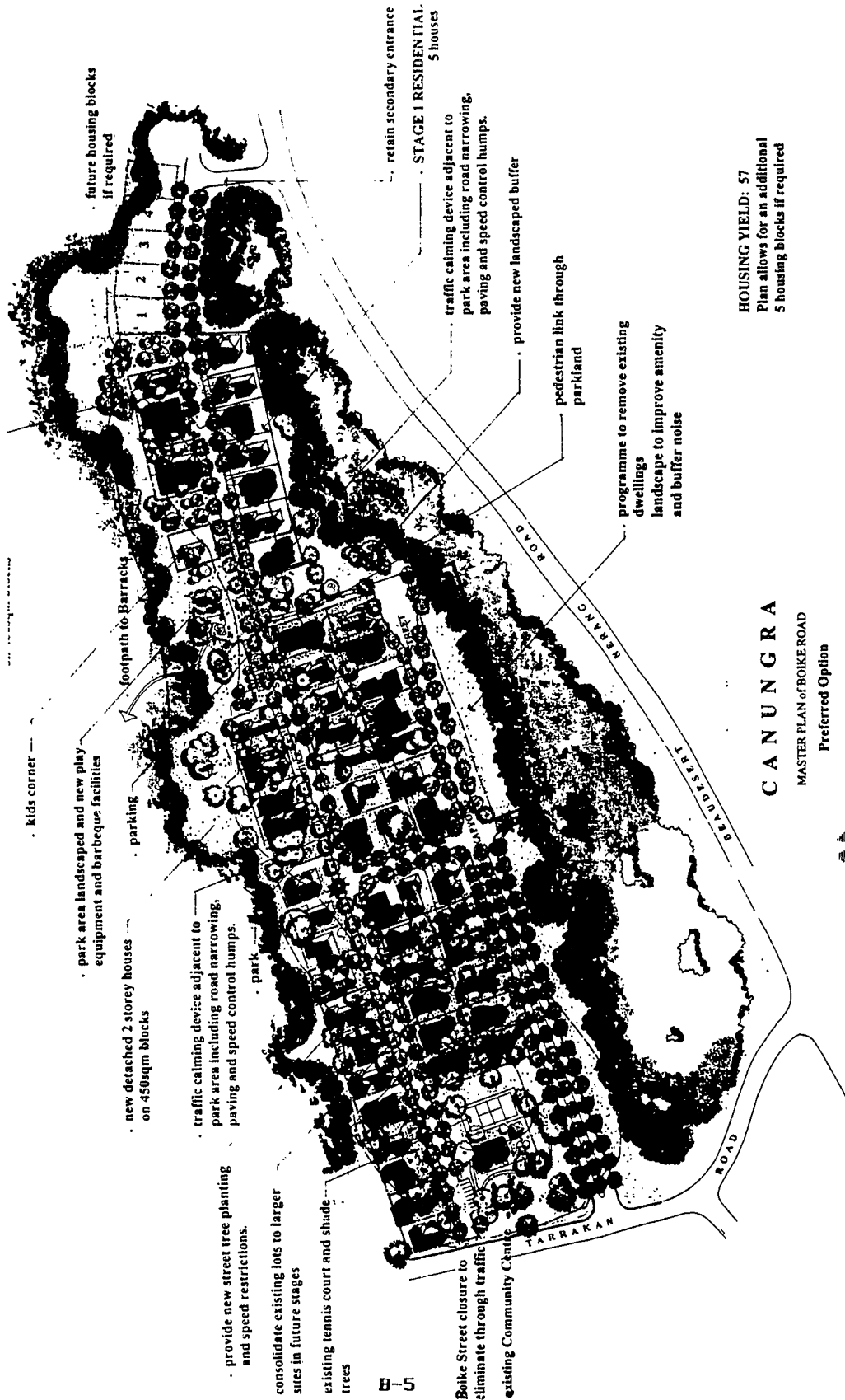
HOUSING YIELD: 27
Plan allows for an additional 5 housing blocks if required

consolidate existing lots to larger sites in future stages.

CANGRA

MASTER PLAN of CORCORAN CRESENT





B-5

HOUSING YIELD: 57
 Plan allows for an additional 5 housing blocks if required

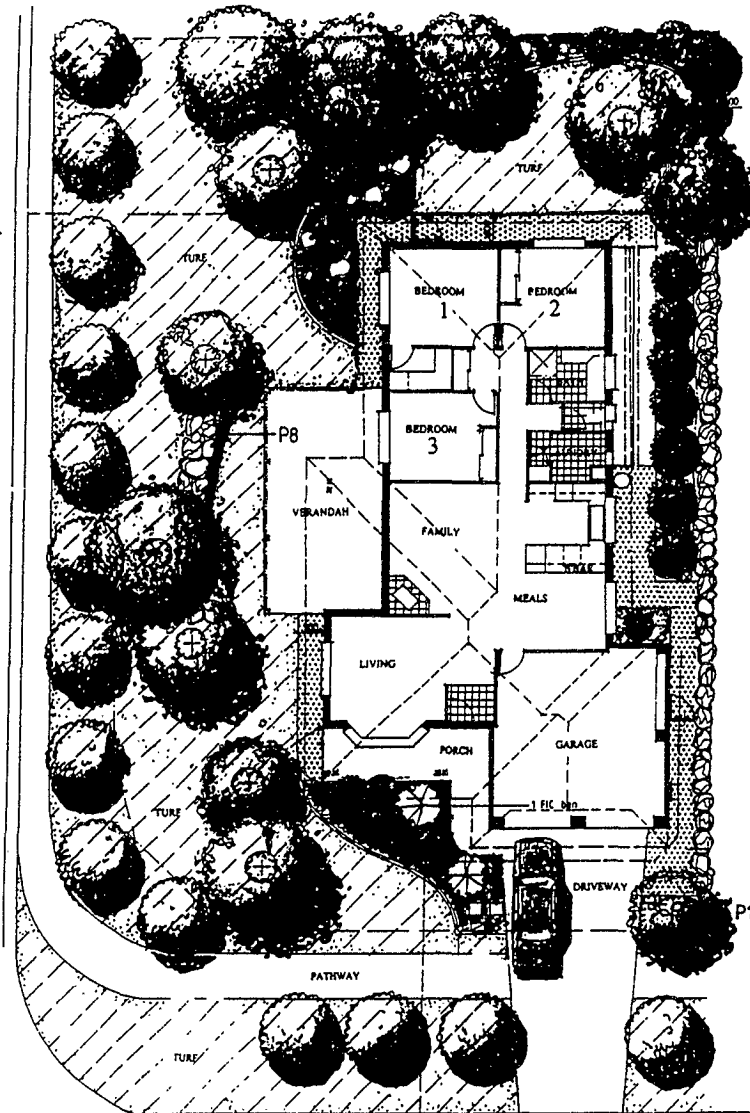
CANUNGRA
 MASTER PLAN of BOIKE ROAD
 Preferred Option



Defence Housing Authority



April 1994
 SCALE: 1:1000
 4002
 NORTH



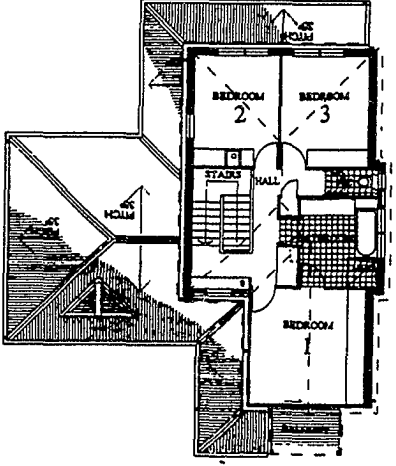
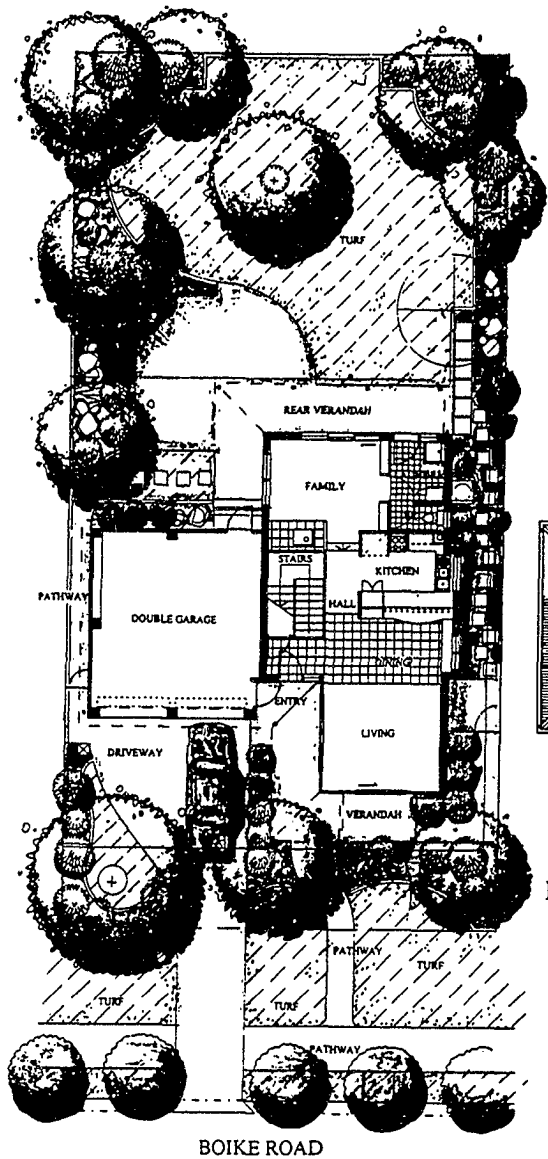
BOIKE ROAD

TYPICAL 3 BEDROOM HOUSE

CANUNGRA HOUSING DEVELOPMENT
DEFENCE HOUSING AUTHORITY



Architecture and Interiors Design
Urban Design
Strategic Planning

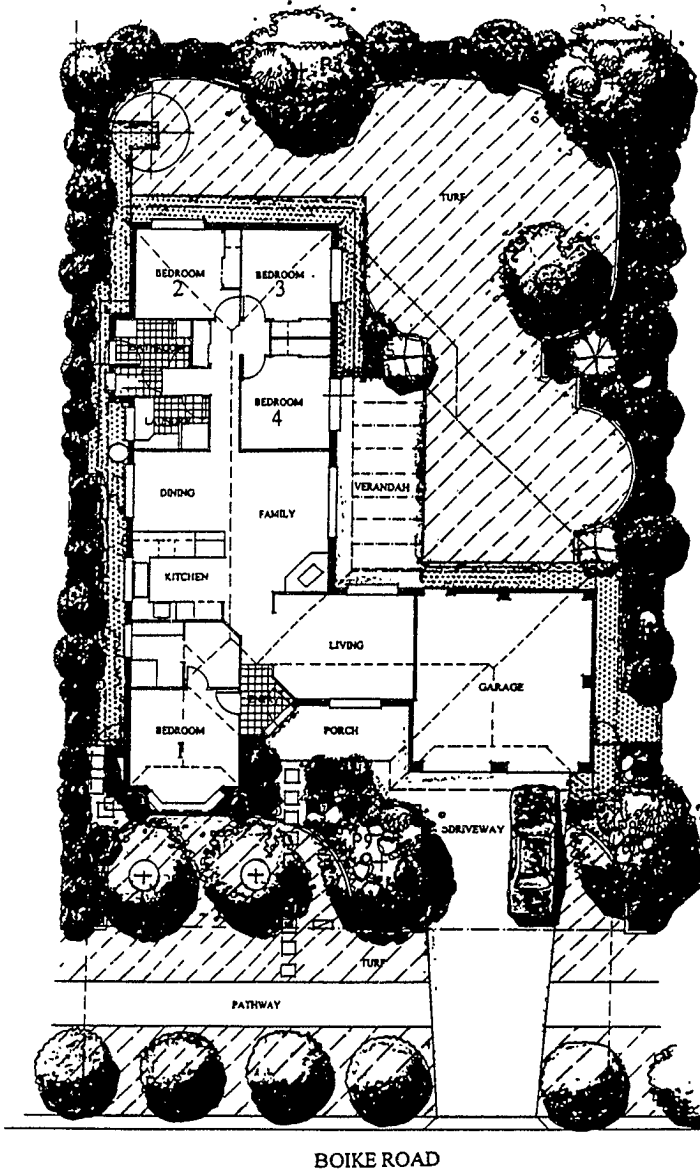


FIRST FLOOR

TYPICAL 3 BEDROOM TOWNHOUSE

CANUNGRA HOUSING DEVELOPMENT
 DEFENCE HOUSING AUTHORITY





TYPICAL 4 BEDROOM HOUSE

CANUNGRA HOUSING DEVELOPMENT
DEFENCE HOUSING AUTHORITY





Civil Aviation Authority
AUSTRALIA

EXEMPTION NUMBER: BKFO/007/95

218

CIVIL AVIATION ACT 1988

CIVIL AVIATION REGULATIONS

DIRECTIONS UNDER SUBREGULATIONS 207(2) AND (3)

27/11/95

I, WILLIAM ALLAN FAIRBAIRN, Regional Manager, South East Region, Directorate of Aviation Safety Regulation, Civil Aviation Authority, a delegate of the Authority;

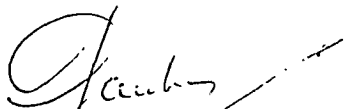
- (1) under subregulation 207 (2) of the Civil Aviation Regulations (the Regulations), direct that:
 - (a) when the exempted aircraft is flying in charter or aerial work operations:
 - (i) it must be fitted with instruments, and must be fitted with, or carry, equipment in accordance with subsections 3, 4, 5, 7, 8, 9 and 10 of section 20.18 of the Civil Aviation Orders (the Orders); and
 - (ii) it must be fitted with a cockpit voice recorder; and
 - (iii) it must be fitted with a flight data recorder that complies with the equipment standards set out in section 103.19 of the Orders; and
 - (b) when the exempted aircraft is flying in private operations:
 - (i) it must be fitted with instruments, and must be fitted with, or carry, equipment in accordance with subsections 3, 4, 5, 7, 8, 9 and 10 of section 20.18 of the Orders; and
 - (ii) it must be fitted with a cockpit voice recorder unless the recorder has been removed so that data can be read from it; and
 - (iii) it must be fitted with a flight data recorder that complies with the equipment standards set out in section 103.19 of the Orders unless the recorder has been removed so that data can be read from it; and
 - (c) when the exempted aircraft is flying in any other class of operations it must be fitted with instruments, and must be fitted with, or carry, equipment in accordance with section 20.18 of the Orders; and
- (2) under subregulation 207(3) of the regulations, direct that the instruments and equipment that must be fitted to, or carried in, the exempted aircraft must be fitted, carried, or used in accordance with section 20.18 of the Orders.

These directions remain in force until the end of April 1995.

While these directions are in force section 20.18 of the Orders has effect in relation to the exempted aircraft only in so far as is set out in these directions.

In these directions:

"**exempted aircraft**" means the Australian aircraft bearing the nationality and registration marks VH-IMI.



WILLIAM ALLAN FAIRBAIRN
Regional Manager
South East Region

21 March 1995

EXPLANATORY STATEMENT

Civil Aviation Authority

Directions under subregulation 207(2) and (3)

Subsection 98(1) of the Civil Aviation Act 1988 (the Act) provides that the Governor-General may make regulations for the purpose of the Act and in the interests of the safety of air navigation.

Regulation 5A of the Civil Aviation Regulations (the Regulations) provides that a direction that has the effect of repealing, amending, or otherwise affecting the operation of, anything in a Civil Aviation Order, is a disallowable instrument for the purposes of section 46A of the Acts Interpretation Act 1901.

Subregulation 207(2) of the Regulations provides, amongst other things, that an Australian Aircraft must not be used in any class of operations unless it is fitted with instruments, and is fitted with or carries equipment, as directed by the Authority.

Subregulation 207(3) of the Regulations provides, amongst other things, that if instruments or equipment are required to be fitted or carried under subregulation 207(2), they must be fitted, carried, or used in accordance with the Authority's directions.

Section 20.18 of the Civil Aviation Orders sets out the Authority's directions about the instruments and equipment that must be fitted or carried by Australian aircraft and how they are to be fitted, carried or used. These directions include a requirement for aircraft to be fitted with an approved cockpit voice recorder and an approved flight data recorder.

Impulse Airlines Pty limited (Impulse) are presently introducing British Aerospace 748 type aircraft to their Sydney Based Operation. 2 British Aerospace 748 aircraft have been imported for Impulse's operations. These aircraft are undergoing an extensive refit at Bankstown Airport.

For the purposes of issuing a Certificate of Airworthiness to enter into freight service, compliance with CAO 20.18 para 6.2B cannot be achieved since replay of the Flight Data Recorder is not available. Accordingly, the Cockpit Voice recorder and Flight Data Recorder fitted to the aircraft have not yet been approved.

The Authority is satisfied that it will not adversely affect the safety of air navigation if the aircraft is flown in Charter, Aerial Work, or Private, operations with a Cockpit Voice recorder and Flight Data Recorder that have not been approved.

Accordingly, the Authority has given directions under subregulations 207(2) and (3) replacing the directions in section 20.18 of the orders.

The direction under subregulation 207(2) requires the aircraft to be fitted with, or carry, the instruments and equipment set out in section 20.18, other than subsection 6 when it is flying in Charter and Aerial Work operations (the class of operations which includes flying training) or private operations. The direction also requires it to be fitted with a cockpit voice recorder and a flight data recorder when it is flying in Charter and Aerial Work operations, and to be fitted with the recorders when it is flying in private operations unless they have been removed for read out purposes. The flight data recorder must conform to the equipment standards set out in section 103.19 of the orders. The direction further requires that all the instruments and equipment set out in section 20.18 must be fitted to, or carried in, the aircraft when it is flying in any other class of operations.

The direction under subregulation 207(3) requires the Cockpit Voice Recorder, the Flight Data Recorder, and the instruments and equipment set out in section 20.18, to be fitted, carried or used in accordance with that section.

The direction came into operation on gazettal and will cease to operate at the end of 30 April 1995.

The directions have been given by an Authority delegate in accordance with regulation 7 of the Civil Aviation Regulations.