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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REPORT

relating to the proposal to construct the

WODEN VALLEY HOSPITAL, CANBERRA.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

WODEN VALLEY HOSPITAL, CANBERRA

REPORT

On 23 February 1968 His Excellency the Governor-General in Council referred to the Parliamentary Standing Committee on Public Works for inquiry and report to the House of Representatives, the proposal to construct the Woden Valley Hospital, Canberra.

The Committee have the honour to report as follows:

PART I - INTRODUCTION

THE INVESTIGATION

1. The Committee received submissions and drawings from the Departments of Health and Works, the consulting architects - Stephenson and Turner - and the National Capital Development Commission. Evidence was taken at public hearings in Canberra from official witnesses, from representatives of professional and other interested organizations and from private witnesses. In all 38 witnesses appeared.

2. We were conducted on a tour of Canberra including the Woden Valley and made an inspection of the site. We also inspected the Canberra Community Hospital and studied a model of the proposal.

THE REFERENCE

3. The reference is the proposal to erect, in two stages, a 600 bed hospital in the Canberra suburb of Garran. It is planned as a general

utility to serve the whole of the Australian Capital Territory and as a unit of a comprehensive and integrated hospital system.

4. The first stage is to comprise a main multi-storey block containing 340 beds initially, plus the medical and para-medical departments and support facilities for the whole development. This stage will also include residential staff accommodation for 455 in separate two-storey and three-storey blocks and a nurses training school.

5. Stage 2 will be a two-storey block containing 220 geriatric, psychiatric and rehabilitation ward beds, a rehabilitation unit and a day hospital and admission centre for psychiatric patients. On the occupation of this stage the capacity of the main block will become 380 beds.

6. The estimated cost of the two stages is $17 million.

CANBERRA COMMUNITY HOSPITAL

7. The only hospital in Canberra at the present time is the Canberra Community Hospital. The original building, designed in 1943, accommodated 184 beds and 6 cots. Subsequently the hospital was extended and the bed capacity was increased to 253.

8. The Public Works Committee have reported to Parliament twice about extending the hospital. On the first occasion in 1956 the Committee considered outline development proposals and recommended that ultimately the hospital should have a capacity of 600 beds, to be reached in stages. It was also concluded that a hospital this size would be required when the population of the A.C.T. reached 75,000, then estimated to be about 1985.

9. Because of the development which was then taking place a submission was made to the Committee in 1960 with a view to commencing extensions. It was then thought that the population would reach 75,000 in 1965 and 104,000 by 1970. The reference proposed the completion of the main hospital block in two stages and a nurses home. The work has now been completed and the permanent facilities of the hospital complex can accommodate and service 600 beds.

10. In addition, 80 beds in temporary accommodation are at present being used. This number can be increased up to about 150 as the demand occurs. The temporary wards are in weatherboard buildings, most of which were formerly used as government offices and are now located within the hospital grounds. They are to be demolished as soon as possible after occupation of the Woden Hospital.

11. In November/December 1967 the average number of occupied beds was 497. The highest number of in-patients on any day during the period was 511 (excluding babies).

GROWTH OF CANBERRA

12. Population In the period since 1958, Canberra's population has grown from 39,000 to 110,000. The Committee were told that current predictions suggest an annual population increase of up to 13,000 over the period to 1973 when it is thought the population will be 170,000. By 1980, it is expected the 250,000 mark will have been reached.

13. Significant to the hospital accommodation question is the age distribution of Canberra's population. The figures show a high proportion of children of school age, a growing proportion of teenagers and workers

under 30 and, compared with the national average, a relatively small proportion of people over 65. It is also noteworthy that the birth rate in Canberra is 24 per 1,000 compared with the national average of 19.5 per 1,000.

14. Urban Development By 1965, Canberra's population had passed 75,000 and was growing by over 7,000 annually. In a reappraisal of the city's growth potential at this time, consideration was given to whether it was better to intensify building densities at existing centres and to continue to extend the fringes or to preserve the open character of the city by limiting existing districts and forming new settlements in the surrounding rural area.

15. The decision to follow the latter course was the background to an outline plan for a city of 250,000 people, accommodated in a series of clearly defined districts, each relatively self-contained, but, which would jointly support the central areas, the city centres and the special institutional and functional zones. The first such district, Woden, located generally west and south-west of existing Canberra was begun in 1963. Its population is now about 25,000.

16. The second new town, Belconnen, to the north-west, was begun in 1966. The first residents moved in late in 1967.

17. Woden A feature of Canberra's planning is the open yet orderly structure of residential areas lying in the valleys. This arrangement has the advantage of compact development with ready access to central facilities, whilst allowing residents to live close to the countryside. It was partly a

recognition of the advantages of this type of living which led to the opening up of the new towns.

18. Woden, with its annexe Weston Creek, will accommodate some 80,000 people. Development in Woden is now well advanced and that in Weston Creek is about to commence. By 1973 it is expected that some 54,000 people will live in the area. Planning envisages 18 residential suburbs each supporting a primary school, shops and local community facilities within walking distance and free from through traffic. The suburbs in turn are grouped around a high school, playing fields and a larger centre including retail shopping, post office, hotel etc. Two such centres are planned to serve the needs of the area.

19. A town centre served by an extensive road system is being established. The heart of the centre will be a town square flanked on the south by retail and commercial development and on the north by government offices. The northern end of the centre is being developed for recreational purposes whilst to the south will be located service trades, service stations, showrooms, etc.

20. The road system is based on the reservation of parkways for high standard roads, the first sections of which have already been built. The parkways are supported by arterial and distributor roads designed to discourage through traffic in housing areas.

21. Belconnen This area will also consist of a group of suburbs clustered around a large town centre. By 1973, the population of Belconnen will be about 30,000, eventually rising to 120,000.

22. Regional and Other Influences Canberra is emerging as the metropolis of the south-eastern corner of New South Wales and whilst its services were not initially provided with regional residents in mind, use of them by those isolated from other metropolitan centres has given Canberra the function of a regional centre. The growth of the city's facilities has intensified dependence on the city by residents of the area. Canberra's region of influence is thought to cover an area of some 25,000 sq miles whose population is 150,000, excluding that of the A.C.T.

23. There has been increasing use of the Canberra Community Hospital by regional in-patients and in 1966/67 almost 11% of bed-days at the hospital were occupied by patients not resident in the A.C.T. An important influence encouraging this trend has been the increase in the number of both general and specialist medical practitioners in Canberra. Between 1960 and 1967, there was an increase of 65 practitioners of whom 42 were specialists. The latter now comprise 47% of practitioners in Canberra.

24. The city also attracts a substantial tourist traffic. The latest figures show that considerably more than 500,000 tourists pass through Canberra each year. These people also make demands on local medical facilities.

PART II - HOSPITAL PLANNING

NEED FOR ADDITIONAL HOSPITAL FACILITIES

25. Bed/Population Ratio At the previous inquiries, much evidence was given on the hospital bed needs of Canberra and in each case the Committee endorsed, as a planning principle, the provision of 8 hospital beds per 1,000 of population.

26. In 1960 the Committee noted that the bed availability at the Canberra Community Hospital was then only 5.5 beds per 1,000. It was thought that this was practicable due to the relatively young population in Canberra, recent advances in medical science and a reduction in the average stay of patients. It was observed that these factors would not necessarily continue to allow such a low bed availability to be adequate and that in some wards difficulties were being experienced.

27. During the present inquiry we were informed that there are divergences of opinion on the optimum number of hospital beds a community requires because of the many variable factors requiring consideration. Age structure of population, birth rate, local conditions and practices, extent of supporting facilities, government policies are all elements needing study, but which confuse comparisons between countries and, indeed, between communities in the same country. Equally, there are problems in comparing the proportion of beds required for various purposes within the agreed ratio.

28. The Committee noted the advice of the Department of Health that a ratio of 6 beds per 1,000 of population has now been adopted as the basis for planning future hospital development in Canberra. Of these beds, it is proposed to use four per 1,000 for general cases, one for obstetrics and one for geriatric and short term psychiatric patients requiring active treatment. Nursing home or long term psychiatric patients are not allowed for in these figures.

29. A ratio of 6 beds per 1,000 is not inconsistent with the overall provision of hospital beds in Australia approved for benefits purposes or with the practice overseas.

30. It is relevant that at present the Canberra Community Hospital is still managing with an availability of 5.5 beds per 1,000 and an occupancy rate of about 5.1 beds per 1,000. On this occasion it was suggested to the Committee that this situation was possibly due to the relatively low proportion of old people in the Canberra community, the extent to which A.C.T. residents are required to seek specialised treatment outside Canberra and to the relief provided by the District Nursing Service, the Child Guidance Clinic and privately built nursing homes. We noted that the present beds occupied/beds available ratio of 93% exceeds the ratio of 80% to 85% considered to be the ideal for flexible and efficient hospital management. We agree therefore that the present availability figure cannot be accepted as a suitable basis for future planning.

31. We took evidence from the A.C.T. Medical Association against the argument that significant numbers of potential in-patients are still required to obtain specialised treatment outside Canberra. Certainly it seems only a matter of time before this traffic will virtually cease. Furthermore, we thought it unwise to discount the considerable pressures placed on local facilities by persons living outside the A.C.T., including tourists, and the near certainty that the older segment of the population will gradually move closer in proportion to the national average.

32. After considering those arguments, we accept that as a basis for planning, 6 hospital beds per 1,000 population is reasonable in the present circumstances. We consider, however, that this ratio, by its very nature, should be the subject of regular review in the light of changing circumstances.

33. Extent of the Need The total need for hospital services increases in proportion to population growth. Based on a bed/population ratio of 6 per 1,000 and the current population projections, the estimated bed requirements for the next ten years are:

Year at 30 June	Estimated Population	Estimated Bed Requirements
1968	111,000	666
1969	121,000	726
1970	132,000	792
1971	144,000	864
1972	156,000	936
1973	170,000	1,020
1974	184,000	1,104
1975	198,000	1,188
1976	212,000	1,272
1977	226,000	1,356
1978	240,000	1,440

34. Reduced to simple terms these figures mean that during the next 10 years there will be a need for between 66 and 84 additional hospital beds each year.

FUTURE HOSPITAL DEVELOPMENT

35. Canberra Community Hospital The Committee were told that there are three fundamental reasons for not favouring a permanent increase in the bed capacity of the Canberra Community Hospital at this time. Although it is proposed that up to 150 temporary beds will be in use for some years before they are finally demolished, it has been designed as a 600 bed hospital. To increase its permanent capacity beyond that point would involve providing additional ancillary services and this could present site and administrative difficulties in the period before the temporary accommodation is removed.

36. The site does not lend itself to the construction of further extensions while the temporary wards remain because of the limitations imposed on three sides by Lake Burley Griffin.

37. It is also proposed to preserve the possibility of using it as either a post-graduate or an under-graduate teaching hospital in collaboration with the Australian National University. A decision to adopt either of these courses has not yet been taken but due to the differences between the accommodation required for general hospital and teaching hospital purposes, the construction of extra ward or other accommodation now might prejudice that possibility.

38. Calvary Hospital The religious order of the Little Company of Mary is proposing to erect a 200 bed hospital, to be known as the Calvary Hospital, in the Belconnen area. This project, which is receiving Commonwealth assistance, is planned to be occupied late in 1971.

39. The Calvary Hospital is to be developed as a general hospital containing 58 medical, 58 surgical, 40 maternity, 20 paediatric, 12 geriatric and 12 psychiatric beds, and providing out-patient and casualty services. It will be integrated with the other Canberra hospitals for the provision of common services, and be open to all sections of the community.

40. Need for Additional Hospital Beds Assuming that the provision of 6 beds per 1,000 of population is reasonable, that the Calvary Hospital is occupied on schedule late in 1971 and that the population predictions prove accurate, the Committee noted that temporary hospital bed shortages will occur in varying degrees between now and the occupation of the Calvary Hospital.

The latter will take up the backlog and hold the position until mid 1972 from which time onwards further shortages will develop. There will be a need to provide additional hospital beds in Canberra at that time.

41. Location The proposal to build Canberra's second government hospital in the Woden area follows from not favouring a further extension of the Canberra Community Hospital immediately, the wish to decentralise hospital services and the need for services in the developing new town areas. Because of the advanced state of the development there the Committee endorse the proposal to build a hospital in the Woden area.

42. Role of New Hospital The earlier concept of Canberra Community Hospital becoming a base hospital with small satellite hospitals in the suburbs lost its validity because of the nature and extent of the urban growth after 1963. The outline plan now favours the development at strategic points of general hospitals, each designed as an integral part of a co-ordinated hospital system. It is now intended that these hospitals, including the Calvary Hospital, will complement each other in a medical sense and share a rationalised system of ancillary services. The integration of services is designed to avoid the duplication of expensive equipment and services at each hospital and to make savings in operational costs.

43. The Woden Hospital is planned to provide a full range of services in the fields of general medicine and surgery, obstetrics, gynaecology and paediatrics and special facilities for geriatric, short term psychiatric and rehabilitation patients. It is also proposed that it will become a central supply and distribution point for bulk hospital supplies, including pharmaceutical goods.

44. Although some consideration has been given to the matter, a decision has not yet been taken whether the Woden Hospital will be used for undergraduate or post-graduate teaching purposes. The Committee noted that if the hospital is used for teaching, the site layout will permit the later erection of the accommodation that might be required.

45. Hospital Size It is the view of the Department of Health that the optimum size for a general purpose non-teaching hospital is about 600 beds. There is a good deal of support for this view from experts in the field for medical, management and economic reasons. On the other hand, there are also suggestions that a hospital of this size is too large for patients to receive personal treatment, too small to be economic or that there is no optimum size for a hospital.

46. In the final analysis, it seemed to the Committee that a decision on the ultimate bed capacity of a hospital is a matter of judgment in which a number of factors including local conditions and requirements play a significant part. In this instance, we believe that the construction of a 600 bed hospital at Woden is appropriate having regard to the existing and proposed hospital services, present and prospective demands, and the likely pattern of urban development.

INTEGRATION OF HOSPITAL SERVICES

47. The Committee noted the plan to co-ordinate and integrate the basic hospital services in the A.C.T. involving the Canberra Community, Calvary and Woden Hospitals and other hospitals as they are built.

48. Steps have already been taken to enlarge facilities in the laundry and linen area and in the central sterile supply department at the Canberra Community Hospital to enable these services to supply all hospitals. The proposal is for the Woden Hospital to handle bulk pharmaceutical supplies and for it to make up and supply other hospitals from those stocks. Hospital stores will be issued from the central bulk stores, also to be located at Woden.

49. Although each hospital will have a pathology department, the Commonwealth Health Laboratories now based at Canberra Community Hospital will operate and staff them on a co-ordinated basis to assist staffing and provide a more effective diagnostic service.

50. New hospitals are to receive their prepared food requirements direct from the food preparation centre of Commonwealth Hostels Ltd. at Fyshwick. This will result in economies in the provision of food preparation equipment and space and in operational costs.

PART III - THE PROPOSAL

WODEN HOSPITAL

51. Site The proposed site is of 40 acres and is in the Woden suburb of Garran. It is located north-east of the intersection of Hindmarsh and Yamba Drives and is also bounded by Palmer and Kitchener Streets and Gilmore Crescent. The site will be separated from Hindmarsh Drive at its southern end by an area which will be developed initially as a park.

52. The site is within 3 miles of all neighbourhoods in the Woden area. As it will front Yamba Drive the hospital will have ready access to the arterial roads serving Woden and linking the area with other parts of Canberra.

53. The natural gradient of the site to the north and west is satisfactory for the orientation of the hospital wards.

54. The Committee believe that the proposed site is satisfactory for the Woden Hospital.

55. Site Layout The stage 1 and stage 2 hospital blocks are to be located centrally on the site. Residential accommodation and associated facilities will be built to the east adjoining Palmer Street and Gilmore Crescent. Public car parks to be constructed in landscaped settings to the north, west and south will be convenient to Yamba Drive.

56. The main hospital block will comprise an almost square two-level podium housing the medical and utility services for both stages and the casualty and out-patient facilities. There will be external ground level access to both floors. From this base the rectangular tower block will rise nine floors. Its main axis will be east/west. The administrative offices and dining facilities will be on the first floor while the floors above will accommodate the medical, surgical, maternity, paediatric and intensive care wards. The operating theatres and delivery rooms are to be on the eighth floor and the plant room on the ninth floor. Vertical transportation will be provided in a lift tower adjoining the block.

57. The second stage will have facilities for geriatric and short term psychiatric patients on the upper floor of a two-storey building. There will be three wards on each side of a central north/south corridor. The lower floor will contain the rehabilitation unit and ward.

58. Future vertical extension of the buildings in this reference is not envisaged. However, the layout will allow future additional hospital blocks

to be sited either north or south of those now proposed. Extension of the lower two floors of the main block is also possible if the service departments there outgrow the proposed accommodation.

59. In-patient Accommodation The hospital is planned to accommodate 600 in-patients in the following categories:

Stage 1	General medical and surgical	224	
	Intensive care	16	
	Maternity	48	
	Gynaecological	32	
	Paediatric	60	380
Stage 2	Geriatric	148	
	Psychiatric	48	
	Rehabilitation	24	220
			600

60. The Committee noted that in the period between the occupation of the two stages, geriatric and psychiatric patients will be located in stage 1 and that some general ward space will be used for recreation, dining and rehabilitation purposes. The effective capacity of stage 1 will be reduced to 340 beds for this period.

DESIGN OUTLINE

61. Hospital Wards The wards have been designed to minimise walking for staff and to provide conveniences and services as close to patients as possible. Cross traffic will be minimised and there will be separation of clean and soiled areas. Ancillary services have been designed for staff

and patient convenience and the plans have flexibility which will allow the future rearrangement of accommodation.

62. The typical ward floor is designed on the double corridor system with the aim of using nursing staff purely for patient care. Utility rooms are adjacent to wards and the supply and disposal of materials is handled by non-nursing staff in the central supply core. The core will be served by clean and soiled material hoists, linen and garbage chutes, and call and pneumatic tube systems. The nurses station is located within the central core.

63. The layout of the wards in the main block is based on four 16-bed wards to each floor, each ward containing four single-bed rooms, two 2-bed rooms and two 4-bed rooms. A day room is provided for each 32 beds. We noted that in new parts of the Canberra Community Hospital, 16-bed ward units similar to those proposed at Woden are operating satisfactorily.

64. The intensive care ward is planned as an open area on the seventh floor. It will be isolated from the remainder of the floor and will be largely self-contained. Thirteen beds will be grouped together and three beds placed in adjacent cubicles.

65. The plan of the maternity floor is similar to the general ward floors with changes for nurseries and formula preparation rooms. The floor will take 48 maternity patients in seven 4-bed wards, six 2-bed wards and eight single rooms. Nurseries will accommodate 48 cots and there will be special nurseries for premature babies and those thought to be suffering from a disease.

66. The children's wards will basically follow the standard design but with the nursing stations relocated to facilitate supervision. Accommodation

is proposed for 60 patients mainly in 2-bed and 4-bed wards. Space is also allowed for play rooms, an interview room and for three parents to live-in.

67. The geriatric wards are designed on the single corridor system with special toilets, showers and bathrooms for wheelchair patients. In all, 148 patients are provided for in 6-bed and single-bed wards. Lounges and T.V. rooms, an occupational therapy area and a central dining area for ambulatory patients are planned.

66. Short term psychiatric patients will be admitted through an admission centre near the wards. Forty-eight in-patients will be provided for in 6-bed and single-bed wards. Day patients will be treated in adjacent facilities.

69. Ward accommodation is planned for 24 rehabilitation in-patients. The ward is near the rehabilitation unit where up to 325 day patients can be treated.

70. Service Departments The operating theatre suite of five theatres is planned on the eighth floor of the main block. This provision is based on a ratio of one theatre to each 30-40 surgical beds. Each theatre will have its own scrub-up and anaesthetising rooms and be equipped for modern surgery. The Committee looked closely at the number of theatres being provided and the layout and after noting all evidence consider that the planning is satisfactory.

71. The delivery suite, comprising three delivery rooms, two labour rooms and three early labour rooms and associated space is also on the eighth floor.

72. The ground floor of the main block will accommodate the out-patients, casualty, radiology, pathology and physiotherapy departments, the admission and discharge offices, a dental surgery, as well as the psychiatric and obstetrics clinics and social workers.

73. On the lower ground floor will be located the bulk pharmacy and supply area, the Woden pharmacy, medical records, kitchen, staff change rooms, library, mortuary, plant rooms, stores and workshops.

74. In relation to the space allowed for dental purposes, we noted the over provision of dental accommodation at the Canberra Community Hospital, that little social service dentistry is proposed at Woden and that additional space can be provided if the need develops.

75. Staff Accommodation The hospital staff who live-in will be accommodated in two-storey and three-storey buildings east of the hospital blocks. The trainee and trained nurses homes will be connected to the main hospital block by underground tunnels. Accommodation is planned for 455 persons in all, including 208 trainee nurses and aides, 162 trained nursing staff, 6 senior sisters, matron, 7 deputy and assistant matrons, 8 male nurses, 39 domestic staff and 12 single and 12 married medical officers.

76. Dining facilities for all staff will be on the first floor of the main hospital block. Change rooms and amenities are to be provided for 745 staff who will live out.

77. The estimates of cost for the present reference also provide for three residences to be built in nearby suburbs for key senior staff.

78. Training School The Committee noted that a decision has been taken to establish a nurses training school at Woden. It is to be located in a wing of the trainee nurses accommodation block providing class rooms, demonstration rooms, offices, a library and lecture theatre.

79. Commercial Centre A single-storey building centrally located between the main hospital block and the stage 2 ward block will contain banking and postal facilities, a kiosk and milk bar and a lecture hall. The latter, with seating for 100, will be equipped for seminars and conferences.

THE BUILDINGS

80. The multi-storey hospital block supported by the residential buildings and stage 2 will be an important landmark in the Woden area, complementing the high rise development in and around the district centre.

81. Although adjacent to urban development and a school to the east, the hospital is unlikely to adversely affect the area. The staff accommodation will act as a buffer between the hospital buildings and the urban areas. The grounds will be unfenced generally and landscaped so that they will merge with adjoining landscaped areas. The principal vehicular access will be from Yamba Drive.

82. Structural The main block will have a reinforced concrete frame with beam and slab floors. This form of construction is not only economical but will provide flexibility for services passing through floor slabs.

83. The second stage building and the nurses training school are to be framed in reinforced concrete also, whilst the staff accommodation buildings will have brick load-bearing walls and concrete floors.

84. The decomposed granite which occurs close to the surface of the site and extends to depths of 25 ft will provide a suitable foundation for all buildings.

85. Finishes Both hospital blocks will be finished in light coloured face bricks. Exposed concrete columns and reveals to the recessed windows will have an applied quartz finish. Anodised aluminium window frames and an insulated metal roof deck are proposed.

86. External walls of the residential buildings will be finished in bricks of the same colour as those in the main block. Anodised aluminium window frames and a metal roof deck will be used in these buildings also.

87. Internal partitions in the main building will generally be plastered brick. In most areas floors will be covered with vinyl tiles but in stores and plant rooms the finish will be granolithic. The floor finishes in toilets and showers will be mosaic tiles, in kitchen areas ceramic tiles, and in the operating theatres conductive vinyl will be used.

88. Walls in stores, plant rooms and the lower ground floor will be face brick or painted bagged brick. In kitchens, pantries, serveries and lavatories ceramic tiles will be used.

89. Ceilings will generally be suspended fibrous plaster but in public areas and other selected locations acoustic ceilings will be used.

90. Internal walls in the staff accommodation will be plastered brick and the ceilings will be finished in hard plaster, except on the top floor where fibrous plaster will be used. Acoustic ceilings will be provided in recreation and class rooms. Floors will be covered with vinyl tiles.

91. Mechanical Services The areas proposed to be air conditioned are all in the main block and include the mortuary, physiotherapy, pathology, radiography, casualty and out-patients departments, the operating theatre floor,

nurseries, sterile area in the pharmacy and the intensive care ward. It is planned that other ward areas will be mechanically ventilated but in the provision of this service ducts are to be sized and zoned to facilitate the future air conditioning of all wards.

92. Stores and workshops will be mechanically ventilated and an evaporative cooling system will supply air to the kitchen. Air exhausts will service toilets, fume cupboards, the operating theatres and delivery suites and such areas as autopsy, infectious nurseries etc. Staff accommodation will be heated by radiators.

93. Three oil-fired boilers will be located in the lower ground floor plant room. The chilled water plant, chilled and hot water pumps, calorifiers, compressed air equipment and medical gas plant will be in the same area. Boiler and incinerator flues will be taken from the lower ground floor plant room for discharge at tower level. The flues will not be visible from the ground and will be constructed to reduce the down-washing of smoke.

94. A pneumatic tube system which will serve the main block and several stations in stage 2 will carry medical records, x-rays, pathological samples etc. Plant for the system will be on the lower ground floor.

95. In the main block, vertical transportation will be provided in six bed/passenger lifts each of 3,500 lbs capacity serving all floors. Two trolley lifts, one for clean supplies and food and one for returning food trolleys and dirty returnable stores will serve all floors up to the eighth. The trainee nurses and trained nurses quarters will each have a passenger/goods lift of 2,000 lbs capacity. The stage 2 building will have two groups of

lifts, one at each end of the building. Each group will have two bed/passenger lifts of 3,500 lbs capacity.

96. Electrical Services The high voltage electricity supply will be brought into the site by underground cable to the substation in the main block. To guard against supply failures, it is proposed to provide two independent high tension feeders and to duplicate the transformers in the substation. From the substation low voltage supplies will be taken to the adjacent main switchboard. Each building will have a switchboard from which distribution boards will be supplied. Cables between buildings will generally be underground.

97. A diesel-driven generator to be linked with the main supply in the event of a service failure will be installed on the lower ground floor. It will operate one lift in each bank serving the wards, operating theatres and delivery suites and other essential areas and equipment and maintain lighting at vital points in working and communications areas.

98. Lighting will generally be from fluorescent fittings. Pilot lighting will be provided where necessary. Fixed appliances will be wired directly and general purpose outlets provided throughout all buildings.

99. Other electrical services will include a nurses call system, clocks, a radio paging system, bedside radio installations, special power outlets for portable x-ray equipment, a T.V. aerial system and audible paging systems in selected areas.

100. An emergency battery-operated lighting system will service lights in the operating theatres, delivery rooms and treatment rooms to ensure continuous light in the event of the failure of the normal supply. This supply is supplementary to that provided by the main emergency generator.

101. Fire Protection All buildings are to be served by a thermal fire alarm detector system with press button alarms at selected points. Each building will have an indicator board connected to the local fire station through a master indicator board in the main block.

PROGRAMME

102. The Committee were told that after an approval to proceed is obtained the preparation of tender documents for both stages is expected to take 12 months. Allowing for the calling of tenders and a construction period of 3½ years, stage 1 is expected to be ready for equipping early in 1973 and for occupation about six months later.

103. It is the present intention to call tenders for stage 2 towards the completion of the first contract unless a demand develops for construction to be advanced. If tenders are called towards the completion of stage 1, the contract is planned to be finished late in 1975 or early 1976. The accommodation will then be ready for use by mid 1976.

ESTIMATES OF COSTS

104. The estimated cost of the work when referred to the Committee was $17 million as follows:

		$	$
Stage 1	Site and external works	970,000	
	Engineering services	4,140,000	
	Building work (including 3 staff residences)	8,590,000	13,700,000
Stage 2	Site and external works	124,000	
	Engineering services	734,000	
	Building work	2,442,000	3,300,000
			$17,000,000

105. We noted the advice of the Department of Works that at the present stage of design development these estimates are regarded as "ceilings of cost" and that designs and costs will be examined closely during the preparation of working drawings, with a view to introducing economies within the general design principles outlined.

PART IV - CONCLUSION

THE COMMITTEE'S OBSERVATIONS

106. Subject to the other recommendations in this report, the Committee recommend the construction of the works in this reference. We generally endorse the planning principles adopted in the development of the proposal and assume that any changes in basic concepts will be referred back to the Committee for further consideration.

107. Hospital Planning. It is clear that a hospital designed for one community would not necessarily meet the demands of another. Local needs and other factors play a large part in determining the particular requirement and the rapid advances being made in medical and other techniques tend to make today's hospital obsolete tomorrow.

108. Nevertheless, a large amount of up to date planning and design knowledge is available in Australia, through the experience of management, planners, designers and the medical profession at all levels, about the planning and construction of new hospital accommodation. However, there does not seem to have been any organized attempt to pool information and ideas and the result is that the planning and design of each new hospital is a long and tortuous process involving a critical examination of basic yet tried concepts.

In a country where most money for hospital construction is government provided in one form or another, this seems to be extremely wasteful.

109. We therefore suggest that the Commonwealth initiate discussions with the States with a view to establishing an agency responsible for the collection, evaluation and dissemination of hospital planning and design information.

110. Woden Hospital Planning. The second recommendation of the Committee in the 1960 report on the Canberra Community Hospital's new main block stated

> " Preliminary planning should be undertaken now to determine the type of hospitals to be erected in the future and the relationship they would have with the Canberra Community Hospital. "

This recommendation was not heeded and the suggested planning was not commenced until August 1964 when the A.C.T. Hospital Planning Committee was established. That Committee precipitated the appointment of the Woden Hospital Steering Committee in April 1965. Subsequently, the A.C.T. Health Services Branch of the Department of Health was formed and assumed direct responsibility for the planning of the Woden Hospital.

111. We did not hold a post-mortem on the reasons for the inactivity between 1960 and 1964 but we do wish to emphasise that according to the present population projections and based on a bed/population ratio of 6 per 1,000, bed shortages will occur intermittently between now and 1975. The shortages will be minimal if the population increases are as predicted and the Calvary and Woden accommodation is available on schedule. Should the

population projections be exceeded or either construction schedule falls behind, then the shortages could be critical.

112. Time only will tell whether the failure to act on the 1960 recommendation will have serious consequences but it seems anomalous, with the planning expertise in Canberra and the information available about future development, that a potential breakdown should be possible in a vital community service.

113. We are also critical of the short period allowed for the Committee's investigation and report and Parliament's consideration of the report. The implication in the submissions made to us was that if the Committee did not table its report in April 1968 and if the House of Representatives did not pass the expediency motion shortly afterwards, it would be impossible for working drawings to proceed or for tenders for the first stage to be called on schedule. The possibility of the Committee not endorsing the proposal substantially as planned, or of an expediency motion not being passed does not seem to have been contemplated. Failure to achieve the target dates will have the consequences already mentioned.

114. It is interesting to note that the A.C.T. Hospital Planning Committee, in setting target dates for the Woden Hospital development, recommended 30 September 1966 as the date for the reference of the work to the Committee. This suggestion is not inconsistent with our conclusion that the various planning phases of this project should have been undertaken at least 12 to 18 months earlier than has actually occurred. Had this happened, both the architects and the Committee could have had a more reasonable time in which to carry out their tasks.

115. The Committee noted also that in August 1966 the Public Accounts Committee in its Eighty-first Report was most critical of the forward planning of hospital development in the A.C.T.

116. Future Hospital Planning We noted with satisfaction the engagement of Lord Llewellyn Davies, an eminent English consultant in the field of hospital planning and development, to advise on future hospital planning in the A.C.T. and the appointment of the A.C.T. Hospitals Advisory Committee. These steps should contribute to the continuity necessary in this important field.

117. Nevertheless, we are conscious that in the case of the Woden Hospital, nine years will have elapsed between the appointment of the A.C.T. Hospital Planning Committee and the occupation of the first beds and that the first additional hospital beds after the completion of the Woden Hospital will be required about 1977/78. We strongly recommend therefore that positive steps be taken now to commence planning of the subsequent hospital accommodation.

118. Staff Accommodation The Committee endorse that, in the present circumstances including the availability of accommodation in Canberra, there is a need for the proposed accommodation for staff, particularly nursing staff, within the hospital grounds. We noted, however, the growing tendency in Canberra and elsewhere for hospital staff to find living quarters outside the hospital complex and that this change is generally favoured by management.

119. We believe that the necessity for providing staff accommodation should be reviewed during the planning of the next hospital. We suggest that if the review demonstrates that accommodation should still be provided, thought should be given to it taking the form of a hostel or flats in an adjacent urban area.

120. Air Conditioning The proposal submitted to the Committee envisages air conditioning vital areas such as the operating theatre floor and the intensive care ward in the main block with most other areas being mechanically ventilated. At the same time, ducts for the mechanical ventilation are being sized and zoned and the air handling units designed to permit the future air conditioning of the remaining ward areas.

121. We believe that the climatic extremes experienced in Canberra justify the air conditioning of those areas it is now proposed to mechanically ventilate. This, in effect, has been partly recognised by the proposal to size ducts etc for a future air conditioning system. The Committee therefore recommend that both hospital blocks be air conditioned. We note that the cost of this additional work is estimated at $480,000.

122. Recreation Facilities The proposal submitted to the Committee provides four tennis courts in the staff area. We did not question this provision but on reflection it seemed that four courts may be excessive. We noted that each tennis court is costed at $5,500.

123. There was, however, evidence that the provision of a swimming pool for recreation purposes would be in the best interests of the staff. The Committee therefore recommend that if after further consideration departmentally the provision of tennis courts for staff is found to be excessive the saving in cost should be used for the construction of a small swimming pool. We were told that a pool 50 ft by 20 ft with plant is estimated to cost $10,000.

124. Comments by Witnesses At the public hearings the Committee took a considerable amount of evidence from representatives of interested

organizations and individuals. The submissions made showed that a good deal of time and careful thought had been given to examining the proposals. We are grateful to these private witnesses for their submissions and suggestions for they contributed significantly to our understanding of the project.

125. Much of the evidence was critical of the proposal and concerned points of detail in the design. We recognise that in a project of this size and complexity the drawings submitted, at the present stage of their development, can illustrate planning principles only and that the many details of the design have yet to be examined.

126. We are also aware that the suggestions of all people cannot be adopted and that considerations of economics, planning, aesthetics, construction and local requirements must influence a proposal. Nevertheless, we recommend that each of the suggestions made requires close scrutiny during the preparation of the final drawings.

127. Staging of Construction As the most pressing accommodation need is for geriatric and psychiatric patients it is hardly an ideal arrangement for these patients to be temporarily accommodated in stage 1, pending the completion of the permanent geriatric and psychiatric wards. It would not be practicable to reverse the order of construction of the stages because the ancillary hospital and engineering services are located in the main block and the stage 2 block could not function independently of them.

128. We examined the need and desirability of constructing both stages simultaneously but found that if this course was adopted there could be an unnecessary over provision of beds for a period and contractual performance might be impaired. We noted, however, that there could be savings exceeding

$100,000 if the building operation of the two stages overlaps. We therefore recommend that when a decision is being taken on the construction timetable the possibility of achieving continuity in the contractual arrangements be studied closely.

RECOMMENDATIONS AND CONCLUSIONS

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

		Paragraph
1.	AS A BASIS FOR PLANNING 6 HOSPITAL BEDS PER 1,000 POPULATION IS REASONABLE IN THE PRESENT CIRCUMSTANCES.	32
2.	THIS RATIO SHOULD BE THE SUBJECT OF REGULAR REVIEW IN THE LIGHT OF CHANGING CIRCUMSTANCES.	32
3.	TEMPORARY HOSPITAL BED SHORTAGES WILL OCCUR BETWEEN NOW AND THE OCCUPATION OF THE CALVARY HOSPITAL.	40
4.	FURTHER SHORTAGES WILL DEVELOP FROM MID 1972 ONWARDS.	40
5.	THERE WILL BE A NEED TO PROVIDE ADDITIONAL HOSPITAL BEDS IN CANBERRA AT THAT TIME.	40
6.	THE COMMITTEE ENDORSE THE PROPOSAL TO BUILD A HOSPITAL IN THE WODEN AREA.	41
7.	THE CONSTRUCTION OF A 600 BED HOSPITAL AT WODEN IS APPROPRIATE.	46
8.	THE PROPOSED SITE IS SATISFACTORY FOR THE WODEN HOSPITAL.	54

		Paragraph
9.	THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE WAS $17 MILLION.	104
10.	SUBJECT TO THE OTHER RECOMMENDATIONS IN THIS REPORT THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORKS IN THIS REFERENCE.	106
11.	THE COMMONWEALTH SHOULD INITIATE DISCUSSIONS WITH THE STATES WITH A VIEW TO ESTABLISHING AN AGENCY RESPONSIBLE FOR THE COLLECTION, EVALUATION AND DISSEMINATION OF HOSPITAL PLANNING AND DESIGN INFORMATION.	109
12.	SHOULD THE POPULATION PROJECTIONS BE EXCEEDED OR THE CONSTRUCTION SCHEDULE OF EITHER THE CALVARY OR WODEN HOSPITAL FALLS BEHIND, THERE COULD BE A CRITICAL SHORTAGE OF HOSPITAL BEDS.	111
13.	THE COMMITTEE ARE CRITICAL OF THE SHORT PERIOD ALLOWED FOR THE INVESTIGATION AND REPORT.	113
14.	THE VARIOUS PLANNING PHASES OF THIS PROJECT SHOULD HAVE BEEN UNDERTAKEN AT LEAST 12 TO 18 MONTHS EARLIER THAN HAS ACTUALLY OCCURRED.	114
15.	POSITIVE STEPS SHOULD BE TAKEN NOW TO COMMENCE PLANNING OF THE SUBSEQUENT HOSPITAL ACCOMMODATION.	117

		Paragraph
16.	DURING THE PLANNING OF THE NEXT HOSPITAL THE NECESSITY FOR PROVIDING STAFF ACCOMMODATION SHOULD BE REVIEWED.	119
17.	BOTH HOSPITAL BLOCKS SHOULD BE AIR CONDITIONED. THE COST OF THIS ADDITIONAL WORK IS ESTIMATED AT $480,000.	121
18.	IF THE PROVISION OF FOUR TENNIS COURTS FOR STAFF IS FOUND TO BE EXCESSIVE, THE SAVING IN COST SHOULD BE USED FOR THE CONSTRUCTION OF A SMALL SWIMMING POOL.	123
19.	EACH OF THE SUGGESTIONS MADE BY PRIVATE WITNESSES ABOUT THE DESIGN OF THE PROJECT REQUIRES CLOSE SCRUTINY DURING THE PREPARATION OF THE FINAL DRAWINGS.	126
20.	THE POSSIBILITY OF ACHIEVING CONTINUITY IN THE CONTRACTUAL ARRANGEMENTS SHOULD BE STUDIED CLOSELY.	128

(F.C. CHANEY)
Chairman.

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

14 May 1968.