



1969

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REPORT

relating to the proposed construction of

NEW PATHOLOGY BLOCK

and

ASSOCIATED WORKS

at

Repatriation General Hospital

Heidelberg, Victoria

(Eleventh Report of 1969)

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

NEW PATHOLOGY BLOCK AND ASSOCIATED WORKS
REPATRIATION GENERAL HOSPITAL
HEIDELBERG, VICTORIA

R E P O R T

On 3 July 1969, His Excellency the Governor-General in Council referred to the Parliamentary Standing Committee on Public Works for investigation and report to the House of Representatives the proposal to construct a new pathology block and associated works at the Repatriation General Hospital, Heidelberg, Victoria.

The Committee have the honour to report as follows:

THE COMMITTEE'S INVESTIGATION

1. The Committee received written submissions and drawings from the Repatriation Department and the Department of Works and took evidence from their representatives at a public hearing in Sydney. We inspected the facilities of the hospital and the sites for the proposed work.

THE REFERENCE

2. The proposal referred to the Committee includes:
- erection of an air conditioned building comprising lower ground, ground and three upper floors to accommodate an operating theatre suite, the pathology department and a central sterile supply unit;

2.

- construction of an additional floor in the present kitchen area, for the medical library, admissions and medical records sections;
- remodelling parts of the south and west wings of the central block for specialist work areas and office accommodation for senior staff, administrative services, personnel and medical staff;
- remodelling the pavilion operating theatre building as a school of nursing; and
- extending air conditioning to selected areas of the central block and pavilion wards.

3. The work is estimated to cost \$3.4 million.

REPATRIATION DEPARTMENT

4. The Department is responsible for administering the benefits available under the Repatriation Act and associated legislation. This includes hospital treatment for disabilities attributable to war service and, subject to certain conditions, treatment and care are provided for disabilities not due to war service.

5. The Department provides in-patient treatment at its own institutions in each State, wherever practicable, so that the special responsibilities embracing both investigatory and treatment functions can be met effectively and without encroaching on general community facilities. Facilities include a large general hospital in each capital city and a smaller auxiliary hospital in each State except Tasmania. Limited use only is made of outside hospitals for in-patient treatment, mainly in country areas.

6. Out-patient treatment is provided by local medical officers, by specialists in various branches of medicine who have been appointed to departmental panels, at departmental out-patients' clinics and, in some cases, at general hospitals.

REPATRIATION GENERAL HOSPITAL
HEIDELBERG

7. Locations and Functions The hospital is located about seven miles from the Melbourne city area, on a site of 53 acres. The original buildings were built in 1941-42 as the 115th Australian General Hospital. It now comprises a five-storey central block accommodating eight wards and specialist departments and a pavilion section of 16 wards, some of which are used for essential services. There are also two multi-storey homes for nurses, quarters for medical officers and other staff and auxiliary buildings for various service functions.

8. The hospital provides a full range of services in the fields of general medicine and surgery, treating acute as well as long term patients. It also has extensive facilities in special areas such as psychiatry, tuberculosis and geriatrics, is a training school for student nurses and nursing aides and is recognised for post graduate training purposes by specialist medical colleges.

9. The following figures relating to in-patient treatment in 1967-68 indicate the scale of activity at the hospital:

<u>Treatment Category</u>	<u>Patients First Day of Period</u>	<u>Admissions During Period</u>	<u>Total Patients Treated</u>	<u>Average days per patient discharged</u>	<u>Average Daily Beds Occupied</u>
Medical	349	5,269	5,618	24.7	343
Surgical	278	5,387	5,665	17.6	258
Tuberculosis	24	196	220	39.3	27
Psychiatric	42	604	726	25.2	47
Total	693	11,536	12,229	21.6	675

10. The hospital currently has a capacity of 750 beds.

11. Accommodation Needs Repatriation hospitals were built under war time conditions to meet the needs of wounded and sick servicemen in the younger age group. The requirement now is to treat an ageing group of men and women with a corresponding wider range of needs. The advances in medical techniques since the war have also emphasised the need for changes in the range and type of facilities originally provided.

12. The Government in 1965 considered a programme, limited to more urgently required projects, designed to raise the standard of facilities in hospitals so that the Repatriation Department could discharge its functions efficiently. Endorsement was given to the first year of a four year programme which included a new kitchen for Heidelberg, and it was agreed that the level of work for subsequent years should be dealt with in an annual budgeting context. A new operating theatre suite, pathology department and the other works in this reference were included in the second and third years of the programme. The proposed new kitchen which was referred to the Committee and reported on in September 1966 is now in an advanced state of construction.

EXISTING FACILITIES

13. The facilities affected by the proposal to build the new four-storey building adjoining the central block are:

14. Operating Theatres The hospital has two operating theatre suites providing, in all, seven theatres. The main suite, containing four theatres, is located on the first floor of the south wing of the central building while another, of three theatres, is located in the pavilion ward area.

15. Major specialist and general surgery, accounting for about two-thirds of all operations at Heidelberg, is carried out in the main suite. The central block is of brick construction and the theatres it contains measure 20 ft by 18 ft.

16. Ear, nose and throat, ophthalmic and endoscopic procedures are performed in the pavilion theatres, which are located in a building of timber framed construction.

17. Pathology Department Pathology, the medical specialty dealing with structural and functional changes in tissues and organs of the body which cause or are caused by disease is an essential aid for diagnostic investigation and therapeutic control.

18. Pathological work at Heidelberg is carried out in a number of rooms on the ground and second floors of the south wing of the central building. Microbiology occupies half of the ground floor area while the remaining three sections of the department, namely, histopathology, biochemistry and haematology are on the second floor. The total area now occupied by the department excluding mortuary facilities is 8,437 sq. ft.

19. Central Sterile Supply A central sterilising service concentrates responsibility for, and the work of sterilisation into one properly equipped and staffed unit, to minimise the need for sterilising elsewhere in the hospital. The reduced work for nursing staff in wards and theatres which follows allows more time for patient care.

20. A temporary sterile supply department was recently established in pavilion ward 6A and it has developed to the stage where a service of sterile

instrument trays, packs, syringes, needles, etc is available to all wards. The service does not include the operating theatres as they are already equipped for this purpose, although inadequately.

THE NEED

21. The need for the four-storey building has been created by shortcomings in the facilities and accommodation of the operating theatre suites, pathology department and the central sterile supply unit.

22. Operating Theatres The need for new operating theatres has two main bases. The first is that the main suite was designed nearly 30 years ago for a set of requirements and to standards which have been superseded and the present facilities do not lend themselves to extension or modification. It is also fundamental to the problem that there is an increasing work load on the theatres, the number of operations performed having increased more than 50% in the last sixteen years.

23. In greater detail

- the layout precludes the arrangement of "clean" and "dirty" flow lines;
- the single entrance/exit is a potential risk of cross infection;
- there is insufficient space in the theatres and in the suites generally for the modern equipment now in use;
- the air conditioning arrangements are unsatisfactory;
- proper ancillary space is not available near theatres for such purposes as "scrub-up", plaster work, staff rest rooms and storage;

- shortage of theatres is causing slower turnover in patients;
- insufficient time is available for proper preparation, cleaning, ventilation and maintenance of theatres;
- the present facilities and the intensity of their use do not provide sufficient margin for prolongation of operations or flexibility in arrangements.

These disabilities apply equally to both suites, the pavilion suite having the added disadvantage that it is not accessible completely under cover.

24. The Committee concluded that because of the shortcomings of the operating theatre facilities at Heidelberg, the hospital is functioning under severe disability. We consider that there is a need to improve these facilities without delay.

25. Pathology Department An inefficient layout and shortage of space is tending to prevent a satisfactory servicing of those hospital activities which rely, to a growing extent, on the services of the pathology department.

26. We were informed that there has been an increase of 272% in the pathological workload at the hospital since 1961/62. Also we saw evidence that because of the physical limitations of the space available, it has been necessary to instal a good deal of technical equipment in unsuitable locations including passageways.

27. It was suggested to the Committee that the lack of space tends to affect the skill and accuracy of staff, restricts applied research and has prevented the entry, to the extent desired, into some fields of work.

28. The Committee found the accommodation arrangements for the pathology department to be unsatisfactory and, that there is a need for an early improvement of the present facilities.

29. Central Sterile Supply As the ultimate aim has been the establishment of a permanent central sterile supply, only minor alterations were made to the pavilion ward so that it could be returned to ward use quickly and economically when no longer required. Because the building was designed for other purposes, the available space cannot be used efficiently and "clean" and "dirty" work flow lines cannot be entirely satisfactory.

30. We believe that there is a need for permanent and specially designed accommodation for the central sterile supply facility at Repatriation General Hospital, Heidelberg.

THE MULTI-STOREY BUILDING PROPOSAL

31. Because the pathology department and the central sterile supply as part of their respective functions, service the operating theatres, it was decided that it would be appropriate to locate the three groups in the same building.

32. It is proposed therefore to construct a building containing a part lower ground floor and four floors above the ground on the site of the pavilion building nearest to the five-storey central block. This pavilion building, housing wards 1 and 1A is at present used by the admissions and medical records sections. Alternative accommodation elsewhere for these groups is referred to later.

33. The part lower ground floor is to be occupied by the central chilled water plant, which will be connected to the main building by a service duct.

The third floor will also be occupied by mechanical plant, mainly concerned with air conditioning the new building.

34. Central Sterile Supply These facilities will occupy about one-third of the ground floor, where they will be accessible for deliveries to and from other areas in the building and in the hospital. The design will permit correct work flow lines with separation of "clean" and "dirty" areas and separate entrance/exit doorways. There will be separate service lifts to and from the operating theatres.

35. Pathology Department This group is to occupy about half of the ground floor and all of the first floor. The layout will permit an efficient work flow and economy in the use of equipment.

36. A central specimen collection and sorting area will be located on the ground floor to save patients moving through a number of areas when different tests are required. Central equipment washing and sterilising facilities have also been planned on the ground floor with service lifts to the first floor. It is proposed to air condition the space because of the high degree of concentration and accuracy required of the staff. Contamination risk will be avoided by providing a separate lift for first floor traffic which will be isolated from the stairway and lift to the operating theatres on the floor above.

37. Operating Theatres It is proposed that the theatre suite will occupy the second floor and be linked at this level with the central block where the surgical wards are located.

38. The suite will provide the following theatres
- four general surgery theatres to permit standard 3½ hour sessions in the general surgery field;
 - one orthopaedic theatre for removal and re-application of plasters and radiological examinations under aseptic conditions;
 - one urological theatre for infective work;
 - one large theatre for complicated procedures involving large surgical teams and extensive equipment; and
 - one reserve theatre for septic cases, emergency and maintenance purposes.

39. The complex has been designed to ensure maximum safety for patients and suitable working conditions. The principles of "clean" and "dirty" flow lines have been incorporated and entrances and exits have been planned to minimise the risk of outside contamination. A cantilevered peripheral corridor will enable services to reach any part of the complex without passing through the sterile area.

40. Separate service lifts to and from the proposed central sterile supply on the ground floor will obviate duplication of sterilising facilities in the theatre area, except for essential flash sterilising facilities provided adjacent to each pair of theatres.

41. Construction The building will be of reinforced concrete construction. Primary beams will span transversely and secondary beams longitudinally as required. Columns will be at 24 ft centres. Floor slabs

will be cast in situ reinforced concrete. The roof will be supported on steel trusses across the building.

42. External walls will be face brickwork and pre-cast concrete panels. Similar panels will be used to clad the theatres, gallery and connecting link at the second floor. The roof will be covered in a galvanised steel deck.

43. Internal finishes will generally be chosen for durability and low maintenance costs except in the operating theatre suite where the achievement of aseptic conditions will be the prime aim. Wall finishes will vary according to the use of the area and will include hard plaster, with special finishes such as vinyl or ceramic tiles, or laminated plastic as required.

44. Floors generally will be covered in vinyl sheeting or with ceramic tiles in toilets and showers. However, in the theatre area conductive vinyl tiles will be used. Ceilings will be removable acoustic tiles or suspended plaster board, except in the theatres where the hard plaster ceilings will be covered in continuous welded vinyl sheeting.

REMODELLING OF KITCHEN AREA

45. Outline As the site for the four-storey building is at present occupied by two pavilion wards housing the admissions and medical records sections, alternative accommodation must be provided before construction can commence on the major work.

46. The existing kitchen at the western end of the central block is to be remodelled when the new kitchen, at present being built, is completed. The conversion will also permit permanent accommodation to be found for the hospital's general store and the medical library which are inconveniently located at present.

47. As the floor level of the kitchen is at lower ground floor level and as the height of the kitchen is the height of two normal floors, it is proposed to sub-divide the space horizontally by the construction of a floor at ground level. The admissions and medical records sections will then be located at ground floor level and a new general store and medical library at the lower level. A patients' entrance will be provided at ground level off the car park.

48. The proposed arrangement will provide better access for ambulances to the admission centre and to nearby wards, the medical library will be closer to the departments it serves and the general store will be adjacent to the existing medical store.

49. The Committee agree that the admissions and medical records sections and the library and general store should be relocated, and agree that the remodelling proposed will be satisfactory.

50. Construction The new suspended concrete floor will be built into the existing framework. The extensions for the admissions and records sections will comprise a concrete floor, brick, timber and glass walls, an insulated fibrous plaster and acoustic tile ceiling and a galvanised steel roof deck supported on metal trusses. The floor will be generally covered in sheet vinyl.

51. The medical library will be sub-divided by brick partitions finished with hard plaster. Floors will be finished with vinyl tiles and the suspended ceiling with acoustic tiles and plaster board.

REMODELLING OF PAVILION OPERATING THEATRE

52. Outline When the new operating suite is completed, it is proposed to use the pavilion operating theatre suite for the school of nursing. The school is presently located in pavilion wards 11, 11A and 12A. Facilities in

wards 11 and 11A used for lecturing and practical demonstrations fall well short of a reasonable standard. Student traffic moving through the wards to and from lectures and demonstrations are distracting to other classes and the layout of the wards does not permit easy conversion to provide suitable study areas and rooms for tutorial staff.

53. Each year there are four intakes of nursing aides and three intakes of student nurses. The length of the courses is one year and three years respectively. Normally each entry proceeds through the course as a separate unit. An average of 100 to 110 student nurses and 65 to 70 nursing aides are in training at any one time.

54. The layout of the pavilion operating theatre suite is suitable for conversion as a school of nursing. The Committee agree that it would be appropriate to remodel the building for this purpose.

55. Construction Equipment will be removed and some partitions replaced to provide the desired accommodation. A new toilet block will be erected adjacent to the building and connected to it by a covered way.

56. In the nursing school internal fibrous plaster partitions will be reconditioned where necessary and new timber partitions will be sheeted with fibrous plaster. Sinks and basins will have sheet vinyl surrounds. Where the condition of the existing floor coverings warrant replacement, vinyl tiles and continuous sheet vinyl will be laid.

REMODELLING OF THE SOUTH AND WEST WINGS CENTRAL BLOCK

57. Outline When the pathology department and operating theatre suite are relocated in the new four-storey building, a re-arrangement of the space

in the central block will be possible. It will permit a number of groups to expand into space which is now more appropriate to their current requirements and will allow some minor re-arrangement of functions.

58. Thus, space in the south wing of the ground floor occupied now by microbiology will be used for senior medical and lay administrative staff. The first floor operating theatre area is to accommodate the dental department including waiting rooms and workshops, the electrocardiogram room, various offices for specialists and a conference/lecture room for medical students.

59. The second floor pathology space will be used to centralise the intensive care unit, coronary care unit and surgical metabolism which are at present in widely dispersed locations. As it is desirable that they work as a team, their concentration in one area should assist greatly in this respect and result in staff economies. It will also place these facilities adjacent to and on the same level as other related groups.

60. After the transfer of senior medical and lay administrative staff to the south wing, the ground floor of the west wing will be altered to house the assistant medical superintendents, social workers, the typing pool and pay office. so that they will then be in a central position and adjacent to the admission centre. They are currently located in ward 1 which will be demolished to make way for the new multi-storey building. Temporary accommodation will be found in the interim but in the long term, transfer to the ground floor of the west wing is most desirable.

61. The Committee are satisfied that there is a need to re-arrange the accommodation in the south and west wings of the central block on the lines indicated.

62. Construction Generally, the alterations will be carried out within the existing building. Any new external finishes will be chosen to match existing materials.

63. Partitions will be lightweight aggregate block or timber and glass construction. Internally, masonry walls will be finished with hard plaster and sheet vinyl surrounds will be provided for sinks and basins. Existing concrete floors will be finished with welded vinyl sheet except in toilets and bathrooms which will have ceramic tiles and the intensive care unit which will have conductive vinyl tiles. The false plaster ceilings on each floor will be reconditioned as required and removable metal acoustic panels will be provided in corridors.

AIR CONDITIONING

64. Outline When considering the need for air conditioning the pathology department and operating theatres, an examination was made of those other areas in the hospital which need to be air conditioned and those areas which already enjoy this amenity.

65. It was decided that it would be highly desirable to air condition the centre bay and private rooms in each of the eight wards on the upper floors of the central block, the x-ray department in the east wing, specialised areas in the south wing, space in the renovated kitchen, the quiet rooms in pavilion wards 2 and 2A and the urology wards 3 and 3A.

66. Some of these areas are already served by window air conditioners which have become a maintenance liability and will soon reach the end of their economic life. It is proposed that these and special areas in the central block and the south wing, and pavilion wards 2 and 2A will be fitted with individual fan coil units. The urology wards are to have two ducted single

zone conventional velocity air handling plants and the areas in the renovated kitchen, a multi-zone conventional velocity air handling plant. All systems will be connected to a central plant in the new multi-storey building.

67. The Committee found that there is a need to air condition the new multi-storey building and to extend air conditioning to, and to replace individual conditioning units in the selected areas mentioned.

68. Construction The lower ground and third floors of the new multi-storey building will house most of the plant required for the proposed air conditioning. For the new block, 13 air handling plants are planned, each connected to the central chiller plant and to the existing boiler via heat exchangers. Air handling plant will incorporate high efficiency filters and distribution of air will be designed to avoid the risk of cross contamination. Contaminated air will be exhausted by fans upwards through nozzles to ensure rapid dilution. These nozzles will be grouped on the south side of the building so that air drawn into the building from the north side will be free from contamination.

OTHER ENGINEERING SERVICES

69. Mechanical Services Other mechanical services will include toilet ventilation, sanitary incinerators, kitchen equipment, domestic hot water supply, reticulation of compressed air, town gas, vacuum, medical gas and distilled water, hospital equipment, steam and condensate reticulation.

70. Electrical Services The capacity of the transformer substations will be increased for the additional power, which will be reticulated by underground cable or by cables concealed within building structures. Illumination will generally be from fluorescent fittings. Power outlets and connections will be provided as necessary and the operating theatre lamps will have a battery reserve.

71. Closed circuit television will be installed in two of the operating theatres and wiring will be included for the future electronic monitoring systems for the operating theatres and intensive care wards.

72. Lifts The installation in the new multi-storey building will include two small lifts for sterile supplies, six dumbwaiter lifts for items such as soiled instruments and linen, and blood samples, and two bed/passenger lifts. In addition, two bed/passenger lifts to augment the service in the central block are to be installed in the link between the two buildings.

73. Water and Sewerage The existing water supply main, fire hydrants and sewer will be relocated as required.

74. Fire Protection The building layout has been designed for maximum fire safety. Hydrants, hoses and portable extinguishers will be provided, thermal and early warning detectors will be installed in the new building and the present systems extended to cover the remodelled areas.

75. Roads and Drainage The service road south of the site for the new building will be lowered 2 ft to limit the gradient of the connecting covered way. New road work will be in sealed flexible pavement with concrete kerbs and channels. Roof drainage from the new block and other extended roof areas will be connected to the existing stormwater system.

COMMITTEE'S RECOMMENDATION

76. The Committee recommend the construction of the work in this reference.

PROGRAMME

77. The Committee were told that after an approval to proceed is obtained, the time required for the preparation of contract documents,

invitation of tenders and letting a contract will be

- remodelling of kitchen building	3 months
- erection of multi-storey block	15 "
- remodelling of the south and west wings, central block	4½ "
- remodelling of pavilion operating theatre building	3½ "
- air conditioning of special areas	2 "

78. The construction time for each job is estimated to take:

- remodelling of kitchen building	6 months
- erection of multi-storey block	21 "
- remodelling of the south and west wings, central block	9 "
- remodelling of pavilion operating theatre building	4 "
- air conditioning of special areas	4 "

ESTIMATE OF COST

79. The estimated cost of the work when referred to the Committee was \$3.4 million, as follows:

	\$
Building work	1,735,000
Electrical services	523,000
Mechanical services	1,090,000
Other	52,000
	<u>3,400,000</u>

RECOMMENDATIONS AND CONCLUSIONS

60. 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. BECAUSE OF THE SHORTCOMINGS OF THE OPERATING THEATRE FACILITIES AT HEIDELBERG THE HOSPITAL IS FUNCTIONING UNDER A SEVERE DISABILITY. 24
2. THERE IS A NEED TO IMPROVE THESE FACILITIES WITHOUT DELAY. 24
3. THE COMMITTEE FOUND THE ACCOMMODATION ARRANGEMENTS FOR THE PATHOLOGY DEPARTMENT TO BE UNSATISFACTORY AND THAT THERE IS A NEED FOR AN EARLY IMPROVEMENT OF THE PRESENT FACILITIES. 28
4. THERE IS A NEED FOR PERMANENT AND SPECIALLY DESIGNED ACCOMMODATION FOR THE CENTRAL STERILE SUPPLY FACILITY. 30
5. THE ADMISSIONS AND MEDICAL RECORDS SECTIONS AND THE LIBRARY AND GENERAL STORE SHOULD BE RELOCATED. 49
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7. IT WOULD BE APPROPRIATE TO REMODEL THE PAVILION OPERATING THEATRE SUITE FOR THE SCHOOL OF NURSING. 54
8. THERE IS A NEED TO RE-ARRANGE THE ACCOMMODATION IN THE SOUTH AND WEST WINGS OF THE CENTRAL BLOCK. 61

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9. THERE IS A NEED TO AIR CONDITION THE NEW MULTI-STORY BUILDING. 67
10. THERE IS A NEED TO EXTEND AIR CONDITIONING TO, AND TO REPLACE INDIVIDUAL CONDITIONING UNITS IN SELECTED AREAS. 67
11. THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORK IN THIS REFERENCE. 76
12. THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE WAS \$3.4 MILLION. 79



(F.C. CHANEY)
Chairman.

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

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