

1950.

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA,

PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS.

TWENTY-FIRST GENERAL
REPORT.

Presented pursuant to Statute 29th March, 1950 ; ordered to be printed, 23rd June, 1950.

[Cost of Paper.—Preparation, not given ; 800 copies ; approximate cost of printing and publishing, £31.]

Printed and Published for the GOVERNMENT of the COMMONWEALTH of AUSTRALIA by
L. F. JOHNSTON, Commonwealth Government Printer, Canberra,
(Printed in Australia.)

No. 15 [GROUP H].—F.5538.—PRICE 1s. 3d.

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

(TWELFTH COMMITTEE.)

(Senators appointed 5th December, Members of the House of Representatives appointed 3rd December, 1946.)

SENATOR CHARLES ADCOCK LAMP (Chairman).

Senate.

- (3) Senator CHARLES HENRY BRAND.
 Senator RICHARD HARRY NASH.
 (4) Senator NEIL O'SULLIVAN.

House of Representatives.

- WILLIAM PATRICK CONELAN, ESQUIRE, M.P.
 (1) HENRY BAYNTON SOMER GULLETT, ESQUIRE, M.P.
 (2) HOWARD BEALE, ESQUIRE, M.P.
 JOHN BROOKE HOWSE, ESQUIRE, M.P.
 DONALD MCLEOD, ESQUIRE, M.P.
 GEORGE JAMES RANKIN, ESQUIRE, M.P.
 EDGAR HUGHES DEG RUSSELL, ESQUIRE, M.P.

- (1) Resigned 6th June, 1947.
 (2) Appointed 6th June, 1947.
 (3) Ceased to be a member of the Senate, 30th June, 1947.
 (4) Appointed 24th October, 1947.

(THIRTEENTH COMMITTEE.)

(Senators appointed 23rd February, 1950, Members of the House of Representatives appointed 1st March, 1950.)

SENATOR GEORGE JAMES RANKIN (Chairman).

Senate.

- Senator JUSTIN HILARY O'BYRNE.
 Senator ANNABELLE JANE MARY RANKIN.

House of Representatives.

- GEORGE JAMES BOWDEN, ESQUIRE, M.P.
 JOHN OSCAR CRAMER, ESQUIRE, M.P.
 HON. ALLAN MCKENZIE McDONALD, M.P.
 WILLIAM PAUL O'CONNOR, ESQUIRE, M.P.
 EDGAR HUGHES DEG RUSSELL, ESQUIRE, M.P.
 DAVID OLIVER WATKINS, ESQUIRE, M.P.

CONTENTS.

	Paragraph in Report.
The Twelfth Committee	1
Summary of Inquiries	2
Permanent Administration Offices, Canberra	3
Repatriation Administrative Offices, Perth	10
Administrative building for the Entomology and Plant Industry Divisions, Council for Scientific and Industrial Research, Canberra	21
Tribophysics Laboratory, Melbourne	26
Additions to Telephone Exchange, Hamilton, New South Wales	32
Commonwealth Offices, Brisbane	37
Tubercular Block and additions to Sisters' Quarters, Lady Davidson Home, Turramurra, New South Wales	48
Airport for Hobart, Llanherne, Tasmania	54
Extensions to City West Telephone Exchange, Melbourne	61
Hostel for Officers, Darwin, Northern Territory	67
Wharf at Darwin, Northern Territory	72
Primary School, Darwin, Northern Territory	81
School at Alice Springs	87
MacLeod Repatriation Tubercular Sanatorium, Melbourne	93
Batman Telephone Exchange, Melbourne, re-submission	103
Alice Springs Sewerage Installation	111
St. Kilda Telephone Exchange, Victoria	117
Wool Biology Laboratory, Prospect, New South Wales	122
National Library and Roosevelt Memorial, Canberra, Australian Capital Territory	128
Wool Textile Research Laboratory, Geelong, Victoria	138
Commonwealth Offices, Hobart	142
Movements of the Committee	146
Staff	147

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

TWENTY-FIRST GENERAL REPORT.

*To His Excellency the Right Honourable William John McKell, the Governor-General in
and over the Commonwealth of Australia.*

MAY IT PLEASE YOUR EXCELLENCY:

In pursuance of the requirements of section 11 of the *Commonwealth Public Works Committee Act 1913-1947*, the Parliamentary Standing Committee on Public Works has the honour to submit the following report of its proceedings:—

TWELFTH COMMITTEE.

1. The Members of the Twelfth Committee were appointed on 3rd December, 1946, in the House of Representatives, and on 5th December, 1946, in the Senate, notification of their appointment being published in the *Commonwealth Gazette* dated 12th December, 1946. The Committee continued to hold office until Parliament was dissolved on 31st October, 1949, and this report covers the investigations carried out by the Committee during the period of its existence.

SUMMARY OF INQUIRIES.

2. During its term of office the Committee received from the House of Representatives references concerning 23 proposed works, and inquiries were completed in respect of all but the following two projects, investigations upon which were not concluded:—

Central Heating and Hot Water Systems at Victoria Barracks, Melbourne;
Extensions to the School of Public Health and Tropical Medicine, Sydney.

The following is a summary of the reports presented to Parliament in connexion with the completed inquiries.

PERMANENT ADMINISTRATION OFFICES, CANBERRA.

3. Following upon investigation of certain proposals for office buildings as far back as 1923, and the recommendation by the Committee that competitive designs should be invited for a permanent administrative block, a proposal for a large building to house 1,100 officials was referred to the Committee in 1925 and recommended, at an estimated cost of £842,618. In 1928 the building was commenced, but, on completion of the foundations, involving a total expenditure of approximately £79,000 on the foundations and associated items, the work was abandoned.

The Proposal.

4. Amongst the post-war works decided upon was the completion of the Permanent Administrative Offices at Canberra, and the proposal was referred to the Parliamentary Standing Committee on Public Works in May, 1947. The plans provided for a building 425 feet long and 212 feet wide, with a total height of about 100 feet above ground level. It was to contain a basement, lower ground floor, ground floor, and first, second and third floors. In addition, provision was made for two minor floors in the centre of the building for recreational and other purposes.

5. Accommodation included net office area of 250,000 square feet, providing for an approximate population of 3,000 in the building. The basement was to include space for storage as well as accommodation for parking of cars and bicycles, while it was proposed to include on the fourth floor a modern cafeteria to seat 600 per sitting.

6. The estimated cost was set down as £1,425,128, and the time for completion was estimated at four years, exclusive of possible delays in securing labour or materials for the work.

Need for the Building.

7. The Committee made exhaustive inquiries into the necessity for the building at the present time, taking into account the previous investigations of the subject and the various temporary buildings which had become essential in recent years. As a result the Committee was not only impressed with the urgency of the demand for accommodation, but was more than ever convinced that, if recommendations by the Committee in this regard in the past had been implemented, a great deal of disorganization and expense could have been averted.

The Foundations.

8. The Committee was considerably disturbed at the proposal to discard the existing foundations, laid down in 1928 at a cost of approximately £55,000, but exhaustive tests have proved that the old foundations cannot be used with safety for the proposed building. As it is also considered essential to include a basement in the new building, it was represented to the Committee that, as storage space could be provided underground at a much smaller cost than the equivalent space above ground, the introduction of the basement for purposes of storage and parking will actually result in a saving. The Committee therefore recommended that so much of the old foundations as will interfere with the proposed plans should be removed, and that new foundations should be laid.

Recommendations.

9. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) It is necessary to remove so much of the foundations as will interfere with the proposed plans.
- (2) The architecture and building arrangements are satisfactory and should be adopted.
- (3) It is essential that rigid inspection of quantities shall be made at all stages to ensure that a repetition of the conditions now evident in the old foundations will be prevented in this proposal.
- (4) Hawkesbury sandstone is the most suitable facing material for use on this building, above the base, so long as adequate supervision is employed at the quarries and when the stone is laid.
- (5) The provision suggested for air-conditioning without refrigeration is satisfactory at the present time.
- (6) Erection of the building in three stages is desirable in order to permit the early occupation of the first section of the building.
- (7) The inclusion of the basement proposed is desirable and will ensure that maximum space for office purposes is available.
- (8) The cafeteria should be included in the building as proposed, but, as the demand for it in Canberra has yet to be proved by experience, the extent to which it is used should be closely watched, so that steps may be taken to use the space provided to the best advantage.
- (9) As plans for monumental buildings take a great deal of time to elaborate, it is desirable that consideration should be given, as soon as staff is available, to planning the second administrative building.
- (10) When the position of the demountable partitions is being decided the question of adequate provision for special Conference rooms should be given early consideration.
- (11) It is expedient to carry out the work at the approximate figure of £1,500,000.
- (12) Owing to the difficulty of providing thoroughly reliable estimates it is recommended that, before any material alterations in the above items of expenditure are made, each should be submitted to the Minister for his consideration and approval.

REPATRIATION ADMINISTRATIVE OFFICES, PERTH.

10. In 1919 permissive occupancy of certain park lands, vested in the Western Australian Government, was granted for repatriation purposes, and temporary buildings were erected, and extended from time to time, on the land fronting Riverside Drive, Perth. As the overcrowding of the offices at Riverside Drive became more acute certain temporary premises were secured at 108 Murray-street, while some of the work was carried on in temporary hutments erected for the Royal Australian Air Force on park lands on the Esplanade, Perth. The Artificial Limb Factory was transferred to private property at 547 Murray-street.

11. The difficulty of overcrowded conditions continued to increase and, with a view to improving the position as well as to house the various activities of the Department together, plans were prepared during the war for a new multi-story building to be erected on vacant land situated at the corner of William-street and Bazaar-terrace, Perth.

12. The planning was considerably delayed, owing to the war, but, in 1947, the question of the erection of Repatriation Administrative Offices, Perth, was referred to the Public Works Committee.

The Proposal.

13. The scheme as referred to the Committee proposed the erection of a building comprising ground and six floors, having a curved front to conform to the shape of the site. Office accommodation totalling 45,000 square feet was planned, and the estimated cost was £222,750.

Alterations to Original Proposal.

14. It became apparent to the Committee in the early stages of the inquiry that, while the site was a very valuable one in the heart of the city, the plans submitted provided for a restricted building, designed mainly to house one department. Certain suggestions were made with a view to providing additional space and to make the best use possible of the site.

15. The architects were asked by the Committee to consider the alternatives of adding to the Fifth and Sixth Floors and of increasing the building to the maximum height allowed by the City Building Regulations.

16. Study of the question resulted in the advice by the departmental officers that the suggested design did not lend itself to further extension, having been specially designed to meet the needs of one department. In addition it was considered that the need for accommodation by other departments was so great that a building of maximum height was amply justified, and, consequently, an alternative design was submitted to the Committee for a completely different type of building.

Building in Three Stages.

17. The new design proposed the erection of a building comprising ground and seven floors, to be built in three stages, with the possibility of adding a further three floors in the distant future if it became necessary to do so. The three stages planned would offer a total usable space of 112,910 square feet and was estimated to cost £470,000, when completed in fifteen to twenty years' time.

18. The first stage would consist of the centre portion of the building of ground and seven floors, providing 47,520 square feet of space. The second stage would comprise a wing extending from the first stage and built over the existing Customs House, which would have to be demolished after the first stage was sufficiently advanced to provide alternative accommodation. This second stage would comprise a wing of ground and four floors, having a net area of 13,440 square feet.

19. If the first two stages were to be erected an area of 60,960 square feet would be available at an estimated cost of £250,000. After comparing the various alternatives the Committee was convinced that the new design offered a modern and effective structure, of a type which would harmonize satisfactorily with the surrounding buildings; and it would result in the provision of a striking monumental building, suitable to the important site it would occupy, and capable of extension in stages over a number of years as occasion demands. It was therefore finally recommended that the first two stages should be proceeded with.

Recommendations.

20. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) Owing to the value of the site selected, and the urgent need to alleviate the unhealthy and crowded state of Government accommodation in Perth, the original plan referred to the Committee is considered inadequate.
- (2) Proposals to add more floors to the original plan are not suitable under the circumstances revealed to the Committee.
- (3) The alternative plan, providing for the erection of a building of entirely different design, and allowing for construction in three stages over approximately twenty years, is recommended.
- (4) It is recommended that Stages 1 and 2 be erected, and Stage 3 left for future addition when conditions are more favorable.
- (5) As the weight of evidence points to the continuance of the present difficult supply position, in relation to certain items, for some time to come, it is recommended that the plans be completed and the building proceeded with as soon as possible, having regard to the shortages of labour and materials.
- (6) In order to economize in bricks and to provide a structure worthy of the city and the prominent position it is to occupy, as well as to make use of local stone and labour, it is desirable that the building shall be faced with granite to First Floor level and with Donnybrook sandstone for the remaining floors.
- (7) During the period which must elapse before it is possible to occupy the building every effort should be made to find additional temporary accommodation, and to improve the conditions now existing in several of the Departments in Perth.
- (8) Attention is drawn to the possibility of providing office space on Commonwealth property, instead of in rented and unsuitable premises, by making additions to Padbury Buildings in Forrest Place.
- (9) The approximate estimate of cost should be reviewed by the Minister as the project progresses.
- (10) The possibility of using State-owned plant with day labour should be investigated.

ADMINISTRATIVE BUILDING FOR THE ENTOMOLOGY AND PLANT INDUSTRY DIVISIONS, COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH, AT CANBERRA.

21. In 1929 the proposal to erect two laboratories and an administrative block for the Division of Economic Botany and the Division of Economic Entomology was referred to the Parliamentary Standing Committee on Public Works, and in due course the project was approved. However, owing to financial restrictions shortly afterwards, although the laboratories were erected, the administrative block was deferred. The result of the restricted programme made it necessary for the administrative and clerical portion of the work to be carried on in a section of the laboratory space which was temporarily converted for office use.

The Proposal.

22. The proposal referred to the Public Works Committee in 1947 planned the erection of a building to connect the two existing laboratories in a similar manner to that originally suggested, but slightly altered to include a basement with special rooms for constant temperature work. It was also to include a floor to house library stacks.

The Building.

23. The overall dimensions of the building were 74 ft. 4 in. by 80 ft. 7 in., and it was to contain a Lower Ground Floor, Ground Floor, First and Second Floors, having a total floor space of 22,568 square feet. The total estimated cost, including the building, sewerage, electrical installations, roads, &c., was £72,258.

24. After a study of the plans the Committee was inclined to the opinion that the proposed building connecting the two existing blocks would result in a front elevation of rather monotonous and uninteresting appearance. However, it was explained that the whole of this section would only form portion of the complete establishment envisaged for the future, when the main administrative building would have to occupy a dominating position over the work now proposed, and it will be necessary, therefore, to ensure that the present work will be subsidiary to the main architectural features in the ultimate group. It was finally decided, however, that a slight alteration to the treatment of the parapet, which could be emphasized by the use of freestone, would make this part of the structure distinctive enough to give the impression of completeness without detracting from the effect desired to fit in with the future buildings.

Recommendations.

25. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) It is expedient to carry out the work.
- (2) The housing position in Canberra is improving and it is an appropriate time to begin construction of urgently needed public buildings in a balanced programme of development.
- (3) The appearance of the entrance should be improved by the use of freestone to the coping of the parapet.
- (4) Consideration should be given to the installation of a goods lift from the Lower Ground Floor to the Second Floor.
- (5) The floor of the Entrance Hall should be of terrazzo to match the stairs and save hardwood.
- (6) The building proposed should be subsidiary to the main block to be erected on the axis of University-avenue in the future, when the central administration is transferred to Canberra.

TRIBOPHYSICS LABORATORY, MELBOURNE.

26. The Tribophysics Section of the Council for Scientific and Industrial Research was formed in 1940 to investigate the possibility of reclaiming lubricating oil, in view of the limited supplies coming forward from the United States of America. Another reason for its formation was to conduct investigations into the manufacture of bearings for aircraft, because it was no longer possible to obtain replacements.

27. When the war ended the demands made by the services were greatly reduced, but a great deal of research work relating to problems arising in secondary industries has been necessary. A great deal of knowledge of explosives used in mining and in rocket propellants has been accumulated, and the Tribophysics Section has become recognized as an authority on physical metallurgy as applied to the production of bearings and special alloys for particular purposes.

28. In connexion with the armed services special apparatus has been evolved to measure recoil in gun carriages, and the work has been extended to include apparatus for calibrating 25-pounder guns for the Army, while members of the staff act as advisers and lecturers to the Staff College.

The Building.

29. The work originally began in the Chemistry School laboratory at the University, but that accommodation soon became too small and some wooden huts were secured and placed near the laboratory. The space occupied in the University premises is now required for the training of students in University work, and the wooden huts are regarded as most unsatisfactory for work with expensive and very delicate instruments.

30. A building was therefore designed to appear similar to the chemistry building beside it, and, though it is of comparatively modern design, it will harmonize with the older buildings adjacent to it in the University grounds. The structure is to be a three-story one, the frame and foundations of which have been designed to take two additional stories at some future date. It is situated to the east of Wilson Hall, between the Chemistry and Metallurgy Schools, and it will be erected facing a road which provides easy access to Grattan-street.

31. The area covered by the building at ground floor level is 7,265 square feet, while the total area is 20,514 square feet. The estimated cost, after provision for rises in costs of labour and materials following the introduction of the 40-hour week, was £94,000.

Recommendations.

- (1) There is an urgent need for the building.
- (2) The building should be erected as soon as materials and labour are available.
- (3) Priority should depend upon comparison with other scientific projects.
- (4) The floor of the entrance hall and corridor should be of terrazzo.
- (5) The estimates have been prepared as reliably as possible and with due regard to economy.
- (6) The location of the building should be in the University grounds as planned.
- (7) The arrangements for use of the land by the Commonwealth are regarded as satisfactory.
- (8) The proposed plans should provide a satisfactory solution of the architectural problems involved.

ADDITIONS TO TELEPHONE EXCHANGE, HAMILTON, NEW SOUTH WALES.

32. The conversion to automatic working of the existing network at Newcastle was planned before the war, and an automatic exchange for the immediate city area was established in 1941. The Newcastle local call network at present is confined to exchanges within a radius of 5 miles from the General Post Office at Newcastle, and it includes 6,812 subscribers connected to seven exchanges. Calls to places outside the 5-mile radius have to be made through trunk lines, with its attendant delay and congestion. It has now become necessary to extend the network to include all telephone exchanges situated within a radius of approximately 10 miles from the proposed Hamilton trunk exchange.

33. In order to establish the proposed extended network, and to provide a prompt and effective trunk line service for an area which has assumed such industrial and commercial importance to Australia, it is necessary to erect additional buildings in which to operate the extra equipment. The present Hamilton temporary exchange has therefore been selected as the most suitable locality for the trunk exchange and for the centre of the local call area.

The Building.

34. The plans show a structure which will add one additional story to the existing building at the corner of Denison and Lawson streets, Hamilton, and at the same time will extend all the floors to the rear of the site, leaving 12 feet width for vehicular access. A total area of 15,734 square feet will be added to the present floor space, and engineering services, including appropriate air conditioning and ventilation, are provided for. The estimated cost of the proposed extensions show a total of £78,800.

35. The total overall cost estimated for the establishment of the exchange, including the building, exchange equipment, trunk equipment, line construction and other items, was stated to be £517,192.

Recommendations.

36. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) There is an urgent necessity for the building.
- (2) Construction should proceed as soon as possible, providing materials are carefully chosen to avoid competition with housing.
- (3) Hamilton is the most satisfactory location for the exchange, and the building should be erected on the site proposed.
- (4) Pending provision for new buildings immediate steps should be taken to provide better conditions for staff working in the old exchanges.

- (5) If the contemplated third floor is likely to be required within fifteen years it is recommended that it should be included in the present proposal on the score of economy.
- (6) It is emphasized that the object of manufacturing complete sets of equipment in Australia should be encouraged in every way.

COMMONWEALTH OFFICES, BRISBANE.

37. In 1924 a scheme was formulated for the erection of office accommodation for Commonwealth and State officials on the whole of the site adjacent to Anzac Square. As a result of the proposal an agreement was reached under which the City Council was to construct Anzac Square, and the State and Commonwealth Governments were to erect buildings on opposite sides of the square. It was not until 1933 that approval was given to erect the present building on the southern corner of the site reserved for the Commonwealth offices.

38. The overall scheme agreed upon envisaged a block of buildings which would ultimately cover the whole of the area between Anzac Square and Creek-street, and the buildings would be composed of a central structure surrounded by six blocks, three on each side separated by external light bays 66 feet deep. The present building comprises practically two of the three blocks facing Anzac Square, and the remaining four blocks were left for completion in the future.

The Building.

39. The present proposal provides for the extension of the existing building through to Ann-street and along Ann-street to the corner of Creek-street, with consideration given to a second stage for later extension to complete the whole of the block along Creek-street and Adelaide-street.

40. The external walls of the three new frontages are to be faced to match the existing building, and the structure will consist of basement and eight floors on the Anzac Square frontage, while the Ann-street frontage will have sub-basement, basement and five floors, owing to the very considerable difference in levels of the streets.

41. It was stated that the estimated cost of the first stage was £705,400, while a tentative estimate for the future extension, based on the same calculations, was £570,000, making the total for the completed building of £1,275,400.

42. The accommodation offered in the scheme proposed was 177,177 square feet in the first stage and 108,408 square feet for the second stage, placing the ultimate total for the whole block at 285,585 square feet.

43. *Architecture.*—Although a great deal of thought and planning had been given to the project with the object of producing a structure of great dignity and pleasing appearance, which would conform to the details of the existing State building on the opposite side of Anzac Square, the design was criticized by some authorities. The opinion was expressed that strict conformity with the existing buildings prevented flexibility in allocation of floor space, and renders necessary an increased area of expensive external wall space. It also greatly reduces the total floor space available for accommodation without giving the compensating advantages of light and air ventilation which the external light bays aim to supply.

44. After a great deal of consideration and study of alternative sketch plans the Committee recommended that, although it is most desirable to maintain the present character of the architecture on all four elevations, modifications should be made in the light areas, to make use of some of the space not used to full advantage by them.

45. *Accommodation.*—The Committee's investigations showed clearly that office accommodation was needed most urgently in Brisbane, and the amount of space to be provided by the complete building proposed would be inadequate. The Committee therefore sought means to increase the areas available by additions to the basements, upper floors, and to the light areas, so that the maximum office space possible could be obtained from the use of the site.

46. After a complete investigation of the matter the Committee recommended alterations to the original planning which would result in the provision of a complete block of buildings on the site giving accommodation of approximately 312,000 square feet at a total cost estimated at £1,568,350.

Recommendations.

47. Briefly summarized, the recommendations of the Committee are as follows:—
- (1) The site is appropriate for the extensions proposed.
 - (2) The space under the strip between the old and new alinement in Ann-street should be considered for additional basement.
 - (3) It is desirable to maintain the present architecture on all four frontages subject to modifications of the light areas.

- (4) There is a need for as much accommodation as can be made available in the next few years.
- (5) The Ann-street-Creek-street corner should be excavated for use as additional basement space.
- (6) The cafeteria should be placed on the roof rather than in the basement, but it is necessary to provide air-conditioning and efficient insulation from the heat in summer, with mechanical ventilation in the kitchen section.
- (7) The plans should be amended as shown in sketch No. Q.S.2984, to provide cafeteria on seventh floor, and use of light areas beyond a depth of 25 feet.
- (8) A separate building should be constructed for the Repatriation Department as soon as possible.
- (9) Order of work should be as proposed, but stage 2 and the additions recommended should be proceeded with immediately.
- (10) Complete air-conditioning is necessary and should be based on an effective temperature of $72\frac{1}{2}$ degrees.
- (11) Lifts should be near the street alinement.
- (12) Both stages of the construction should be proceeded with.

TUBERCULAR BLOCK AND ADDITIONS TO SISTERS' QUARTERS, LADY DAVIDSON HOME, TURRAMURRA,
NEW SOUTH WALES.

48. In New South Wales the tubercular hospital cases for which the Repatriation Department is responsible are treated mainly at Concord Hospital, and the Lady Davidson Home, maintained by the Department as a male tuberculosis home since 1920, is used as a sanatorium, to which the hospital cases are transferred as they progress. The Committee found that the work being carried on in the various repatriation institutions is a credit to those concerned, in spite of the present difficult and overcrowded conditions, and it is satisfied that there is an immediate necessity for the multi-story hospital suggested.

The Multi-story Building.

49. It was proposed to erect a building comprising a small basement, ground floor, first, second, third and fourth floors, and roof deck, on a site in proximity to the main entrance to the Lady Davidson Home at Turramurra. Provision was planned for 96 beds in addition to administration and out-patients' sections. An operating theatre and ancillary rooms, machine rooms, stores, and various other rooms to house the services are also included. Each ward floor is to contain a patients' lounge and solarium, accessible to the balcony and protected by vertical louvres from the western summer sun.

Extension to Sisters' Quarters.

50. The provision of the multi-story structure, with its 96 additional beds, will make it necessary to employ a larger staff of nurses, and the present nurses' quarters will have to be enlarged to provide accommodation for them. The existing building, accommodating 23 sisters, is to be enlarged to provide additional space for 63, making a total of 86 bedrooms.

51. Consideration has been given to the isolated situation of the institution, and provision is made for a lounge opening on to a paved terrace, guests' lounge room and writing room, small lounges, supper room and sewing room, while laundry, drying and ironing rooms, and also a hair washing and drying room have been provided in the basement.

Estimated Cost.

52. The estimated cost of the multi-story hospital was set down at £224,250, and the extensions to the nurses' quarters at £59,060. In an effort to determine the approximate cost per bed of the establishment the Committee found that, after allocating a reasonable proportion of the administrative section and other services concerned with the whole of the institution, the cost per bed for the new building would be in the vicinity of £1,800.

Recommendations.

53. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) In New South Wales it is desirable to provide separate buildings to accommodate the repatriation cases.
- (2) The multi-story building is preferable to chalets for the hospital cases for whom the accommodation is being provided.
- (3) The plans are satisfactory for the purpose and provide all the necessary requirements for a modern hospital.

- (4) The effect on the housing programme will not be sufficient to demand any delay in the commencement of the building.
- (5) The plans for the extensions to the sisters' quarters are satisfactory.
- (6) The extensions to the sisters' quarters are necessary and should be erected simultaneously with the hospital.
- (7) The extension of the present sewerage system should be delayed in case it is possible to arrange for connexion with the main sewerage system before the building is completed.
- (8) The Water Board should be requested to expedite extension of the main sewer so that connexion will be possible when the building is completed.
- (9) There is an immediate necessity for the multi-story hospital, and, in view of the Repatriation Commission's assurances that staff will be available when required, the building should be proceeded with as soon as possible.

AIRPORT FOR HOBART AT LLANHERNE, TASMANIA.

54. Access to Hobart by air has been available for a number of years by the use of Cambridge Aerodrome as the air terminal. This aerodrome is situated 9 miles north-east of Hobart and consists of four unsealed gravel runways constructed during the period 1936-38. The nature of the adjacent terrain constitutes a number of serious hazards, and considerable difficulty is experienced, especially when the wind is blowing from the west, in landing and take-off from the runways at this airport.

55. Recent progress in aircraft manufacture has made it possible for commercial airlines to operate larger and heavier machines to cope with the increased volume of passenger and freight traffic, but the conditions obtaining at Cambridge make it essential to apply restrictions on the loads carried by larger aircraft to ensure safe operation. The site precludes extension to the runways, and a better site is therefore required to satisfy the present demand for transport by air.

The Llanherne Site.

56. About a mile from the site of the existing Cambridge Aerodrome is a site which offers suitable land upon which a new airport may be constructed, completely fulfilling the strictest safety approach requirements for an "A" class establishment.

The Present Proposal.

57. Upon the site at Llanherne it is proposed, as a first stage, to construct, on the 123-degree magnetic bearing, a runway 5,800 feet long and 200 feet wide, with provision for extension to 6,500 feet to cater for larger aircraft. In addition to the runway in the first stage a preliminary building area layout has been designed with associated aprons and taxi-ways.

58. The final stage of the planning provides for extensive freight storage and handling facilities together with other buildings and roads likely to be required on the apron frontage. It also envisages the construction of a second 123-degree magnetic runway, parallel to the original one, in case it ever becomes necessary to establish duplicate landing facilities as a result of unforeseen development of passenger and freight traffic.

Estimated Cost.

59. The estimated cost for the first stage is set down at £760,000, including runway, taxi-way, apron construction, fire-fighting, water supply, sewerage, drainage, fencing, land acquisition and buildings. The amount included for buildings is £75,000, but planning of the structures required has been delayed in order to incorporate the latest requirements resulting from development of machines and the rapidly expanding traffic.

Recommendations.

60. Briefly summarized, the recommendations of the Committee are as follows:—
- (1) The Llanherne site is the most suitable for the airport.
 - (2) The land necessary for the airport should be acquired and suitable arrangements made for realizing the value of the pine trees involved.
 - (3) The first stage, including the 123-degree runway and suitable buildings, should be proceeded with.
 - (4) As the building plans have not been developed, any extensive buildings should be referred to the Committee at a later date.
 - (5) It is not advisable to erect any further buildings at Cambridge, but if temporary accommodation is required, it could be provided by enclosing the verandah.
 - (6) A bitumen-surfaced runway with concrete ends and aprons is advisable.

- (7) The construction of a taxi-way from Llanherne to Cambridge should be deferred until actual tests of operating conditions with one runway are studied, but the 60-degree runway at Cambridge should be well maintained for emergency use.
- (8) Special provision should be made to ensure that the runway will be constructed with a view to its future extension and use by heavy Air Force machines.
- (9) In the interests of safety the control officer on Llanherne Hill should regulate the traffic on both airfields, but an officer under the general direction of the control officer at the Llanherne tower should direct local movements at Cambridge.
- (10) Pending erection of the control tower at the new airport some steps should be taken to improve the conditions under which the control officer at Cambridge directs the movements of civil and private aircraft.
- (11) Early action should be taken to ensure an adequate water supply by the time the airport is established.
- (12) Estimate should be reviewed when details of the buildings are available.
- (13) In the first stage an overshoot area should be cleared.

EXTENSIONS TO CITY WEST TELEPHONE EXCHANGE, MELBOURNE.

61. The present City West Automatic Telephone Exchange is situated in Little Bourke-street on portion of a site which extends right through to Lonsdale-street. The remainder of the site is occupied by the Central Manual Exchange building which was built, facing Lonsdale-street, about 40 years ago.

62. It was anticipated that, by the time it was necessary to extend the City West Exchange, the building used for the Central Manual Exchange would be available for the purpose. However, many factors have combined to retard the progress of relief exchanges, and it will be some years before the Central Exchange can be discarded. Action has therefore been taken to acquire property adjoining the City West Exchange to the east, so that urgent expansion can be provided for the next few years.

The Building.

63. The plans drawn up for additions to the eastern side of the City West Exchange will involve the demolition of the present building adjoining that exchange, and the erection of a suitable building to extend the accommodation now seriously overtaxed.

The building proposed will comprise basement, ground, and six upper floors, together with mezzanine lavatory above the ground floor, and it will provide a usable area of 12,400 square feet. It occupies a site on the corner of Little Bourke-street and St. John's-lane, and it is planned so that the equipment on the present floors may be extended into the new building.

64. In consequence of the encroachment of essential equipment upon space formerly used for amenities the accommodation at present available for staff purposes is totally inadequate. It has also been established that the congestion in the building is already having a serious effect upon the quality of the telephone service in the Melbourne network, and the Committee was convinced of the urgency of the project.

The Estimated Cost.

65. The estimated cost, which is stated to be subject to variation due to changing circumstances, was calculated in September, 1948, and was set down at £197,300, including the building, electrical work, mechanical equipment and cafeteria.

Recommendations.

66. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) The Committee is satisfied that the extensions to the City West Exchange building are urgent and necessary to ensure that satisfactory telephone service is given to the public.
- (2) Full air-conditioning should be installed as planned.
- (3) The luncheon room should be planned on the roof in such a position that it will not interfere with the facade nor raise the general height of the building beyond the level of the machinery rooms.
- (4) The extensions should be made to conform to the present alinement of the City West building and negotiations should take place on a departmental level to obtain agreement of the City Council for the extensions to be regarded as part of the old building and erected on the same alinement.
- (5) The extensions should be proceeded with on the understanding that staff facilities will be extended in the near future.
- (6) The site is satisfactory and in a locality capable of future development.

HOSTEL FOR OFFICERS AT DARWIN, NORTHERN TERRITORY.

67. Prior to the war there were two hostels in Darwin, one for men and one for women. Both were taken over for use by the services during the war, and, in recent years, various buildings and camps have been adapted to accommodate temporarily the officials employed in the departments at Darwin. Darwin is the only town in Australia which suffered extensive damage from Japanese bombs during the war, and it is estimated that roughly 30 per cent. of the available houses were damaged. In addition it is estimated that, as no maintenance was possible for several years, deterioration of another 30 per cent. has occurred. All costs are now so high that it is completely uneconomical to repair many of the dwellings, and special provision must therefore be made to provide accommodation for single men until the time arrives when adequate buildings are available to house married men and their families. With this in mind plans have been drawn for a hostel for officers, and the project is regarded as one of great urgency.

The Buildings.

68. Plans have been prepared for a permanent hostel which will ultimately provide accommodation for 178 persons. The complete scheme is to comprise eight residential blocks, a dining room and kitchen block, a recreation and lounge block, and two laundry and garage blocks. As portion of the site is at present occupied by temporary accommodation for the Supreme Court and associated activities, it is proposed to defer construction of one residential block, laundry and garage until a later stage, thus reducing the accommodation to 158 persons in the first stage.

69. The site has a frontage to the Esplanade of 497 feet and to Peel-street of 412 feet, and it is situated in a high density dwelling zone close to the site for future Government offices. In the first stage 158 persons, including household staff, will be accommodated in 124 single rooms and seventeen double rooms, the areas provided totalling 63,949 square feet, and the estimated cost is stated to be £254,987.

70. The Committee noted the poor conditions under which many of the staff are at present housed, and was convinced of the urgent necessity for the proposed hostel.

Recommendations.

71. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) Hostel accommodation is urgently needed in Darwin.
- (2) The site selected is suitable for the purpose.
- (3) The plan should be adopted as proposed.
- (4) Two residential blocks at the Peel-street frontage should be completed for occupation first.

WHARF AT DARWIN, NORTHERN TERRITORY.

72. The question of the provision of wharfage facilities at Darwin has arisen a number of times in past years, and several very thorough investigations have been made to determine the most desirable type of wharf for the purpose in consideration of the many important factors affecting the work. In past years the Parliamentary Standing Committee on Public Works has investigated two proposals, neither of which they recommended, mainly owing to the excessive cost of the work in comparison with the small trade passing through the port.

The Proposal Referred.

73. The proposal now referred to the Committee is for a wharf 650 feet long by 140 feet wide, constructed of steel tubular piles, and carrying a transit shed 200 feet long and 60 feet wide. Allowance is also to be made for the construction to be suitable for rail connexion when it is necessary at a later date.

74. The approach is planned to be made from the Stokes Hill side of the bay, where the present town jetty commences, and the site aims to cover part of the existing jetty and extend to the area at present occupied by part of the wreck of the *Neptuna*. This proposal assumes that the removal of the wreck is essential to the construction of the wharf proposed.

75. The planning of the wharf was made on the basis of an estimated ultimate population of 25,000 people for Darwin, and the estimated cost of the project was £540,000.

The Amended Proposal.

76. Before the first evidence was taken by the Committee the engineers planning the structure had found it necessary to amend the original proposal, particularly in regard to the site and the immediate section to be constructed, and fresh plans were submitted to the Committee.

77. The amended proposal planned a wharf which would ultimately be of the same size and construction as that originally proposed, but the site was to be placed slightly farther from the land, clear of the wreck of the *Neptuna*, and only the first of three stages of the wharf was suggested for immediate construction. The estimated cost was shown as £459,000 for the first two stages, and the third stage, to cost an additional £112,000, was to be deferred indefinitely.

78. The main reasons for the amendments to the plans were the excessive expenditure found to be necessary for removing the wreck of the *Neptuna*, and the revised basis of population of Darwin, which, in consideration of much smaller defence forces in the area, is now calculated to be only 5,500.

79. Owing to the peculiar conditions obtaining in Darwin Harbour, especially the very wide range of tides and currents, it was necessary to take a considerable volume of evidence on the matter. The Committee went to Darwin, inspected the existing installations, and thoroughly investigated all aspects of the question. It was finally decided to recommend the first two stages of the construction as being necessary at the present time.

Recommendations.

80. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) A new wharf is essential.
- (2) The caisson type of construction is not practicable for Darwin under present conditions.
- (3) The proposed construction of steel piles supporting structural steel girders and beams is agreed to.
- (4) Provision should be made for a railway to be laid on the wharf, but it should not be connected until trading conditions demand it.
- (5) The extension by an additional 90 feet, recommended by the Commonwealth Commissioner for Railways, should not be made to the wharf at present.
- (6) The timber jetty site is not recommended for the wharf.
- (7) The site shown hachured on Drawing No. H.C. 1586B and described in paragraph 75 of this report is agreed to.
- (8) The first and second stages should be constructed simultaneously, at an estimated cost of £459,000, but the third stage should be deferred indefinitely.
- (9) A sorting shed is necessary on the wharf and should be constructed as proposed.
- (10) Modern methods of mechanical handling of cargo should be applied as widely as practicable.

PRIMARY SCHOOL AT DARWIN, NORTHERN TERRITORY.

81. The population of Darwin has grown to something over 6,000 and the educational facilities are quite inadequate. The old school catered for a population of 3,500, and an attempt has been made to cope with the growing demand by providing Sidney Williams huts as a temporary expedient, and by crowding classes together both inside the school and underneath it amongst the supporting piers.

82. The new town plan for Darwin provides for five main residential areas, in addition to the zones for other purposes, and the proposed new primary school is to be situated in one of these areas. By retaining the old school and building the new primary school, it is proposed to cater for development until the time when a high school can be built and relieve the pressure on the primary school.

The Building.

83. The plans propose a building consisting of two main class-room blocks connected by a two-story administrative and library block. Advantage has been taken of the contour of the ground to place one of the class-room blocks, which will accommodate the younger children, on a lower level than the other, and it will contain its own separate playing area. Special attention has been paid to the design of the building in order to provide a building which will be specially suited to the tropical climate of Darwin.

84. The site occupies an area of 8.8 acres with road access from McMinn-street. The total overall area for the building is 20,510 square feet and it is intended to house a minimum of 280 pupils, the estimated cost, calculated in October, 1948, being £91,000.

85. After having inspected the present school and hearing the evidence submitted, the Committee was convinced that the new school building was urgently necessary, and recommended that the proposal should be approved.

Recommendations.

86. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) There is an urgent need for a new primary school at Darwin.
- (2) The site is generally satisfactory for the purpose.
- (3) The design is modern and attractive, and the school should be constructed as planned.
- (4) The work should be carried out in conjunction with other major works to enable regular transport and smooth working schedules to be arranged.
- (5) Materials and labour should be made available for the construction of the building simultaneously with accommodation projects.
- (6) Technical and commercial courses should be widely developed in the Northern Territory.

SCHOOL AT ALICE SPRINGS, NORTHERN TERRITORY.

87. At the present time there is a school at Alice Springs, and overcrowded conditions have been endured for some time. Temporary buildings and rented accommodation outside the existing school are being used for class-room purposes, and temporary arrangements which have been made for the instruction of chemistry and physics fall far short of the required standards. The present buildings have been condemned by medical authorities as unsuitably planned for school use and completely inadequate for the numbers of pupils being crowded into them, while the inadequate playground is also the source of discomfort and sickness.

The Building.

88. As the ground around the present school is quite inadequate for making satisfactory additions to the building a plan has been developed, for a new school on a more suitable site, for the secondary school section, and also to allow for considerable additions envisaged for the future.

89. The building proposed is to occupy portion of a triangular site at the northern end of the town, at the foot of Anzac Hill. The plans show a main class-room block two stories high, and an ancillary block one story high containing woodworking room and other facilities. The first stage provides for an overall area of 20,228 square feet, and will include four class rooms, science room, library, domestic science room, woodwork room, general purpose room, staff rooms, and various services designed to provide for the local conditions. The section suggested would house the secondary school and would accommodate 120 pupils.

90. Ultimately it was proposed to incorporate an Infants' Block and a Primary School Section, to connect up with the western end of the building, as well as an Assembly Hall adjacent to the Administrative Section.

91. The plans for the first stage as submitted to the Committee were estimated to involve an expenditure of £78,024, but details and estimates of the future stages had not been drawn up.

Recommendations.

92. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) New school premises are urgently needed in Alice Springs.
- (2) The site chosen is suitable for the purpose.
- (3) Tenders should be invited for the whole project so that the contractor may work consecutively on each of the three stages in turn.
- (4) Planning should be expedited to make use of the labour offering.
- (5) Special attention should be given to estimated contingency items as the work proceeds.
- (6) Immediate action should be taken to cover the existing playing area and to improve sanitary and other arrangements.
- (7) Special technical training facilities should be included in the planning.

MACLEOD REPATRIATION TUBERCULAR SANATORIUM, MELBOURNE.

93. The existing MacLeod establishment consists of a group of several buildings which have been erected without the benefit of a master development plan, and many of the ancillary buildings are obsolete. Calculated upon the basis that it is necessary to provide one bed for every three cases, the present number available is approximately 200 short of requirements, and as a result there is a great deal of difficulty in attempting to deal adequately with the repatriation cases needing attention. It is therefore proposed to add to the present institution a multi-story hospital of 201 beds, and to use the present pavilion type accommodation for the ambulant cases.

The Present Proposal.

94. The present proposal aims at establishing a modern institution of the hospital-sanatorium type, carefully planned to make the best of the land and the structures already in use on the property. The complete project includes the provision of a multi-story ward block, nurses' and household workers' quarters, conversion of present nurses' quarters for male staff, conversion of existing office building to provide emergency overnight accommodation, new boiler house, and long-range development and landscape work.

95. *The Multi-story Ward Block.*—This will be a modern structure consisting of lower ground, ground, and eight upper floors. The lower floors will house the administrative section, kitchen, and associated services, while the upper floors will contain the operating unit and X-ray department, pathology and dental sections, as well as typical ward floors of 32 beds each. A glazed solarium is to be placed at the end of each ward floor to provide the maximum in warmth and comfort in the winter-time.

96. *Nurses' and Household Workers' Quarters.*—This building will be situated in the north-east corner of the grounds and will be of similar construction to the multi-story ward block, having a lower ground, ground and eight upper floors in which accommodation will be available for 182 persons. In addition to the bedrooms provision has been made for recreation areas, living rooms, laundry, ironing room, hairdressing salon, and various other comforts and services for the benefit of the nursing staff.

97. *Conversion of Nurses' Quarters for Male Staff.*—The male staff will be housed in the former nurses' quarters at the northern end of the establishment. The building is of brick construction, consisting of basement, ground and first floors, and it will be remodelled for the purpose. No alteration will be required to the basement, which contains laundries, ironing rooms and stores. The ground floor will be re-arranged to provide accommodation for fifteen males and a four-bed sick bay, while the first floor will remain unaltered with its 21 bedrooms and services.

98. *Conversion of the Existing Office Building.*—Emergency overnight accommodation will be planned in this building by re-arranging the offices to serve as bedrooms.

99. *Boiler House.*—The boiler house has been designed on two levels, and, although it will be an industrial building, its appearance will conform to that of the other new buildings. It will be placed in a position in the grounds where the prevailing winds will carry away any smoke which would be likely to become a nuisance to the institution.

100. *Planting and Landscape Work.*—Although the area has considerable natural beauty it is highly desirable that a properly designed and co-ordinated landscape treatment should be developed. A tentative scheme has been prepared covering the supply and planting of trees, shrubs, plants and grassed areas, as well as the construction of rock gardens and bowling green.

Estimated Cost.

101. The details of cost for the complete project are—

Multi-story ward block	£	559,020
Nurses' and household workers' quarters		321,570
Boiler house		85,263
Conversion of existing quarters		72,630
Landscaping		11,517
		<hr/>
		1,050,000
		<hr/>

Recommendations.

102. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) The Committee agrees that an additional building is necessary for the treatment of ex-service tubercular patients.
- (2) The plans of the multi-story building are generally satisfactory for the purpose.
- (3) The site chosen is the most suitable.
- (4) The Committee agrees with the negotiations in progress to acquire the necessary land.
- (5) A slight alteration to the lower ground floor is desirable to ensure that the autopsy section shall be completely separated from the adjacent kitchen section.
- (6) Some efficient method of protection should be devised for the solarium so that excessive heat in summer can be avoided.

- (7) Although the Committee recommends the project for the Repatriation Commission, it is most impressed with Dr. Wunderly's plea for concerted efforts in the interests of both ex-service and civilian patients, and it is recommended that the closest possible liaison be maintained between the Repatriation Commission and the authorities directing the tuberculosis campaign.
- (8) Adequate steps should be taken to provide an auditorium and amenities section in the building to be erected for the purpose as soon as possible after the hospital building is erected.
- (9) A suitable room should be made available for the use of the representative of the Soldiers' T.B. Association.
- (10) The proposals to convert the nurses' quarters and the existing office building are both recommended as proposed.
- (11) The boiler house is an essential part of the establishment and is recommended.
- (12) Re-planning of the ward floors to allow two-bed rooms to provide more privacy for certain patients is recommended.
- (13) Training of former male patients should be specially encouraged.

BATMAN AUTOMATIC TELEPHONE EXCHANGE, MELBOURNE, RE-SUBMISSION.

103. This project was a re-submission of the reference dealt with in 1946, when the Public Works Committee recommended, with certain provisos, that the exchange should be proceeded with. It was represented that the original proposal was for an exchange to provide an essential unit in the Melbourne metropolitan telephone service, and it was to be one of the four main sections into which the city had been divided in the overall plan being followed.

104. In its original inquiry the Committee was concerned by the emphasis given in evidence to the rising costs of building operations and the impossibility of estimating with reasonable accuracy the ultimate cost of the building planned. In its recommendations the Committee therefore included a suggestion that the Minister, before approving substantial commitments in connexion with the building, should call for a special review of the estimates, in order to make a comparison with the figures originally presented.

The Proposal.

105. The original proposal was to erect, on a site covering an area of 8,826 square feet facing Flinders-lane, a building comprising basement, ground, mezzanine and six upper floors. The estimated cost was set down at £800,000, the cost of the building itself being £175,000.

106. After work had proceeded on the final preparations of the plans to a point where fresh estimates could be arrived at, it was decided by the Minister that, as costs had risen very considerably above the former estimates, and as some alterations were required to the plans, the work should be re-submitted to the Parliamentary Standing Committee on Public Works for its further report.

107. Alterations to the plans included a sub-basement, strengthening of the structural frame and floors, and subdivision of four upper floors, as well as provision to eliminate the cantilevered section, as suggested in the Committee's former report. The revised cost of the whole exchange was estimated at £1,150,000 compared with the former total estimate of £800,000.

108. Apart from the construction of the sub-basement as a civil defence measure, the proposal was mainly a matter of increase in costs. The Committee took evidence and made exhaustive inquiries and comparisons to ascertain the reasons for the big increase in the estimates.

109. The Committee found that the increases above the original estimates for comparable items amounted to approximately 64 per cent., and, in comparison with other costs in various parts of Australia and Great Britain, could be accepted as the general increases in building costs in the industry since January, 1946, when the original calculations were made.

Recommendations.

110. Briefly summarized, the recommendations of the Committee are as follows:—
- (1) Although costs have risen steeply the work is still urgently required and should be proceeded with as an urgent measure.
 - (2) The policy of restricting works to those for which a reasonable flow of materials can be assured should be carefully maintained.
 - (3) The Committee is satisfied that the officials concerned are doing all in their power to present reliable estimates under difficult circumstances, but looks forward to the time when experience in post-war building and increasing stability will provide a reliable basis from which close estimates will be obtainable.

ALICE SPRINGS SEWERAGE INSTALLATION.

111. For many years Alice Springs has been an important town in the Northern Territory, at the railhead, and in the centre of rich cattle-raising country. The town has sprung up and developed right over the extensive sand beds which yield the fresh water supply for the population. During the war, when the influx of troops to the locality increased the population by many thousands, the possibility of pollution of the water supply by the discharge of effluent from heavily loaded septic tanks and sullage water came under notice. Prompt action was taken to ensure that the sullage was chlorinated before entering the ground and, in addition, the town water supply drawn from the sand beds was chlorinated before use by the public.

112. Now that the troops have been withdrawn from the area the immediate danger of pollution has been greatly diminished, but the danger still exists and it is regarded as essential to take action to improve the sewerage system at once.

The Present Proposal.

113. The scheme proposed provides for the sewerage of the three main areas forming the town by gravitation sewers of 6-inch, 9-inch and 12-inch diameter. The sewage will pass to the lowest point, where a pumping station will pass it through a cast iron rising main through Heavitree Gap to treatment works south of the gap, in a position where it cannot seep back into the water-bearing sands under the town. The sewage is to be then passed through Imhoff tanks, trickling filters, and humus tanks before it is ready for discharge on to the land.

114. The estimated cost of the proposal is £115,000, exclusive of house connexions £20,000, and house fitting for the whole township £18,000. Owing to the expensive nature of the proposal for a town of comparatively small size, the Committee made inquiries regarding possible alternative systems. It was stated that alternatives to the present pan system would be group or individual septic tank systems, or chemical closets. These systems were stated to be considerably less expensive than the full sewerage system, but they did not appear to the Committee to offer the desired security from the danger of pollution.

115. Investigation of the future prospects of the town indicated the possibility of expansion, and the Committee recommended that the full sewerage system should be installed.

Recommendations.

116. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) Some alternative to the present pan system is necessary.
- (2) It is advisable to install a full sewerage system.
- (3) Special supervision in selecting and laying of pipes is essential.
- (4) The work should be proceeded with when concrete pipes and rubber joints are available.
- (5) The project should be linked with other urgent proposals to obtain the benefit of building organization.
- (6) The Committee agrees that the water should still be chlorinated and regularly tested.
- (7) Steps should be taken to prevent the use of private wells and sullage pits after the sewerage system is installed.
- (8) In view of the unusual conditions in Alice Springs special consideration should be given to making the charge to residents as light as possible.

AUTOMATIC TELEPHONE EXCHANGE, ST. KILDA, VICTORIA.

117. At the present time 86 per cent. of the telephones in the Melbourne metropolitan network are of the automatic type, and the presence of obsolete manual exchanges in the automatic network is the cause of considerable difficulty, making it uneconomical from a servicing point of view. The Windsor manual exchange, which was opened in 1899, is one of those which has served more than its normal life, and it has been maintained with some difficulty in recent years. In order to give the best service possible some of the lines have been transferred temporarily to other exchanges until the proper facilities are available. The old Windsor exchange has been serving some of the subscribers in the proposed St. Kilda area, and it is now proposed to eliminate it and connect the lines to the new St. Kilda exchange while making provision for the lines connected to the various other districts planned in the network to be served in the new building.

The Building.

118. It is proposed to erect, on a site in Inkerman-street, St. Kilda, a building comprising basement, ground, first, second and future third floors. The total accommodation planned in the completed building will be 28,005 square feet and the cost is estimated at £108,960. However, if only a three-story building is erected the cost is estimated at £97,952.

119. The Committee had previously investigated proposals for telephone exchanges in the Melbourne network and was familiar with the congested conditions prevailing. It made further inquiries on this particular project and was convinced that the population in the area being covered was rapidly increasing, while the demand for telephone facilities there would continue to be an urgent problem.

120. An inspection of the site left the Committee with the opinion that future extensions might necessitate construction of the building over the site at present occupied by two small cottages, and amendments were suggested to the plan placing the tower on the opposite side of the building to allow for future additions.

Recommendations.

121. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) There is an urgent necessity for the proposed exchange at St. Kilda.
- (2) The site is in a convenient position to ensure the most economical working of the exchange, and is suitable for the purpose.
- (3) The amended plan is satisfactory, and the building should be constructed accordingly.
- (4) The third floor is necessary and should be constructed at the same time as the rest of the building.
- (5) The necessary materials and labour should be obtained and the building constructed as soon as possible.

WOOL BIOLOGY LABORATORY AT PROSPECT, NEW SOUTH WALES.

122. As a result of the provisions made in the *Wool Use Promotion Act* 1945, and other related legislation, allowing for the establishment of certain funds for the expansion of sheep and wool research, a survey was carried out of the progress being made in Australia in connexion with sheep and wool research. It became clear that, while great progress had been made in the control of sheep diseases, very little had been done on the general subject of research into the problems of healthy sheep as distinct from the diseased sheep. It was therefore decided that, from the funds available, the research programme should be expanded in the study of the physiology of the sheep; its fertility and reproductive capacity; its capacity for improvement in terms of the quantity and quality of the wool grown; and its productive capacity in terms of mutton, lamb, skins and by-products.

123. The laboratory space available for the research work was very limited, but the work was started in accommodation made available in buildings scattered as far apart as Melbourne and Sydney, and it has been developing whilst suitable site and buildings have been sought.

The Buildings.

124. The proposal is to erect, on a site acquired at Prospect, New South Wales, a group of eight buildings, five of which are to be included in a first constructional stage, with the remaining three planned for completion shortly after the first group. The first stage comprises feed store, two animal houses, garage and workshop, and fleece and shearing building, while the second stage consists of the main laboratory building, examination and climate control rooms, and boiler house and mechanical services. It was decided to urge the immediate construction of the animal houses and buildings comprising the first stage, as the main laboratory and examination buildings will take longer to complete and will absorb a great deal more material.

125. The site consists of an area of approximately 116 acres of land with a frontage of approximately 1,223 feet to the Great Western Highway. It is approximately 4½ miles from Parramatta, is well grassed and suitable for the agricultural work necessary, and is situated near enough to a populated area to give a reasonable opportunity for staff to obtain housing accommodation.

126. The estimated cost of the first stage of the programme is set down at £99,500, and the second stage £224,900, making a total of £324,400. The Committee took evidence on the various aspects of the proposal and gave consideration to the reasons advanced for the necessity of the project. As a result the Committee was very impressed with the value of the work already commenced and with the importance to Australia of the research programme outlined.

Recommendations.

127. Briefly summarized, the recommendations of the Committee are as follows:—
- (1) The scientific investigations are of the greatest importance and should be pushed forward without delay.
 - (2) Progress is being hampered by the difficult conditions under which the institution is at present functioning.
 - (3) The eight buildings projected are necessary for the programme.
 - (4) The two animal houses should be completed as early as possible.
 - (5) To avoid delays in planning the work should be proceeded with in two stages.
 - (6) If shortage of architects delays the early planning professional men from outside the Department should be engaged.
 - (7) The design is suitable for the institution.
 - (8) The site is satisfactory for the purpose.
 - (9) Decision regarding the use of clay bricks or cement bricks should be determined at a later stage when the supply position can be more accurately gauged.
 - (10) As the materials will have to come from the 15 per cent. allocated to general works after 85 per cent. has been set aside for housing, this project should be approved immediately.
 - (11) The importance of the research demands a higher priority for this project than it has held up to the present.

NATIONAL LIBRARY AND ROOSEVELT MEMORIAL, CANBERRA.

128. During the first session of the Commonwealth Parliament a Library Committee was appointed to establish a library to cater for the needs of Members of Parliament, and, when the Parliament was transferred to Canberra, to establish a collection for the National Library on the lines of the Library of Congress at Washington.

129. In 1925 the Public Works Committee recommended to Parliament that the building now known as West Block should be erected in time for the transfer of Parliament to Canberra, and that the building should be known as the National Library, but be shared with a number of other Government Departments. During the financial depression of 1929-32 the Library surrendered the accommodation provided in West Block in order that the Statistician's Branch might be brought to Canberra, and, in 1934 a commencement was made with the erection of a National Library building fronting King's-avenue. It was to be built in sections, and the first section was to form a book stack in the complete building. Extensive additions to the building have been considered for some time, and, following upon the death of President Roosevelt, it was eventually decided that, when the National Library was being erected, there should be set aside a special wing in which would be established The Franklin Roosevelt Library of American Literature as a memorial to President Roosevelt, and a permanent contribution to Australian-American understanding.

The Present Proposal.

130. The proposal submitted to this Committee aims at the erection of a building which, in addition to being a repository for the numerous volumes forming the National collection, will also provide space for the varied activities now carried out, or later to be entrusted to the Library authorities. It is intended to be so designed as to incorporate the existing National Library block into the structure as the Roosevelt Memorial Wing.

131. The structure is planned to consist of a basement and three main floors supplemented with mezzanine levels between ground and first and between first and second floors. The walls are to be faced with cast stone and partitions are to be constructed of demountable materials. The usable floor area totals 240,250 square feet, and the total estimated cost was set down at £1,702,000.

132. The site, bounded by King's-avenue, Broughton-street and Macquarie-street, has an area of 7 acres and is claimed to be an ideal site for the National Library.

133. The Committee found that the present space available to the Library in Parliament House was badly overcrowded, and much of the space being used temporarily in various parts of Canberra is most unsuitable and inconvenient, while the conditions under which much of the valuable material has to be stored constitutes a grave risk and renders it largely inaccessible. Much of the space in Parliament House will be required for parliamentary use when the membership of Parliament is increased, and the Library has been asked to vacate it by 30th June, 1950. It is very urgent, therefore, that temporary accommodation be found or erected immediately for library purposes, and the Committee recommended accordingly.

134. Owing to the critical position that exists with regard to housing in Canberra it was demonstrated that a building of the magnitude suggested for the National Library could only be built after many years of delay, and, after making extensive inquiries, the Committee recommended that the plans be revised to present a suitable building which could be constructed in sections, the first of which could satisfy the minimum requirements of the Library and be completed within a reasonable period.

135. From the architectural aspect certain criticism was offered indicating that the plan had not made adequate provision to ensure that the building would be a fine structure in appearance when viewed from all angles. The Committee agreed with this criticism and recommended that in the re-planning attention should be given to that aspect of the proposal.

136. As it was also considered that certain provisions in the plans could not be justified at the present, it was recommended that the theatrette, film unit and cafeteria be eliminated for the present, and further plans should be submitted to the Committee as soon as possible.

Recommendations.

137. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) An earnest endeavour be made, as early as possible, to provide at least suitable storage space for Library requirements, and so relieve the congestion in Parliament House which is seriously affecting the operations of the Library as well as other Departments of Parliament.
- (2) In view of the stupendous building programme already approved for the Australian Capital Territory, the Committee sees no probability of the building, as submitted, being completed within a reasonable time.
- (3) On the grounds of economy, and to provide against future changes in Library policy and practice, a plan should be evolved so that instead of aiming at the erection of a building in one unit, a section could be built to cater for needs for the next fifteen years, and leave adequate room for extension later.
- (4) In designing the new building special attention should be paid to the fact that it is to be on an island site, and ensure that the structure should have an attractive elevation from all angles.
- (5) Consideration should be given to siting the building on the area to admit of extensions if and when necessary.
- (6) Provision of the theatrette should be postponed for the present.
- (7) Provision of a separate film unit should be eliminated.
- (8) The cafeteria should not be provided.
- (9) The Department of Works and Housing be requested to furnish fresh plans eliminating the theatrette, film unit and cafeteria, and confining accommodation to be provided to what is immediately essential for Library requirements.
- (10) To avoid the necessity of demolishing the existing building on the site, consideration should be given to the availability of an alternative site.
- (11) The architects be requested to prepare in association with the National Capital Planning and Development Committee, fresh alternative plans for this or an alternative site, if selected, and that when agreement shall have been reached on the plans, the project be remitted to the Public Works Committee at the earliest possible date for further investigation and report.
- (12) In the case of any future buildings proposed for Canberra the agreement of the National Capital Planning and Development Committee be obtained before the project is submitted to this Committee for investigation and report.

WOOL TEXTILE RESEARCH LABORATORY, GEELONG, VICTORIA.

138. The development of research to assist the wool industry, as a result of the passing of the Wool Use Promotion Act, falls into two main categories—biological research concerned with the production of the wool on the sheep's back, and textile research dealing with the subsequent treatment of the wool and its use in textile products. The Committee dealt with a project involving the building programme for the biological research when it investigated the proposal for the Wool Biology Laboratory at Prospect, New South Wales, and it was represented, in connexion with this proposal, that a building programme for the wool textile research was equally important and urgent.

139. As the use of wool is so important to the economy of the whole of Australia it is considered essential that scientists should investigate the problems connected with the use of wool in textiles, the carbonizing of wool, scouring to reduce the cost and lessen the proportion of damage to the wool fibres, improvement in resistance to wear and lessening of the tendency to shrinkage, and many other aspects of wool usage.

The Present Proposal.

140. The present proposal is to erect, on a site at Belmont, a few miles from the centre of Geelong, a factory type structure which, temporarily, can be utilized as a multi-purpose building for all facilities required at the moment, and subsequently be embodied in a group of buildings envisaged for the ultimate development of the project. The building now proposed is to be 240 feet long by 80 feet wide, providing an area of 19,200 square feet, and it will be subdivided to provide accommodation for offices, laboratories, stores and essential associated services. The estimated cost of the building is set down at £68,500, and it is expected that it will take eighteen months after acceptance of tender to complete the construction.

Recommendations.

141. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) In view of the importance of the work to be carried out an effort should be made to provide the building asked for with the least possible delay.
- (2) The selection of Geelong for the location of the laboratory is a wise one.
- (3) The site is suitable for the purpose for which it is intended.
- (4) The type of building proposed is suitable for its present function and prospective future use.
- (5) The building should be erected in brick.
- (6) The amenities to be provided for the staff are satisfactory.
- (7) The fire precautions to be taken will prove adequate.

COMMONWEALTH OFFICE BUILDING, HOBART.

142. Some years ago the necessity to provide a block of offices to house Commonwealth officials became urgent, and a site in Collins-street, Hobart, known as Hamilton's Building, was acquired for the purpose. Subsequently, in order to develop a suitable proposal, a further acquisition was made of the adjoining site, at the corner of Collins and Argyle streets, known as Tregear's Building.

The Present Proposal.

143. The present proposal plans to erect, on the land acquired, a modern building comprising basement, lower ground floor, ground floor, and six upper floors providing 90,000 square feet of usable office space at an estimated cost of £809,040. The building is designed to accommodate the staffs of the Commonwealth Government departments at present in rented premises in various parts of the city, and the space provided will be sufficient to house 1,130 persons. On the ground floor arrangement is made for accommodation of Trans-Australia Airlines, including offices, passenger space, and bus dock for passenger and freight vehicles.

144. On its inspections the Committee found that many of the staff of some departments are working under most trying and difficult conditions in badly overcrowded premises. The general demand for office space is very heavy and alternative accommodation is not obtainable. It was evident to the Committee, from its inspections and also from the evidence taken, that the building proposed would be inadequate to house the departments needing accommodation, and the Committee sought evidence which would indicate the best means of providing the maximum amount of accommodation which could be made available on this site. The building is already planned for the maximum height allowable, but it was suggested that the two large light courts would be of very little benefit in the Hobart climate. The Committee therefore recommended that they be eliminated and used for office space. It was also found that the inclusion of Trans-Australia Airlines in the building would involve serious traffic problems in Argyle-street, and the Committee deemed it desirable that separate premises should be sought for the air terminal.

Recommendations.

145. Briefly summarized, the recommendations of the Committee are as follows:—

- (1) There is an urgent necessity for the building.
- (2) The design is suitable for the structure.
- (3) The site is suitable for the building.
- (4) The airways terminal should be located elsewhere.
- (5) Negotiations should be undertaken with the City Council to obtain a suitable site for an air terminal.
- (6) Fluorescent lighting is desirable in all offices.
- (7) The two light courts should be eliminated, adequate ventilation and fluorescent lighting ensured, and subdivision of floors should be planned to allow a certain amount of through ventilation in emergencies.
- (8) Use of electricity instead of fuel oil for heating should be further investigated.

- (9) Special supervision should be maintained over the operation of equipment regulating the temperature of the building.
- (10) Requirements for sewerage installation should be discussed with the city authorities.
- (11) A cafeteria is desirable, but the extent of it should be further studied before installation.
- (12) The effect on housing will not be great and the work should be proceeded with.

MOVEMENTS OF THE COMMITTEE.

146. During its term of office the Committee travelled to all States of Australia and to the Northern Territory. A number of the journeys made by the Committee concerned urgent projects, and several long journeys were covered in short times, most of the travelling being done in the air. Apart from the long distances travelled by members of the Committee from their homes to join in the Committee work, and the numerous local motor car inspections during investigations, the official distances travelled by the twelfth Committee during its term of office totalled 23,506 miles.

STAFF.

147. Owing to the very heavy programme of works on hand towards the end of the Committee's term, and the necessity to complete the urgent works being investigated, the services of the former Secretary (Mr. Gerald Whiteford) were secured for a period of three months to assist in the secretarial work involved. At the close of the Committee's term the Chairman (Senator Lamp) expressed official appreciation of the manner in which the members of the Committee had assisted him in the inquiries undertaken, and also of the secretarial work performed by the Secretary (Mr. W. R. Blackman), the Clerical Assistant (Miss N. Anderson), and Mr. G. Whiteford.

Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Parliament House, Canberra.
9th March, 1950.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.—RECORD OF INQUIRIES.

Date of Inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
1946-49. (See 21st GENERAL REPORT.)						
16th May, 1947, to 17th September, 1947	Permanent Administration Offices, Canberra	1,425,128	1,425,128	..	..	Recommended as proposed
21st May, 1947, to 18th September, 1947	Repatriation Administrative Offices, Perth	222,750	250,000	27,250	..	Recommended fresh plans
29th October, 1947, to 11th February, 1948	Administrative Building, Entomology and Plant Industry Divisions, Council for Scientific and Industrial Research, Canberra	72,258	72,258	..	..	Recommended as proposed
3rd December, 1947, to 9th April, 1948	Tribophysics Laboratory, Melbourne	94,000	94,000	..	..	Recommended as proposed
3rd December, 1947, to 29th April, 1948	Telephone Exchange, Hamilton, New South Wales	78,800	78,800	..	..	Recommended as proposed
14th April, 1948, to 9th September, 1948	Commonwealth Offices, Brisbane	705,400	1,568,350	862,950	..	Recommended complete remodelled scheme instead of one stage
14th April, 1948, to 3rd September, 1948	Tubercular Block and Sisters' Quarters, Turrumurra, New South Wales	283,310	283,310	..	..	Recommended as proposed
17th June, 1948, to 10th November, 1948	Airport for Hobart at Llanherne, Tasmania	760,000	760,000	..	..	Recommended as proposed
10th September, 1948, to 5th February, 1949	City West Telephone Exchange, Melbourne	197,300	197,300	..	..	Recommended as proposed
10th September, 1948, to 3rd September, 1948	Hostel for Officers, Darwin	255,000	255,000	..	..	Recommended as proposed
8th October, 1948, to 14th October, 1949	Wharf at Darwin	459,000	459,000	..	..	Recommended with proviso as to site
22nd October, 1948, to 22nd September, 1949	Primary School, Darwin	91,000	91,000	..	..	Recommended as proposed
19th November, 1948, to 7th July, 1949	Alice Springs School	78,024	78,024	..	..	Recommended with subsequent stages to follow
30th November, 1948, to 9th June, 1949	MacLeod Repatriation Tubercular Sanatorium, Melbourne	1,050,000	1,050,000	..	..	Recommended with alterations to wards
10th February, 1949, to 16th June, 1949	Batman Telephone Exchange, Melbourne	1,150,000	1,150,000	..	..	Recommended as proposed
10th February, 1949, to 3rd September, 1949	Alice Springs Sewerage Installation	115,000	115,000	..	..	Recommended with rubber joints specified

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.—RECORD OF INQUIRIES—*continued.*

Date of Inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
1946-49. (See 21st GENERAL REPORT.)— <i>continued.</i>						
25th February, 1949, to 22nd September, 1949	St. Kilda Telephone Exchange, Victoria	97,952	108,960	11,008	..	Recommended to include third floor
20th May, 1949, to 22nd September, 1949	Wool Biology Laboratory, Prospect, New South Wales	324,000	324,000	..	..	Recommended as proposed
15th June, 1949, to 19th October, 1949	National Library and Roosevelt Memorial, Canberra	1,702,000	Nil	..	1,702,000	Plans to be amended and re-submitted
22nd June, 1949, to 29th September, 1949	Wool Textile Research Laboratory, Geelong, Victoria	68,500	68,500	..	..	Recommended as proposed
1st July, 1949, to 19th October, 1949	Commonwealth Offices, Hobart ..	809,040	809,040	..	..	Recommended with amendments to plans