



THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

R E P O R T

relating to the proposed erection of

COMMONWEALTH OFFICES,

B R I S B A N E.

1948.

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS.

REPORT

RELATING TO THE PROPOSED ERECTION OF

COMMONWEALTH OFFICES,
BRISBANE.

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MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.
(TWELFTH COMMITTEE.)

SENATOR CHARLES ADCOCK LAMP (Chairman).

Senate.

(²) Senator CHARLES HENRY BRAND.
Senator RICHARD HARRY NASH.
(⁴) Senator NEIL O'SULLIVAN.

House of Representatives.

WILLIAM PATRICK CONELAN, ESQUIRE, M.P.
(²) HENRY BAYNTON SOMER GULLET, ESQUIRE, M.P.
(³) HOWARD BEALE, ESQUIRE, M.P.
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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 24th June, 1947.
(³) Appointed 24th June, 1947.
(⁴) Appointed 24th October, 1947.

EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES,
No. 124, DATED 14TH APRIL, 1948.

9. PUBLIC WORKS COMMITTEE—REFERENCE OF WORK—OFFICE BUILDING FOR COMMONWEALTH DEPARTMENTS, BRISBANE.—Mr. Lemmon (Minister for Works and Housing) moved, pursuant to notice, That, in accordance with the provisions of the *Commonwealth Public Works Committee Act 1913–1947*, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for investigation and report; namely:—Erection of an Office Building to house Commonwealth Departments in Brisbane.

Mr. Lemmon having laid on the Table plans in connexion with the proposed work—
Question—put and passed.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

OFFICE BUILDING FOR COMMONWEALTH DEPARTMENTS, BRISBANE.

REPORT.

The Parliamentary Standing Committee on Public Works, to which the House of Representatives referred for investigation and report the question of the erection of an Office Building to house Commonwealth Departments in Brisbane, Queensland, has the honour to report as follows:—

SECTION I.

INTRODUCTION.

The Anzac Square Area.

1. The question of building an office block in Brisbane to house Commonwealth Departments has been under consideration on a number of occasions in the past. The present proposal is dependent upon a comprehensive scheme, formulated in 1924 by Mr. J. S. Murdoch, which embraced the whole site now under review.

2. As a result of the proposal a gentlemen's agreement was arrived at between the Commonwealth Government, the Queensland Government, and the Brisbane City Council, and a plan was adopted whereby a Memorial Square was to be formed and buildings on either side of the Square would be designed in architectural harmony. The scheme was given Cabinet approval on 27th March, 1926, and subsequently the City Council constructed Anzac Square with its lawns and memorial, while the State Government erected portion of the buildings designed for their side of the Square.

The Existing Building.

3. In 1927 the question of the erection of a building for Commonwealth Offices in Brisbane was referred to the Parliamentary Standing Committee on Public Works, the building proposed being one which would be erected on the side of Anzac-square agreed upon, and would extend from Adelaide-street through to Ann-street. The Committee reported favourably upon the proposal and recommended that the building should be proceeded with. However, financial considerations resulted in deferment of the proposal until September, 1933, when Cabinet approval was given for the erection of the building to its present limits. The extent of the present building, which was commenced in 1934, and cost £121,500 to build, is approximately half that recommended by the Committee in 1927. It is situated on the Southern corner of the site, with the main entrance facing Adelaide-street and the side of the building facing Anzac-square. The form of the building follows that of the State Government building on the opposite side of Anzac-square, and is of semi-classical or renaissance character, with provision to add extensions to complete the block in similar style at the appropriate time.

4. 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 these blocks facing Anzac-square, and the remaining four blocks were left for completion in the future.

SECTION II.

THE PRESENT PROPOSAL.

The Building.

5. 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.

6. The structure is proposed to be steel framed, encased in concrete, with reinforced concrete floors and beams, the external walls to the three new frontages to be faced to match the existing building, having granite to the plinth, freestone to the base stories, and remaining upper stories cement rendered. It is to consist of eight floors and basement on the Anzac-square frontage, and sub-basement, basement and five floors on the Ann-street frontage, the considerable difference in levels of the streets concerned making it necessary to plan the building in this manner.

Accommodation.

7. The first stage of the extension, when combined with the existing building is planned to provide 177,177 square feet of usable space, the area suitable for office work accommodating about 1,000 persons, based upon the space factor of 80 square feet per person.

8. The second stage for future extension is planned to add a further area of usable floor space of 108,408 square feet, placing the ultimate total for the whole block at 285,585 square feet.

9. Space is included for a cafeteria to provide meals for 600 people, as well as a lounge and other amenities, provision being made for additional amenities in the later stage.

Estimated Cost.

10. Owing to changing circumstances governing costs in the building industry, estimates are stated to be subject to variation, but, in March, 1948, the estimate for the first extension now proposed was set down at £705,400. The tentative estimate for the future extension, based on the same calculations is set down as £570,000. Totals for Stages 1 and 2 would therefore amount to £1,275,400.

Purpose of the Building.

11. It was represented that the proposed extensions are required for the purpose of housing various Commonwealth departments having branches in Brisbane which are at present inadequately accommodated, some in rented premises, in various parts of the city.

Time for Completion.

12. It is estimated that it will take approximately one year to prepare working drawings, specifications and bills of quantities, while the construction of the first stage of the building as recommended would take about three years.

SECTION III.
THE COMMITTEE'S INVESTIGATIONS.

General.

13. The Committee studied the plans and proceeded to Melbourne and Brisbane for the purpose of taking evidence on the matter from responsible officials of various Departments including Works and Housing, Interior, Repatriation, and others. An inspection was made of the site and buildings concerned, and evidence was also taken from officials and professional men, experienced in matters affecting the proposal, from whom information could be obtained which might assist the Committee in making its decisions on the project.

The Site.

14. The complete site, which has been acquired by the Commonwealth, is rectangular, and comprises the land on one side of Anzac-square facing the similar block containing the State Government building opposite. It has four frontages—South-east to Adelaide-street; South-west to Anzac-square; North-west to Ann-street; and North-east to Creek-street. On the Southern corner of the site and facing Anzac-square and Adelaide-street, is situated the present Commonwealth Office building which it is proposed to extend ultimately until it covers the whole of the site included.

15. On the Anzac-square frontage a laneway 12ft. 6ins. wide has been excavated at the Adelaide-street level, and this laneway will be extended to the full length of Anzac-square, allowing natural lighting to the whole of this frontage.

16. The site has actually been determined by previous planning, and is fixed by reason of the first portion of the building having already been built. However, the site appears to be entirely suitable, and is regarded as most desirable by all the witnesses concerned. It is centrally placed in the heart of the city, convenient for public access, yet not interfering with the retail business section nor involving excessive resumption of property. It is quite appropriate for an imposing public building to be erected contiguous to a central square such as Anzac-square, and the Committee endorses the selection of the site as suitable for the extensions proposed.

Levels.

17. There is considerable difference in the levels between Ann-street and Adelaide-street, and this feature has been used to design basements on portions of the site, allowing a ground floor entrance on the Ann-street end of the building corresponding to the second floor level on Adelaide-street.

Retaining Walls.

18. The difference in levels will also make it necessary to provide retaining walls at the Ann-street end of the site, and discussions have been taking place with the City Council regarding the position and erection of the walls as well as the responsibility for their cost.

New Alignment.

19. The Ann-street wall of the existing parking station is at present approximately 14 feet over the new Ann-street building alignment established by the Brisbane City Council for street widening purposes, but when the new building is erected it will be brought back to the new alignment.

20. As part of the area concerned has been excavated consideration has been given to the question of the best method of using the 14-ft. wide strip when the footpath is constructed over it on the new alignment. Suggestions have been made that this area might be added to the basement space and used for additional parking accommodation, though it may also be required by the City Council, who own that strip, for services or storage purposes. The Committee recommends that, when the negotiations concerning this space are resumed with the City Council, the question of its use for additional basement space should be specially considered.

Truncation of Corners.

21. Traffic in Ann and Creek streets is very heavy at some periods, and, to improve visibility the Brisbane City Council requested truncation of ten links to each frontage at the corner. The Council's request has been complied with, and the Adelaide-Creek street corner has been similarly treated.

Architecture.

22. In consideration of the agreement to develop this area in conformity with the scheme accepted by the Commonwealth, the State Government and the City Council, and in continuation of the form of the existing building, the plans were prepared for a proposal to erect the building in similar style to that adopted in the first section, and in the State building opposite.

23. The architecture is of semi-classical or renaissance character, with stone facing, and, of the six blocks required to complete the design on each of the State and Commonwealth sites adjoining Anzac-square, the State Government has built four blocks with the other two about to be commenced, while the existing Commonwealth building is of two blocks with four to be completed in accordance with the plans now before the Committee.

24. The Departmental architects have given a great deal of consideration and thought to the planning of the project which will produce a structure of great dignity and pleasing appearance, well balanced about Anzac-square, and providing a Governmental centre worthy of Brisbane.

25. However, the rather slavish conformity to all the details of the existing State building was subjected to a considerable amount of criticism by some of the expert witnesses, including the City Planner and the representative who presented the considered opinion of the Institute of Architects.

26. It is recognized that architectural harmony with the State building is essential, both from an aesthetic point of view as well as to conform to the agreement for the general scheme adopted. It is nevertheless pointed out that the existing buildings were planned and built years ago as non-air-conditioned structures, without many of the modern details of design considered most important in these days. The opinion was expressed that the above considerations produced a poor basic design which prevents flexibility in allocation of floor space to the various sections, and renders necessary an increased area of expensive external wall surface. It also greatly reduces the total floor space available for accommodation within the building without giving the compensating advantages of light and air ventilation which the external light bays aim to supply. This was emphasized by the fact that artificial light is now used in many of the rooms—even those on the frontages of the existing building—owing to the excessive width of the blocks composing the structure.

27. Some of the opinions expressed went so far as to indicate that, if architectural harmony were preserved by maintaining a likeness to the State building on the Anzac-square frontage, it would be unnecessary to continue it on the other three frontages. With alternative treatment it was stated that, on three frontages, better window spacing and lighting could be obtained, and a less costly and more efficient elevation could be designed.

28. The Committee recognizes that the Departmental architects, in drawing up plans for the completion of a scheme which was determined many years ago and fixed in certain respects, were faced with a number of alternatives all of which would be subject to criticism in some details.

With due consideration of the points affecting the matter, including the strong claims for air-conditioning in the Brisbane climate, the Committee is satisfied that it is most desirable to maintain the present character of architecture on all four elevations, but at the same time certain modifications should be made in the light areas, and this will be referred to in a later section of the Report concerning the provision of the necessary accommodation.

The Foundations.

29. The foundations over most of the site will be on rock, and no water is present in the ground where the building is to be erected. The foundations of the existing building were taken down to rock at depths varying from 12 to 30 feet, and boring tests carried out over the site of Stage 1 of the proposed building indicate that no difficulty should be experienced in securing good rock foundation over the whole site.

Need for the Building.

30. *Scarcity of Office Space.*—A considerable amount of weighty evidence was produced to demonstrate the necessity for office accommodation to be provided at the earliest possible opportunity. It was stated that vacant office floor space simply does not exist in Brisbane, all agents having long lists of waiting applicants, and it was estimated that at least 500,000 square feet of office and warehouse space is required now. One witness stated that his firm alone had inquiries for over 100,000 square feet of space.

31. *Expansion of the City.*—There appears to be no doubt that the city will continue to expand rapidly in the future. Many inquiries are already in hand for accommodation to house firms from other States desiring to start activities in Brisbane, and proposals are under consideration for electrification of the railways and for the establishment of large parking areas.

32. *Acquisition of Properties.*—Much concern was expressed at the amount of property in busy commercial centres which has been acquired by the Government, and at the basis of compensation adopted. The compulsory acquisition of properties in the city is looked upon with great disfavour, not only because of the loss of the positions by the owners, but because of the very great hardship inflicted upon the occupiers who have to attempt to obtain alternative accommodation at a time when it is practically non-existent in the city, and at a price far exceeding that upon which compensation is based.

33. On these grounds the representatives of commercial interests urged that building restrictions should be relaxed and permits issued for many more commercial undertakings. If such relaxation was not possible there was a unanimous opinion that Government buildings should be provided as early as possible, so that buildings acquired during the war might be returned to commercial use immediately.

34. *Commonwealth Needs.*—A detailed and comprehensive survey of present office accommodation and additional space likely to be required by Commonwealth departments in Brisbane during the next five years was made by the Department of the Interior, and schedules were produced to the Committee giving a clear illustration of the position. So far as the Commonwealth is concerned, it was stated that in the year 1953, unless there is a considerable diminution in demand for space, a perilous situation will arise which can only be alleviated by building operations.

35. A summary of the schedules drawn up to show the present and future requirements of the Commonwealth departments demonstrates that, in addition to approximately 50,000 square feet already provided in the Adelaide-street Commonwealth Offices building, there will be a demand for 374,519 square feet in five years' time. This figure is exclusive of the Postmaster-General's Department and certain sections of other departments for whom accommodation in the Commonwealth Offices is not desirable.

36. Evidence given by officials of various departments all emphasized the overcrowded conditions under which their staffs were working; the serious lack of comforts and essential amenities; and the dangerous condition of the storage space in which many of the important documents have to be filed. Upon the weight of all this evidence the Committee is thoroughly satisfied that the need exists for as much additional accommodation as can be made available in the next few years.

Accommodation.

37. With the pressing necessity for accommodation in mind the Committee gave consideration to the accommodation proposed in the present plan, and gave special study to the proposals with a view to ensuring that the maximum amount of accommodation would be available while the building was being constructed.

38. Evidence was taken from the officials responsible for planning the building, those responsible for the allocation of the space available, and also from various people specially interested in the possibility of obtaining office space in the overcrowded city.

39. Many sets of figures were examined in connexion with existing and projected accommodation for various stages of the proposals. Those which concerned the Committee most were the totals indicating the actual floor space available for tenants and these figures were arrived at by deducting from the total floor space the portions of the building to be occupied by engineering services, corridors, stairs, lifts, cafeteria, amenities, &c., and the Committee concerned itself particularly with the figures obtained for this purpose, and referred to as the net useful floor space.

40.—*The Present Building.*—Based on the original figure of 49,054 square feet the net useful floor space in the existing building at the present time was stated to be 46,704 square feet of office space and 1,000 square feet of basement space.

41. *Total Originally Proposed.*—The original proposal provided for an ultimate total area of floor space available for tenants set down as 253,000 square feet as follows:—

			Square feet.
On completion of Stage 1.	(a) Existing building ..	..	46,764 Office space.
	Existing building ..	..	1,000 Basement space.
	(b) Stage 1 extension ..	..	80,132 Office space.
	Stage 1 extension ..	..	25,109 Basement space as shown on plans.
Total space on completion of Stage 1 extension ..			<u>153,005</u>
On completion of Stage 2.	Existing building ..	..	1,890 Office space (temporary plant rooms demolished).
	(c) Stage 2 extension ..	..	78,249 Office space.
	Stage 2 extension ..	..	10,330 Basement space.
			<u>252,474</u>
Ultimate total—			
	Space for tenants ..	say	<u>253,000</u>

42. *Basement Excavations.*—At the outset the Committee was struck by the fact that a portion of the site at the Ann-street-Creek-street corner was to be left unexcavated, as it was on a higher level, and, being of rock, would be rather expensive to remove. However, the Committee arranged for further information to be obtained in this connexion and was advised that, if this additional portion of the basement were excavated, an additional area of approximately 13,930 square feet would be available, the cost of the work being estimated at £31,000. Although it is realized that excavation of the rock makes this area relatively expensive, it is still valuable space for storage of records, and would be much more costly to construct above ground.

43. With the addition of this space to the 253,000 square feet originally proposed, the total space available would amount to roughly 267,000 square feet. The Committee, in view of the demand for parking space, and, recognizing that a great deal of storage space is required by the departments concerned, recommends that this basement be excavated and added to the accommodation available.

44. *Space Required.*—The schedules of figures compiled by the Department of the Interior, in connexion with the possible requirements of office and storage space within the next five years, represented a close study of the position, gained from a survey of the existing conditions together with estimates by each department of space likely to be required within the period under consideration.

45. Three schedules presented to the Committee set out the details of requirements by each department. Schedule "A" dealt with the requirements of the departments already in the existing building; Schedule "B" covered needs of the majority of the departments housed in other buildings; and Schedule "C" listed the staffs located in rented premises but requiring, for particular reasons, to remain in their present buildings. The accommodation necessary within five years, excluding Schedule "C" 169,789 square feet was set down at—

	Square feet.
Schedule "A" ..	91,563
Schedule "B" ..	333,649
Total ..	<u>425,212</u>

46. This total includes a considerable amount of basement space required for departments carrying numerous files and documents of importance which have to be stored in safe but accessible accommodation, but it does not include car parking space.

47. *Parking Space.*—The original proposal had allowed for space in the basements in which provision would be made for parking cars, and this action was endorsed by all the witnesses questioned on the matter. It was emphasized that there was already a serious parking problem in the city, and any space which could be made available in this building would allow parking of Government cars and the cars owned by occupants of the building during the day time. It was also pointed out that, in the event of any surplus parking space being available, there would be a keen demand for it commercially to alleviate the general city parking problems.

48. *Additions to Original Proposal.*—It was evident that, if Commonwealth Government activities were to be carried on efficiently and housed in the Commonwealth Offices proposed, further additions to the original provisions would have to be devised, and the Committee investigated various suggestions with this object in view.

49. *The Basement.*—Additions to the basement, by excavating the Ann-street-Creek-street corner not originally included as basement space, were recommended as referred to above.

50. *The Cafeteria.*—In the original scheme a large area, covering almost one-third of the sixth floor was shown as the provision for a cafeteria, the kitchen being placed above in a small space on the roof or seventh floor, where space was also provided for plant rooms and amenities in a block in the centre of the structure.

51. It appeared to the Committee that the space provided for the cafeteria would make excellent office accommodation if additional room could be made for the cafeteria on the roof or in the basement. The principal architect was asked to make an estimate of the additional space available if this scheme could be carried out, and he informed the Committee that he considered it would be possible without spoiling the external appearance of the building from an architectural point of view, and without conflicting with the agreement entered into with the State Government, to construct single-storied blocks on the roof level (seventh floor) to wings numbers 2 to 6 inclusive (wing number 1 already carries the caretaker's quarters) and to erect an additional block over the centre unit originally shown as kitchen, &c., thus providing a small eighth floor. The total additional space thus made available for office use would be approximately 13,000 square feet.

52. A good deal of consideration was given to this question, and views were ascertained concerning the necessity for the cafeteria and amenities sections as well as the demand likely to exist for the services they would offer. The possibility of using some of the basement for this purpose as an alternative to building on the roof was also explored.

53. Estimates of the possible demand for cafeteria service differed greatly, and it is generally recognized that only a practical test will yield the true indication. However, an excellent cafeteria, with full dining room service included, is operating successfully in the General Post Office, although the percentage of officials of the Postmaster-General's Department using the cafeteria is rather low compared with the population in the building. On the other hand a questionnaire to the present occupants of the existing Commonwealth offices indicates that, of 506 officials in branches of ten different departments, 316 are prepared to patronize a cafeteria, and 59 a dining room.

54. The question of the location of the cafeteria was considered, and, although many instances exist of important and fashionable restaurants being operated in basements in various cities, the concensus of opinion is that it would be preferable to place the cafeteria on the roof where the outlook would be pleasant and provide better relaxation for the officials patronizing the service. After consideration of the matter the Committee recommends that the cafeteria should be placed on the roof rather than in the basement, but that it is necessary to provide air conditioning and efficient insulation from the heat in summer. Mechanical ventilation, as originally planned, is advisable for the kitchen section.

55. *The Light Areas.*—The form of the ultimate structure for this site was planned to be a central core surrounded by six wings, each of which would be separated from the next by a light area. These light areas are approximately 30 feet wide and 66 feet deep and are intended to provide light and ventilation to the wings they serve. However, the wings themselves are very wide, the internal measurement from wall to wall being 64 feet, and the efficiency of the light areas is far below the standard recognized in modern architecture. It was stated that the width of such wings if planned today would be not greater than 45 feet.

56. The Committee, during its inspections, noted the fact that in a large proportion of the rooms electric light was being used, even during the bright parts of the day, and it agreed with the architects who expressed the opinion that the light areas were of very little practical value especially on the lower floors and in the deepest parts of the light bays.

57. When the question of air-conditioning was being considered it was pointed out that the formation of the building did not provide for cross ventilation, and air-conditioning would be necessary in the proposed building. The Committee was therefore convinced that better use could be made of portion of the light areas, and, when a suggestion was made that they should be used for additional accommodation, the matter was given serious consideration with this object in view.

58. The principal architect (Mr. Peddie) was asked to review the proposal and was recalled before the Committee to advise upon the possibility of building in the light areas, and upon the effect such action would have on the architecture, the internal sections of the building, and the cost. He produced a diagrammatic sketch, No. Q.S.2984, showing a complete seventh floor, composed of six single-storied blocks, and a partial eighth floor comprised of an additional centre unit, restricted to the portion over the original kitchen section. This would provide for the cafeteria and amenities on the seventh floor as well as a certain amount of additional office space, with the kitchen and some further office space on the small eighth floor. The sketch, for the sake of clarity, indicates the six wings of the building by numbers 1-6, and the light areas are shown by the letters A to G.

59. In presenting the sketch Mr. Peddie expressed the opinion that, by building the seventh floor in six single-storied blocks which would be set back some distance from the main parapet, the architectural appearance of the building would not be spoilt, nor would it conflict with the agreement entered into with the State Government. It was pointed out that some buildings have already been erected on the roof of the State Building, but the main line of the parapet is retained, and the roof structures do not interfere with the external appearance from the ground.

60. So far as the building in of the light areas is concerned, Mr. Peddie stated definitely that he could not recommend such a proposal, and suggested that any such radical departure from the original scheme should be discussed with the Director of Architecture. However, a scheme based on a partial adoption of such a proposal was practicable, with very little aesthetic loss to the frontages if designed with recesses of sufficient depth to take advantage of the light and shade necessary to give an architectural effect of harmonizing with the State Building on the opposite side of the square. In deference to the wish of the Committee he submitted an analysis of the space obtainable by a proposal to cover a portion only of the light areas.

61. The analysis indicated that an area of 32,000 square feet, including 1,000 square feet of basement space, would be available. The total additional cost was estimated at £168,950 which includes £41,150 to install fluorescent lighting in both the existing and the whole of the new building.

62. This scheme was based on a plan in which the light recesses would be only 25 feet deep instead of the present 60 feet, and it was represented that this modification of the proposal to build in practically the whole of the light areas would make it possible to retain uniformity of design; it would permit a considerable amount of lighting and ventilation in the aspects from which they can be most efficiently used; and it would enable the departments occupying the various blocks to be connected by through access aisles apart from the public corridors. An important consideration in this scheme is that the space provided by the Centre Light Area, marked "G" in the sketch, shall not be eliminated, and the figures quoted assume that this light area will be allowed to remain. Mr. Peddie strongly urged that this light area in the centre of the building should remain effective for the reason that, in the case of any failure of the air-conditioning plant or of power, the light area would serve to relieve the otherwise complete darkness of the communication corridors, but would, on the windows and doors being thrown open, be invaluable as a central air shaft, and help to create conditions which would be bearable until the resumption of the mechanical or lighting service.

63. The Committee studied the various proposals connected with the accommodation available and the evidence given regarding them. It then decided to recall the Acting Director of Architecture for his advice on the suggestions before making decisions to recommend any major amendments to the original plans.

64. The Acting Director of Architecture was strenuously opposed to any alteration of the original plan. He stated that the plans were the outcome of many preliminary proposals by a highly qualified architectural team; the principle of providing natural light and air to every working position was the principal factor in determining the layout; and any proposal which would lessen the standard of working conditions for indoor staff would be viewed with great concern. He also affirmed that, apart from comfort there are other factors to be considered, such as—

- (a) If planned to ignore the penetration of natural light factor, and to be totally air-conditioned and artificially lighted it would set an undesirable precedent for Commonwealth Office accommodation. Also if the principle were extended to other buildings it would entail a strain on the power resources of the country and wastage of unproductive labour necessary to deliver the artificial light and air;

- (b) in time of war, strikes or other unforeseen circumstances, the accommodation would be at a serious disadvantage if power restrictions were necessary;
- (c) the concentration of high density of population is unsatisfactory from the point of view of civil defence, and increase much beyond that planned is undesirable; and
- (d) any departure from the architectural form of this building would be viewed with grave concern by a large section of the public.

65. In its review of the factors governing the matter the Committee examined the points raised by the Acting Director of Architecture, but was not convinced that they brought forward, apart from the views already presented by other witnesses, any new aspects of sufficient importance to influence the consideration of the other evidence.

66. The Committee fully agrees that it is desirable to provide the ideal of natural light and air to every working position, but, as the original plans provide for continuation of the existing building which falls far short of that ideal, and the light areas are of little practical value, it is not possible to provide satisfactory working conditions for the indoor staff without the use of both artificial light and air-conditioning. Staff conditions would therefore be improved under the scheme to provide air-conditioning and partial use of the light areas.

67. Other buildings to be constructed in the city in future are certain to be planned in more modern style, and the precedent already set by the existing section of this building is not likely to be repeated. Plans for future structures will not be fixed by existing schemes nor bound to perpetuate details of a design already partially constructed.

68. The danger and disadvantage envisaged in time of emergency might be real if the whole of the light areas, including the central one, were eliminated. However, with the light areas left to a depth of 25 feet, using most of the light and air now effective, and the central light area still giving light to the corridors, with ventilation in times of necessity, this danger is minimized.

69. The additional density of population in this building, which is of reasonable height and situated alongside a public square, is not regarded as a factor of sufficient importance to form a deciding factor in this matter.

70. The possibility of any departure from the plan being viewed with grave concern by the public would appear to be discounted by the fact that architectural harmony will be preserved, and the difference between the Commonwealth and State buildings, being on opposing sides of Anzac Square, will not be readily noticed by the general public. As much more important amendments were suggested by the City Planner and by the Institute of Architects the Committee believes that there is a considerable amount of well-informed public approval of the project.

71. The Committee considers that, in consideration of the great necessity for office accommodation, and of the fact that the present form of structure must be continued, at least in its general appearance, and also as air-conditioning must be installed, it is advisable to amend the plans to provide for the cafeteria on the seventh floor and for use of the light areas beyond a depth of 25 feet, as shown on diagrammatic sketch No. Q.S.2984. However, the Committee is of opinion that it might be advisable to preserve the light recesses on the Anzac-square frontage to a depth sufficient to include the first two windows, and it agrees that this should be done.

72. *Complete Accommodation.*—If both the first and second stages of the original proposal for the extensions are erected, and additions are made to include the extra basement, the cafeteria on the roof, and partial covering of the light areas, the final summary of accommodation available would be as follows:—

			Office Space, Square feet.	Basement, Square feet.	Estimated Cost. £
STAGE 1.					
<i>Original Scheme—</i>					
(1) Existing building..	..	..	46,764	1,000	..
(2) Extensions ..	..	..	80,132	25,100	705,400
(3) Additional basement (if excavated)	..	..	..	13,930	31,250
<i>Roof Scheme—</i>					
Re-arranged seventh floor and new eighth floor (Dwg. Q.S.2984) ..			5,114	..	47,400
<i>Light Area Scheme—</i>					
Areas A and B (Anzac-square)	..	..	12,920	..	..
Areas C and D (Ann and Creek streets)	..	..	8,300	480	112,050
TOTALS FOR STAGE 1 ..	..	..	153,230	40,510	899,100

		Office Space.	Basement.	Estimated Cost.
		Square feet.	Square feet.	£
STAGE 2.				
<i>Original Scheme—</i>				
(1) Existing building	.. .. .. .. ..	1,890	..	..
(2) Extensions	.. .. .. .. ..	78,249	19,330	570,000
<i>Roof Scheme—</i>				
Re-arranged seventh floor and new eighth floor (Dwg. Q.S.2984)	..	7,770	..	42,350
<i>Light Area Scheme—</i>				
Areas E and F (Creek and Adelaide streets)	.. .. ..	9,880	450	56,900
TOTALS FOR STAGE 2	.. .. ..	97,789	19,810	669,250
FINAL SUMMARY.				
Existing and Stage 1	.. .. .. .. ..	153,230	40,519	899,100
Stage 2	.. .. .. .. ..	97,789	19,810	669,250
		251,019	60,329	1,568,350
TOTAL FLOOR SPACE	.. .. ..	<i>Say</i> ..	311,348 square feet.	
			312,000 square feet.	

Repatriation Requirements.

73. It was explained to the Committee, in evidence, that in the early stages of planning the requirements of the Repatriation Department were not taken into account, as it was intended to accommodate that department in a separate building. However, it was subsequently decided to include provision for repatriation needs, and it was accepted that space would be reserved in Stage 1 of the construction programme as outlined to the Committee.

74. The Repatriation Department at the present time occupies three floors and basement at Perry House, other accommodation at Mary-street, and various accommodation at Rosemount, where the artificial limb factory and certain office space is available in very old buildings with obsolete facilities. The office space in Perry House is badly overcrowded and the staff lack the ordinary amenities essential in such a building. The whole internal structure of the building is of wood and the provision for storage of the large volume of valuable documentary records is far from sufficient, presenting grave fire risks, both to human life and documents.

75. In order to allow amalgamation of the Head Office, Records (Mary-street) and Outpatients' Department (Rosemount) in the Commonwealth Offices building an area of 53,552 square feet will be required, while the artificial limb factory would still remain at Rosemount. The Committee is convinced that more extensive and improved accommodation is necessary for the Repatriation Department, and it should be provided as early as possible.

76. When the total requirements for Commonwealth Departments in Brisbane are considered in relation to the full floor space likely to be available in the complete block of Commonwealth Offices it is evident that a considerable deficiency of office space will still exist, and the Committee made inquiries with regard to the possibility of housing the whole of the Repatriation Department in a separate building. There are many areas in accessible positions in the city where small and obsolete buildings exist, and the Committee is of opinion that resumption of a site could be made with very little dislocation of local business activity. It therefore recommends that a separate building be constructed for the Repatriation Department as soon as it is possible to do so, and that the Commonwealth Offices building be used to house all the other departments for which space can be found.

Order of Work.

77. The proposal referred to the Committee planned the completion of the building over the whole area of the site in two stages. Stage 1 was to extend the building, which at present comprises wings Nos. 1 and 2, back to Ann-street and along to Creek-street, thus completing wings Nos. 3 and 4. Stage 2, erecting the remaining two wings, Nos. 5 and 6, was envisaged for some future date.

78. In order to facilitate the work of construction it was intended that the contractor for Stage 1 should be required to demolish the existing buildings at the rear of the present Commonwealth Offices and sufficient of Eagers building to allow vehicular access from Adelaide-street as well as from Anzac-square. The order of work was then for the erection of the framework of that portion of Stage 1 extending the present building back to Ann-street, and finish the top portion of it from the sixth floor down to the second floor, so as to obtain use of the office

space with access from Ann-street as well as from the existing building as soon as possible. The lower portion of this section would be used by the contractor as covered space during the balance of the construction of Stage 1, and it would be the last section to be completed. This would also have the advantage of leaving the most suitable of the present accommodation as the last to be demolished when Stage 2 was necessary at some future date.

79. It soon became apparent to the Committee that the accommodation provided in Stage 1 of the proposal would be quite inadequate to meet the demands of those requiring office space at once, and it was stated in the evidence supporting the original proposal that even the completion of Stage 2 might not supply sufficient space to meet Commonwealth requirements. For this reason it was suggested by the principal architect that Stage 2 of the project should be recommended by the Committee so that construction might proceed as soon as Stage 1 was complete.

80. The Committee, considering that the present position was particularly urgent, thereupon considered both stages of the project together and was convinced that even the whole building proposed would not provide sufficient accommodation for the purpose. In its investigations, therefore, all information was sought in order to obtain the maximum amount of space in the building, as referred to in the preceding paragraphs. It is recommended that the order of the work should be as outlined in the proposal, but that Stage 2, with the additions to the top floors and the light areas, should be planned immediately and proceeded with as soon as the progress of construction allows.

Air-conditioning.

81. In the proposals submitted to the Committee it was indicated that complete air-conditioning had been included in the services to be installed in the proposed building. The reasons advanced were that the extreme width of the wings of the building prevents the free circulation of air; the proximity of the railway results in the dissemination of a great deal of grit in the atmosphere; and part of the building faces west and is exposed to the heat of the sun's rays in the summer.

82. At the outset it was realized that full air-conditioning for a building of this size, complicated by the difficulties to be met in the semi-classical type of architecture demanded, would be very costly. It was estimated that for both stages of the construction the total cost for air-conditioning would be in the vicinity of £150,000.

83. The Committee investigated the matter and sought evidence from persons with experience of the essentials for reasonable comfort in Brisbane buildings. Information was also sought on the methods used to maintain satisfactory conditions in all periods of the year, and the basis upon which the essentials are calculated.

84. As the building consists of a number of blocks, some of which are in the most favorable position on hot days, and others are subjected to the direct rays of the sun in the hot and humid weather experienced in Brisbane, the Committee asked for a special survey of the building and conditions with a view to zoning the building to reduce the amount of machinery needed. It was proposed to provide a little more than 600 air-conditioning tons at a cost of £215 per ton, and the capital cost of the equipment necessary would be considerably reduced if plant could be installed to control conditions in varying degrees in the portions of the building where it would be most required.

85. In making the investigation requested by the Committee the Department of Works and Housing worked in collaboration with the Department of Labour and National Service, the former collecting evidence for and against the original proposal from authorities in Sydney and overseas, and the latter concentrating on Brisbane climatic conditions and the necessity for providing full air-conditioning. In this way comprehensive results were obtained in the short time available for completion of the data for presentation to the Committee.

86. Evidence given in this connexion by the officials of the Departments of Works and Housing, and Labour and National Service was thoroughly informative and complete in detail, and explanations of the methods used to collate the necessary data and apply the results assisted the Committee to assess the value of the alternative services which it would be possible to provide.

87. The Department of Labour and National Service arrived at the following conclusions:—

(a) From the physiological point of view and from experience in the operation of air-conditioning plants, the upper desirable limit of effective temperature for sedentary office workers in Brisbane during the summer is 74°F. or 75°F., and the lower limit of effective temperature should not be below 70°F. It is considered that an effective inside temperature of 72°F. should be adopted for Brisbane offices.

(b) During the four hot months in Brisbane the outside effective temperature in the afternoons exceeds 72°F. for nearly 86 per cent. of the days during that period, and it exceeds an effective temperature of 81°F. for about 3 per cent. of these days.

(c) The very unpleasant atmospheric conditions in Brisbane in the four hot months can only be satisfactorily relieved for sedentary office workers by the provision of full air-conditioning and the plant installed should be capable of maintaining an internal effective temperature of 72°F. when the external effective temperature is 81°F.

(d) Informed opinion is to the effect that air-conditioning should be installed in any new office building erected in Brisbane and this view is supported by the fact that there is already a number of air-conditioning installations in the newer buildings in that city. All authorities interviewed think that full air-conditioning is necessary there for proper efficiency of the staff during the hot months. In addition, direct inquiries among clerical workers indicate the need for full air-conditioning.

88. From information obtained by the Department of Works and Housing from a number of major Sydney insurance companies, banks, government and municipal authorities which have installed full air-conditioning systems in office buildings the following facts were established :—

(a) About two-thirds of the companies and authorities interviewed consider that air-conditioning is necessary in the building they occupy, and that in a new building of similar type air-conditioning would again be provided.

(b) The answers to our queries would show a slight improvement of employee health due to air-conditioning, but insufficient statistical evidence is available to establish this with certainty.

(c) Approximately two-thirds of those interviewed consider that air-conditioning results in increased employee efficiency, particularly in a reduction of the settling down period on cold winter and hot summer days.

(d) There is general concensus of opinion that air-conditioning allows a denser population, and a figure of 10 per cent. increase in density is considered very conservative.

(e) Approximately 50 per cent. of the companies interviewed consider their air-conditioning plant an economic proposition, but statistical evidence to that effect, which would require to include data on improved efficiency and improved employee health, is not available.

(f) Air-conditioned offices in Sydney show rent returns from 6.7 per cent. to 13.3 per cent. higher than not conditioned offices of otherwise similar location, age and appointment.

(g) All authorities interviewed agree that air-conditioning in Brisbane office buildings is necessary.

89. In view of the above conclusions, and the difficulty of making provision for zoning the building when the disposition of various departments and their requirements are still unknown, it was considered by the departments that air-conditioning of portion of the building only was not advisable. Various alternatives were considered, however, and opinions and estimates were prepared for comparison in respect of mechanical ventilation plant; hot water radiation system and oscillating fans; and full air-conditioning.

90. It was explained that mechanical ventilating would destroy the beneficial heat capacity of the building, and would have the effect of pumping hot and humid air into the building in the summer; hot water radiators could be used to make the building reasonably comfortable in the winter, but in the summer months the use of fans would produce psychological rather than a practical benefit in the humid weather. A summary of estimates showing a comparison between the cost of the mechanical services against the cost of the various alternatives to air-conditioning, in percentage of the total costs of the building, gives a clear indication of the relation between the sections of expenditure involved. The following figures were given in respect of the proposed stage 1 for simplicity :—

Item.	Full air-conditioning.	Ventilation and Heating.	Radiation and Fans.	No treatment.
Cost of alternatives ..	£ 80,300	£ 52,800	£ 20,000	£ ..
Cost of all engineering services (mechanical and electrical) ..	164,583	137,083	101,233	84,983
Cost of building (including engineering services) ..	641,257	613,767	580,957	560,057
Per cent. engineering services ..	25.6	22.4	17.9	15.0
Per cent. saving on total cost with full air-conditioning ..	Nil.	4.3	9.4	12.5

91. It will be seen that, although the £80,000 given as expenditure for full air-conditioning for the first stage of the building is a major capital expenditure, the cost of providing full air-conditioning is not excessive when compared with the cost of the remaining items and the total cost of the building.

92. *Economic Factors.*—Although it was stated to be very difficult to assess the increased efficiency of staff in air-conditioned buildings, the considered estimate given as a result of study of the problem indicates that 10 per cent. more people can be accommodated in a fully air-conditioned building, and even considerably more than that would still conform to the building code. The opinion of firms using air-conditioned buildings is that the staff is from 15 per cent. to 20 per cent. more efficient under such conditions of comfort, while it is pointed out that from 12 per cent. to 15 per cent. higher rentals are obtainable for offices which are air-conditioned.

93. *Effective Temperature.*—From study of the question by the Department of Labour and National Service, evidence was submitted to the Committee demonstrating clearly the methods used in determining what the authorities believe to be the best conditions for the comfort and efficiency of the staff in a climate such as that of Brisbane. Investigation has shown that in Brisbane, during the four summer months of the year, climatic conditions are a good deal outside what is regarded as the permissible limits for satisfactory working conditions.

94. A chart was produced which showed the result of investigations into Brisbane's summer weather for a total of 607 days over a period of five years for the four summer months, December to March. Such factors as temperature, radiation, humidity, &c., are taken into account in arriving at what is called the effective temperature. Some authorities say that the effective temperature in offices should not be more than 74 degrees, but the chart indicates that it is desirable to adopt an effective temperature of $72\frac{1}{2}$ degrees, as no fewer than 82 per cent. of the days under review had an effective temperature of more than 72 degrees, and this basis has been advised by the departments.

95. The basis on which the original estimate was prepared allowed for an effective temperature of 70 degrees, but this has now been altered to $72\frac{1}{2}$ degrees, as a result of the investigation, for all future building proposals in Brisbane. The effect of this is to reduce the amount of air-conditioning plant now required to keep the offices at a satisfactory effective temperature. The total estimated cost of full air-conditioning plant for Stages 1 and 2 of the building will be thus reduced from £147,400 to £125,000 and the saving of £22,400 will not result in any interference with the efficiency of the system. The Committee therefore agrees that complete air-conditioning is necessary and that the amount of plant to be installed shall be based on the effective temperature of $72\frac{1}{2}$ degrees as indicated in the results of the departmental investigations.

Engineering Services.

96. *Lifts.*—Provision is planned for four passenger lifts to the Ann-street entrance in Stage 1, and four more passenger lifts to the new Adelaide-street entrance in Stage 2 of the construction. All the lifts will be of the high speed, automatic collective controlled, self-levelling type complete with power operated car and floor doors, floor indicators, &c., to ensure that the greatest possible number of people can be carried in the shortest possible time which is essential at peak periods of the day. It is proposed to retain the two lifts at present in use until Stage 2 of the construction, when one lift will be removed and the other used as a goods lift.

97. Varying views were expressed in connexion with the proposal to place four lifts at each end of the building, the two entrance halls being connected with circulating corridors. It was contended that most of the traffic to the building would be through the Adelaide-street entrance, the Ann-street end of the building being mainly used for staff and persons approaching from the railway station. In these circumstances it was suggested that it might be an advantage to group the lifts in two sets of four facing each other in a central hall, thus saving a certain amount of space, and also eliminating some of the trouble experienced by visitors to the building in finding the offices they desire from lifts landing them at alternate ends of the building.

98. In considering the best position for the lifts the Committee took into account the views of those who are experienced in planning for such traffic, and, although the central grouping of the lifts has a great deal to commend it, there are disadvantages and the possibility of circumstances in the future which will make it advisable to adhere to the original grouping. It was pointed out to the Committee that, although the main traffic at present comes from the Adelaide-street end of the building, future development of the city is indicated by a proposal to construct a large car parking area near the railway station and also by the proposal to electrify the railways. Traffic is already a considerable problem in the city and it was also suggested that portion of it might be diverted from Adelaide-street to Ann-street, so that it would appear likely that full use will be made of the Ann-street entrance in the future. In consideration of these and other factors

presented in the evidence the Committee is of opinion that the lifts should be grouped at each end of the building as originally proposed, except that, with the elimination of portion of the light areas recommended, the entrance halls will be situated nearer the street line and will be more conveniently accessible.

99. *Sub-station.*—An area of approximately 600 square feet will be required in one of the basements for the provision of an electric sub-station, and preliminary discussions in connexion with it have already taken place between the department and the City Electric Light Co. It is proposed that this sub-station will be linked to the next nearest sub-station so that, in the event of a break-down at either sub-station, power can still be supplied to the users of both sub-stations whilst the breakdown is being overcome.

100. *Fire Protection.*—It is proposed to install a suitable electrically operated automatic fire alarm system, in accordance with the Fire Underwriters Regulations, connected through to the Central Fire Brigade Station. The watchman's clock system, connected through to the Central Police Station, already installed in the Commonwealth Offices will be extended to stations in convenient positions. In addition to these precautions it is pointed out that a caretaker lives on the premises, and the provisions planned are therefore considered sufficient.

101. *Other Services.*—Provision is planned for an incinerator at each end of the building; hot water will be installed to basins in certain sections where they are necessary and in the kitchen and cafeteria; and chilled water units to provide drinking water will be installed at each floor level.

The State Building.

102. With emphasis placed upon the necessity for similarity between the State and Commonwealth office buildings situated on opposite sides of Anzac-square, it was with some concern that the Committee heard of the report of a proposal to complete the remaining two wings of the State Building for an amount estimated at £300,000, as the Stage 1 proposal for wings Nos. 3 and 4 of the Commonwealth Building was estimated to cost over £700,000. Upon inquiry it was found, however, that there were several factors affecting the comparative estimates to be taken into account. Whereas the State Building is at present comprised of four wings with centre block, and the remaining portion to be constructed consists of two wings only, it is necessary in the Commonwealth proposal to build wings 3 and 4 as well as an incomplete portion of No. 2 in addition to the central portion containing the lift towers. Other factors contributing to the cost of the Commonwealth proposal which will not be included in the State construction are air-conditioning of the old as well as the new building; excavation work at the rear of the site; and other minor details. When these points were considered the two estimates were seen to be on a more comparable basis.

The Housing Programme.

103. Inquiries were made as to the extent to which the proposed building would compete with housing programmes for materials and labour, and, although it was thought that some labour and materials to be used would otherwise be available for house construction, the general consensus of opinion was to the effect that the construction of this building would require materials and labour of a special type not used to any great extent for housing.

104. Cement is not used in home construction in Brisbane to the same extent as it is in other States, while few bricks will be used in this building, which is of reinforced concrete construction. Only a minimum of timber will be required as, wherever it is possible to use some other medium, this has been planned. In the case of flooring, Magnesite is proposed in order to reduce the amount of timber necessary. The main objection to the use of materials for this building comes from those who desire to build other commercial premises for which there is such an urgent demand, and there is a considerable shortage of structural steel which is essential for construction work of this type.

105. It is generally realized that, with the progress being made in home building, it is becoming increasingly important to adopt a balanced building plan to include commercial buildings such as offices and factories, which are essential in the community life. While there is a keen desire for the lifting of controls on building activities it is agreed that the construction of Government offices will help to ease the position, if buildings acquired for Commonwealth purposes are returned to their owners for commercial use.

106. The Committee therefore recommends that the complete structure including Stages 1 and 2 with amendments, should be proceeded with as soon as possible.

SECTION IV.
THE COMMITTEE'S CONCLUSIONS.

107. The following is a summary of the recommendations decided upon by the Committee as a result of its inquiry:—

	Paragraph in Report.
(a) The site is appropriate for the extensions proposed	16
(b) The space under the strip between the old and new alignment in Ann-street should be considered for additional basement	20
(c) It is desirable to maintain the present architecture on all four frontages subject to modification of the light areas	28
(d) There is a need for as much additional accommodation as can be made available in the next few years	36
(e) The Ann-street-Creek-street corner of the site should be excavated for use as additional basement space	43
(f) 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 for the kitchen section	54
(g) 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	71
(h) A separate building should be constructed for the Repatriation Department as soon as possible	76
(i) Order of work should be as proposed but Stage 2 and the additions recommended should be proceeded with immediately	80
(j) Complete air-conditioning is necessary and should be based on an effective temperature of 72½ degrees	95
(k) Lifts should be near the street alignment	98
(l) Both stages of the construction should be proceeded with	106

CHARLES A. LAMP,
Chairman.

The Office of the Parliamentary
Standing Committee on Public Works,
Parliament House,
Canberra, A.C.T.

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