

1923.



THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

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PARLIAMENTARY STANDING COMMITTEE

of the Senate.
13 JUL 1923

ON PUBLIC WORKS.

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE AND PLANS

RELATING TO THE

CONSTRUCTION OF PROVISIONAL ADMINISTRATIVE
OFFICES AT CANBERRA.

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

(Fourth Committee.)

The Honorable HENRY GEORGY, M.P., Chairman.

Senate.

Senator Hattil Spencer Poll.
 Senator John Nowland.
 Senator William Plain.

House of Representatives.

Arthur Blakeley, Esquire, M.P.
 Robert Cook, Esquire, M.P.
 David Sydney Jackson, Esquire, M.P.
 George Hugh Mackay, Esquire, M.P.
 James Mathews, Esquire, M.P.

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EXTRACT FROM VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES.

No. 6 of 9th March, 1923.

13 PUBLIC WORKS COMMITTEE—REFERENCE OF WORK—PROVISIONAL ADMINISTRATIVE OFFICES, CANBERRA.—Mr. Stewart (Minister for Works and Railways) moved, by leave, That, in accordance with the provisions of the Commonwealth Public Works Committee Act 1913-1921, the following work be referred to the Parliamentary Standing Committee on Public Works for its investigation and report thereon, viz.:—The construction of Provisional Administrative Offices, with accessory engineering and other services, at Canberra.

Mr. Stewart having laid on the Table plans, &c., in connexion with the proposed work—

Debate ensued.

Question—put and passed.

LIST OF WITNESSES.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

PROVISIONAL ADMINISTRATIVE OFFICE BUILDINGS,
CANBERRA.

REPORT.

The Parliamentary Standing Committee on Public Works, to which the House of Representatives referred, for investigation and report, the question of the construction of Provisional Administrative Offices, with accessory engineering and other services at Canberra, has the honour to report as follows:—

PROPOSAL UNDER CONSIDERATION.

1. The proposal submitted is that of providing office accommodation for those Commonwealth officials whose attendance will be required at Canberra by the time Parliament is opened there. The work projected is the erection of a group of single-story buildings for Departments, on a site north of that proposed for the Provisional Parliament House.

2. The group as planned will consist of twelve separate office buildings, and a refectory and recreation building of light timber frame construction; also two buildings of brick or concrete construction to accommodate departments and records whose preservation from fire is deemed specially important. (*See Plan No 2*)

ESTIMATED COST:

3. The estimated cost of the buildings, including relative engineering services, is set down at £135,500, and the time of completion two years from date of approval.

COMMITTEE'S INVESTIGATIONS.

4. The Committee visited Canberra, inspected the site proposed, took evidence from the Director-General of Works, the Chief Commonwealth Architect, the Chairman and Members of the Federal Capital Advisory Committee, heads of Commonwealth Departments, and others.

5. It was ascertained that the proposal submitted is on the lines recommended by the Federal Capital Advisory Committee in its First General Report, that temporary buildings be provided to do duty until the time arrives when it may be expedient to erect permanent structures.

6. The Advisory Committee's Report contemplated that by the time Parliament meets at Canberra, some 147,000 square feet of floor space will be requisite for departments; the proposal now submitted would contribute about 84,000 square feet of that estimated space.

7. It is stated that further office accommodation is intended to be provided as may be required in a similarly planned group of buildings in a corresponding relative position to the east of the site suggested for the Provisional Parliamentary buildings. (*See B, Plan No 1*)

Site.

8. The site selected for these buildings is within the Government Triangle to the south of the Molonglo, and is the western block with circular frontage towards Commonwealth-avenue, of the third group from Camp Hill, designed for Government buildings on the Griffin plan, as indicated by letter A on attached plan No. 1.

The group of buildings now proposed will cover a total area of 860 feet by 500 feet, but more than half of the area will be occupied by roads and lawns. The position selected is conveniently situated as regards the proposed Provisional Parliament House, and would be approximately 1,200 yards from the proposed hostel for officials.

9. The site is not quite satisfactory from a building point of view. Some earthworks will be necessary, but they are not regarded as serious, and on the whole, the site can be made suitable for buildings of the class contemplated.

Buildings.

10. On the site mentioned it is proposed that there shall be erected twelve separate single-story buildings of timber frame construction, covered with hardwood weatherboard and plaster sheets or corrugated iron painted white or a light grey and with tiled roofs. Two buildings are proposed to be of brick or concrete to accommodate those departments such as the Treasury and Taxation Departments, whose records will be of greater importance. These two fire-resisting buildings are planned to be 88 feet long and 51 feet wide with a flat roof; the idea being that, as they stand in front of the central recreation building—the highest of the group—a clear view may be had over them from such building. Inside, the measurement from floor to ceiling of all buildings within the group, will be 12 feet.

11. In the centre of the group it is proposed to have a refectory and recreation hall. This building may be used in the evenings by permission of the Government for lectures, Public Service examinations, and also, in the early stages of Canberra, for social purposes. The main hall is 80 feet by 50 feet, and it will accommodate about 350 diners. There will be a verandah at each end, lavatories for both sexes, men's recreation room 21 feet x 44 feet, and a ladies' recreation room 24 feet x 23 feet. At one side of the dining hall there is a kitchen 30 feet square, a scullery, cool stores, a changing room for the male employees, bathroom, and lavatories, and two small bedrooms to accommodate any of the members of the staff who may be required to live on the premises. There is a room for a refrigerator and a heating chamber to provide a hot-water service for the whole of the buildings in the group. On the opposite side of the main dining hall are the recreation rooms, and bicycle sheds are placed at the right and left of the yard.

12. It was stated in evidence that the principal consideration in suggesting that the buildings be of wood and iron and of the lay-out proposed, was to comply with the Government's desire that this accommodation be provided as quickly as possible at a minimum cost. Although buildings of the class proposed would have a life of 40 or 50 years, it is the view of the Advisory Committee that at least some of them may be removed in ten years, and in that event, wood and iron buildings would be more easily removed for use elsewhere, and would have a greater recoverable value than brick or concrete.

Danger of Fire.

13. It was stated in evidence that there will be a certain danger of fire in wood and iron structures of the class contemplated, and that one strong reason for dividing the group into sections instead of concentrating the required accommodation into buildings of two or more stories was to provide for greater safety. If a fire were to break out in a wooden frame structure, it would be expected to burn to the ground, but the risk to other buildings is reduced by erecting a number of small isolated blocks. To cope with possible outbreak of fire, the block is proposed to be encircled by a ring main with hydrants at intervals arranged under the supervision of the Chief Officer, Metropolitan Fire Brigades, Victoria.

Too Scattered.

14. The effect of this system of small isolated blocks, however, is to make this plan very scattered for administrative purposes, and involves greater expenditure in providing for the essential services of lighting and heating, &c.—the estimate in this regard being over £30,000. The proposal that future accommodation required should be located in the same relative position towards Federal Avenue, would place a distance of approximately 1,800 feet between the nearest and about 2,600 feet between the most distant buildings in the respective groups.

More Permanent Structures.

15. Some members of the Federal Capital Advisory Committee explained that they were not very favorably disposed to have office buildings of timber and iron, but that these designs were adopted in an endeavour to conform to the Government's request that the accommodation be provided as quickly as possible, and at a minimum cost.

16. It was ascertained in evidence that if the buildings were erected in brick, instead of in wood and iron, the cost would be about 15 per cent. more, *i.e.*, an additional £20,325—or a total of £155,825.

COMMITTEE'S DECISIONS.

17. After careful consideration of all the evidence placed before it, the Committee is unanimously of opinion that in the interests of efficiency and economy the Federal Capital Advisory Committee's recommendation for temporary offices in the position indicated should not be accepted. It is felt that under no circumstances would it be justified in recommending that Government officials and important public documents be housed in wood and iron buildings. If brick structures were proposed, of the same design and lay-out, the cost would be approximately £155,825, but there would still remain many objectionable features. The Committee is, however,

seized of the importance of having adequate office accommodation available as early as possible and recommends that two units of two-storied brick or concrete buildings be provided on the east and west of the two blocks to the north of the proposed Parliamentary buildings (as indicated by Letter C on attached plan No. 1) to contain approximately 84,000 square feet of effective office accommodation, with additional necessary space for refectory purposes. The buildings should be so designed as to admit of such extension as will provide for all office accommodation required in the first stage of the city. If this be done, two units of permanent buildings will be available, approximately 1,000 feet apart, and a similar distance from the permanent Parliament House site on Camp Hill, and in positions allocated for office purposes on the accepted plan. In these buildings, the Committee considers comfortable office accommodation, provided with central heating, electric light, &c., should be made available in large open spaces in accordance with modern practice.

18. The decision arrived at by the Committee in connexion with this matter is shown by the following extract from its minutes of proceedings, namely:—

Mr. BLAKELEY moved: That two units of two-storied brick or concrete buildings be provided on the east and west of the two blocks to the north of the proposed Parliamentary building, to contain approximately 84,000 square feet of effective office space, together with necessary space for refectory purposes

Seconded by Senator NEWLAND.

Mr. MACKAY moved as an amendment: That the accommodation be provided in one building

Seconded by Senator PLAIN.

The Committee divided on the amendment—

Ayes (2)

Mr. Mackay
Senator Plain

Noes (5).

Mr. Blakeley
Mr. Cook
Mr. Gregory
Mr. Jackson
Senator Newland

And so it passed in the negative.

The original motion was then put and carried unanimously.

Competitive Designs.

19. It was stated in evidence that a promise was made by a previous Government to the architects of Australia that when the erection of any permanent Government buildings was in contemplation for Canberra, competitive designs would be invited for them, and the members of the Advisory Committee are agreed that this should be done. It was further stated that if a competition were held, it might be expected to take about six months, and the whole delay involved in erecting permanent instead of temporary offices would be about twelve months—that is to say, the permanent buildings would be ready for occupation within three years from the date of approval, or in ample time to insure that they can be occupied before Parliament meets at Canberra.

20. The decision arrived at by the Committee in connexion with this matter is shown by the following extract from its minutes of proceedings:—

Mr. BLAKELEY moved. That competitive designs be invited immediately from the architects of Australia for the two blocks of Administrative offices recommended.

Seconded by Senator NEWLAND.

The Committee divided on the motion—

Ayes (6).

Senator Newland
Senator Plain
Mr. Blakeley
Mr. Cook
Mr. Gregory
Mr. Jackson

No. (1).

Mr. Mackay

And so it was resolved in the affirmative.

Refectory.

21. The proposal to provide a dining-room in which the officials could purchase their mid-day meal commended itself to the Committee, as it is realized that, in the early stages of the city, at any rate, there may be wanting facilities for obtaining meals at a convenient distance from the Government office block. It is therefore recommended that the necessary provision be made for same in one of the units proposed.

22. In connexion with this matter, the Committee is unanimously of opinion that the officials themselves should appoint a committee to control the dining room, and be responsible for the cost of food supply, service and renewals.

SUMMARY OF RECOMMENDATIONS.

23. Briefly summarized, the recommendations of the Committee are:—

- (i) That the suggestion of the Federal Capital Advisory Committee to erect temporary offices be not accepted (page iv).
- (ii) That two units of permanent buildings be erected (page v).
- (iii) That the office accommodation provided be in large open spaces (page v).
- (iv) That the buildings be heated by hot water radiators (page v).
- (v) That a dining-room be provided in one block, to be controlled by a Committee of officials, who would be responsible for the cost of food supply, service and renewals (page v).

H. Gregory
H. GREGORY,
Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Parliament House, Melbourne,
21st June, 1923.

MINUTES OF EVIDENCE.

(Taken at Yarralumla.)

MONDAY, 5th APRIL, 1923.

Present:

Mr. GREGORY, Chairman;	
Senator Foll	Mr. Cook
Senator Newland	Mr. Jackson
Senator Platin	Mr. Mackay.
Mr. Blakeley	

Thomas Hill, Engineer, Department of Works and Railways, sworn and examined.

1. *To the Chairman.*—The engineering services required in connexion with the administrative offices comprise sewerage, storm water drainage, water supply, heating, vacuum cleaning, electric lighting, and cooking in the refectory. Sewerage and storm-water drains are estimated to cost £5,875 16s., and paths and street £7,000. The proposed kitchen equipment will include—One central or wall range and one independent grill; alternatively, one roasting oven and one grill with hot-plate extension; two three-chamber steam cookers; one 45-gallon steam-heated stock pot, two 5-gallon steam-heated boiling pans, two 10-gallon steam-heated boiling pans, one 20-gallon steam-heated boiling pan, one dish-washing machine, one pot sink, two carving and serving tables, one pastry oven, cool stores with ice trays and ice storage, hot water from steam-heated cylinder, one steam boiler located in boiler-house at rear of building. It was thought that this plant would cater for 500 diners, and with some additional pots and pans that number could possibly be doubled. We are not installing an ice plant, but will provide a cool chamber, which will be stocked with ice made at the power-house under mechanical control. On kitchen equipment we estimate to spend £3,500; on vacuum cleaning, £2,250; and on heating with wall radiators, pump, pipes, and a boiler in the basement, £7,500; making a total of £13,250. The heating will be by means of a separate cast-iron boiler. We are not providing hot water in the lavatories. The main sewer will be close handy, and the connexions will be simple. It is thought that this kitchen will serve also the further group of administrative offices to be built later.

2. *To Mr. Blakeley.*—The tile-making machinery at Canberra is the latest of its type, and has been erected after a study of the machinery in the factories at present making tiles in Melbourne and Sydney. Experimental floor tiles are being made by hand, but the machinery now installed will make any pattern of tiles; all that is required is an alteration of the dies. If we went in for glazing, we would require a separate pot kiln.

3. *To Mr. Jackson.*—Carpets are all right as a floor covering if there is a good vacuum-cleaning system used regularly. In the circumstances the carpet is not unhygienic, and is very comfortable. I would prefer rubber flooring in the corridors, but carpets in the rooms. Carpets are included in the furnishings.

4. *To Senator Platin.*—We have made experiments with firebricks, and the shale is satisfactory for that purpose, but at present there is no call for them.

5. *To Mr. Mackay.* The estimate I have given provides for a fully furnished kitchen capable of supplying luncheon for officers, as is done at the Commonwealth Bank, Sydney, and the General Post Office, Melbourne. It will compete with the hostel, but only for lunch and afternoon tea.

(Taken at Yarralumla.)

TUESDAY, 10th APRIL, 1923.

Present:

Mr. GREGORY, Chairman;	
Senator Foll	Mr. Cook
Senator Newland	Mr. Jackson
Senator Platin	Mr. Mackay.
Mr. Blakeley	

John Smith Murdoch, Chief Architect, Department of Works and Railways, sworn and examined.

6. *To the Chairman.*—The Minister for Works and Railways in submitting to Parliament a motion for the reference of the projected administrative offices to this Committee mentioned that the proposal was to erect a group of separate single-story buildings for Departments on a site to the north of that proposed for the provisional Parliament House. The group of office buildings as planned will comprise twelve separate buildings, and a refectory and recreation hall, all to be of light timber frame construction, and also two buildings of brick or concrete construction to accommodate functions and records whose preservation from fire is important. The proposal is thus on lines recommended by the Advisory Committee in its first general report that temporary buildings be provided to do duty for departmental purposes until the time arrives when it may be expedient to erect permanent structures. After doing duty as offices the proposed buildings may be eventually removed for use as schools, dwellings, stores, &c. The Advisory Committee's report contemplated that by the time Parliament meets at Canberra some 127,000 feet of floor space will be requisite for the Departments. The proposal now submitted to the Committee will contribute about 84,000 feet of that estimated space. Further office accommodation is to be provided as may be required in a similarly planned group of buildings in a corresponding relative position to the east of the site suggested for the provisional Parliament House. The total probable cost of the buildings comprising the group before the Committee, including related engineering services, is estimated at £135,500. The site is within the official triangle to the south of the Molonglo Basin, as shown on Mr. Griffin's plan, and is destined to accommodate some of the permanent Government buildings, but it is possible that by the time these are erected the life of the temporary structures now under consideration will have expired. It is proposed that twelve of the buildings shall be of timber frame construction covered with hardwood weatherboard and plaster sheets, or corrugated iron painted white or a light grey. At the end of their period of usefulness on this site the buildings will have some residual value for use elsewhere. Two buildings in the group will be of concrete to accommodate those Departments whose records will be of great importance, such as the titles office and the Taxation Department. The refectory and recreation hall, which occupies the centre of the group, is a concession to the comfort of the officers, and will provide a dining-room and meeting place in the middle of the day, such as is provided in many ordinary business offices. It is really an officers' welfare building. Many of the officers will be living at a considerable distance, and only the senior ones may be able to go home for lunch. The idea is to provide a building in which the officers may have their lunch, and sit and read during the luncheon hour. It is the largest and most expensive building of the

SHEET NO 1

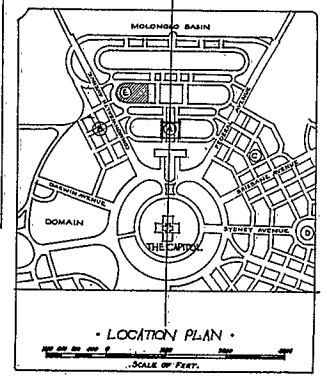
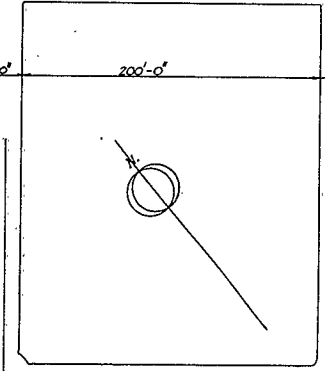
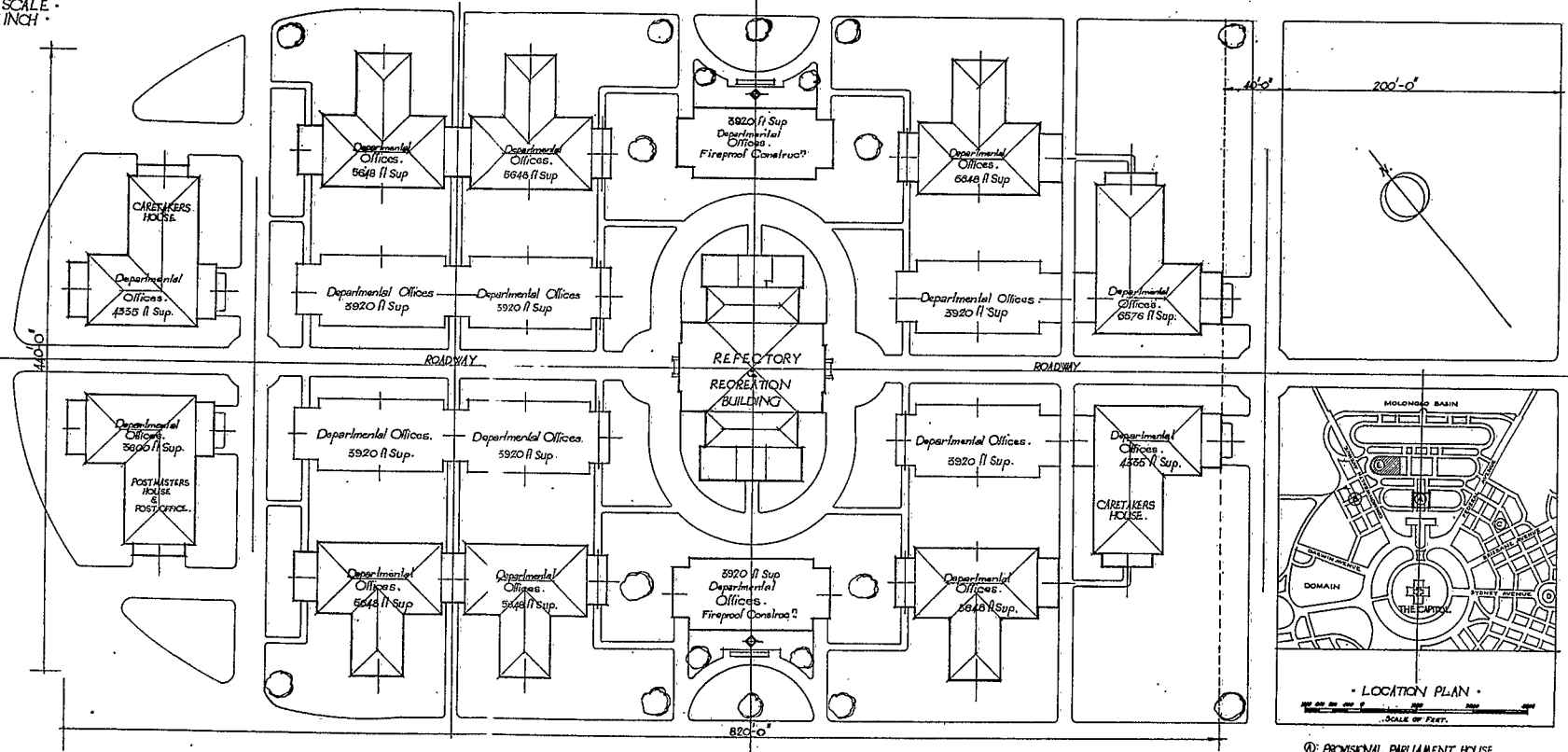
CANBERRA
 ADMINISTRATIVE BUILDINGS ON THE NORTH WEST SIDE
 OF
 PROVISIONAL PARLIAMENT HOUSE

Prep. P. H. W.
 Director Genl of Works
 Jan. 9/19/1922.



ELEVATION OF OFFICES TO ROADWAY.

ELEVATIONS SCALE.
 30 FEET TO 1 INCH

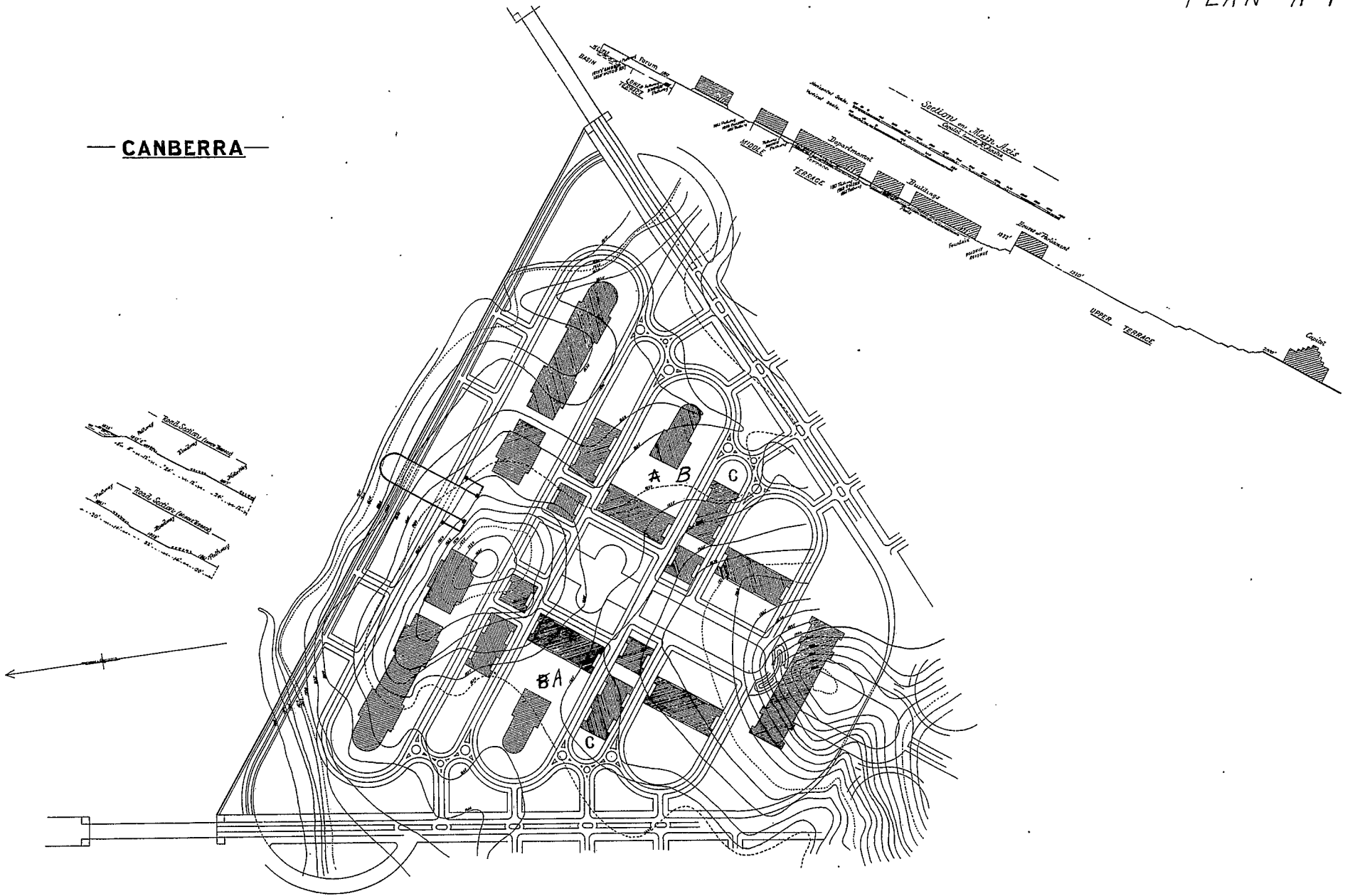


LAY OUT PLAN OF BUILDINGS

SCALE OF FEET

- ① PROVISIONAL PARLIAMENT HOUSE.
- ② THE HOSTEL.
- ③ OFFICERS HOSTEL.
- ④ SCHOOL, TEOPEA PARK.
- ⑤ ADMINISTRATIVE BUILDINGS.

CANBERRA



group, but it is intended that it shall also serve a similar group of buildings to be erected to the east of Parliament House. It is suggested that the central position in the other group may, perhaps, be used for the national library, when the national collection breaks its temporary connection with the Federal Parliamentary Library. The two fire-proof buildings will have a flat roof, the idea being that as they stand in front of the central recreation building, the highest of the group, a clear view over them may be had from the recreation building. The size of each of these concrete buildings is 88 feet long by 51 feet wide. At one end is an entrance hall with messenger's accommodation, and at the other end, between two porches, lavatories for men and women are arranged. At its lower end each building will be about 10 feet high, and at its highest end about 14 feet. Inside, the measurements from floor to ceiling will be 12 feet. It is estimated that, after taking out corridor purposes, each of these buildings will provide about 3,920 super. feet of effective office space. I have assumed that the office subdivision such as I am about to describe will be found to be necessary. I have shown a corridor through the middle of the building about 22 feet long, and on each side of it offices 20 feet x 11 feet, 24 feet x 20 feet, 20 feet x 11 feet, and a large general office 49 feet x 24 feet. None of these buildings has yet been allotted to any particular Department, but if we provide buildings with open floors, they can be subdivided to meet the requirements of the particular Departments to which they may be subsequently allocated. It was necessary for us to assume something for the purpose of estimating the probable quantity of floor space that might be provided for a certain sum of money. The flat roof will be supported by reinforced concrete stanchions. The interior walls will be only 2 inches thick, and the whole of them may be removed in a few days, if necessary. Thus the building is thoroughly adaptable to the requirements of any Department that may occupy it. There is no basement, and no access to the roof of the building. The roof will be either of malthoid or asphalt laid over the concrete, although I know of a concrete building in Melbourne the roof of which has neither malthoid nor asphalt, the concrete being made waterproof by using alum in the water when mixing. The two fire-proof buildings are estimated to cost £4,735 each. The gross space within the walls of each building will be 4,350 feet. I think that 3,000 feet of fire-proof floor space out of a total of 147,000 feet is a fairly liberal allowance.

In the centre of the group, on each side of the factory, are two timber buildings, each containing 3,920 feet of effective office accommodation. They will be timber-studded buildings with plaster interiors, of weatherboard or corrugated iron. In order to give as pleasing an effect as possible, I would propose that on the foundations to the window sills the walls should be of weatherboard, and from the window sills corrugated galvanized iron painted white or grey. I do not anticipate that these buildings will be too hot materials will have the maximum of value for recovery. These structures are as cheap as any we can erect to give reasonable comfort to persons working in them, and the life of the material, if judiciously selected, might be extended for almost any period. There are three pairs of these twin buildings, each pair costing £6,152, making a total of £18,456, exclusive of engineering services, for the six. The next buildings are the sake of effect and the preservation of a convenient form, we have designed them in a T shape. There are six of these buildings, the four of the north-west being

linked in pairs. The detailed plan shows the size of the main floor of each to be 38 feet by 52 feet, and a projecting wing 44 feet by 35 feet. The walls will be 12 feet high. Assuming the probable subdivision which the average Department may be expected to require, there will be a corridor for a certain distance giving access to rooms measuring 24 feet by 20 feet, 27 feet by 24 feet, 35 feet by 20 feet, 20 feet by 11 feet, 25 feet by 20 feet, 20 feet by 11 feet, and 64 feet by 20 feet. The floor space provided in each of these six buildings is 5,948 feet. The general arrangement is similar to that in the buildings I have previously described, including lavatories for men and women, an entrance hall, and messenger's accommodation. We propose the ordinary lip tile roof. The external construction consists of battens to the floor level, then corrugated galvanized iron painted cream or white, with a frieze of weatherboard. I would be inclined to have a dado of weatherboards underneath the window sills, and then put iron between the window sills and the roof. I suggest that in these simple buildings pleasing effect be obtained by contrast in the material employed. The cost of this group of six buildings will be £5,427 each, or a total of £32,560. The floors will be of tongued and grooved hardwood. I do not expect them to shrink, but in any case I suppose they will mainly be overlaid with linoleum. Mr. Griffin's lay-out of the streets and paths provides that this block shall be semi-circular at the north-western end, and in order to conform to that plan, the two buildings at that end have to take a special form. We are proposing two buildings rather different in character from the others, because they will be facing the main Commonwealth avenue. One will contain the post office for the official district, which will be used by the residents of this area and the inmates of the hostels. These buildings are L-shaped; portion will be allotted to the post office, another portion may be utilized for quarters for the postmaster, and the remainder will consist of departmental offices. The departmental office space is 75 by 48 feet, giving a total of 3,600 super. feet of floor, which we assume will be used as one big room; in fact, we have in view the utilization of that office by the Works and Railways Department, which does not require any subdivision of floors. The whole of that 3,600 super. feet may be regarded as effective for office purposes. The entrance hall and lavatory accommodation are similar to those in other buildings. The electric sub-station for transforming purposes has been linked up in this building. The post office and sub-station will occupy a space of approximately 50 feet by 25 feet, and the postmaster's quarters 42 feet by 50 feet; but after this plan was drafted I had a conversation with the postal authorities, who have come to the conclusion that it will be preferable for the postmaster to have an isolated cottage rather than be provided with quarters in this building. If that idea be adopted, the portion now allotted as quarters for the postmaster may be utilized for the automatic telephone exchange. It has been suggested that the post office, instead of being on the main avenue, should be at the eastern end of the group, where it would be nearer the Parliament House and the corresponding group of offices to be erected to the east of the parliamentary building. I think that is very desirable, for, after all, this post office will be mainly for official use, and will not be patronized very much by the public. The main post office will be at the civic centre. The neighbouring building at this end of the group is of the same design and form, but the space corresponding to that allotted to the postmaster in the other building will be used as a residence for the caretaker of the group. This is to be a large group of buildings, and I think it would be well to have a caretaker's residence at each end of the groups, so that there will be a reasonable chance night and day of preventing any unauthorized persons from wandering about the

offices. The caretakers also would superintend the office cleaners. From their houses they would have a view along the roadways between the buildings. These quarters will comprise a sitting-room, three bedrooms, kitchen, verandah, and enclosed yard. The residences is a good distance from Parliament House, and is not detached or conspicuous. The remainder of that building will provide 4,335 super. feet of floor space, all corridors will be taken out of it. An exact replica of this building is proposed for the south-eastern corner of the group. The remaining building at the north-eastern corner will be the same in form as the others, but the floors will be without subdivisions, and will provide 6,376 super. feet of office space. I have assumed that this building will be used by some department, such as the Taxation Department, which employs a large number of clerical hands. When these drawings were made, it was intended that the telephone exchange should occupy one of the fireproof buildings, but, as a result of later conversation, we consider it likely that the telephone exchange will take the place of the quarters allotted to the postmaster. The estimated cost is £3,870 and of the other three end buildings, £8,630 each, or a total of £36,460. The refectory and recreation building may be used in the evenings for examinations, and also, in the early stages of Canberra, for social purposes. The main hall is 80 feet by 50 feet, and it will accommodate about 350 diners. There will be a verandah at each end, lavatories for both sexes, men's recreation room (21 feet by 44 feet), and a ladies' recreation room (24 feet by 22 feet). At one side of the dining hall there is a kitchen 30 feet square, employees' bath-rooms and lavatories, and two small bedrooms to accommodate any of the members of the staff who may be required to live on the premises. There is room for a refrigerator and a heating chamber to provide a hot-water service for the whole of the buildings in the group. On the opposite side of the main dining hall are the recreation rooms, and bicycle sheds are placed at the right and left of the yard. The height of the dining room from floor to ceiling is 15 feet, and of the smaller rooms 12 feet. The external construction will be of weatherboard and corrugated-placed between the concrete stumps supporting the floor. Perhaps the best aesthetic effect will be obtained by using weatherboards from the floor to the window sills, and from the sills to the eaves painted galvanized iron, topped with a red tiled roof. Inside the building I would be inclined to place a wooden dado to the effective appearance, and plaster above, thus giving an effective appearance without incurring great expense. The estimated cost of this building is £3,180. We expect that the refectory will be conducted on the cafeteria principle, luncheon being served from 12.30 until 2 o'clock. That is to say, the kitchen staff will arrange his choice and carry his tray to a table. The plan accordingly shows a counter with access to the kitchen. No doubt the Government will, as they have already done in the Perth Post Office, the Melbourne Post Office, and in the new offices to be built in Sydney, provide the building and allow the officers to conduct the mess on the co-operative principle, and as they will no doubt desire to operate it as cheaply as possible, we may expect a cafeteria system to be employed. For the six halls connecting the groups of offices I have allowed £1,000. The figures I have already given include lavatories and water service. The costs of the engineering services are estimated as follows:— electrical installation, £8,700; heating, £1,500; vacuum cleaning, £1,750; kitchen equipment, £3,500; civil engineering, including water supply and sewerage

drains, £6,500; paths and streets, £7,000; or a total of £31,950. The large engineering costs are due to the wide area of land over which the buildings are distributed. Heating of the buildings in some form will be necessary. We have considered the installation of fireplaces, but, as regards the cost of fuel and chimney construction, we thought it better to face the cost of a hot-water heating system. The amount allowed for paths and streets includes the formation of the main streets around the group and the paths within it. No special water supply will be involved. The water main passes the group, and retentive pipes are included in the cost of the buildings.

If I were preparing plans for permanent buildings my design would be quite different, because I would be employing different materials. For instance, the outward expression of buildings of wood and iron is altogether different from that of buildings in brick, concrete, or stone. If the money were available for the erection of brick buildings, I would certainly propose buildings of two or three stories. Such buildings would have to conform to the design of the permanent Parliament House. On account of the conformation of Camp Hill, the chances are that there will be in the permanent Parliament House two floors lower than the were decided upon, they would have very much the same appearance as those I have designed, and I would not suggest carrying these pavilions to a height of two stories, inasmuch as the provisional Parliament House cannot be made a two-story building because of the expectation that eventually the permanent Parliament House will be erected on Camp Hill, and will require buildings of two or three stories are erected, the whole of the space reserved for Government edifices will not be required for centuries, but the American people found that through taking too restricted a view of the probable expansion of Washington, they were commencing to invade the plan of the city with all kinds of things that should properly occupy land originally intended for governmental buildings. About fifteen years ago a Royal Commission investigated the question, and its report has led to a decision that for all time these lands shall be reserved exclusively for governmental purposes on a definite plan. I suppose the Mall at Washington is about 24 miles long, and 700 or 800 feet wide, with parks on both sides. The American people are taking the big view, and Mr. Griffin has done the same in reserving such a big area for Government requirements. I see no objection to the absolute marking of that huge area of land for possible governmental requirements in the future. Possibly even with three-story buildings the whole of this area will be covered 300 years hence. One has only to recall the extent of the governmental buildings at Washington for a nation with a population of 120,000,000 the Commonwealth centres hence what may be required by become one of the great countries.

I estimate that the construction of these temporary office buildings will occupy two years from the time that Parliament approves of the scheme. I think the aim of the Government would be to allow this group of buildings to finish simultaneously with the provisional Parliament House, because the latter will be of very little use without accommodation for the Departments. I have heard all sorts of optimistic opinions expressed in regard to the speed with which building may proceed at Canberra, but I think that we can fairly estimate that three years from now must elapse before all these temporary Government buildings will be ready for occupation. I have in mind the difficulty of obtaining good workmen, and housing them comfortably. These problems must be considered side by side. Those who think that Canberra can be

functioning as the legislative centre of the Commonwealth in three years' time is *too optimistic* a view. Such a development is, I think, physically possible, and in any case is undesirable. I do not think that the building of the Federal Capital should be proceeded with so rapidly as to unduly draw skilled labour from those commercial centres where it is so much required. It would be an excellent thing if men skilled in certain of the building trades could be encouraged to come to Australia. I do not forget the possibility of throwing out of work the men already in Australia, but I think the progress of the Commonwealth will be such that we can conveniently and economically absorb a considerable increase of skilled building labour. Having regard to the careful action of Governments in matters of this kind, a reasonable time for the completion of this official building programme, assuming that there are no big hitches, is three years from now. The aim of the Government should be to have the parliamentary buildings and the administrative offices completed simultaneously, except that, in order to accommodate the staffs of public servants that will be required here during the progress of building operations, we should erect a couple of the office buildings as fast as we can. Already the existing small group of administrative offices at Acton is crowded. The office accommodation will have to be augmented when the big building works are in progress, and it should be located near the Parliament House, the hotel, and the administrative group. One of the first works which the Minister would like to put in hand is the erection of one or two of these proposed temporary office buildings. Under any proposal for temporary buildings, I would prefer this scheme of wood and iron to buildings in brick. There is no reason should not set up very convenient offices for 50 or 60 years, and prove just as suitable as any more enduring building we could erect. They will look quite well. In regard to the fire risk, the important records will be placed in safes, and in the two fire proof structures. There is another phase of this matter. On the plan showing the lay-out of the complete group of nineteen administrative buildings, there are six in the centre and there is a good deal in his point of view, that if those buildings are not erected for the time being, and the ground they will occupy left free for future buildings, the accommodation they would afford could be provided by adding a lower story to a couple of these buildings coloured light red contains 3,920 feet of effective office space, and if a half-sunk floor 10 feet high were made under the buildings on the western side of the group, 22,532 feet of floor space would be provided. In other words, the effect of leaving unbuild the six proposed buildings in the centre of the group, and the erection of a second story under a couple of buildings on the western side, would mean a net loss of less than 1,000 feet. The cost of this variation would be very little more than that of completing the group as designed. Possibly £4,000 would be added to the cost of the scheme, but the view of the Director-General of Works is this: Suppose that the Treasury were located in a building on the north-west corner of the group. As Treasury business expands the Department will naturally desire to extend to one of the adjoining buildings, but as the adjoining building will be occupied by other Departments, the Treasury will not be able to find the extra accommodation it needs in its own vicinity, unless some space is reserved now. The Departments which are likely to expand should be located in buildings near unoccupied areas on which new buildings can be erected to meet expansion. Therefore, if the six light-red buildings were left unbuild the space allotted to them would be

available for erecting buildings in the future to meet the expansion of Departments housed in contiguous buildings. Architecturally the addition of a second floor would improve the appearance of the group. The site falls away from near the front of Parliament House towards the new hotel, and the fall occurs fairly rapidly after the centre line of the group is passed. We do not wish to build high, but the appearance of the group would be improved if the roofs of the buildings were all kept fairly level. With one-story buildings that would mean that, on the western end, the walls would be 7 feet high before reaching floor level. That is very undesirable. These supporting piers cost a good deal of money, and no effective use is being made of the space under them, but if a lower story half sunk into the ground were introduced, the walls could be made in brick or concrete. The lower floor need be only 10 feet high, and there could be plenty of windows near the ceiling, or about 4 ft. 6 in. or 5 feet above the floor, leaving a space of 4 feet between the window sills and the floor above. The effect of that would be to make fire-proof basements in two blocks. The main floors, too, could be made fire-proof. They need not be made of ordinary concrete. We could place coke-brace concrete, over which the flooring boards could be laid. The actual window area in this lower floor would be 12 per cent. of the floor space. In this way exceptionally good offices could be provided. These could not be called basement rooms. Rooms of this character are in the Commonwealth offices in Melbourne, and they are quite as good as any other rooms so long as damp is kept out. For the sake of the appearance of the group, I would welcome this alteration, because we could then have all the roofs of the buildings, with the exception of the end blocks, on the one level. The deferred buildings could be either of one story or two stories. The Advisory Committee would undoubtedly approve of the erection of houses of wood and iron. We expect private enterprise to provide 50 per cent. of the housing accommodation at Canberra, and there is no doubt that we must do nothing to unduly discourage the use of wooden Canberra now that there are plenty of wooden cottages in its appearance. Wooden cottages could be built possibly 20 per cent. cheaper than the brick cottages now being erected. When the proposed temporary offices are removed, we should probably save 30 per cent. of the value of the material, and large sections of the walls without dismembering them, and re-assembling them elsewhere. These temporary offices will occupy a site on which permanent buildings that may be expected to be erected under Mr. Griffin's scheme during the first 40 or 50 years. This group and the one to be erected to the east of Parliament House preserve the integrity of Mr. Griffin's lay-out for the official area. The temporary buildings are kept far enough east and west respectively to allow of future permanent buildings being erected between them and the main avenue from the Capital to Mount Ainslie, along which they will be distributed to right and left. No method of inter-communication between the two groups of offices is provided for each building in itself is very large, and no doubt there will be a system of communication through the main telephone exchange, but I do not think that direct communication by tubes or other mechanical means is necessary. The Governor-General and the Executive will be accommodated in one of the buildings in the administrative group, probably the building to be erected on the eastern side.

7. To Mr. Mackay.—The group of buildings now before the Committee covers a total area of 860 feet

by 500 feet, but more than half of the area will be occupied by roads and lawns. The estimated requirement of 147,000 super. feet of floor space is calculated upon the space at present occupied by the head offices in Melbourne, plus a reasonable allowance for expanding forth their probable requirements at Canberra. The principal consideration in recommending wood and iron for the temporary structures was the recoverable value and portability of these buildings in the event of removal. Each of the concrete buildings will contain one big strongroom, subdivided by wire partitions and fitted with steel shelves, which are being made in Australia almost as cheaply as wood shelves could be erected.

8. To Mr. Cook.—The recoverable value of the lower story would not be so great as that of the upper story. Wood and iron walls with the roofs is the cheapest form of construction I have a life of 40 or 50 years. There are buildings in Australia in which the timber is as good after 50 years use as it was when first put in. I have seen country schools in Queensland which, despite neglect by the Government for 25 years, were practically as good as the day they were built, on account of the fine quality of the timber in them. Brick buildings might be 15 or 20 per cent. dearer than wood and iron, and would not have the same recoverable value. There is no doubt whatever that the material in the buildings as designed will be very useful for other structures in the Territory.

9. To Mr. Halsey.—The provisional Parliament House is practically a permanent structure, although it is not a grand building on the lines of Westminster Houses in America. You might assign to it a life of perhaps, 100 years, but I take it that the monumental Parliament House, when erected, will stand for 1,000 years. It might be more economical in the long run to build provisional administrative buildings similar to the provisional Parliament House, so that they, too, might last 100 years; but I have not suggested a temporary structure of wood and iron for Parliament House, because I do not think that either members of Parliament or the public would be satisfied with such accommodation. For the temporary offices, however, wood and iron are preferable, because of their recoverable value. Departments will be able to carry on their work as well in these buildings as in offices of brick and stone, and the structures will have a recoverable value of 15 to 20 per cent. The cost of upkeep will not be very great. The timber can be giled and the galvanized iron only requires to be freshened up with paint every ten or twelve years. On a site so far from the coast as Canberra is, painted galvanized iron should easily last 50 years.

10. To Senator Newland.—I prefer the T-shaped buildings to appear as designed, with the stem outward, for the reason that in this Territory buildings will be viewed from long distances. In the distant perspective you get no value at all from windows, doors, and verandahs; the only effect you get is big masses. By placing the projecting buildings on the outside of the groups, the effect from a distance with the sun shining on the group is a contrast of high lights and shadows. The first view of the Advisory Committee was that we should have rectangular buildings, but I thought the architectural effect would be rather bad, and I suggested that we should project these wings in order to obtain a better effect from a distance. Furthermore, by utilizing buildings in that form we get a better proportion between the buildings themselves and the surrounding ground. If lower stories with walls of brick or concrete are put in, it will be rather hopeless to expect that these sunken areas could come into the arrangement of the permanent buildings. Bricks would certainly be recoverable, but the excavation and

the concrete floor would be lost. Nevertheless, I accept Colonel Owen's suggestion. I do not think that the Advisory Committee has suggested that there should be a separate refectory and recreation hall for each group of administrative offices. It is not more inconvenient for men engaged in one group to go to another group than it is for men employed in the Commonwealth offices in Melbourne to go to Collins-street or Bourke-street for their midday meal. No special provision for the Government Printing Office has been made in this group, but the building in the north-eastern corner has been suggested. Any one of the vernacular buildings would be adaptable for the purpose. A Government Printing Office would require a strong floor, and that would materially add to the cost. It would be hopeless to try to allocate the buildings to the different Departments and functions until about six months before the actual transfer. A wood and iron building would be quite satisfactory for a Government Printing Office, provided the machines are given a firm bed.

11. To Mr. Jackson.—I have suggested that there would be a difference of 15 per cent. in the cost of brick and wood and iron buildings respectively. If the difference were 25 or 30 per cent., I would not recommend the construction of brick buildings for a temporary purpose. The permanent buildings will be of different character, and probably three stories high, and I would not suggest that two sets of permanent buildings should be erected. If brick buildings were erected now, they would be regarded as practically permanent. There is no definite information yet as to what the lay-out of this group of permanent buildings will be. The principle upon which the Government are acting so far is the observance of the arrangement shown on Mr. Griffin's plan; but I understand there is some divergence of opinion as to whether or not that is the best. The Advisory Committee has discussed the matter, and its members are not quite agreed as to whether Parliament House would not be better situated on Kurrajung Hill, which is allotted as the site for the Capitol. All the great avenues converge upon that site. (Canberra is being created as the centre from which the Commonwealth Parliament will legislate for the Australian Continent, and from a sentimental point of view I think it right that the great avenues should focus on the legislative centre. After all, what is a Capitol? I do not know of any country that has one. I understand that it is intended to be a library or museum in which the national archives will be stored; but I am not at all sure that it would not be easier access to them in their spare time. Parliament House, I think, should dominate the city, and undoubtedly the dominating site is Kurrajung Hill. That point is the culminating feature of Mr. Griffin's city plan.

It would be possible to transfer the whole of the Commonwealth Head Office staffs from Melbourne to Canberra in five years' time, but I do not know that such a course is particularly necessary. The moving of Departments should be gradual. Only enough officers should be transferred at the commencement to enable Parliament to function, because I think that for several years after legislation begins at Canberra Ministers will return at the week-end to their offices in Melbourne, and continue to conduct public business there. Of course, the practice will vary greatly with the different Departments of individual Ministers. Any attempt to introduce the nucleus of a permanent building into the scheme would mean a great deal of delay. The Government could not straight away determine definitely on what lines the permanent buildings at Canberra are to be built. The solution of that problem will occupy some time. It is a question of adopting definitely Mr. Griffin's proposals or a modified proposal, but the chances are that if a modified pro-

posal is decided on by the Government there will be a competition by outside experts to provide schemes for laying out these buildings. I do not think there is any need to fear that the Printing Office, as a part of the administrative group, will create a nuisance; all smoke will be consumed, and an incinerator can be introduced for the destruction of rubbish. It might be a wise course to erect one-story buildings, to which other stories could be added from time to time; but as no permanent plans exist, and the Government are anxious to push on with the building of the city, and the Advisory Committee was asked to state with what accommodation legislation could be started in Canberra in minimum time and at minimum cost, the proposed wood and iron construction is the best. It might take quite two years for the Government to absolutely determine the permanent lines on which the official buildings at Canberra should be developed. Any permanent two-story building placed on the site now would affect the completion of Mr. Griffin's plan. As the triangular area between the Molonglo basin and Kurrangong is to be the official centre of Canberra, I would be very chary about putting any permanent buildings there until a definite scheme has been adopted. All that space should be kept free for future permanent developments, and the Advisory Committee is of opinion that the proposals now before the Committee entail no danger of interference with the ultimate development of the official area upon permanent lines.

Personally, I consider Mr. Griffin's siting of the permanent buildings is fine if he would agree to permanent Parliament House being substituted for the Capital building on Kurrangong.

12. *To the Chairman.*—The site selected for the temporary administrative offices is not quite satisfactory. It will require a fair amount of earthwork, as part of it is very low, but it will be easy to get the filling from Commonwealth reserves. This site will certainly not interfere with the permanent buildings to be erected later. There will be a great variety of uses to which wood and iron can be put in the Territory. It will do for schools and houses. I look forward to the time when we shall use a lot of old iron in floor construction. People living in two-storied houses complain of creaks in rooms overhead. I believe that if we use ordinary floor joists with old corrugated iron laid on top of that an inexpensive 3-inch concrete breeze concrete, and then laid the boards on a foundation, a very satisfactory floor would be obtained. The concrete would preserve the iron. The affinity between concrete and iron is extraordinary. If electrolysis be kept out, iron will last almost indefinitely when allied to concrete.

13. *To Mr. Mackay.*—I cannot point to any site in the official triangle on which a permanent building could be erected, unless we adopt straightway Mr. Griffin's lay-out.

14. *To Mr. Cook.*—A Parliament composed of Australian men will be as happy and comfortable in a building of the character of the proposed provisional Parliament House as it would be in some of the grand buildings I have seen in other countries. I cannot imagine any building which will provide more natural and suitable comforts than that designed. We might have offices with marble carvings and bronze doors, but Parliament would not do any better work there than in a structure of this simple character. The proposals for these offices and Parliament House, considering all the circumstances surrounding the problem, are quite sensible.

15. *To the Chairman.*—The Government offices as designed by Mr. Griffin will require about 40 feet of filling on the lower north-eastern end of the group. Of course, vast quantities of material will have to be moved from other parts; for instance, a large mound has to be removed, but these works may be centuries hence.

16. *To Mr. Blakeley.*—I should say that the recoverable value of brickwork is not more than 10 per cent. Bricks have to be removed singly, whereas a wood and iron building can be dismantled in sections.

(Taken at Sydney.)

THURSDAY, 12th APRIL, 1923.

Present:

Mr. GUESBURY, Chairman;

Senator Foll	Mr. Cook
Senator Newland	Mr. Jackson
Senator Plain	Mr. Mackay
Mr. Blakeley	

Ernest Macartney, do Burgh, M. Inst. C. E., Chief Engineer for Water Supply and Sewerage, New South Wales, sworn and examined.

17. *To the Chairman.*—I am a member of the Federal Capital Advisory Committee. As the number of workmen at Canberra increases, it may become necessary to establish camps for them, as we do on some of the large State public works. Some of the old interment camp buildings are available for the men, and the officials in charge are renting cottages. I see no necessity for the pressing on with the building of cottages in order to deal with the class of men employed upon construction work. Provision might be made in permanent cottages so far as they may be required for men who remain there but I cannot imagine that a large proportion of the workers employed in building the Federal capital will permanently settle there. I admit that the accommodation at present provided is not sufficient to induce good tradesmen to go there with their wives and families. The provision of cottages that could be let at a low rental would be advantageous within reasonable limits. I would not like to commit myself to a large building programme for the accommodation of a construction staff which might exceed the requirements of the public after the immediate construction work was complete. Up to 100 cottages, which could be made available at low rentals, might be provided. It would be very desirable to build cottages cheaper than those already erected if it could be done, but the inability to put in hand a large number of cottages at one time has militated against economy in construction. The cost of some of the cottages now being erected exceeds £1,200, and the rental will be very high. We should endeavour to provide accommodation at a cheaper rate. If an office stationer in Sydney or Melbourne is transferred for public purposes to Canberra, and the transfer is adverse to him in respect of the rental for which he can obtain accommodation for himself and family, he should receive an allowance. That is the practice in the Public Service of the State. For instance, if we send an officer on to one of our big works in an isolated place where there are no buildings, we provide him with accommodation free of charge. Again, if an officer is sent into a country town under conditions that put him at a disadvantage it is the responsibility of his Department to make good his loss. It is the business of the Government to construct cottages at Canberra as cheaply as possible, consistent with efficiency, and if an officer suffers any disability through residing there it should be rectified by the Department to which he belongs. I would be in favour of the construction of cheap cottages at Canberra provided that the architects can construct them of such design that they will not be a blemish to the city. The Advisory Committee recommended that an architectural competition should be held for the design and lay-out of a group of residences for the higher officers on the administrative side of the city. A similar competition

might well be held with regard to workmen's cottages. If wooden houses can be built with economy, I see no objection to their construction. The Advisory Committee fixed the area of the blocks on Ainslie-avenue. The then Prime Minister, Mr. Hughes, took exception to the small areas provided, but the Committee took the view that if the areas allotted to individual cottages were too large, they would be neglected, and that it would be better to keep the areas relatively small, and maintain a pleasing appearance in the pathways and front gardens, and perhaps in a central garden or park under the control of the municipal authorities. I think that policy is sound. I have given full consideration to the water supply in relation to the fire risk, and the sizes of the pipes from the main reservoir to the city were adopted on my recommendation. In regard to the allocation of hydrants, it is my practice to take the advice of the fire fighting chiefs, who are also the best judges as to whether plugs or hydrants should be installed in the streets. There is no doubt that the water mains will be completed before Parliament House is ready for occupation, and I see no reason why the sewers also should not be ready for connection to the buildings in three years' time. I have not made any final recommendation in regard to the treatment of sewage. When the sewerage scheme for Canberra was under consideration, and the site for the treatment works was recommended, I pointed out that it would be advisable to defer the final decision as to the method of treatment until the last possible moment in order to avail ourselves of the latest observations of methods of treatment then in vogue, or anything new that might develop in the meantime. Colonel Longley, of the Rockefeller Institute, who makes a special study of this matter, has been on a visit to Australia. The institute has a fund for sending scientific investigators to different parts of the world to investigate special problems. Colonel Longley has discussed this matter with us very fully, and we anticipate installing a treatment plant at Western Creek. The whole of the treatment works need not be constructed at once; the nucleus can be provided and added to as the population of the city increases. We have been considering the installation of the first units, and we will finalize our plans before the driving of the sewer is completed. Colonel Longley has been in touch with me in regard to sewerage matters in this State. He has also visited Queensland and Canberra, and we have been very pleased to have the opportunity of consulting a man who specializes on this subject. Colonel Longley is entirely in accordance with the views of the Advisory Committee in regard to the removal of the sewage from the city to Western Creek, and treatment there. He is also in favour of biological treatment. We are now engaged in bringing the details up to what we consider the most modern standard.

In regard to the administrative offices I am of opinion that we can make an extremely useful and attractive building with corrugated galvanized iron used vertically and painted white. I have seen large buildings of galvanized iron painted white and with the corrugations merrily into the wall, and if the design is well proportioned such structures can be made extremely pleasing. Iron, if painted white, properly fixed, and with adequate air spaces, does not increase the temperature of a building. Buildings of this type are largely in use in India. The temperature of the building depends entirely on ventilation. I can see no objection to the erection of offices of corrugated iron. Such buildings, with tiled roofs and timber or plaster lining, should last at least fifty years.

18. *To Senator Plain.*—I should say that, at Canberra, iron houses would be cheaper than wooden ones, but if a plebiscite of a large number of people were taken there would be a majority in favour of wooden houses; that is partly due to association. I personally

prefer the iron, painted white, with red tiled roofs. I do not say that the erection of 100 additional cottages for workmen will meet all requirements during the construction stage, but we would be fully justified in building that number. The Advisory Committee has laid down a certain building programme up to the date the Federal Parliament will meet at Canberra, say, three years after the commencement of the provisional Parliament House. To what extent the Capital will develop subsequently is entirely problematical. My own view is that once Parliament meets there the whole circumstances will alter in regard to the operation of private enterprise and the general programme of construction. The Advisory Committee recommended the erection of a number of dwellings, and if there are many workmen in excess of that accommodation they can be housed in temporary structures. We cannot build cottages at once in readiness for a big army of workmen. So far our construction has been limited to brick work. We called for tenders for the erection of concrete houses as an alternative, but the response was not satisfactory. I, personally, would be quite prepared to consider the erection of wooden houses of suitable design in order to bring the accommodation within reasonable measure of requirements.

19. *To Mr. Cook.*—Tenders for the driving of the sewer tunnels were invited, and the Government decided to carry out the work departmentally on the estimate made by Mr. Hill. More hard rock has been encountered in the tunnels than was anticipated. If the Advisory Committee were given authority to construct a large number of cottages we could, if we thought it desirable, call for competitive designs for these cottages, or build them departmentally, or adopt both courses with a view to getting the most economical design and most effective grouping, and then we could invite tenders for the construction in such numbers as would probably tend to cheapen the cost. I see no objection to the use of wood; the important considerations are the grouping and design of the buildings. The construction of the Federal Capital should be expedited in every possible way if the work is to be done economically.

20. *To Senator Foll.*—I do not consider that in wooden buildings single wall construction would be suitable at Canberra on account of the cold winter. I would use the weather-board on the outside walls, and fibro-cement linings inside. Canberra is probably colder than Stanthorpe (Queensland), where the wooden house is universal. Of course, timber will shrink if it is green, but weather-board, with a good rabbit, will allow for shrinking. We are using single wall construction in the temporary accommodation for workmen, but not in permanent buildings.

21. *To Senator Newland.*—It is the function of the Advisory Committee to make recommendations to the Minister for Works and Railways. We have no executive powers. The Minister approves or rejects our proposals, and instructs his departmental officers accordingly. Plans for proposed buildings at Canberra are submitted to the Advisory Committee. When we see anything objectionable or inadvisable in the plans submitted to us we suggest such alterations as we consider necessary to the Director-General of Works (Col. Owen), who is a member of the Committee. We have discussed very frequently the construction of workmen's cottages at such a price as would permit of cheap rentals being charged. Economy in construction depends to a large extent on the authorization of a fairly extensive programme. In regard to the better class of houses for single officials we have already recommended that an architectural competition be instituted, but with them, as with cheaper cottages, you must have authority to build a large number. So long as we are limited to the construction of two or three houses here and there we can only utilize the material we have got, and consequently the buildings cost more.

If we are given authority to proceed with our programme, and sufficient funds are allotted to enable us to go ahead definitely, I think we can get better results. Our suggested competition for design and layout of a block of buildings applied to a more expensive type of house to be rented by officials during salaries of £800 or £900 per annum. In respect of cottages for the workmen there would be no need to enforce a particular lay-out. We cannot get the cost of construction down to an economical limit if we are not given a programme which will enable us to handle work competently in bulk. I see no objection to wooden houses being interspersed amongst brick dwellings, provided the design is satisfactory. The fire risk to the block would not be increased.

22. *To Mr. Mackay.*—The Advisory Committee was constituted on the 22nd January, 1921, and its personnel has remained unchanged. The leasehold principle in respect of Federal Territory lands was laid down in the Seat of Government Acceptance Act. I am opposed to private individuals being granted building leases yet. The construction of the Capital is not far enough advanced, and the public mind is not sufficiently assured that Parliament will transfer to Canberra within a short period, to enable a proper value to be obtained from the leasing of the land. I cannot conceive of any man taking a lease to build at Canberra in the absence of absolute certainty that the Parliament will sit there within a definite time. The mere approval by Parliament of the erection of the legislative building will not be sufficient; money must be appropriated for the purpose. I do not think that immediate leasing with re-appropriation in five years would meet the situation. I would almost say that leases cannot be properly dealt with until Parliament actually meets there. The present loss of 25 per cent. of rental value on the houses already erected is nothing serious in connexion with the building of a new city. I do not think the loss to the taxpayer will be very large when the construction programme is proceeded with vigorously. I do not agree of course, indefinitely leasing and early re-appropriation. At the request of the Government the Advisory Committee have outlined a scheme—a sort of *Credit Foncier* system—by which financial assistance may be given to officials to erect homes at Canberra. I am not setting aside the unanimous report of the Committee; but I, as a member of the public, would not pay for a lease at Canberra, and erect a house at my own cost, until I was definitely assured of the date on which Parliament would meet there.

23. *To Mr. Blakeley.*—I think that the Government should proceed at once with the erection of up to 100 cottages for workmen. The Committee should have the authorization, and be allowed to use their own business judgment as to the number of cottages to be erected at a time. If the construction of a large number of cottages at the one time were approved, there might be a reduction in cost by the use of different materials and the letting of larger contracts. It may be possible to improve the design also. The administrative buildings, which are to be of wood and iron, are definitely characterized as temporary structures, but the brick cottages already built are permanent. That is the reason for an apparent anomaly. The housing of Parliament, even though it be not in a monumental building, warrants the construction of an edifice superior to the administrative offices. I should not be opposed to the use of almost any material for workmen's cottages, provided that the line, colour, and roofing were right. Projecting eaves are justifiable; they are an important adjunct to the roof of an Australian cottage. I think enclosed verandahs were adopted with the idea of getting the bathroom on one end and the sanitary accommodation on the opposite end. Before these cottages were built, the Committee examined an enormous number of plans of soldiers'

cottages built in different places. Competitive designs for an economical cottage might very well be sought; but hitherto the authorizations have not been sufficiently large to warrant the adoption of that course.

24. *To Mr. Jackson.*—It might be possible for the Administration to fix the annual value of a few hundred building blocks; but if, after the Government have encouraged the public servant to take up a block of land and build on the *Credit Foncier* system, the establishment of the Federal Capital is delayed, he will then have no use for his house. As a servant of the Government he will have some redress, but if the ordinary public are encouraged to do that, they will have no redress. I think the proper course is for the Government to build the cottages; the Government must take the responsibility of providing accommodation for their officers. It should be possible to get sufficient workmen to build the provisional House, the hostel, the administrative offices, and a number of cottages in three years. Our programme leaves a large proportion of the building to private enterprise if it will come in. No doubt, the carrying on of a great deal of work at Canberra will hasten the prices of material and labour. I am satisfied that Parliament House, the hostel, and administrative offices can be built in three years from the authorization. Extremely pleasing bungalows of timber can be built quickly. In the architectural competition which we suggested, the range of material was left very wide.

25. *To the Chairman.*—A railway across the river would be of great advantage during the construction period, but I do not think it is absolutely essential. The Committee did recommend the extension of the railway.

26. *To Mr. Cook.*—There is an old saying that a man should not pay more rent per week than he can pay in one day, but my experience is that to-day he cannot get accommodation for 60 per cent. above that rate.

The witness withdrew.

Ferry Thomas Owen, Director-General of Works, sworn and examined.

27. *To the Chairman.*—I am a member of the Advisory Committee. The instructions of the Government to the Committee were to state the quickest time and the smallest cost at which the functions of government could be carried on at Canberra. We were instructed also that the approved plan prepared by Mr. Griffin was to be the basis of all projects for the development of the city. The requisite administrative offices involve a very large floor area, and in the short time allotted an architectural competition for the lay-out and design of the permanent buildings was out of the question. Furthermore, the permanent buildings would be of reinforced concrete and fire-resisting throughout, and altogether of a much more expensive character than the buildings necessary to carry on the administration temporarily. These two factors alone prevented the Advisory Committee from entertaining any proposal to erect permanent buildings that would form part of the governmental group. Buildings which are to last for at least a couple of hundred years should be the subject of careful consideration, and should be carried out upon a scale and design in accordance with the important functions they are to house. As a preliminary step, the Advisory Committee sought information from the Department as to the number of officials, married, single, and female, who would be employed at Canberra. I consulted the heads of Departments as to what branches, if any, need not be at Canberra at the inaugural meeting of Parliament, and upon the basis of their views, which were not confirmed by Ministers, but have not been opposed since, the number of officials mentioned in the Advisory Committee's report was arrived at. I also ascertained, as the only possible

basis for estimating, the existing proportions of single men, married men, and unmarried women. There is no absolute guide as to what will be the actual number of officials at Canberra when Parliament first meets there. But the figures I obtained provided a basis for estimating the floor area that would be necessary. The Committee then considered how the necessary office accommodation could best be provided. There are some factors which caused us difficulty. One was that two storied buildings would involve fireproof construction, therefore the project became necessarily a single-story proposition. As we were not to interfere with the lay-out on the approved plan, we had to locate the buildings on sites which would not be required for permanent monumental buildings for many years to come. The plans now laid before this Committee show buildings located on both sides of the main axis, leaving room for permanent buildings closer to the main axis, and extending over the whole group. We had next to decide what form of construction should be adopted. It was thought advisable that all buildings should be of a nature which would permit of their being readily removed and give the best recoverable asset. A town of the size of which Canberra will have a greater area in 30 or 40 years will have a big demand for the fabric used in the construction of these buildings. The Committee thought that a wooden-frame building would be more easily removed and disposed of, although we realized that in a light brick building there is a removable asset in the walls, and that such buildings could be of the same type as the proposed wooden buildings. It was thought, however, that the wooden buildings would be slightly cheaper, and as we were anxious to save money in every direction we adopted a wooden frame with galvanized iron or tarred walls. I do not think there would be much difference in cost between such buildings and brick buildings so long as we avoid interior embellishment, except that on removal a wooden-frame building can be handled more effectively. We did not allow a definite life for the whole group. We have not provided for removing the whole of the Central Staff to Canberra at the commencement. For instance, it is proposed that the Defence Department (Military, Navy, and Air Force) shall at the first meeting of Parliament in Canberra be represented by only a secretariat. Our idea is that when these Departments are moved up later they can be housed in permanent buildings. That is disclosed in the Advisory Committee's published estimate of cost. We propose to erect, in the first place, a group of frame buildings, costing £150,000, and providing 146,000 super. feet of floor space, and, in the second stage, to erect administrative offices and accessories of permanent construction at a cost of £320,000. The latter figure gives an indication of what the Committee thought would be the cost involved in erecting permanent buildings with a much smaller floor area to house other Departments, including Military, Navy, and Air Force. I would like to impress upon this Committee that these estimates of cost were given by me to the Advisory Committee before the drawings were prepared. The Government were very anxious to get at once a broad view of what should be done at Canberra, and the probable cost, so that an actual estimate on the prepared drawings may very reasonably exceed or be less than the figure originally stated. We estimated a little over £2 per foot of floor space, but the original figure did not include certain engineering services which are included in the last estimate. Offices of wood and iron can be made very presentable in appearance, and, of course, they will be helped to a large extent by the foliage in the gardens surrounding them. I would object to private enterprise erecting the same class of building, because they would be permanent, whereas these administrative offices are intended to be temporary. We were influenced by the consideration that as these buildings have to be swept away in 20 or 30 years, wooden construction will be more readily moved and realized, although in a brick building both the bricks and the roof would have a recoverable value. Bricks, of course, are a little more costly to dismantle than a framed building. I have worked in wood and iron buildings similar to those we are proposing, and I do not think there can be the same objection to them in Canberra as there might be in a place with a very severe climate. I think these structures will look very well. The dominating idea is the horizontal line and the surrounding gardens. They will not have the same life as the provisional Parliament House. Some, if not all of them, will be replaced; but I think the evolution into permanent buildings will be gradual, and extend over a number of years. When Canberra has a population of 25,000 or 30,000, general utility buildings of this class will be readily absorbed. If bricks were used for these offices, they could be used on removal for cottage construction. If economy in the cost of construction were not essential, I would be inclined to erect these buildings in brick and not consider iron at all. The Advisory Committee discussed this matter, and came to the conclusion that wood and iron could be removed more easily. The fire risk would be the same in buildings of brick or of wood and iron. It is in the context of a fire area, and once they are built whether the building is doomed, whether it is built of wood or brick. There would be this advantage in a brick building, that with the water pressure which will be obtainable at Canberra, if one building were burnt, the others would be saved. I do not think the difference in fire risk as between wood and iron buildings and structures of brick is an important consideration, although the advantage is with the brick. In regard to the location of the proposed buildings, we regarded as paramount the retention of the central axis direct from the Centre to Ansett, and that the development within the next two decades of the buildings which Mr. Griffin proposed on either side should not be interfered with. We, therefore, selected sites which did not encroach upon those which Mr. Griffin had allocated to the permanent buildings. One objectionable result is the distance that will divide the two groups of offices, but when the monumental construction begins we may bring the groups close together. Perhaps the best course would be to put the two groups in close proximity, but that would be opposed to the plan upon which this area on the main axis is left for garden development. We might, however, erect the south-western and north-eastern buildings close to the ornamental grounds. The site is not bad. There are some hollows, but I do not regard them as serious. The foundations are quite good for this purpose. There is a low-lying reedy portion on the western side, but with the terracing shown on another drawing the advantage can be overcome. The same thing occurs on the south-eastern side, but the ground can be sloped away gently from the main axis. For the time that the groups of offices are occupied there will be spare sites for extensions. I have worked out how these buildings might be extended, and my view is that we have sufficient vacant areas in close proximity to each block, so that an expanding Department may provide further necessary accommodation for itself on a site adjacent to that it already occupies. It is difficult to estimate to-day what will be the future requirements of Departments, but I am satisfied that we could make provision for their extension by allowing for each building we erect similar space near by for another building to be added. If this plan is followed with the permanent buildings, which will come before many years, we shall be able to accommodate the Departments for a long time ahead. The group plan is being so worked out that those Departments which are brought most closely to the official contact will be set in the one group. A Department would not extend from two buildings on one side to a building on another side, but to a building immediately adjoining it. There are some Departments that do work more or less in contact. I have

prepared a list of Departments that in my opinion should be housed in the respective groups, but it may be necessary to re-arrange some of the buildings. We do not propose that these blocks shall be subdivided into a number of small offices, and we shall not so provide unless some particular Department insists upon it. The general policy of my Department is to have big rooms, but Departments are prone to ask for small rooms for individual officers, and it is difficult for us to say that any particular Department shall not have what it wants. It is generally left to the Department concerned to arrange with the Works and Railways Department how the office accommodation shall be provided; we can only express our views, and in the final resort, if the requisitioning Department wants pens, it gets them. An intermediate arrangement is possible; where it is absolutely necessary to have a certain amount of privacy, for instance for a cashier who is handling money, we can erect dwarf partitions surrounded by wire. Although this scheme of detached buildings presents some difficulty, it also has some advantages. I think the offices will be very good to work in. There will be a pleasant garden development and abundance of light and air; on the whole, the environment of the occupants of the buildings will be very fine. It would be advisable to add a second story to some of the offices. Cost of construction at Canberra is generally higher than in Sydney or in Melbourne. I think it would be wise to undertake a definite programme of cottage construction in order to induce a better class of workmen to go to Canberra. The Advisory Committee has, so far, only proposed the erection of 310 dwellings for civil servants, plus the hostel. Therefore, all the cottages built by the Government should be within what the Advisory Committee considered the best residential area for officials. If that area is thrown open to the manual workers, the time may come when we shall have serious difficulty with a lot of workmen who are in cottages in which we desire to house officials. The present position is very difficult from another point of view. The Advisory Committee recommended to the Government that there should be no leasing of land until some definite assurance is given to the public that the construction of Canberra will be proceeded with. We are of opinion that if leases were taken up now they would be, to some extent, speculative. A proposal has been made that there should be a re-appraisal after a few years, but that would mean low rentals to start with and no re-appraisal for a considerable time, during which the value of property would have increased very much, whereas a high leasing value at the start might be a deterrent to the public, unless there is definite evidence that the construction of Canberra is to be proceeded with. We regard the commencement of Parliament House as the key to the whole situation, and we have advised the Government that, as soon as the first sod is turned or tenders called for, the land should be thrown open for selection. We expect that when this is done private enterprises will erect homes for manual workers. If the Government have to erect part of the civil town as well as the official town, the cost of establishing Canberra will be very much greater than we estimated, and we consider that private enterprise should be looked to for the provision of the houses required by the civil population. I hope that within a measurable time approval will be given for the construction of Parliament House, and the moment the work is commenced the obstacles to the leasing of land will be removed. We are now letting houses to established employees, but not to nomadic workers. We would like to see good tradesmen permanently housed at Canberra, but to let Government cottages to any one else would be a mistake. Assuming that the Government provide the money, people will begin to build privately eighteen months from the present time, and I do not think that building will cease when the Parliament arrives at Canberra. We are paying our

bricklayers less than is being paid in Sydney. They are laying from 500 to 600 bricks per day on cottage work, which is very satisfactory. We have been cutting up the buildings at the internment camp, re-doing and re-roofing them, and letting them for 6s. per week. Some of the men are quite happy, and are prepared to stay there. There is not a great deal of privacy in that accommodation, but there is a big difference between rentals of 6s. and 18s. per week. We are improving the partitions and generally making the conditions more acceptable. Undoubtedly, the housing difficulty at the present time is serious, but I anticipate that as soon as the Government give an assurance to the public that the works proposed for Canberra will be proceeded with, and lands are available for leasing, half of our difficulties will be solved. In regard to the 25 per cent. rebate on cottage rentals, a man who is living in Sydney or Melbourne suburbs gets a well-built cottage for a rent about equal to what we would get if we charged a percentage on the whole cost of the building. Our buildings may cost 10 or 12 per cent. more than cottages in Melbourne or Sydney, but we do not charge any profit, so our higher cost balances the landlords' profit in Sydney. It is difficult in the way of the Crown constructing cottages for artisans unless the estimated cost of Canberra is to be greatly increased. Cottages might be produced for £400 if they were built of timber, and I see no objection to such if they are finished with a tiled roof. All the buildings at Jervis Bay are of timber, and they look very well. The objection to timber as compared with brick is the greater cost of maintenance. The construction of brick cottages by the Government at the commencement of Canberra is a sound policy; the tendency will be to put up cheaper buildings as time goes on. The minimum building block should be 50 feet by 110 feet. I do not believe in giving people very big blocks.

28. *To Mr. Jackson.*—I do not know how the price of £100 per block was arrived at in connexion with the cottages that are already leased. I see no advantage in leasing a number of blocks at 5 per cent., or 6 per cent., on an capital value of £100. I think it would be better to wait and make the lands available on a more satisfactory basis. There need be no hurry to erect houses for officials for the next few months. If we start making land available now all sorts of people may want to come in at once. The number of cottages that will be required to be built in Canberra is a mere bagatelle. At the present time 10,000 residences per annum are being built in Sydney alone. It should not be difficult to get the tradesmen necessary to build 300 houses in Canberra in the next three years. The question of leasing the lands of the Territory is suspended, like Mahomet's coffin, between Heaven and earth, and the Advisory Committee have strongly recommended that if the Government wish to get the full value of the land they should defer the leasing until the city is actually started. After all that should be only a few months hence. It is true that, eventually, the permanent administrative offices will probably be of three stories, but the whole governmental area has to be dealt with as one architectural unit; the whole scheme must be laid down on paper before we put in a single permanent feature. That must take time. It would take longer to provide a given floor area in a three-story building than it will in this cheaper class of buildings. The money made available by Parliament last year has been sufficient to carry us on to the end of the current financial year. We had a carry-over from the previous year, and £250,000 was voted for the current year. It looks as if, by the end of September, we shall have spent the whole amount of £280,000, and shall require another appropriation. If we had more money, and a definite knowledge of what we are expected to provide, we could expedite the construction. At present we make a plan which carries us on from year to year, and we have

to wait for the Parliament to pass the Loan Estimates before we know what we shall be able to do in the following year. It is impossible for us to have a continuous works policy under present conditions, but we could do so if we knew that a certain amount of money would be available for us each year.

29. *To Mr. Cook.*—Given sufficient money Canberra can be ready for occupation three years from the time we get approval for the construction of Parliament House. The preparation of the working plans for Parliament House will take at least six months, even if we employ extra staff. The calling for tenders will take another couple of months, and the actual building operation about eighteen months. That makes two years and three months. After the building is finished there will be the fitting up and general internal preparation, for which I do not think we can allow less than six months. You cannot expect Parliament to meet at Canberra under three years. The only hope of getting Parliament House built in eighteen months would be by placing it on an island site where it could be attacked all round. If a contractor can tackle the whole job at once he can do it much more quickly. There are no construction difficulties to prevent the placing of the monumental Parliament House on Kurrajong Hill. But that site might be a little more costly, as it would necessitate more preparation of the general location. The difficulties apprehended by some of us in regard to that site have not been in regard to construction. It might be necessary to take more than 300 feet off the top of the hill. Most of the rock there is quartzite. If it were definitely decided to place the permanent Parliament House on Kurrajong Hill I would place the provisional structure on Camp Hill. When I referred to 18s. per week for cottages I was referring to wooden buildings. We are erecting some cottages that can be rented for considerably less than 32s. per week. The days when a five-roomed cottage could be erected for £400 are gone for ever. The cost of construction, even in the big cities, calls for rentals for 21s. to 26s. per week for cottages, and I do not see how men can expect to get cheaper accommodation at Canberra. We have recommended the Government to hold an architectural competition for a group of residences on the official residential area. It is thought that by such a competition, subject to conditions approved by the Institutes of Architects, and offering the usual premium for the best design, we may get some diversity in design, and that the Government may get value in other respects by receiving the suggestions of the architectural profession generally. The workmen at Canberra are doing satisfactory work. A great deal has been said about the cottages there costing too much. Cost is entirely a relative matter. I may want a very nice suit of clothes, but if it is too costly I must buy something cheaper. The cottages are not costing too much, having regard to what they are. That is proved by the fact that when we called for tenders for that class of work the tenders were higher than the price at which we actually built. The cottages are costing too much only because the present cost of construction is high. For a cottage in Sydney, or Melbourne, of the same size and construction you would have to pay very much the same rent. Drains, fencing, sewerage, and water supply cost almost as much for a small house as for a larger one. The actual cost of construction is much less than £270 per room. Certainly a cheaper design could be evolved, but the Advisory Committee thought that, if the Government, at the very commencement of the Capital, started to build cottages that did not have convenience of arrangement and comply with the requirements of modern domestic science, they would provoke censure right and left. Cheaper cottages can be, and will be, built, but the Commonwealth would have been ill-advised to start with shoddy or ill-designed dwellings.

30. *To Senator Newland.*—We could build in a generally superior style, use more timber, omit built-in coppers, and provide a less expensive quality of baths and fittings. We considered it sound policy that the first construction should be of good quality in order to set an example that might be followed. In regard to the leasing of lands my own view coincides with that of the Committee that, as Parliament will within measurable time be at Canberra, we shall be able to lease these lands to better advantage than than now. If several years were likely to elapse before a definite move to transfer Parliament to Canberra were made, I would say that the leases might be thrown open now, but when we know that, within a few months, we can offer the lessees better value, we should wait that time for better prices. A deputation waited upon one of the Federal Ministers, and asked that the lands be thrown open at once, but objection was taken to any clause in the lease which would compel lessees to build within a year. The natural inference is that they wanted to hold the land, and not to utilize it. You may rest assured that when the land is made available the responsible Department will take precautions against speculation. The Government have spent at Canberra £1,500,000 in works alone, and they must see that the increment on the land comes back to the Commonwealth, and does not go to speculators. The first administrative building at Acon was erected in 1911 or 1912, and the other buildings about a year later. The material is wood, with fibre-cement linings. I have worked in similar buildings during the summer, and though they are warm, the men do not complain. I regard the summer climate in Canberra as excellent. The temporary administrative offices we are now proposing would be very similar to the Home and Territories office at Acon. I think the tiled roof with the general ventilation it affords gives a slightly better result than galvanized iron on a hot day. Most of the restaurant buildings are of light fabric. The caddis blocks are of fibre-cement sheets with weatherboard lining. So long as the lining is good I do not think there is much difference between houses of weatherboard and galvanized iron. My own preference is light brick construction in big spaces. One advantage that timber construction would have would be that the buildings could be formed in city mills, and despatched to Canberra in sections, thus reducing the labour on the site.

31. *To Mr. Mackay.*—It would be possible to lease land at the civic centre, and re-appraise it in five years, but the lessee would have to be assured of some limit of rental that would not be exceeded on re-appraisal. Everything done at Canberra so far has been increasing the Commonwealth's asset. I refer to sewerage, water supply, roads, parks, and footpaths. We are just about to complete the dressing of our shop window by the building of Parliament House, and I would advise the Government to wait at least another six months before offering land to the public. As soon as we know what Parliament intends to do in regard to the erection of Parliament House, I would start with the preparation of the ground, and then I would throw open to lease.

32. *To Mr. Maloney.*—Nearly 1,000 men are employed at Canberra now, but I do not think that, even when the big programme of construction is in hand, there will be more than 200 to 300 men there. I do not favour the construction of cottages for nomadic workmen. A man who comes along to do tradesman's work should not be given a cottage provided by the Crown until he has proved that he is satisfactory, and will be in more or less permanent employment. If we get undesirable into the cottages, and have to evict them, there will be trouble. I do not think that 100 cottages will be required for the workmen starting next year. A great many of the men will be single. Something should be done to encourage a mor-

service from the internment buildings, and we could then convert them into a bachelor's camp. Another way of housing nomadic workmen would be to put a weatherboard floor on stumps, build weatherboard walls about 4 feet high with a wooden door, and put above them a decent duck tent, and a fly on a frame. We could also provide a kitchen. I have seen quite comfortable little homes made out of tents of that description. Colonel Miller lived for years in one in preference to a house. The Government have tentatively approved of the Advisory Committee's recommendation that an architectural competition for cottages should be held. There is no more difficult house to design than a small cottage.

33. *To the Chairman.*—I think 12-foot walls in the administrative offices will be quite satisfactory. Modern hygiene regards any height above 10 ft. 6 in. as wasted. The tile roof will be a great safeguard against excessive heat in those buildings. I think it would be more necessary to have 13-foot walls in the concrete buildings, which will have flat roofs, than the wood and iron structures.

(Taken at Sydney.)

FRIDAY, 20th APRIL, 1923.

Present:

Mr. GAZCOBY, Chairman;	
Senator Foll	Mr. Cook
Senator Nowland	Mr. Jackson
Senator Plain	Mr. Mackay
Mr. Blakeley	

Leslie Wilkinson, Professor of Architecture, Sydney University, sworn and examined.

34. *To the Chairman.*—I do not approve of the temporary administrative offices being constructed of wood and iron. Wood is a most uneconomical material. I would not object to the appearance of iron. There is a general prejudice against corrugated iron, but, provided the form and colour of a building are good, I would not rule it out altogether. But it would require to have a very great economic advantage before I would utilize it. I do not worry so much about the administrative offices. If they cannot be made permanent, the more temporary in character they are the better. The buildings at Duntroon are of a temporary nature, and something similar might do for administrative offices for a time. The most convenient position for the Government offices will be the permanent site, and I do not see why the same scheme should not be carried out all through. The most economical building is the rectangular two-storied structure. The single-story bungalows are not as economical as they should be. I would suggest the construction of long office blocks of two stories. One or two long sheds of two stories could probably be made the carcass of permanent buildings. All the officials can be more economically housed in such structures. The administrative offices shown on the plan are domestic cottages, and I am afraid that the group will be suggestive of a general hospital. The lay-out of the administrative group does not command one's approval.

(Taken at Sydney.)

MONDAY, 23rd APRIL, 1923.

Present:

Mr. GAZCOBY, Chairman;	
Senator Foll	Mr. Blakeley
Senator Nowland	Mr. Cook
Senator Plain	Mr. Jackson

Horbert Ernest Ross, Architect and Consulting Engineer, sworn and examined.

35. *To the Chairman.*—I am a member of the Federal Capital Advisory Committee. The proposed wood

and galvanized-iron buildings for the administrative group would probably last 50 years if necessary; but we hope that, under the scheme of development, the administrative buildings will be amongst the first of a permanent character to be erected. We are creating a city which at the start will have a small population and few conveniences, such as hotels, and restaurants, and during the first stages at all events, a refectory for Government officials will be required. We have had before our mind always the belief that, if the Government do not make this provision, it will be lacking altogether. We are of the opinion that to provide the accommodation required in superficial feet the method we have proposed is the cheapest. The engineering services in connexion with the refectory are inevitably incidental to such an establishment, but a large proportion of them, including cooking utensils and equipment, will be recoverable, and probably used in a more permanent building later. These wood and iron structures, when no longer required, will have a good residual value. Hot-water heating will be necessary. The buildings will be quite comfortable in winter time if they are properly lined. Permanent construction would involve a design of the whole area, which the Advisory Committee hope will be the subject of competition; but, if permanent buildings of brick were well designed, they could be absorbed in the general design. The competitors would be told that certain buildings were already in existence on the area, and that their design must conform to them. But that method would place a restriction on the designer's ideas. A competition should be held at an early date for designs for the permanent administrative offices. I anticipate that some of these temporary buildings will be removed about ten years hence, and the others one by one as permanent buildings are erected to take their place. All private houses erected in the city should be regarded as permanent. I would not debar galvanized iron on any consideration of durability, but simply because it is impossible to get architectural effect with it. Even if these temporary Government offices were eye-sores, I would not object, because they would be displaced sooner on that account. There will be a certain danger of fire in wood and iron structures, but there is a danger in every building except concrete. No doubt, provision can be made for valuable records to be kept in small concrete strongrooms in each group. The water pressure and service will be quite sufficient for fire-fighting requirements. We are of opinion that the time for throwing open lands to private enterprise will be when Parliament House is in course of construction, or when a contract for the building has been let. In the next three years we shall require 600 cottages at Canberra. The fixing of the rentals of the cottages already constructed is outside the jurisdiction of the Advisory Committee. That is one of many matters which should be placed in charge of a Commission. I do not approve of the system of fixing a rental on a 5 per cent. basis, including ordinary rates and charges, and then allowing a deduction of 25 per cent. When you start cutting down rentals in that way, it is very hard to keep the Treasury books right.

36. *To Mr. Jackson.*—Two-storied buildings for administrative purposes will cost more per square foot of floor space than the single-story buildings that have been suggested. As there is plenty of land available, and the separation of the various sections is an additional safeguard against fire, we have recommended the bungalow form of construction. If constructed in brick instead of wood and iron, these buildings would cost probably 15 per cent. more. In the continuous class of building there is a certain loss of light and ventilation. There is no objection to it in a park area where the lower row of buildings faces a square, but I do not think there is any great saving. That style is certainly not so pleasing or so convenient for inter-departmental access. If Parliament made money

available for the erection of the administrative offices in brick, the Advisory Committee would not object, but I personally would be sorry, because I would be afraid of creating another vested interest. We should avoid anything that will tend to interfere with Mr. Griffin's plan if we intend to carry it out. Of course, if that is not the intention, my view will be quite different, but at the present time we are working towards a definite objective.

(Taken at Sydney.)

THURSDAY, 26th APRIL, 1923.

Present:

Mr. GAZCOBY, Chairman;	
Senator Nowland	Mr. Blakeley
Senator Plain	Mr. Cook
John Sulman, Consulting Architect and Town Planner, sworn and examined.	

37. *To the Chairman.*—The Advisory Committee unanimously decided that the administrative offices should be on the sites we have recommended, at a reasonable distance right and left of Parliament House. It was considered that this arrangement would be in harmony with Mr. Griffin's lay-out. These will be purely temporary buildings, with fibre-cement or galvanized iron walls. Another alternative is that the offices be built of very cheap brickwork. The group will not be much to look at, but the structures are not expected to stay there a very long time, although they could have a life of 30 or 40 years. One strong reason for dividing the group into sections, instead of concentrating the required accommodation in buildings of two and three stories, is the greater safety against fire. If a fire broke out in a wooden-framed structure, it would be a number of small isolated blocks. I suggest that a strongroom be built into each block. The Advisory Committee regarded economy as the first consideration, and we believed that after Parliament has settled at Canberra it will proceed with the erection of permanent offices buildings as they are required. The distinction between private houses of wood and galvanized iron and Government offices of the same materials is that the former would be permanent and the latter temporary. But I have told my colleagues that if they want to get cottages erected cheaply they will have to recommend a cheaper form of construction than brick. The erection of provisional governmental offices in brick that would last 50 years might be advisable, but we were following the instructions of the Government to provide immediate accommodation as economically as possible. If brick construction would cost only 15 per cent. more than wooden frames, I personally would prefer the brick. When the matter was before the Advisory Committee, I opposed the use of galvanized iron for the walls, urging that if the buildings are to give a better appearance than galvanized iron.

(Taken at Melbourne.)

TUESDAY, 1st MAY, 1923.

Present:

Mr. GAZCOBY, Chairman;	
Senator Plain	Mr. Jackson
Mr. Blakeley	Mr. Mathews
Mr. Cook	

Thomas Hill, Chief Engineer, Dept. of Works and Railways, recalled and further examined.

38. *To Mr. Mathews.*—In the administrative offices provision is made for a dining-room, where the officers

can obtain lunch, such as can be got in the Commonwealth Bank, Sydney. The idea is that ultimately hundreds of officers may take advantage of the opportunity to have such a meal in the day-time.

39. *To the Chairman.*—The arrangements in regard to the kitchen at the administrative offices will be the same as those proposed to be installed in the officers' hostel. The other arrangements in regard to heating and hot-water service will also be retained, but there will be no laundry. The heating will be through the ordinary pipes, with a separate cast-iron boiler and forced circulation. One boiler will provide hot water for the whole group of buildings. The proposal is to have another group of buildings on the other side, but they could not be provided for by the same boiler, because the distance separating the two groups of buildings would be 1,400 feet. The second group could be better treated by a separate heating system. From my knowledge of the climate at Canberra a hot-water service will be essential in lavatories and baths. In the administrative offices it will not be required for this purpose, and we do not propose to provide hot water for the lavatories there.

(Taken at Melbourne.)

THURSDAY, 3rd MAY, 1923.

Present:

Mr. GAZCOBY, Chairman;	
Senator Plain	Mr. Cook
Mr. Blakeley	Mr. Jackson
James Richard Collins, Secretary, Commonwealth Treasury, sworn and examined.	

40. *To the Chairman.*—I have seen some sketch plans of the proposed accommodation for the administrative staff at Canberra, and, so far as accommodation and location are concerned, the suggested provision is sufficient for the requirements of the Treasury. I think it is essential that the Treasury offices should be in a fire-proof building. We handle a very large quantity of money in the nature of Treasury Bonds, and it would be a very serious embarrassment if our documents were destroyed by fire. If we were not in a fire-proof building it would be necessary to spend considerable sums in the provision of safes. I do not claim that the Treasury records are more valuable than those of other Departments, but the loss of those records would mean great expense and much inconvenience. In the event of their destruction by fire, we would, nevertheless, manage to carry on the business of the Department. There would be some loss in that records of things done having been destroyed, dishonest persons might make claims which, if it were not for the destruction by fire, could be quickly and successfully resisted. The same arguments apply to all the other Departments of the Public Service. We have not yet got a Titles Department. There are a few documents of title in the possession of the Home and Territories Department, and the Attorney-General's Department has a few precious documents of a similar character. They are not very numerous, and they could be housed in fire-proof safes. My remarks as to inconvenience and loss, due to the possibility of being compelled to pay moneys a second time, apply to all the Departments. The construction of wood and iron buildings in order to save 15 per cent. in construction costs should not be taken into consideration. There is also the question of the health of the staffs. Galvanized iron walls, in sudden changes of weather, would sweat, and cause a certain amount of dampness inside, even with plastered walls, and sudden changes of temperature would be felt by the staff. If the buildings were lined only with wood, there would be difficulty in keeping the rooms in a sanitary condition. Dust would accumulate, and it would be very difficult to remove it. In the interests of health it would be necessary

ary to have the walls plastered. I have seen some very tragic results due to dirty public offices. In a period extending over four or five years, there was a succession of cases of tubercular disease in an office that I know, and each of the six or seven victims died. After the place had been cleared up, there were no more cases. The disease had, no doubt, been introduced by the insanitary condition of the building. I think, therefore, that plastered walls are an absolute necessity, and the slight additional expense of having hollow brick walls should be incurred. I would strongly recommend the use of brick. A further consideration in favour of brick or concrete is that, particularly on the central staff, the officers have to frequently work at night. An iron building would be a cold one, and officers who have sedentary occupations are particularly susceptible to attacks of cold. If you do not house them well you will have great expense in paying salaries while officers are away sick. Even at an isolated place like Canberra there would probably be rats and possibly other vermin in a wood and iron building. The possibilities of having rats in buildings where valuable records are kept are very serious. If Canberra is a windy and dusty place, as you suggest, my objection to wood and iron construction is accentuated. While Canberra has a delightful climate, speaking generally, there are occasional hot days, and these would be very trying to the staff in an iron building. There would soon be a demand for verandahs, and it would probably be just as cheap to erect brick walls at the outset. If brick were decided upon, the premises should be of a semi-permanent nature. It seems to me that these buildings will be used, not for five or ten years, but probably for 30 or 25 years. Brick offices would have a life of 50 years, and it would probably pay to construct them, if they are to be used for 40 or 50 years for departmental work, there would be some slight convenience in having a building of two or three stories in which the officers of various Departments would be housed close to one another, but the advantage in that direction is not very great. The present design would lead itself to outside decoration. The surroundings would be beautiful, and I am satisfied that outside beauty affects the minds of the staff, who would be happier as a result of congenial surroundings. On the whole, we should be economically served, and should get good work out of the staff under the conditions which would exist if the present plan were adopted. The rooms north and south of the refectory hall, which would have a flat roof made of fire-resisting material, would be exceedingly valuable for, say, the Attorney-General's Department and for the Treasury, which have documents probably more valuable than those of the other Departments. The Prime Minister's office also has records which are exceedingly valuable, in that they relate to matters concerning other countries. These should be housed in a fairly safe place. Either brick or concrete would be equally satisfactory. The accommodation in a questrory by being in quite as satisfactory, or even more so, than that in a building which has several stories. A telephone system of communication between Departments would, of course, be a necessity, and if the expense did not prohibit a tube system for transferring documents between Departments, it might be installed, but that is entirely a matter of expense. It would not cost very much to transfer letters and other documents from building to building in the design before me. It would be advisable to have an automatic telephone system. We have a similar arrangement in the Public Offices in which the Treasury is located. This would be absolutely necessary, unless you are going to face very considerable expense in the way of delays in getting communication through a central exchange. I regard the heating of the rooms as essential, but I do not look with favour upon the system of central heating. I understand it is proposed to carry the heat through pipes to the points of service. I have had experience of that

system in Australia and other countries, and I suggest one central heating should not be attempted in a group of buildings of this nature. The original installation would be very expensive on account of the distance to be covered, and after that you would not get such a service as is necessary. Central heating is very valuable in countries which have extreme cold, and where ice and snow are perpetual during two or three months of the year. In those countries it is necessary that the heating should be kept going night and day. In a group of offices such as this the expense of keeping the heat circulating at night would be quite unnecessary. There should be fireplaces in all the rooms, and provision should be made for a supply of fuel. Officers on the central staff very frequently have to work at night. Although I am not at all desirous of sitting near a fire, I have found it necessary to get an electric radiator installed in my own office simply because I could not suffer the cold when working at night. Other officers have had similar experience, and have had electric radiators installed. If you adopt the central heating system at Canberra, somebody later will have to provide electric heaters as well. On the grounds of economy and utility, I suggest that open fireplaces be provided. There are a few offices in each Department who should be supplied with separate rooms, but for the general staff separate rooms should not be furnished. We should have the officers housed in big rooms in which the controlling officers would be able to see exactly what was going on immediately they entered the room. I would suggest the provision of separate rooms for the senior officers only, because they have to interview people from outside, and they have to talk to Ministers and others very frequently upon confidential subjects. I quite agree that there is a danger of too many sub-heads of Departments existing to be housed in separate offices. It would be possible to provide glass partitions, which would give certain officers the necessary privacy, and at the same time, enable them to keep an eye on the other officials. I would prefer to dispense with steam heaters altogether. They are not suited to the Australian climate. Steam radiators may be used in modern hospitals, but the conditions there are not the same. The patients are warmly clad in bed, and the nurses are able to take exercise and keep themselves warm. I would prefer to have the administrative offices separated from Parliament House only by a road of ordinary width. I have had experience of very serious inconveniences continually occurring during a session through Ministers and officials having to travel backwards and forwards between the departmental offices and the Parliament. The central staffs do not require so very much room, and the Minister and his immediate staff should be housed as close to Parliament House as is convenient. I do not say that you should reject a beautiful plan because it does not suit these offices quite in the position I have indicated, but Ministers and officials should not be required to spend more than a few minutes in transferring from one building to another. The distance of from 300 yards to a quarter of a mile, as in the present plan, is rather great. The convenience of Parliament being a very important matter, we should be able to bring from a Department to Parliament House the records which are desired for the convenience of Parliament without causing delay. It now happens frequently that through something unforeseen occurring in a debate an urgent message comes for a document to be sent to Parliament House. A delay of six or seven minutes in sending a messenger for the document would cause irritation to Ministers and members. I recommend that, as far as the adopted plan will permit, the Ministerial staffs should be located near Parliament House. I admit that that is an argument for one big building, where all the officers could be concentrated.

41. To Mr. Jackson.—One of my objections to the central heating system is that it is not kept going all the time. In the present public offices the heat is

allowed to diminish about 3 p.m., and by 4.30 p.m. the rooms become cold. If the heat could be kept going until late at night the central system might be serviceable, but I maintain that the original cost and the maintenance charges would be too great to justify it. Taking all things into consideration, particularly the original capital cost, I doubt whether there would be any saving by the central system. Even if there were, my objection to the efficiency of the service would remain. At Australia House, I found that there was an engineer receiving £8 per week, and I believe there were three stokers in addition employed in connexion with the heating system. The Canberra heating system would be bigger than that installed at Australia House.

43. To the Chairman.—I would recommend that the officers be required to run a refreshment room on their own account. They should provide the money necessary to purchase and prepare the food. I would say that the Government might well provide the room, the kitchen, and the table utensils in the first place, any replenishment of table utensils to be carried out at the expense of the officers. If the same thing were done in connexion with the hostels, I think that would be as much as the officers could expect.

(Taken at Melbourne.)

THURSDAY, 17th MAY, 1923.

Present:

Mr. GEORGY, Chairman;

Senator Newland Mr. Cook
Senator Plain Mr. Jackson
Mr. Blakeley Mr. Mathews.

Robert Randolph Garran, M.A., K.C.M.G., Solicitor-General and Secretary, Attorney-General's Department, sworn and examined.

43. To the Chairman.—It is desirable to have the administrative offices fairly close to the Houses of Parliament, not that a matter of 200 or 300 yards is anything to worry about. There will be in the Crown Solicitor's Office a good many important files and a considerable number of titles and valuable books. The loss of these might be a very serious thing for the Department, and it would be advisable to have all records in a fire-proof building. I should prefer to have the buildings of brick or concrete, even at an additional cost of 15 per cent. I have been in Canberra. Apart altogether from documents which are inherently valuable—such as documents of title—it would be a very great disaster for a Department to have its records destroyed; it would throw the Department into hopeless confusion. If all the opinions of the Attorneys-General for the last twenty years were burnt, some people might consider it not an unliked blessing, but it would embarrass the Department considerably. I have seen the proposed grouping of buildings shown on the sketch plan. I doubt whether the area proposed will be adequate; I should think it would be very quickly absorbed when the main Departments went to Canberra. Departments develop very rapidly, and accommodation considered sufficient to-day is found to be inadequate the day after to-morrow. I have seen the list of the first-stage requirements. I have looked up the estimate of our requirements, and I found the figures to be 8,000 feet for the Ministers and secretaries, and 4,800 feet for the administrative offices.

44. To Mr. Mathews.—Apart from the Patents Office, our requirement would be for something like 50 offices.

45. To the Chairman.—The 5,000 feet shown for the Attorney-General's Department would be altogether inadequate. I take it that pretty well the whole of my staff will go immediately. The Crown Solicitor would not have to take the whole of his present staff, but

he would have to take some responsibility in connexion with the legal work connected with the administration of the Northern Territory, and so forth. I will furnish to the Committee an estimate of the requirements of my Department. I should prefer to have one or two buildings in a group rather than to have a series of buildings as is shown on the plan. I think that that plan is a little too scattered for administrative purposes. It means that you have a very great floor area when you have only one-story buildings, and have separate buildings with large spaces between. The cottage system does not appeal to me for departmental purposes. In my own building I have had experience of heating with hot water. I should imagine it would be very much more difficult to heat scattered single-floor buildings than it would be in a block of buildings two or three stories high. Central heating, combined with ventilation and a proper system of regulation, so that you can control the heat, should prove satisfactory. The only drawback is that the weather does not not recognise the beginning and the end of the official winter; sometimes you get a cold snap before the furnace is fired up or after it has cooled down. To meet that, some supplementary method might be advisable. The system adopted in the Commonwealth buildings in Melbourne is a very good one. I dare say the fires are allowed to go down at night-time, but the water circulating in the pipes is still warm. Assuming they can be heated as well as the Melbourne offices, I think it would be quite satisfactory to have the Parliament House and administrative offices at Canberra constructed wholly without chimneys, depending solely on the hot-water system of heating. With a wood and galvanize-iron building of one story it might be quite a different proposition compared with a solid block of four or five stories. In London and Paris, hot-water heating in winter is found quite effective. If the plan is properly installed, properly regulated, and built after, it should prove satisfactory. For the purpose of effecting economical administration, for safety against fire, and for convenience and heating, I prefer one or two fairly large brick buildings, each housing two or three Departments. I do not know what would be the cost of installing a pneumatic tube from these buildings to the post office. Certainly it would result in a great saving of time. I know what they do in Paris with the *petit bleu*. They do not send telegrams in the city; they send these pneumatic messages. The electric heater in my office has not affected me adversely.

(Taken at Melbourne.)

THURSDAY, 17th MAY, 1923.

Present:

Mr. GEORGY, Chairman;

Senator Newland Mr. Cook
Senator Plain Mr. Jackson
Mr. Blakeley Mr. Mathews.

Justiceian Oxenham, Secretary, Postmaster-General's Department, sworn and examined.

46. To the Chairman.—I have seen the plan of the proposed administrative offices. The Works and Railways Department have approached us with regard to the space we would require. I do not favour the use of galvanize iron and wood, because the buildings would be cold in winter and hot in summer. It would be more economical to erect the offices on some site where they would be useful after their employment as temporary offices had ceased. Even temporary buildings would probably be used for twenty years. It seems a pity not to make them substantial in the first place. If they were made of brick or concrete, they would be far more serviceable, and they would certainly be more comfortable for the staff. The steam

heating system in the Commonwealth offices in Melbourne is unsatisfactory as far as my experience in my own room is concerned. I prefer the old-fashioned fire. Steam heating seems difficult to regulate. You either get it too hot or not hot enough, and in cold weather one is liable to catch a chill on leaving a room that has been well heated by steam. My office is on the third floor, and the room does not become properly heated. I have an electric radiator as well. I should say that if the offices at Canberra were constructed of wood and iron, it would be necessary to keep the heating system going for the whole twenty-four hours in winter. There have been no serious complaints, so far as I know, from the staff as to the insufficiency of the steam heating at the Commonwealth offices. Looking at the plan of the proposed administrative offices for Canberra, I should say that the more concentrated the buildings were the better it would be, provided there were adequate light. Two or three story buildings would be preferable to detached single story structures. The main advantage is in having the staffs well concentrated. If you could put the buildings in a place where they could be utilized subsequently, it would be better to have them close together. I would suggest buildings similar to those comprising the Commonwealth offices in Melbourne, so that the Departments could arrange their floor space to suit themselves. (Generally speaking, brick buildings are desirable for the prevention of fire. The destruction of departmental records would cause a lot of trouble.

47. *To Mr. Cook.*—My experience is that if rooms are heated up sufficiently by steam to make them warm the air becomes oppressive to work in. I would prefer to see permanent buildings erected. If, however, they are to be knocked down in twenty years or so, it is a different matter.

48. *To Mr. Mathews.*—The Post and Telegraph Department has business to transact with the Treasury, the Attorney-General's Department, the Works and Railways Department, the Public Service Commissioner, Home and Territories, Customs Department, and sometimes the Patents Office, and it is of great advantage to have the various Departments as near as possible together. The lighting at our present offices is good, but the floor space is not sufficient for present requirements.

49. *To Senator Newland.*—According to the plan of the refectory the proposed accommodation ought to be satisfactory to the staff. It would be advisable to allow the staff to do the catering themselves. The system now adopted at the luncheon room at the Post Office, in Melbourne, is under the control of the employees, and those for whose benefit the luncheon room is run have an interest in seeing that it is properly conducted. The minimum charge is about 1s. and a very good meal is provided. I cannot say how the meal would compare with the luncheon supplied at the Commonwealth Bank building in Sydney. The Government provided the space, equipment, and crockery for the dining-room at the Melbourne Post Office. I am not quite sure at whose expense crockery is replaced but think it is at the expense of the committee of control. At Canberra the Government should replace the kitchen equipment, but the staff should bear the cost of replacing crockery and table linen. It would be a good plan to conduct the refectory at Canberra on the same lines as the dining-room and buffet at the Melbourne Post Office. I believe the Government pay for the fuel used for the cooking. Paper serviettes are used. No meals are provided for the night shift.

(Taken at Melbourne.)

FRIDAY, 18TH MAY, 1923.

Present:

Mr. GEORGE, Chairman;

Senator Newland	Mr. Cook
Senator Blair	Mr. Jackson
Mr. Blakley	Mr. Mathews.

John Smith Murdoch, Chief Architect, Department of Works and Railways, recalled, and further examined.

50. *To the Chairman.*—I suggest that the provisional Parliament House should be erected on Camp Hill, and if it is the opinion of the Committee that no temporary Government offices should be built of timber, I suggest that they should be proceeded with in accordance with Mr. Griffin's lay-out of permanent public offices, which cannot, I believe, be improved upon. This is to say, I would proceed with one or two of the permanent buildings. I hear people say that before these buildings can be designed, Parliament House should give them a key in the matter of design. The Government could call for competitive designs for permanent office buildings on the lines of Mr. Griffin's plan, and any design likely to win would be in the modern renaissance style now prevailing, and would be bound to be in sympathy with any classical design likely to be adopted for Parliament House itself. If Parliament House were placed on the top of Kurrangong, with its flanking buildings to give it support and a mass effect which could be viewed from everywhere, it would be very advisable to have the whole group of buildings on the top of Kurrangong designed by the same mind, but the departmental buildings on the flat could easily be designed to be sympathetic with any future group of buildings. We are taking no risk whatever in doing as I suggest. I recommend three-story buildings for the public offices. I join issue with the man who says that it is necessary to have the design of Parliament House to give a key to the design of the office buildings on the site as laid out by Mr. Griffin for offices. If I had my way I would not have very much embellishment about them. In the United States the newly-designed public offices are absolutely simple. They have colossal floor space inside, and their whole arrangement is extremely sensible. The Committee has no conception of their size. People doubt whether the vast area of over 200 acres devoted by Mr. Griffin to administrative purposes will be necessary, but one design for a new Government Department at Washington is probably six times the size of any building that Mr. Griffin has provided for in the proposed group of Government offices at Canberra. The American departmental buildings are upon all the modern conditions, and all the material that modern times have provided for such buildings in the shape of concrete and fireproof steel windows. I think that it is our duty to accept modern conditions and apply our expressional architecture to those conditions rather than lavish old-fashioned ideas upon our buildings. Of course, the Committee must bear in mind that if it recommends the Government to proceed with the erection of permanent offices there must be some provisional buildings on the lines now before the Committee, but if we went to the length of building temporary structures in brick or concrete there would not be much difference in the cost as compared with building permanent structures. If the temporary Parliament House were placed on the Knoll by the river, any temporary offices on the opposite side of the avenue would be to be wooden. They could not be built in

brick because of the useless foundations that would be required on a site that would only be suitable for frame structures.

51. *To Mr. Mathews.*—The idea in recommending temporary frame offices on the filled-in land along the axis running down from the Knoll is to have the group balanced on either side of the avenue. Placing the buildings on land next to the Knoll would not give the required balance. By having the provisional Parliament House on the Knoll 10 feet above the avenue and two-storey office structures level with the avenue, and on the other side of it, there would be two masses of buildings balancing one another on each side of that avenue. I would have no great objection to building on the land next to the Knoll, but I am sure that the group of buildings would look very much better if they were erected, as I have suggested. If the Committee is not agreeable to the construction of these temporary offices in timber, I advise it to depart from the Knoll site for a provisional Parliament House.

52. *To Senator Newland.*—To build offices on ground opposite the Knoll, but not filled in with spoil taken from the Knoll, would be to erect buildings very depressed as compared with Parliament House, and there again there would be the absence of balance. I think it would be very difficult to get the Advisory Committee to accept any proposal to have offices which are further sunk. I have already had difficulty in getting members of that Committee to accept my view in regard to the scheme of temporary offices on raised ground as I have outlined. Of course, in any case the floor level of the offices on the filled-in ground on the other side of the avenue from Parliament House would be 19 feet below the floor level of Parliament House on the Knoll, but that difference would not be very apparent in a large landscape. On the other hand, to have a dominance of 10 feet over other buildings is very valuable in the case of Parliament House. I am apprehensive about disappointing members of Parliament. They are not likely to go into the pros and cons as to why this or that was done, and when they get to Canberra and do not find themselves on a site which is satisfactory as regards outlook, some one is likely to hear something.

53. *To the Chairman.*—If Parliament decided to accept the Advisory Committee's recommendation and build the provisional Parliament House at the foot of Camp Hill, I should recommend that one or two of the administrative offices in the group planned by Mr. Griffin should be built in brick.

54. *To Senator Newland.*—The permanent offices would blanket the view of the temporary Parliament House, because they would be three-story buildings. The group of temporary timber offices under consideration by the Committee lies to the north-west of Parliament House, quite near to the Knoll. Assuming that the Committee recommends that the offices be of brick or concrete instead of wood, and on account of the very serious difference in cost deems it advisable to go straight on with permanent offices on the lines of Mr. Griffin's excellent plan, provision would have to be made for the offices to be added to unit by unit as required. I have in my mind now a plan that would be suitable for development of that kind, and I can produce a sketch to the Committee showing where the whole scheme could be carried out unit by unit as required and fulfilling Mr. Griffin's scheme, always assuming that Kurrangong is selected as the site for the future permanent Parliament House.

55. *To Mr. Blakley.*—If the temporary Parliament House were put on Camp Hill we could proceed with the building of permanent offices. It would cost more to carry out my idea, but I think it would be worth while. I am not prepared to say offhand what the increased cost would be as between temporary offices in brick and permanent offices in brick, but it

would not be very serious, and I think it would probably be advisable to embark on the permanent offices.

56. *To the Chairman.*—If the administrative offices are to be in brick, the Committee should seriously consider the advisability of proceeding with the permanent office buildings on the lines laid out on the Griffin plan, which I think are quite satisfactory. In my opinion, it is not necessary to obtain a design for the permanent Parliament House to provide a cue for the permanent office buildings which are to be built on the flat below Camp Hill. I would not build offices to the south of the Knoll should the Committee recommend the construction of the provisional Parliament House on that site. It would not give a balancing effect. I would like to see the work proceed on either side of the avenue in order to keep a balance all the time. If the offices recommended by the Advisory Committee be built in timber and iron were to be built in brick they would take longer to erect. If my suggestion to proceed with the permanent offices at once, in lieu of temporary offices, should be adopted, it would be necessary to conduct a competition for designs. That competition would occupy at least six months. The Government have committed themselves to the architects in this respect. They have promised that the designs for the permanent buildings will be open to competition. The difference in time between provisional and permanent offices in a permanent form would be under twelve months. All of the public buildings could be erected comfortably within three or four years. The whole design likely to be occasioned by erecting the administrative offices in a permanent form would probably not exceed twelve months, including the time occupied by the competition. In any case, the buildings would be ready before Canberra could be occupied. It is not this work that would delay the occupation of the city. The Government are expecting private enterprise to supply half the houses which will be necessary there to enable Parliament to meet. It will take time to enable the public to get on a scheme of that nature. They must first be satisfied with the fact that the Government are serious in their intentions. They will want to see the public buildings well on their way. If I were about to invest in a house at Canberra I would be careful to ascertain that the Government were serious in their intention to go on with the work there, and what would bring home to my mind the seriousness of their intention would be the fact that these permanent offices were being erected. All things considered, it is likely to be five years before Parliament can sit at Canberra.

57. *To Mr. Mathews.*—If temporary offices are to be built on the site recommended for them by the Advisory Committee, it is the best. They would be built of timber and iron. The blocks adjacent to the avenue in the centre of the complete official group of departmental offices, in accordance with Mr. Griffin's plan, would be built permanently without unduly interfering with the view of a provisional Parliament House erected on the site recommended by the Advisory Committee. But the difficulty would be that these offices would be three stories high, while the provisional Parliament House would be mostly a one-story structure, and therefore would be occupying a subordinate position.

58. *To Mr. Cook.*—If the provisional Parliament House is built on Camp Hill it would be advisable to give up the idea of building temporary offices. If it be decided to build a provisional Parliament House on the Knoll, then I suggest temporary buildings be erected on the site. Any buildings on such a site of timber and iron. It would be too expensive to build on that site in brick or concrete. The foundations would be too costly.

59. *To Mr. Jackson.*—I would be prepared to wait six months for a premiated design for the permanent offices. It would not be necessary to wait for plans from overseas. We have in Australia all the talent required to produce very beautiful designs that would not fail to accord with the design of the permanent Parliament House.

60. *To Mr. Blakeley.*—The suggestion I have put before the Committee this morning will increase the cost of building as compared with the recommendation to the Committee. The proposal before the Committee is to provide 84,000 feet of floor space of offices at a cost of £135,500. The scattered nature of the buildings make the cost of engineering services very heavy, the estimate in this respect being over £30,000. The cost of the floor space for the scheme before the Committee works out at £1 12s. per foot. I should think that we would have no difficulty in building in brick or concrete at a cost slightly under £2 per foot. We have already shown in evi-

dence that the difference between wood and brick buildings at Canberra is likely to be about 18 per cent., so that for 25 per cent. over the cost of temporary offices in wood and iron we could probably put up permanent buildings. If you go to the expense of creating temporary offices, according to the scheme submitted, that is the scattered scheme, in brick or concrete, it would be more satisfactory to pay the extra cost and have them in a permanent form. I am not quite sure what the proportion of that extra cost would be, but it would certainly be under 20 per cent. more. As an offset the cost of engineering services in the permanent block of buildings would be a great deal less than the cost of those services in the scattered temporary buildings. Timber buildings could go on the surface of the filled-in ground opposite the Knoll.

61. *To the Chairman.*—Placing the permanent offices near Camp Hill would have no effect on the location of the proposed officers' hostel.

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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

P A P E R .

to be laid on the Table of

The Senate.

R E P O R T

of the

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

on

ERECTION OF PROVISIONAL PARLIAMENT HOUSE BUILDINGS, CANBERRA.