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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

Pursuant to Statute

By Command

In return to Order

PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS.

14 MAY 1930

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE

RELATING TO THE PROPOSED

ERECTION OF COTTAGES

AT

CANBERRA.

By Authority:

H. J. GREEN, GOVERNMENT PRINTER, CANBERRA.

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

(Seventh Committee.)

ANDREW WILLIAM LACKY, Esq., M.P., Chairman.

Senate.

Senator John Braidwood Dooley.
Senator Matthew Reid.
Senator Burford Sampson.

House of Representatives.

Malcolm Duncan Cameron, Esq., M.P.
John Curtin, Esq., M.P.
The Honorable Henry Gregory, M.P.
Edward James Holloway, Esq., M.P.
William John Long, Esq., M.P.

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EXTRACT FROM VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES, No. 13.

Dated 11th December, 1929.

8. PUBLIC WORKS COMMITTEE—REFERENCE OF WORK—ERECTION OF COTTAGES, CANBERRA.—Mr. Blakeley (Minister for Home Affairs) moved, pursuant to notice, That, in accordance with the provisions of the *Commonwealth Public Works Committee Act 1913-1921*, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for investigation and report, viz.:—The erection of Cottages in Canberra.
Debate ensued.
Question—put and passed.

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ERECTION OF COTTAGES, CANBERRA.

REPORT.

The Parliamentary Standing Committee on Public Works to which the House of Representatives referred for investigation and report the question of the erection of cottages in Canberra has the honour to report as follows:—

PRESENT PROPOSAL.

1. The proposal submitted for the consideration of the Committee aims at the erection of 36 dwellings at Manuka to provide for the housing requirements of those public servants of departments proposed to be transferred to Canberra in the near future, as well as for tradesmen, employees of the Commission, and lower paid public servants at present occupying unsuitable or expensive houses in Canberra.

DESCRIPTION OF HOUSES PROPOSED.

2. The designs placed before the Committee provide for 32 two-story semi-detached brick houses, and four detached units, each containing three small flats. Each of the semi-detached houses comprises, on the ground floor, a living-room 15 feet by 11 feet, a kitchen 12 feet by 10 feet, laundry 8 ft. 6 in. by 6 ft. 6 in., with a front verandah 12 feet by 8 ft. 6 in., and a back porch approximately 8 feet by 7 feet. On the upper floor are three bedrooms, 15 feet by 11 feet, 12 ft. 9 in. by 9 ft. 8 in., and 12 ft. 9 in. by 10 ft. 6 in. respectively. Bath and lavatory accommodation are provided off the landing between the ground and first floors.
3. The flats will comprise a living-room, approximately 14 ft. 3 in. by 13 ft. 6 in., one bedroom about 13 feet by 10 feet, together with kitchen, bathroom, and lavatory accommodation. All of the living-rooms and bedrooms are to be 9 feet from floor to ceiling.
4. Roof coverings will be of terra-cotta tile in varying shades; external walls and division walls between houses are to be 11 inches, hollow, while the external walls are to be plastered, bagged, and afterwards coloured. The floors, excepting the verandahs, porches, bathrooms, laundries and lavatories are to be of Cypress pine. The floors of the verandahs and offices referred to will be finished in concrete surfaced with ironite. The ceilings are to be of fibrous plaster throughout, and the joinery of redwood. The following fittings will be provided: kitchen range, cast-iron enamel sink, cast-iron enamel 5 ft. 6 in. bath, fuel bath heater, with extension to shower, built-in copper and wash troughs, and one pedestal suite complete.

ESTIMATED COST.

5. It is estimated that each pair of houses can be constructed for £1,800, which, together with the added cost of fencing, paths, plantations, and overhead charges will be £1,985; the flats are estimated to cost £2,550 per block or a total of approximately £41,900 for the whole proposal.

The time for completion is set down at approximately six months from date of commencement.

COMMITTEE'S INVESTIGATIONS.

6. The Committee visited the site at Manuka, inspected samples of two-story dwellings already erected in Canberra, and took evidence from the Chief Commissioner and Second Commissioner, Secretary, Chief Architect, and Chief Engineer, Federal Capital Commission, and many representative citizens in Canberra. An inspection was also made of several types of war service homes erected near Sydney, and of the types of dwellings constructed by the Victorian Electricity Commission at Yallourn, and evidence was obtained from the respective chief architects of those organizations.

NECESSITY FOR HOUSES.

7. It was stated in evidence that at present 1,007 dwellings are owned by the Federal Capital Commission, excluding those on rural leases, and are rented to public servants and Commission employees. These houses may be divided into 746 permanent dwellings, and 321 timber dwellings. Of the former, twelve are vacant, but advice has been received of the impending transfer of eight public servants, thus leaving a balance of four unallotted houses.

8. It was ascertained that some employees are occupying houses for which they are paying a rental of 50s. a week which is considered too expensive for them; while other employees are occupying unsuitable temporary dwellings and are willing to pay a higher rental for more comfortable accommodation.

9. In view of these circumstances, and the decision arrived at to transfer additional Commonwealth Departments to Canberra as early as possible, the Committee has no hesitation in recommending that additional housing accommodation be provided at the earliest possible opportunity.

SITE.

10. The site suggested for the dwellings proposed comprises a vacant area in Griffith, known as Section 6, bounded on the north by Bougainville-street, on the east by Flinders-way, on the south by Murray-crescent, and on the west by Furneaux-street. This area is of a size sufficient to give a block 45 feet by 150 feet for each of the semi-detached houses, and a block 127 feet by 101 feet for each of the four detached flat units. It is good building land within an area already served by roads and other essential services, and, being conveniently situated to a shopping centre, is, in the opinion of the Committee, quite suitable for residential development.

DESIGN OF HOUSES.

11. It was stated in evidence that the type of two-story semi-detached dwelling suggested was put forward as a means of endeavouring to overcome the high costs of building at Canberra, with a view to giving reasonably comfortable living conditions at lower rentals than have been possible with detached brick houses.

12. It is claimed that houses of this type are included in first-class model suburbs in other parts of the world and offer certain advantages, as many people prefer to sleep above ground level, and some saving of house work is gained by reason of the rooms on the upper floors being unused during the day time. It was also suggested that, with the growth of trees at Canberra the lower type of dwelling is being obscured, and a pleasing diversity is obtained by erecting higher houses. Interviews with occupants of existing two-story semi-detached houses at Canberra indicated that they were generally satisfied with the accommodation provided, and welcomed the opportunity of obtaining a house at a lower rental.

13. On the other hand the feeling was expressed by some that the garden city idea of Canberra was being departed from by the erection of these houses, and where ample space exists, it is undesirable to crowd people so closely together.

14. The fear was expressed, however, that dwellings at smaller rentals would not be possible in detached brick cottages, and the Committee turned its attention to consideration of other materials which might achieve that object. Inspections were made, and evidence obtained in respect of houses built of light reinforced hollow concrete walls, one example of which exists at North Ainslie, as well as cottages in Sydney built of Fibrolite, and in Melbourne of Lionite, and which, from the Committee's inspection and the view of the experts appear to be satisfactory.

15. After giving the matter careful consideration, the Committee recommends that, with a view to exploiting the possibilities in this direction, alternative tenders be called for the erection of 36 single-story detached houses—ten of four rooms, and 26 of five rooms—to be constructed of brick, "Lionite", or reinforced hollow concrete walls. On receipt of such tenders the Minister to decide, having due regard for the appearance of Canberra, and the comfort and economic conditions of the occupants, which class of building should be adopted.

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

Senator Reid moved—That the design of two-story semi-detached brick houses proposed commends itself to the Committee as an earnest endeavour to provide suitable accommodation for officials and employees receiving approximately £5 10s. per week and over.

Seconded by Senator Dooley.

Mr. Gregory moved as an amendment that, owing to the excessive cost of bricks and tiles at Canberra, and the need for the provision of cheaper housing facilities, the Committee recommends that alternative tenders be called for 36 detached houses—10 of four rooms, and 26 of five rooms—to be constructed of brick, Lionite, or on the M. Grath principle of reinforced hollow concrete walls similar to the houses erected for Mr. Wallace at North Ainslie.

Seconded by Senator Sampson.

The Committee divided on the amendment—

Ayes (6).
Senator Sampson.
Mr. Cameron.
Mr. Gregory.
Mr. Holloway.
Mr. Lacey.
Mr. Long.

Noes (2).
Senator Dooley.
Senator Reid.

and so it was resolved in the affirmative.

The amendment then became the motion. The Committee divided—

Ayes (7).
Senator Reid.
Senator Sampson.
Mr. Cameron.
Mr. Gregory.
Mr. Holloway.
Mr. Lacey.
Mr. Long.

No. (1).
Senator Dooley.

and so it was resolved in the affirmative.

FURTHER HOUSES REQUIRED.

17. During the course of its investigations, the Committee visited settlements at Molonglo, Eastlake and Causeway, where certain artisans and workmen are living in temporary or tenement houses for which they are charged rentals varying from 7s. to 17s. a week. Of these temporary or tenement houses there are 134 at Causeway, 13 at Eastlake, and 97 at Molonglo, as well as 15 at Acton and 62 at Westlake—a total of 321. In addition there are 30 families residing at Russell Hill, where they were allowed to build their own dwellings; twenty of these are in fair order and the remaining ten are not. These buildings are of a temporary nature, and were provided merely as a make-shift during the busy construction period, and will in due course be done away with. Some of the houses at Molonglo and Eastlake are, however, a blot on Canberra, and totally unfitted for the housing of families, and the Committee cannot too strongly emphasize its opinion that every effort should be made to remove such hovels at the earliest opportunity.

18. It was ascertained that of the men occupying these tenement houses, although 104 receive £6 a week and over, about 229 receive less than £6 a week. It is obvious that the proposal now under consideration cannot be expected to provide relief for the majority of the families living in these temporary buildings, and the Committee recommends that a further reference be made at an early date, having for its aim the provision of dwellings that could be rented by the lower paid employees at approximately 25s. a week or less.

RENTAL CHARGES.

19. It was stated in evidence that for each of the two-story semi-detached dwellings it is proposed to charge a weekly rental of 32s. 6d., and for each of the flats 25s. a week. These rentals are arrived at in the case of brick or concrete houses as follows:—

	£
Interest at 5½ per cent.	5.5
Insurance . . . . .	.1
Reserve for external and special maintenance	1.0
Annual sinking fund instalment to repay principal in 60 years when invested quarterly at 5 per cent. . . . .	.268
Administration charges, 5 per cent. . . . .	.206
Margin . . . . .	.026
	7.100

Equals £7 2s. for every £100 that the building costs. Applying this rate to the completed cost of £1,985 for each pair of semi-detached houses inclusive of fencing, paths, and overhead charges, the result of £2 14s. per week is arrived at for each pair, and the rental of each dwelling house therefore will be:—

	per week.
£ s. d.	
Each dwelling	1 7 0
Land, 5 per cent. on £150	0 2 11
Rates at 1s. on £125	0 2 5
	1 12 4

In regard to flats, the estimated cost of erection, inclusive of paths, fencing and overhead charges for the group of three is £2,550. Applying the same rate of £7 2s. per cent., the following result is given for each dwelling:—

	per week.
£ s. d.	
Building	1 1 4
Land, 5 per cent. on £100	0 1 11
Rates, 1s. on £84	0 1 7
	1 4 10

HOW RENTAL COULD BE REDUCED.

20. Realizing that a rental of 32s. 6d. per week is an excessive drain on the resources of the lower paid employees, the Committee endeavoured to arrive at some method by which such rental might be reduced.

21. *Price of Bricks.*—One of the contributing factors to the high cost of building in Canberra is the price charged for bricks. It is generally admitted that the Canberra brick is a very fine, high-class brick, but, owing to the shale from which it is manufactured containing a large percentage of lime, the material must be carefully picked over, and what is called the "wet plastic process" of manufacture adopted which demands more coal in the burning, and is consequently more costly than the "dry press process" usually followed in Sydney and elsewhere where the raw material is suitable.

22. Labour at the brick works is said to be 17 per cent. higher than in Sydney, and the cost of cartage from the brick works is also high, being 11s. per thousand per mile for the first mile and 1s. 3d. per thousand per half-mile thereafter.

23. It was stated in evidence that the cost of preliminary investigations and experiments before the brick works were established has been added to the capital cost of the plant which has a ledger value of £85,000. It is represented that this contributes to the higher cost of bricks, which, if the capital cost were to be written down to £55,000, which is stated to be a fair present-day valuation, the cost of production with the plant in full operation could be reduced by approximately 3s. 6d. per thousand.

24. The fact that the output of the brick works is comparatively small and spasmodic also adds to the cost, for it was shown that in Sydney, with a continuous output of some 34 million bricks a year, bricks suitable for the erection of these houses could be purchased at about £2 18s. 6d. a thousand.

The Federal Capital Commission is to supply bricks for this work at £4 10s. a thousand, although the cost of production is at present in excess of that figure, as the following table shows:—

Bricks.	1927.	1928.	1929.	Remarks.
	£ s. d.	£ s. d.	£ s. d.	
Average cost of bricks without interest and depreciation charges per 1,000	4 4 10	4 18 1	6 11 0	Reduced to £5 5s. 7d. per 1,000 for last three months of 1929, due to re-organization and reduction of management charges
Average cost of bricks, including interest and depreciation charges per 1,000	5 15 9	6 1 7	10 1 10	Reduced to £9 5s. 4d. per 1,000 for last three months of 1929, due to re-organization and reduction of management charges
Number of bricks produced	9,953,545	4,648,033	1,364,700	Note reduction in annual production
Average price received per 1,000 at the kiln	4 18 6	4 18 6	4 18 6	Based on a ratio of 12½ to 1 for production of common and face bricks respectively

25. It is with a view to avoiding all these extra expenses that the Committee has recommended that alternative tenders be called for the erection of the dwellings proposed, in an endeavour to find a suitable building material cheaper than brick for the purpose.

26. *Land Values.*—The price placed upon each of the blocks for the two-story semi-detached houses, varying in area from 4,550 square feet to 5,400 square feet, has been fixed at £150; while the price of the land set apart for each of the flats—varying in area from 3,200 square feet to 5,500 square feet—has been fixed at £100.

In a previous report presented in 1926, the Committee pointed out:—

In the course of its investigations, the Committee learned that the cost to the Commonwealth of the land on which public servants' cottages are being erected averaged £5 per acre. In 1921 the then Federal Capital Advisory Committee recommended that a fair valuation for officials' residential blocks would be £30, but the Minister, on the recommendation of the Surveyor-General, agreed to fix a rate of £100 a block. The price now being charged is as high as £400 a block, or £1,600 per acre. Although realizing that considerable sums have been spent on subdivision, the construction of roads, provision of water and sewerage, and electric light, the Committee, in the light of Mr. Butters' declaration that "the Commission does not either seek or hope to make a penny out of this housing scheme", considers that the valuation placed on residential blocks for officials is too high, and that further consideration should be given to its reduction.

After due consideration of this matter the Committee is of opinion that the price placed upon these blocks is excessive, and recommends that the valuation of each of the blocks be reduced to £100.

27. *Loading for Insurance.*—The insurance charge on brick houses is fixed by the Federal Capital Commission at 2s. per cent., but it has been shown that the War Service Homes Commission, with more scattered groups and greater fire risks, is charging 1s. per cent., and has built up a fund which on 30th June, 1929, was in credit to the extent of £134,128.

It is recommended, therefore, that the basis followed by the War Service Homes Commission be adopted in the case of the Commission houses in Canberra.

28. *Maintenance.*—In the opinion of the Committee the amount of 1 per cent. set aside for external and special maintenance is high for buildings of this class, and might with equity be reduced to .5 per cent.

SUGGESTED RENTAL.

29. If these suggestions were followed the rental of the houses could be reduced to:—

Interest	5.5
Insurance .. .. .	.05
Maintenance .. .. .	.5
Sinking Fund .. .. .	.268
Administration charges, 5 per cent. .. .. .	.206
Margin .. .. .	.028
	<hr/>
	6.550
	<hr/>

which, taking the figure of £1,985 for each pair of semi-detached houses inclusive of fencing, paths and overhead charges, would result in a rental for each pair of £2 10s. per week. The weekly rental of each dwelling would then be:—

	£ s. d.
House	1 5 0
Land, 5 per cent. on £100	0 1 11
Rates, 1s. on £84	0 1 7
	<hr/>
	1 7 6

the rental of the flats remaining the same; while, if cheaper material be adopted for the houses, or the price of bricks reduced as indicated, this figure might be somewhat further reduced.

A. W. LACEY, Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Parliament House, Canberra,
30th April, 1930.

A. W. Lacey

MINUTES OF EVIDENCE.

(Taken at Canberra.)

TUESDAY, 18th MARCH, 1930.

Present:

Mr. LACEY, Chairman;

Senator Dooley	Mr. Curtin
Senator Reid	Mr. Gregory
Senator Sampson	Mr. Holloway
Mr. M. Cameron	Mr. Long.

Archibald John Christie, Chief Commissioner, Federal Capital Commission, sworn and examined.

1. *To the Chairman.*—The proposal now being recommended for consideration by this Works Committee, is the erection of 36 additional grouped cottages in Manuka, which, in the opinion of the Federal Capital Commission, should be constructed to make provision for the housing requirements of: (a) So far as it is possible to do so, tradesmen and service men employed in connexion with the work and essential services of the city; and (b) public servants of departments proposed to be transferred to Canberra in the near future. The Commission considers the number of low rental houses available is insufficient for actual requirements for this type of house, and disproportionate to the number of higher rental houses erected to date. Many tradesmen and service men are now housed in timber structures of a temporary character, some of which have been in existence for twelve years and upwards, and can no longer be regarded as providing reasonable living accommodation for families. It is desired to have these buildings vacated at an early date. Notwithstanding the reduction of constructional activities and consequently of employment, the Commission is of opinion that a certain number of new dwelling-houses should be erected as soon as possible. The proposal, as illustrated on the plans I have submitted, provides for the construction of 32 of the houses in semi-detached forms, and for four detached units each containing three small flats. In the latter provision has been made for three families in each house by a grouped arrangement of the accommodation. From a study of the conditions in Canberra, and from inquiries, it is evident that accommodation of this class should be provided to a limited extent to satisfy housing needs. It is of primary importance that the site should be in an area already served by roads and other essential services; and should be as close as possible to a shopping centre, and also within reasonable distance of the Governmental area. After a complete survey of the land available, the Commission proposes that a vacant area in Griffith, known as section 6, bounded on the north by Bourkeville-street, on the east by Elinders-way, on the south by Murray-crecent, on the west by Farnham-street, as the most suitable for these cottages. Drawing No. D shows the subdivisional design proposed, and a suggestion for the disposition of the cottages and plantation of the area. The subdivision provides 32 allotments, each taking a semi-detached house, and four corner allotments, each taking a grouped house. The lay-out of the site and the disposition of the houses have been

studied with due regard to the area selected. Architecturally, it is thought desirable to have a formal arrangement of houses as more successfully forming part of the scheme for a Centre development, than would be the case were indiscriminate planning and design of buildings permitted. The formality of the grouped house scheme will, in the opinion of the Commission, establish and emphasize the sense of a Centre, a feature which is desired at Manuka. The view that the site proposed was reserved for shopping purposes has been given consideration, but the establishment of the Kingston shopping centre has, in the opinion of the Commission, rendered it very unlikely that any extension of the existing shopping area at Manuka will be required for many years. Of the 33 shops erected in Manuka, 12 only have been let, leaving 21 vacant, with little prospect of occupation, unless there is an increase in the population of the district. Taken generally, the site is reasonably level. It will be necessary to place some filling over the southern portion to Murray-crecent, but it will be economical to excavate the higher portion of the site and use the excavated soil for filling. The area can be economically and satisfactorily drained. The site is surrounded by made roads, and is served by all essential services. As I have stated, architecturally, and to emphasize and establish the sense of a Centre, it is thought desirable to have a formal arrangement of the houses on the site. It is suggested that each of the cottages should be simply and formally grouped, as shown by the sub-divisional design in drawing No. D. The planning and elevations are shown in the other drawings. It is proposed that each of the houses shall be 50 feet from the front building line, to give adequate opportunity for garden development, and that the dwelling houses shall be at least 30 feet apart, and shall be at least 190 feet apart from back wall to back wall to obviate any feeling or appearance of "crowding". To reduce building costs, 32 of the cottages have been planned in pairs, e.g., the end wall of one cottage is attached to the end of another cottage, both being under the one roof. The accommodation is contained on two floors, a ground floor and an upper floor. A simple form of plan has been used to reduce brickwork and roofing costs. Drawings A and B refer to the semi-detached houses, which it is proposed shall contain: Verandah space, entrance hall, living room, dining room or bedroom, and two other rooms as bedrooms, or three bedrooms as required, bathroom, laundry, rear porch and fuel space, suitable cover space. This accommodation is arranged on two floors, the daytime accommodation on the ground floor, the bedroom accommodation and bathroom on the first floor, or the latter off the landing. Each of the rooms and offices is either entered from the main entrance or the upper hall or the service lobby; in no case is it necessary to pass through one room to gain access to another. The dimensions of rooms, verandahs and offices, are marked on the drawings, and are well above the requirements of modern authorities in area, cubic content, and lighting. All of the living rooms and bedrooms are 9 feet from floor to ceiling. The cost at which the houses must be erected necessarily restricts the plan and the scope of the designs, and a simple form must be used. The cottages have been designed to ensure a variety and interest in the expression of each

completed building, but at the same time secure that uniformity in treatment and feeling which is essential to a composite scheme of this nature. The general idea has been to avoid the feeling of "two houses joined together", and rather to produce a form of design which in its effect would be one complete cottage. It is proposed generally that the external wall faces shall be simply bagged as the brickwork proceeds, and afterwards coloured. A colour variety will be introduced by brick dwarf walls to certain of the verandah openings, terra cotta spandrels over window heads, and by the treatment of woodwork to projections and porches, and by the effect of plantations, as shown on the elevational drawings. Roof coverings will be of terra cotta tiles, in varying shades. Soffits of the eaves projection will be flat and tiled. Internal walls on the ground floor will be rendered in cement and coloured; those to the top floor finished with stout fibrous plaster. All woodwork and ironwork externally will be finished in oil paint of suitable shades, woodwork inside will be stained and varnished, excepting to the kitchen and bathroom where an oil paint will be used. The foundations will be of reinforced concrete. The external walls will be of brickwork, 11 inches hollow, similarly to the division walls between houses. It is proposed that all partition walls shall be constructed of stud framing, also the inside shell to external walls to the top floor, the timber framing to be covered with half-inch thick fibrous plaster. The roof will be framed in timber, covered with "Marseilles" pattern terra cotta tiles. The floors, excepting to verandahs, porches, bathrooms, laundries and lavatories, are to be covered with cypress pine. The floors of the verandahs and offices referred to, will be finished in concrete, surfaced with ironite. The ceilings are to be of fibrous plaster throughout. The joinery is to be redwood. The following fittings will be provided: Kitchen range, cast iron enamel sink, cast iron enamel 5-ft. 6-in. bath, fuel bath heater with extension to shower, built-in copper, and wash troughs, and one pedestal suite complete. The furniture to the doors, windows, cupboards, &c., will be of best quality Australian manufacture, copper oxidized on brass, excepting to kitchens and bathrooms where the furniture will be nickel plated. It is proposed that the following plantations shall be carried out with the construction of the cottages: (a) Hedge plantation on the front building line and returns; (b) shrubs and trees in the approximate positions shown on the drawings; (c) trees on the back building line of the area. It is estimated that each pair of dwelling houses can be constructed for £1,500, which, together with the added costs of fencing, paths, plantation and overhead charges, will total £1,985, or £992 per cottage. The rental on this will amount to about 27s. 3d. per week, and, with ground rent and rates (5s. 3d. weekly) the total rent should be 32s. 6d. per week. We estimate that each of the units in the grouped houses on the corner sites can be let for 24s. 6d. per week, and with ground rent and rates (3s. 6d. weekly), the total rent should be 28s. per week. The allotments for the semi-detached cottages are valued at £150 for each house, and the corner allotments at £300 each. At present, 1,067 dwellings are owned by the Commission, excluding those on rural leases, and are rented to public servants and Commission employees. The houses may be divided into 746 permanent dwellings, and 321 temporary dwellings. Of the former, twelve at present are vacant, but advice has been received of the impending transfer of eight public servants, thus leaving a balance of four unallotted houses. In the permanent dwellings there are 118 employees on wages, who are, therefore, not in receipt of housing allowance. They are living in houses the rentals of which range from 30s. per week at Westridge to 60s. per week in the city, and which are too

expensive for them. Fully twenty of these families are awaiting cheaper houses in the city area. The temporary or tenement houses are situated as follows:—Canewey, 134; Westlake, 63; Acton, 15; Eastlake, 13; Molonglo, 97; total, 311. The rents of these range from 7s. to 17s. per week. In addition, there are 30 families residing at Russell Hill where they were allowed to build their own dwellings; twenty of these houses are in fair order, but the remaining ten are not. Efforts are in train to eliminate this settlement, which has been reduced from 96 dwellings in the last twelve months. This, therefore, gives a total of 351 dwellings which can be regarded only as temporary. The 211 erected at the Canewey, Westlake, and Acton, are in fair condition, and will serve their purpose for a few years yet; but, in view of the shortage of houses, the residents at Eastlake and Molonglo have been allowed to remain until better accommodation can be provided. There are thus 140 dwellings which are considered to be unsatisfactory, and warrant early replacement. There are no tenements at present vacant, and, in addition, 34 applications are held for tenements; seven for semi-detached houses; and nine for permanent residences. In regard to the location of the proposed houses, the larger demand is for houses on the south side of the river. This is brought about by the greater number of men being employed in the vicinity of the railway station, workshops, Government Printing Office, &c. Information obtained regarding the economical position of 333 of the 360 occupants of the tenements, shows the number of them in receipt of £5, per week to be 5; £5 6s., 180; £5 9s., 4; £5 12s., 36; £5 14s., 4; £6, 28; £6 6s., 2; £6 10s., 13; £6 12s., 11; £7 1s., 24; £7, 27; £7 2s., 10; £7 6s., 12; £7 14s., 1; and £8, 1. It is considered that the rental of the proposed houses will be within the means of employees receiving £9 per week, and over, and a dissection of the figures given above shows that 229 men receive less than £5 per week, and 164 receive £5 per week, and over. The lower end of the employees reside at Molonglo, Eastlake, and Russell Hill, but the course of action to be adopted would be that the higher-paid employees would be required to take the houses at the higher rental, thus leaving the cheaper tenement houses available for the lower-paid men.

2. *To Mr. Holloway.*—We hope that it will not be necessary to compel the occupants of tenements to remove into better class houses; as a matter of fact, many people living in the tenements are anxious to shift. That their attitude will be when better houses are available and they are asked to move from houses carrying a rental of 7s. to 17s. per week to semi-detached houses for which the rental is 32s. 6d., remains to be seen. There will be nothing to prevent any person who is prepared to make a rental sacrifice in order to enjoy greater comfort from acquiring one of the cottages proposed to be erected.

3. *To the Chairman.*—I expect that the Patents Office will be transferred to Canberra at an early date. Officers have surveyed the Hotel Acton and found the accommodation satisfactory for the Patents Office and the Statistician's Branch, and it is being vacated by the boarders and will be made ready for those two branches. Between 80 and 90 public servants will be transferred, with the Patents Office, and we anticipate that about 40 of them will require houses. We are awaiting information from the Patents Office in Melbourne as to the nature of the accommodation the officers will require and the localities in which they prefer to live. There is a fairly large proportion of married men receiving between £400 and £500 a year, who will want detached houses, but there are also some junior officers who will want houses of the cheaper type. Some of those in the Manuka group will be reserved for them.

Within certain limitations the officers will be able to choose the suburb in which they will reside. As the Patents Office will be at the Hotel Acton, many of the officers may prefer to live at Ainslie, Braddon or Reid. There is a wider selection of houses on the north side of the river than on the south side of the river. Ten houses of a better type and costing about £2,000 each are being erected at Griffith, Forrest, and Reid. The scheme for the next building development has not yet been completed, pending information from the Patents Office regarding the accommodation and locality preferred by its officers. We contemplate building about 40 cottages, but have not decided what number shall be erected north of the river. Manuka has been selected for the group now proposed because in that locality is the greatest demand for houses of this class. Probably this will be the last big building development in the Manuka area. We can erect houses there cheaply because all the essential services are already provided. The 10 better class houses, which are now being erected, are located according to the demand; some officers already resident in Canberra are anxious to live in Forrest, Red Hill or Griffith; others prefer the north side of the river. The cost of £992 per cottage includes overhead costs and sinking fund at the usual percentage, namely 7.1 per cent. on brick houses and 8.5 per cent. on wooden houses. The rental of 32s. 6d. per week may be analysed in this way:—

	Brick or Concrete.	Timber.	
		A Class Const.	B Class Const.
Interest at 4½ per cent.	5.5	5.5	5.5
Insurance	1.1	1.1	1.1
Reserve for External and Special Maintenance	1.0	1.40	1.65
Annual Sinking Fund (interestment to repay Principal when loaned quarterly at 4.5 per cent.)	298	298	298
In 40 years for Brick or Concrete	6,968	7,508	8,608
In 45 years for Timber	208	232	256
Administration Charges, 5 per cent.	7,074	7,630	8,736
Margins	1,022	1,020	1,015
	7,100	8,650	9,751
	47 2s.	48	59 2s.

Applying this rate to the completed cost of £1,985 for each pair of semi-detached houses, inclusive of fencing, paths and overhead charges, the result of £2 14s. per week is arrived at for each pair, and the rental of each dwelling house, therefore, will be as follows:—

	Per week.
£ s. d.	
Each dwelling	1 7 0
Land, 5 per cent. on £100	2 11
Rates at 1s. on £125	2 5
	1 12 4

In regard to paths, the estimated cost of erection, inclusive of data, fencing and overhead charges for the group of three, is £2,550. Applying the same rate of £7 2s. per cent., the following result is given for each dwelling:—

	Per week.
£ s. d.	
Building	1 1 4
Land, 5 per cent. on £100	1 11
Rates 1s. on £24	1 7
	1 4 10

If the committee can suggest a more economical type of cottage than the semi-detached, the necessary area for them is available. In Canberra, as in all country towns, building costs are higher than in the metropolitan areas. On all our materials, except bricks, which are delivered from the Commission's kiln at £5 6s. for private builders and £4 10s. for Commission houses per 1,000 on

the job, we have to pay heavy freights from Sydney. In addition, wages in the Federal Capital Territory are slightly higher than in Sydney. But costs in Canberra are not higher than in any other country town equally distant from the metropolitan area. The Commission has considered the possibility of erecting houses with concrete blocks, "Lionite," imitation weatherboard, and other new materials, but has come to the conclusion that brick construction is the most economical. The resistance of materials to extremes of weather is an important consideration, and we are not sure how some of the new methods of construction would suit Canberra conditions. The proposed new houses will not necessarily be occupied by officers to be transferred to Canberra. As the Patents Office and the Statistician Branch will be in Acton, some officers may prefer houses on the north side of the river, but there is a good bus service between Acton and Manuka, and some may choose to bear the extra cost of transport in order to be near the main shopping centre at Eastlake, the picture theatre, and the schools. I do not think the officers could be economically accommodated at Hotel Ainslie. The usual tariff for public servants at that establishment is £3 5s. per week, but no doubt the hotel would be recompensed if sufficient patronage were assured. The proposal now before the committee is not a departure from the principles laid down in the Griffin plan. There has been much discussion as to whether the Kingston shopping area has developed at the expense of Manuka, and other parts of the city. But there is no doubt that because Kingston is so well established many years must elapse before any further business development will take place at Manuka. The development at Kingston has been accelerated by its proximity to the railway station, the power house, the workshops, the Government Printing Office, the Commission stores, and the factories. The railway station is not located in accordance with the Griffin plan, but we shall have to wait a long time before the central station is established on its permanent site at Civic Centre. When that happens the present railway station will be merely a sub-station; indeed, it is shown on the plan as underground. The development is so remote as to have little bearing on this proposal to erect additional dwellings at Manuka. The Commission kilns are now producing face bricks only. Some time ago we had about 3,000,000 bricks at grass, and we discontinued production, except between 36,000 and 40,000 face bricks per week. The ordinary brick is sold at £4 10s. ex the brickyards, and the face bricks at £5 10s. per 1,000 and upwards, a little extra being charged for pickled bricks of selected colours. Sydney bricks could not be delivered in Canberra at the same price nor could we be assured of the same quality. The proposal for the erection of 32 new cottages is urgent. A keen demand exists for this class of house, and there is no disguising the fact that families are living at Eastlake and Molonglo under conditions that must be remedied very soon. The Canewey, Westlake and Acton tenements will last for a long time yet.

4. *To Mr. M. Cameron.*—Information as to the type of accommodation desired by public servants about to be transferred to Canberra is obtained from the heads of their departments, and as far as possible, individual wishes are met. They are asked to let us know the size of their families, the number of rooms they will require, and the dimensions of such rooms. We need not necessarily build houses to suit individual requirements, but we try to provide the accommodation that is asked for. The Commission is an authority under the Housing Act, and is able to advance up to 90 per cent. of the valuation of a house to be built or purchased, subject to a maximum of £1,800. Recently the Commonwealth Bank made available £50,000 for this purpose; several advances have been made from the fund, but the

Commission still has enough money to carry on its housing operations. As to whether the Commission could advance money under the Housing Act for the purchase of semi-detached houses, I am not sure. The Act stipulates that the persons to whom an advance is made shall own only one house. I shall ascertain whether one house would cover semi-detached accommodation for two families in the one building. We have every reason to believe that the semi-detached houses will meet with the approval of those for whom we are catering. Some families object to stairs; others prefer the concentration of the night accommodation upstairs, so that after the beds are made and the bedrooms cleaned that portion of the house is not disturbed for the remainder of the day. Many people, too, prefer sleeping upstairs. We built two sets of semi-detached single story houses near Kingston. They comprise four rooms and a kitchen and three rooms and a kitchen, and the rents are 40s. and 32s. 6d. respectively. The accommodation they provide is less than we shall be able to offer in semi-detached two-story houses for 42s. 6d. Any Commission house is available for purchase, but not many have been bought. The Commission is confronted with the need to provide housing accommodation at a reasonable rental for persons who are now occupying unsuitable tenements. Hotel Ainslie was not designed for flats, and could not be converted except at great expense and with a heavy loss of accommodation. It would be necessary to divide it into flats of, say, two rooms with a kitchenette and bathroom, and as at present there is only one bathroom in each wing, the plumbing alone would be prohibitive. The further residential development of the city must take place on the north side of the river. I do not think the Commission will consider any further extensive development on the south side after it has met its obligations to the owners of the shops at Manuka. By that, I do not mean that individual applications for buildings on allotments on the south side of the river will not be entertained by the Commission.

5. To Mr. Gregory.—The object of the Commission in proposing to place this group of cottages at Manuka is to provide accommodation at a reasonable rate for tradesmen and men who are engaged on essential services, and to give a needed fillip to Manuka. We are influenced by the knowledge that many of the shops at Manuka have never been occupied. Building costs on the north side of the river will be more costly on account of the extra cartage from the railway station. I regard the continuation of the railway to its ultimate terminus at Civic Centre as a matter calling for early attention. Mr. Griffin's plan contemplated settlement at Eastlake and Manuka and showed the latter as a shopping centre. But both Manuka and Eastlake were intended to be subsidiary to the main shopping centre at Civic Centre. If the proposed semi-detached group were located on the north side of the river, the demand for the houses would be less than we anticipate at Manuka, and I would not recommend that more than 16 of that type should be erected there. People who reside at Reid will want detached houses. The heavy railway freight from Queanbeyan to Canberra is undoubtedly increasing the costs of living and building in Canberra. So far as I am aware no proposal has ever been made to hand the Queanbeyan-Canberra section over to the New South Wales Railway Commissioners and to compensate them for any loss sustained in operating it. This section is only a branch of the main Sydney-Cooma line, and a branch line always involves extra freight.

6. To Mr. Curtin.—Not only have we to pay the heavy extra freight from Queanbeyan to Canberra, but because of the failure of the Commonwealth to extend the railway into the city proper, heavy costs are incurred in carting goods from the station yard.

7. To Mr. Gregory.—Recently I made a comparison between the cost of bricks and tiles at Canberra and Sydney and it showed:—

BRICKS AND TILES.					
	Canberra, ex kiln.	From Sydney, f.o.b. Canberra.	From Melbourne, f.o.b. Canberra.		
Bricks—					
Common—					
Commission cottage construction per 1,000	4 10 0	7 12 5	12 12 1		
To outside public per 1,000	5 5 0	..	..
Face Bricks—					
Commission construction per 1,000	6 10 0	..	..
To outside public per 1,000	6 5 0	..	..
Special O.K. (Chocolate)	10 0 0	..	..
Moulded .. per 1,000	10 0 0	..	..
2 in. Paving .. per 1,000	6 10 0	..	..
Roofing Tiles—					
Marseilles pattern, Terra Cotta .. per 1,000	20 0 0	22 3 10	26 7 11		
Marseilles (coloured) per 1,000	23 0 0	22 13 10	..		
Marseilles (fire glazed) per 1,000	25 0 0	25 13 10	..		

The freight per 1,000 for bricks and tiles from Melbourne is £9 4s. 1d. and £9 7s. 11d. respectively. It should be noted that in the above figures no allowance has been made for losses which it must be expected would occur by breakage or damage, especially to tiles. I have not calculated this, as I think the comparative figures given will meet what your committee will require. It might also be mentioned that in giving the price for tiles, f.o.b. Canberra, the usual rate for first quality tiles has been taken, i.e., £17 in Melbourne and £18 10s. in Sydney. It is pointed out that it is possible to buy Marseilles pattern terra cotta tiles at a lower price than these, but the tiles at the lower price would not be first-quality tiles. The proposed semi-detached cottages and flats are estimated to cost:—

SEMI-DETACHED COTTAGES.
Average cubic content—27,500 feet.
Estimated unit cost—1s. 2 1/2d. per cubic foot = £1,793 8s. 6d. (say £1,800) approximately for each pair.
FLATS.
Average cubic content—22,700 feet.
Estimated unit cost—1s. 1d. = £2,000 (say £2,100) approximately for each pair, net cost including only.

The Commission's stores at Kingston still hold large quantities of cypress pine, Oregon, tallwood, and ironmongery. In calling for tenders for the proposed group of buildings we shall specify that such materials as we have on hand shall be bought from the Commission at stated prices. This is the only means we have of reducing our stocks; as they become exhausted we are not replenishing them.

8. To Senator Dooley.—The semi-detached cottages will have a frontage of 40 feet by a depth of 150 feet, and the estimated value of each block is £150. The corner blocks will be about 127 feet by 121 feet, and each allotment is valued by the Commission's valuator at £200. The estimate of £992 per cottage does not include the value of the land; inclusive of land the price will be £1,142. The shops at Manuka are privately owned.

9. To Senator Reid.—Business at Manuka shopping centre should be stimulated by the settlement of 40 additional families in the immediate vicinity. That area was set aside as a shopping centre, and at the first sale allotments were bought by speculators who anticipated a rapid increase in population; their expectations have not been realized. The vicinity was not reserved for houses of a more expensive type; they are

to be found mainly at Red Hill and Forrest. I do not anticipate that the erection of semi-detached cottages at Manuka will depreciate the value of existing houses. At the first auction sale of Canberra land the upset price placed on each allotment was exceeded. Recently the Land Court, presided over by Mr. Justice Pike, dealt with appeals against valuations by the Commission; some appeals were upheld and others were not. The Commission's valuer has used the decisions of the court as a guide in fixing the value of the Manuka section upon which the proposed group of buildings is to be erected. While it may be assumed that dwelling sites in industrial centres about Melbourne and Sydney would not be valued at £150 each, the fact must be remembered that the blocks at Manuka will have a frontage of 40 ft. by a depth of 150 ft. The Commission has a great deal of cypress pine on hand; although it is not a high-class flooring, it is very good. If we had not such stocks on hand, we would not specify it for this job, but the price of the houses would be increased. We want to keep the cost down, and, therefore, must use the cheapest timber of fair quality that we can get. Many buildings about Sydney are built with cypress pine weatherboard; others have pine flooring. The cottages at Westlake are in good order. I regard Westlake, Causeway and Acton as the three best groups of tenements. Several families in Westlake are desirous of shifting into better houses and we are hopeful that the houses they will vacate will be occupied by others from Eastlake and Russell Hill.

10. To Mr. Holloway.—Eastlake and Russell Hill tenements are unsuitable for the rearing of families, not only because of their inherent inferiority, but also because of their general environment.

11. To Mr. Long.—I cannot say whether bricks from the New South Wales State Brickworks were ever used in Canberra. As a private individual I used them in Sydney and found them of good quality and cheaper than the product of the private kilns. The only reason for complaint against them was that owing to the heavy demand would-be purchasers had to wait a long time for supplies.

12. To Senator Sampson.—Seven pairs of semi-detached houses have been erected in Reid and Ainslie. All are occupied and the Commission has several more applications for houses of that type. We have had no complaints from the occupiers.

13. To the Chairman.—The owners of the shops at the Manuka centre are:—

MANUKA SHOPPING BLOCKS.

SECTION 1—DIVISION 10—GRUPPITT.

Schedule of Lessors.

Block No.	Name and Address.	Number of shops built.	Whether occupied or vacant.
1	Camundston field and forfeited.	NH	..
2	Booth, G. W., 11, High Street, Hamilton.	1	Vacant
3	Hyde, J. C., 11, High Street, Hamilton.	1	Vacant
4	Quenbeyan, W. C., 11, High Street, Hamilton.	1	Vacant
5	Reid, H. M., Works Director, Adelaide.	6	1 occupied, 5 vacant at 31st March, 1920
6	Bracegirdle, J. C. (Commission Officer).	1	Vacant
7	Camundston (old and forfeited).	NH	..
8	Reid, H. M., Works Director, Adelaide.	1	Vacant
9	Reid, H. M., Works Director, Adelaide.	1	Vacant
10	Camundston (old and forfeited).	NH	..
11	Camundston (old and forfeited).	NH	..
12	Camundston (old and forfeited).	NH	..
13	Camundston (old and forfeited).	NH	..
14	Camundston (old and forfeited).	NH	..
15	Camundston (old and forfeited).	NH	..
16	Camundston (old and forfeited).	NH	..
17	Camundston (old and forfeited).	NH	..
18	Camundston (old and forfeited).	NH	..
19	Camundston (old and forfeited).	NH	..
20	Camundston (old and forfeited).	NH	..
21	Camundston (old and forfeited).	NH	..
22	Camundston (old and forfeited).	NH	..
23	Camundston (old and forfeited).	NH	..

Many workmen who are employed in Canberra live at Queanbeyan, but in putting forward this scheme for the erection of additional semi-detached houses, the Commission did not have those people in mind. It is having regard only to the needs of those already resident in Canberra and those about to be transferred from Melbourne. Many of the workmen living in Queanbeyan own their houses. Others might be willing to move to Canberra if cheap accommodation were available in order to secure preference of employment.

(Taken at Canberra.)

WEDNESDAY, 19TH MARCH, 1930.

Present:

Mr. Lacey (Chairman);

Senator Dooley | Mr. Curtin
Senator Reid | Mr. Gregory
Senator Sampson | Mr. Holloway
Mr. M. Cameron | Mr. Long.

Dr. Robert Manderfield Alcorn, member of the Federal Capital Commission, sworn and examined.

14. To the Chairman.—I am aware of the proposal to erect 36 dwellings at Manuka, and I have seen the plans. The cottages should provide reasonable accommodation for limited family groups, and having regard to the factor of expense in construction, and the comparatively low rental, they should meet a great need. In the past I have been opposed to the erection of semi-detached houses because of the absence of privacy, but owing to the present economic position, this type of building can possibly be justified. Furthermore, I feel that, as has been suggested to me from various quarters, the building of two-story houses is advantageous, to some extent, from the aesthetic point of view, as well as justified on the ground of economy, because it is hoped that there will be a large extension of the policy of tree growing. Cottages of one story will undoubtedly be lost to sight amongst trees if planting is carried out to any great extent. From the inception of the city plan, development of the Manuka area has been promised, but the work has long been over-delayed. There has been no attempt, in my opinion, to develop adequately what was originally regarded by the people of Canberra as the chief shopping centre to serve the south side of the city. Kingston was, to all intents and purposes, an afterthought, and an afterthought on the plan, as a consolidated shopping centre. The picture theatre was built at Manuka, and that appears at least to substantiate the view I have put forward. In my opinion the erection of the group of houses proposed would not be out of harmony with the designer's conception of the city plan. It was suggested at an earlier period that the area now proposed to be built upon was under consideration as a recreation ground, but since it immediately adjoins a recognized shopping area it will afford definite facilities for residential purposes, and it seems to me that its occupation for those purposes would cause appreciation in the value of the land. Last year, when the subject of the erection of semi-detached houses at Ainslie was under discussion, the Citizens League went into the matter at considerable length, but there was a division of opinion as to the advisability of building such houses. The main argument was that it was undesirable to have two families living in such close proximity. I find that the plans now under the consideration of this committee provide for better cottages than those at Ainslie. The entrances, for instance, are entirely separate, the yards will be definitely divided by paling fences, which I consider essential, and the back fences and dividing fences will not be of open lattice work, which is common in most cases, and extremely inconvenient. The

close packing fewing to be provided will distinctly contribute to privacy in the grounds behind each house. Such a provision would, I think, be readily availed of. The economic position of many persons in Canberra demands that they must have accommodation at a rental within their means. In the short time it has been at my disposal to look over the plans I have studied them carefully. This matter has been submitted to me only within the last two days, although it has been under discussion on for months; consequently, I do not feel that I have had sufficient time to investigate it thoroughly. For a small family it seems to me that fairly adequate accommodation has been allowed, and the rooms are of a reasonable size. The proposed 9-ft. walls are a little unusual to me. Previously I have associated 10-ft. walls with housing accommodation, but I understand that 9-ft. walls are now preferred, but I understand that 9 ft. walls are not the rooms adequate. The cubic space of the rooms appears to be sufficient, and a reasonable amount of floor space seems to have been provided. The bedrooms are disposed upstairs in a satisfactory way, together with the rooms and services associated with them, and the room discharges seem to be convenient. The build-up-out of the houses should not conflict with the development of Canberra as a garden city. They are aligned 60 feet back from the front building line, which will give adequate opportunity for the provision of gardens in front of the dwellings, at the same time leaving a sufficient amount of space behind them. The type of residence at Molonglo is shocking. The buildings there are hardly fit designated habitation, and should have been, for ordinary habitation, at least two years ago. Attempts have been made at various times to improve them. The occupants are comparatively satisfied to live there at present because they still have shelter at a lower rental than they would have to pay for a dwelling in any other locality in Canberra. In my opinion the rental charge is far too high in view of the disabilities associated with that area. I refer to its exposed position, the unhygienic site, and the lack of every modern sanitary facility. Certainly electricity and a drainage are provided, but those services do not make the site a good one for permanent habitation. They do not compensate for the lack of protection from the elements nor for the holes and cracks in the buildings. The site is several miles away from the main employment area, and a great deal of additional expense is imposed on the residents in transport. I am very much opposed to the whole settlement at Molonglo, but I do not care to raise the subject of its removal at present because a large number of persons cannot afford the additional expense to which they would be put in re-locating elsewhere and paying higher rents. The houses at the Causeway are a great improvement on the structures at Molonglo, but they are very cramped and the building is not of a high standard. The arrangement of the houses are all identical, and the arrangement by which they are placed in rows is not conducive to privacy. The structures are of poor quality, the wood has very much decayed, and few of the houses are free from cracks. It is a very exposed site, and a building has been done in the way of tree planting to serve as a wind break. I do not consider it a good site for an industrial settlement. Westlake is a protected site. It is surrounded by natural timber, and has more or less in a gully. The houses there are of considerably better type than those at the Causeway and Molonglo. I have always claimed that the Molonglo settlement constituted a menace to public health. The Causeway is an eyecore. A visitor arriving at Canberra by train immediately obtains a view of Arab grey walls and a succession of little sloping roofs that remind him of a construction camp or shanty where engineering works are in progress. The houses

at the Causeway certainly do not give the appearance of a residential settlement. It has been said to me by many persons who have visited Canberra by train that it seems extraordinary that a place like the Causeway should have been selected as the site of such non-aesthetic structures. If a similar amount of accommodation could be provided at the same cost, I should prefer single-storied cottages to the proposed semi-detached buildings; then each family would enjoy privacy.

15. To Mr. Gregory.—I am in favour of building up Canberra in accordance with the Griffin scheme within reasonable bounds, and with regard to what has been promised to the people, I do not favour the development of the north side of the city at present rather than the south side. A great deal of extension has taken place on the northern side. When the Manuka shopping sites were sold it was quite expected that people living on the south side, and by those who took up shop sites there, that that area would be adequately developed and would be served by the shopping centre that was to be established, but that has not been done. Promises made were not fulfilled. There is not the slightest doubt that had the policy of consistent development in the vicinity of Manuka been carried out we should not have the spectacle to-day of 80 per cent. of the sites on the north side of the city being left to develop that centre empty. If the policy were to place premises in Manuka area it was obtaining money for the Government to sell those sites at all. Look at Civic Centre. To a certain argument does not apply. The return from the Civic Centre, extent, it does, but the return from the Civic Centre sites must be far greater than from those at Manuka. Moreover, because the type of building demanded under the covenants there has necessitated a heavy expenditure of money. Even though the north side of the city has been developed to a much greater extent than the south side, the buildings at Civic Centre must still be losing position for some time. But the Government are going to resist to pay Paul, after having faith with the people in policy, we should not have so unwise as to put faith in people, possibly, to make promises. I do not advocate a high development programme on the south side and the retarding of development on the north side, but, in view of the promises made, a certain amount of development should take place in centres where sites were sold, and at a special value. When that land had been sold, I certainly think that the railway to the obvious developments on the northern side, the pushing of the railway through to the city, that place will facilitate matters in every direction. The development of the sale-wards further out, for instance, is associated with the policy of railway extension to the northern side. The late Commissioner made a promise to develop the Manuka area, and it is only honourable that a reasonable amount of development should be undertaken in that area where the land was disposed of on the development for Canberra were consistent policy it would be of great advantage, and it would probably be the first time that the residents of the city, as well as the people of Australia had a chance what work was to be done here. Such a plan should be endorsed by Parliament, so that it could not be varied by any committee, or other body of local control. I am definitely opposed to any changing the Griffin plan. Mr. Griffin, it may be assumed, consented to draw up a city plan, and if this plan is acceptable to Parliament it ought to be adhered to. About a year ago I discussed the matter of residential areas with individuals in various parts of the community, and I found that the idea was very popular among certain types of residents. These flats were apparently fill a definite need where there was a demand

for extremely limited accommodation, such as might be required by a young married couple, even if they had only one child. It was thought that accommodation in this way would enable them to live within their own area. The flat would enable them to live within their own area. The uniformity in the appearance of the apartment semi-detached cottages proposed to be erected would not appeal to me. I was assuming that the plan does had been drawn up on the straightest possible line for the purpose of economy. Building costs in Canberra appear to be comparatively high. The cost of transport over the Commonwealth Railways between Queanbeyan and Canberra seems to be inordinately high. I know of no representations to the New South Wales Government for it to take over the control of the line. You inform me that it costs \$100 a day to carry a case of fruit for 200 miles over the New South Wales system and another \$40 to transport it from Queanbeyan to Canberra over the Commonwealth line. I presume that if the railway were entirely controlled by the authorities it would be able to reduce the cost of transport.

line. I presume that if the railway is operated by the New South Wales authorities a through freight to Canberra would be charged. When I was president of the Citizens League, the Federal Government was urged to charge the same rates over the Commonwealth Railway as those obtaining on the New South Wales system. So far as I am aware no satisfactory reply was received to the request. The community generally in Canberra is not contented. My experience is that if a man is discontented with his living conditions and the cost of living he is not 100 per cent. efficient in the matter of his output. He may do 60 or 70 per cent. of the work he could reasonably be expected to do, but I certainly think he would not do 90 or 100 per cent. of it. The economic, hygienic, and domestic conditions under which the whole life has a definite effect upon the output of the individual.

have a definite effect upon the outlying districts.

10. To *Senator Reid*.—My particular objection to semi-detached houses is the convenience of privacy enjoyed by the occupants. I admit that the layout of the proposed cottages has obviated that disability as far as possible, but personally I would much prefer living in a separate house to sharing a building with somebody else, even if there was a definite division between the occupants. So far as I can see, the health and the risk of disease spreading from one house to the other is not very great, although a serious one. It is a consideration that could be advanced. Provided the policy of garden detached houses is undertaken consistently, I do not think development is undertaken consistently, I do not think the proposed houses will look out of place. I am not expressing public opinion on this subject. The City I have had no opportunity of consulting to. The City Lessees Association will meet next week to discuss this proposal, and I would have liked to hear the views of that body before giving this evidence. A most definite promise was given that a shopping centre would be established at Manuka. The shop sites there were sold at a high reserve price, emphasis being placed on the fact that it was to be the only shopping centre in that locality. I cannot give exact dates, but it was definitely known that Manuka was to be developed as a shopping centre before it was decided to have one at Eastlake, which was never intended to be the established shopping district that it is today. The addition of even half a dozen families at Manuka would assist the business people. I do not consider that the creation of a few houses, as now proposed, will discharge the obligation to carry out a policy of development consistent with that necessitated by the sale of shopping sites there.

17. *To Mr. Holloway.*—Bad environment has had a prejudicial effect on the health of the residents in the temporary industrial areas established at Molonglo and the Causeway. I am satisfied that those sites have contributed a definite amount of illness among the residents there. When the Commission had another settlement further out than Molonglo I was constantly

there. The fact that no attempt was made by the governing body to provide hygienic conditions or adequate sanitation contributed largely to the constant ill health in that community. As to Russell Hill, I do not think the governing body did anything of an adequate nature to make it suitable for settlement. It was a dead end site for settlement, in view of the fact that it had natural drainage, wonderful protection from the weather, and a considerable amount of tree growth, but nothing was done to develop it from the point of view of sanitation and drainage. I contend that the values placed on these allotments for rental purposes were ridiculous and inordinate. At the beginning of last year I showed them to a medical friend of mine who yearned to see the allotments at about £5. I estimated the value of the allotments at about £5. I told him that he would probably be surprised to know that the value of each such rental was fixed was about £120. Of course the matter can be argued in various ways, but that is about the valuation placed on the sites for rental purposes. The residents have built their own shacks, and they are being forced to pay a very high rent for land that is not supplied with lights, roads, and the ordinary facilities enjoyed in other areas. You suggest that discontent through unsatisfactory living conditions not only affects the output of the individual, but also prevents him or the members of his family from keeping in good mental health. I think that is generally correct. The effect of the mind on the body is very important, and from a medical point of view one cannot dissociate the state of a person's mind from the state of his body. Persons who feel sick are often not actually sick in body; they are mentally sick and are not capable of overlooking what may be minor or insignificant bodily ills.

17a. You remark that a number of industrial districts can be traced in the final analysis to the surroundings of the homes of the workers—that they actually begin in the kitchen!—That is so, but that argument opens up a big field of discussion. It would appear that monotony in design of the proposed cottages could have been avoided if three or four variations in the front elevation had been introduced, but I recognize that I am not competent to speak from the point of view of the specialist. A 9-ft. wall does not appear to me to be sufficient. That opinion may be due to the fact that I have been accustomed to living in a house with 12-ft. walls.

house with 12-14, whites.

18. *To Mr. Curlin.*—A rental of 32s. 6d. per week would not bring the proposed estates within the means of persons living in the areas that I now consider unsuitable for the industrial settlements. The people who are bound within a short time to come to the suburbs to live, will have to be provided for, and the number of houses that can be let at a comparatively low rental is very small. Some persons are paying higher rents than will be charged for the proposed cottages, and are finding it difficult to continue to pay the present rentals. Last year John Butters told me that the housing problem had had been under consideration for three years, and had not seen any evidence of an attempt to solve it. Having regard to the need for a population in Canberra, it would be unreasonable to stop the inflow of people from any source whatsoever. The obvious way to reduce the high rents is to reduce the valuations placed on the land. It has been said in many quarters that the valuation placed on the land is purely arbitrary. The proposed rental of 32s. is probably too high for home-seekers engaged in the industrial section. I have been assured by persons supposed to be competent to express an opinion that the construction cost is now down to other places which have had it indicated to me that in other places building costs are much lower than in Canberra. I have

to accept the statement that the costs here are irreducible. In order to reach the lowest possible cost, I feel that the high valuation placed on building sites should be reduced in order to promote building by private enterprise. We should encourage residents to build for themselves rather than impose the obligation on the local governing body to provide accommodation for them. A great deal of building by private enterprise has been prevented by the obviously high land valuations, which have always appeared to me to be absolutely fictitious. If a generous policy had been adopted, and the land had been disposed at a nominal value, I have not the slightest doubt that a great many more people in Canberra would own their own houses. I can conceive of a type of dwelling that would have a short life and could be constructed for about £500. It would provide adequate accommodation for the average working man, but would be much cheaper to rent than the proposed semi-detached cottages. Provided it was definitely understood that such dwellings were intended only for an emergency stage, and were confined to certain areas, I think that their erection would be justified. You speak of the small wood and iron bungalows that are found serviceable in Kalgoolie and in Queensland. The erection of such buildings has a great deal to recommend it as an emergency measure, provided, it is definitely understood, that the lessees will have only a permissive occupancy for a definite time. The building of such homes would be a justifiable expedient in view of the unfortunate circumstances with which we are faced. I agree with you that it would be quite as logical to introduce such buildings as it was to erect the tenements during the initial stage of Canberra's development. Those tenements, as they stand at present, should not be tolerated in the city area at all. In fairness to the local governing body, I think that the Government should indicate some definite policy for consolidating the industrial section in Canberra for a definite number of years ahead. Now appears to have been an attempt to do this. The matter of the industrial section of the industrial section is invariably met by the platitude, "We cannot say how long these men will be here, and we are not justified in going in for any considerable expenditure in providing for them." At present we are trying to discover a way out of the difficulty due to the immediate dismissal of numerous members of the industrial population. No definite policy has been laid down in regard to stabilizing the industrial section, and that is very undesirable from the point of view of the interests of the community as well as the persons particularly concerned. If these workers had contented minds, and knew they would be employed for a definite time, they would regard themselves as permanent citizens, and we should obtain much better returns, from the economic point of view, than we can from a fluctuating population of workers. You ask me whether it would be fair to say that most of the money spent on houses in Canberra has provided accommodation for persons with comparatively good incomes, who might have been left to the mercies of private enterprise, but has been of no service whatever to those with moderate incomes. I think a great deal of that argument is sustained by what has taken place in Canberra.

19. To Mr. Long.—The wide open spaces surrounding Canberra contribute towards public health in limiting the spread of contagious diseases. The general lay-out widely separates the various sections of the community, and that would tend to limit the spread of epidemic diseases, but the several sections have much contact with one another. Dust storms seem to occur periodically, owing to the gales from the south-west, and they may be responsible for the spread of disease. The health of the people is of the first importance; a healthy community is a better paying proposition than

a sick one. I think that it would be an improvement to build separate houses at Manuka, instead of those now proposed, spreading each house over a larger area, and leaving less yard space.

20. To Senator Sampson.—I have seen the semi-detached houses erected at Ainslie. They appear to have given satisfaction to the occupants. No general expression of opinion has been given by them voluntarily, but I am given to understand that they are satisfied with the houses as they are. Minor improvements in construction could be made in any further consideration of those plans. I think that those houses have been occupied for about eight months. Compared with present standards in Canberra, the valuations of £150 and £300 seem to be fair; but, to avoid any misunderstanding, I say again that I think that land in Canberra has been given a fictitious value.

21. To Mr. M. Cameron.—I have been told for the last two and a half years that the intention of the Commission is to eliminate the Molonglo, Russell Hill, Canseway, and Westlake settlements as early as possible, but I have no evidence of the development of such a policy. On the other hand, comparatively expensive maintenance is being carried out, and so far as I can see, the intention is to tolerate these excrescences for another twenty years. I agree that if a tolerably good class of house that would supply the necessary accommodation could be erected for £600 or £700, it would be the means of overcoming the present difficulty. It would be quite possible to have suitable industrial areas at Russell Hill and Westlake. I have always regarded Russell Hill as being an excellent site for such an area. I urged that on the Chief Commissioner a long time ago. I have in mind, too, a good type of cottage situated on its own ground, and affording the facilities that a respectable artisan should enjoy. To a great extent such dwellings would fill a present need without interfering with the city plan. The Commission might undertake the construction of, say, weatherboard houses that would last for twenty years. The cottages on the wooden area at Ainslie, where weatherboard premises have been built, are still beyond the means of a great many of those families who require the cheapest possible living accommodation.

22. To Senator Reid.—Since brick cottages in Canberra will last, as you suggest, 100 years, the Commission would be justified in spreading the cost over a longer period than at present. As I understand that still greater care will be given to building construction in future, the proposal might well receive consideration.

(Taken at Canberra.)

THURSDAY, 20th MARCH, 1930.

Present:

Mr. LACEY (Chairman);	
Senator Dooley	Mr. Gregory
Senator Reid	Mr. Holloway
Senator Sampson	Mr. Long.
Mr. M. Cameron	

John Deans, President, City Area Lessees' Association, sworn and examined.

23. To the Chairman.—The City Area Lessees Association is an organization of lessees of the city area of Canberra, whose function it is to deal with matters that affect the system and the conditions of land tenure in the city area and any matters that arise out of the City Area Lessees Ordinance. The affairs of the association are controlled by a council of twelve members, three of whom are prominent in the legal profession. The council consists of a majority of the prominent

lessees in the city area. We are a specialized body dealing only with those questions, and we work in an honorary capacity. We are aware that there is a proposal to construct a number of additional cottages in Canberra, and have had an opportunity to inspect the plans in relation thereto. The evidence that I shall give will be the considered opinion of the council of my association, in co-operation with representative lessees of the Manuka business centre, who are also shopkeepers in that centre. The position will be made clear if I read to you a resolution which was carried at a special meeting held last night of the council of the association and lessees in the Manuka shopping area. The decision was a unanimous one, and I should say that it represents the opinion of 99 per cent of the interests in and around Manuka. Furthermore, it represents the views of prominent public servants who live right adjacent to the proposed site, and therefore has every authority. It is as follows:—

This association, in view of the grave civic and social objection to semi-detached cottages, strongly favours—having regard to the moral obligation of the Government to the shopkeepers and investors at Manuka—the erection of cheap detached cottages on leases not exceeding £100 with a minimum area of 1,500 square feet; the cottages to be constructed of wood or other suitable material. But if the Government is unable to agree to the proposal, this association feels it has no option but to accept the scheme for the erection of semi-detached cottages.

Before going into the question of the proposed cottages, I desire to place before you the views of the association in regard to the necessity for erecting the proposed houses at Manuka. The association strongly recommends the proposal to erect the residences on the site adjacent to the business centre at Manuka, and gratefully accepts this opportunity to place before the committee the whole of the circumstances surrounding what can only be described as a tragedy. The Manuka business subdivision was sold by auction on 19th December, 1924, together with business sites at Kingston and Civic Centre. In connexion with those auction sales various official statements were made and inferences drawn which have been the cause of considerable trouble and argument, and in view of subsequent events were classed as acts of misrepresentation. In two notable instances the Government of the day accepted the responsibility and rectified the matter. The association holds the view that no greater act of misrepresentation has occurred in connexion with the various statements made and inferred than in regard to the Manuka business area. It is not my intention to deal with those statements; they will be covered by witnesses who will follow me and who were present at the auction sale. The creation of the Kingston shopping centre is considered to be the most serious departure from the Griffin plan and has affected not only the business centre of Manuka, but also that of Civic Centre. It was definitely stated when making available twelve sites at Kingston that the intention was to provide for the immediate requirements of the people living in the immediate vicinity. The idea that the authorities intended to make Manuka the business centre on the south side of the city is supported by the fact that it was a condition of the lease that a building should be erected in accordance with a particular plan; a compulsory building plan formed part of the covenants of the lease. That was not so in the case of Kingston, but it was so in the case of Civic Centre. I have copies of the plans that were used at the 1924 sale, and it will be seen that they formed part of the covenants of the lease. The buildings had to be constructed in accordance with the building elevation and the layout. Similar plans were produced at the sale of Civic Centre leases, but at Kingston no such plans were produced and no attempt was made to pre-design the buildings. The whole of the business leases were sold at considerably above the upset price. Another

important factor contributing to the position of Manuka to-day was the failure of the Monolite company to complete its contract to erect 100 cottages in the immediate vicinity of the shopping area. That contract was reduced by stages and was terminated upon the completion of 25 cottages. The delay which occurred in the completion of the Mason contract for the erection of 100 cottages, the majority of which were in this area, was also a factor. The fact that contracts had been let for the erection of over 150 cottages in close proximity to the area had a big influence in causing investors to develop the business leases there, and from the point of view of shopkeepers the reduction by 75 houses of the Monolite contract made all the difference at that particular time as to whether they should commence operations at Manuka or Kingston. The effect of this contract has been far-reaching. It was an important factor in the cancellation of further transfers of departments, the effect of which on the business community as well as on the city as a whole needs no amplification. The association feels that it should rightly comment on the absolute necessity for works proposals of any magnitude being previously investigated by the Public Works Committee. Had the Monolite contract been investigated prior to its commencement, the 100 houses that it comprised would have been completed and much depression due to purely local conditions would have been obviated. It may be argued that the subdivision suggested should be reserved for future business premises and that it is a departure from the Griffin plan to erect residences thereon. The subdivision would accommodate approximately 100 shops of the average frontage. Seeing that 21 shops have been erected that are not yet let and that eleven shops have still to be erected in the Manuka centre it is obvious that unless some unforeseen event in the nature of a miracle occurs to change the whole position, no further shops will be required in this area during the lifetime of the residences that it is proposed to erect thereon. The association strongly recommends the proposal to erect cheaper residences, and to erect them at Manuka. I should like now to deal with the point raised in the resolution passed by the meeting last night, recommending the erection of cheap detached cottages on leases of a value not exceeding £100. The decision was unanimous and all interests were represented. The association is definitely of the opinion that the question of cheap housing is bound up in that of cheap land, and that the failure of the authorities to appreciate this fact has been responsible in a large measure for the slow development of the city. It is contended that the ratio between the unimproved capital value of the land and the cost of the building erected thereon is not in proportion; that if you are to have cheaper houses you must have cheaper land. The opinion was expressed at the meeting that Canberra can be made a profitable investment for the nation, but only on the assumption that there is a more rapid development of the city, and that will occur only when cheaper land is made available. The association recommends the provision of more housing accommodation on the following grounds:—

1. The necessity for completing the transfer of Commonwealth departments at the earliest possible date.
2. The increased revenue by way of rent and rates that would be obtained; and,
3. The increased demand on essential services such as water, sewerage, and electric light, in regard to which provision has been made for a population greatly in excess of the present population.

Since the decision to recommend the construction of detached and cheaper houses was come to last night, I have got in touch with contractors who have been building weatherboard cottages, and I should like to place before you certain figures that I have obtained and that I can give from my own personal experience. The latest weatherboard cottage erected in Canberra has

been completed within the last couple of months. It contains two bedrooms, a drawing-room, a living room, a kitchen, a bathroom, a hall and sleep-out. It has a tile roof, and is supplied with water, electric light and sewerage. It was constructed in accordance with the provisions of the city area building and service ordinance. The contractor has informed me that it was built for £925. Its dimensions are as follows:—

Total size of cottage	1,307 sq. ft.
Enclosed verandah	14 ft. 4 in. x 7 ft. 0 in.
Bedroom No. 1	14 ft. 0 in. x 12 ft. 0 in.
Hall	14 ft. 0 in. x 5 ft. 0 in.
Living	14 ft. 0 in. x 12 ft. 0 in.
Dining-room	14 ft. 0 in. x 12 ft. 0 in.
Bedroom No. 2	12 ft. 0 in. x 12 ft. 0 in.
Kitchen	12 ft. 0 in. x 8 ft. 0 in.
Back verandah	13 ft. 0 in. x 9 ft. 0 in.
Laundry and a.c.	8 ft. 6 in. x 8 ft. 0 in.

My brothers have a combined orchard and poultry farm in the city area. Eighteen months ago the Commission erected on that farm a cottage which contains three bedrooms, living room, kitchen, laundry, hall and front verandah. It has an iron roof, but is not provided with either sewerage or electric light. The contract price for that cottage was £700. Allowing £45 for sewerage, and £14 for electric light, I estimate that that cottage would cost in the city area approximately £815. It has fairly large rooms.

24. *To Mr. Gregory.*—The Federal Capital Commission are buying timber to-day a shade cheaper than they were eighteen months ago.

25. *To the Chairman.*—From my own experience, I suggest that it is possible to make a substantial reduction in the cost of constructing cottages by having them built under a special building and services ordinance. The present building and services ordinance for a permanent city with permanent buildings, and the regulations are too severe for a proposal such as this, but I do not see that any objection could be raised to there being special regulations for the provision of what might be called non-permanent houses in the city area. If they are built in weatherboard we suggest that their life should be fixed at 30 years. In that time the position may change, and it may be possible to sell them for removal and build something else of a permanent character. To obtain lower rents immediately the association recommends that this course be adopted. I have made an approximate measurement of the suggested site, and estimate that on it could be built approximately 25 detached houses, each block having an area of approximately 7,500 square feet. There is land available for development adjacent to the Manuka shopping area on the south side of Flinders Way, the road which runs from the Canberra Picture Theatre right through to the Canberra Grammar School. There is sufficient space between that road and the creek on the Queanbeyan side in which additional detached houses of a cheap type could be erected.

26. *To Senator Reid.* Although it is not on, it is very close to, the law route.

27. *To the Chairman.* It is suggested that this area on the other side of Flinders Way could be retained for the continuation of the Waratah pathway that runs from Telopea Park. Even if the suggestion of the association is adopted it will not prevent that plan from being carried out in due course. I do not know what the Griffin plan says on the subject, but the city plan, as we know it, shows that this land is intended for subdivision. The suggested location is such that the buildings I propose would not be out of place. The ground is quite suitable for cottage construction. I am unable to say whether there is any demand for two-story semi-detached houses. I have no observations to make in regard to the contention that this area is being developed to the detriment of Ainslie, other than the statement that I have already made that it is an obligation of the Government and the authorities to develop

Manuka in preference to any other area. I consider that the proposed rentals are somewhat high, and that the maximum which should be paid by persons whose salaries come within the limits of those in regard to whom the committee has had figures placed before it should not be above 27s. 6d. a week. I suggest that a satisfactory house at a lower rental could be provided by the use of weatherboards, fibre-cement and fibro-plaster, as well as such material as Colotex. The house at Ainslie to which I referred was built under the building and services ordinance. A similar house could be built on this area and comply with the regulations, for that cost; but the cottages on the poultry farm could not. The sanitary fittings on the poultry farm to the bath, hand-basin, &c., are not in accordance with the building and services regulations, although, generally, the house has been made to comply with those regulations. The stormwater drainage is simply taken away from the building, whereas, under the building and services regulation, it would have to be carried to the road. I see no objection whatever to reducing the requirements in relation to stormwater drainage so as to make them just sufficient to carry the water away from the actual building. The rainfall in Canberra is not sufficient to make stormwater a major proposition in connexion with housing, and a great deal of money could be saved by merely carrying it away from the building.

28. *To Senator Reid.*—The ordinary weatherboard cottage at a cheap rental would be far preferable, from the point of view of those who will occupy it, to the semi-detached tenement type of cottage. The houses in the immediate vicinity are all of brick; it is provided by the city area leases ordinance that they must be of brick; but there should be no objection to wooden houses being built in the same locality provided that the design are all right. The idea is to provide cheap housing for those who cannot afford to live in expensive brick houses. In view of the obligation of the Government to the shopkeepers and lessees at Manuka, I think that these houses should be built. I cannot admit that the provision of housing of this character would be a blunder. It might be a greater blunder to provide semi-detached houses of the tenement type such as is proposed. The regulations would have to be amended to enable wooden houses to be built in this area, but I cannot see that any difficulty would be experienced in having that done. Two of the principal residents in the vicinity of the site are public servants, and they endorse the decision that was come to last night by the meeting. I do not think that it would meet with any opposition. The inclination of the lessees who were present, and who have had such a bad run, would be to grasp at any scheme that would make for their own personal benefit. I am glad to be able to say that they took a broad view of the matter, and feel that semi-detached cottages should not be erected in preference to the weatherboard cottage, or one constructed of similar suitable material. Certainly weatherboard houses are colder than brick houses, but providing the rent is lower I believe that the people would be satisfied with them even in the winter time. The unimproved capital value of the land in the case of each of the three flats in the group houses will be £100. Last October we brought expert evidence before Mr. Justice Pike to show that the value of this land was from 37s. 6d. to £2 5s. a foot. In the opinion of our expert valuers it is worth no more than £100 a block of 7,500 square feet. We feel that a tenant who is obliged to occupy a cheap house cannot afford to pay rent and rates on land of any greater value. In Canberra to-day there is no land of an unimproved capital value of less than £200 available, and very little of that value. Such land which is available quite close to the proposed site has a building covenant on it of £1,250. I

do not think that complications would arise in connexion with the computation of the rent if different values were placed on similar land in the one locality. The fact that cheaper houses were built would have some reflex on the unimproved capital value. We hold that to-day the other land in the vicinity is overvalued, and that those values should be lowered. Already the unimproved value for rating purposes has been reduced by the court, but as the ground rent is fixed according to the original price paid at the auction sale it cannot be altered, and must run for a further period of fifteen years, although in most cases double the upset value was paid. The only action that my association has taken has been to appeal against the values. It is very difficult to say what attitude would be adopted by the court if, in the event of this land being valued at £100, those whose values were higher appeal to it. It might take the view that the lower value was adopted for a special purpose. A low ground rent does not necessarily mean that the values of surrounding properties have to be reduced.

29. *To Mr. Gregory.*—My contention is that the values which have been placed on these blocks are too high.

30. *To Mr. Holloway.*—And the original buyers were badly misled into giving high prices for the land.

31. *To Senator Reid.*—Already the people feel that they have a grievance on account of the high value placed on the land. Even if the scheme, as now proposed, is proceeded with, the unimproved capital value for which one tenant will be responsible will be only £100, while in the case of other lessees it is £200. The majority of the blocks in this neighbourhood are valued at £275. The house at Ainslie to which I have referred is severed and has a tile roof. Some of the rooms are panelled in three-ply oregon, in addition to having plaster sheets above the picture rail and plaster ceilings. Electric light also is installed. It was built by a private contractor for a private person; the Commission had nothing to do with it. It conforms with the building and services ordinance.

32. *To Mr. Holloway.*—It is most desirable that there should be as small a margin as possible, so far as building facilities are concerned, between the home life of one and another of the persons whose salaries range between £5 and £8 10s. a week. There seems to be some misconception as to who is to occupy these proposed tenements. The public servant who at the present time is living in a Commission house and paying a rent which he cannot afford ought on the grounds of equity and fairness to be given the opportunity to live in a lower paid public servant who had been used to a good home in Melbourne would be forced to live in a tenement in Canberra if he wished to obtain the benefit of a cheap rental. That point was emphasized by the public service section of our council. I agree that there are other low-paid men who have to be catered for; but the public servant has been compulsorily transferred, whereas these others have come here of their own free will. I agree that we must insist upon a minimum standard of living accommodation even though the person for whom we wish to provide it does not want it. The aim should be to evolve a scheme whereby the man who is receiving £5 a week and upwards will be able to live in a decent house. The regulations more or less provide the specification of buildings. For example, they say that you must use lead-damp-course, and they prohibit the use of tar and sand damp-course. I have erected quite a number of buildings with tar and sand damp-course. In my opinion it is both cheap and effective. One such building that I erected is the Canberra Steam Laundry. Tar

and sand damp-course is specified by one of the best firms in Melbourne. It is considerably cheaper than lead. If we were permitted to use it in the cheaper type of dwelling a considerable saving would be effected immediately. Savings could be effected on many other similar items and they could assist to cheapen the cost of those buildings. I agree that lead is a very fine damp-course; but in the case of the cheap type it would be better to use the cheaper material. Weatherboard cottages of quite a decent size could be built cheaply outside the city area. In 1926 I built in Queanbeyan five weatherboard cottages at a cost of £560 each. They contained two bedrooms, a nice living-room, hall, front and back verandahs. It was not necessary to put expensive work into the sanitary fittings, and there was no sewerage. The roofs were of iron. The fees that had to be paid were low, and the freight much cheaper than that which has to be paid on building materials that come to Canberra. We bought Goulburn bricks, which were very much cheaper than Canberra bricks. Sometimes it is possible to use concrete blocks. At that time there was a brickyard in Queanbeyan, and I used some of its bricks, although they were not to be compared with those that were made in Canberra. The houses had electric light installed. It is most desirable that in the erection of these cottages the suggested site should be used. If the proposal were put forward to use some other building material and thus save a couple of hundred pounds on each house it would not be opposed by my association, whose object it is to get the best house possible for the cheapest cost. It is highly desirable that the principle of erecting detached cottages should be given effect to. I was sorry to see the practice established at Reid of erecting the semi-detached type. In suburban Sydney the tendency of municipalities is to prevent, as far as possible, the erection of flats, the outstanding consideration being to have houses of the detached type. I do not think the difference in cost justifies the erection of semi-detached houses when you can adjust the position in your land values.

33. *To Mr. Long.* The margin between the proposed rentals and the amount received by a man on a salary of £5 or £5 6s. a week is not sufficient to enable him to keep his wife and family in reasonable comfort. It is the desire of my association to have houses provided at a cheaper rental. It would always be possible to adjust the position that would be caused by the throwing out of a number of houses for which a higher rental is charged, on account of the present occupants refusing to occupy occupation of cheaper houses. I do not consider that tenement houses would be acceptable to a man receiving £3 a week, but the house in which a public servant would have to suffer that disability if he wanted a house at a cheaper rent. It seems a pity, however, that that must be so. The lower paid man is now compelled to live beyond his means. Call this scheme what you like, or design it as you will, the atmosphere is that of a tenement. I have investigated privately various syndicate processes, but on account of the building regulations here it has not been possible to make use of them. That is why I suggest that the Building and Services Ordinance be amended so that a special ordinance be framed to cater just for this particular object. Excessive land values are a big factor in high costs. The existing values were created by fictitious circumstances for which I, as an individual, was partly to blame. Misrepresentation in the early stages brought about the present state of affairs, and despite all our work and energy we have not yet succeeded in reducing values; but that reduction must come. My association has had numerous conferences with the Minister for Home Affairs on the subject of a new basis of valuation. He arranged for our specialists to confer with the Solicitor-General and the officers of the Attorney-General's Department. We have on our council three lawyers.

We held those conferences only in the last eight or nine days, and the proposed amending ordinance which we prepared in conjunction with the Solicitor-General and the department is now in the hands of the Minister awaiting his official sanction. The new basis provides, in effect, that valuations shall be made on a leasehold basis and shall take into account all the conditions of the lease and other relevant matters. Unfortunately, at the moment, the Rates Ordinance provides that valuations must be made on a freehold basis. It gets the judge no power to take into account any building covenants or local conditions surrounding the lease. To arrive at a value he had to go to what he considered were comparable towns—Albury, Goulburn and Wagga. Consequently we reached a dead end. At the moment the position appears to be capable of solution, and I believe that we are on the right road. We shall know very shortly from the Minister if he is prepared to approve of the new basis of valuation. If he is, the Appeal Court will be brought here to make a revaluation and the Commission will be given an opportunity to make a further determination.

34. *To Senator Sampson.*—I have been through the tenement houses that have been built at Reid and do not think that they are desirable. They are livable, but in comparison with the detached type of house ought not to be considered. I do not know what is the opinion of those who are living in them.

35. *To the Chairman.*—Over twenty persons attended the meeting last night, including the Third Commissioner, Dr. Alcorn, who is a member of our council, which consists of myself as chairman; Mr. F. K. Gell (vice-president), who is a member of the Public Service Welfare Committee and an officer of the Attorney-General's Department; Mr. Bonniwell, who also is connected with the Public Service Welfare Committee and is an officer of the Attorney-General's Department; Mr. G. W. Davies, solicitor; Mr. W. G. Woodger, of Woodger and Callippe Ltd., the firm who sold all the land here; Colonel Goodwin, president of the Citizens' League; the Hon. T. M. Shakespeare; Mr. R. A. Broinowski, Usher of the Black Rod; and Dr. Alcorn. There were also present at the meeting Mr. Francis, Comptroller of Stores in the Federal Capital Commission, who is a lessee in the Manuka shopping area and has been an active worker in the Citizens' League; Mr. W. Brownless; Mr. Keegan, a butcher at Manuka, and an original purchaser of a lease at the 1924 auction sale; Mr. A. McLane and Mr. Cusack, of Manuka, who also are 1924 lessees. Of course there were no representatives of the lessees in the other shopping centres except Mr. Woodger, who represents most of the owners in those centres. One reason why the price of timber has not advanced in Canberra is that large stocks have been carried. I understand that six months ago the stocks of materials held by the Commission were sufficient for the erection of 60 detached houses. I think we can assume that they are still sufficient for 40 such houses. There would be no likelihood of an increase in the price of timber.

36. *To Senator Reid.*—Even though the Commission did not have stocks of timber on hand, I do not think that the cost of these houses would be greater. I buy all my requirements in Canberra from both the Commission and local traders. On account of the depression that exists in Sydney it is possible to buy there very well. That state of affairs, I believe, will continue for at least the next 18 months. Any building activity in the Capital will be enthusiastically considered by the merchants in Sydney. Weatherboard houses should be written off in 30 years. The Government Savings Bank of New South Wales will consider an advance covering a period of 30 years on a weatherboard cottage, and the Federal Capital Commission, acting as an authority under the Commonwealth Housing Act, will make

advances on similar terms. With the exception of a few cottages at Acton and those that have been newly erected in the weatherboard area, the Commission does not possess any weatherboard cottages in the city centre. My association has not discussed the question of having the rental lowered to such an extent that the extinguishing of the debt will be spread over a longer period than that which is fixed at the present time.

37. *To the Chairman.*—The regulations at present prevent any departure from the use of wood, iron, and brick. I do not think they would need to be altered if the Government should decide to adopt synthetic materials and confine their use to the particular area under review, but if it were intended to use them for the construction of houses on other vacant lands there would need to be an alteration. The class of timber on hand is such that the best type of wooden house can be constructed with it.

(Taken at Canberra.)

FRIDAY, 21st MARCH, 1930.

Present:

Mr. Lacey (Chairman);

Senator Dooley	Mr. Gregory
Senator Reid	Mr. Holloway
Senator Sampson	Mr. Long.
Mr. M. Cameron	

William George Woodger, Managing Director of Woodger and Callippe Ltd., real estate agents, sworn valuer under the Real Property Ordinance, and Fellow of the Real Estate Institute, sworn and examined.

38. *To the Chairman.*—I am a member of the Council of the City Area Lessees Association. I am aware of the proposal to erect a number of cottages at Canberra, and have had an opportunity of inspecting the plans of the proposed buildings. I am thoroughly acquainted with the area in which it is proposed to erect them. I have definite views on the necessity for a cheaper type of dwelling in Canberra, the desirability of the Government to develop the area. As real estate agents in both Canberra and Queanbeyan, my firm is acquainted with many people who, though employed in Canberra, live in Queanbeyan, because in the Federal Capital they cannot obtain cottages for from 25s. to 30s. a week. We also know that many cottages in Canberra are occupied by more than one family, and that there are no cottages available from £2 to £2 10s. a week. If the cottages proposed to be erected are built, there will be a definite and sufficient demand for them from people other than public servants. I am definitely of the opinion that the erection of these cottages on the site proposed would assist business people in the district. I favour the type of dwelling proposed only as a last alternative. I strongly prefer detached self-contained dwellings each on its own allotment. If built of wood it should be possible to construct them at a reasonable cost. If it is not possible to build cottages of that type, I should be prepared to accept cottages of that type shown on the plan, but only as a last resort. The question must be viewed from two aspects—first, the immediate necessity for the cottages, and secondly, the ultimate development of the city. I am convinced that the position would be sensibly met by erecting buildings of a more or less temporary character. In my opinion a shopping centre at Kingston should never have been permitted. Manuka is the natural trading centre for the southern portion of the city. Sooner or later the provision of a proper business area at Manuka will have to be met. For that

reason I do not favour the erection of permanent dwellings on the proposed site. The day will come when the site will be required for business purposes. I favour the erection of good weatherboard cottages—which have a life of from 25 to 40 years. I am strongly in favour of detached self-contained dwellings, each on its own allotment, in preference to semi-detached cottages, although the latter cannot be said to be unsuitable for small families. Semi-detached cottages of two stories are a type of tenement and should be erected only as a last alternative. It is true that they can be let at low rentals, but they crowd the people too much. The necessity for semi-detached buildings may exist in them in large cities, but surely there is no need for them in Canberra. Nevertheless, if no other means of supplying cheap houses can be found, I would favour such buildings rather than have nothing, because there is a definite need for further housing accommodation. Cottages of the type proposed will, in my opinion, conflict with the ideal of making Canberra a model city. Considering that the rental of 32s. 6d. a week proposed to be charged will cover ground rent and rates, as well as water supply, I think it a reasonable rental for the cottages, but too much for a man in receipt of £5 or £6 a week should be asked upon to pay 32s. 6d. a week rent. Rentals could be reduced if the exorbitant values placed on the land were lowered. The high valuations of land in Canberra are the greatest hindrance to the development of the city. I am a valuer with 25 years' experience. When I gave evidence at the last Appeal Court, before Mr. Justice Pike, I said that I valued land in the area now under consideration at from 35s. to 45s. a foot. The valuation now placed on it by the Federal Capital Commission is nearly double that amount. That means that instead of allotments suitable for houses of the type I have in mind being valued at from £75 to £100, they are valued at about £200, which means that ground rent and rates represent 8s. a week instead of 4s. The high prices of land in Canberra are not justified at this stage of the city's development. The question is often asked why building costs in Canberra are so high. One reason is that the building regulations are more strict here than elsewhere. For instance, the cost of sewerage a small cottage, say, of 12 squares, is about £100 in Canberra, compared with £50 in Sydney. I do not say that the regulations here are not sound, but that they are heavier than those in force elsewhere. It is often suggested that the high cost of transport is the main reason for the increased cost of building here; but that is only a minor reason. At present, local contractors are taking work at prices lower than those which obtain in Goulburn. With the exception of the extra cost of sewerage here, a house can be built as cheaply in Canberra to-day as in Goulburn. I do not suggest that that state of affairs will continue; but there are six or seven firms of contractors in Canberra who, in order to utilize their plant and retain their staffs, are accepting work on which they will make scarcely any profit. The site proposed is suitable for the erection of cottages. Indeed, in my opinion, it is the most suitable land available in Canberra for such dwellings, houses, &c. Our experience as a firm of land valuers, houses, &c. Our experience as a firm of land valuers is that it is easier to let the cheaper type of cottage in the Manuka area than it is to let them north of the river. I am of the opinion that detached cottages constructed of some material cheaper than brick would be suitable for the area. I am not acquainted with "Easite." I should not like to think that it is proposed to erect in Canberra cottages similar to many in Queanbeyan, where the building regulations are practically a farce. But, as a temporary measure only, I favour the erection of cheap homes constructed of a suitable material. Each allotment should comprise an area of

about 50 feet x 150 feet. That would provide about 25 cottages on the proposed site. There is other land in the same locality suitable for the erection of further cottages of the same type. There is a need for 50 or 60, or even 100, additional cottages in Canberra. I am definitely of the opinion that numbers of people now living in Queanbeyan would reside in Canberra if houses were available for them at reasonable rentals. The number at present is lower than formerly; but even under existing conditions, 25 or 30 families would come here if they could obtain houses on the same terms as they now get them in Queanbeyan. No man wants to travel 7 or 8 miles to his work if he can live near it. The lack of suitable accommodation for workmen and other workers has been one of the greatest drawbacks to the development of Canberra. I do not suggest any modification of the building regulations; they are heavier than in the surrounding municipalities, or even in Sydney; but they are sound, and eventually Canberra will benefit from them. For instance, it is not likely that the sewerage system of Canberra will ever have to be replaced as is the case in parts of Sydney. The specifications are somewhat irksome, but they will operate to the general good of Canberra eventually. My experience shows that it is difficult to build small cottages in Canberra under £300 a square. Woolen cottages of the same design would cost about £25 a square. The observations I now propose to make regarding the obligation of the Government to develop this area, will, I feel certain, be supported by the majority of the people of Canberra. The advertisements connected with the first sale of land in Canberra on the 12th December, 1924, issued under the authority of the then Minister for Home and Territories, represented the then Minister for Home and Territories would be that by 1929 at least 1,000 public servants would be transferred to Canberra, and the administrative block transferred to Canberra, and agents for the Government completed. My firm acted as agents for the Government at the sale, and definitely informed the buyers that that would be so. I take it that the purchasers of land bought their blocks on the assumption that that undertaking would be honored. There is, therefore, in my opinion, a definite obligation on the Government to develop that portion of the city on the lines then set out. The second sale of land concerned what was then known as the Blandfordia area, immediately adjoining the Manuka shopping centre. The Commission offered a number of separate blocks in certain subdivisions. At the bottom of the plans, there appeared a notice in big type, "Numbers blocks only will be offered. Cottages are being erected by the Commission on the remainder of the blocks." If a private client made a statement like that and did not carry out the promise it contained, we, as a firm, would repudiate him. I cannot see that in a matter of this kind the Government is any different from the Commission attempted to land. It is true that the Commission attempted to develop these areas. I am referring to the land offered at the second sale. It let a contract to the Monolithic Construction Company for 100 cottages and another contract for a similar number of cottages to W. H. Mason Ltd. The Monolithic Construction Company had commenced the erection of about 25 cottages, which had to be completed by the Commission. The fate of the other 75 cottages was the same. The result was that, instead of 200 cottages being built in the area—and instead of 200 cottages being built in the area—only about 80 cottages were erected. The result is that instead of there being a building on each allotment, vacant paddocks can be seen everywhere. If development takes place anywhere in Canberra, I submit that there is an obligation on the part of the Government to develop Manuka first. I assure the committee that the lot of the Manuka storekeepers is indeed unfortunate. The people of Canberra feel that practically the whole of their troubles as lessees are due to

38. To *Smelter Road*.—My firm has an office in Queanbeyan and does the major portion of the real estate business of that town. In addition, I have acted as valuer for the Queanbeyan municipality, and I am acquainted with conditions in both Canberra and Queanbeyan. Cottages of a poor type, supplied with water and electric light, but not sewered, can be obtained in Queanbeyan for from 10s. to 15s. a week. These cottages would compare favourably with the tenements at Causeway and Molonglo. Slightly better cottages of fibro cement construction, containing four rooms, with the conveniences I have mentioned are let at from 15s. to 25s. a week. Better houses are let at from 25s. to 35s. a week. With the exception of the poorest type of cottages, those let to the tenements at the Causeway, Acton, and Molonglo are better than the Causeway tenements in Queanbeyan. The cottages in Queanbeyan at from 10s. to 15s. a week are not constructed of weatherboard, but are a cheap form of fibro-plank construction. Those for which 20s. to 25s. a week is charged are a better class of fibro construction. In a week for similar cottages I have to charge 25s. or 27s. 6d. in Canberra, and I have to charge 25s. for the construction of similar cottages in Canberra. These cheap cottages in Queanbeyan are largely of "jerry-built" type, and are little or no supervision of them by the local municipal council. I do not suggest that the existing building regulations in Canberra should be in any way altered, but that "jerry-built" houses to be constructed. I am acquainted with the type of cottage erected at Westlake. Hitherto the cottages there and those at Causeway have served a very useful purpose; but the time has arrived for more permanent building, and more erected for workmen. Of course, that would mean increased rental. It should be possible to erect suitable dwellings which could be let at from 25s. to 27s. 6d. a week. There is a substantial difference between land values in Queanbeyan and Canberra. Allotments in Queanbeyan about 50 ft. x 130 ft., within easy walking distance of the post office and the shops, average about £50 or £60;

[illegible]

necessary to spend anything in maintenance on the exterior walls, except that the barge boards may need a little painting, and so on, as they would on an ordinary house. One of the advantages of using Lionite is that there is no need to paint it. I converted a ten-room weatherboard house at Carrum into a rough-cast exterior by using Lionite, and there will be no more upkeep on that insofar as the exterior walls are concerned. When it was weatherboard it required about £50 to be spent on it every three years in painting.

42. *To Mr. Cameron.*—The longer the walls are up the better they get. That particular house is finished like the house at No. 1 Henry-street that the committee inspected this morning. It is in the natural cement colour. The house next door to the Henry-street house is trowel finished, but it also is permanently coloured, because Cementone colour is mixed into the job. There is no more expansion and contraction with Lionite than there is with an ordinary job. It would be the same as if it were a solid cement building.

43. *To the Chairman.*—I would not recommend the use of Lionite for two-storied buildings unless the lower story were of brick. Whenever a timber construction gets above one story, there is a certain amount of vibration, and I do not favour wooden construction for more than one story.

44. *To Mr. Curtin.*—Some houses of the attic type have been built with Lionite, but they have not been much higher than the house at No. 1 Henry-street. We have built two or three of the attic English type of cottage at Frankston and Mornington. I would not recommend that type of building for Canberra.

45. *To the Chairman.*—Plan marked No. 1, which I submit, is for a house similar to the one you saw at Brunsvick-road. It would give quite as much if not a little more accommodation than the houses that it is proposed to build at Canberra. The cost of that house at Canberra, taking into account sewerage and other conveniences, would be £330. That house would cover a tiled roof. No. 2 plan, which I submit is for a house similar to the one that was inspected at No. 1 Henry-street. It would cost at Canberra with sewerage, &c., £360. I should be prepared to tender for the building of these houses at those prices at Canberra.

46. *To the Chairman.*—No 1 plan has no dimensions marked for the rooms. I shall have a fresh plan drawn giving those particulars, and will forward it to the committee. The size of the rooms in No. 2 plan is as follows:—Front rooms (2), 14 feet x 12 feet each; hall, 14 feet x 6 feet; back bedroom, 12 feet x 10 feet; bathroom, 10 feet x 6 feet; breakfast room, 13 feet x 12 feet; kitchenette, 10 feet x 7 feet. There is also a pantry and a front and back porch. There is a detached laundry outside. It is not shown on the plan, but it is included in the price. I think the W.C. is also outside at Henry-street. The cost per square of a house like this in Melbourne is about £60. The cost in Canberra would be about 15 per cent. above that. I am aware of the cost of materials and wages in Canberra as compared with Melbourne and Sydney, and I think an estimate of 15 per cent., in addition to the Melbourne price, would meet Canberra conditions. I understand that that estimate tallies with one given by Mr. Murdoch. If I were given a contract for, say, 35 cottages in Canberra, I should manufacture my material there. In fact, I could only build the cottages at that price by manufacturing the material in Canberra. I should have to be given a guarantee of a certain number of cottages. In 40 cottages of average size there would be only about 8,000 yards of material in the external walls. It would not pay me to put up even a small plant for a job of any less magnitude than that. I should want at least 30 cottages. When we were discussing this subject informally, I had in mind

about 50 cottages. It would not pay a man to establish works in Canberra if he had to close down in a couple of months. If tenders were called for 30 cottages in one, two, or four contracts, I should be prepared to tender at the prices I have indicated, although I should certainly have in mind possibilities of other work in the future. I should not have to take any more than half a dozen men from Melbourne to do the manufacturing work. This would be done mainly by unskilled labour. I take it, of course, that there are a number of trademen, such as bricklayers, plasterers, carpenters, and others available in Canberra. My price for the No. 2 plan was for an iron roof. The price of an iron roof is about £30 to £35 lower than a tiled-roof. That is, speaking in general terms.

47. *To Senator Reid.*—I have given full details in the specification I have submitted of the foundations I propose to put in. The stumps would be red jarrah or red gum with concrete plinths. My specifications allow for two brick chimneys. Fireplaces are provided for in the sitting-room and kitchen. If I secured a contract for 100 cottages the price would be somewhat lower, but I cannot say at the moment how much lower. There would certainly be a reduction. I am taking it for granted, of course, that the cottages would be built in groups, and I am allowing for variations in elevation. There would be no two alike. The cottage next to the last one you inspected at Brunsvick-road is finished in Ashlar pattern bricks. The bricks would be about 18 inches x 12 inches. In the golf-house at Emerald the first coat was a rough-sand finish, and then a splash finish was put on and the top trowelled off. Inside the cottage you inspected at Henry-street the walls were plain coloured. The bedrooms and hall were papered. The Lionite sheets that they use for external walls can be used just as effectively for internal walls. They make a good job. It would not be any more expensive to use them on the inside than to use other sheets. At any rate, we could do the hall and a couple of rooms in the houses that way and still keep to our price. Lionite houses are cool in summer and warm in winter. Lionite is a perfect non-conductor. You could put a piece of Lionite over a gas jet and hold your hand on it for six minutes, with the gas burning at full strength. I have specified 6 inches x 3 inch T. and G. Baltic flooring. The studs are to be of oregon, and the roof timbers hardwood. If it were not for the fact that a lot of oregon is available at Canberra at a low price, we could use all hardwood in the frame-work. The golf-house at Emerald is made of hardwood, which was cut by Maltese in the bush within half a mile of the club-house. The construction work was not as perfect as it might have been, I suppose, but it was a good job.

48. *To Mr. Holloway.*—No defects have developed in that club-house. Any shrinking has been inward. It is not visible.

49. *To Mr. Gregory.*—I would not use hardwood for tiles.

50. *To Senator Reid.*—I could use hardwood for construction work if necessary in Canberra. It would not be more expensive. There is a lot of oregon to be had at Canberra at a price comparable with that which prevails in Melbourne and Sydney.

51. *To Mr. Long.*—The house we built at Henry-street cost £740. If you knock 15 per cent off the price of the two houses I have quoted, you would get approximately the Melbourne prices. The extra cost in Canberra is accounted for chiefly by the extra costs in labour and material. There are one or two other contingencies such as travelling. Possibly when the whole thing was worked out the Canberra cost would be 20 per cent. higher than the Melbourne cost. It would be impracticable to manufacture the Lionite sheets in Melbourne and transport them to Canberra.

Lionite is a material which cannot be transported long distances. There would be too many breakages. I would not be able to build the houses in Canberra at the prices I have quoted if I had to make the Lionite here. Lionite is an unfinished product, technically known as lathing. If I were given a contract, I should certainly have to manufacture the Lionite at Canberra. I should need to take only six skilled men from Melbourne to supervise the work. Artisans of average intelligence could, I am sure, be secured at Canberra to work under the six men that I would send up. I am informed that the climatic changes are more severe in Canberra than in Melbourne, but this would not affect Lionite houses. I contend that Lionite gives a perfect hollow wall, with a 4-in. cavity. Neither cold nor heat would seriously affect it. The walls of the houses would be approximately 5½ inches thick. There would be the 1-in. exterior cover, the 4-in. cavity, and the ½-in. interior wall. I can guarantee that Lionite is a non-conductor. I should be quite prepared to sit on a sheet of it on top of a gas stove with the jets burning. In quoting £330 and £360 for houses of the type shown on the plans submitted, I have taken into account Canberra conditions, and I do not think I would be including any other than ordinary business risks in submitting that quotation. I should want 30 cottages to justify me embarking upon the work.

52. *To Mr. Holloway.*—I am quite satisfied that the raw material that I would require is available at Canberra in suitable quality and quantity. An abundant supply of sand, cement, and plaster can be obtained without any trouble. I could get all the gypsum I needed from Sydney. I understand that there is no coke breeze available in Canberra. It would add a little to the cost through having to secure it from Sydney.

53. *To Mr. Cameron.*—The life of a Lionite cottage would be longer than the life of an ordinary weatherboard cottage. I know weatherboard cottages that have been up for 50 and 60 years. The Lionite cottage would last as long as a wooden framework would stand. I would use oregon for the roofing timbers in the case of tiled roofs and hardwood in the case of iron roofs. Oregon is a very good timber, which cannot be beaten.

54. *To Senator Sampson.*—Lionite would absorb a fair quantity of moisture if it had not an external covering, but with the cement covering, according to the specifications which I have submitted, it would not absorb any more moisture than a concrete house.

55. *To Mr. Gregory.*—If the specification which I have submitted provides for only one chimney, it is an error. In my price I have allowed for two chimneys. The price of the laundry and W.C. is included in the figure I have given. I shall forward to the committee a photograph of the type of outbuilding and also the information as to dimensions, &c. I understand that the lavatory is included in the bathroom in Canberra. That may make slight difference to the detail of the building, but not to the price I have given. I believe that the laundry at the house in No. 1 Henry-street is 12 feet x 9 feet or 12 feet x 10 feet. The price of bricks in Melbourne is £3 15s. per 1,000 at the kiln. I believe that the price varies somewhat for quantities. The price of tiles varies in Melbourne between 45s. and 60s. per square. I shall forward details of those prices. The cost of the roof of the house at Brunsvick-road was £52. The firms I deal with tender for supplying and fixing only and not for supplying separately. I have never made any investigation to see what I could do in regard to fixing only. I still think that it would be inadvisable to use Lionite or any similar material for two-storied dwellings. It appears that there would be a lack of rigidity in the framework of such a structure.

56. *To the Chairman.*—The £330 price which I have given is for a tiled roof such as you saw in Brunsvick-road. The other price is for an iron roof. It would not cost any more to give a stone corner effect to the cottages.

57. *To Senator Reid.*—I understand that Mr. Chandler is getting 32s. 6d. per week for the houses you saw in Brunsvick-road. The land there is worth £6 10s. a foot. The houses are covered and have electric light and gas connected. The land is 45 feet by 110 feet. The rent covers rates, taxes and upkeep. I get 25s. a week for the house at No. 1 Henry-street. That is the grubby rough-hewn house with the iron roof. I let the house next door for 27s. 6d. a week.

58. *To Mr. Cameron.*—The height of the walls in the plans that I have submitted is 10 feet from floor to ceiling.

The witness withdrew.

Andrew Augustine Miller, Builder and Manufacturer, Millers Weathered Iron Company, Hardware-street, Melbourne, sworn and examined.

59. *To the Chairman.*—I am aware of the proposal to erect a number of dwelling houses in Canberra. I have visited Canberra two or three times and know the place fairly well. I have made a casual examination of the plans of the proposed buildings. I consider that such buildings could be satisfactorily built with weathered iron such as my company manufactures. Ours is an all-iron construction, with the exception of the framework of the building which is timber on which the weathered iron is nailed. It is then covered with 1-in. mesh galvanised iron wire netting, and this is re-inforced with mortar, which is forced through the wire and made to adhere solidly to the iron. The wall studs and the angles in the iron form a key. The reinforcement is composed of a mixture of one part of cement to four parts of clean sand, mixed into a mortar. The surface may be left rough or trowelled. I maintain that construction of this description is absolutely impervious to dampness. Moreover, there is no possibility of any germs or white ants settling upon it. There is a certain distance in each case between the iron and the studs. I estimate that the Melbourne price of a house of fourteen squares would be about £340. We claim that our houses are cooler than weatherboard houses, that they are rust and fire-resisting and anti-proof. The Underwriters Association is now investigating a proposition to allow a special fire insurance discount for our houses. We expect to hear the decision next week. I have been led to expect that we shall receive a substantial reduction in the ordinary rates. I am quite certain that the houses are perfectly damp-proof. They require less paint and less general upkeep than weatherboard buildings. One house, which has been built for four years, and which was inspected by the committee this afternoon is as good to-day as the day it was finished. We contend that our iron is more rust-proof than ordinary galvanised iron because it has been specially galvanised and there is not so much steel in it. I could show you, if there were time, some ordinary galvanised iron and some of our iron which has been exposed to similar conditions for the same period and anybody could distinguish the difference between the two. You can bend ordinary galvanised iron and it will break fairly easily, whereas our iron will not show any sign of breaking through until it is quite hot. If we built any houses in Canberra we should have to take our iron from Melbourne. This would cost us roughly about £4 per ton in freight. I would have to work out what the exact difference in cost would be, for I do not know what the labour costs are in Canberra. If I had an opportunity I should certainly tender for the construction of 30 houses in Canberra, even if that number of houses were divided into one, two or

to the chairman—I am aware of the proposition to build cottages at Manuka. The proposed site for the building of residences at Manuka is most suitable as the water, sewerage, and electric light mains pass through the area. Moreover, it is close to the schools, shops, and picture theatre. It will to some extent be a fortunate movement to fulfil the promises of the Government, to lease the auction site in 1924, and grant of the sales. I desire to develop my lease as a picture theatre in preference to lease at Kintings cause of the published statement that the picture theatre to be erected in the vicinity of Manuka, that the picture theatre would be erected near the shops, and that the permanent Post Office

would be erected in that area. In the circumstances I considered this centre the best for my business. After I had expended £2,700 on a shop and residence in conformity with the building covenant, I found that these statements were not true, and that the future of my business was seriously affected. The Government did not build 150 cottages, although contracts for this number were let. Only half the number were erected. When the picture theatre house was sold on the 19th February, 1926, the auctioneer stated that shopping facilities would be restricted to the shopping centre only. Mr. J. W. Prowse, who bid up to £3,000 for the site, definitely states that the auctioneer advised him that the picture theatre would face the shops, for the benefit of the shop lessees, and that no shopping facilities would be permitted in the theatre. The theatre faces away from the shops, and the public is not provided with any facilities during the performance to visit the cafes, but is practically compelled to buy refreshments at the buffet in the theatre. That is contrary to the conditions of sale, and most seriously affects my business. Although the site for the Post Office is reserved, nothing has been done towards erecting it. Postal facilities are provided at Kingston, but not at Manuka. Generally Manuka has been neglected by the Federal Capital Commission in comparison with Kingston, although in the 1924 sale it was generally understood that only twelve shops would be at Kingston, and that the principal shopping centre on the south side of the river would be Manuka. This is borne out by its position, which is most central. But with the increase of shops permitted at Kingston, the Commission built roads and footpaths and provided all the services before Manuka was considered, and at this particular period, the foundations of the shopping centre were being determined. If roads and footpaths had been provided at Manuka earlier it would have assisted that area considerably. To day the road between the theatre and the shops is in a very bad condition, showing the neglect of this centre, although it is the most favorably situated for the convenience of the residents on the south side of the river. The Board of Review, which investigated the land values in their report, states that the shopping centre of Manuka should be assisted by the development of the land surrounding it, and this proposal to build residences on this block is giving effect to that suggestion. There is at present ample provision for the extension of shopping facilities, if required, in the future, as the frontages now taken up by the residences could be converted to shops which would double the present number of shops. Following are copies of written statements to support my statements:—

Monaro-street, Queanbeyan,

4th February, 1930.

Andrew McInnes, Esq.,
Civic Centre, Canberra, F.C.T.

Dear Sir,

I am enclosing the letter you received from Mr. Prowse re picture show site.

We have always been definite on the point that it was announced that shopping facilities were to be restricted to the picture theatre site, although we have no statement in our possession to confirm the fact. We are certainly impressed on buyers that the picture show site was offered for picture show purposes only.

We understand that the original plan of the picture show provided for it to face the shopping block, but that it was afterwards altered to fit in with the orientation of the city plan.

It appears to me that your last plan would be to get a written ordinance to force the proprietors to open the exit doors, as we do not think, in face of the way matters have developed, that you will receive any more satisfactory relief from this than the unsatisfactory position.

Yours faithfully,

WOOLGINS & CALTHORPE LIMITED.
(Sgd.) W. G. WOOLGINS.

Canberra, Civic Centre, F.C.T.,
1st January, 1930.

A. McInnes, Esq.,
Canberra, F.C.T.

Dear Sir,

Referring to the information you required re sale of picture show site, Messrs. Woolgins & Calthorpe Ltd. gave me full particulars and conditions of sale when visiting Canberra just before the sale.

They were very particular in making it clear to me that there was to be no shopping of any kind or refreshment shops on theatre grounds.

They pointed out that the shopping area in front of the theatre was for that purpose, and that the theatre had to be built facing the shops so as to benefit the shopping trade. As far as I remember, the limit was £12,000. I bid £3,000, and would have bid much higher under the present conditions.

Yours faithfully,
(Signed) J. W. PROWSE.

Canberra,
27th December, 1928.

Dear Sir,

With further reference to your letter dated 7th December, relative to the circumstances of your purchase of a lease at Manuka for business purposes, I am directed to inform you that no additional shopping zone has been opened up at Manuka, and that what has transpired in respect of internal arrangements at the Capitol Theatre is in accordance with the practice in the operation of picture theatres elsewhere. If a buffet had not been opened, the proprietors of the theatre would have been in a position to dispose of selling rights within the theatre, and therefore, would have doubtless been required to pay for the right. That matter, however, is entirely the business of the theatre proprietor.

The Commission is, however, communicating with the theatre management, requiring the opening of the exit doors on both sides of the theatre during the interval of performances, whenever weather conditions render the procedure possible. This request will be made for public health reasons.

Yours faithfully,
(Signed) H. R. WATERMAN,
for Secretary, Federal Capital Commission.
Mr. Andrew McInnes,
Capital Cafe, Manuka, F.C.T.

22 Pitt-street, Sydney,
12th November, 1928.

Andrew McInnes, Esq.,
Capital Cafe, Manuka, Canberra.

Dear Sir,

Referring to my letter to you of the 9th inst., I desire to furnish you herewith with extracts from my remarks made at the sale of the first residential and business sites at Canberra, referring particularly to the latter:—

"The business sites are suitably situated to meet the shopping requirements of residents, and as no other shopping areas will be established, they must command careful attention."

Yours faithfully,
for RICHARDSON & WRENCH LTD.
(Signed) C. H. CHAMBERS,
Managing Director.

I am aware of a proposal to erect two-storied semi-detached houses in the Manuka area. I have not had very much experience in building matters, but I think that additional houses should be erected in the locality. I am not so much concerned as to the type of building that is erected.

65. To Senator Reid.—My business is that of café proprietor, and I sell sweets, refreshments, and such like. The direction in which the entrance to the picture theatre faces detrimentally affects my business. Frequently the theatre is half filled with strangers, who have no idea that there are any shops at the back of the place. During intervals the back doors of the theatre are closed, and people are not allowed to use them as exits. The Federal Capital Commission promised to have them used as exits, and I believe that an ordinance was drawn up to enforce that idea, but it was never given effect to. The proprietor of the theatre conducts a buffet at which he sells soft drinks, sweets, &c., in the building. I know that that is a common practice in places of amusement, but it was originally promised that it would not be permitted at the Capitol Theatre,

Canberra. I built my present shop principally because the picture theatre was to be built opposite. I even exchanged a block that I owned further down the street for my present location, believing that the entrance to the theatre would be opposite my shop. The Federal Capital Commission has not carried out the promises made by its auctioneer. If a private man had done and said what the Commission has, he would be in gaol to-day. The shopkeepers of Manuka would be content if the back doors of the theatre were thrown open during intervals. They consider that if that is not done the proprietor should be compelled to close his buffet. I speak on behalf of myself and other shopkeepers in that centre.

66. To Mr. Long.—I expended £2,700 on my building alone, and have been a resident of Canberra for three years. I believe that the proposed site for the additional 36 houses is a suitable one, having in view both the development of Canberra and the comfort of its people. Naturally, that would also benefit shopkeepers in the Manuka district. From my experience, Canberra houses are generally too expensive for working men. I should prefer to see completely detached cottages erected, but if that is impracticable those suggested would be more or less satisfactory. If these cottages are to be let at 27s. 3d. plus a ground rent of 5s. 3d., it will not leave the man who receives £5 or £6 a week much to spend in my, or in any other, shop. I believe land values to be excessive in the Territory. Even the flats that are to be built and let at an all-in rent of 25s. will not leave the low-paid wage-earner much to spend. I cannot understand why tenants are charged rates in addition to rent. I have a couple of shops at Leeton that I let at £2 10s. each, and I pay the rates myself. I am satisfied with Manuka as a building area. I have never found any evidence of its being swampy.

70. To Senator Sampson.—My authority for saying that it was intended to build twelve shops in Kingston is based on the announcement made by the auctioneer at the time of the original land sales in Canberra. I purchased three or four blocks, one of which was at Kingston. When I was told that some 150 houses were to be constructed round Manuka I naturally built my shop in that centre. Through the breach of faith of the Commission shopkeepers at Manuka are in a bad position. The nearest post office is at Kingston.

71. To Mr. M. Cameron.—There is a mail delivery at Manuka. Both Manuka and Kingston properties were sold at the same series of land sales. My impression, gathered from the auctioneer's statement, was that Manuka was to be the town on the south side of the river. The Capitol Theatre site was not sold until about twelve months later. It was then that I changed blocks in order to be opposite the theatre. Had I known that a refreshment buffet would have been contemplated in the theatre I certainly should not have built my present shop. I could have sold my block then at a fair price. I was at Leeton for two years engaged in a similar type of business. I certainly have not improved my position by coming here. I am sorry that some of the people who brought about my present position are not similarly placed at Manuka, scratching for a living. From an aesthetic point of view, it would be preferable to have one-storied than two-storied cottages in Canberra. They would also be more convenient for the housewives.

72. To Mr. Gregory.—I think that it would be wise to suggest that if wholly detached buildings are to be erected, some four-roomed houses should be included in the plan on account of their cheapness and suitability for a small family. I strongly urge the committee to recommend either the closing of the buffet in the Capitol Theatre or the opening of the back doors during intervals. It means either the success or ruin of my business. A decent road should be constructed in front

of the Manuka shops. A number of roads run in the vicinity of the shopping centre, and if a good concrete road passed the shops themselves motorists would be induced to use it. I am a member of the Citizens' League, and I have brought up the grievances of Manuka shopkeepers at every meeting of the league. I have fought the Commission for three years over the matter, and have written them practically 100 letters on the subject. The Citizens' League has also made representations to the Commission in the matter.

The witness withdrew.

James Walter Keegan, Master Butcher, Manuka, sworn and examined.

73. To the Chairman.—I am aware of the proposal to erect cottages at Manuka. I am the pioneer shopkeeper of that area. I attended the original auction sales. At the time plans had been proposed for shopping areas at Civic Centre and Manuka, but not for Kingston. I naturally concluded that Manuka would be the shopping centre for the south side of the river, and that Civic Centre would serve the other side. I did not bid for a Kingston block because it was not indicated that a shopping centre would be established there. The present proposal to construct these cottages at Manuka should assist business men in that area. They have a moral right to such building activities, as the building proposals promised at the time when I bought my block have not been proceeded with. If these houses are not built at Manuka, the shopkeepers in the area should receive some form of compensation from the Commission, as there has been a breach of contract by the departure from the original promises. The Kingston, Manuka and Civic Centre sales were made on the same day. The auctioneer said that there would be only twelve shops at Eastlake, so many at Manuka and so many at Civic Centre. He said that no two shops for similar purposes would be contemplated in any one of those centres. A Mr. Goldstein bought blocks at Eastlake, and also at Manuka, where he erected an arcade. Twelve months after I built, that gentleman told me that Kingston was to be a concentrated shopping centre, and that Manuka would be useless for speculative purposes. If the Government carries on with these building activities at Manuka it will partly fulfil the promises of the Commission.

74. To Mr. Sampson.—A distinct promise was made that there would be considerable development in the Manuka area, possibly to the extent of 2,000 houses. One contractor alone was to construct 100 houses there, but he built only 25; another was to build 50 houses. A number of people bought blocks in the locality and would have built had the place gone ahead as was originally promised. At the time of the land sale there were no buildings at Kingston. The land was not in order for building purposes for another six months. It was twelve months before I could begin my building, and I should have had to wait a further six months had I built at Civic Centre. I have no experience with semi-detached houses, and prefer a wholly detached house with a dwelling.

75. To Mr. M. Cameron.—There are at present and always have been vacant shops at Kingston. That locality developed into a city having a number of shops used for the same type of business. Some businesses have failed there. There are two butcher shops at Kingston, my own at Manuka, and there were two at Civic Centre, one of which has failed. Those shops supply the whole of the city's requirements. Naturally customers who attend at the shops expect to pay less. We are losing money because we have to deliver over such a wide area. Had I established myself at Civic Centre I should have been in a better position, as there is a larger population there. The people of Red Hill, Mugga and Forrest go to Kingston to shop,

because there are stores there. Recently a man began a small grocery store at Manuka. There are a number of blocks in that centre admirably suited for general store purposes, but the business is not there to warrant anyone opening. The whole of the arcade is still practically vacant.

76. *To Mr. Gregory.*—Because of the representations made by the Commission at the original sale the Government should make special efforts to induce settlement at Manuka. I understood that Kingston was only to be a temporary centre. I believe that the representations made at the time were misleading and to a certain extent dishonourable. Shopkeepers in the Manuka area would enliven any efforts made by the Government adequately to settle the locality. I am in favour of the leasehold principle, but I do not necessarily believe in the restriction of the type of businesses for four-roomed, or even smaller cottages. I pay one of my employees £6 a week, and he has to live at Queanbeyan because he cannot afford to rent a house in Canberra. It pays him to travel to and from Queanbeyan, and to waste many hours in doing so rather than to live here. I do not know the type of house in which he is living, but I consider that a four-roomed house would suit him. He is only one of hundreds similarly situated.

77. *To Senator Reid.*—Until recently 400 to 500 people employed at Canberra had been forced to live at Queanbeyan, because of the cheaper housing conditions there. They practically put in a day and a half, because of the extra travelling, to get in a day's work, and have to pay transport. The installation of an additional 40 families at Manuka would make a difference to my business as well as to others in the area. If Canberra were more thickly populated it would pay butchers to offer special bargains as an inducement to people to call at the shop for their meat. At present the houses are too far distant from the shops. The lower paid employees would prefer to go to the shop and take advantage of any reductions. The proposed houses would be within walking distance of my shop, and the provision of cheaper meat for those who personally called at the shop and paid cash would attract them. The additional population would encourage others to lease shops at Manuka and would give new life to the area, but it would not sufficiently compensate present shopkeepers who have suffered through the misrepresentation of the Commission.

78. *To Mr. Gregory.*—£100 is quite sufficient for a 50 feet block in the Manuka area.

79. *To Mr. M. Cameron.*—I believe that a decent four or five-roomed cottage at Queanbeyan costs from 15s. to 35s. a week. There has been a slump in that town and people are anxious to let their properties, but even during the boom period Queanbeyan rents were lower than those which it is proposed to ask for semi-detached houses in Canberra. However, if cottages were made available in the Federal Capital at 6s. to 8s. higher than Queanbeyan prices, people would prefer to rent them rather than to live in Queanbeyan. Generally speaking the cost of living in Canberra, apart from rents, is no higher than it is in Queanbeyan. I fancy that the additional railfare between the two cities is a burden carried by the storekeepers. Until recently Canberra butchers were not subject to the opposition of Queanbeyan butchers, due to the lack of a health inspector at the latter town, but storekeepers, fruiterers, and others in the Federal Capital have had to compete with similar tradespeople in Queanbeyan. That indicates that local firms had to bear the additional freights. I see no reason for the exorbitant freights charged between Queanbeyan and Canberra.

80. *To Senator Reid.*—As the purchaser of a leasehold and the owner of a business I agree generally with land values in Canberra. I am not prepared to say that lower land values would have much effect on the cost of living. I do object to the consistent increase in rates made by the Commission. We are developing Canberra for the Government and should not be penalized for our work. Cheaper rents would induce lower paid employees to live in Canberra.

81. *To Mr. Gregory.*—I was at the sale of the land for the Capitol Theatre, and I distinctly heard it said that no shop or shops were to be built on that block. At that time I had the block that adjoins my shop under offer to me, but did not purchase. The owner of the Capitol Theatre immediately bought it in order to build a refreshment shop upon it, to be run in conjunction with the Capitol Theatre. From that I infer that the theatre was to be purely a picture show, with no buffet on the premises.

The witness withdrew.

John Stanley Cusack, Furniture Storekeeper, sworn and examined.

82. *To the Chairman.*—I have heard the evidence given by the last three witnesses and I agree with what they said. In 1934 I attended the first land sale held in Canberra, and purchased a business site at Manuka. On arrival home after the sale I was sorry that I had not purchased more land, and made arrangements to buy my present block. I disposed of my first purchase, the smaller block. At the sale the auctioneer explained that Manuka was to be the chief shopping centre on the south side. That is why I did not buy a block at Kingston. Later it was explained to me at the Commission offices that Manuka would be the leading shopping place on this side. The manager of the Commonwealth Bank also confirmed that statement when I consulted him about an advance. He said that the investment would be a good one, that all the good homes would be in the locality, while the cheaper homes would be around Civic Centre. It was to be to Canberra what Rose Bay is to Sydney. Kingston was to be a more or less temporary arrangement to supply the wants of the people while the other centres were being built. Within the specified time I had the foundation of my building put in and delivered the required number of bricks on the job. When I found that other buildings were being constructed at Manuka I went ahead with the business and completed my building within the three years limit, plus an extension of one month. My shop and residence cost £5,000, and the stock £3,000. The district has not been developed and it is impossible to make a reasonable return on the money invested. The business people of Manuka have to remain there because they cannot sell out. They would have to be pleased if they were able to get their money back. The place even lacks what she has to walk almost a couple of miles, probably pushing a perambulator. It is usual to have the best road in the shopping centre of any town. The reverse is to be found at Manuka. Good concrete roads are to be found some distance from the principal shopping street of Manuka, so that people avoid that street and remain on the better roads. That is detrimental to the business interests of Manuka shopkeepers. I am sorry that I did not invest my money in Cooma, Murrumbidgee, or a similar town, where a much better return would have been available. Many of our original Canberra customers had to go to Queanbeyan to live, owing to the lack of suitable houses in the Federal Capital. Those people need a house at about 25s. a week, including rates. It would be an excellent idea to build a number of houses with only two bedrooms, as small families do not need three bedrooms.

(Taken at Canberra.)

WEDNESDAY, 26th MARCH, 1930.

Present:

Senator DOOLEY, (in the Chair);
 Senator Reid | Mr. Gregory
 Senator Sampson | Mr. Holloway
 Mr. M. Cameron | Mr. Long.
 Trevor Manningham Lindley, clerk, Home Affairs Department, sworn and examined.

The latter type of house might even tend towards overcrowding, as the occupant would probably close in the sleep-out and share the house with another family.

83. *To Senator Sampson.*—I believe that most people prefer to live in wholly detached houses, but the business people of Manuka would welcome the construction of any type of house in order to induce more people to live in the locality. Building costs have been exorbitant in Canberra.

84. *To Mr. M. Cameron.*—The development of Kingston took place before that of Manuka, which has not yet been properly developed. When the Commission began to attend to Manuka, Kingston had already been completed. Keegan's shop was the only one at Manuka at the time, but it was necessary, under the terms of our agreement, to begin to build or to sacrifice our deposits. There are many shops in Manuka from which not one penny has been collected in rent since they have been built. There is a sufficient number of working people in Canberra to fill 100 cheap cottages, without taking into consideration any accommodation at Russell Hill and the Causeway. I could not say whether people at Molonglo, the Causeway, Russell Hill, &c., desire to change to another locality. Mine is a corner block, with the shop facing two streets. When I built it was necessary to provide some fencing between the shop and the end of the lane. The Commission wanted to take 20 feet from the side of my land to make a flower garden—an idea of Sir John Harrison. I made a complaint, as my backyard would have been so restricted that it would have been impossible to turn motor vehicles in it. Eventually the demand was modified, but four feet was taken from me upon which to make a garden, and no compensation was paid.

85. *To Senator Reid.*—I assume that the auctioneer who made the statement as to the future development of Manuka was an authorized agent to the Commission. He was selling from plans prepared by the Commission. I am unable to say now whether the plans also conveyed the impression that Manuka would be extensively developed. It would appear that once Kingston was started the Commission went out of its way to encourage its development. I believe that concentration upon building activities around Manuka would considerably improve the position, but the construction of only 30 houses would not have the desired effect.

86. *To Mr. Long.*—I am not surprised at the statement that 500 people who work in Canberra live in Queanbeyan. They find that necessary because Canberra rents are too high. The only way to overcome that difficulty is to construct cheaper houses here. Even the proposed dwellings at 25s. 6d. and 32s. 6d. a week would be too high for those people. However, it would be a choice of the lesser of two evils, and many would be compelled to reside in Canberra in those houses. It is desirable to construct not only the proposed houses but many more cheaper homes. The Government would be warranted in building at least 100 cheap dwellings. I cannot understand why a house could not be constructed to let at 25s. a week. I live at Yass, and there there are weatherboard and fibro-cement houses, with four rooms, including two bedrooms, which let at 25s. a week and still pay ten per cent. on the outlay. They have been built within recent years. They are fitted with electric lighting, water, and have a garbage collection, but no sewerage.

87. *To Mr. Gregory.*—I do not know of any joint representations made by the people of Manuka to the Government to voice their grievances. There have never been sufficient shopkeepers in the area to form a deputation.

88. *To Senator Dooley.*—For nearly six months I have been occupying one of the two story semi-detached dwellings erected by the Federal Capital Commission at Reid. It has five rooms and all conveniences and the inclusive rental is 33s. a week. Formerly I was living in a detached cottage having the same number of rooms and conveniences for an inclusive rental of £2 5s. 11d. a week. I moved to a semi-detached cottage because the rental was cheaper. I have heard no complaints from tenants of these houses and I believe that, in the main, they are satisfied with them. I consider that they could be improved at a slight cost. One of the disadvantages is the steepness and narrowness of the stairs. If I could get a detached cottage of the same size for the same rental I would, of course, prefer it. In my opinion it would not be a more convenient arrangement in semi-detached cottages to have one family on the upper floor and one family on the ground floor. I have a number of young children in my family. The stairs are dangerous. The children have to be watched carefully. If it were possible to make the stairs a little wider and not quite so steep an objection to this type of cottage would be removed. The bathroom also should be larger. The bath itself is small in size and when you open the door you have to shut it again to get to the top. There is not sufficient space in the bathroom. In the house which I am occupying there is a long narrow room upstairs which I consider not so convenient as it might be, but I notice that in the plan for the proposed buildings at Manuka the architect has adopted a different arrangement for the layout of the rooms upstairs.

89. *To Mr. Cameron.*—I am certain that mothers with young children would prefer a detached cottage if it offered the same accommodation and could be obtained for the same rental as a semi-detached cottage. I saved 15s. a week in rent by moving to the cottage which I now occupy. There is another disadvantage which I omitted to mention in reply to Senator Dooley. The window to the landing to the stairs overlooks the laundry in the house next door. This is undesirable. I endeavoured to get the Commission to rectify this, but the Commission refused. I have not heard any complaints about conversations between members of one family in this type of house being overheard by the occupant of the other house. I have never heard conversation between other occupants of my semi-detached cottage. The rooms are large enough for my needs, but my children are young. Possibly the long narrow room upstairs would not be suitable for children nearing the adult age, and I intend later to move into another house. The land upon which the semi-detached cottages in Reid have been built is unsuitable. It is a filled in swamp and the ground is sour. Actually it smells when it is turned over for cultivation purposes.

90. *To Senator Reid.*—The stairs are too narrow and the tread too steep. For this reason they are dangerous to children.

91. *To Mr. Holloway.*—My rental of 33s. a week includes rates and ground rent. As a rule I walk to and from the office every morning and evening as well as in the luncheon hour. If I used the bus, a weekly ticket would cost 2s. 3d. The occupants of other semi-detached cottages at Ainslie must, of necessity, use the bus always.

92. To Mr. Long.—There are advantages and disadvantages about these semi-detached cottages. My only reason for leaving a detached cottage was that the rent was higher than my present home. If the Commission could provide me with a detached cottage with the same number of rooms and for the same rental I would have no hesitation in accepting it. So far as I am aware the privacy of a family in a semi-detached cottage is not interfered with, but the window on the landing to the stairs overlooks the laundry of the house next door. The stairs are a drawback. An aged person could not, with safety, negotiate them. I should not like to say definitely that, if the Commission provided me with a detached cottage constructed of some patent material approved by the committee and giving the same accommodation, I would be prepared to live in it in preference to one of the semi-detached cottages. I should like to see it first. I consider the rent charged by the Commission for these cottages is not unfair.

93. To Senator Reid. If the window on the landing to the stairs were frosted and kept closed it would not then be possible to overlook the laundry in the house next door.

94. To Mr. Gregory.—The balcony in front could be used as a sleep out. I think also that the appearance of the cottages would be enhanced and comfort of the occupants be increased if there were a little iron balcony to the upstairs window.

(Taken at Canberra.)

THURSDAY, 27TH MARCH, 1930.

Present:

Senator Dooley, in the chair;

Senator Reid	Mr. Gregory
Senator Sampson	Mr. Holloway
Mr. M. Cameron	Mr. Long.

Ernest Spence, President of the Canberra Master Builders' Association, sworn and examined.

95. To Senator Dooley. I am aware of the proposal to erect a number of semi-detached cottages at Manuka. I am acquainted with the proposed site, and I have seen the plans. I have prepared the following statement on the subject:—

Access.—There would seem to be no question as to the necessity for the provision of a number of houses which can be made available for the lower paid officers and workmen now employed in the Territory, and who are now housed in the Molonglo and at Russell Hill settlements. There is no question that the abolition of these temporary structures is desirable at the earliest possible moment.

Location of Proposed Homes. In view of the fact that the present scheme provides only for a portion of the houses required, no objection can be taken to the proposed location of the houses, but we are of the opinion that the full scheme when developed, and the majority of houses erected, should be adjacent to a Civic Centre. This is intended to be the business centre of Canberra, and nothing should be allowed to stand in the way of its being made such. Large sums have been spent in the erection of expensive buildings at Civic Centre by banks, insurance offices, and storekeepers, and the Government must keep faith with these investors after having induced them to take up the houses and having forced them to build or forfeit their lease.

Type of House.—This is a subject of much controversy, and while it must be admitted that the semi-detached house is not ideal, it is distinctly preferable to a detached house built of flimsy materials, with a high cost of upkeep, and its almost insoluble problem of heating, except at great expense. It is the opinion of the majority of our members that this type of house provides the maximum of accommodation at the lowest possible cost.

Costs.—It may be definitely stated that with the present costs of material, freight, and wages, the cost of building in Canberra cannot be further reduced. What is termed the high cost of building is caused by the aggregation of the following factors:—

- (1) Over-valuation of land.
- (2) Freight.
- (3) Bricks.
- (4) High standard of sewerage and plumbing.
- (5) Building regulations.
- (6) Wages.
- (7) Transport.

1. The fact that as, per week, is absorbed in ground rent and rates makes the problem of providing a five-roomed house for 30s. a week rather difficult, and we suggest reducing the valuation of the blocks to £100.

2. The fact that most of our materials have to be dragged 200 miles must be kept in mind when considering our costs as compared with those of the State capital cities.

3. It is considered that bricks could be supplied cheaper than £14s. a thousand at the kiln. Our latest estimate is that bricks could be sold at about £4 4s. at the kiln, and still show a profit by (1) deleting the charge on the brickworks of the extra cost of bricks purchased in Sydney during the rush period, and (2) buying stores direct. We are given to understand that every truck of coal, and all machines and parts required are bought through the Stores Department, and an overhead charge is added to each item, for which practically no service is rendered. One clerk could handle all the delivery tickets and all customers' accounts, as is done at similar-sized brickyards elsewhere.

4. The standard of sewerage and plumbing in Canberra is high, and we are not prepared to question the advisability of keeping it high, but the cost of providing it is made more costly by the necessity of importing pipes from Tasmania at a cost to us of 2s. 6d. a pipe at Canberra, and we suggest either making pipes here or taking the Sydney pipe at a cost of 2s. 4d. here.

5. There is a charge of £2 12s. 6d. for a final certificate not charged elsewhere. In Sydney or Melbourne lead damp-course is not included on.

6. Wages are approximately 20 per cent. higher than in New South Wales, and are based on the Commission award rates, which are higher than in other States, and which also provide for payment for wet weather and certain holidays. They are also affected by fares from Sydney, and travelling time and country allowances should it be necessary to bring men here.

7. While it is hard to estimate the cost of transport in the city, it adds to the cost here owing to the scattered nature of the city plan.

Land values have been increased in some cases out of all reason. For instance, I know of two recent cases in which men who proposed to build houses here were put off because of the high value placed on the land. Blocks originally valued at £400 have been increased to £600. One man proposed to put up a building to cost £2,300, and another proposed to build a house to cost £4,000. They were sold on the proposition, because they considered the land was over-valued. Tiles are too expensive in Canberra. It costs us £20 per 1,000 to get tiles through the Commission, whereas we could land better tiles here ourselves for £16 10s. a 1,000.

The earthenware pipes for sewerage are also obtained from the Commission, through the Stores Department. I do not know who manufactures them. Wages here are 20 per cent. higher than in Sydney, and they are also higher than the Commission award rates. The Commission award provides for payment during wet weather, and for certain holidays. We pay our men a straight-out wage, which is calculated to compensate them for wet weather and holiday pay. The block of land on which the prospective resident proposed to build a house costing £4,000 is situated at Mugga-way, next to Mr. W. M. Hughes's block. At a valuation of £200 on that land he would have to pay £1 a week to cover ground rent and rates apart altogether from the cost of the house. I think it was No. 13 block, Mugga-way, which he was considering. As a matter of fact, the design of the city itself makes the cost of building high in Canberra. There are a great many triangular blocks, which necessitate a long run for sewerage and water pipes. It is true that the value of land in Canberra has been established by sales at auction, but I think that speculation had a good deal to do with fixing values. Moreover, the sales were held during the boom period. I think the Canberra rents compare very favorably with those in Sydney or Melbourne for similar classes of houses. For the same type of accommodation in Sydney as we propose to provide here one would have to pay from 32s. to 35s. a week. I cannot suggest, apart from reduction of land values, &c., how this type of accommodation could be provided more cheaply, except by the use of flimsy

materials, and I would not advise that. Houses built of weatherboard are difficult to heat, which makes them unsuitable for Canberra. I lived in a weatherboard house in Melbourne at one time, and found it practically impossible to keep it warm at a reasonable cost. Lately the Commission has been insisting upon the use of blue metal in concrete foundations, whereas previously we were allowed to use river gravel. Practically all the concrete work at Civic Centre was done with river gravel, including the arches. I think river gravel is quite suitable for use in buildings such as we are considering now. The cost of blue metal delivered on the job is £1 a yard. It costs 13s. a yard at the crusher. Gravel can be delivered on the job for 6s. a yard. There is no charge for getting the gravel; there is merely the cartage to pay. It has been proved that river gravel is quite suitable for practically any type of foundation.

96. To Mr. Gregory.—Building is about 10 per cent. dearer here than in Sydney. There has been no recent reduction in the price of bricks, and the difference between £3 a thousand and £4 16s. mentioned by some witnesses is accounted for by the following fact: When some of the blocks of land in Canberra were sold, a guarantee was given by the Commission that bricks would be provided at £4 16s. a thousand, and for buildings on those blocks bricks are still being supplied at that price. Private builders, however, operating on blocks not subject to this agreement, have to pay £5 a 1,000. When it was first proposed to provide cheap housing accommodation in Canberra the Chief Architect of the Commission approached the master builders, and asked us for suggestions in regard to the development of a cheap scheme. When we built the other group of two-storied houses somewhat similar to those we are now considering, bricks were supplied to us at £4 16s. a 1,000, which is the same, I understand, as will be charged for bricks for this scheme. The price for bricks at Sydney is, I think, £3 14s. at the kiln. If the builders' price-list shows the Sydney price to be £3 12s. a 1,000 that is probably right. The builders are compelled, under their contract with the Commission, to buy certain stores from the Commission. The Commission stores are not now able to supply window frames, but previously that was very closely insisted on. When the depression came upon Canberra the stores branch had to reduce its stocks and costs, and one of the activities cut out was the joinery shop. We now supply all doors, box frames, &c., ourselves, although previously they were supplied by the Commission. The Commission now supplies timber, reinforcing roads, ironmongery, sanitary fittings, plumbing fittings, and electric wires and fittings. It was a fact that the Commission insisted, in regard to certain contracts, that Commission stores should be used simply because it held stocks of these materials, and desired to use them up. The builders here would prefer, in all cases, to provide their own materials. In regard to ironmongery, for instance, I consider it would be a fair thing for the Commission to fix a minimum price for certain specified articles, so as to ensure the use of a good quality. The Commission has not increased the price of timber as a result of the recent increase in the tariff. It still supplies timber at the old price. Earthenware pipes for sewerage are bought in Tasmania because the authorities say they have a smoother finish than the pipes manufactured in Sydney. The contention of the authorities is that the Sydney pipes have small ironstone blisters on them which render them unsuitable. In Sydney the sewerage authorities use the locally manufactured pipe, but where we use a 4-inch pipe in Canberra they use a 6-inch pipe. As a matter of fact, I think the Sydney pipes will stand a greater pressure than those we use here, but it must be admitted that the bore inside is not so good. We think that pipes should be made in Canberra. It has been done, and

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there is no reason why all the pipes needed should not be made here. The builders here are definitely against the use of wooden houses, which we consider to be too cold. I have heard of the use of specially adapted cement sheets, covered with roughcast, which might provide accommodation for 20 or 30 years, but I do not approve of the use of such material. I do not think that the small saving involved in the use of materials other than brick is worth while.

97. To Senator Reid.—I do not see any reason for making a charge of £2 12s. 6d. for a final certificate. Every house constructed here is under constant supervision by the Commission authorities. This charge is not made anywhere else in Australia. In connection with electrical fittings, we had it on the authority of an expert electrician that a 3-wire cable of .036 size is quite as good as the .029 size, and it would save 7s. 6d. a point. Personally, I am in favour of lead damp courses, although in Melbourne such materials as tar and sand are used. We cannot do anything to reduce plumbing costs here on account of the water pressure, but in any case I should not be in favour of lowering the present standard. The Commission authorities are constantly sending inspectors along during the course of building, and they say that the final charge is to cover the cost of such inspection. They say it includes survey charges, supervision charges, and charges for checking plans, &c. It appears to me to be a most inequitable charge, however, because recently they charged me £2 12s. 6d. on a job costing £44 15s., and they would charge no more on a job costing £10,000. I have not lived in double-lined weatherboard cottages in Canberra, but I have lived in such cottages in Melbourne. My experience has been that it is impossible to provide a satisfactory heating system for such houses. I know a number of people who live in such houses here, and that is their opinion also. Such houses can be heated only at great cost. There is a current of air passing under the house all the time. In a brick house the walls go right down to the ground, but in wooden houses there is a space between the walls and the ground, and during a high wind I have seen the floor covering lift half an inch off the floor. The floors are tongued and grooved, but it makes no difference. It is impossible to make an air-tight floor here. One cannot guarantee that timber will not shrink in Canberra. It would be cheaper for us to obtain our joinery for ourselves than to buy it from the Commission. As regards the use of blue metal for concrete foundations, I think that its use was insisted upon in some cases by the Commission, because it was becoming more difficult to get good river gravel. Also, the Commission wished to use up its output from the quarry. I do not say that blue metal does not make a better concrete than river gravel. It does; but for all practical purposes river gravel is good enough for foundations, at any rate. The blue metal is crushed at the Mugga quarry, near the abattoirs, and costs £1 a yard on the job as against 6s. a yard for river gravel. There is still plenty of river gravel to be had. I think it is the general opinion that high land values are having the effect of preventing people from building in Canberra. I have already quoted two recent instances in which they had this effect. From a national point of view, I consider that everything should be done to encourage building here. I should like to see the capital developed rapidly. Retired squatters, and business men from the city, should be encouraged to make their homes here. If land values were reduced by as much as 50 per cent. it would induce more building in the Territory. From a purely business point of view I think it would pay the Government to cut down land values. Considering the cost of building, I should not say that rents here are not too high. All along our problem here has been to provide housing as cheaply as possible, so that when the Commission or public servants came from Melbourne

and Sydney they would not have to pay rent greatly in excess of what they had been used to. At the same time, it must be recognized that people in country towns in New South Wales expect to pay more for their houses than if they were in the city. A man building a house at Goulburn, Lismore, Grafton, or Orange, expects it to cost him more than would the same class of house in Sydney. The Canberra resident cannot expect to get his house at the same cost as he had his house built for in Melbourne. In Canberra we work under local wages awards. When we take a Commission contract we are bound to pay the Commission award rates. Generally speaking, these rates work out at 20 per cent. more than in New South Wales. That is not a matter of opinion, but of actual fact. I am speaking of all classes of building labour, from labourers to tradesmen.

98. *To Mr. Holloway.*—Building trade employees are paid by the hour, and the Commission award rate specifies payment at so much an hour. Under the Commission award, if a man turns up at the job in wet weather, and goes away again without doing any work, he must be paid for half a day's work which he does not do. Furthermore, under the award, he must be paid for certain stipulated holidays, provided he worked the day before the holiday and the day after it. We are bound by the terms of the Commission contract to adhere to that award, but it was ruled in a court finding some years ago that building contractors here could not be expected to work on such an indefinite basis. It is necessary that contractors, when tendering for a job, should be able to assess their costs with a fair degree of exactitude. Obviously the contractor cannot estimate how many wet days there will be in a year, and for that reason we have arrived at an arrangement under which we pay our men a higher rate than that provided by the Commission to compensate them for the loss of wet-weather payments and payment for holidays. The men have accepted the arrangement, and it suits us because we can estimate our costs. We fixed this formula for the sake of safety, rather than gamble on the weather. It pays us to pay high wages to satisfactory workers here, and keep them in the Territory, rather than fetch men from the cities, and take the risk of their being good or bad. If they are no good, and have to be sent back, we have to pay their fares both ways. It is possible that under the system we have evolved we do pay a little higher on the average than the Commission itself would pay, working under its own award, and taking the risk of losses due to wet weather, but this would account for very little of the added cost of building in Canberra. Building costs are only 10 per cent. higher in Canberra than in Sydney or Melbourne. The cost of wages on a job does not amount to more than two-sevenths of the total cost. The cost of a pair of semi-detached cottages in the previous group built here was about £1,850. Two-sevenths of that, which represents approximately the wages cost, is about £530. Say the wages here are 20 per cent. higher than in Sydney; that is an added wages cost of £106 over the Sydney cost. Ten per cent. on the total cost of the job is £185, so that the higher wages do not even then make up the whole of the 10 per cent. added cost of building in Canberra over Sydney. Building construction in Melbourne is cheaper than in Sydney, because they use cheaper material. In order to reduce rents here I suggest that land values, the price of bricks, and freights be reduced. We expect that freights will be reduced in the near future. The freight on material from Queanbeyan to Canberra is undoubtedly an imposition. The provision of cheaper sewerage pipes is a problem. The pipe-makers in Sydney are a combine, and it is difficult to induce them even to try to make pipes that comply with the Canberra regulations. That is one reason why we get our pipes from Tasmania. I understand that the

Sydney regulations are just as strict as those in Canberra, but they are not adhered to. Other suggestions for cheapening costs are to cut out the charges for the final certificate, to reduce the standard of electrical equipment for power, and to reduce the cost of tiles to £10 10s. a ton. I believe that if an impetus could be given to building operations in Canberra by reducing the values of blocks, it would benefit even those who started here early, and built on higher-priced blocks. I do not agree that the size of the blocks should be reduced, because any reduction would tend to create slums. There is such a thing as being too close to one's neighbour.

99. *To Mr. Long.*—I have been a resident of Canberra for four years, during which time I have been carrying on as a builder. When I came here practically every block of building land for residential purposes was in the hands of investors—call them speculators if you like. Any one wanting a block of land had to go to one of these investors, and pay a premium on it. Practically all these blocks have now either been surrendered to the Commission, or have been sold. I think the fact that this land was held by speculators had something to do with preventing people from building here. They would not pay the premium, and quite rightly so. They could not see why they should not be able to go to the Commission and buy a block of land over the counter. For land in Melbourne, similar to that for which £300 a block is charged here, such as that on which these semi-detached cottages are to be built, not more than 35s. a foot would have to be paid. Land at that price can be bought in bulk 10 or 12 miles from Melbourne, and for proximity to business centres, &c., such land can be compared with the blocks we are considering in Canberra. No doubt the original values placed upon land in Canberra were artificial, but they were fixed by competition at the time. There is no competition for the land to-day, it is true, but values have now been fixed by an official valuator. Mr. Justice Pike reviewed the whole land question here, took evidence from competent witnesses, and fixed values. I still think, however, that the valuations are too high. We would have to be able to provide cheap houses, values should be reduced. At the present time the question of values is entirely in the hands of the Federal Capital Commission. If these blocks were put up for auction again it is doubtful whether they would fetch anything like the values which the Commission has placed upon them. I certainly think it would be a good thing to reduce land values—and rents correspondingly—so as to induce workmen to live in Canberra rather than have them living in Queanbeyan, and travelling backwards and forwards to their work here. We wish to encourage workmen to live in the Territory. The investors who erected expensive buildings in Civic Centre are entitled to have everything done to induce a bigger population to reside here. Not only from our own point of view, but from the national point of view also, the sooner we get a larger population in Canberra the better. I believe that all the departments should be transferred here. I consider that if accommodation could be provided here for 32s. 6d. a week for cottages, and 27s. 6d. a week for flats, it would induce workmen to live here rather than go to Queanbeyan. We should like to see good accommodation provided at 30s. a week. For 22s. 6d. a week houses can be obtained in Queanbeyan which will give accommodation equal to that which we hope to supply. It costs workers, however, at least 8s. a week to travel between Queanbeyan and Canberra, and that has to be added on to their rent. Moreover, houses in Queanbeyan have not the advantage of a sewerage system, and other amenities which are supplied in Canberra.

100. *To Senator Sampson.*—I have seen the plans of the semi-detached houses which it is proposed to erect. I have built one pair of semi-detached houses in Alinalia, and the only objection I can see to that type of building is that noises can be heard in one part of the building from the other. However, I have had no complaint from tenants in that regard. The only way I can see for further reducing the cost of such buildings is to cut out some architectural feature. It has been suggested that costs might be reduced by cutting out the eaves. After all, one can only go a certain distance in that direction. I would never advocate the perpetration of architectural monstrosities in Canberra just for the sake of reducing costs. The actual cost of these places has, I believe, been reduced to the lowest possible level. Four walls, a ceiling and a floor are provided, and nothing more. In order further to reduce the cost we must reduce the size, or cut out some desirable architectural feature. It might be possible to effect some saving by increasing the length of the attached portion. The cottages are now attached at their narrowest point. My personal opinion is that under the present building regulations for Canberra it is impossible to provide detached houses for the same price as semi-detached cottages unless we are prepared to build mere boxes. The semi-detached cottage provides the maximum amount of accommodation for the lowest possible cost.

101. *To Mr. Cameron.*—The cottages in Queanbeyan which are occupied by people who work in the Territory, and who pay from 22s. to 25s. a week for them, are weatherboard or fibro cement structures, and are roofed with iron. Fibro cement buildings are no warmer than wooden ones. They take up heat, and give it off just about as quickly as sheet iron buildings. No form of construction other than brick is, in my opinion, desirable. Many Commission employees live in weatherboard houses at Molonglo and Russell Hill at the present time, and it is desired to get rid of them on the question of building in concrete. Two concrete building schemes to provide housing accommodation have been tried in Canberra, and they failed. For one thing it is impossible to convince the average buyer that a concrete house is as good as a brick one. I do not say that it may not be as good, but you cannot convince the buyers that it is. There is something in the appearance of a brick house that people like. I am speaking now of buyers rather than of tenants. It is proposed that the tenants at the Molonglo settlement shall be forced to vacate their homes in the near future. They would have been compelled to do so before now if other accommodation had been available. The housing accommodation at the settlement is a blot on a garden city like Canberra. I should not be in favour of charging 30s. a week rent to a man receiving 25 10s. a week if it were possible to give him decent accommodation for anything less, but I think he can afford to pay 30s. I have known men on £2 a week who have paid £2 a week rent. I do not agree that it would be better to give these workers a cheaper kind of house than can be provided in brick and mortar. They are getting higher wages than workers in similar occupations in Sydney who pay rent on brick and mortar houses. In the interests of the workers themselves I think it would be better to adhere to brick buildings. I consider that the price of bricks should be reduced in Canberra so as to encourage the building of brick houses. One reason why bricks are 25s. a 1,000 dearer here than in Sydney is that freight has to be paid on the coal with which the bricks are made. Another reason, however, is that every truck of coal has to be brought through the Commission stores branch and an overhead charge of, I believe, 16 per cent. is added, though I am not certain of the amount. Apart from that, the brickyard is over-capitalized. Its value should be written down in the same way as a private owner would have to do to meet

existing conditions. It is true that labour costs here for making bricks is somewhat higher, but in other respects it should not cost more here than elsewhere. One manager of the brickyards, not now in the employ of the Commission, assured me that the cost of bricks could undoubtedly be reduced. If bricks could be reduced to £1 4s. a 1,000, it would reduce the cost of a semi-detached cottage by £27, allowing for 45,000 bricks in the cottage. Investors at Civic Centre were given no guarantee regarding the establishment of a settlement there, but according to the Griffin plan Civic Centre was supposed to be the business centre of Canberra. I think, however, that the Government, after having induced investors to pay a high price for the land, and after having forced them to erect expensive buildings, should do everything possible to see that population is grouped around that centre. There are business premises at Civic Centre that have never had a tenant in them from the time they were built. It is also true, I know, that the business people at Manuka were led to believe that that area was going to be developed. One of the concrete housing schemes was begun in that district, but it fell through after only 25 houses out of 100 had been built. I believe that the building regulations in Canberra should be kept up to a fairly high standard. Even though a house is cheap it should be built properly. I have never noticed that the building regulations here have been white-anted in the same way as those of Sydney. The authorities here are especially strict in regard to sewerage.

102. *To Senator Reid.*—Fibro cement houses are more subject to variations in temperature than even wooden houses are. I would not have any fibro cement houses erected in Canberra, because they would not provide the standard of comfort which is necessary here.

103. *To Mr. Holloway.*—The estimated cost of providing the type of house we are now considering is based on the use of river gravel, not of blue metal, for the concrete work. At least I take it to be so, because that was the material used in the other cottages of similar type which have already been constructed. I do not think it would be too much to ask those who are now living in tenements for which they pay from 7s. to 11s. a week rent, to go into houses for which they would have to pay three times as much. The places they are now in are in the nature of camps, and those occupying them have been on a good wicket so far as their rents are concerned. I have known men earning over £3 a week who have been living in houses for which they paid only 13s. a week rent. I would not favour allowing those who now occupy tenements at Molonglo to move into the accommodation vacated at the Causeway, or into somewhat similar accommodation elsewhere, as a sort of transitional stage to putting them into the more expensive type of cottages. If the term "slum area" could be applied to Canberra, I think its use would be justified in regard to the Causeway. There is no privacy there, and only the barest accommodation. I can see the difficulty, of course, of asking men who have been paying only 7s. a week, and who have become used to that over a period of years, suddenly having to pay over 30s. a week, but I do not see any way out of the difficulty. I cannot see any way of reducing rent unless building materials become cheaper, or wages are reduced. It would be possible, of course, to develop a cheap rent area somewhat on the lines of the Causeway by building three rooms and a kitchen; but, personally, I should not be in favour of it.

104. *To Mr. Long.*—I have been told that every truck-load of coal used for the manufacture of bricks in Canberra is loaded with overhead charges by the stores branch of the Commission.

(Taken at Canberra.)

FRIDAY, 28TH MARCH 1930.

Present:

Senator Doolley (in the Chair);	
Senator Reid	Mr. Gregory
Senator Sampson	Mr. Holloway
Mr. M. Cameron	Mr. Long.

John Thomas Hill Goodwin, Retired Public Servant, Empire-circuit, Canberra, sworn and examined.

105 To Senator Doolley.—I am a civil engineer and licensed surveyor, and for some years I was closely associated with the development of Canberra. I understand the committee is inquiring into the erection of dwellings in the vicinity of Manuka. I regard it as the duty of the Government to build additional residences in that locality in the interests of those who purchased business sites at that centre. In the first instance it was proposed to build 100 cottages at Manuka and a contract was let for that number, but only about 20 have been erected. The position of the shopkeepers and those who own shop properties at Manuka is very serious as it was never intended that 40 shops would be constructed at Kingston which was to be only a small shopping centre consisting of 10 or 12 shops. I have not perused the plans of the proposed dwellings, but I know the type of semi-detached houses that have been erected at Reid and Ainslie. I am not in favour of that type because in the first place I think the blocks on which it is proposed to erect them are too small. The building of a large number of houses of that type would lead to congestion which is not desirable in the Federal Capital. I regard a rental of 30s. a week as the maximum which a man on the basic wage can afford to pay. I am quite aware that under present conditions it is very difficult to erect comfortable dwellings and lease them at a rent which a man on the basic wage can afford to pay. The cost of building in Canberra is probably 10 or 12 per cent. higher than in Sydney. Some have also a very absurd idea of the value of the land on which cottages are built, particularly those that would be occupied by a man earning up to £200 a year. The value placed on the land on which such houses are to be built should be in the vicinity of £100. The basis of land values in Canberra is altogether wrong. In the first place, there has been no real test of its value as no sales have been held under the freehold system. Some purchasers of leases paid more than the upset price because a very small amount was involved. The system of selling leases in Canberra has been altered to one which will prevent a great deal of wild speculation because a premium has now to be paid instead of the difference in interest between the upset price and the selling price, which meant only a few pounds. Now that a cash premium is to be paid it should have the effect of stabilizing values and keeping them uniform. At present, values are very irregular owing to the system under which the land was sold. We cannot compare land values in Canberra with any other city in Australia because there is no other place which resembles Canberra in any respect. Land values in Canberra should be based on the purchasing power of the community. That applies not only to residential sites, but also to business sites, the value of which is governed by the purchasing power of the community. Usually the price of land is fixed by the public when purchasers bid according to the prospects of the place, which may vary, but here the rentals are fixed for a term of years. The system under which leases were sold in the first place was that an upset value was placed on the land, the rent of which was 5 per cent. of the upset value. If the value of a block was fixed at £500, the rent would be

£25 a year. If some one else wanted that block and was prepared to bid up to £800, the annual rent would be £40; an extra payment of £15 was not considered by some to be of any consequence. Under the present system a cash premium has to be paid which restricts speculation to some extent. If the premium is £100 that amount has to be paid in cash. There have been no sales under the new system under which a premium has to be paid. One half of the discount in Canberra has been occasioned by the high price of land. I regard £150 as too much for a block on which to erect dwellings of the type under consideration. No such block should contain less than 7,250 sq. ft. In the capital cities there are very few blocks on which modern residences are erected the dimensions of which are less than 50 x 100. I consider that a rental of 35s. a week is too high for the average working man, particularly the man who is not employed for the whole of the year, and whose income is consequently reduced. I am aware that the cost of some of the dwellings in Canberra has been written down. I wrote down some of them to the extent of 25 per cent. It has to be remembered that most of the dwellings to be erected will be occupied by public servants who receive the Canberra allowance, but other than public servants do not receive that concession. A private individual would, therefore, be paying 8s. or 10s. a week more than a public servant next door to him. I assume that these dwellings are to be erected for the lower paid public servants in which case they will be actually getting them at a lower rate than would anyone else. The uncertainty of work in the territory prevents many men from taking advantage of the Commonwealth housing scheme. They do not know how long their employment is to last. Although the tenements at Molonglo or the Causeway may not be all they desire, they are for the reasons I have stated, within the means of the people. If employment were continuous, I believe there are some men who would take advantage of the housing scheme. Cheap land should be made available even if it were situated some distance from the established residential areas. Possibly blocks of an acre or an acre and a half could be selected where workmen could erect their own homes and have a garden. It costs approximately £100 to sever a house in Canberra, and if an area were selected, possibly workmen would be willing to erect a comfortable weatherboard cottage at a cost of not exceeding £600. The Commonwealth endeavoured to make cheap land available, but owing to speculation the values were increased. Weatherboard cottages should not be permitted in the city itself, but I think such cottages should be erected in specified areas. I am of course speaking generally, as a man must build in accordance with his means and £600 or £700 is as big a liability as most men on the basic wage would care to undertake. Weatherboard cottages can be made sufficiently comfortable even during the winter, but the climatic conditions here are rather severe on wooden structures. Wooden cottages erected at Acland 16 years ago are warm and quite serviceable. There is always the trouble, however, of white ants which in Canberra are not large but are numerous. Weatherboard houses in Canberra should be erected on concrete stumps, as they are in what is known as white ant country. The space thus provided also leaves sufficient room underneath for inspection. I direct the attention of the committee to a form of concrete construction which is now being utilized. A house of this type has recently been erected in Canberra and one has also been built in Daceyville, Sydney. The form of construction, which I think has been patented by a person named McGrath, is cheap, and I think Wallace & Co. have secured the Canberra rights. Practically the whole house is made of concrete with concrete as a foundation. These houses are erected with concrete studs, on each

side of which is attached wire netting and on it concrete is thrown until it is about one inch thick. The outside can then be finished off in roughcast or as is desired and the interior in whatever style is fancied. The ceiling would be of ordinary fibrous plaster. It is a wonderfully strong structure. The pamphlet describing this system, a copy of which I submit for your perusal, contains a certificate from the Commission's architect that a house of this type has been erected and is regarded as satisfactory. The one which has been built in Canberra has no wooden skirtings, and the only wood in the structure is in the doors and door-frames. The person who has just completed the construction of a house of this type at Daceyville is Mr. M. W. McDonald, of Foveaux-street, Ainslie. The house erected in Canberra is in Coxs-street, which is not far from Foveaux-street, in the weatherboard area. I do not know the exact cost of the house, which is attractive in appearance, but I have been told by the contractor that it is from 15 to 20 per cent. cheaper than brick. There is a big difference in the life of a weatherboard house as compared with a brick dwelling; the former lasting only 40 years, as compared with 80 years. A weatherboard structure requires a good deal of expenditure in the matter of maintenance every two or three years, but brick residences require very little attention. The advantages of constructing weatherboard cottages, which may be regarded as a temporary expedient, is that they can easily be demolished. Some persons prefer weatherboard because they can be built at a lower cost and, as they contend, there is no justification for building a house which will last longer than the person who builds it is likely to require it. Whatever is done by the committee in the direction of providing houses for the lower paid public servants, the fact must be borne in mind that the rents must be at a rate which they can afford to pay. I think every one in Canberra considers that the Molonglo Causeway settlements should be demolished as soon as possible, but the people who are at present living there should not be placed in a worse position financially than they are to-day. A man in continuous employment should not be expected to pay over 30s. a week in rent.

106 To Senator Reid.—The wages paid in Canberra may be slightly higher than they are in Melbourne or Sydney, but the workmen of Canberra are more unfortunately situated than those in the big cities who have a large field in which to search for employment. Those living in Canberra who have to seek work have to travel far to obtain it; there is little within 100 miles. In these circumstances, they do not feel justified in establishing a home for which they have to pay a high rent when they can obtain accommodation of a kind at a nominal rate, which enables those who are thrifty to put something aside in the event of them losing their jobs. The cottages at the Causeway can be made reasonably comfortable and hygienic, as they are sewered; of course they are not ideal. The situation, however, is unsatisfactory as it is at the entrance of a bottle-neck during certain periods of the year. There are also a number of shacks at Russell Hill, which would be one of the best parts of the Territory in which to live if the houses were better. These shacks are made of bags soaked in lime or cement and cost somewhere from £50 to £100 according to size and finish. The ground rent paid by the occupants is only a few shillings a week, but some of them possess motor cars, gramophones and wireless sets, which they could not possibly afford if they had to pay 30s. a week rent. The development of Canberra has been spasmodic and workmen have lost a good deal of time. I would favour an area being set aside for a cheap type of cottage provided the blocks were of sufficient size. The question of sewerage has to be considered. If they were in the city proper they

would have to be sewered, but if scattered sewerage would perhaps not be necessary. It is impossible to get cheap land in the Territory, although the average cost of acquisition was only about £3 15s. per acre. It may be said that if cottages were erected on fairly large blocks the occupants would have insufficient time to keep the land clear of weeds, but weeds are not unhealthy; it is largely a matter of appearance. One generation cannot enter for the next generation in the matter of land. We should have two classes of houses, one which may be termed an extra-suburban house on a large block of one acre or two acres and constructed of weatherboard, and another for erection in the city proper, which should be on blocks not less than 7,000 square feet or thereabouts. The latter would be more ornate in design, and constructed perhaps of brick, cement, wood, or Celotex, or a combination of either. Celotex is now being extensively used and I believe it could be made in Australia. It is sound, vermin and almost fireproof. If the cottages under consideration are to be erected on blocks with a 45 ft. frontage, it will lead to congestion. I do not think it would be detrimental to Canberra to erect this class of house in the locality suggested if the cottages were neat in design, and very clean area. If they are occupied by the right people they will be kept tidy, but unless sufficient precautions are taken in constructing houses of that type it may result in the value of property in that locality deteriorating. I should not like to see wooden houses erected there, and I would advocate semi-detached brick cottages rather than nothing at all as it is the duty of the Government to honour its promise to the people who have invested money in shop properties. We have not had much experience in Canberra with weatherboard houses. They become untidy unless painted every two or three years. I could not state definitely the difference in cost, but roughly speaking the life of a weatherboard house is about one-half of that of a brick house. If it could be arranged, I would prefer a semi-permanent material to wood. Some of these new forms of construction might be considered. I would not be opposed to the use of some artificial material provided the cost of maintenance was not excessive. I have always contended that the land values should be reduced.

107 To Mr. Holloway. The shortage of houses in Canberra is a problem which has to be faced. If 32 cottages were erected at Manuka I do not think any of them would be occupied by families who are now living at the Causeway or Molonglo because of the uncertainty of employment. They are more likely to be taken by persons who are now paying more than 30s. a week. The abolition of the tenements at Molonglo is essential, but the project which the committee has now under consideration will not assist in that direction. I do not think the people at the Causeway are in a better financial position than those at Molonglo or that their security in the matter of employment is any greater. We ought to be able to keep a large number of workmen in constant employment, but at present we are always faced with the problem of providing temporary accommodation for married men working in the Territory. It is true that there are families here living under conditions which are a disgrace to Canberra. I have always been opposed to the Molonglo settlement, but I submit that the accommodation provided there is superior to that which is available in constructional camps in the country. A workman who was not sure of his employment would not leave the Molonglo or Causeway settlements. Houses should be available at a rent which would meet the economic circumstances of the casual worker. Comfortable accommodation should be available to workmen at reasonable rates, but the only way in which it can be provided is by reducing the land values by at least one-half. We should have a

weatherboard area where workmen can build their own homes, which would be better than the Government or the Commonwealth building them. The Commonwealth housing scheme is the most liberal in the world. A workman living at Molonglo, for instance, could not build a house costing £1,000, but he could erect one costing £800 as he would only have to pay a deposit of 10 per cent., and apart from keeping up the interest and a very small portion of the principal his responsibility would be finished. It would not be necessary to employ an architect, as plans could be prepared by a builder. The man who invests money in a dwelling in Canberra must intend to spend his life here as the possibility of selling is remote. There is practically only one employer of labour in Canberra, and if a man is engaged on temporary work and wishes a place of his own, he has to spend from £70 to £80 in constructing a shack of the type erected at Russell Hill. As we are living under artificial conditions, we have to employ artificial means and at the moment I do not know how the families who are at present living at Molonglo and such places can be accommodated in any other way. The houses to be built at Manuka will probably be occupied by persons who are already well catered for, but who are anxious to obtain accommodation at a lower rent. It is a matter of conjecture whether any of the Molonglo people will wish to rent any of the cottages to be erected; probably they will not be available to them. Public servants will not be anxious to occupy them, as they have been accustomed to houses of a better type. I think every one would prefer a self-contained cottage. This project will not help the Canseway and Molonglo people. The Molonglo settlement, as you are aware, was selected and laid out as an internment camp, and so that the whole of it could be supervised from a central tower. At one time there was a community bathroom; but although conditions have changed the whole surroundings are unattractive and detrimental to the children who are being reared there. Workmen should be provided with decent homes irrespective of the cost.

(Taken at Sydney.)

MONDAY, 31st MARCH, 1930.

Present:

Senator Doolan (in the Chair);	
Senator Reid	Mr. Gregory
Senator Sampson	Mr. Holloway
Mr. M. Cameron	Mr. Long.

Stewart Walter D'Arrietta, Director of James Hardie & Co., Ltd., Sydney, sworn and examined.

108. To Senator Doolan.—I am aware of the proposal to build a number of cottages at Canberra. I have had no opportunity of inspecting the plans. I have not prepared a statement for the committee, because I did not know what class of evidence was required from me. I wish to explain to the committee the suitability of fibrolite for the cottages proposed to be erected at Canberra. From what I understand, it is the intention of the Commonwealth Government to build economical and lasting homes suitable for the man of moderate means. I consider that fibrolite is a suitable material for such cottages. The cost of fibrolite cottages would be about the same as that of weatherboard structures, but the fibrolite has this advantage, in that it is fire retardant, and is proof against white ants and rot. From the stand-point of appearance it leaves nothing to be desired. It is lasting, being composed solely of asbestos and cement. It does not require painting, but if it is desired to paint it, only a coat of water paint is necessary. An enormous number of buildings of this material has been erected

throughout the whole of Australia, both on a cheap scale and on a more expensive scale, and in every instance have given satisfactory results. The insurance companies allow a reduction of 25 per cent. as against weatherboard cottages, and furthermore, the insurance cost is not loaded as in the case of two weatherboard structures adjoining. There are practically three methods of finishing a fibrolite structure. One is with wooden cover battens for both internal and external purposes. The second method is to roughcast the fibrolite on the outside, and by papering the walls on the inside, the use of cover battens is eliminated. The third method is one that we have introduced recently. We use fibrolite cover battens instead of wooden battens. The fibrolite batten has a very good appearance, and there is not the contrast that there is with wooden battens. For a cheap building the foundation would be of piers, but for a better finished place, such as would be built at Canberra we would recommend a dwarf wall foundation, and if the outside fibrolite were roughcast that would give the whole building the appearance of a brick building. In the case of fibrolite there would be a saving of about 30 per cent. as against brick, and a slight saving as against weatherboard. We do not have much to do with the erection of buildings. We only supply the material; but from the information that has been given to me I should say that the cost per square of a fibrolite cottage would be about £60. Fibrolite is a non-conductor of heat and would be cool in summer and warm in winter. The best results are obtained by packing the walls. Ventilation helps to a certain extent. I have not had much experience of the climate of Canberra, but I understand that it is very changeable. Fibrolite is in use from Cairns, Queensland, to Dunedin, New Zealand, so that would include all climates. The cost of transporting fibrolite to Canberra would be no greater than transporting it to the far suburbs of Sydney. Of course, there would be the difference between the labour conditions at Canberra and those at Sydney.

109. To Mr. Gregory.—There is only a very slight contraction and expansion of fibrolite due to weather conditions. It is difficult to measure. The fibrolite when roughcast sometimes shows hair cracks at the joints, but not to any extent. We have never heard of a case of the roughcasting cracking on a sheet or leaving it altogether. We contend that the cracks at the joints can be made good when the house is first renovated. We recommend that the joints should be covered by a strip of wire netting and then roughcast. The netting acts as a reinforcement. We first imported this material in 1903 and it has been in use ever since, and very extensively recently. The committee inspected one building this morning which was erected in 1906. In appearance the material is as good as when it was erected. The weather has had no noticeable effect on the material. The spans allowed between studs are 18-in. and 2 ft. It is seldom that fibrolite is damaged. Of course it happens sometimes in a building such as a motor garage, or when heavy materials are being moved about. I should not say that the material was brittle, but it would not stand heavy furniture being pushed against it. Of course, precautions could be taken in that direction by putting a railing at about the height of a chair round the walls and letting it into the studs. My own place is of fibrolite on the top story, and I have not had to restore a single sheet. The building has been up for twelve or thirteen years. It would be advisable to plan the rooms in accordance with the size of the sheets. Our sheets are 2 feet, 3 feet, and 4 feet wide, and it would be uneconomical to plan a room which would necessitate cutting 4 inches or 6 inches off a sheet. We

can make sheets to any size required, but that would cost extra. We use softwoods because we find them preferable to hardwoods. Some hardwoods that we get are only just cut out of the tree, and if they are put into a building one would not know what would happen to them. We make sheets of fibrolite from 3 feet to 12 feet long, and in four widths, viz.:—18-in., 2-ft., 3-ft., and 4-ft., for exterior purposes and up to 10 ft. long for interior use. That practically eliminates waste. I suggest that the height of the room from the floor to the ceiling, to insure the most economical use of our material, should be 9 ft. 6 in. inside and 10 ft. outside. That would bring the sheet below the floor on the outside. We recommend for the roughcasting, coke mixed with cement. Gravel is too heavy.

110. To Mr. Long.—We have ascertained that fibrolite construction is 30 per cent. cheaper than brick because in calling tenders we have called for alternative tenders in brick and weatherboard. For one building we obtained a tender for brick for £350, and in fibrolite £325. That was for a building in Sydney, less internal doors, stove and bath in both instances. We have had a similar experience in Melbourne. A bungalow costing £670 in fibrolite was tendered for at £335 10s. in brick. I said previously that the cost of transport to Canberra would be about the same as to the outlying suburbs of Sydney. There are 125 yards of external fibrolite to the ton. I should say that the freight to Canberra, taking the "M" rate, would not be greater than £1 a ton or 2d. a yard. It costs us 2d. a yard to deliver fibrolite to Sutherland or Hornsby by cart. There is a big reduction in freight on account of the quantity of our material that can be packed in one truck. There is practically no damage done to fibrolite by rail. We send this material to storekeepers throughout the whole of New South Wales, and we have not had more than three or four complaints of damage or breakages in the truck during the last twelve months. We would not be prepared to manufacture fibrolite at Canberra. We have spent £250,000 at our works in Sydney. That, of course, includes the stocks. At our works with the full plant going we would make the material for 30 cottages in a week. About 80 per cent. of the material used in the manufacture of fibrolite is obtained in Australia; everything, with the exception of asbestos. In the comparison of costs that I gave between brick and fibrolite buildings, no sewerage was included. The price was just for the buildings. I do not think that a cottage costing £625 in Sydney would cost more than £730 at Canberra.

111. To Mr. Holloway.—The cost of roughcasting a fibrolite building of, say, four rooms, would be from £7 to £10. Such work would have to be carried out on the job the same as would other plastering work. I would recommend fibrolite battens for outside, and wooden battens inside because they would afford a pleasing contrast. It would be rather an expensive process to line the walls throughout with "Tilux," our synthetic marble. We would recommend tilux for bathrooms, and perhaps a dado round the kitchen. Of course, the walls need not be papered. I suppose about 90 per cent. of the walls are unpapered. We contend that the papered walls give the appearance of a brick building inside. It is not necessary to paper the walls. They could be treated with a cold water paint. We do not erect buildings; all we do is to supply the materials. If tenders were called for fibrolite buildings in Canberra, we would possibly get three or four builders to tender at a satisfactory price. One contractor should build at least six cottages. In that way a lot of the woodwork could be done by machinery, which is a much cheaper method than working by hand. This would give a

better opportunity to standardize the work. Of course, the joints would all be standard. A contractor would be likely to cut prices in order to get the contract for a number of buildings. When several buildings are erected by one contractor the cost of supervision would be less than for one building. We can send 10 tons of our material by rail at the "M" rate. The New South Wales railways have a system which they call composite trucking. It would not be necessary for us to truck 10 tons of our material provided that we made up 12 tons of material, classified as 12 tons of minimum freight. For instance, for iron the required quantity would be 12 tons. We could put in say 8 tons of iron and 4 tons of our material, but we could not put in 8 tons of iron and only 2 tons of our own material; although we could send 10 tons of our own material at the same rate. I understand that bricks are made in Canberra and Queanbeyan, and therefore it would not pay to send them from Sydney to Canberra. The freight from Sydney to Canberra would nearly equal the price of bricks at Canberra. I am assuming that the "M" rate is £1 a ton, or £3 a thousand on bricks. I suppose that bricks could be purchased at the kiln at Canberra at probably £3 10s. or £4 a thousand. I think that bricks cost £3 12s. a thousand at the kiln in Sydney; therefore it would not pay to truck bricks from Sydney to Canberra. The bricks at the State Works, Sydney, cost only £2 14s. a thousand at the kiln.

112. To Mr. M. Cameron.—Fibrolite is not entirely damp proof, and therefore we provide a double wall with a cavity in the centre. A 4½-in. brick is not damp proof, so even with brick there must be a cavity wall. With fibrolite there is a cavity of 4 inches between the walls. There is about 80 per cent. of cement in our material. Cement is water resistant, but not damp resistant. The damp is frequently prevented by roughcasting the outside, or by submitting it to some other treatment. A cement wash with natural cement would not increase the resistance of this material against dampness, unless another coating of cement and sand were given to it. We have no patent rights over the manufacture of this material. Our name is registered. I should say that fibrolite tiles will be 13s. per square cheaper than terra cotta tiles. When I gave a comparison of the cost of brick and fibrolite buildings I took into account an ordinary tiled roof in both instances. We have just brought out a new russet tile, and as far as we can see it will be a perfect roofing material. The roof of our garage was put on about two months ago. The material itself is the same as in the slates, and they have been in use for a much longer period. We are prepared to guarantee this roofing if necessary. There must be a decent pitch in order to take off the water. The russet colour is obtained by a chemical process. We could give it a red or black oxide colour, but we know from experience that oxides would not stand in cement. Therefore we have eliminated oxide and are at present providing a russet roofing tile.

113. To Senator Reid.—I should say that fibrolite would be cheaper per square yard than weatherboard or lining boards. It is easy to explain that. Fibrolite for outside walls costs 2s. 7d. per square yard, and for inside walls 2s. 4d. per square yard. With weatherboards these costs of paint would be required, costing from 1s. 3d. to 1s. 6d. per square yard. That amounts to about half the cost of our material. The upkeep of fibrolite would be less than that of weatherboard. There would be no need to paint fibrolite unless it was desired to colour it, and in that case a water colour could be used, costing about 6d. or 8d. a yard of the most. Our tiles are slightly more than one-third of the weight of terra cotta tiles. Therefore the timber frame

for the roof would be much lighter. We reckon that there would be a saving of about 10s. per square on timber alone. As I said previously, the outside walls of a fibrolite building when roughcasted sometimes show a fine crack at the joints. I do not think that that is due to the sinking of the building. It is due possibly to the contraction of the timbers. We are taking steps to overcome that difficulty. We do not consider it serious, because cracks will occur in a brick building. A fibrolite cover strip could be placed over the joint and the walls roughcasted up to it, but that would be added expense and would not be worth while. About twenty years ago the main building at Spencer-street railway station was built of fibrolite and the outside was sanded. The cement was painted on and the sand thrown on top of that.

114. *To Mr. Cameron.*—The walls of my own house are packed with seaweed obtained from the Gippeland Lakes district in Victoria.

115. *To Senator Reid.*—The biggest cost of seaweed is the freight. On a building 40 ft. x 30 ft., the additional cost of packing the external walls with seaweed would be about £8. I think that seaweed could be landed at Canberra cheaper than at Sydney.

The witness withdrew.

James Peddie, President of the Institute of Architects, New South Wales, and Fellow of the Royal Institute of Architects, sworn and examined.

116. *To Senator Dooley.*—I was made aware of the proposal to erect a group of 36 cottages at Canberra only a few minutes ago, and I just had time to glance at the plans. I am acquainted with Canberra, having been there on two or three occasions. I do not think that there is any objection to two-storied detached dwellings. We favour such dwellings, particularly where the land is limited, because it increases the garden space and because it is preferable for people to sleep in the upper stories. I should think that the proposed area of land, 45 ft. x 150 ft., will be quite sufficient for semi-detached two-storied buildings. It is perhaps a small frontage, but with the semi-detached houses there would be much more space at the sides. Semi-detached residences could be built on an appreciably smaller area than could separate cottages, without any signs of their being cramped. Of course the problem of providing houses for lower paid persons is a very common one. I refer to bank clerks and office clerks in ordinary business, receiving a salary of about £5 a week. Many of our builders have been able to erect cottages at a cost that makes it possible for these lower paid men to occupy them. We have not had that problem put to the Institute. I have had a little experience of fibrolite and linonite houses. Their life would depend on circumstances. If there are boys about who throw stones and damage the materials their life would not be too long; but apart from that their life would depend upon the studs and the framing. After all, what is called a fibrolite cottage is only a timber cottage with a fibrolite sheath, and therefore its life depends on the life of the timber studs and framing. It does not appear to me to be economical to build houses of these cheap materials. It is better to build a permanent building than to build a temporary one, and, after a few years, to have to destroy it. The cost in the long run must be more. It appears to me to be much more economical to build a reasonably substantial place to begin with. I have had nearly 40 years' experience here and I have found nothing more economical than brick, wherever bricks can be obtained at a reasonable figure. Bricks lend themselves to all sorts of adjustments in respect of size and spacing, and they are practically everlasting. The cost of maintenance is practically nil if the buildings

are reasonably well constructed; we have something that will serve for at least a century. One of our nightmares is the trouble that we are having with timber. It is subject to dry rot, powder post borer, white ants, and a score of other troubles. A timber building may be erected and be of no value within a year or two. The trouble with timber is such that wherever possible we use brick. We prefer to use brick piers instead of wooden posts, even if the brick piers cost twice as much, because with wooden posts we have to face the possibility of their renewal within a short time. I should say that if a cottage could be constructed with a cheaper material at £750, it would pay to expend an additional £250 to build it of brick. It must be remembered that in making comparison of costs the only saving that can be made in a building is in respect of the walls. Everything else, including doors, windows, electrical fixtures and fittings, locks and the floors, cost practically the same no matter what the material of the outer walls may be. We think that the value of everything that is put into the building is depreciated because of the cheaper main structure. I assisted in preparing the ordinances issued under the Local Government Act, and I am now a member of the Ordinance Advisory Committee. We have been working under the Local Government Act for six years, and this subject has been brought before us over and over again. Our opinion is not a casual one, but has been arrived at as a result of a lot of thought and effort in the direction of cheapening construction wherever it can be done. We do not act in any spirit of unfriendliness towards those who are producing cheaper materials. We have nothing against fibrolite. I should think that a man earning from £5 to £7 a week would have to face the payment of a rental of 92s. 6d. a week. It has to be done in Sydney. May I make this suggestion. For the past ten years our younger men have been obtaining a wonderful education in architecture at the School of Architecture connected with the University and at the Technical College. We have followed this up by sending students both from the college and the University to Europe and America each year under a scheme of scholarships. About a dozen of those students have gained scholarships and many of them are back in Australia. These young men, as well as many older architects, are being kept right up to date in building science and architectural design, and I think this proposed scheme for Canberra should be a matter of competition. If that were done I should be inclined to leave the proposed layout of the ground to the competitors. They would study the orientation of the buildings, some being set back and some forward. All sorts of things would be done to get the best possible results. That is one way in which the committee might effect substantial economy, and get a type of building that would be of greater value than one obtained in the ordinary course of planning by the department or by a private architect. I suggest that the competitors would obviate any squandering in respect of the buildings. Economy must be gained by standardization. I do not mean in design. It is quite possible to have twenty or thirty doors and windows in each house, and these could be of two or three standards. They might be used in every cottage, but yet each building could be totally different in design. There are hundreds and thousands of ways of utilizing bricks in order to give varying results in design.

117. *To Mr. Loop.*—The trouble with timber is mainly with regard to white ants. For years we believed that a certain treatment of crude oil mixed with other things would be a protection against the ravages of these insects, and yet I have seen two pieces

of timber taken from the same place. One was treated and yet riddled by white ants, and the other was not treated, yet was untouched by white ants. We have, therefore, lost all confidence in a lot of these protective treatments. They may be effective for a time. It must be recognized that the treatment consists of some poison, and that time and weather conditions must destroy its effect. I do not say that none of them is of any value, but we have abandoned their use in view of our experience. The white ant is a clever and ingenious insect and in order to get past a brick foundation it would form a tunnel on the outside in order to reach the timber. The only remedy is for the owner of the property to make a periodical search and if there are any indications of white ants to break down the tunnels. It is not a very nice job because it means crawling about under the flooring. If a competition were to take place it would necessitate the expenditure of a certain amount of money to make it attractive; but there would be no risk in that because that expense will be easily absorbed by the savings brought about by means of the competition. The improvements and economy effected by the competition will be very much in excess of its cost. The flimsy screw of necessity is pinching the outside architect all the time, as against departmental work. Some years ago, in 1924, there was a competition for workmen's dwelling in Sydney. It was thrown open by the municipal council. The conditions were not satisfactory because the council provided that when the competition was won the successful competitor should receive a premium and be paid a percentage as consultants in respect of the design. The design was handed to the draftsman employed at the town hall and the working drawings and specifications were prepared and tenders called. Several tenders were received, the lowest being £28,357. We happened to be the winners of that competition and we received a very unsatisfactory letter from the town clerk informing us that we had won the competition by underestimating the work. We were very angry. We had a number of interviews with the mayor and then we asked him to allow us to prepare plans and specifications and to call tenders. Our request was granted. We received eighteen tenders, the lowest being £20,393. That was a saving of £8,000. The result was a better job. I do not say that it was a more expensive job, but it was as sound, structurally, as the building that would have been built under the other specifications, and, in addition, it was more convenient to the tenants. We, as architects, must work to produce an economical building, otherwise we would not be able to live.

118. *To Senator Sampson.*—One of the advantages of using bricks is that the outer walls can be built in two different sections, and in that way we can be perfectly sure of securing a dry interior. A concrete wall is usually solid. Concrete walls may be waterproof in the laboratory, but it is not waterproof on the job. Concrete walls are not dry walls. I do not think that a concrete building would be any cheaper than a brick building.

119. *To Mr. Holloway.*—I do not see any objection to the semi-detached two-storied houses. The wall between is shown in two separate thicknesses, and is sound-proof. It must be remembered that sound will travel through a window and across a certain space into another window more easily than through a 44-in. wall. With the cavity wall, there would be perfect privacy unless some one fired a pistol, and there is also more space at the sides than there would be in single houses. For some extraordinary reason, many women have an objection to two-storied buildings. I do not know how it has arisen, unless it was in the days when all water and other necessities had to be carried upstairs and the slops and other things carried downstairs. I can

understand the objection in that case. But nowadays with a two-storied building the upper floor, if used for sleeping purposes, can be cleaned in the morning and shut up all day; whereas in the single-storied building persons go wandering about continually and the dust gets everywhere. I like to sleep at a high level, because I feel much fresher in the morning. There is a greater sense of protection to a woman if she sleeps upstairs. The objection to two-storied buildings is rapidly diminishing, and I consider that they offer many advantages over single-storied buildings. Nowadays inquisitive women have little time to look into other persons' back premises. It may be that some children in the upper rooms would be able to overlook back gardens, but that objection is largely fanciful. In America it is difficult to tell where the parks and private gardens begin and leave off. People do not usually live upstairs. They only sleep upstairs. There is not much wrong with the air spaces shown on the plan.

120. *To Mr. M. Cameron.*—Seven or eight years ago, when the Local Government Act was passed, the Minister called a conference together to draft ordinances under that act. I had the honour of being a member of the conference. We prepared ordinances under that act, and since then the conference has developed into an advisory committee, which is still functioning. It is called together whenever there is any need to advise municipal councils or to make any variations in the ordinances. The matter of fibrolite construction has been before that committee over and over again, because the manufacturers have endeavoured to persuade us to draft ordinances compelling the use of fibrolite. That we will not do. We say that that matter must be left to the discretion of the council. The Fair Rents Act in New South Wales has made it impossible for a builder to build a house and to let it at from 15s. to 25s. a week, and to get a fair return on his investment. What was done was this. The speculator simply built a cottage and sold it on terms equivalent to about one and a half times that rental. There are now hundreds and thousands of these cottages throughout the suburbs. Their occupants have paid deposit on them and the repayments are spread over a certain number of years. As a result they are paying 50 per cent. more than the actual rental value. Of course, they are gradually paying off the cost of the house. There is no limitation to the number of rooms in a house. If there are two rooms, under the ordinance they must be of a certain size and there must be a bathroom and facilities for laundry work.

121. *To Senator Reid.*—We recommend clients to build brick cottages if the price is reasonable. If a person cannot afford to pay for a brick cottage, I would not hesitate to advise him to enter into some business arrangement, whereby he could build a brick cottage by spreading his repayments over a longer period.

The witness withdrew.

Herbert Edgar Parker, Chief Architect, War Service Homes Commission, sworn and examined.

122. *To Senator Dooley.*—I am aware of the proposal to erect 36 cottages at Canberra. I have had considerable experience in regard to small cottage designs and also in regard to group dwellings; that is, erecting small cottages on a group of adjoining lots of various acreages. We have built up to 400 cottages in one group. The average accommodation in the house would be two bedrooms, a kitchen, a living room, cooking recess, laundry, verandah, bathroom and hall. That is the usual accommodation. It is a standard design. We build mostly brick houses. The cost per square varies in the different localities. All the information in respect of cost of houses is contained in the

following letter from the Deputy Commissioner of War Service Homes, addressed to the secretary of this committee:

1. The average costs of homes erected by the Commission during 1929-30 to the 28th February were—

(a) £849 5s. 7d. without land; and
(b) £927 5s. 3d. with land.
The houses inspected by you on "Hensley Estate", "Cope's Estate", and "Auld's Estate" are typical of the homes which contribute to these costs. The land, included in the average costs, represents less than £100 per home, but general experience now is that land in the metropolitan area will range from £80 to £150 on our plots. The more recent purchases contribute to the higher figures. The attached statement indicates the number of houses erected for the various costs set out therein.

2. The repayment by the applicant covers the capital cost of the home less the amount contributed by the applicant, and interest at the rate of 5 per cent. on monthly balances. The capital cost is comprised of:—

- (a) Land;
- (b) Contract price;
- (c) Costs of preparation of plans and supervision; and
- (d) Interest on progress payments.

The fees for valuation, survey, search and legal expenses, are paid by the applicant in cash, prior to the construction of the home. The purely administrative expenses of the Commission are a separate vote by the Government, and the applicants are not required to contribute to these. Now that the Commission has been appointed an authority for building homes under the Commonwealth Housing Act, the administrative expenses will be covered by an interest charge in addition to what would otherwise be necessary for repayments to the Commonwealth Bank and to meet other costs. The administrative expenses in this instance will be covered by a credit resulting from a monthly journal entry debiting the interest received, having regard to the approved percentage of the total balance of the Commonwealth Housing Act advances outstanding at the end of the previous month.

Term in Years.	Monthly Repayments on			
	£800 with Interest at—		£950 with Interest at—	
	5 per cent.	6½ per cent.	5 per cent.	6½ per cent.
25	£ 4 4 4	£ 4 8 0	£ 4 11 1	£ 5 1 3
30	4 5 11	5 1 2	5 1 11	6 0 1
37	4 10 2	6 1 4	6 14 0	7 13 3

Costs between—			
£	£		
501 and 600	7	1	
601 and 625	2	5.19%	
626 and 650	0		
651 and 675	0		
676 and 700	12	2.72%	
701 and 725	20	4.51%	
726 and 750	18	4.06%	
751 and 775	16	3.61%	
776 and 800	34	7.68%	
801 and 825	53	11.95%	
826 and 850	79	17.83%	
851 and 875	52	11.74%	
876 and 900	30		
901 and 925	18		
926 and 950	13		
951 and 975	21		
976 and 1,000	13		
1,001 and 1,025	8		
1,026 and 1,050	3		
1,051 and 1,075	2		
1,076 and 1,100	2		
1,101 and 1,125	1	30.70%	
1,126 and 1,150	3		
1,151 and 1,175	2		
1,176 and 1,200	4		
1,201	1		
1,231	1		
1,261	1		
1,293	1		
1,321	1		
1,353	1		
1,383	1		
1,413	1		
1,443	1		
1,473	1		
1,503	1		
1,533	1		
1,563	1		
1,593	1		
1,623	1		
1,653	1		
1,683	1		
1,713	1		
1,743	1		
1,773	1		
1,803	1		
1,833	1		

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I shall supply the committee later with information in respect of the administrative costs, and also with a copy of the conditions of contract. If there is any variation of the contract it must be approved by the department and the contractor. The full cost of any extras must be deposited in the office or the security increased before approval is given for the work to the contractor.

(Taken at Canberra.)

TUESDAY, 1ST APRIL, 1930.

Present:

Mr. Lacey, Chairman;

Senator Dooley	Mr. Gregory
Senator Reid	Mr. Holloway
Senator Sampson	Mr. Long.
Mr. M. Cameron	

Charles Studdley Daley, Secretary, Federal Capital Commission, sworn and examined.

132. To the Chairman. I am aware of the proposal of the Federal Capital Commission to erect a group of dwellings at Manuka. It is proposed to erect these buildings for the accommodation of persons who find the existing brick cottages too expensive. General representations have been made to the Commission regarding the shortage of accommodation for public servants, artisans and others, at a moderate rental. The proposed dwellings have been designed to meet their needs, and are the outcome of continued study by the Commission with a view to erecting a cheaper type of residence. I have with me the plans on which the first sale of land was based. They indicate the blocks then made available for leasing, and the conditions on which they would be leased. That sale was held in December, 1924, shortly before the Commission came into existence. The conditions under which the leases were offered were shown on the plans.

CONDITIONS UNDER WHICH LEASES OF LANDS SHOWN ON THESE PLANS OFFERED BY AUCTION.

1. The lease will be for a period of 99 years.
2. The purposes for which blocks may be used are as follows:—

(a) Blocks coloured pink may be used only for residential purposes;
(b) Blocks coloured blue may be used only for the main purpose of a shop or shops and for any purpose subsidiary thereto, such as offices, workrooms or residences.

3. Every block will at all times be subject to the laws in force in the Territory and special attention is invited to the "City Area Leases Ordinance 1924" and the regulations thereunder.

4. A person who is not a British subject shall not be eligible to bid at the auction.
5. Buildings shall be of capital sums representing the unimproved value of the land.

6. The reserve capital value shown on a block must be reached or exceeded before a bidder is entitled to a grant of a lease of that block for the period intended.

7. The right to reject any bid is reserved.
8. If any dispute or doubt shall arise as to the highest bidder the block may be again offered for lease by auction.

9. The annual rent of a block shall for the first twenty years be £5 per centum of the amount bid by the successful bidder, and thereafter £5 per centum of the unimproved value of the block after re-appraisal thereof as provided for in the form of lease endorsed hereon.

10. The successful bidder shall at the time of the auction pay the first year's rent in advance and also the survey fee for the block as endorsed by the Minister.

11. A building existing not less than the sum shown on the plan shall be erected by the lessee subject to the conditions, and within the times provided for in the form of lease endorsed hereon.

12. Subject to these conditions the highest bidder for a block shall be entitled to and shall accept sign and seal a lease of that block upon the terms and conditions contained in the form of lease endorsed hereon.

Minimum cost of building to be erected on any allotment within sections 10, 22, 24 and 25	£750
Do. Section 21	£1,000

A form of lease was also printed on the plan. At Eastlake sections 10, 22, 24 and 25 were set apart for residential purposes; section 21 was to be a suburban shopping centre, comprising twelve blocks and a recreation reserve. There was no stipulation in connexion with that sale that the Commission would build on any of the surrounding blocks. The plan and the information on it formed the basis on which the leases were offered at the sale on the 19th December, 1924. The auction was conducted by Richardson and Wrench, of Sydney, in conjunction with Woodgers and Calhorne, of Queensland, on behalf of the Government. The Kingston shopping area is shown in green on the plan. The area shown as a recreation reserve must be kept for recreation purposes as that was a condition of the sale. I also submit a plan of the shopping sites at Manuka. This land was offered on the same date, and the conditions of the leases were practically the same as for the Kingston blocks. It is not correct to say that Manuka was designed to be the chief shopping centre. The principal shopping centre was to be at Civic Centre. Both Manuka and Kingston were regarded as subordinate centres. Manuka was not represented to be of more importance than Kingston from a business point of view. The auctioneer made it clear that the principal shopping area was to be at Civic Centre.

134. To Senator Reid.—Twelve blocks in the Kingston shopping area and 23 blocks in the Manuka shopping area were offered. It was expected that ultimately Manuka would be a bigger business centre than Kingston, because of the larger district which it would serve. No mention of a site for a picture theatre was made at the sale. At that time it had not been decided to allot a site at Manuka for that purpose.

135. To the Chairman.—A further sale took place in May, 1926, when Woodgers & Calhorne, on behalf of the Federal Capital Commission, offered 24 residential sites in what was then known as Blandfordia No. 5 subdivision, adjoining the Manuka shopping area. Two of these were disposed of at the sale and nine subsequently. The plan on which those blocks were offered contained the following note:—

Unleased blocks only will be offered. Cottages are being erected by the Commission on the remainder of the blocks.

It was the Commission's intention to undertake the erection of a number of houses for public servants in that subdivision, but it felt that it was desirable to make available a restricted number of sites for persons other than public servants. Only 24 of such blocks were made available. The Commission did not say when it would build on all the blocks with the exception of the 24 then offered for sale; but it did intend to develop that area because the blocks were connected with the various services. The Commission is not aware that Kingston was developed at the expense of Manuka. Prior to the sale a number of cottages, as well as the power house, had been erected at Kingston. Moreover, the closer proximity of Kingston to the railway station assisted the development of that area. The development at Kingston was more rapid than at Manuka, because private enterprise went ahead more quickly at the former place, and the Commission was forced to do its share in the development of that area. The Commission expected more rapid development at Manuka than actually occurred because of the larger area which it was thought the business places there would serve. Manuka is the nearest shopping centre to Red Hill and Blandfordia, in which subdivisions considerable development took place in the earlier stages of Canberra. Before the end of 1927 the Commission erected 59 cottages in the Griffith area; in Barton, 48 cottages, and in Forrest, 25. Near Manuka a previous administration had erected about another dozen cottages. The Advisory Committee,

which formulated the scheme which was ultimately accepted, endeavoured to distribute the residences evenly on both sides of the river. There is no doubt that Mr. Griffin contemplated developing the northern side of the river first, for the only plans left by him were for residences to be erected at Ainslie. Some confusion has been occasioned because Mr. Griffin, in his earliest plan, indicated an area for initial development in the vicinity of Manuka. That was shown in his sketch plan prepared in 1911. Subsequently, he abandoned his scheme for a small initial city for reasons best known to himself. There is nothing in writing to show why he abandoned the idea of an initial city, although I have heard that he gave evidence to that effect before the Public Works Committee. However, when Mr. Griffin was placed in control of Canberra he did not attempt to develop an initial city in the Manuka area; he commenced development at Ainslie. None of Mr. Griffin's later plans contain any reference to an initial city at Manuka. His plans in this connexion were altered long before the Advisory Committee assumed control of operations in 1921. Mr. Griffin's control ended on the 31st December, 1920. The Advisory Committee then appointed prepared a definite scheme for the development of Canberra. None of the plans it took over from Mr. Griffin contained any reference to an initial city. In 1916 the then Minister for Home Affairs, Mr. King O'Malley, gave formal approval to the Griffin design as the plan on which the city was to develop. That plan contained no reference to an initial city. The Advisory Committee was not in favour of establishing an initial city, because it feared that vested interests would be created in a certain spot and would prove inimical to the proper development of Canberra, particularly north of the river. I submit balance-sheets of the brickworks for the years ended 30th June, 1925, and 30th June, 1929. The recorded expenditure on the brickworks is £90,702 9s. 6d. An amount of £5,818 10s. 1d. has been written off for depreciation. For many years the brickworks were operated without any balance-sheet being prepared. When the Commission was appointed it did not know the capital cost of the brickworks. Indeed, several years passed before it received the Auditor-General's certificate as to the cost. The first balance sheet showing the position of the brickworks was for the period ended 30th June, 1928. It was impossible to present a balance sheet before then because of the delay in obtaining accurate figures as to the capital cost. Two kinds of coal are used at the brickworks. That used in the manufacture of tiles costs £3 7s. 9d. a ton at the kiln, made up of the following items:—

	£	s.	d.
Coal at the pit	14	6	
Freight to Canberra	1	4	0
Handling charges at Canberra Depot	2	0	0
Freight to Brickworks	6	6	
Total	27	0	0

I have been unable to obtain particulars of the quantity of coal required to produce 1,000 bricks; but approximately 28 tons of coal are used in the down-draft kiln to produce 38,000 bricks. From those figures it would appear that it required about 17½ cwt. of coal to produce 1,000 bricks in the down-draft kiln. The Staffordshire kiln requires 7 cwt. of coal per 1,000 bricks. The quantity of coal required for every 1,000 tiles is approximately 1½ tons. Drain pipes have not been produced at the brickworks on a commercial basis. At present the brickworks are not working full time. In September last the Commission reviewed the management of the brickworks. Between 23rd September, 1929, and the 11th March, 1930, the brickworks manufactured 250,300 face bricks, 70,020 special face bricks, 2,910 moulded bricks, 203,400 common bricks and 500 clinker bricks. No tiles were

manufactured during that period. By re-arranging the management of the brickworks the Commission has endeavoured to reduce the cost of manufacture. During the period 23rd September, 1929, to the 13th December, 1929, it cost £8 5s. 4d. to produce 1,000 bricks. That cost covers all charges, including interest, depreciation and sinking fund. With the exception of the amount for depreciation already mentioned, the cost of the works has not been written down. The cost of the brickworks, as supplied to the Commission, includes all kinds of charges for preliminary investigations into the making of bricks in the Territory. The Commission feels that the brickworks should be re-valued, and the difference between the valuation and the capital cost written off. I am not aware of any addition being made to the present price of bricks to cover losses on bricks purchased. It is true that the Commission made considerable losses through having to procure bricks from Sydney during a peak period of building construction. It was expected that the lessees who took up leases at the first sale would spread their building programme over a period of years; but, instead, very little was done for some time, and when they did build, the brick kilns could not supply their requirements. The Commission, therefore, had to purchase bricks from Sydney and sell them at the price at which it had agreed to supply Canberra bricks. The increase in price from £4 16s. to £5 5s. per thousand did not include any amount to recoup the Commission for those losses. The loss was debited against the Seat of Government Establishment Account, an account specially opened to provide a means for carrying forward losses which were inevitable in the early stages of the construction of the Federal Capital.

136. To Mr. Cameron.—The original Griffin plan is in the possession of the Commission's survey branch. Copies of that plan on a reduced scale have been made. The original Griffin plan was, of course, the preliminary design submitted in the competition. Canberra is not being developed strictly in accordance with that plan. After Mr. Griffin arrived in Canberra and studied matters on the spot, he prepared other plans, in accordance with which the city is being developed. The Seat of Government (Administration) Act of 1924 required the Commission to adhere to a plan which would be gazetted. The plan which was gazetted was that of Mr. Griffin slightly modified. That plan is being followed. A number of minor alterations have been made to it, and these have been approved by Parliament. No departures from the plan, other than those approved by Parliament, have been made. The first hospital in Canberra was erected prior to the adoption of the Griffin plan. The present hospital buildings are an extension of the original hospital. The buildings have been constructed of timber in order to facilitate their removal should it be decided to erect a permanent hospital on the original site. The alteration of the Griffin plan which permitted the present arrangement of the hospital site was approved by Parliament. The original Griffin plan showed the university area extending right down to the western lake. That plan was altered in the prescribed manner and the university area amended. That alteration, which was approved by Parliament, cut off from the university area the land on which a number of houses at Acton have been built. The permanent subdivision of that area by roads, kerbing and guttering, &c., was not done until after the altered plan had been approved by Parliament. It should be mentioned that the Griffin plan was not a detailed plan, but merely a sketch. Mr. Griffin himself was engaged, when in Canberra, in working out the details of the scheme. Actually, the development of the details of the city layout have been undertaken by other bodies. The Griffin plan showed the hospital on a peninsula somewhere

between Canberra House and the present Commission offices. It was a good site for a hospital, seeing that it was on a peninsula and almost segregated from the rest of the city. After the plan of Mr. Griffin had been submitted, another plan was prepared on the instruction of the Government of the day. Operations proceeded, not in accordance with the Griffin plan, but in accordance with the altered plan referred to. It was not until 1916 that the Griffin plan was definitely approved. I would not say that the site on which the hospital now stands, as well as the area on which residences have been erected, have been irrevocably reserved from the University area. The Commission has refused to grant any long leases in that area. Should it be decided at any time to allot for University purposes the area originally set aside for that purpose by Mr. Griffin, no serious difficulty would arise. Canberra House is not wholly in the original University area. The timber cottages which have been erected are somewhere near the extreme boundary of the University area. That boundary is not definitely shown on Mr. Griffin's plan, the scale of which was very small. The area on which those houses are erected was, it is thought, to be left available for auxiliary buildings, such as the Council for Scientific and Industrial Research and other institutions which would work in touch with the University. I was present at the sale of land at Kingston and Manuka, but not as an officer of the Commission. At that time the Commission had not been appointed. I remember that the auctioneer made a speech at the beginning of the sale. I submit a copy of his speech on that occasion. I understand that his remarks were recorded by a shorthand writer for the information of the then Minister for Home Affairs. I regard the record as authentic. There was nothing in that speech to indicate that development at Manuka would be greater than at Kingston. The development of the respective areas depended a great deal on the enterprise of those who took up leases. It has frequently been urged that, because twelve business blocks were offered at Kingston as against 23 at Manuka, the Commission regarded Manuka as the more important business centre. It is true that the number of blocks offered at Kingston was less than the number offered at Manuka, but it is incorrect to say that only twelve shops were to be erected at Kingston. The terms of the sale at Manuka were that only one shop should be erected on each block. At Kingston there was no such restriction. In fact, some of the blocks there have three shops on them. The shop centres at both Manuka and Kingston were intended to serve those districts for all time. The idea was that the bigger shops should be established at Civic Centre; those at Kingston and Manuka were intended to serve only the needs of the immediate neighbourhoods. The Commission endeavoured to meet the lessees of blocks which they built. The Commission did not compel any lessee to carry out the conditions of his lease. That was an obligation imposed on him by law. The law under circumstances, leases were liable to determination. The lessees also contained a provision for their surrender. It might be well to correct the impression that the number of public servants transferred to Canberra is less than was mentioned at the sale. That is not so. Canberra; actually, within the period indicated at the sale, about 500 public servants were transferred. When the leases at Manuka were offered for sale no definite announcement regarding the number of buildings to be erected in that locality had been made by the Government, although it probably was assumed by purchasers that there would be considerable development in that area. The Commission let contracts for a number of houses in the district. Purchasers of blocks at Manuka

apparently expected the development there to be more rapid than actually was the case. It must be remembered that the sale of blocks took place because of representations made by outside interests. There was a general expectation of considerable development in the national capital; but private enterprise did not do what was expected of it. It is true that the Commission let a contract for 100 houses to a contractor who did not complete his contract. That was no fault of the Commission. His failure to erect the number of houses expected probably did some injustice to the purchasers of leases at Manuka; but, in my opinion, they have over-stated the case. Their present position may be due to Canberra not having gone ahead to the extent that they expected when they bought their land.

(Taken at Canberra.)

TUESDAY, 1st APRIL, 1930.

Present:

Mr. Lacey, Chairman;

Senator Dooley	Mr. Gregory
Senator Reid	Mr. Holloway
Senator Sampson	Mr. Long
Mr. M. Cameron	

John Thomas Hill Goodwin, Secretary, Federal Capital Territory (Citizens' League, recalled and further examined.

137. To Mr. Long.—I became associated with Canberra in 1912. In 1915 I took charge of the Federal Capital Territory. I have been a permanent resident of Canberra since 1922. The housing problem here has always been a very serious one, more particularly since the transference of Commonwealth public servants from Melbourne to the Federal Capital. It is necessary to enter for three different classes of people, permanent employees, semi-permanent employees and temporaries. The housing problem is particularly difficult in connexion with the lower paid employees. The working time of many of them is intermittent, and the rents asked for houses are beyond their purchasing power. The casual who comes to the Territory seeking work must be accommodated at a camp. The man who is likely to be employed for two or three years seeks a better type of existence, whilst those who are taken on the maintenance staff and whose residence will probably be permanent, need a satisfactory type of residence. Russell Hill is one of the most suitable sites in Canberra for the housing of temporary residents. It is secluded from the city proper, is "two blankets warmer than the Caseway," and probably "three blankets warmer than Molonglo," is well drained, and a healthy locality. Employees who will be here for some time should be permitted to take up a block of land and erect a house on it costing up to £200 or £300, portion of which amount could be advanced them. When they became permanent employees, or thought that they had a prospect of permanent work, they could transfer to another area and be given a piece of land on a fairly long lease, say for 25 years. On that they could erect a house worth from £500 to £600, under one of the housing schemes. It would be necessary to set apart suitable sites for the purpose. One such site is at North Anislie, beyond where the present weatherboard cottages are erected; an area originally set apart for market gardening, a scheme which did not eventuate. Another is towards Woden, where there are two blocks of about 40 to 50 acres originally subdivided for orchard purposes. It is essential that the land rents should be little more than nominal, not exceeding a couple of pounds a year. For small building sites at Russell Hill or Westlake. The lower paid civil servants are not likely to purchase

homes for some little time, and they should be consulted as to the type of cottage in which they wish to live. A good many of the Canberra houses are absolutely unsuitable for those who occupy them. Civil servants receive a certain measure of assistance by a percentage reduction in their rentals and cost of living allowance, but shop assistants and others outside the Service receive no such allowance. The only way that their position could be relieved would be by reviewing land valuations, and reducing rents. I do not regard Manuka as a suitable centre for the dwellings that I have mentioned. It should be reserved for permanent dwellings. I have never considered Molonglo to be more than a temporary camp and was very much against its use as a housing centre for employees. I consider that it should be removed, provided those residing there at present could be given better housing conditions, within their means. I believe that the proposed rents for the suites of flats and semi-detached buildings to be erected at Manuka are too high for the average working man. The people at Molonglo pay a small rent, keep fowls, and need to have a grazing area to enable some of them to keep cows. I do not know whether they can do so now. Anything over 30s. a week would be too high a rent to ask casual employees to pay. I believe in the old axiom that one day's work should be the rental of the average man engaged in casual employment. I am aware that such is not feasible nowadays, but we should endeavour to approach as nearly as possible to such a standard. A man on £4 or £5 a week casual employment could not conveniently pay 32s. 6d. a week for a semi-detached cottage. I am aware that it is impossible to construct permanent brick dwellings to let at 30s. a week, but it would be sound policy on the part of the Government if it built houses with fibrolite, lionite, or similar materials. Quite a number of workmen own nice little cottages at Queanbeyan, which cost between £300 and £400 each. Similar dwellings could be constructed on the areas to which I have referred. If they had a life of from 30 to 40 years it would not be false economy on the part of the Government to construct them. Naturally, they should be properly built and have satisfactory accommodation. While admitting that it is necessary to build a number of houses for letting purposes, I think that the best and most economic plan is to lend these people money at a low rate of interest and let them build to their own liking, provided the plans complied with the regulations. I admit that there is not much encouragement for the intermittently employed and low paid man to build. That is a strong argument in favour of continuity of policy, rather than to have a period of depression and then a peak period. The first year after the Federal Capital Commission took over an amount of £1,500,000 was made available to be expended in the Territory. This year the amount available will be something like £250,000. Our peak period occurred at a time when a lot of work was going on in other centres, and only those who could not obtain work in the cities came here, so that we did not get the best type of artisans or workmen. Now we have very good tradesmen and working men, and an endeavour should be made to create work in order to induce them to remain here.

138. To Senator Sampson.—Canberra land values are fictitious and excessive because they are beyond the purchasing power of the community. There is nothing to guide one in arriving at those values. I have had a large experience in valuing. I know something about it before I joined the Service, in which I began as land and property officer. I bought for the Commonwealth drill hall sites, manœuvre areas, naval bases, and pretty well all the land that it owns. I recollect that in 1914 we must have had in our office over 800 claims for compen-

sation, because of land resumptions. Now there would not be 80 in a year. I travelled all over Australia in my official capacity and was able to see how the various valuers and land agents arrived at land values. In Canberra there is not one sale to act as a foundation. In 1922 I was asked by the Government to put up prices on the various blocks in Canberra that were to be submitted for auction. I endeavoured to standardize the class of house that would be erected, and the means of the man who would occupy it, and fixed my values accordingly. Those values have been more than doubled in some cases, without any justification. The Government asked me how I arrived at my valuation, and I explained and said that I understood they would not be changed for twenty years. The ground rent of 5s. 3d. a week on each of the proposed semi-detached cottages is too heavy for the average worker to bear, particularly when one realizes that the Government paid an average of £3 15s. an acre for the land. The City Areas Leased Association hold that the leasehold value is 50 per cent. of the freehold value of any property. At present land is valued here as if it were freehold, and we are rated the potential value is not ours. Rentals are reappraised twenty years from the time of purchase, and thereafter every tenth year, but the rating valuations are made annually. Last year my block was valued at £400 for rating purposes, while this year it is valued at £500. Nothing has happened to warrant any increase in valuation except the expenditure of my time and labour on the property. The values of some of the blocks at Red Hill have been increased by £250. I have spent quite a lot of money on my block, and have changed a rocky outcrop into a beautiful garden, one of the prettiest in the city. The more one improves his property, the greater the rating value appears to become. I am now paying rates amounting to £20 a year on land that cost the Government £3 15s. an acre, excluding roads, kerbing and guttering—a pretty fair investment for the Government.

139. To Mr. M. Cameron.—I favour special areas being set apart on which workmen may build their houses, as I have already described. I add Westlake to the sites already mentioned.

140. To the Chairman.—Provided that people complied with the special regulations that would have to be inaugurated, I should allow them to choose their own designs for homes.

141. To Mr. M. Cameron.—I am not sure about ground rents charged for the Russell Hill area. Probably they would be 2s. or 3s. a block. It would not be necessary to put in sewerage at Russell Hill. I recommend the construction of a better type of house at Manuka than at the sites that I have enumerated, something worth from £600 to £800, for the use of lower paid civil servants.

142. To Mr. Gregory.—I do not think I could advance a sound basis of valuation for Canberra, as it is a purely artificial place, affected by a set of artificial conditions. There is no basis to assist one, because this is a federal city arbitrarily placed here. It had to have sewerage, water supply, and the amenities of a great city. The only possible basis for arriving at a value to live at Canberra. Essential services have been provided for a population of probably 60,000 people, whereas there are only 6,000 in the Territory. Most of the inhabitants of Canberra have their earnings fixed by an arbitrary authority, and nothing can happen to make them wealthy, whereas people in cities may, by commercial ventures, acquire wealth. I consider that land values in the Federal Capital Territory have been increased more than sufficiently to cover a reasonable proportion of the city's cost, considering its peculiar circumstances. Land which cost £3 15s. an

146. To Senator Dwoley.—If special remarks were made by the auctioneer with regard to the sale of leases at Maunaka no record of them exists except, perhaps, in the press. The Commission has reviewed press reports of the time with the object of verifying the statements of lessees. It is probable that the lessees are confusing remarks made amongst themselves with those made by the auctioneer. Only general statements

have been made as to the alleged promises, and the Commission has never been able to admit the truth of any of them. The fact that these people are disappointed in their investments is another matter. It may interest the committee to know that there are 249 houses in the Griffith and Red Hill districts, which adjoin Manuka, while there are only 127 buildings, including shops, in the Kingston district. In the intermediate area, Barton, there are 58 houses, almost equidistant from Manuka and Kingston. A definite plan of development for Manuka was made part of the conditions of the sale of leases. It had been the intention to originate a similar plan of development for Kingston, but the Government did not allow sufficient time between the date of the architectural plan of the Kingston area itself for the architectural plan of the Kingston area to be drawn up. It was prepared afterwards and complied with by leases, but it affected only the general exterior design, and was an endeavour to bring about no harmonious result. That is the reason why the Commission was not able to control the detailed development within the Kingston blocks, as it could at Manuka. In the early stages of the Federal Capital Territory, land valuation was made by the Government and not by the Federal Capital Commission. Upset prices were laid down for all the blocks at the original sale of leases. I am not aware how they were arrived at, but the Commission accepted them as a basis and nothing occurred at the first sale to indicate that those values were too high. As a matter of fact the upset prices were exceeded in many instances, sometimes considerably. It is laid down by the City Area Leases Ordinance, which was in force when the Commission was appointed, that the unimproved capital value shall be the freehold value of the land. The Commission made exhaustive inquiries in an endeavour to reduce the manufacturing costs of bricks. One reason for the high costs is the unusual demand on the brickworks. I believe that bricks are made at Geelong, and I shall supply the committee with the prices charged.

147. *To Senator Reid.*—The Commission examined every conceivable suggestion to effect economies in its brickmaking plant. Some reduction has been effected in working costs, but because of the unequal demand on the plant, it is not possible to run it economically. Brickworks in a city such as Sydney have a constant demand for their products. The Commission has details as to the actual price of bricks here compared with those produced in Sydney at a plant working constantly at full capacity. Speaking as a layman, I believe that the extra cost in Canberra is due to the increased cost of wages and material, and to the particular type of manufacture necessary to deal with our shale; the employment of the wet instead of the dry process. I suggest that the committee should obtain further details from the chief engineer. It would be more expensive to bring bricks from Sydney than to produce them locally. At present the brickworks are working only part time. The figures that I quoted yesterday as to costs were from September, 1929, to March, 1930. Prior to the appointment of the Commission, the Government fixed a price of £4 10s. a 1,000 for bricks. It was arranged that those who purchased leases at the first sale should be permitted to purchase at that price. The Commission continued that policy, but charged £5 5s. a 1,000 to any who did not buy at the first sale. Bricks were costed at £4 10s. in all Commission undertakings and rentals were based on that figure, not on the total cost of producing the bricks. The brickworks began to operate in 1915. The Commission has a definite rental basis stipulating that the rental on a brick house shall be £7.2s. per cent. on the cost. The land rent is 5 per cent. on the unimproved capital value of the land, in accordance with the leases ordinance. That £7.2s. provides for interest, depreciation, sinking

fund, maintenance and insurance, but for no profit. I think that it would take 60 years for the sinking fund to repay the capital cost of a house. It may be claimed that that means that any person who occupies a house for 60 years then hands it over to the Commission, in good condition, completely paid for, but that is customary elsewhere. The charges are based on an actuarial table prepared by the Commission. In other centres rentals may be reduced or increased according to the demand. Here, the basis is a definite and fixed one. The Commission was prepared to develop either Manuka or Kingston as the need arose, but Kingston leases expedited their building to a greater extent than those in the Manuka area, so that the Commission had to carry out the necessary services accordingly. When the Commission put in the footpaths and other services at Kingston there was considerably less development at Manuka. The Commission had the law amended to enable people to transfer their leases before committing themselves to a building, and a number of transfers took place. I have frequently driven through the Manuka area, and I am not aware that the road in front of the shops there is in poor condition. The Commission intended to concrete a part of Canberra-avenue, the main road to Queanbeyan, but the project has been postponed because of the prevailing shortage of money. That road runs in front of the picture theatre. It is 300 feet wide, in accordance with the Griffin plan. If the road in front of the Manuka shopping area needs repair, the Commission is perfectly willing to attend to the matter, as it does not desire the lessees to suffer inconvenience on that account. It is a gravel road and has not a permanent surface. After its appointment the Commission built the dwellings at the Causeway. Prior to that 33 residences had been erected at Kingston to provide housing for those who worked in the joinery shop, the power house, and the works depot at the rail head. There were then no residences at Red Hill. The Commission has since built 35 houses at Forrest and 74 at Griffith. There are 29 houses in the Red Hill area built by private enterprise. When the Commission took over there were only about twenty residences at Ainslie. That was the subdivision that Mr. Griffin intended to develop. The Commission developed it, but erected a different type of cottage from that originally contemplated. The Government considered that it was inadvisable to bring houses too near to the Civic Centre as the whole railway problem was in abeyance. The railway has to come somewhere between Civic Centre and Gorman House, and the Commission did not wish to be prejudiced by any commitments with regard to buildings in that area. It was always considered that the general trade would go to Civic Centre; that it would be regarded as the principal trading centre by the people of Canberra. Existing conditions are the result of enterprise on the part of those who took up the Kingston leases.

148. *To Mr. Long.*—The Commission is certainly prepared to do its utmost to solve the housing problem in Canberra. The proposed rentals for the semi-detached houses and flats about to be erected would represent a considerable proportion of the wages of a man receiving under £9 a week; a very high proportion compared with city conditions. The original intention of the Commission was to abolish the settlements at Molonglo and Russell Hill as soon as possible, but this problem has been to provide suitable housing conditions elsewhere. That is still a need to be met by the Commission, probably the most difficult problem with which it is confronted at the moment. The chief architect might be able to enlighten the committee further on the subject. Every endeavour has been made to find suitable houses of a permanent character for the lower paid employees of the Territory. A demand exists for the 36 houses that are to be erected. I am aware that there are probably 300 employees engaged in Canberra who

live at present in Queanbeyan and would prefer to reside here, but I point out that neither the Government nor the Commission accepted the burden of housing other than civil servants in Canberra. The Commission has certainly let houses to other people when they were available. It is being criticised for not having done what private enterprise usually does elsewhere. If private enterprise could produce cheaper houses, the Commission could do so. If land values were substantially reduced it would induce more people to build here. At the same time, land rentals are only 5 per cent. of the unimproved value, whereas if people bought freehold elsewhere they would have to pay a much higher rate for their money. The Commission has been made responsible for the management of the Territory on a commercial basis. It had to endeavour to obtain the highest revenue it could from the resources available. The prices of land were fixed in the ordinary way by public competition. The Government would have to initiate any action in regard to writing down land values, as the Commission has not the authority to reduce values which have already been determined in the manner I have described. I believe that the great need in Canberra is population. There are many blocks in Canberra, the value of which is not unduly high compared with values in other centres. I have endeavoured to show that the Commission carried out all the developmental work that could reasonably have been contemplated when the first Manuka land sale occurred. It has built twice as many houses in that district as at Kingston. The fact that the Manuka centre has not progressed as it should have done may be due to some obscure point which we do not understand. The reason why trade goes to one place rather than another is always an obscure one, as is amply demonstrated in Melbourne and its suburbs. I do not pretend to know why people have not favoured Manuka as a shopping centre. The Commission has accepted as a fact the complaints of the shopkeepers to the effect that they are not doing as well as business as they should and, knowing that additional houses have to be built, erected that Manuka is a suitable centre, it is agreeable to construct them in that area and so assist the shopkeepers there. By doing that the Commission is not admitting any failure to carry out its obligations. The Canberra building regulations provide at present that wooden houses may be erected only in a certain area, near Pialligo-avenue. The Causeway and Westlake were regarded merely as emergency dwelling centres during the constructional period. Ultimately the buildings there will be removed. There is no reason why the Westlake area should not be extended, except perhaps the cost of services. The Commission is endeavouring not to extend the boundaries of the existing services, but to fill up spaces within the area already served. It would not have any objection if some satisfactory building material suitable to the climatic conditions could be substituted for brick, but it would object to houses of that nature being erected in certain areas where people have purchased leases on the understanding that they would be brick areas. I do not consider that the Manuka district would be suitable for such dwellings. Flats are not necessarily inhabited by poorly paid people. Nowadays people of considerable means live in flats, sometimes because of their accessibility to a city. I do not admit that it is desirable to refrain from building either flats or semi-detached houses in Canberra. I have no objection to them provided that they are suitably designed.

149. *To Mr. Gregory.*—If Colonel Owen stated in 1923 that the department was then supplying bricks at from £3 19s. to £4 1s. a 1,000 at the kiln, and that 7,000,000 bricks were on hand, I can only assume that he was referring to the actual cost of making the

bricks, without taking any other factor into consideration. Regarding Colonel Owen's statement that while it would be uneconomical to retail tiles at £12 per 1,000, it would be an excellent proposition at £13 or £14 per 1,000, I believe that he had in mind the manufacture of tiles in a brick kiln. An endeavour was made to burn tiles in that kiln, unsuccessfully, and the Commission had to build a special tile kiln. I am not in a position to say whether that cheapened or increased costs. I have no information as to the basis of Colonel Owen's own statement, but I am confident that his figures make an adequate provision for overhead expenses. At that time no proper detailed costs were kept. I am aware that no analysis of costs was made in the 1929 report of the Commission, but if the Commission went into detail in connexion with each of its various undertakings the consequent reports would be too voluminous and costly.

150. *To Mr. M. Cameron.* It has been the endeavour of the Commission to eliminate Russell Hill as a residential area as quickly as possible. Its establishment was purely accidental. During the period of heavy construction in 1926-27 numbers of people came to Canberra seeking work, some with their families. They erected humpies all over the place, some on the banks of the Molonglo river, some on the recreation ground, some near the brickworks, and others near the hospital. The dwellings were condemned by the authorities as the people were living under insanitary conditions. Those occupying residences in the vicinity of such camps made complaints because their properties were being depreciated in value, while during the flood season the nomads who lived near the river towards the Queanbeyan end of the Territory were in grave straits and the Commission had to assist them with food. It was decided that rather than have a number of unsuitable camps it was preferable to concentrate these people at Russell Hill, where they would have the advantage of a water service and a school. It must be remembered that they were not invited to come to Canberra. The people living at Russell Hill are not in a position to establish homes in Canberra under the general conditions laid down. According to the Griffin plan Russell Hill is an important area. It is in the neighbourhood of the War Memorial and of the Military College. Other localities have been set apart as industrial areas. As those people became unemployed the Commission asked them to leave Russell Hill, and in that way its population has been reduced. It will be some time before all these people are disposed of. Some have erected wooden houses that are quite well constructed and, so long as they have not created a nuisance, the Commission has not interfered them by imposing building regulations. I think they are charged about 6s. a week for ground rent.

151. *To the Chairman.*—When the Commission first began building operations in Canberra the costs were very much higher than they now are. In 1925-26, and part of 1927, the greatest difficulty was experienced in obtaining suitable types of workmen, as there was a big demand elsewhere for their services. It was necessary to pay high rates of wages. The cost of obtaining tradesmen in connexion with the construction of Parliament House was enormous. Plasterers were paid 30s. a day, and the Government had to bear the cost of conveying their families and furniture from and to Sydney. When building charges reached a normal level the matter was discussed with the Government and the Commission suggested that it would be fairer to the people who came earlier if the cost of their houses was reduced to the normal level. That is why the prices of a number of cottages were written down.

(Taken at Canberra.)

FRIDAY, 4TH APRIL, 1930.

Present:

Mr. Lacey, Chairman;	
Senator Dooley	Mr. Gregory
Senator Reid	Mr. Holloway
Senator Sampson	Mr. Loug.
Mr. M. Cameron	

William Elmhirst Potts, Chief Engineer, Federal Capital Commission, sworn and examined.

152. To the Chairman.—The brick yard has been under my control for the past 24 years. It is now engaged in the production of a special class of face bricks only; but inevitably a proportion of common bricks is produced. From the 23rd September, 1929, to the 9th March, 1930, the production was—Common bricks, 234,150; face bricks, 299,470; moulded bricks, special, 2,910; clinker bricks, 509; semi-glazed bricks, 7,020; louvre vents, 200. At the present time we are using only the down-draught kilns, and their capacity is approximately 80,000 bricks per month. We have also one Staffordshire kiln and one Hoffman kiln with a weekly capacity of 110,000 bricks and 130,000 bricks, respectively. When the whole of the works are in full operation we can produce between 100,000 and 120,000 bricks per annum. The stocks in hand on the 21st March, 1930, were common bricks, 1,640,405; face bricks, 141,270. We have sufficient common bricks and tiles on hand for the construction of about 50 cottages of average size, and face bricks for ten or twelve cottages. The plant in full operation could supply bricks for about 400 cottages yearly. A statement supplied to this committee showed that from the 29th September to the 21st December, 1929, the cost of bricks from the down-draught kilns was £5 7s. 7d. per 1,000, or, including interest, £5 8s. 4d. That cost is abnormal. The output at present is only small, and burning in the down-draught kilns is much more expensive than in the Staffordshire and Hoffman kilns. For instance, the down-draught kiln takes nearly three times as much coal as the Staffordshire kiln. The money received for the output of the down-draught kilns is a little more than the actual expenditure, excluding interest, but including depreciation at 4s. 5d. per 1,000. Face bricks are in demand by the Commission and private builders, and we are concentrating on the production of them. The services of the manager have been dispensed with, and the yard is being worked under the foreman with a few skilled employees whom we desire to retain. When the works are in full operation, the cost of bricks is slightly less than the actual sale price. Sir John Butters, when giving evidence before the Public Accounts Committee in 1927, stated that the average cost for the last four months of that year, when the output was nearly up to the full capacity of the plant, was £4 12s. 3d. per 1,000. That is less than the actual sale price. The following figures show the cost of production at various periods:—

Period	Dates.	Cost per Thousand.
	£ s. d.	
24th April, 1926, to 25th May, 1926	..	4 3 11
15th September, 1926, to 12th October, 1926	..	4 4 3
12th October, 1926, to 10th November, 1926	..	4 7 4
4th January, 1927, to 1st February, 1927	..	4 10 8
20th July, 1927, to 10th August, 1927	..	4 10 11
17th August, 1927, to 19th September, 1927	..	4 17 5
19th October, 1927, to 8th November, 1927	..	4 12 10
9th November, 1927, to 6th December, 1927	..	4 10 11
Tilts.		
13th September, 1927, to 11th October, 1927	..	18 4 2
12th October, 1927, to 8th November, 1927	..	10 19 0
9th November, 1927, to 6th December, 1927	..	17 17 11

These prices include depreciation, interest, loading out, holiday pay, &c. Interest is computed at 6 per cent. on a ledger value of £85,000. Some of the figures I have just quoted may have been based on a higher capital value, which in the interim, has been depreciated considerably. Having regard to local circumstances, the cost of production at the Canberra brick works, when they are operating under normal conditions, is reasonable. The estimated cost of producing bricks on the 5th June, 1928, was £4 11s. 4d. per thousand, or £3 14s. 4d. without overhead charges. We are obliged to use, in Canberra, the "semi-plastic" process. It is impracticable to adopt the dry-pressed process, because the shale contains a high percentage of limestone. When the bricks are made from this material by the dry-pressed process, the limestone burns to ordinary quicklime, and later when the bricks are wetted, the lime swells and causes disintegration. The compulsory use of the semi-plastic process is the primary reason for the cost of manufacture being higher in Canberra than where the dry-pressed process is used. In the first place, it is necessary to select in the pit the material to be used. The quantity of free limestone in the shale varies, and we must endeavour to get material that does not contain, say, more than 15 per cent. of free limestone. If a higher percentage were used, even with the semi-plastic process, the bricks would be a failure. Selection of the material in the pit adds to the cost of the raw material. We estimate that four men are required as compared with three where the dry-pressed process is used, and due to the difference of wages, the cost per thousand in the pit is 9s. as against 5s. 6d. Because of the harder nature of the Canberra shale, the cost of grinding in the pans is a little more than elsewhere; we estimate it at 2s. 1d. per 1,000, as compared with 1s. 9d. for the dry-pressed process. In the loft, the cost is 9d. as against 7d. Additional machinemen are required. One man has to be employed on a mixer when using the semi-plastic process. The cost is 10s. 8d. for machines and overhiring as against 1s. 9d. for the dry-pressed process. Setting costs 4s. 4d. as against 2s. 9d. for dragging and cleaning 6s. 6d. as against 5s. 7d. for burning 6s. 6d. as against 5s. 7d., and coal wheeling 2s. as against 1s. 9d. Wages of coal burners cost 6s. 9d. per 1,000 as against 5s. 7d. Because the semi-plastic bricks are much wetter than dry-pressed bricks, an extra hundredweight of coal is required for burning them, and that means a cost of 13s. 9d. as against 5s. 7d. Power and light cost 5s. 7d. as against 3s. 4d. Sundry materials and labour cost approximately the same for each process, but maintenance of machinery and plant costs 12s. per 1,000 as against 5s. for the dry-pressed process. The total for Canberra under these various headings is £3 14s. 4d., as compared with £2 4s. 2d. for the dry-pressed process, showing a balance of £1 10s. 2d. in favour of the latter. If we add 4s. 9d. for depreciation; 6s. for interest, 2s. 6d. for management, 1s. 6d. for holiday pay, 2s. for stacking, and 3d. for the production of special moulds, we reach a total of £4 11s. 4d., which is approximately the actual production cost. The wages for Canberra are about 17 per cent. above the New South Wales award rates for brick-makers; in addition, our process requires more men. Mr. Rogers, manager of the Austral Brick works, Sydney, in a report on the Canberra Brick works in 1925, stated that a considerable saving could be effected if the dry-pressed process could be used, namely, 16s. 6d. per thousand; plus gains not easily determinable in respect of power, burning, maintenance, and repairs. He said also—

There is distinct evidence also, that the cost of production is coming down somewhat, but it is not making comparisons with the New South Wales State Brick Works to the disadvantage of Canberra. The State Brick Works produce 3,400,000 bricks per annum, the process is dry-pressed, and the cost is not half what it would be when the price per unit for electricity is also less than half that at Canberra.

He recommended that if a deposit of suitable material could be found, a small dry-pressed plant should be installed; but we have not been able to find, anywhere in the Territory, a shale that would be suitable for that process. Mr. Rogers also stated that the semi-plastic bricks produced in Canberra were as good as any he had seen in Australia, the United States of America, or Great Britain. The Commission also obtained a report from Dr. Wunderlich who praised the layout of the brickworks and the quality of their product, and commended the selection of the semi-plastic process to overcome the disability of a large lime content in the shale. He added that the cost of production compared favourably with the price of a similar article in Melbourne and Sydney; but showed considerable variation from time to time due to fluctuations in output. It is very hard on the undertaking that it should have to bear the cost of all preliminary investigations. In my opinion, the ledger value of £85,000 is unduly high. Since the plant has been installed, the capital value has been written down by £3,800. A large number of dry-pressed bricks have been made, but for the reasons I have explained, they were not a success. During the peak period of house construction, the manager of the brickworks was trying to increase his production, and, unfortunately, used some shale with a high lime content. Some of the bricks made from this shale were delivered on the Bruce, Eden and Griffiths job, and many of them disintegrated in the rain. The Government has engaged geologists and others to report on the possibility of locating a shale which would be suitable for the dry-pressed process; but no such material can be found. The brick we are producing by the semi-plastic process is probably too good for ordinary cottage construction, but we cannot produce an inferior brick with the material and process at our disposal. I have no knowledge of the manufacture of semi-plastic bricks in Sydney, but I understand that the prices in Melbourne of similar bricks are comparable with Canberra prices, having regard to the special conditions obtaining here. Local manufacture is essential because there is no prospect of buying bricks more cheaply than they can be produced in the Territory. During the period of rush construction, large quantities of bricks were imported from Sydney and Bowral, involving the Commission a loss of about £15,000. At the New South Wales State Brick Works, the cost of common bricks is £2 18s. 6d. per thousand. The freight to Canberra is £5 1s., making the total cost on trucks at Canberra, £7 19s. 6d. Face bricks cost at the State Brick Works, £5 2s., or with freight added, £10 9s. at Canberra railway station. At Goulburn, common bricks cost £4 16s., and face bricks £7, and at Bowral, common bricks £3 7s. 6d., and face bricks £2 10s. on trucks at the kiln. The construction of concrete houses in Canberra would increase the cost of bricks by lessening the output.

153. To Mr. M. Cameron.—The prospect of obtaining a shale free from lime and suitable for the dry-pressed process at any place convenient to Canberra, is negligible. Dr. Thomas Griffith Taylor, D.Sc., physiographer, Commonwealth Weather Bureau, stated on the 10th November, 1916—

I saw the brick kiln at Yarralumla in October, 1912. I understood that the site had been chosen by Mr. Pitman as the most suitable for the brick-making process. I was asked to compare the deposit with many others in the neighbourhood. We examined several, although, unfortunately, there were not many, and I can say, unhesitatingly, that Mr. Pitman's choice was in every geological particular the best deposit for brickworks. There are really only two others worth considering—one near Mount Vernon (Clivic Centre), and the other where the railway crosses the main road to Queanbeyan right on the edge of the Territory.

Colonel Owen, in the course of some notes regarding limestone in the Canberra brick-making shales, stated—

In choosing a region from which to obtain shale for making bricks, advice was sought from the then Government Geologist for New South Wales, Mr. Pitman, and from Mr. David Mahony, Mineralogist of the Department of Mines, Victoria, and Professor Griffith Taylor. The investigation disclosed that the shales of the region known as Yarralumla shales all contained occurrences of lime and lime stone. The plains were called "Limestone Plains" in the past. The site chosen for the shale pit was indicated by the geologist as being the most likely to give satisfactory results. Shafts were sunk by them to test the deposits before recommending the site. Nowhere in Canberra could manufacture of bricks by the dry pressed process have been relied upon.

I cannot say how far afield the investigation was carried, but I have never heard of any likely deposits of shale within a practicable distance of Canberra. The variation in the cost of producing bricks is probably due to fluctuations of output, and the method of bringing debits to account. For instance, a large purchase of coal might be debited to one period, making the book cost for that period higher than usual. The true cost is ascertained by averaging the figures for several periods, and I think is within the vicinity of £4 12s., as mentioned by Sir John Butters. We sell ordinary bricks at £4 16s. per thousand for Commission works and residences erected by public servants for their own use. For other works, the charge is £5 2s. We have installed one machine for the experimental manufacture of earthenware pipes, and have turned out some very good pipes. I am convinced that with a reasonable output, we could make pipes at prices which would compare favourably with those of the imported article. In the event of the proposal for the construction of between 30 and 40 cottages at Manuka being approved, I would probably recommend that one of the big kilns be brought into operation, because that programme would exhaust our stock of bricks.

154. To Senator Dooley.—I think that the valuation of the plant should be written down from £85,000 to £25,000. If that were done the cost of production, with the plant in full operation, would probably be reduced by 3s. per thousand.

155. To Senator Reid.—There is no possibility of the dry-pressed process being utilized in Canberra, and I see little prospect of reducing the cost of production by the semi-plastic process. If an extensive building programme were undertaken, and we could use the Staffordshire and Hoffman kilns, the cost would be about £4 12s. per thousand, as against the present cost of £5 8s. 4d. for special bricks burnt in the down-draught kilns. If conditions were stable the works could operate profitably at that price. Even at the present time we are not making a cash loss, but the sale price does not cover interest on capital. Of course the brickworks accounts show large accumulated losses which were due to the plant lying idle or working part time. The Commission has considered the advisability of writing down the capital value of the works. In the first place, Mr. Rogers recommended that the capital be written down from approximately £47,000 to £26,000. A recent valuation made by the Commission for the same purpose was about £55,000. That, in our opinion, would be a fair working capital. If the plant were written down to that figure and the kilns were in full production, the cost of bricks could be reduced by approximately 3s. per thousand. Two brick yards were started in Queanbeyan. I understand that they had modern plant, and that the shale they were working had a small lime content and was suitable for the dry-pressed process. They were selling their bricks at 2s per thousand. Yet both failed. Our first manager, Mr. Newbold, went from Canberra to join a firm that commenced operation in Queanbeyan, but despite his experience, the venture was not a success.

156. *To Mr. Gregory.*—With a reasonable production the brick works could, even on the present capital value, make a small profit at the present sale price. But if the capital value were written down to £55,000, they could make a bigger profit or reduce the price of bricks. It is true that the State Brick Works are selling at a cost of about £2 18s. per thousand, but they have a production of 34,000,000 bricks annually. They also get cheaper power and coal, and operate under a bonus system. Dry-pressed bricks would be very suitable for cottage construction in Canberra, and we would be glad to make them if suitable material were available. Coal is a costly item in Canberra. There is a high freight charge from Queanbeyan to Canberra railway station, where delivery is taken by the Stores Branch, which bears portion of the loading cost, and all demurrage and losses in transit. The coal is sold to the brick works at the net weight on the weigh-bridge at the stores. I do not think the stores make much profit out of the transaction. The haulage from the stores to the kiln costs about 5s. 6d. per ton at present. The best price we can get for the haulage of material is 10d. per ton-mile, and that is for long distances. The distance from the stores to the brick works is 4 miles. Contractors who own their own lorries are allowed to come to the brick yards and load whatever bricks they require. All other cartage of bricks is done by the Commission at a contract price of 11s. for the first mile, and 1s. 3d. for each half mile thereafter, with a minimum of 12s. 6d. per thousand. The reason for the adoption of this system is explained in the following memorandum I wrote to the Chief Commissioner on the 19th August, 1927—

In order to eliminate variations in the rate of cartage, and to give more direct control of the disposal of the output of bricks at the source of supply, thus enabling better control of dragging and the distribution of material, and, further, to ensure that all bricks bought at Commission rates and ordered for Commission jobs are delivered on such jobs and nowhere else, it is recommended that consideration be given to a proposal that all brick cartage should be under control of the Commission. This matter was brought up some time ago, and the proposal was approved. Private contractors, however, stated that they could cart bricks at cheaper rates than could the Commission, and the scheme was therefore dropped. I do not think that this objection now holds, if in fact it ever did, as I understand that some of the builders are actually paying slightly heavier charges than are paid by the Commission for the cartage of bricks. I consider that it would be possible to get a sufficient number of carters to make the proposal a practicable one. The present rates as paid by the Commission, however, are probably a little too low to ensure this, but if the proposal be adopted this phase of the subject could easily be settled by the calling of tenders for the service. It is not suggested that the Commission contractors, who have especially purchased lorries for the cartage of bricks, should be supplanted until their current contracts with the Commission have been completed. The method of cartage control proposed is considered to be the only satisfactory one, and I do not think I would be exaggerating in saying that it is the general system in operation in all brickyards throughout New South Wales.

That has been modified in the manner I have stated, namely, by allowing builders who own their own lorries to take delivery at the yard. All other cartage the Commission insists on doing, and I think that system is fair to the consumers and the Commission. When we allow people to come into the yard indiscriminately and take bricks away, we incur extra expense. The stacking of bricks adds to the cost. If we have our own lorries bricks can be taken straight from the kiln to the job. That would be impossible if all users of bricks could come to the yard at any time suitable to themselves to load their requirements. As I have said, the practice we have adopted is common throughout New South Wales. The Commission has never tried to lease the brickyards, and I do not think that a lessee could be found. Piece-work has been tried, and we found that in all processes except dragging it is more expensive.

In the State Brick Works, in New South Wales, piece-work and the bonus systems are in operation. The bonus system was proposed in connexion with one of the sewerage jobs, but it was not approved by the Commission as a general principle. We may not be justified, as a regular policy, in selling bricks at less than cost price, but it is not fair to assume that all the bricks that are being sold have cost £5 7s. per thousand. That is the price of a small output in special circumstances, and even in respect of it the sale price recoups the cash outlay. A balance-sheet for the whole of the operations of the brick-yard since its inception must show a big loss, but we can never put the business on an economic basis until we have continuity of production. If we could keep only one brick kiln going continuously that would help materially to put the works on a business basis.

157. *To Mr. Holloway.*—The Commission has sold bricks to customers outside the Territory, and presumably the present Chief Commissioner would permit that practice to continue. We sold large quantities of bricks in Queanbeyan even when the local kilns were in full operation. If we were assured of continuity of production from only one of the large kilns we could just about meet expenses at the present sale price. If we could obtain bricks from the State Brick Works in New South Wales at £2 14s. per thousand, plus 4s. 1s. for freight, local production would still be much cheaper. With one large kiln in continuous operation, and an assured sale for the full output, we could continue the present sale price; but if the works were producing to their capacity the price could be reduced. I stated in evidence on a previous occasion that if we knew what works we would have to carry out over a definite period and could plan ahead we could reduce our costs. That applies to nearly every trading activity of the Commission. Apart from major items of cost, many minor economies can be effected in any undertaking if the work is continuous. Those economies are not possible when the output is high to-day and low to-morrow.

158. *To Mr. Cameron.*—There is not a great deal of building activity in Canberra at the present time. The new Methodist Church absorbed a large number of bricks, and a few cottages are being built by private people and the Commission.

159. *To Mr. Gregory.*—I shall prepare a return showing the output of bricks during the years 1927, 1928, and 1929; the average cost per thousand with and without interest and depreciation, and the price received at the kiln; similar particulars regarding tiles; also the capital cost of the plant, the amount already written off, and the present valuation.

(Taken at Canberra.)

TUESDAY, 8th APRIL, 1930.

Present:

Mr. Lacey, Chairman;

Senator Dooley

Mr. Gregory

Senator Reid

Mr. Long

Mr. M. Cameron

John Samuel Crapp, President of the Citizens' League, Canberra, sworn and examined:—

160. *To the Chairman.*—I am aware of the proposal to erect a number of semi-detached two-storied dwellings at Manuka. My association has given consideration to this question, and I am empowered to make representations on its behalf. I consider the development of the Manuka area to be very desirable. My league is not in favour of the erection of semi-detached two-storied buildings. The time has not yet arrived for the erection of two-storied dwellings, at all events, for the housing of workmen. The main objection is the stairs.

I know of one instance of a man who occupied one of the semi-detached two-storied buildings at Reid. He did so for the purpose of securing a lower rent. He was a tenant for some weeks, but took the earliest opportunity to obtain a house on the south side of the river in the vicinity of Manuka. I moved his furniture for him. His words to me were, "When you get inside, don't take any notice of the conditions of the rooms, because they are just like a rubberer's camp; the stairs were more than my wife could manage." For that reason he moved into a detached house for which he had to pay a higher rent. The main objection to the two-storied building was the stairs. I do not think that lack of privacy is an objection, because I have worked in one building while people were occupying the adjoining building, and my experience was that there was no interference with privacy to any extent. The buildings are most objectionable from the point of view of rearing families. A son was born to the man that I have referred to while he was occupying the two-storied building. Of course the Australian workmen are an asset to this country, particularly from the point of view of rearing families. In their case the stairs provided in these buildings would be an objectionable feature. I admit that the two-storied buildings that have been made available have been rushed by intending occupants mainly because of the reduced rents, but a rental of from 30s. to 35s. 6d. a week is rather on the high side for a man on the basic wage. He should not be asked to pay more than 25s. a week. Let me make one suggestion as to how a reduction could be made in house rents. A certain house has been built in Canberra under what is termed the McGrath system, by Wallace and McDonald. I understand that this firm has built a similar house in Sydney. It is prepared to build a useful type of house at Canberra which could be rented at less than 30s. a week and at the same time give a reasonable return on the capital invested. I watched the erection of this type of house at North Ainslie, and I have watched it since. It has been erected a little over two years. I saw the house recently. The studs are made of concrete. A metal netting is then attached to the studs and the whole frame work is plastered over. When completed it is practically fireproof. There is a cavity wall provided. The structure would, I consider, have a long life and the house itself is eminently suitable as a cheap ordinary workman's home. I understand that the contractors are prepared to erect these houses at a reasonable price. The studs are of reinforced concrete. I have watched every phase of the building because I have always been more or less interested in building construction. I carted material to the house, and naturally, as it was a new idea, I paid special attention to it. The idea strongly appealed to me. I saw the house last about two months ago. I do not think that the conditions inside would be any different from those of a brick house. It certainly would be very much better than a weatherboard house which in the winter time is exceedingly draughty. This type of cottage has a roughcast surface and it can be subjected to various grades of roughcasting. This is the only one of its type that has been erected in the Territory. I should say that the thickness of the external wall would be about 7 in. or 8 in., and the inner wall about 3 in. or 4 in.

161. *To Mr. Gregory.*—The main objection to the two-storied dwelling is the stairs. In the case that I have mentioned the complaint was that the housewife had to climb the stairs. She was not an invalid. The stairs are both steep and narrow. I know that from experience, because I have had to carry furniture up and down the stairs. Another objection is that the bathroom is right at the front of the first landing. The steepness of the stairs certainly makes them

dangerous for children. I understand that this particular type of building erected by Wallace and McDonald costs from £300 to £400. I presume that the roof would be of tiles in keeping with the balance of the buildings at Canberra. The attention of the Federal Capital Commission has been drawn to the cheapness of this type of construction. Mr. Wallace built the house for one of his sons. His son-in-law, Mr. McDonald, came to Australia from New Zealand and Mr. Wallace wanted to build a second house for him, but the Commission objected. It would only allow one of the type to be built until the results could be ascertained. Mr. McDonald was, therefore, compelled to build a wooden house. I do not think that any further representations have since been made to the Commission. This type of house appeals to me, especially as there is a keen demand for cheaper houses. I know of no other type of house which would lend itself so readily for use as a workman's cottage from the point of view of both cheap rentals and the harsh climatic conditions of Canberra. A brick cottage with a tiled roof, particularly under Canberra conditions, is too expensive for the man on the basic wage. I think that there is room for a reduction in the cost of bricks and in the values of land. If these were reduced rents could be reduced. The overhead charge in connexion with bricks is beyond all reason. I have been told by the late manager of the brick works that he produced bricks at from £3 12s. to £3 15s. a thousand, and that the contractor had to pay £5 5s. a thousand for them. I do not think that the charge is affected by the Commission insisting on the bricks being delivered by its own carriers. The cost of delivery varies. The delivery is run on a zone system. The charge for 3 miles would be about 15s. to 16s. a thousand. As a rule road metal is loaded from the bin and taken to the job and tipped, but bricks have to be handled on to the lorry and at the job. When I first came to Canberra I carted thousands of bricks and my experience was that no great sum of money could be made in that way. The competition in brick carting in Canberra is keen and has been reduced to a fine art. It was the aim of the brick works to control the whole of the carting. I could see trouble ahead so I discontinued brick carting and confined my operations to other spheres of activity. Trouble eventually arose at the brick works. The Commission fought with the private contractors and objected to the contractors sending in their own lorries for bricks. Eventually the Commission won, and unless a contractor actually owned a vehicle he could not employ any one to cart bricks from the kiln. The contractors' objection was that the drivers of the Commission lorries would go to a job and drop the bricks when and how they liked, with the result that the contractor had to pay men to shift the bricks. After that the contractors, if they had sufficient bricks on the job, would refuse to take other deliveries until required. The bricks were distributed more evenly on the job and in a position more convenient for the workmen. That system was continued for about 2½ years and then the original system was reverted to, but under better conditions. The deliveries are now, to a great extent, under the direction of the various contractors.

162. *To Senator Reid.*—In the early days if a contractor ordered, say, 50,000 bricks, the brick works would probably deliver 10,000 or 15,000 bricks on the job in one day. Take the case of Colonel Walker. He ordered 50,000 bricks, and one day, during his absence, 25,000 bricks were landed on the job, a number of them on a portion of the site where trenches had to be dug. I know of no one except the person that I have mentioned who has objected to the stairs in the two-storied semi-detached buildings. The woman concerned was about 23 or 30 years of age. Her husband is a cleaner at No. 2 Secretariat. There was too much

climbing up and down stairs. Their first child was born during the time that they occupied the house. There are some houses at Canberra built of concrete blocks, but I do not think that the cost of that type of building is less than that of a brick building. The house built by Wallace and McDonald is the only type that I have yet seen that lends itself to a reasonable rental. Private enterprise has never had any encouragement from the Federal Capital Commission. Messrs. Wallace and McDonald were prevented from building further houses of that type at Canberra. I think that the Commission took up that attitude because it did not wish any interference with the operations of its own brick works. Mr. T. M. Shakespeare's house at Mugga-way is constructed of concrete blocks. One or two of his sons have had similar type houses built at Braddon. There should be no objection to the type of house erected by Wallace and McDonald, provided that it proves to be all right. At Canberra there is always a tremendous shrinkage in timber. Once it has been subjected to the sun, it shrinks and warps, with the result that the upkeep of the house becomes expensive. A timber dwelling will not give the same degree of comfort that is enjoyed in houses constructed of more solid material. Canberra has severe climatic conditions, alternatively intense heat and cold. Then, again, it is subject to severe dry winds during many months of the year. Furniture landed here from Sydney, after being seasoned for years, gives the impression, after one summer, that green timber has been used in its construction. The climatic conditions at Canberra are most extraordinary. I certainly think that if the return to the Commission on the cost and maintenance of houses were spread over a longer period of years it would be possible to decrease the rents. We cannot count on a long life for timber structures, certainly not equal to that of a concrete or brick building. My league has a great objection to two-storied dwellings. I guarantee that if ten single-storied detached houses and ten semi-detached two-storied houses were built and open for occupation, the former would be occupied first.

163. To Mr. Long.—I do not regard the semi-detached two-storied building as an acquisition to Canberra. I consider that the erection of a number of cottages on the lines of that constructed by Messrs. Wallace and McDonald would go a long way towards solving the housing problem in connexion with the men on the basic wage. I should think that buildings constructed of other suitable materials would also meet the case. The ordinance issued by the Federal Capital Commission provides for the construction of cottages built of brick, timber and concrete blocks. If necessary, that ordinance should be altered so as to include the type of building erected by Messrs. Wallace and McDonald. I have been a resident of Canberra for some four years. The settlement at Molonglo should have been abolished years ago. I strongly opposed the transfer from Russell Hill to Molonglo. I inspected both areas, and I came to the conclusion that the people at Russell Hill were living under more hygienic conditions than those at Molonglo. The problem of housing the lower-paid men is very serious, and they would be financially much worse off were they compelled to transfer from Molonglo or the Causeway to another locality in order to occupy two-storied semi-detached dwellings. Those people should certainly be provided with better housing accommodation than they have at present. Rents in Canberra are exceedingly high. That has been caused to a large extent through the fictitious value placed on land when the leases were first thrown open for sale.

164. To Mr. M. Cameron. I live at Kingston. No objection has been raised to the site of the proposed

cottages. It would be difficult to distinguish between the type of house built by Wallace and McDonald and the monolithic type of cottage erected at Griffith. Of course the existing cottage built by Wallace and McDonald is not sufficiently elaborate for better localities, but it would be quite suitable for the weather-board section, and if a number of cottages of this type were constructed it would go a long way towards providing suitable accommodation for men on the basic wage. I see no objection to establishing a workman's area at Russell Hill. It is a locality that lends itself for that purpose because it is reasonably central, and the surroundings are congenial. They are quite different from the wind-swept plains of Molonglo. There is good natural drainage at Russell Hill.

165. To Senator Dooley.—I would prefer a cottage of the type built by Wallace and McDonald at £230 to a similar building constructed of brick at a cost of £700. They would be just as lasting as one another. If the concrete cottage cost £200 more than a similar weather-board house, I would still prefer the former, because, with a timber building, there is considerable deterioration and expense in upkeep, painting and general repairs. Most of this expenditure would be unnecessary in the case of a concrete building. The additional cost of maintaining the weather-board house would indirectly increase the rental. The concrete building will last as long as a brick building. The cottage that I refer to has been erected for about two and a half years. We know that the longer cement stands the more it becomes hardened. The building cannot deteriorate because all the material, including the studs, is of concrete. The roof is of Wunderlich tiles. That class of tile would be about £3 10s. a thousand cheaper than Canberra tiles. I have taken considerable interest in the question of land values. I consider that they are exorbitant. The Commission affairs in that respect are in such an unhelpful tangle that it is difficult to suggest how to unravel them. After witnessing the second auction sale held in Canberra, I forecasted that the present model would result. I expressed that opinion to Mrs. Brackenridge, who was speculating in land at that time, in the hope that it would pass it on to her husband, the land officer. It would be difficult to make any alteration in the values because of the large number of leases that have been entered into. At these sales the reserve price of the land was fixed at a certain sum, and the moment the land was put for sale, and the first bid was made, that sum was accepted as the capital value of that block. In that case the first bid represented the capital value of the block. The auctioneer would not accept a lower bid, and all subsequent bids were higher. At an ordinary land sale, if the capital value of a block were, say, £200, a person could commence bidding at, say, £100. The people at Canberra were buying under a principle with which they were not conversant. Of course, Sir John Butters has said that they bought the land with their eyes open, but I contend that there were peculiar conditions in respect of the capital value of the land with which I, among many others, was not familiar. The reserve price should have been fixed at a reasonable figure. If it were £200, and the block were knocked down by competition at £300, I contend that the difference between those two amounts should have been taken into account in arriving at the capital value, particularly for the first 25 years. That was a proposition that I put to Mrs. Brackenridge, in the hope that she would pass it on to her husband. I have attended many auction sales, but none conducted on the same principle as that applying to the Canberra sales. If the land values were reduced there would be no adverse effect upon the community, because the leaseholds vary considerably at present. Take, for instance,

J. B. Young and Co. That firm bought a lease at the first sale, and they are paying for it a much lower rental than that applying to adjoining properties, the leases of which were sold later. There is one value for rental purposes and another value for rating purposes.

166. To the Chairman.—I suggest to the committee that it should interview Messrs. Wallace and McDonald. I know these men. If they say that they can provide suitable homes for workmen, they will do so if given the opportunity. They are not jerry-builders; they have done work at Canberra, and they are the type of men who can produce the goods.

The witness withdrew.

John Leo Mulrooney, Chairman of the Reid Progress Association, sworn and examined:—

167. To the Chairman.—I am a public servant. I am aware of the proposal to erect a number of semi-detached two-storied cottages at Manuka. I have prepared a statement embodying the views of the residents of the northern suburbs. It reads:—

Those people who have established their homes in the northern suburbs have noticed with mixed feelings the trend of constructional activity on the south side of the river Molonglo, and when it was learnt that it was intended to construct approximately 40 new houses at Manuka, the residents of one of the suburbs thought that the time was opportune for finalizing details of a scheme which they had been considering for some time. Hence the inauguration of the Reid Progress Association. I desire, however, to state that it is abundantly clear that the Reid Progress Association does not require special favours for this suburb, but is anxious to see equal activity in all the suburbs, irrespective of north or south, and it is not very difficult to realize that if one suburb is to advance at the expense of another the result will be serious. That has already been proved in connexion with two suburbs on the south side of the river.

It is a well-known fact that the principal shopping centre was to be established at City. The most vital factor in preventing the consummation of this ideal was that the scheme of establishing the much discussed railway never eventuated. We are all aware of this alleged railway line, and we have all heard the statement that the rail truck was torn up and a train was left standing near the terminus.

The second factor was the coming of a slogan, "Don't live in Ainslie." People who had come to make their homes on the north side of the river quickly recognized that they were being penalized. All the principal services were being centred on the south side of the river. The railway station, the most important shopping centre—and that contrary to intention—the four principal schools, the picture theatre, the only turf cricket and principal sports oval, and the association tennis courts are from 3 to 5 miles from the people living on the north side. To participate in these facilities "bus fares have to be incurred, and this necessarily increases the cost of living to those individuals. The only "public" house is out of their reach, and while I do not wish to be ungrateful for the recommendations of the Public Works Committee, I understand that the public swimming baths are likely to be established among the southern suburbs. I hope that I am not wrong, but if I am right I wish to take this opportunity of registering an emphatic protest on behalf of the people living across the river.

There is little doubt that Kingston is thriving and Manuka is to receive some consideration, but everybody is forgetting City, which should be the principal shopping centre. I am inclined to the opinion that Manuka's position is not due to its present inhabitants. I was under the impression that the first land sales in the Manuka district were singularly successful and it would be interesting to learn the names of those successful bidders who succeeded in catching the eye of the auctioneer on the day of the sale, and then forfeited their leases without monetary loss to themselves. The present high land values are possibly due to their enthusiasm which was not translated into action.

It would appear that a policy is being adopted of extending facilities to a large number of people, forgetting the few and the few are the ones who will be most benefited, and not looking to the future. Both sides must be developed, otherwise there will be a further departure from the spirit

of the Griffin plan. In this connexion the following statistics are of interest:—

	1929. Dwellings occupied.	Persons.	1928. Dwellings occupied.	Persons.
City	17	63	67	
Braddon	131	638	510	
Reid	81	37	202	
Ainslie	126	543	698	
	391	1,602	1,543	
Barlton	55	260	280	
Forrest	103	432	302	
Griffith	87	375	202	
Reid Hill	22	98	80	
Fyshwick	222	1,160	1,162	
Kingston	144	741	710	
	633	3,095	2,805	

I have only named those suburbs contiguous to the shopping centres, but the increase for the 12 months in question is 100 per cent. higher in the south than in the north side. The reason for this increase is obvious.

The committee is aware that there are semi-detached houses in Reid and the Reid Progress Association has also considered the question of the proposed construction of more of this type of building. It is recognized that there will always be a lower salaried section in every community and there must be cheap rents to meet their requirements, and anything which the governing authority in Canberra can do in the direction of reducing the cost of living will receive the wholehearted support of the Reid Progress Association. Semi-detached brick houses are preferable to wooden detached houses, including those expensive wooden houses at Acton which, I understand, have proved unsatisfactory. In connexion with the erection of semi-detached houses it is imperative that they be built either on the top of a hill or in a hollow. Any proposal to erect these structures in such a position that they would obstruct the view of a large number of people would not receive our support. It must not be taken to mean that we want only cheap houses in Reid. That is not our intention, but we are prepared to take our proportion. There is no reason why all suburbs should not have one or two semi-detached houses, particularly if they are to be the only solution of the high cost of living problem. The Reid Progress Association strongly objects to the construction of a settlement of this type of houses just for the purpose of assisting certain individuals particularly when those interests may have been responsible for the present unsatisfactory state of affairs. We consider that the interests of the family man, the investor and the investor's interest—should be served.

We suggest that flats should be constructed, say, three or four on each side of the river, and I am glad to see that plans have been prepared and that there is a likelihood of their erection. They would certainly provide a much needed variety in the way of house construction and would be quickly occupied by small families. I heard just recently that a couple came to Canberra for a position. They could not afford the high hotel tariffs and arrangements had to be made for the husband to stay at the Bachelors' Quarters and wife at one of the women's hostels.

I have seen the plans of the proposed dwellings. I have also seen the two-storied semi-detached dwellings on the northern side of Canberra, and I have discussed their suitability with their occupants. They are of the opinion that the cottages are suitable for their requirements, but that improvements could be effected in one or two detail alterations. The main factor that appeals to them is the low rental. I have heard no complaints about the stairs. Personally, I am not in favour of two-storied buildings, because they increase the work of the housewife. We have to consider the occupants, and their opinion is that the houses, although two-storied, are not inconvenient. It may be that the inconvenience is overlooked in view of the advantage of low rents. My association has discussed the question of using cheaper materials in the construction of houses, but from what we can gather, the materials would not be suitable, nor would they be permanently useful. The residents of the northern suburbs have in mind that anything that will reduce the cost of living is a very important factor. I do not know the type of building that has been constructed by Wallace and Sons. A public servant in receipt of a salary of approximately £200 per annum, would welcome the construction of houses that could be leased at a lower rental. A rental of even more than 32s. 6d. is being paid for timber

houses at North Ainslie. In any case, that rental is too high for a man on the basic wage. To reduce rentals there would first need to be a reduction in land values, and then a reduction in the cost of building materials.

168. To Senator Dordy. I favour the proposed plan of the semi-detached two-storied dwellings. It seems to be convenient and quite suitable. My only objection is the proposed site. I contend that the southern section is being favoured as against the northern section of Canberra. I do not think that the residents at Molonglo, who are now paying 7s. a week rental, would be prepared to occupy a semi-detached two-storied cottage at a rental of 32s. 6d. They would be inclined to stay where they are, irrespective of the increased comfort that might be obtained elsewhere. Public servants receiving a salary of, say, £306, and an allowance of approximately £50, would be the most likely persons to occupy the semi-detached two-storied cottages. At present there is no demand for houses. Therefore, unless other public servants were transferred from Melbourne, the erection of these semi-detached cottages would render vacant other detached cottages. I said that the flats at each end of the row of buildings would be occupied. There are young fellows at present living at the hotels, and paying £3 15s. a week, who would be prepared to take a flat. There would even be a tendency for people to vacate the two-storied semi-detached cottages in order to occupy the flats. Several public servants have been anxiously inquiring when flats are to be built, and they are prepared to vacate their houses in order to occupy flats. I refer to married couples with no children. One couple who are now boarding, another couple who are leasing a house from the Commission, and two young fellows who are living in hotels, would all prefer to occupy flats. I know nothing of the assurance said to have been given to the leaseholders at Manuka at the time the leases were sold. Of course, I have heard a good deal about that sale.

169. To Senator Reid.—My association has given no consideration to the question of dwellings and rentals at Canberra, but it proposes to tackle that question immediately. The association has been in existence only for a couple of months, and we have quite a number of questions to discuss. All our members are particularly perturbed about the ever increasing costs, and I can say definitely that they will be able to offer some constructive criticism to the incoming advisory council at an early date. We have no objection to the semi-detached two-storied houses. We already have four or five in our district, but we object to a large settlement taking place at Manuka by means of the erection of these houses, because that will have a tendency to decrease the present values of houses in the northern suburbs. We are quite prepared to take our quota of semi-detached two-storied cottages. We consider that this proposal to erect two-storied cottages, and to let them at a rental of 32s. 6d. a week, is a step in the right direction. Apart from these semi-detached houses, we favour the building of flats, because there is a certain demand for them. I pay, approximately, £2 12s. 6d. a week by way of rent and rates, and that is far too much for an officer in my position. For a similar house in Melbourne or Sydney, a reasonable rent would be approximately £2 2s. 6d. but in view of the present glut of empty houses in these cities, I should say that a house like the one I am now occupying could be obtained at a rental of £1 15s. a week. Taking the rent, rates and cost of transportation into consideration, the average expense would be just under £3 a week. I see no way of obviating that expenditure under present conditions. I live in a brick cottage. I am certain that it will not last 80 or 100 years. The Commission houses will not last as long as brick houses built in other capital cities. I would not call my house

a jerry-built house, but it comes within the category of inferior houses. I have been told by a builder, who has been in my house, that it will not last more than 50 years. Why should the tenant suffer just because the Commission has permitted the houses to be built in that way? I think that some of the trouble could be overcome by the Commission obtaining its return on the cost and maintenance of houses by spreading the repayments in the rentals and rates over a longer period of years.

170. To Mr. M. Cameron.—There are certain portions of the city area upon which workmen's houses could be built without affecting the aesthetic taste. For instance, houses could be built at Westridge. I have heard the opinion expressed by Sir John Butters that there are more public servants to be transferred to Canberra than there are residing here. The population of the city area when the last census was taken was 6,878. It is considered that approximately 50 per cent. are public servants, so that the number of public servants and their families in Canberra would be in the vicinity of 3,500. When other public servants are transferred, in all probability there will be a greater number of persons on the basic wage than there is at present, and in consequence the housing difficulty in respect of that class of person will become more acute than it is at present. Rather than set apart certain areas for workmen, I would prefer that they be situated in the present areas. I consider that the settlements at Molonglo and Causeway should be eliminated as soon as better arrangements can be made to house the residents. It would certainly be as well to do away with Molonglo and bring the people into the city area. I favour the scheme that has been introduced at Port Melbourne. The type of house that has been built at Fisherman's Bend would be very suitable for any part of Canberra. If the workmen were situated in the city area, they would have free access to the shopping and other facilities, and by that means we should obviate an extension of the water, sewerage and lighting services. Just now when I mentioned the ever increasing costs at Canberra, I referred to the cost of living. The price of commodities, the rates, and even the railway freights, may be increased. I am referring to what is likely to happen in the future. In the four suburbs on the northern side of the river, there were on the 30th June, 1929, 1,692 people, and on the south side 3,095 people. These figures would include the residents of Causeway, but not of Molonglo. The development should have taken place from the Civic Centre outwards. The intention of the Griffin plan was that the city should extend in a north-easterly direction. There should be the same constructional activity on the north side of the river as there is on the south side of the river, so that the residents on the northern side would be given equal facilities. At the present time the facilities are concentrated on the south side, and the people on the north side have to send their children to school on the south side. That is increasing the cost of living as far as the north side are concerned. I doubt whether the people of the north side are patronizing the shops at Civic Centre. Much of the trade is still going to Kingston. On Friday nights the Kingston shopping area is crowded. Of course, the band plays there three times a month, and once at Civic Centre. The people seem to follow the crowd.

171. To Mr. Gregory.—The Commission's practice of fixing the rental at 7.5 per cent. based on the cost, insurance, reserve for external and internal maintenance, provision for sinking fund and repayment of capital and interest in 60 years, seems to be fair and reasonable. I can make no suggestion as to how the cost of living could be reduced because I have not given that question much thought. Sir John Butters once expressed the opinion that if a certain service cost £10,000 in Melbourne it would cost £15,000 in Canberra. On that

basis, and eliminating wages, I should think that the cost of living in Canberra would be 20 per cent. higher than it is in Melbourne. I have never worked out the actual figure. A housewife would be able to give fairly definite information on that point. Of course the high railway freight from Queanbeyan to Canberra would have some effect on the high cost of living. It cost me 2s. 10d. to send a motor tyre to Gonburn. I think that the Commonwealth proportion was 1s. 3d. for 10 miles, and the New South Wales proportion 1s. 7d. for 60 miles. My impression is that Mr. Griffin intended that the north side of Canberra should be developed more than the south side, but in actual fact the south side has developed at the expense of the north side. The north side should be extended the same consideration as it given to the south side, and in proposing to build 36 cottages at Manuka some consideration should have been given to the north side of the city. There are four schools on the south side of the river, and the children on the north side have to pay bus fares in order to go to school. That is an item in the cost of living. If the railway were extended to Ainslie as was originally intended, it would certainly decrease the fares and be a great boon to the residents. It would enable a person coming from Melbourne to alight at the Civic Centre instead of Canberra railway station. At present a person desiring to go to Ainslie has to alight at the station and travel by bus or by taxi-cab, if he has a family and luggage, to his destination.

(Taken at Canberra.)
WEDNESDAY, 9th APRIL, 1930.

Present:

Mr. JACOB, Chairman;
Senator Deely Mr. M. Cameron
Senator Reid Mr. Gregory
Senator Sampson Mr. Long
Thorold Robert Cusheon, Chief Architect, Federal Capital Commission, sworn and examined.

172. To the Chairman.—I am responsible for the design of the dwellings proposed to be erected at Manuka. I first started with the idea that the houses would be occupied by lower paid civil servants, higher paid artisans, and men employed on the essential services of the city. I had in mind tradesmen earning wages from £3 10s. a week upwards, definitely not of men earning less than that. When this proposal was first considered, the Commission had in mind that the next transfer of civil servants would take place early in this financial year. We had in mind the transfer of the Patents Department, and that office accommodation would be provided in one of the hotels. Other smaller departments might be fitted into existing accommodation at Civic Centre. The Prime Minister's lodge had not then been considered. We have fairly definite information now as to the number requiring houses, so far as the Patents Department is concerned, and also in regard to the Auditor-General's Department. Only part of the necessary accommodation will be provided at Manuka, the rest probably at Forrest and Reid. Particulars of land selection show that officers of the Patents Department have a preference for the south side of the Molonglo. Our intention was that the 36 houses comprised in this scheme should be at Manuka, but other houses which are to form part of the lower rental scheme, should be situated in Reid, or in the area. It was never in my mind that there should be any great development in housing of this sort south of the Molonglo. All extensive development would be in the Ainslie and Reid districts, mostly in Reid, because the land there is already suitably sub-divided for the purpose. Besides the housing under contemplation at Manuka, it is intended in the future to go ahead with other houses for workers to enable the demolition

of the settlement at Molonglo to be proceeded with. Some of the cottages under contemplation would be occupied by public servants, and some, perhaps, by tradesmen at present living at Molonglo. Of the houses now being considered, probably 90 per cent. will be taken by tradesmen from tenement houses, not necessarily all from Molonglo, and the other 10 per cent. will be taken by public servants. One contractor said he could find from 25 to 30 tenants within a week from among tradesmen at present living in tenement houses. The Manuka group now proposed is suitable only for those workmen in receipt of £3 10s. a week and upwards, and even then the rentals are rather high. I thought at first that we might be able to build these cottages to let at 30s. 6d. a week, taking the land at £100 a block. Now the land has been valued at £150 a block, and this will make it necessary to charge probably 32s. 6d. a week. The provision of houses for those receiving £5 10s. a week and less, is a very difficult and serious problem. When considering the matter I decided that it would be necessary to provide housing accommodation at from 26s. to 27s. a week for lower paid workers, inclusive of all charges, and other houses from 35s. to 37s. 6d. a week for higher paid workers and lower paid civil servants. The stiffest problem with which the Commission has been confronted is to provide housing with the proper architectural appearance consistent with the capital city, at a price within the means of those who will have to occupy them. I cannot see any real solution of that problem yet. It will be necessary for us, immediately these cottages are constructed, to go into the matter of providing accommodation at rentals of not more than 27s. 6d. a week. Our belief is that when we have educated the contractors into building houses of this class, it will be possible to get costs down to somewhere about the figures required. Had I first got out designs for houses at 27s. 6d. a week we should not have received the tenders required from the contractors, as it would be breaking entirely new ground as regards costs. Even for the semi-detached houses at Reid, the first tenders received were £2,100, and the only way I could get costs down was to bring almost every contractor before me, and go through the specifications with him, section by section, working out the costs of each. The contractors themselves did not know what they could build the houses for until they began. I have had a good deal of experience in the use of fibrolite, but no actual personal experience in the use of lionite. I have, however, had some experience in the use of a similar material, known as konka. Both konka and lionite are excellent materials under certain conditions, but I am doubtful whether they would be suitable for Canberra. My experience of Canberra is that the only really comfortable building material is brick. I live in a wooden house which is supposed to be one of the better class of wooden buildings, and it is intensely cold in winter time. While I consider that brick is undoubtedly the most suitable material for Canberra, I recognize that if the use of some other material would enable building costs to be reduced to the necessary figure, it may be necessary to use it. I know of the house built by Wallace and McDonald in North Ainslie, and I consider that that class of house would be suitable for providing cheap housing accommodation. Any material which is not a ready conductor of heat and cold would be suitable. I gave a certificate after the house was constructed, and although I had not seen the building personally, I had had an inspection and report made, and wrote to Mr. McGrath telling him that an inspection of the building had been made, and that it was found to be in good condition. That was about eighteen months after the house was completed. I do not think that material would be a ready conductor of heat and cold. It is a fact that a concrete house is colder

in winter than a brick house. Any disability of greater heat in summer can be discounted, but the coldness of a concrete house in winter is a disadvantage. It would not, however, be unbearable, and if the saving effected by building in concrete were sufficient to warrant its use, the disability in regard to heat and cold could be discounted entirely. If a single-storied concrete house of that type could be built for £324, I should heartily welcome its construction. I do not believe, however, that it could be built for that figure. I am quite definite on that point, and I can only say that Wallace and McDonald are mistaken in their estimate. Mr. McGrath, the petencies of that system of building, approached me in regard to it. I arranged with him to erect a sample house, and he did so. Afterwards, I understood, he said that he just got out of it, whatever he meant by that. After the place was built, he gave a tender of £800 for a No. 11 house. This is a design with large rooms, we have erected in timber with all services (but not including overhead), for £750. The area is 827 square feet, compared with 912 in Wallace and McDonald's house. In some of these cheap cottages, of which plans have been submitted to the committee, we are getting back to what has all along been condemned, that is, the undue cramping of space necessitating passing through one room to get to another. It is true that area can be saved in that way, but Australian families will not have it. In January, 1928, I got a tender from Mr. McGrath for a house similar to that erected by Wallace and McDonald, and the best he thought he could do was £950. Opinion is considerably divided as to the merits of the two-storied semi-detached cottages which have been erected in Canberra. Some people declare that they would not go into a house which has two floors. Others are prepared to go into such houses especially for the sake of the saving in rent. Many people prefer to have the bedroom accommodation away from the living-rooms as is provided in these houses, and, personally, that appeals to me also. The Commission would certainly consider the construction of semi-detached houses on one floor if it were possible to produce them at a suitable rental. The sole reason for having two floors is to provide the necessary accommodation and standard of construction, together with a suitable architectural appearance, at a rental which the tenants can afford. I do not think that there can be any objection to the semi-detached type of house in a garden city. In France, England and America much has been done in the direction of providing cheaper houses by grouping not two, but sometimes five or six houses together. That has been done at Port Sunlight, Welwyn Garden City and other places regarded as model lay-outs in England. I do not suggest that we should go to that extent here, but I can see no reason why we should not join two houses together, and so design them as to give the appearance of one large house. We should not lose anything architecturally in that way. When it was first proposed to build cottages of this kind, I thought that we should be able to get land for not more than £100 a block. I could not find any basis for assessing land values in Canberra, beyond what I thought the rental of the blocks was worth. If land values were reduced, that, of course, would be one method of reducing rental costs. Another method by which costs could be reduced would be to provide cheaper building material, but I do not see how, under existing conditions, that can be done. Starting from the foundations, there are two materials which can be used for concrete foundation, river gravel and blue metal. We used river gravel for the foundation of the semi-detached cottages already built, and I propose to do the same thing in these houses. The use of river gravel would effect a saving of 10s. to 12s. a yard, and there are 324 yards used in a house. The cost of bricks has been a thorny subject for a long time

past in Canberra. We can only come to the conclusion that £4 18s. a thousand is the best that the brickyard here can do. In Goulburn, where they have the dry-press process, the best that they can do is £4 16s. a thousand. It is true, of course, that in Goulburn they get their profit out of that, but here we have heavy overhead expenses, and higher wages to pay. We have also to use the semi-plastic system, as compared with the dry-press system. A saving could be effected by reducing the cost of tiles if it were possible to do so, but £20 a thousand seems to be the lowest we can get to. In Sydney the price is £18 10s. a thousand; and in Melbourne it is £17 10s. for similar tiles. Our labour costs are 12 per cent. higher than in Melbourne or Sydney, so that our prices are not unreasonably high. Originally we obtained our stoneware sewer pipes from Sydney, but we found they were uneven inside, and uneven where one pipe fitted into another. We are now getting pipes from Tasmania at 2s. 8d. a length, which is a little more than it cost to land Sydney pipes here. Any licensed drain-layer would tell the committee that what is lost in the cost of the Tasmanian pipes, is more than made up in the reduced cost of laying them. I would say that we lose nothing at all by importing pipes from Tasmania. I have prepared a schedule showing the relative costs of materials as used in these semi-detached cottages, for Sydney, Melbourne and Canberra. For 4-inch diameter plain stoneware sewer pipes we charge here 2s. 8d. a length of 2 feet. Sydney pipes are sold here at 2s. 6d. a length, and Melbourne pipes at 2s. 4d. a length. There is also a slight difference in the price of fittings, the price in Sydney ranging from 1d. to 2d. a fitting less. Despite that, however, I say quite definitely that we lose nothing by importing pipes from Tasmania. Except in regard to certain of our own works, it has been open to the contractor to use a satisfactory river gravel if he wants to. It has been said that the Commission's regulations have increased building costs because they insist on the use of blue metal. That is not so. The specifications or regulations do not require anything of the kind. If a contractor uses river gravel which is clean, and which has a proper proportion of sand, we have no objection to it whatever. We used that material on our own Reid houses, and propose to use it in these now before the committee. We require, however, that the gravel used by contractors shall meet with our approval. Members of the committee will agree with me when I say that the foundation of a house is very important, and I prefer to err on the safe side rather than take risks. River gravel can be obtained from certain parts of the river in a state almost fit for use. It may have to be screened once, but it can be got on the job at from 6s. to 8s. a yard. I am not certain whether or not there is a final certificate charge imposed for work which the Commission carries out itself. There is, I know, a fee of 10s. 6d. charged for work carried out by private contractors and private architects. If this building scheme is approved, it will take about 6 months to complete it, doing the work economically. To get the work done in a shorter time, we should have to allow each tenderer to build more houses than would be economically desirable. If I can spread the building of the 36 cottages over five or seven contractors, I can get better results than by allowing it to be done by two or three. It would be at least three weeks after the scheme was agreed to by the committee before work could be commenced. We have no complete day labour organization in existence at the present time, but we have a construction foreman who could be put in charge of any day labour work undertaken. To carry out a scheme of this kind other similar foremen would have to be appointed. Apart from the appointment of additional foremen a day-labour scheme could be built up quite

easily. Besides the foremen, only a clerk to keep costs on the job would have to be engaged. If it were decided to recommend the use of day labour, the work could be carried out by the Commission with practically no overhead charges. That is not where the difficulty in regard to day labour lies. There is no objection to day labour as such, and for certain classes of buildings it is undoubtedly the best system. I have learned from long experience, however, that it is unfair to expect day labour to stand up to contract system in the construction of numerous small units such as cottages. If conditions were the same now as in pre-war time, when contractors tendered to make a profit of 10 per cent. or 15 per cent., I should favour the use of day labour, but those days are gone. At the present time contractors undertake housing contracts for the purpose of keeping their gangs going, and to make wages for themselves. There is really no profit now at all. If day labour is employed under present conditions, it means that one demands a foreman (who, after the job is finished, probably has to go back to work as a tradesman), shall put the same energy, thought, and organization into the job, as a contractor whose own money is at stake. It is too much to expect of human nature. In addition to that, a contractor can select his tradesmen. There are good workers and slow workers in every line. The contractor is able to select his men, but we are tied to a preference list which practically excludes us from exercising choice of tradesmen.

173. To Senator Reid.—Before coming to Canberra I was employed as chief architect to the War Service Homes Commission. From my experience in Sydney in building houses for a similar class of people, I should say that the main causes of increased building costs here are higher award rates for labour, and increased costs of material and lack of a continuous housing programme. Labour costs here are 12½ per cent. at least higher than in Sydney. The average would probably be nearer 15 per cent., taking all factors into consideration. On specific jobs I have worked out that the labour cost in Canberra would be £490, in Melbourne £437, and in Sydney £448. There is a difference of £50 to start with, which cannot be avoided whatever we do. Then, in regard to cost of materials, those which have to be brought from Sydney or Melbourne must bear freight and handling charges; that also is an additional cost which cannot be avoided. That is disconcerting altogether the extra work which a contractor may be able to obtain in Sydney from labour and the better selection of labour at his disposal. Personally, I do not think Sydney enjoys any greater advantage in regard to labour at the present time. The tradesmen here are just as good, and just as hard-working, as those in Sydney. Prices, I think, are not down to bedrock and competition here is very keen. Possibly prices may be forced down even lower yet, down long on the way the work is handled. For instance, if we called tenders for 36 houses and allowed them to go to one contractor, there would, for two or three months at least, be no work for the other contractors in the Territory. Most of them would have to leave, and there would be only one or two contractors to tender for the next job. We are approaching the stage where prices are as keenly cut here as in Melbourne or Sydney. I should say that a house here costs about 12 per cent. to 15 per cent. more to build than a similar house in Sydney or Melbourne. It is hard to be definite on the point because building costs vary greatly as between one part of Sydney and another. For instance, a house can be built in Canterbury for £750, while it would cost £850 to build a similar house at Manly, or anywhere on the North Shore. It is difficult to see the reason, but it is so. Rents are considerably higher in Canberra than they are for corresponding houses built in Sydney under the War Service Homes Commission, and this is due to other factors besides the cost of building. Rent

for war service homes is fixed on about 26 per cent. per annum. That is for a rental purchase, the tenant paying the rates. Here, for rent alone, the rental is based on about £7 2s. per cent. per annum, and the tenant pays the ground rent and rates. If it were possible for the Commission to get down to the same rental basis as that on which the War Service Homes Department works, rents in Canberra would compare more than favorably with those in Sydney. On my recommendation the period over which the Commission calculates rents to recoup itself for its capital expenditure was extended to 60 years in the case of brick houses, and to 40 years in the case of timber houses. I should not like to go any further than that. The bricks manufactured here are as good as those made anywhere in Australia, and the climate does not affect them in any way. I think it is a fair thing to have a margin of 20 years in the estimated life of timber and brick houses. While it is true that the walls of a brick house may stand almost indefinitely, the other fittings, such as floors, roof timbers, joinery, &c., are subject to deterioration almost to the same extent as they would be in a timber house. I think that after 40 or 50 years the maintenance cost in regard to such items, even in a brick house, would become fairly heavy. Rents here are not yet as low as I should like to see them. It might be possible to make some further saving in regard to insurance and maintenance costs, but it is impossible. I think, to get down to the figure prevailing in Sydney. Insurance costs here work out at about 2s. per cent., while on war service homes I think it is 1s. per cent. Personally, I prefer brick to any other material for constructing dwelling houses, especially for Canberra. It will be very difficult, however, to get the rent on brick houses down to a figure which will suit the man on £5 10s. a week. At present, I cannot see daylight on this problem. If the only way in which to get down to the required rental figure is to use some artificial material, then we shall have to consider using such materials. We know it would lay us open to criticism, but it might be worth it if we could build a suitable cottage to let at 25s. a week. In the labour report of 1928 the weighted average rental of 5-roomed cottages in Sydney is given at 26s. a week, and we know the sort of slum houses a great many persons have to live in in Sydney. We are aiming to get cottages to let at 26s. a week, even though our costs here are from 12 per cent. to 15 per cent. higher. I think there is more likelihood of getting a good, permanent house with concrete studs sheathed in cement than by nailing artificial material on to a timber frame. One cannot formulate general rules on the result of building one house. I think that with the system employed by Wallace and McDonald, there is likely to be cracking of the plaster on the lathing. We had that experience in the Hotel Kurrajong, and the plaster had to be peeled off. Lignite has to be attached to a timber frame, and we all know how timber is affected by the Canberra climate. There must be some opening of joints at the salient angles, and, to a less extent, on the internal angles as well. That, in itself, might not be a sufficient disadvantage to render the material entirely unsuitable. That objection would not apply so much to fibrolite, but my experience of fibrolite is that after some time it becomes very brittle, and is liable to split. Hardly, in Sydney, who handle fibrolite, sent a representative here to induce us to use that material. He said that they could build a cottage of a certain type for £550, not including sewerage. Subsequently it turned out that the cost of the house would be £850. We could have built such a cottage for that in brick. I cannot see how we can get any material which would be cheaper than timber, either covered with weatherboard or with some material such as lignite or fibrolite. There is always this point to be taken into consideration: Whereas rents on timber houses are assessed at 28 per cent. per annum, those of brick houses are assessed at only £7 2s. per cent. That makes a

difference of only 9d. a week in the rent of brick and timber cottages, although the difference in the cost of construction is £200. Only in isolated cases have timber houses been attacked by white ants. We do not regard attack by this pest a serious danger in Canberra. Tasmannian pipes are made out of the same material as are the Sydney pipes, but it is a more suitable clay, and the workmanship is better.

174. To Mr. Long.—I regard these 36 cottages as the forerunners of other similar cottages to be built on the two-story principle. The next step is to try to get down to rentals of about 27s. or 28s. I would not go as far as to say that the grouping of houses would affect the health of people living in them. It must, of course, have some effect on the family life of occupants, but whether an adverse effect or not I am unable to say. It is true that if one is living in a flat building where there are half a dozen other tenants, one does not have the amenities of life as in a detached house. I do not go so far as to say, however, that one suffers any serious loss of comfort. In regard to the semi-detached houses proposed, it must be remembered that they are planned in accordance with regulations, and such matters as ventilation and direct lighting of rooms is adequately provided for. I agree that in grouping four or five houses together, even if you do not affect the health of tenants, you certainly produce something offensive to Australian sentiment. I would not group more than two houses. I agree that beyond a certain stage, it would be better to consider the well-being and comfort of the people rather than the cheapness of the houses, but I have no thought that the semi-detached houses would affect their tenants' well-being; in this case all we are doing is to join the two ends of the cottages. We still preserve the detached outlook from the rear, one side, and from the front. There is nothing in houses of the design proposed that could be said to affect the health of the tenants. We propose to put in an 11-inch dividing wall between the cottages, the wall to be taken right up to the under side of the roof. In the Reid semi-detached cottages a 9-inch solid wall was put in, and the tenants said that even with that wall they could not hear from one house to the other. I cannot say definitely whether any consideration was ever given in Canberra to the rental purchase scheme adopted by the War Service Homes Commission. If such a scheme were practicable here, it would go a long way towards solving the rental problem. There is a point beyond which one cannot go in whitening down costs. I could prepare plans for semi-detached cottages to cost £750 to £800, but it would be necessary to sacrifice matters of construction which should not be sacrificed. I think that there would be an inducement for the tenant to purchase on a rental basis even semi-detached cottages, because he would get good accommodation for 32s. 6d. a week. Detached cottages of similar type would cost 8s. or 9s. a week more. By making the cottages two-story semi-detached, we save at least £350 on each cottage, and that makes a difference of 7s. 6d. a week in the rent, besides 1s. a week ground rent and rates. It was suggested that we might build detached cottages on a 36-ft. block. The minimum frontage for a cottages is 24 feet, which would leave a very small space between cottages. I do not suggest that these cottages will solve the problem of housing the lower-paid workers. These are designed for people earning £6 10s. a week up, and for the lower-paid civil servants; the others have still to be provided for. I understand that it is true that there are 229 persons employed in Canberra on £6 a week and less, but I doubt that from 300 to 500 other persons are living in Queanbeyan, and travelling backwards and forwards to their work in Canberra, because they cannot afford to pay the rents demanded here. At present only some of those people will obtain relief

as a result of this building programme. Only 36 semi-detached cottages are to be built for the time being, and many more than that are needed. I think members of the committee will admit, however, that if I had come before them with a proposal for housing for all those who require cheap housing accommodation, I should have been told to go ahead with a smaller scheme first, and see how it worked out. There are 78 residents in tenements here who earn £6 10s. a week and over. Some of those who work here and live in Queanbeyan also earn more than £6 10s. a week. Those people will be able to get these houses if they want them. It is possible that high rentals here may compel more than one family to live in a single house, but I hope this will not occur now. There might be nothing objectionable in a man and his wife who have no family taking in two lodgers, but it would not be desirable for a man and his wife and family to share a cottage with another man and his wife. Even when this scheme is completed, there will be left 900 tenement houses, which I do not regard as permanent, or providing real housing accommodation at all. The Commission has decided on Manuka as the site for these 36 cottages. If this were to be the only group of such cottages to be built, we might have chosen another area. Manuka has been set down in the City Area Leases Ordinance as a brick area. I believe that a considerable part of the difficulty arising out of high rentals in Canberra could be avoided if it were possible to reduce land values. I should not like to say that land values here are too high, but my personal opinion is that they are too high, and that they should be reduced. For every £100 the block of land can be reduced, one saves, including rent and rates, about 3s. 9d. a week. While it may be true that building blocks of 60 x 150 feet within easy distance of the shopping area in Queanbeyan can be fair to compare such blocks with building blocks in Canberra. There are areas in Queanbeyan that might be very desirable to live in, but there are other areas near the railway station which, while quite close to the shopping centre, could not be described as desirable. Land values reflect to some extent the cost of services. Here we have roads, plantations, sewerage facilities, &c., beyond anything provided in Queanbeyan. I think it would be fairer to compare building blocks here with similar blocks in Goulburn. If it is true that blocks of land in North Australia, valued by the Commission at from £200 to £300 each, have been priced by a valuator at from £75 to £100 a block, I am unable to account for it; there is something wrong somewhere.

175. To Senator Sampson.—To provide the same amount of accommodation in a semi-detached cottage of one floor, as in these cottages of two floors, would cost from £230 to £250 more. That would bring the cost up to about £1,200. These cottages are designed to cost £900, inclusive of everything. Only in one or two cases was any attempt made to pack the walls of weatherboard houses erected in Canberra. The packing of walls prevents the easy conduct of heat and cold, and it also has disadvantages. It harbours vermin, and when the joints open, the dust from the road has easy access to the packing.

176. To Mr. M. Cameron.—The Commission is kept advised of the number of civil servants being brought to Canberra in successive transfers. There is a property branch in the Commission Service with which I am in close touch. We are informed of the accommodation required, and of the areas in which the officers prefer to live. Some of the cottages we are now building, together with 10 or 12 detached houses in various areas, will be used to accommodate some of the officers of the Patents Branch. At least 8 or 9 such officers will live in

houses we are now considering. The detached cottages now under construction are not being built for any one person in particular; accommodation is being arranged in accordance with what we have learned is required for Canberra. I do not think that the Wallace-McDonald type of house would be in keeping with the Manuka area. It would be a mistake to have buildings of various shape and design. It is possible to vary the design of the cottages we are now considering to a greater degree than is shown in the sketches. The Wallace-McDonald type of house could be rough-cast so that no one could say of what material it was built. That type of house would last if we could prevent cracking of the rendering on the steel studs. I am of opinion that Imita is a better building material than fibrolite. For one thing, it is thicker, and it is not so brittle. We thought highly of fibrolite at first, but eventually had to give it up.

177. To Mr. Gregory.—The problem in Canberra is to build a cheaper house. Building is dearer here than elsewhere because of higher labour costs and dearer material. Rents are higher here because of the apparent necessity for a different rental rate as compared with, say, Sydney. I think that the difference in building costs between Canberra and Sydney is not more than 15 per cent. It may be true that members of the committee saw five-roomed houses in Sydney connected with sewerage, electric light, &c., which were built for £500 to £550, but it has to be remembered in comparing costs that the size of rooms, &c., must be taken into consideration. I have here a plan of a house of 134 squares, the cost of which in brick would be £1,235 in Canberra. It would not be fair to compare that with any house built in Sydney for £550, without making a comparison of the two plans, and without knowing the area in which the £550 house was built. There is no doubt that the War Service Homes Commission got some wonderful prices for its houses, but these prices cannot be taken as an average for Melbourne or Sydney, and it would be unfair to compare them with ours. For years past the War Service Homes Commission has had an established building programme, and they have a number of contractors who know that when one job is finished they will get another. I have not been able to give our contractors here any such assurance. There seems to me to be something wrong about a quotation of £2 16s. a thousand for bricks from the State bricks works in Sydney. I telephoned the manager there, and asked him to give me a quote for 100,000 bricks. The lowest quote he could give me was £2 18s. 6d. a thousand. A person getting bricks for one house only would have to pay £3 10s. a thousand at the State bricks works. No contractor here could give an order for 100,000 bricks without a building contract in which the bricks could be used, so that he would not be able to get bricks for £2 18s. 6d. Labour costs in the brickyard here are 17 per cent. above those of Sydney. I believe that that higher rate paid is fully justified, because, for one thing, the cost of living here is much higher than in Sydney. I cannot say just how much higher, but I know that it costs me £200 more a year to live here than in Sydney. Haulage rates for bricks here is 11s. for the first mile, and 1s. 3d. for each subsequent half-mile. It costs about the same to haul bricks in Melbourne and Sydney. Tiles are sold to the contractors here at £20 a thousand. We use 125 to 130 of our tiles to the square, and allow about £3 18s. a square fixed in position. There are three grades of tiles, and those used in Sydney for cottage construction may be second-grade tiles, sold at £16 10s. a thousand. First-grade tiles there are sold at £18 10s. a thousand, which compares more or less with the commission's price. Just at present, owing to the depression, it may be possible to buy tiles in Sydney for less than the prices I have named. Contractors can get river gravel at 6s. to 8s.

a yard, and blue metal at 13s. to 14s. a yard. It may be true that in outside places crushed stone is obtainable at a price from 6s. 6d. to 8s. a yard, a great deal depends on the facility for quarrying and crushing the stone. I do not think that it would be possible to reduce the manufacturing cost of bricks by more than 3s. or 4s. a thousand. There is no opening in Canberra for private enterprise which requires a return of 10 per cent. in building cottages to rent. It is true that we shall have to rely on the Government to provide suitable housing, but the same thing obtains in the cities elsewhere. In order to provide cheap housing accommodation for the people, the assistance of such institutions as the War Service Homes Commission, and the State Savings Bank has to be invoked. It has been proved that private enterprise cannot provide cheap houses for the lower-paid sections of the community. If we had authority to go ahead immediately with the construction of 200 cottages, I think it would be possible to save something over £50 a cottage. We charge a fee of 4s. per cent., which includes interest on construction. Overhead charges amount to 2s. per cent. If we had more work, I think we could reduce that charge to 3 per cent., which would cover plans, specifications, supervision, and all administration. If this building scheme is approved we shall call tenders, and have the work done by contract, provided the prices submitted are reasonable. If the tenders are above what we consider reasonable, we shall do the work by day labour. I think it is possible to alter the plans of these cottages so as to make the staircases less steep, and also to enlarge the bathrooms. That could be done without interfering with the estimates of cost. I think, also, that it will be found possible eventually to cut costs below the estimate so as to enable us to rent these houses at 31s. a week. The Commission has ample supplies of oregon and hardwood on hand, so that it will not be necessary to purchase fresh supplies of imported timber. For that reason the new timber duties will not affect us. All the flooring of the cottages will be of Australian hardwood.

To Senator Dooly.—I prefer Imita to fibrolite because of its greater durability and because it costs less to maintain. I cannot say whether the cement covering would be likely to affect the hair reinforcement, but it is possible that moisture might affect it to some extent. One reason perhaps, for building costs being higher in our suburb of Sydney than another is that the cost of putting in foundations is greater in some places than in others. Distance from the brickworks, and distance which tradesmen have to travel, are also factors. A tradesman here, living in a tenement house, is better off from a monetary point of view, than a similar tradesman in Sydney, who has to pay 26s. a week rent. Wages are fixed on an hourly basis, and it might be possible for a man working in the brickworks to get in more time than one working on a building. That might account for the fact that the wages of brickworkers are 17 per cent. higher in Canberra than in Sydney, while those of building tradesmen are only 13 per cent. higher. There is a tribunal in the Federal Capital Territory for the purpose of dealing with these matters. Some buildings in Canberra have been finished with roughest, and it has been found that there is a tendency for dust to adhere to the walls, so changing the original colour. We are not proposing to roughest these cottages, but simply to bag the walls, and color them. I do not agree that it costs 100 per cent. more per square to build in Canberra than in Sydney. A brick house which cost £350 in Sydney would cost us here about £1,000 to build. It is very questionable whether there would be as much as £200 difference between the cost of a concrete house, and of a similar house built in brick. A Type 7 house could be

built here for about £850 in brick, and for about £750 in timber. I should recommend the use of brick in preference to concrete or weatherboard. It is over two years since we built brick houses here by day labour; we have cottages being built now by contract. The contract prices now are very much lower than those obtaining when we did our building by day labour. Costs were then at their peak, and it was considered possible to effect saving by the use of day labour.

179. To the Chairman.—We might consider building some of these cottages, divided in such a way that one cottage would be wholly upstairs, and the other wholly downstairs. For the man up on top, one disadvantage would be that he would have to climb the outside stairs in order to get to any part of his house, and the stairs would have to be negotiated every time he or any of his family wished to go into the back yard. The man on the bottom floor would suffer from the disadvantage of having only a timber floor between himself and the tenant overhead. The advantage of such a system would be that the living rooms and bedrooms would be all on one floor. One possible disadvantage of Isonite is that the hair reinforcing might deteriorate, but that possibility would not deter me from using it. There is a danger that thin sheeting materials might become completely saturated with water, which could then be carried right through to the inside living material. The Isonite plan No. 1 depicts a house estimated at cost £830, including a tiled roof. That would be quite a cheap house at that price if it includes overhead charges, costs of preparing plans, specifications, &c. These charges would amount to at least £40. If that building can be erected here at the price quoted I would be surprised, and I

think the Isonite people should be given an opportunity of proving their figures. Nevertheless, I think the accommodation provided in this plan is less than we are proposing to provide. The main bedroom is 14 x 12 feet compared with 15½ x 11 feet in ours. The second bedroom is about the same, but the kitchen is apparently only 7 x 10 feet. This is below the area prescribed in the building regulations. Moreover, the plans have been prepared with the idea of getting the costs down to the lowest possible point. Such a building would be architecturally unsuitable for Canberra. If this plan were adopted here, we should have to face some extra expenditure to improve the architectural treatment. I suggest that to make sure of doing the right thing, we should call tenders for the erection of these cottages in brick, in Isonite, and by the Wallace-McDonald method of construction. It would not cost much to prepare plans of detached cottages giving the same accommodation as the semi-detached cottages, and which would be suitable for construction in Isonite, or concrete. I do not think that Isonite would have so long a life as brick, and it would probably cost more to maintain. I would suggest a life of not more than 40 years at the most. It is impossible to get the same permanency with a timber framed house as with a brick house, no matter how durable the material with which you cover the frame. Competition in the building trade is definitely keener to-day than it has been in the past. We can now build better and bigger houses than those of the Federal Capital Commission type for the same money, and houses of the Oakley and Parkes type for less than it cost to build that description of house three years ago. I put in the following tables of building costs for Canberra and other places:—

COMPARISON OF LABOUR COSTS IN ERECTION OF BRICK COTTAGE, TYPE F.C.C. 9 IN SYDNEY, MELBOURNE AND CANBERRA (44-HOUR WEEK).

	Number of Men.	Number of Days (8 hours 45 minutes).	Total Hours (say).	Canberra.		Melbourne.		Sydney.	
				Hourly Rate.	Cost.	Hourly Rate.	Cost.	Hourly Rate.	Cost.
Foundations—				s. d.	£ s. d.	s. d.	£ s. d.	s. d.	£ s. d.
Excavations, .. 24	4 L.	2	70	2 7 ¹⁰ / ₁₁	8 8 8	2 4	8 3 4	2 5	8 0 2
Concrete, 168 cubic yards ..	4 L.	2	70	2 7 ¹⁰ / ₁₁	8 8 8	2 4	8 3 4	2 5	8 9 2
Brickwork—									
48,000 bricks (bagging) ..	4 B.	20	704	3 4	117 6 8	2 11	103 8 0	2 11½	104 17 4
600 day ..	2 L.	22	387	2 7 ¹⁰ / ₁₁	51 9 1	2 4	45 3 0	3 5	46 15 3
Carpenters—									
Floor framing ..	2 G.	2	35						
Fixing doors and window frames ..	1 C.	1	8½	3 2½	32 2 5	2 9½	28 0 5	2 10 ¹⁷ / ₁₁	29 1 8
Roof framing ..	3 C.	4	165						
Eaves complete (including lining) ..	2 C.	3	52						
Plumber (Roof) ..	2 P.	4	70	3 4	11 13 4	3 13	10 18 0	3 2½	11 3 3
Tiler (Roof), 201 squares ..	..	..	..	@10 0 per sq.	10 2 5	7 6	7 11 10	7 6	7 11 10
Carpenters—									
Plugging Jambos ..	2 C.	2	35	3 2½	5 12 3	2 9½	4 17 8	2 10 ¹⁷ / ₁₁	5 1 6
Flooring ..	2 C.	2½	44	3 2½	7 1 2	2 9½	6 2 10	2 10 ¹⁷ / ₁₁	6 1 6
Plastering—									
Rendering inside, 250 square yards ..	2 P.	10	170	3 4	29 6 8	2 9½	24 15 0	3 3	28 12 0
..	1 L.	11	97	2 7 ¹⁰ / ₁₁	12 17 11	2 4	11 6 4	2 5	11 11 5
Floors and hearth paving ..	1 P.	2	17½	3 4	2 18 4	2 9½	2 0 2	3 3	2 16 10
..	1 L.	2	17½	2 7 ¹⁰ / ₁₁	2 6 6	2 4	2 0 10	2 5½	2 2 3
Ceilings, 240 square yards ..	2 P.	4	70	3 4	11 13 4	2 9½	9 10 10	3 3	11 7 6
Sanitary Plumber ..	..	..	..	..	24 0 0	..	21 0 0	..	20 0 0
Carpenters—									
Fixing (inside) ..	2 C.	12	210	3 2½	33 13 9	2 9½	29 0 3	2 10 ¹⁷ / ₁₁	30 8 6
Fixing (outside); ceilings, verandahs and porches, barge, screens, &c. ..	2 C.	2	35	3 2½	5 12 3	2 9½	4 17 8	2 10 ¹⁷ / ₁₁	5 1 5

COMPARISON OF LABOUR COSTS IN ERECTION OF BRICK COTTAGE, TYPE F.C.C. 9 IN SYDNEY, MELBOURNE AND CANBERRA (44-HOUR WEEK)—continued.

	Number of Men.	Number of Days (8 hours 45 minutes).	Total Hours (say).	Canberra.		Melbourne.		Sydney.	
				Hourly Rate.	Cost.	Hourly Rate.	Cost.	Hourly Rate.	Cost.
Painters—									
Outside and colouring ..	3 P.	8	210	3 0	31 10 0	2 7	27 2 0	2 8½	28 4 9
Inside and colouring ..	2 P.	10	170	3 0	23 8 0	2 7	22 14 8	2 8½	23 13 4
Drainers—									
Sewer, av. 250 ..	1 D.	4	35	3 2½	5 7 5	2 9	4 10 3	2 11½	5 2 10
R.W.D. (205) ..	2 L.	6	104	2 9½	13 4 9	2 3½	11 17 7	2 6	12 10 7
..	2 L.	4	70	2 9½	8 18 2	2 4	8 3 4	2 5	8 9 2
Bricklayers—									
Entry steps ..	1 B.	1½	13½	3 4	2 4 2	2 11½	1 19 5	2 11½	1 19 5
Set stove, &c. ..	1 L.	1½	13½	2 7½	1 15 3	2 4	1 10 11	2 5	1 12 0
Labourers—									
Concreting floors, &c. ..	1 L.	3	20	2 6½	3 0 2	2 4	3 0 8	2 5	3 2 10
Approximate labour (three years) ..	1	..	6 weeks @	35 0	10 10 0	35 0	10 10 0	27 6	8 8 0
General—									
Painting, inaking good and finishing after trades, &c. ..	4	3	104	3 2½	10 13 8	2 9½	14 10 4	2 10½	15 1 4
Totals ..	..	..	..	..	404 11 1	..	437 10 11	..	448 0 9

NOTES.—B.—Bricklayers; C.—Carpenters; D.—Drainers; L.—Labourers; P.—Painters or Plumbers.

Estimated Canberra cost over Melbourne, 13 per cent.; Estimated Canberra cost over Sydney, 12½ per cent.; Estimated Sydney cost over Melbourne, 2½ per cent.

HOUSING.

SAVING BY SEMI-DETACHED (TWO FLOORS) COMPARED WITH DETACHED HOUSE (ONE FLOOR).

		£ s. d.	£ s. d.
Excavating ..	cubic yards, 2½ at	0 5 0	0 11 0
Concreting and reinforcement to foundations ..	cubic yards 1½ at	4 0 0	4 0 0
Extra brickwork ..	bricks, 2½ at	41 0 0	38 10 0
Bagging and colouring ..	square yards, 83 at	0 1 6	0 5 0
Extra on roof tiles and boxing to eaves, &c. ..	half-square at	10 0 0	5 0 0
Barges ..	50/- foot run at	0 2 0	0 0 0
Extra on stormwater drainage ..	..	0 2 3	5 13 0
Extra on sewer drainage ..	..	0 6 6	16 5 0
Water supply ..	..	..	2 10 0
Electrical services ..	..	..	2 10 0
		89 13 0	100 0 0

Saving by semi-detached (two-floor) in lieu detached (one-floor), estimated at £250. (See Plan F.C.C.48.)

SUPPLY OF MATERIALS.

		£ s. d.	£ s. d.
Bricks—			
Goulburn—Common ..	..	4 10 0	per 1,000 ex kiln
O.K. Face ..	..	7 0 0	per 1,000 ex kiln
Bowral—Common ..	..	3 7 6	on trucks at kiln
Blk. face ..	..	6 10 0	on trucks at kiln

(NOTE.—Goulburn is 65 miles by rail from Bowral, therefore freight at the rate of 37s. 8d. per 1,000 must be added to Bowral bricks.)

		Sydney to Goulburn.	Sydney to Canberra.
Freight Charges—		per ton.	per ton.
Bricks, first mile 11s.; thereafter 2s. 6d. per mile (No. 48,425 at 18s. 6d. per 1,000) ..	..	2 4 2	2 4 2
Tiles, first mile 12s.; thereafter 2s. 6d. per mile (No. 2,430 at 51) ..	..	0 19 4	1 0 10
Cement and lime ..	..	0 19 4	1 0 10
Sawn and dressed timber ..	..	0 19 4	1 0 10
Joinery ..	..	4 18 11	4 18 11
Moulding ..	..	2 8 5	3 4 6
Hardware and sanitary fittings ..	..	4 18 11	4 18 11
W.I. and steel ..	..	2 8 5	3 4 6
Sheet iron, lead, &c. ..	..	2 8 5	3 4 6
Fibrous plaster and fibre cement ..	..	0 19 4	1 0 10
Paints and colours ..	..	4 18 11	4 18 11
Cartage (under three miles)—			
Bricks, first mile 11s.; thereafter 2s. 6d. per mile (No. 48,425 at 18s. 6d. per 1,000) ..	..	..	44 17 0
Tiles, first mile 12s.; thereafter 2s. 6d. per mile (No. 2,430 at 51) ..	..	..	2 10 0
Lime and cement; 2s. per ton (10 tons at 4s.) ..	..	..	2 0 0
Sawn and dressed timber; 2s. per ton (12 tons at 4s.) ..	..	..	2 8 0
Joinery, hardware, sanitary fittings, W.I. fibrous plaster, &c.; 2s. per ton (3 tons at 4s.) ..	..	..	0 12 0
Sundries ..	..	..	say 2 0 0
Total ..	..	..	54 7 0

The witness withdrew.
The committee adjourned.

(Taken at Canberra.)

THURSDAY, 10th APRIL, 1930.

Present:

Mr. LAOEY, Chairman.

Senator Dooley

Mr. M. Cameron

Senator Reid

Mr. Long.

Senator Sampson

John Smith Murdoch, Second Commissioner, Federal Capital Commission, sworn and examined.

180. *To the Chairman.*—I have seen the drawings of the semi-detached cottages proposed to be built at Manuka, and I am in agreement with the proposed lay-out. I take it that the lower paid public servants and employees of the local governing body in Canberra will occupy these dwellings. Until recently, no specially successful effort has been made to bring the rents of cottages down to a figure that the majority of these employees can afford to pay, and the present proposal represents a serious attempt to do that. Houses of a similar kind have already been erected on the north side of the Molonglo, and the present proposal is really an extension of the same idea, with improvements. I consider the design of the buildings suitable for these tenants. I see no objection whatever to the erection of semi-detached houses. Such buildings are in common use all over the world, even in garden cities in England and America. If I were building a house myself I would erect a two-storied structure. You ask me whether I would prefer a single-story detached house to a semi-detached one, if it could be built at half the cost and would provide the same living space. That would depend on the site, the size of the block and various circumstances. The one-story cottage is, relatively speaking, uncommon in England. I do not say that terraced houses are desirable; they belong to a past generation. Some of the finest villas on the outskirts of British cities are of two and three stories and of the semi-detached type. The cost of building is largely influenced by details of construction, but I think that the officers of the Federal Capital Commission have got down fairly well to bedrock in the matter of economical construction. The question of economy is in their minds, and certainly that is the case in regard to the particular group of cottages now under consideration. I see no extravagance with respect to them, unless some of the gables and other details introduced for the sake of obtaining variety in the appearance of the houses, which I think, in the circumstances, are allowable, might have been dispensed with. I heard one member of the committee say that these cottages were all alike, but I think he has not studied the design very closely, because, in my opinion, the variety of architectural expression given the buildings and obtained at little cost is remarkable. I do not favour the use of any cheaper material than brick at Manuka. I look upon the site selected for the proposed cottages as having a character of its own. It is close to the shops and the amusements, and the tenants will have many advantages, including a saving in the cost of transport. The land is in such a position that I suggest that the largest possible number of houses should be erected upon it at a cost that would enable the cottages to be let at a reasonably low rental. I have had experience of "Honite" and "fibrolite". We used fibro-cement for the Duntroon College buildings twenty years ago, and this material is standing well to-day. The College was hurriedly built in about seven months to enable it to be opened on a certain date. The policy was to construct temporary buildings, and six or seven years later to erect a permanent college. These temporary

buildings are still in occupation, and their state of preservation is remarkable after twenty years of occupation by students who probably have not given the buildings the gentlest treatment. I am familiar with the type of building erected at Ainslie by Wallace and McDonald. It would be suitable only for single-story houses. One supposes that it would give a colder house than a cottage constructed of brick, and probably would not last so long. In time, no doubt, the metal lathing would give away, but there is no proof of that. It is quite a good expedient to obtain an inexpensive building. It is a problem to say what is the best form of construction to obtain cheapness and ability to withstand the climatic conditions that obtain in Canberra. A house built of wood, if looked after reasonably well, will last indefinitely. The first thing to give out would be the nills. A very good feature about wooden construction is that such a house can be moved if the land on which it stands becomes no longer suitable for that type of building. I take it that wooden construction, and the method adopted by Mr. Wallace, would be about the same price. There is no reason why both systems should not be employed. I understand that Mr. Wallace thinks that his type of house could be built for about 15 per cent. less than an all-brick cottage. Lionite is very good for interiors, but owing to the climate here a material only five-eighths of an inch thick could not be compared with a 9-inch brick wall for resisting the weather. For inside linings and partitions, however, lionite would be excellent. I would not recommend its adoption for outside walls unless in some of the gables shown on the plans as being of wood. I have brought along for the inspection of the committee a sample of British material which is the most superior in its class of all I have seen. It is suitable for inside lining, and is sold by well-established firms in Melbourne and Sydney in lengths from six to fourteen feet, and in widths of three and four feet. Judging by the claims made for it, it seems to have excellent qualities. The cheapest form of construction that I know of in brick would be the outside walls 4½ inches thick, studded and lined on the inside. The inside linings and partitions could be of lionite or similar material. That form of construction could be used for single-story houses but not for two-storied dwellings. If tenders were called in such a manner as to allow the use of lionite and fibrolite, it would be open to the firms dealing in that material to tender for the construction of cottages in Canberra. I am aware that the Commonwealth paid approximately £5 per acre for land, but I am not aware that in 1921 the Federal Capital Advisory Committee recommended that a fair valuation of residential blocks for officials would be about £20. I heard that a minimum of £50 would be fixed. You ask me if I am aware that on the recommendation of the then Surveyor-General the Minister agreed to fix the price at £100 per block. I do not know the history of the land charges. I know that the Federal Capital Commission is now charging up to £500 per block or more for certain land. Some of the blocks valued at £400 or £500 consist of two or three acres. One also has to consider the situation of a block in estimating its value. You inform me that one working man's block at North Ainslie, containing less than one-quarter of an acre, is valued at £350. There may be some peculiarity about that case, of which I am not aware. I have not studied the land question, and I feel rather diffident about expressing a definite opinion as to the reduction of land values for the purpose of bringing down the rentals of the lowest paid men. In arriving at the value of land in Canberra, one should compare the prices charged here with those ruling, say, in the outer suburbs of Melbourne or Adelaide. Generally speaking, I should say that the charges in Can-

Canberra compare favorably with those elsewhere. It is a most complex question and one cannot generalize upon it. One block may be worth three times as much as another. To say that the Government paid only £5 per acre for land which it is now leasing on the basis of a value of £500 per acre is to leave out of consideration many factors that must be taken into account. It cost many thousands of pounds to clear the vermin off the land in the Territory. When I came here first, Canberra was overrun by rabbits. There is no part of Australia where conditions obtain that make a comparison with Canberra possible. I admit that few people live in Canberra voluntarily. It is very desirable to provide living quarters for the inhabitants at a reasonable cost, if it can be done without undue loss to the Government. Seeing that considerable dissatisfaction is felt concerning the valuation placed upon building land here, it seems that there is a good case for a careful examination of the whole subject, and I do not wish any cursory remarks of mine to be taken too seriously. Some authoritative body might well investigate the matter in a dispassionate way. The agitation in Canberra on this subject indicates to me that amelioration of the position is perhaps desirable, but in what direction and to what extent I cannot say offhand. Of course, every resident of Canberra would naturally like to have cheaper land, but whether it would be fair in the interests of all concerned is hard to say. The type of house proposed to be erected at Manuka should be welcomed by a considerable number of the class of residents who would occupy them. These come from large cities where the houses are built close together. As to the outward appearance of the buildings, I think that it will be soon found desirable to have a larger proportion of two-storied domestic dwellings than there are now in Canberra. Last Sunday afternoon, from the hill on which the new Parliament is to be erected, I was looking at the two-storied houses at Reid, and I liked their appearance in the mass. The single-story houses appeared as small dots on the landscape, and liable to be obscured by the trees. I doubt whether accommodation as good as the proposed cottages afford could be obtained elsewhere for the same rental. I understand that it is expected the rent will be about 31s. a week. I know of no houses in Melbourne of that size, and having such a good appearance, that could be rented at that figure in such an advantageous locality. Much is said in Canberra about the hardships of the residents, but quite good dwellings are let to workers for about 14s. a week. I do not know of better housing conditions of the kind anywhere. What better accommodation could be desired by a working man than the excellent little cottages obtainable at Westlake and Causeway for 14s. a week? Painting of hard-wood houses is not required except for appearance. It would be spoiling wood to paint the jarrah houses commonly seen in Western Australia. In the suburbs of Brisbane, one could not find much better housing conditions under £1 per week than those to which I am referring.

181. *To Senator Reid.*—The proposed cottages at Manuka are quite suitable for occupation by the lower paid public servant. The alternative would be to build in some other locality a low priced fully-detached cottage on land measuring, say, 50 ft. by 150 ft. Such a house could be built either of wood, or under the system adopted by Mr. Wallace, for less than £800, as against about £900, which is the cost of the proposed cottages at Manuka. On the other hand, we might adopt the system to which the chairman has directed my attention. That is the single brick wall that is studded and lined on the inside. Very cheap houses are said to have a short life, but any cottage, irrespective of the form of construction employed, should, with reasonable attention, last for 40 years. The houses at Duntroon,

to which I have referred, are of fibro-cement outside and inside, but they have a water heating outfit. Lionite is thicker than fibrolite, but it is thinner than brick. Brick would be preferable in Canberra for outside walls. The other materials are suitable enough in Queensland and Perth, but here we have sustained frosts and very low night temperatures occasionally for a month at a time, and the residents are entitled to reasonable protection from such conditions. To provide cheap construction for single-story cottages, I know nothing better than the 4½ in. brick wall, behind which are studs and some such material as lionite. Alternatively, I favour Mr. Wallace's system of cement plaster on wire netting for the inside walls. There is no reason why the construction adopted in Queensland should not be suitable for Canberra so far as the inside walls and partitions are concerned. This eliminates all foundation for partitions and makes a perfectly satisfactory job. The latter form of construction would provide a relatively comfortable house both for winter and summer. Private building contractors attempted to do a good deal for Canberra, but their expectations in regard to development were not realized and their experience has been disastrous. Steel houses are unsurpassed in any climate. No material will exclude the weather so well as steel will. Owing to the low price of steel in Scotland, it is a cheap form of construction in that country as compared with stone buildings. The proposed cottages at Manuka are about the cheapest that the Commission could erect, having regard to the value of the site and other local conditions affecting building generally. Subject to certain refinements that could be made in the designs, I consider that they will be quite satisfactory.

182. *To Mr. Long.* I do not say that the estimated cost of building the proposed cottages at Manuka has been brought down to the irreducible minimum. When tenders are called, they may be found to be lower than the estimate and that may make it possible to reduce the proposed rent. Canberra is entirely a brick area, but certain departures have been made to allow timber houses to be built at North Ainslie, although personally I am sorry that that is the case. I would allow a judicious admixture of both brick and timber houses all over the Territory. You inform me that it has been stated in evidence before the committee that the valuation of land at Manuka is far in excess of that in other parts of the capital. The valuation of allotments generally does not support that contention. I realize that the proposed cottages will not do much to solve the problem of finding suitable housing accommodation for the man in receipt of £5 6s. per week. I have already mentioned that at certain settlements cottages can be obtained for about 14s. a week. They have good gardens and even motor garages. I regard the present proposal as an attempt both to "bribe" Manuka and at the same time to provide housing accommodation that is urgently demanded. Owing to the climate of Canberra I prefer lionite to other similar material, because, while the price is approximately the same, the material has more body in it. I see no reason why two-storied buildings, which are favoured all over the world, should not be suitable for Canberra. Could anything be more beautiful than the grouping system which is adopted in the garden cities of England and America?

183. *To Senator Sampson.*—I realize that narrow and steep stairs are objectionable. The one thing that two-storied houses should have is good stairs. I mentioned that the present plan was capable of refinement. If similar accommodation to that provided in the semi-detached cottages had to be given on a ground floor, the difference in cost would be less than 10 per cent.

Generally speaking, concrete is very similar to brick-work so far as comfort and price are concerned. I refer, of course, to solid concrete.

184. *To Mr. M. Cameron.*—The proposed cottages are of a more interesting design than those at Reid. The form of construction would be the same, but there is a bigger variety of architectural expression, and more thought has been given to them.

(Taken at Melbourne.)

WEDNESDAY, 16TH APRIL, 1930.

Present:

Mr. LACEY, Chairman;

Senator Dooley
Senator Reid
Senator Sampson

Mr. M. Cameron
Mr. Gregory
Mr. Holloway
Mr. Long.

Alfred Romeo La Gerecht, Architect, State Electricity Commission of Victoria, Melbourne, sworn and examined.

185. *To the Chairman.*—I understand that the committee is investigating a proposal to erect a number of cottages at Canberra, and that an inspection has recently been made of certain types of houses constructed by the State Electricity Commission of Victoria at Yallourn. With the exception of a few residences, built for the representatives of the different churches, and by private organizations, all the houses at Yallourn were constructed by the State Electricity Commission under my supervision. For the information of the committee, I submit a series of plans showing the different types of houses erected at Yallourn, from which it will be seen that the smallest consists of three rooms and a small kitchen, with a combined bathroom and laundry. The combined bathroom and laundry was provided in order to keep costs down to the lowest possible limit, and thus meet the wishes of certain of the commission's employees, who desired accommodation at a low rent. It will be noticed that the doors in these cottages are so arranged that the superficial area can be utilized to the fullest extent. The dimensions of the rooms in this type are as follows:—Living room 12 ft. by 12 ft. 9 in.; bedroom 12 ft. by 12 ft.; and another room, 10 ft. 6 in. by 8 ft. 3 in. The verandah space is, of course, limited; but the doors are protected from weather as far as possible, and the passage space reduced as far as is practicable. Economy has been effected by combining the bathroom and laundry. The plumbing costs have been reduced, and the conveniences increased by having all the services, which are together, under cover. In this type, perhaps, more than in any other, every superficial foot has been considered, and every endeavour made to provide the maximum of comfort at the minimum of capital cost. The cost of providing verandahs would be equivalent to increasing the size of the room, but without giving the same convenience. Of course, this type is not typical of the houses constructed at Yallourn. The next type is of four rooms, consisting of a living room 12 ft. by 15 ft., first bedroom 12 ft. by 14 ft., second bedroom 9 ft. 6 in. by 10 ft., and a kitchen 14 ft. by 10 ft. 0 in. Experience has shown that a large number of persons occupying cottages of this type prefer to have their meals in the kitchen in order to save the housework of the womenfolk, and for that reason we have been asked to make the kitchen, in houses of this type, sufficiently large to accommodate a table for the preparation of food and a larger table for dining purposes. Most of the houses of this type have small built-in pantries, which enables dressers to be dispensed with. In another type, we

have adopted the combined laundry and bathroom, as in the smallest house, and in which the bathroom can be used without going outside, and the washing done at a point convenient to the yard. Most of the small houses are built of hardwood weatherboards, and roofed with corrugated iron. I also submit a plan of a brick residence, consisting of a living room, 15 ft. by 13 ft., a first bedroom 15 ft. by 12 ft., a second bedroom 10 ft. by 10 ft., a third bedroom 11 ft. by 9 ft., and a kitchen 11 ft. by 11 ft., as well as a laundry, bathroom, verandah, &c. A typical cottage consists of three bedrooms, a living room, and a kitchen, which we term a five-roomed cottage, although the kitchen is not considered sufficiently large to enable it to be used for dining purposes. The manufacture of tiles is undertaken by the Commission, and these are being used whenever practicable in order to improve the appearance, and to provide a cool roof. Material for the first 50 cottages was supplied by the commission, and the work done under the contract system. The cost of the houses originally constructed is greater than those of a similar type which have since been built because of the heavy transport costs, due to the absence of properly formed roads. There was good competition amongst the contractors. When we undertook the construction of brick houses, the brickworks were in operation, but it was difficult to obtain the services of good bricklayers at other than a prohibitive cost. When we erected the five-roomed brick houses, conditions were more favorable, and prices generally somewhat easier. We have 31 six-roomed brick houses. The size of the rooms is not the only important factor in the matter of cost as the same doors, windows, plumbing work, &c., have to be undertaken, and a foot or so added here or there, does not make a great difference in the cost. I submit for the information of the committee the contract prices of the houses I have briefly described, together with the basis upon which the rents have been calculated. The land on which these houses are built was obtained by the commission at an average cost of about five guineas per acre, and as about four houses are built on each acre, the cost per allotment would be about 26s. Certain allowances had to be made, of course, for streets and footpaths. The price I have given for the houses includes all overhead charges, but the cost of fencing, clearing, and drainage would have to be added to the contract prices. About 1,500 acres of land were set aside for township purposes, and for which I understand £7,930 was paid. Wooden structures should have a life of at least 40 years, and brick houses of 50 years. There is no advantage in constructing houses to last for a longer period, as they would become old-fashioned, and on that account depreciate in value. The cost of water is included in the rent. At present the houses are not supplied with water meters. The rental also includes sanitary charges. Electricity is supplied at a cheap rate, and the Commission encourages the tenants to use it. In some of the houses electric stoves are installed, for which a small weekly rental is charged, and in the five-roomed cottages there are three power-points to encourage the use of radiators, and nine or ten lighting points. As the energy is supplied at a very low rate, the tenants are able to use it fairly freely. For the information of the committee I submit the following table, showing the different types of houses, the rents paid, and the average earnings of the occupants:—

Type of House.	Rent.	Average Earnings.
	£ s. d.	£ s. d.
Small four-roomed house ..	15s.	6 3 2
Large four-roomed house ..	20s.	5 4 0
Five-roomed wooden house ..	25s.	5 15 0
Four-roomed brick house ..	25s.	5 13 10
Five-roomed brick house ..	30s.	6 8 2
Six-roomed brick house ..	35s.	9 3 7

There have been no serious complaints, so far as I know, concerning the accommodation provided for the rents charged, because the town has been built to a certain extent in an economical way. The streets are not unduly wide, but we have tried to make the people comfortable, while at the same time keep a tight hold upon expenditure. Some women have told me that they have got into the house of their dreams, but others have been more critical. We have also constructed a few attic houses, which are somewhat costly, in order to dispense with monotony of having houses all of the one type. Migrants, particularly, prefer the house of the attic type, while Australians seem to favour a cottage in which all the rooms are on the one floor. I think the sleeping conditions in wooden-framed attic houses are ideal. We have not constructed many of this type, and those that we have were built for a definite purpose. The dimensions of the rooms in the attic houses are as follows:—Living room, 15 ft. by 13 ft.; first bedroom, 13 ft. by 12 ft.; and kitchen, 11 ft. by 13 ft. These rooms are on the ground floor, as also is the bathroom. Upstairs there are two rooms which are partly in the roof, each 12 ft. by 13 ft. We cannot build many of this type, because to do so would increase the average cost. An attic house costs £80 or £70 more than another house in which similar accommodation is provided. The cost of these dwellings depends largely upon the continuity of the work and the number of houses built. The construction of most of the commission's houses was done by contract for numbers varying from twelve to 25, either for labour and material, or for labour only. Some of those constructed in the earlier stages were done by day labour, but the continuity of the work controls the price more than anything else. Unfortunately, our programme has not been continuous, and we have had to build when money was available. If we could go ahead constructing 100 houses a year for two or three years the prices could be brought down to bedrock. The financial depression is affecting us very severely, and we have no definite building programme just now. The attic houses are rented at 25s. a week, and the average earnings of the person occupying them is £5 15s. 6d. We have had no complaint concerning the two-story houses, and when once they are constructed they can easily be let. The commission started building operations in 1922, and since that time prices of building materials with one or two exceptions, have varied considerably. I submit the following table of prices:—

COST OF BUILDING MATERIALS F.O.B. YALLOURN.

Period from 1923 to 1930.		£ s. d.	F. O. B.
Galvanized corrugated iron	0 14 6 to 0 15 3	per ton	
6 inches x 1 inch, T & G	0 18 0 to 0 19 2	per 100 hand feet	
White Battie flooring	0 14 6 to 0 15 3	per 100 lineal feet	
Hardwood weatherboards	1 3 0 to 1 4 0	per 100 lineal feet	
Hardwood flooring, 1 inch thick	1 2 6 to 1 3 0	per 100 lineal feet	
Hardwood weatherboards—	1 3 0 to 1 4 0	per 100 lineal feet	
Tasmanian			
Pineum plaster	0 2 2 to 0 3 10	per square yard	
Flint cement	0 2 10 to 0 3 0	per 100 lb. bag	
Sawn hardwood	1 0 0 to 1 1 0	per 100 feet super	
Cement	1 0 0 to 1 1 0	per 100 feet super	
3-ply lining	1 0 0 to 1 1 0	per 100 feet super	
Bricks	1 0 0 to 1 1 0	per 1,000	
Tiles	1 0 0 to 1 1 0	per 1,000	

I do not think there is much difference between Tasmanian hardwood and the local product, except in the method of seasoning. The Victorian wood is a good many k/m for the seasoning of timber. We have endeavoured to dispense with the use of three-ply for lining, of which we have used a lot, but we find it the best material to use in rented houses. It stands hard knocks and rough usage, and in most cases, is put in to the height of the doors. It can be taken out at any time and replaced with the use of a saw cut from the mill. Three-plys costs 20s. 9d. per 100 square feet, and fibro cement sheets 2s. 9d. a square yard. Material

I do not think there is much difference between Tasmanian hardwood and the local product, except in the method of seasoning. In Victoria there are a good many kilns for the seasoning of timber. We have endeavoured to dispense with the use of three-ply for lining, of which we have used a lot, but we find it the best material to use in rented houses. It stands hard knocks and rough usage, and, in most cases, is put in to the height of the doors. It can be treated in any colour if desired, but we use it as it comes from the mill. Three-ply costs 90s. per 100 square feet, and fibre cement sheets 2s. 9d. a square yard. Material

other than three-ply could be used for lining if the houses were to be owned by the occupiers, as they would then take more care of them. The cost of bricks at Yallourn has varied considerably, depending upon the construction programme. In 1923 the price of bricks was £2 12s. 4d. per 1,000 for face bricks, but that was when the plant was running at its full capacity. The Yallourn bricks are slightly softer than those made in Melbourne, but they look well in the walls. In recent years the Commission found it more convenient to lease the brickworks, provided it could obtain supplies to meet its requirements at a satisfactory price. The present price is £4 0s. 3d. per 1,000 at the kiln. In 1923 tiles cost £15, but they are now costing £16. All the ingredients used in the manufacture of tiles are obtained locally. We have constantly been urged, by certain interests, to use concrete products in the construction of houses, and at times have obtained prices. The house occupied by Mr. Dixon, the Assistant General Superintendent at Yallourn, is covered with concrete walling plates, but that, of course, was specially constructed. A Lionite roughness house of five rooms would cost about £25 more than a similar house constructed of weatherboard. As a set-off against the increased capital cost there would be a saving in the matter of maintenance.

186. *To Senator Reid.*—I should think the extra cost of £25 would be justified, as a weatherboard house would require attention every three years. The life of a Lionite house would depend upon the wooden frame, and, after 40 years, a house, irrespective of the type of construction, will be regarded as out of date. Red gum or jarrah stumps have been used as a prevention against white ants, and, as a further precaution, we paint the timbers up to the floor level with a white ant exterminant. Most of the tenants have entered into the spirit of the community system, and look after their houses, and also provide nice gardens, which improve the appearance of the place. On the other hand there are, of course, some disgruntled tenants who keep their houses in anything but a satisfactory condition, but such cases are exceptional. It may be necessary to alter the method under which water is at present supplied to tenants, as the quantity available under the present system of supply is limited; during the past summer water was very extensively used. Of course, the people are encouraged to cultivate gardens, but it is difficult to estimate a fair weekly consumption. The rent at present charged does not cover interest on the entire cost of gutting and kinking. Reduced output has been partly responsible for the increase in the price of bricks.

187. *To Mr. Long.*—I have inspected a few houses constructed at Lionite, and I believe the cost of such houses is about £25 more for a five-roomed cottage than for one of weatherboard of a similar type. I have not had sufficient experience with houses constructed of Lionite to say whether, apart from the cost, they should meet the requirements of the people at Yallourn. We have never used that material to any extent, and the price given to us was based upon a tender for one house. One of the reasons why we have adhered to wooden structures, lined with ply wood, is to avoid the necessity of obtaining the services of plasterers. In wooden houses, bricklayers are indispensable, as brick chimneys have to be built. We have to employ carpenters, plumbers, tilers and painters, but we can dispense with plasterers. I visited Canberra in the summer time, and do not know what the conditions are there during the winter months. The winters at Yallourn are wet, but we do not have the cold winds which, I understand, prevail at Canberra during the winter months. Yallourn is not very high above the sea level, and is also protected from winds. There may have been isolated complaints concerning the

houses at Yallourn being cold, and, in a few instances, tenants have asked for an extra fireplace, which has usually been required for drying clothes. We endeavour to reduce the brickwork as much as possible, but to provide reasonable facilities for providing warmth and drying clothes. There can be no reasonable objection to the timber houses being constructed above the ground, as a circulation of air is necessary. I should say that there would be a prejudice against semi-detached houses, both at Canberra and Yallourn. The person who occupies a house wishes to be able to walk around it. We constructed a few semi-detached houses, first, with the idea of saving money, and, secondly, with the idea of varying the types. In England it is the exception rather than the rule to have isolated houses, as there the houses are built in blocks or terraces. Houses of that type, however, present certain economical features in a matter of common walls, and services. Semi-detached houses are, I think, alien to Australian sentiment, and if it may be considered desirable to construct some of that type, it should not become general. As to whether such a type should be eliminated in Canberra, I should say that it depends on who is going to own them. If they are to be owned individually, it would be a bad thing to build them. I prefer the detached houses.

188. *To Mr. Cameron.*—As both wooden and brick houses will become old fashioned in less than 40 or 50 years, that is a reasonable life to place upon them. Plumbing is not a particularly expensive item, and at present we have only a limited sewerage system, but in order to prepare for a complete sewerage scheme, which is bound to come, we have made arrangements accordingly. The price of bricks was originally fixed on the understanding that we would have a continuous building programme of 100 houses per annum, and in six to eight years would make from 40,000,000 to 50,000,000 bricks; but that programme has not materialized. We have produced from 7,000,000 to 8,000,000 bricks, and in prices quoted, overhead expenses and interest have been taken into consideration. We could sell bricks to the public at 24 0s. 3d. a 1,000 without incurring a loss.

189. *To Senator Simpson.*—I do not regard Baltic as a good timber, as it is full of knots and has to be painted, whereas good hardwood can be satisfactorily treated with two coats of oil, which is cheaper. On the other hand, hardwood does not permit of variety in colour, which is often wanted. The use of hardwood limits the artistic treatment of the exterior of a house. A 4½-inch hardwood floor of "seconds", with an occasional gum vein, would cost us from £4 to £5 more per house than a flooring of 6-inch by ¾-inch white Baltic.

190. *To Mr. Gregory.*—I understand that the price of £2 12s. 4d. per 1,000 for bricks in 1922 covered all overhead expenses. A rod of brickwork would cost from £23 to £30 at Yallourn. When the Commission discontinued the making of bricks it called for tenders for a lease of the brickworks, but the only tender received was from the man who had previously been employed at the brickworks as manager, and whose tender was accepted. It was not particularly favorable, but

considering the restricted output, and the limited number of customers in the neighbourhood, it was accepted. The brickworks were leased because the Commission was doing very little building, and there was insufficient to keep the works going. At that time we had 1,000,000 bricks on hand. The cartage of the bricks is arranged by the building contractor. The cost of delivering is about 8s. per 1,000 for about an average distance of a mile, but that price depends upon the competition amongst carters. When the Commission started manufacturing tiles, the cost was £16, but it is now £16 per 1,000; the price seems to be fairly stable. A five-roomed tiled house costs about £20 more than a similar house with an iron roof. A tiled roof adds to the appearance of a house, and is always well ventilated. The increase in customs duties has, in most cases, been responsible for the higher cost of material. There has been a reduction in the price of some timbers; in other instances prices are fairly regular. Our hardwood, if properly seasoned, is a first class article. Several firms are putting in seasoning plants, and are undertaking to supply seasoned timbers, but their stocks are not heavy. In some cases there is considerable shrinkage for which due allowance must be made. Celotex is more expensive than ply wood, and is used in the upper portions of some of our cottages, where it cannot be broken. It is claimed that it is non-inflammable, but it is not fire-proof, although it will not burn quickly. I prefer to use ply wood to any other similar material, as it is capable of standing very rough use. There is not much difference between the price of three-ply and fibrolite. The open spaces underneath the houses are not likely to make them cold, if the floors are tight. Our desire is to keep the foundations open for observation in order to check damage by white ants. All the timbers up to the floor level are painted with an ant-resisting solution, and a galvanized iron cap is placed on the stumps. The two-storied houses are more expensive, partly because of the additional scaffolding required. One of our most difficult problems at present is in providing sanitary accommodation in such a way that it will be suitable when a complete sewerage system is installed. At the outset a certain amount of work was done by day labour, because we could not get contractors to tender. We then called tenders for labour only, and a number of houses were built in that way. With a change of programme we found it more economical to call for tenders for labour and material, and that is the system under which we are working at present. We do not ask contractor to purchase any material from the Commission, and, as far as possible, give them a free hand. The upkeep of a five-roomed wooden house would vary from £25 to £30 over a period of three years, and of a brick house for the same period it would be £20 or less. The cost of a wooden house is about two-thirds of that of a brick house.

191. *To Senator Dorsey.*—I could not make a comparison between the award rates of wages at Yallourn and in New South Wales. Our contractors, of course, pay the award rates, but I could not say whether they are higher than in Melbourne. The cost of living in Yallourn is about the same as in Melbourne.