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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS.

R E P O R T

Relating to the proposed

BATMAN AUTOMATIC TELEPHONE EXCHANGE

FLINDERS LANE, MELBOURNE.

Brand -

I present the Report of the Parliamentary Standing Committee on Public Works relating to the following subject :-

The erection of the Batman Automatic Telephone Exchange in Flinders-Lane, Melbourne.

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ON PUBLIC WORKS.

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Relating to the proposed

BATMAN AUTOMATIC TELEPHONE EXCHANGE,

ELTHORPE LANE, MELBOURNE.

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

(ELEVENTH COMMITTEE.)

Senate..	Rowland James, Esquire, M.P., Chairman.	House of Representatives.
Senator William Edward Aylett.	William Patrick Conelan, Esq., M.P.	
Senator Charles Henry Brand.	Hon. Eric John Harrison, M.P.	
Senator Charles Adcock Lamp.	Daniel Mulcahy, Esq., M.P.	
	George James Rankin, Esq., M.P.	
	Hon. Sir Frederick Harold Stewart, M.	

EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES.

NO. 109 DATED 11th APRIL, 1946.

10. Public Works Committee - Reference of Work - Batman Automatic Telephone Exchange, Flinders- Lane, Melbourne. - Mr. Lazzarini (Minister for Works and Housing) moved, by leave, That, in accordance with the provisions of the Commonwealth Public Works Committee Act 1913-1936, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for investigation and report, namely:- The erection of the Batman Automatic Telephone Exchange in Flinders- Lane, Melbourne.

Mr. Lazzarini having laid on the Table plans in connexion with the proposed work -

Question - put and passed.

LIST OF WITNESSES.

Paragraph in Evidence.

DOWSE, E.M., Supervising Engineer, Telephone Equipment, Central Administration, P.M.G's. Department, Melbourne	29
FLEMING, J., Chief Mechanical Engineer, Department of Works and Housing, Melbourne	85
GREGG, H.K., Telephone Manager, Standard Telephones & Cables Pty. Ltd., Alexandria. N.S.W.	1
HAYES, N.W.V., Superintending Engineer for Victoria, P.M.G's Department, Melbourne	57
REED, H.J.S., Building Surveyor, City of Melbourne	95
ROLLAND, H.M., Director of Architecture, Department of Works and Housing, Melbourne	77,104
STRANGE, N.W., Chief Inspector of Telephones, Central Administration, P.M.G's Department, Melbourne	90
TRENAM, H.C., Chairman and Managing Director, Standard Telephones and Cables Pty.Ltd., Alexandria. N.S.W.	1

~~CONFIDENTIAL~~

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PROPOSED ESTABLISHMENT OF BATMAN AUTOMATIC
TELEPHONE EXCHANGE, FLINDERS LANE, MELBOURNE.

R E P O R T .

The Parliamentary Standing Committee on Public Works to which the House of Representatives referred for investigation and report the question of the establishment of the Batman Automatic Telephone Exchange in Flinders-Lane, Melbourne, has the honour to report as follows :-

INTRODUCTION.

The City Network.

1. It was explained to the Committee, when evidence was being taken in connection with the Russell Exchange in October, 1945, that the development of telephone facilities for the City of Melbourne was being planned in a comprehensive manner to include an efficient and satisfactory service for the whole of the City, and, with this object in view, it was decided to divide the area into four districts - City West, Batman, Russell and Civic. City West is already established; Russell has now been approved and work will start on the building shortly; Batman is now referred to the Committee for investigation, and Civic is projected for the future to complete the City network as development at the other three exchanges makes it necessary to provide the fourth exchange, in the Civic area.
2. For some years it has been necessary to rely on a system of borrowing space in various established exchanges in order to supply lines to subscribers in busy parts of the city, where automatic equipment was not available. This method of maintaining telephone services throughout the city has been made possible because the existing exchanges had been established with provision for development over a number of years ahead. However, the use of this development space has now made it impossible to supply new lines in the normal way until the proposed new exchanges are established, and provision is made in the various zones so that each may be able to supply its appropriate equipment and service.

SECTION I.THE PRESENT PROPOSAL.The Building & Site.

3. The case now to be considered deals with the proposal to establish the new Batman Automatic Exchange. A site has been acquired on the northern side of Flinders Lane, between Samuel and Moylan Lanes, in a central portion of the Batman area, and plans have been prepared for a building to accommodate the new automatic telephone exchange.
4. It is also proposed to take the building to the maximum height allowed and to use the extra floors for office accommodation to house officials of the Postmaster-General's Department who are at present scattered in various rented premises in the city.

Estimated Cost.

5. The estimated total cost involved in establishing the Batman Exchange is £800,000 made up as follows :-

	£.
<u>Site -</u> Already acquired	26,550
<u>Building -</u> Complete 7 storey building consisting of Basement, Ground and six upper floors	175,550
<u>Material -</u>	
At Batman Exchange	2400,000
At City West for traffic to and from Batman Exchange	10,000
<u>Subscribers' Equipment -</u>	
Cost of altering subscribers' common battery manual equipment for automatic working	5,000
Labour.	415,000
At Russell Exchange	250,000
At City West Exchange	2,000
Subscribers' Equipment	2,000
	54,000
<u>Line Construction -</u>	
Cost of alterations to cables for subscribers and junctions line reticulation, including breaking into existing tunnel,	
Labour	212,000
Material	24,000
	36,000
<u>Administration -</u>	
General administration charges on material and labour	43,000
<u>Contingencies -</u>	20,000
	<u>£800,000</u>

The estimate of £175,550 for the building and services was compiled in January, 1946, and was based upon the ruling rates and conditions operating at that time. It was emphasised, in evidence, that there is a constant upward movement in building costs covering materials, and particularly labour which has recently been awarded a 10% increase in wages. Owing to this trend in costs it is impossible to estimate with great accuracy for work which will be carried out at a future date. The details of estimated costs included in the above amount are as follow: :-

<u>Building</u>	<u>£121,000</u>
<u>Engineering Services</u> -	
Preparation of site, removals & demolition	2500
Sewerage drainage	350
Stormwater "	300
Water Service	900
Fire Service mains, hydrants and extinguishers	1,100
(Air-Conditioning (Ground to Second floors inclusive)	10,200
Heating and ventilation of Basement, including battery exhaust system	1,250
Radiation system (3rd to 6th floors inclusive)	1,750
Lavatory & kitchen exhaust systems	920
Vacuum cleaning system	1,080
Heating Plant	2,110
Hot water Supply System	1,140
Incinerator	250
Passenger & Goods Lifts	20,100
Cafeteria equipment	4,000
Sump Pump and filter Cleaning equipment	380
Basement Trolley, Travelling Crane and Cat Heads	1,300
Electric light & Power installations	6,920
	<u>54,550</u>
Total cost of Building & Services	<u>£175,550</u>

It is estimated that the expenditure, exclusive of administration charges £43,000 and site £26,550 will be distributed over four successive financial years as follows: -

<u>1947/48</u>		
Batman Exchange Building	£20,000	
Cable Reticulation	6,000	
Contingencies	1,900	£27,900
<u>1948/49</u>		
Batman Exchange Building	£20,000	
Cable Reticulation	15,000	
Contingencies	5,000	£400,000
Forward		£127,900

	Forward	£127,900
<u>1949/50</u>		
Batman Exchange Building	£75,550	
Exchange Equipment	280,000	
Junction Equipment	6,000	
Subscribers' Equipment	2,500	
Equipment Installation Costs	30,000	
Cable Reticulation	15,000	
Contingencies	25,000	
		£414,050
<u>1950/51</u>		
Exchange Equipment	£140,000	
Junction Equipment	4,000	
Subscribers' Equipment	2,500	
Equipment Installation Costs	24,000	
Contingencies	18,000	
		<u>£188,500</u>
		<u>£730,450</u>

SECTION III.
COMMITTEE'S INVESTIGATIONS.

General.

6. The Committee visited the site which has been acquired for the proposed building, and took evidence regarding the architectural work from the Director of Architecture, Department of Works and Housing, Melbourne. The main principles of the proposal, from the point of view of the Postmaster-General's Department were given in evidence by the Supervising Engineer of Telephone Equipment, and evidence was also taken from officials and technicians responsible for the provision and maintenance of the building and services, and others.

7. The Committee studied the plans and also paid visits of inspection to workshops in Melbourne and Sydney where Australian-made equipment is in process of manufacture.

Reasons for the Proposal.

8. This particular exchange is essential to cater for telephone development in the western portion of the city. It is anticipated that there will be substantial development in the City area, in addition to the serious lag which has developed as a result of the drastic curtailment of the normal programme during the war. It is represented that, unless the Batman Exchange, together with the other projects planned, are established it will not be possible to provide telephone facilities to applicants for them. The business and industrial activities of the City will be seriously hampered if the Department is not able to cater for all the services required.

Lack of telephone facilities also adversely affects other important matters such as housing and the rehabilitation of returned soldiers.

At the present time there are approximately 80,000 outstanding applications for telephone facilities in Australia, 68,000 of them being in metropolitan areas, and the main difficulty confronting the Department in the provision of services is lack of buildings and skilled staff. The position regarding buildings is most acute, and until progress in this respect can be accelerated there is no early prospect of any substantial improvement.

On a conservative estimate the loss of revenue owing to the Department's inability to provide all facilities is £2,000,000 per annum.

It is planned to provide for the anticipated growth in the area West of Elizabeth Street for a period of 20 years.

Site.

9.

The site acquired for the building is on the north side of Flinders Lane, between Queen and William Streets, and the dimensions are as follow :-

Frontage, facing South, in Flinders Lane	58 ft. 5 $\frac{1}{2}$ in.
East Boundary, Samuel Lane (10 ft. wide)	156 ft. 8 $\frac{1}{2}$ in.
West Boundary, Moylan's Lane (12 ft. wide)	143 ft. 2 $\frac{1}{2}$ in.
Area	8,826 square feet.

The Committee was assured in evidence that the land is suitable for the building and it is safe to erect such a structure upon it, although it has been decided to allow for "pile" foundations at the southern end of the building owing to the fact that the neighbouring building in Queen Street had to "pile" its foundations.

Street Alignment and Cantilevering Upper Floors.

10.

When the project was in its initial stages the Melbourne City Council indicated that it would be appreciated if the Ground Floor could be set back 4 ft. 6 in. to permit of a 9 ft. wide footpath being constructed. The plans show that this has been provided for but that the Mezzanine, 1st, 2nd, 3rd and 4th floors are to be cantilevered to extend to the present building alignment, the 5th and 6th floors being set back 4 ft 6 in to the new alignment.

11.

The question of street alignment was examined, and the Committee sought evidence regarding the effect of local regulations on the proposal to cantilever some of the floors over the footpath.

Inquiries revealed that the original drawings of the plans now before the Committee were completed in 1944, and, prior to this period, certain other buildings were erected in Melbourne with the upper floors cantilevered over the footpath, the Civic Authorities having agreed to the adoption of that method of construction. However, the Victorian Widening of Streets Act, 1940, provides that, on new buildings in certain streets, cantilevering of upper floors over the footpath shall not be permitted, unless a By-law, specifically sanctioning it, is passed. In 1944, the Council adopted a recommendation of the Building Regulations Committee to the effect that this type of building definitely should not be permitted.

12.

Since the matter was raised by the Committee discussion has taken place between the City Council authorities and officials of the Department of Works and Housing and the Postmaster-General's Department. The result is that it will now be possible to amend the plans for the Batman building so that the whole of the Flinders Lane elevation will conform to the new street alignment. This can be made practicable by utilising some of the space originally proposed for future extension on the second floor. The Committee recommends that such amendment of the plans be effected.

13.

A provision in the plans for a 3 ton hinged cathead, to be used for unloading goods from Samuel Lane, was also found to be contrary to council by-laws, unless due notice is given to the city authorities when off-loading would occur. Arrangements are to be made for this condition to be complied with.

14.

Although it is affirmed that the Commonwealth building proposals are not subject to scrutiny by the civic authorities it is the opinion of the Committee, in the light of evidence in the inquiries into both the Russell and Batman telephone exchanges, that it would be of considerable advantage if plans of all proposed Commonwealth buildings were forwarded to the City Council for their information. Records of plans would be of

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great assistance to the Council by giving information relative to problems connected with streets and properties in the vicinity of Commonwealth owned buildings, and full collaboration in all cases would bring valuable results. It is therefore recommended that some suitable course be adopted to achieve this object.

15.

Appreciation by the Department of the Committee's suggestions in this inquiry was expressed in evidence, and although automatic telephone exchanges have come to be regarded largely as standardised in many respects and inquiry into them as unnecessary duplication, it has been clearly shown in the evidence on both the Russell and Batman exchanges that proposals involving such large expenditure on buildings and equipment still demand careful investigation by the Public Works Committee.

16.

The completed building will comprise Basement, Ground, Mezzanine and six upper floors, and the total area will be 68,570 sq.ft.

17.

Basement - This will extend over the major part of the site, excluding only an area adjacent to the northern boundary. That area has been omitted to avoid the expense of underpinning the adjoining buildings.

The basement will accommodate the Cable Tunnel, Battery Room and Power Room for the exchange, and also a Switch Room, Boiler Room and Air-Conditioning and Mechanical Equipment Room.

18.

Ground, Mezzanine, First and Second Floors - These floors are provided to house the exchange equipment, the proposed placing of which has been shown on the plans. The second floor, however, will be used mainly for office accommodation at present, until it is required for equipment at a later stage.

19.

Third Floor - An area of 1,140 sq. ft. is to be made available for subdivision into office accommodation, and the remainder of this floor will be used for cafeteria, kitchen, and space for rest, reading and recreation rooms, in conformity with the practice now being followed in Commonwealth buildings of this character.

Fourth, Fifth and Sixth Floors. - These floors are to be sub-divided into office accommodation and will provide 23,360 sq. ft. Evidence given to the Committee showed that this space will all be needed by officials of the Postmaster-General's Department who will be transferred from rented premises in various parts of the City.

21.

Light Courts. - It has been possible to locate the base of the light angle at the sill of the 3rd floor windows, and to avoid set-backs below that point owing to the fact that the Ground, 1st and 2nd floors, being used for exchange equipment which obstructs the natural lighting, will require to be artificially lighted. A certain amount of additional natural light for these floors will be provided by the windows facing Flinders Lane.

22.

The Roof - There will be a flat roof, waterproofed with mineral asphalt or bituminous felt protected by a cement-tile wearing surface. Provision will be made, below the roof grading, for insulation. It was explained, in evidence, that a flat roof will prove satisfactory provided it is well made with good material, and care will be taken to ensure that a reliable roof will be constructed.

23. Flooring - The floors throughout the building will be treated with materials to suit the use which will be made of them. Linoleum on concrete will be used for the exchange floors, while for the office space wood laid on battens fixed to concrete will be used. Lobbies and stairs will be of terrazzo, and the battery room floor will be of asphalt.

24.

Internal walls and ceilings - The entrance lobby will have walls of marble, while most of the other walls will be of hard plaster. A certain amount of tiling will be used in the kitchen, and ceilings throughout the building will be of plaster.

25.

Construction

The building will be of steel framed structure with reinforced concrete floors. The Postmaster-General's Department has requested this type of structure as it lends itself to alterations which might become necessary by later advances in type of equipment. The external walls will be of reinforced concrete with an inner lining of terra-cotta lumber on the air-conditioned floors. Internal partitions will be of terra-cotta lumber.

8.

Architectural Features.

26.

The original proposal provides that the main architectural feature will comprise the fenestration to the front elevation, extending over the Mezzanine, first, second, third and fourth floors. This will terminate on the western side against a structural member, which, including a short return on the west wall, will be faced with the same material as is used for the base. However, the elimination of the cantilevered portion will necessitate slight alteration to the Flinders Lane facade.

27.

The external wall finished, as planned, will provide for the facade to Flinders Lane and the short returns to Samuel and Moylan's Lanes to be faced with special cream bricks. Below these bricks will be a base of polished stone veneer such as trachyte, or a facing of structural glass. The elevations to Samuel and Moylan's Lanes will be cement rendered.

The surrounds of the windows to the two upper floors will be simply treated with non-ferrous metal frames projecting slightly from the face of the building.

Engineering Services.

28.

Mechanical ventilation will be provided in the Basement, and full air-conditioning will be installed in all the exchange floors in order to ensure efficient operation of the automatic telephone switching apparatus.

Other engineering services which will be installed will provide for hot water, heating, garbage incineration, vacuum cleaning, and cafeteria cooking equipment.

There will be two passenger elevators and a goods lift, while hoists and cranes will be provided to handle heavy apparatus for the basement and equipment floors.

Effect on Housing.

29.

The ratios in man-weeks of one trade to another are not the same in a city building as in a house, and some trades are employed on the former and not in the latter. It is estimated that the total man-weeks for this building would be 8,247 including all trades.

Of this amount of labour 974 man-weeks are in respect of labour in trades which would not be required at all for cottage building, while 7,273 man-weeks are for labour in trades which are used in varying ratios in both city buildings and housing. The following table will show the ratios based upon the estimate for this building :-

Trade.	Man-week of labour on "Batsman" Automatic Telephone Exchange.	Man-weeks of labour on housing.
Labourers	4,600	1,984
Bricklayers	130	869
Drain layers	48	218
Carpenters	1,115	2,085
Plumbers	340	800
Roof fixers	5	72
Wall tilers	10	21
Plasterers	315	576
Fibrous Plaster fixers	130	92
Painters	200	360
Electricians	380	216
Total:	7,273	7,273

The man-weeks of labour on this city building in trades not required for housing are estimated at :-

Truck drivers (excavating)	36
Paviors	60
Floor layers	108
Steel riggers	370
Metal workers	37
Mechanical Engineers	363
Total	974

It will be seen that the trades common to both types of building are mainly labourers and carpenters. As some time must elapse, after the proposal is approved, before working details of the plans are completed, and men can actually begin work on the building, it is anticipated that labour in these classes will be more readily obtainable than than at present.

30.

So far as materials are concerned, it is found that, with steel and concrete construction, a good deal of the materials used would not be needed for home construction, though bricks, timber, plastering, cement, paint, electric lighting materials and a number of other items would be used, in varying proportions, in both types of construction.

31.

It is stressed, however, that there is an imperative need for expansion of telephone facilities to be made simultaneously with the progress of housing construction if it is to be satisfactory and efficient.

Such telephone expansion cannot be made until buildings are erected for the new exchanges, and it is therefore essential that approval should be given for the work to proceed on the Batman Exchange as soon as possible, and, after considering the proposal from all angles, the Committee recommends that the project shall be agreed to, and given a priority of a high order.

The Telephone Switching Equipment.

32.

The Committee was impressed with the fact that, of the £300,000 estimated for the whole project, £469,000 was for exchange and subscriber's equipment. Evidence was therefore sought with a view to ensuring that all economies are being effected and that the materials are being purchased in the best market.

Equipment made in Australia.

33.

It was explained, in evidence, that a great deal of the switching equipment is now being made in Australia, and the Committee inspected some of the plant at which manufacture of automatic telephone requirements is progressing. The Committee was most favourably impressed with the efficient manner in which the plant is being run, and by the extent of the modern buildings which have been erected for this work. It is realised that much time and great expense is required for the initial setting up of the necessary machinery and tools, and the success and expansion of Australian manufacture depends on the possibility of continuity of orders to the companies installing the required plant.

Long-term Ordering for Equipment.

34.

In dealing with this automatic telephone project the Committee also has in mind the Russell Exchange, recently approved, and the other exchanges projected for the City of Melbourne. It also has in view the similar exchanges which are to be established in the other capitals of Australia, and it is realised that the quantity of specialised equipment needed by the Department over the period of a few years is tremendous. It therefore seemed natural that the Department should make plans sufficiently far ahead to enable it to purchase in great bulk, and so save a large amount on the equipment.

35.

Witnesses, both private and departmental, agreed that such long-term planning was desirable, not only to save expense, but to ensure continuity of supplies and regular deliveries of the manufactured parts. At the present time it appears that separate orders are given for equipment for each exchange, all of which are regarded as independent jobs.

The three main difficulties in the way of bulk ordering appear to be -

1. The insistence of Government authorities that finances of the Department must be on an annual basis;
2. The difficulty which would be experienced by the Postmaster-General's Department in bringing a number of these large projects to finality simultaneously;
3. The possibility of a change being required in design of the equipment if orders were made too far in advance of requirements on the jobs.

36.

The Committee sought the opinions of a number of those concerned in the project and gave considerable thought to the matter, as it feels that it should be possible to make extensive savings if satisfactory planning can be arranged.

37.

So much importance is attached to this aspect of the matter, and the amounts of expenditure involved are so great, that the Committee recommends that special steps should be taken to arrange a conference between the responsible officials of the Postmaster-General's Department and the Treasury, in order to come to some arrangement whereby sufficient flexibility could be achieved to allow long-term contracts to be arranged for at least some of the more standard items of equipment which are required in great quantities.

38.

The equipment manufactured in Australia is proving most satisfactory and the Committee recommends that every encouragement be given to the Australian manufacturers to enlarge their plant with the object of ultimately supplying all the parts necessary for the automatic telephone exchanges in this country. This encouragement can only be given adequately if the Department is placed in a position to give assurance of continuity of orders to the companies concerned.

Staff to be Employed.

39. It is expected that the installation period will cover eighteen months and, during that period, some 150 men will be

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working for 12 months, and for the final 6 months of the installation about 100 men will be required.

The staff which will be required to maintain and operate the equipment at Batman after the cutover will be 90 technicians of various grades. They will not all be on duty at any one time, but the maximum number of staff that will be employed, in the exchange section, in the busiest portions of the day will not exceed 50.

Financial Aspect.

4C. Revenue and Financial Statement - The estimated revenue from the 3,500 lines to be connected to Batman Exchange at the date of opening, assumed November, 1950, is £293,800. Five years later the corresponding figures will be 8,000 and £361,600.

Financial Statement

	At Opening	At 5 years
Capital cost	£800,000	£850,000
Capital cost, new and in situ	1,310,540	1,515,280
Working expenses	50,955	62,955
Total annual charges	147,422	157,659
Revenue (set out above)	293,800	361,600

41. Cost of the building - Only the Basement, Ground Floor, First Floor and Second Floor are required for the telephone exchange, but it is represented that the building should be continued to the full height allowed in this part of the city, in order to make the most of such a valuable site in this busy area. It is also urgently necessary to provide office accommodation for staff of the Postmaster-General's Department who are at present scattered in various buildings for which a considerable amount of rent is paid annually, and it was represented that all the accommodation to be provided in both the Russell and the Batman Exchange buildings will be immediately required for this purpose.

42. Cost of equipment and installation - In the estimate the cost of equipment and line construction amounted to over half a million pounds, and the Committee took evidence from the officers responsible for this section of the project in order to ascertain the necessity for the expenditure, and also to establish that due regard had been paid to economy in providing the items comprising the details of the estimate.

43.

The Committee found that the provisions made are the result of co-ordination between the various technical officers of the Postmaster-General's Department and those of the Works and Housing Department concerned with the building. It is assured that every care has been taken to include only such equipment as is necessary for the efficient establishment of such an exchange, and it appears to the Committee that an equitable balance has been preserved between provision for efficient facilities in the future and economy in expenditure. It is realised, however, that estimates at the present time are necessarily unreliable, as substantial variations in costs make accuracy extremely difficult. It is pointed out, for instance, that an increase of 10% in wages has been made since these estimates were prepared, and the Committee therefore feels constrained to insist, as it did with regard to its inquiry into the Russell Exchange, that special steps should be taken by the Minister to review these figures during the time which must elapse before the work is carried out.

Conclusion.

44.

Having studied the plans, visited the site of the proposed building, and weighed the evidence received from the various witnesses the Committee is satisfied that there is urgent need for the Batman Exchange, and that the proposals have been carefully prepared with a view to supplying the City with efficient service at the earliest possible moment. The creation of a comprehensive plan for the whole City is a wise course to adopt, and the present proposals form an effective section of that plan. The Committee recommends, therefore, that the establishment of the exchange be approved as soon as possible.

45.

The Committee believes that the building is suitable for such an exchange and that the office accommodation, included in the upper floors, is urgently required at the present time. It is therefore recommended that the building be erected in accordance with the plans submitted to the Committee, with the exception that amendment shall be made to eliminate that section of the upper floors which is cantilevered over the footpath, and that part of the basement projecting below the footpath.