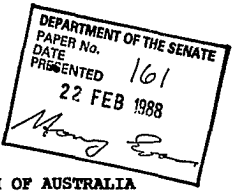

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REPORT
relating to
CONSTRUCTION OF NEW TELEPHONE EXCHANGE BUILDING
AT CHARLOTTE STREET, BRISBANE

(First Report of 1988)

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(First Report of 1988)

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

(Twenty-Ninth Committee)

Mr Colin Hollis, MP (Chairman)
Mr Percival Clarence Millar, MP (Vice-Chairman)

Senate	House of Representatives
Senator Bryant Robert Burns	Mr Maxwell Arthur Burr, MP
Senator John Robert Devereux	Mr George Gear, MP
Senator Dr Glenister Sheil	Mr Robert George Halverson, OBE, MP
	Mr John Graham Mountford, MP

EXTRACT FROM THE
VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES
NO. 16 DATED MONDAY, 26 OCTOBER 1987

9 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - CONSTRUCTION OF NEW TELEPHONE EXCHANGE BUILDING, CHARLOTTE STREET, BRISBANE: Mr West (Minister for Administrative Services), pursuant to notice, moved - That, in accordance with the provisions of the Public Works Committee Act 1969, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for consideration and report: Construction of new telephone exchange building at Charlotte Street, Brisbane.

Mr West presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

CONTENTS

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

CONSTRUCTION OF NEW TELEPHONE EXCHANGE BUILDING AT CHARLOTTE STREET, BRISBANE

R E P O R T

By resolution on 26 October 1987 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the construction of new telephone exchange building at Charlotte Street, Brisbane.

THE REFERENCE

1 The work proposed in this reference involves the construction of a multi-storey telephone exchange building in Charlotte Street, Brisbane, Queensland. The proposed building, to be known as Charlotte Exchange, will provide for local customer requirements in the southern sector of the Central Business District (CBD). It will also support a wide variety of telecommunications services and provide accommodation for new equipment and other network facilities serving the CBD and the remainder of Queensland.

2 The project comprises:

- site demolition;
- a thirteen level building construction of basement, ground floor, first floor office and amenities, eight equipment floors, plant floor and roof area;

- building fitout, but not telecommunications equipment, and

- partial retention and refurbishment of an historically significant building on the site.

3 The estimated cost of the proposed work when referred to the Committee in October 1987 was $20 million at July 1987 prices.

THE COMMITTEE'S INVESTIGATION

4 The Committee received written submissions and plans from Telecom Australia (Telecom) and the Department of Administrative Services (Construction Group) (DAS) and took evidence from their representatives at a public hearing held in Brisbane on 1 December 1987.

5 The Committee also received a submission and took evidence from a representative of WFM Motors and Asty Pty Ltd.

6 Prior to the hearing the Committee inspected the proposed site in Charlotte Street and visited the Edison Exchange to view equipment similar to that which would be installed in the proposed exchange.

7 A list of witnesses who appeared at the public hearing is at Appendix A.

8 The Committee's proceedings will be printed as Minutes of Evidence.

TELEPHONE EXCHANGES IN BRISBANE

Edison Exchange

9 The seven equipment floor Edison Exchange was built in the early 1960s and is the major CBD exchange. As well as servicing southern sector customers, it is the centre of the network of 'crossbar' telephone exchanges which were installed state-wide from 1960-80. This network should remain in service for at least 10 years and it is planned that Edison should continue to provide this service.

Spring Hill Exchange

10 The Spring Hill Exchange is a three-storey building which serves the northern CBD as a local exchange. It also acts as a transit switching centre in the Digital Telephoning network. However, the building capacity will only allow for growth in the surrounding service area until approximately the year 2005.

Roma Street Exchange

11 The Roma Street Exchange is being developed in leased accommodation in the Brisbane Transit Centre. It will provide approximately 4 000 telephone lines to the western CBD and provide short term relief to Edison. Its future development will be restricted to network requirements consistent with the limited leased space available.

Woolloongabba Exchange

12 The Woolloongabba Exchange, which was completed in the mid-1970s, is located outside the CBD on the southern side of the Brisbane River. Although no CBD customers are directly connected to Woolloongabba for telephone services, it is the centre of all of the modern trunk transmission systems and the centre of

Telecom's modern business services such as Integrated Services Digital Network (ISDN) and Dedicated Digital Network (DDN) for the CBD. Although all floors at this exchange are in use, it is planned to relocate non-equipment uses and thus progressively develop the building to approximately the year 2005.

Central Exchange

13 The Central Exchange is located in Elizabeth Street and was built in the 1920s. It presently provides storage, office type accommodation and training areas for Telecom employees. The building presently does not meet fire code requirements. Refurbishment would involve substantial costs which would outweigh its future use. Telecom is therefore considering possible disposal.

THE NEED

14 In addition to providing for telephone growth in the southern sector, Telecom advised the Committee that accommodation will be necessary from 1990 until beyond the year 2005 for new communication networks and facilities.

15 These new networks and facilities are described below:

MAJOR NEW COMMUNICATION NETWORK AND FACILITIES

Dedicated Digital Network

16 The major installation of Dedicated Digital Network (DDN) equipment for the State is currently located at the Woolloongabba Exchange. With the availability of Charlotte Exchange growth will be shared by these two exchanges. Installation of DDN plant is planned to occur as soon as the exchange is available.

Packet Switching Network (AUSTPAC)

17 Accommodation for Packet Switching Equipment for the CBD and the State is currently located at Woolloongabba Exchange. It is reaching capacity and further units are planned to be located in the proposed Charlotte Exchange as soon as it is available. Together, these two exchanges will provide for growth in this service.

Special Services Network

18 Currently this service is being provided from a number of exchanges in the Brisbane area. The space allocation in the Charlotte Exchange is predicted to meet the needs of this service.

Long Line (Transmission and Wideband Switching) Equipment

19 Provision has been made for Long Line and Wideband Switching Equipment to connect the telephone and special networks equipment in the building with digital transmission systems. Sufficient capacity will be available in Charlotte Exchange to meet forecast needs.

Integrated Services Digital Network

20 Initial accommodation for this service will be provided at Woolloongabba. However it is planned that Charlotte Exchange will become the major installation to serve the CBD and the metropolitan area. The space allocation in the Charlotte Exchange is expected to meet the forecast needs of this service. This would also include wide band ISDN requirements.

21 Additional accommodation is required for equipment to provide other functions such as: Common Channel Signalling, Digital Point-to-Multi-point Radio, Electronic Funds Transfer,

Intelligent Switching Equipment, Facsimile, Local Area Networks, Mobile Cellular Radio, Telefile, Telemeter, Teletex, Videotex (VIATEL), Wideband Services and Programme Lines.

22 All of these systems relate mainly to commercial clients in the CBD. It is therefore important to provide the major links and interface equipment in a central location in order to minimise equipment and materials required to provide the connections to customers.

23 The necessary scope for these facilities cannot be provided in the existing buildings in the CBD. This, together with telephone growth in the southern sector, indicates that a new exchange will be required in this sector by 1990.

Committee's Conclusion

24 A need exists to accommodate new special network facilities as well as to provide for telephone growth in the southern sector of the Brisbane CBD.

THE PROPOSAL

25 It is proposed to construct a new building at 20-26 Charlotte Street, Brisbane.

26 The proposed telephone exchange involves:

- basement, ground floor, first floor office, amenities, eight equipment floors, and plant floors;
- building fitout, but not telecommunications equipment;
- site demolition, and

- partial retention and refurbishment of the historically significant 'John Reid & Nephews' building on site.

The Site

27 The site in Charlotte Street covers 1714 m^2. There are three existing buildings on the site. Two of these buildings, the 'Rank Xerox' and 'That Gallery' will be demolished. The third building, The 'John Reid & Nephews' building, will be partially retained and it is currently being considered for listing on the Register of the National Estate.

The 'John Reid & Nephews' Building

28 The 'John Reid & Nephews' building is a two-storey building built circa 1913. The facade is executed entirely in face brickwork except for cement render copings on the parapet and cement lettering in a decorative style spelling out the name of the firm.

29 It is proposed to preserve the front portion of this building. Telecom advised that it will cost approximately $400 000 to underpin the front of the building, demolish and remove materials where the front nine metres will be reconstructed and to fitout the preserved nine metres in a contemporary manner.

30 Telecom proposes to allow the Postal Telecommunications Historical Society of Queensland to utilise the area provided by the refurbishment as its headquarters and museum display.

31 It is proposed that existing timber beams, columns and roof trusses be re-used where practical. Exposed brick walls, metal roof and timber floors will comprise the building fabric.

Planning Objectives

32 The functional requirements of Telecom Australia and recognition of the building's relationship with its historical surroundings have resulted in adoption of the following planning objectives:

- a functional secure building not requiring public areas;
- a conventional building, easily constructed;
- a cost effective, low maintenance building;
- a flexible building for future equipment changes;
- a low profile image within the existing surroundings, and
- compatibility with historic surroundings.

Planning Concepts

33 The exchange functions require a medium rise building which has been determined by:

- Telecom's area needs;
- town planning requirements;
- access and security requirements, and
- retention of The 'John Reid & Newphews' building.

34 The building will contain basement, ground floor, office and amenities floor, eight telecommunications equipment floors, plant floor, and roof plant area including satellite dish antennae area. These functional areas result in a simple plan configuration of equipment floors with service core on one perimeter wall, with telecommunications cable risers and cable entry chamber on the opposite perimeter wall.

35 The equipment floors will be at ground, and at floors two to nine, which will provide approximately 660 m^2 per floor. A computer flooring system will also be provided on the third floor for specialised telecommunications equipment.

perimeter wall, with telecommunications cable risers and cable entry chamber on the opposite perimeter wall.

35 The equipment floors will be at ground, and at floors two to nine, which will provide approximately 660 m^2 per floor. A computer flooring system will also be provided on the third floor for specialised telecommunications equipment.

36 The service core will provide lifts, fire stairs, staff amenities, mechanical and electrical plant rooms, and also will service the building plant and machinery levels on floor ten and rooftop. Facilities for disabled personnel will be at floor one. Building access from the ground floor to the upper floors will be via lifts.

37 All access will be controlled for security reasons with entry via a forecourt to Charlotte Street and vehicular access via Stereo Lane to basement parking for fifteen vehicles.

38 The building will comply with all relevant statutes, codes and regulations.

Design Concept

39 The building design evolved out of functional, cityscape and streetscape considerations. The functional criteria encompassed telecommunications equipment sizes, area relationships, energy efficiency, constructability and security requirements. Cityscape considerations were the Town Plan, scale and massing relationships with adjacent buildings, plus visual relationships with nearby parks and pedestrian routes. Streetscape considerations centred on the adjacent historic buildings, continuity of Charlotte Street visual unity, and compatibility of materials, colours and textures at street level.

40 The design solution arising from these needs expresses the internal technical function of the building and utilises materials, colour and fenestration to harmonise with the local environment.

Amenities and Staffing

41 Amenities will be provided in accordance with Local Government requirements and the Telecom Guideline 'Provision of Amenities in Telecom Australia Buildings'. These guidelines are endorsed by all relevant staff associations.

42 A lunch and recreation room will be provided on the first floor. Up to 70 of the approximated 103 staff will be able to use this facility at any one time. Separate tea making facilities will be provided on all staffed levels.

43 Although Telecom identified the first floor for 'future growth space for communications equipment', it assured the Committee that it is not intended to impinge on the lunch/recreation area. However, if this were to occur in the future, Telecom stressed that an acceptable alternative to accommodate the staff facilities would be provided.

44 Male and female toilet facilities will be provided at each level. A unisex toilet will be provided at the basement and at the tenth floor plant level for plant maintenance staff. Male and female shower facilities will be provided at first floor level for use by exchange staff and at the tenth floor plant level for plant maintenance staff.

Facilities for the Disabled

45 Special entry facilities to the building will be provided. A unisex toilet facility designed for use by the disabled will be provided on the first floor. Vertical travel throughout the building will be by lift.

Vehicle Access

46 Vehicle entry will be off Charlotte Street via Stereo Lane to the rear of the building, and then through into the basement. Stereo Lane will be widened to allow dual carriageway for cars and single carriageway for heavy rigid vehicles. Alternative single standard vehicle access is proposed via a laneway from Elizabeth Street over which Telecom holds access rights. Telecom does not anticipate using this laneway except for emergency access.

Security

47 Telecom provided the Committee with an 'In-Confidence' paper on the security aspects of the proposal. These include measures to control the entry of personnel and vehicles with emphasis being placed on the need to deal efficiently with visitors and contractors needing access to the building. The level of security will be similar to that applying to other telephone exchanges.

Committee's Conclusion

48 The proposed Charlotte Street telephone exchange will provide for telephone growth in the southern sector of the CBD as well as provide accommodation for new special network facilities in the exchange area, the CBD and throughout the State network generally from 1990 until beyond the year 2005.

ENVIRONMENTAL CONSIDERATIONS

49 The Department of Arts, Sports, the Environment, Tourism and Territories has advised that this project requires neither a public environment report nor an environmental impact statement in order to satisfy the object of the Environment Protection (Impact of Proposals) Act 1974.

50 The Committee notes that although prior discussions had taken place, the Department received Telecom's Notice of Intent after the work had been referred to the Committee. The Committee believes that formal environmental clearance should be obtained prior to referral of a project.

CONSULTATIONS

51 Telecom advised the Committee that the proposal had been discussed with relevant staff associations in accordance with Telecom Consultative Council agreements and the Associations' reactions had been favourable. Further consultations will take place when the final fitting out of each floor is being developed.

52 The Australian Heritage Commission, although preferring conservation of a substantial nine-metre deep portion of the 'John Reid & Nephews' building, has agreed that conservation will be confined to the facade.

53 The Brisbane City Council requested that a portion of the site adjacent to Stereo Lane be dedicated to forming a pedestrian laneway which will link Charlotte and Elizabeth Streets. Telecom has agreed to this.

54 Telecom contacted adjacent building owners in relation to the project. A representative of WFM Motors & Asty Pty Ltd expressed certain concerns about the project particularly in relation to an easement at the rear of the proposed building. Although Telecom considered the use of that easement for cable and for a water main, it is now planned to run conduits up Charlotte Street and not down the easement.

55 Although Telecom had considered the possibility of running a water main into the site from Elizabeth Street, the site will be serviced by a main from Charlotte Street. The main from

Elizabeth street had been considered as a duplicate service. Discussions are continuing with WFM Motors & Asty Pty Ltd regarding the Elizabeth Street main. However, this main is not essential for the proposed building.

56 The proposal was also referred to the following:

- The National Trust of Australia;
- Queensland Government;
- South East Queensland Electricity Board;
- Insurance Council of Australia;
- Australian Council for Rehabilitation of Disabled (ACROD);
- Queensland (ACROD); and
- Disabled Peoples International.

57 No objections have been received from these organisations.

LIMIT OF COST

58 The limit of cost when referred to the Committee was $20 million at July 1987 prices.

Committee's Recommendation

59 The Committee recommends construction of the work in this reference.

CONCLUSIONS AND RECOMMENDATIONS

60 The conclusions and recommendations of the Committee and the paragraph in the report to which each refers are set out below:

		Paragraph
1.	A NEED EXISTS TO ACCOMMODATE NEW SPECIAL NETWORK FACILITIES AS WELL AS TO PROVIDE FOR TELEPHONE GROWTH IN THE SOUTHERN SECTOR OF THE BRISBANE CBD.	24
2.	THE PROPOSED CHARLOTTE STREET TELEPHONE EXCHANGE WILL PROVIDE FOR TELEPHONE GROWTH IN THE SOUTHERN SECTOR OF THE CBD AS WELL AS PROVIDE ACCOMMODATION FOR NEW SPECIAL NETWORK FACILITIES IN THE EXCHANGE AREA, THE CBD AND THROUGHOUT THE STATE NETWORK GENERALLY FROM 1990 UNTIL BEYOND THE YEAR 2005.	48
3.	THE LIMIT OF COST WHEN REFERRED TO THE COMMITTEE WAS $20 MILLION AT JULY 1987 PRICES.	58
4.	THE COMMITTEE RECOMMENDS CONSTRUCTION OF THE WORK IN THIS REFERENCE.	59

Colin Hollis
Chairman
Parliamentary Standing Committee on Public Works
Parliament House
CANBERRA ACT 2600

18 February 1988

APPENDIX A

LIST OF WITNESSES

Barrell, Mr T.F., Director, Construction Group, Queensland, Department of Administrative Services, 313 Adelaide Street, Brisbane, Queensland

Brigden, Mr W.F., Manager, Buildings Division, Headquarters, Telecom Australia, 333 Queen Street, Melbourne, Victoria

Conlin, Mr R.J., Manager, Planning Program and Project Branch, Building Division, Headquarters, Telecom Australia, 333 Queen Street, Melbourne, Victoria

Dunks, Mr P.A.F., Project Manager, Post and Telecom Construction Group, Queensland, Department of Administrative Services, 313 Adelaide Street, Brisbane, Queensland

Kelaher, Mr B.B., Property Officer, WFM Motors and Asty Pty Ltd, 16 Marlin Court, Palm Beach, Queensland

Paratz, Mr L.M., Superintending Engineer, Forward Planning Branch, Engineering Department, Queensland, Telecom Australia, Level 11, West Tower, Transit Centre, Roma Street, Brisbane, Queensland

SPACE ALLOCATION AND CONSTRUCTION DETAILS

SPACE ALLOCATION

1 The space allocation and equipment to be accommodated at each floor will be as follows:

Basement
Vehicular entry from Charlotte Street via Stereo Lane. A secondary security post, goods unloading area, for fifteen official vehicles, the cable chamber, store, pump room, electrical switch room and cable protection plant.

Ground Floor
Staff entry, the main security control post, the main distribution frames (copper and optical fibre), special services network, text services equipment and test desk.

First Floor
Office accommodation, PABX, a lunch/recreation area and general staff amenities. This floor is also identified as possible future growth space for communications equipment. Facilities for the disabled are also provided at this level.

Second Floor
Local customer and transit telephone exchange equipment, power and battery equipment, equipment for databases interfaces and access switching of the intelligent network, and mass calling network equipment.

Third Floor
Packet switching network transit and terminal equipment, electronic fund transfer equipment and power and battery equipment.

Fourth Floor
The dedicated digital network and power and battery equipment.

Fifth Floor
Trunk and junction termination equipment, protection switching devices, trunk inter-connection equipment, wideband switching equipment, multiplexer equipment and power and battery equipment.

Sixth Floor
Integrated services digital network No. 1 (ISDN) equipment and broadband ISDN equipment together with power and battery equipment.

Seventh Floor
Integrated services digital network (ISDN) No. 2 equipment. This area will also provide accommodation for new product equipment and new customer facilities. Power and battery equipment is also provided.

Eighth Floor
Mobile services equipment including cellular radio, and space for new product equipment and power and battery equipment.

Ninth Floor
CBD radio equipment and space for satellite equipment, new product equipment and power and battery equipment.

Tenth Floor Plant Level
Air conditioning plant, chiller sets, pumps, emergency diesel generators, air compressors, building engineering services workshop and a passenger lift motor room.

Roof
Cooling towers, water tank, goods lift motor room, generating set radiators, mounting provision for satellite dishes and CBD radio antennae.

CONSTRUCTION DETAILS

Building Materials

2 The structure will be a simple reinforced concrete column, beam and slab system which will require pad footings and bored piers to depths of some twelve metres below existing ground with reinforced concrete basement and underpinning to adjoining buildings. The service core and shear walls of reinforced concrete will provide the stiffness required for external wind forces.

3 The building will be clad externally with precast concrete units containing small recessed double glazed windows to equipment areas and prefinished metal panelling to the rooftop screen wall. The ground and first floor levels will be clad with brickwork using detailing and relief for compatibility with adjacent historic buildings.

4 Internal low maintenance finishes will meet Telecom's functional needs and utilise vinyl tile floor coverings with painted internal walls and concrete slab soffits. All equipment levels will be fitted out with partitions, limited computer floor areas, suspended ceilings and task lighting.

5 The conventional design structure has been selected for ease of construction and will not require any special techniques.

Mechanical Services and Energy Conservation

6 Air conditioning will be required to maintain the temperature and humidity conditions necessary for telecommunications equipment functioning, office areas and staff amenities. The system envisaged will have a central chiller plant at floor ten and separate air handling units at each level of the building. These units will also be supplemented by incrementally installed air handling units in the telecommunications equipment areas as equipment is progressively installed and heat loads grow.

7 This staged capacity approach will also occur with a two chiller initial installation capable of being extended to four for ultimate heat loads. Similarly two cooling towers of an ultimate series of four are proposed at rooftop level. Cooling tower design and location will minimise the development of conditions conducive to the existence of legionnella bacteria.

8 Exhaust ventilation will be provided from carpark, cable chamber, ablution areas, electrical substations, and plant areas.

9 The air conditioning system will incorporate conservation measures by use of an outside air economy cycle system with computerised energy management control systems to operate mechanical services at maximum efficiency. External heat loads to the building will be minimised by limited sizing of windows together with double glazing.

Electrical Services

10 The electrical distribution system has been designed for progressive installation over the life of the building as loads

demand. The initial construction includes distribution equipment on four floors of the building with space provided for similar equipment on the other floors when loads demand. Power will be distributed at high voltage in the interests of energy efficiency and will be fed from mains supply via the basement main switchboard.

11 Emergency power will be provided by two emergency generator sets on floor ten, and space is available for two additional generators when loads demand. The essential supply needed for operations, safety and control equipment will be provided on an uninterrupted basis from battery and charging systems.

12 Normal light and power provisions will be provided to all areas of the building, together with an emergency warning and communication system for personnel evacuation. Emergency lighting is planned for all operational areas, and a comprehensive lightning protection and earthing system is incorporated.

13 An electronic security system will be provided to control access to both the building and the equipment rooms.

Fire Protection

14 Fire protection measures will include an early warning alarm system to equipment areas, a sprinkler system throughout, with hydrants, hose reels and portable extinguishers at appropriate locations. The fire escape stairs in the service core will be pressurised upon alarm to preclude smoke entry.

Lifts

15 Three lifts will be provided, two for personnel movement between basement and floor nine and a 2.7 tonne capacity goods lift for materials handling between basement and floor ten plant level.

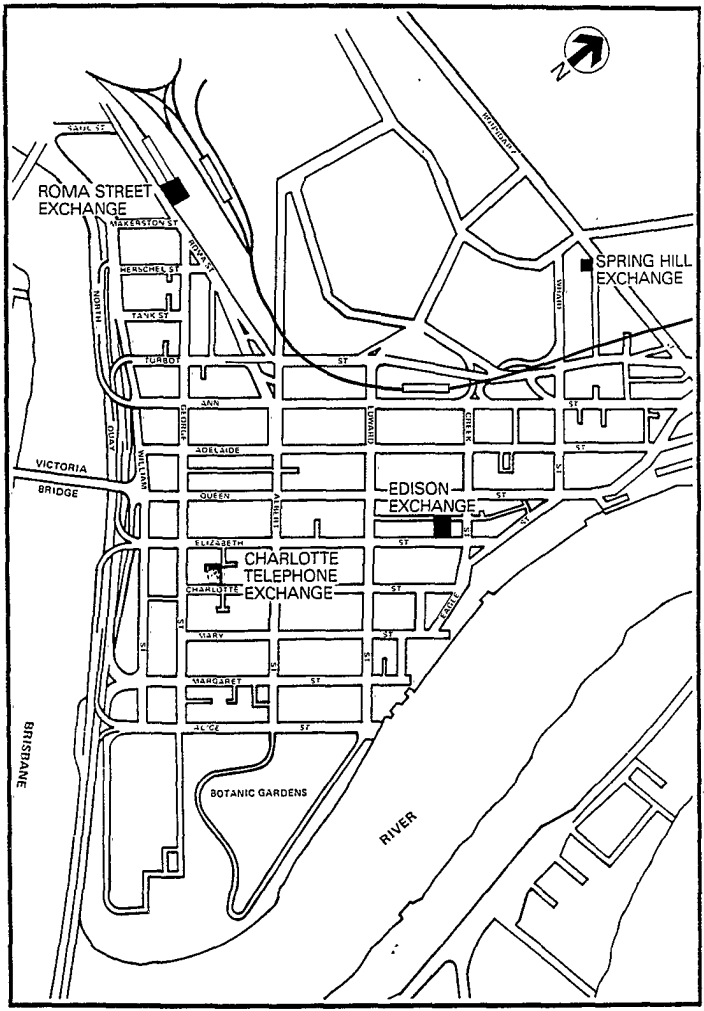
Hydraulic and Civil Works

16 Adequate water, sewerage and drainage systems service the site and those lines presently traversing it will be diverted to the perimeter. Hydraulic services in the building will include hot and cold water supply to ablutions and amenities areas with refrigerated drinking water units provided. All ablution areas will be connected to the sewerage system.

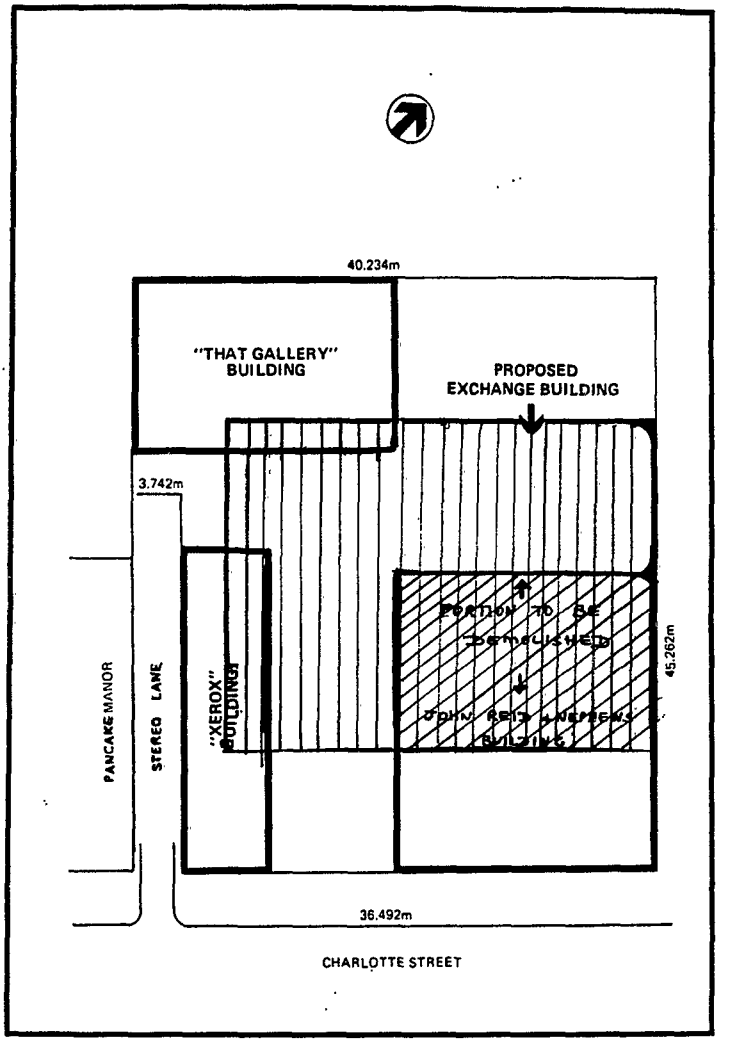
17 Makeup water storage for the air conditioning cooling towers will be provided at roof level and an emergency supply for this purpose will be reticulated from Elizabeth Street.

18 Vehicular access is available off Charlotte Street via Stereo Lane. Vehicle manoeuvring and carpark dimensioning will comply with local authority requirements and the access will be secured by both fencing, gates and security access boom gate.

APPENDIX C



LOCALITY PLAN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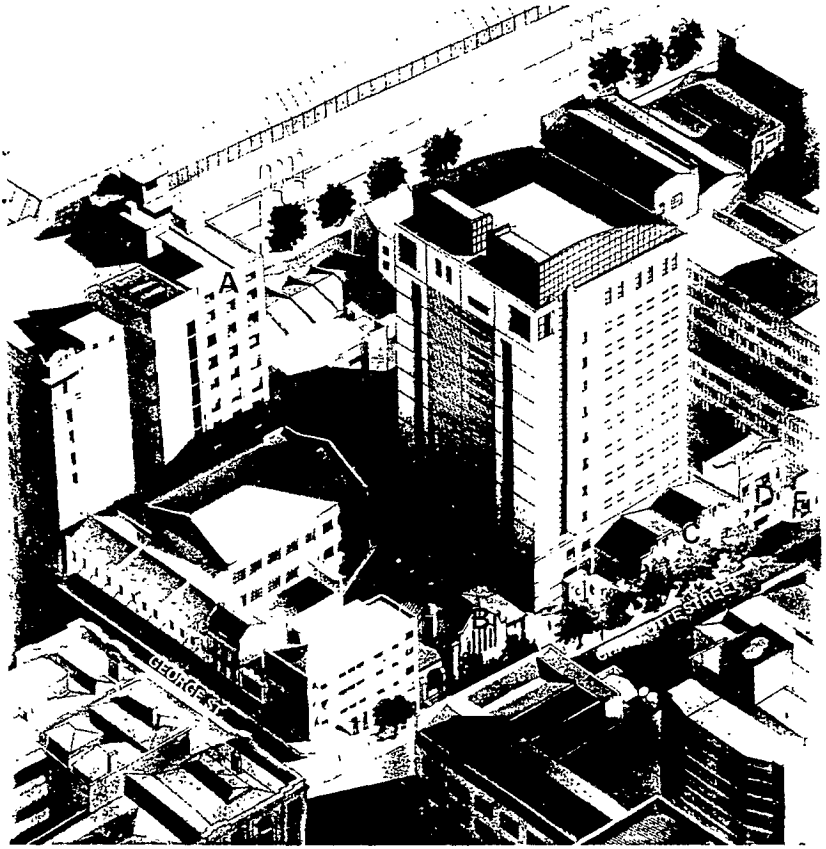
"THAT GALLERY" BUILDING
PROPOSED EXCHANGE BUILDING
3.742m
PANCAKE MANOR
STERED LANE
"XEROX" BUILDING
PORTION TO BE DEMOLISHED
JOHN REID & WEBERS BUILDING
45.262m
36.492m
CHARLOTTE STREET

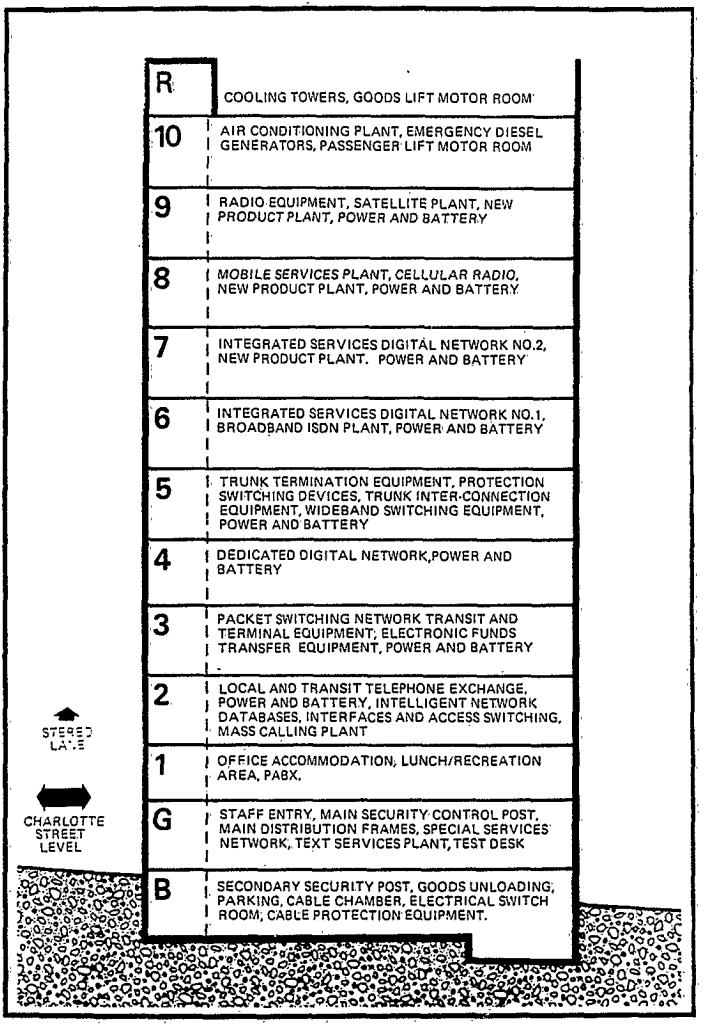
SITE PLAN

(C-2)



A – STATE GOVERNMENT OFFICES
B – ST. LUKE'S CHURCH
C – JOHN REID & NEPHEWS BUILDING
C,D,E – CHARLOTTE STREET GROUP

AERIAL PERSPECTIVE SHOWING PROPOSED BUILDING



DIAGRAMMATIC SECTION BUILDING OCCUPANCY