Queensland

ANNO VICESIMO QUARTO

ELIZABETHAE SECUNDAE REGINAE

No. 11 of 1975

An Act to prescribe standard By-laws for Local Authorities in respect of the erection of buildings and other structures, to prescribe the powers of Local Authorities in relation to certain buildings and other structures, and consequentially to amend the Local Government Act 1936–1974 and the City of Brisbane Town Planning Act 1964–1974 each in certain particulars and for related purposes

[ASSENTED TO 15TH MAY, 1975]

BE IT ENACTED by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Assembly of Queensland in Parliament assembled, and by the authority of the same, as follows:—

PART I—PRELIMINARY

1. Citation. This Act may be cited as the *Building Act* 1975.

2. Commencement of Act. Subject to section 7, the Governor may by Proclamation—

(a) appoint a date on which this Act shall come into operation; or

(b) appoint dates on which the provisions of this Act specified in the Proclamation shall come into operation.

Such dates may be appointed in the one or in different Proclamations.

This Act or a provision thereof specified in the Proclamation shall come into operation on the date appointed by Proclamation made under this section for the coming into operation of this Act or, as the case may be, that provision.

3. Arrangement of Act. This Act is divided into Parts and a Schedule as follows:—

PART I—PRELIMINARY (ss. 1–5);

PART II—STANDARD BUILDING BY-LAWS (ss. 6–14);

PART III—APPOINTMENT OF REFEREES (ss. 15–20);

PART IV—BUILDING ADVISORY COMMITTEE (ss. 21–30);

PART V—OBJECTIONS AND APPEALS AGAINST LOCAL AUTHORITIES' DECISIONS (ss. 31–49);

Division I—Objections Against Local Authorities' Decisions;

Division II—Appeals Against Referees' Determinations;

Division III—Appeals Against Committee's Decisions;

Division IV—Regulation of Proceedings under Act;

PART VI—REGULATORY POWERS OF LOCAL AUTHORITY (ss. 50–63);

PART VII—GENERAL PROVISIONS (ss. 64–67);

PART VIII—AMENDMENT OF LEGISLATION (ss. 68–75);

SCHEDULE.

4. Crown to be bound. (1) The provisions of this Act save such provisions as relate to—

(a) the requirement to make application to a Local Authority for its approval of the erection of a building or other structure; or

(b) the classification of buildings under the Standard Building By-laws so far as that classification regulates the use to be made of such buildings,

extend to and bind the Crown in right of the State, subject to the following provisions of this section.

(2) The erection on behalf of the Crown of a building or other structure shall not be unlawful by reason only of the absence of an approval thereof by a Local Authority.

(3) In the event of a dispute between a Department of Government or other person or body that represents the Crown and a Local Authority touching any matter to which this Act relates the dispute shall not be a matter to which Part V applies but either party to the dispute may refer the matter to the Minister

The Minister shall cause to be made such investigation into the matter as he thinks fit and shall report thereon to the Governor in Council.

(4) Upon receipt of a report of the Minister under subsection (3) the Governor in Council shall determine the matter in dispute and his determination shall be notified in writing to the parties to the dispute, shall be final and binding and shall be given effect to by all persons concerned.

5. Interpretation. In this Act, save where a contrary intention appears—

"Area" means the district in which a Local Authority has jurisdiction and any place under the control of the Local Authority outside the boundaries of that district;

" building " means a fixed structure that is wholly or partly enclosed by walls and is roofed and includes any part of a building;

" by-law " includes a by-law made by a Local Authority and an ordinance made by Brisbane City Council;

" Committee " means the Building Advisory Committee constituted under Part IV;

" Director " means the Director of Local Government for the State and includes any person who at the material time performs the duties of the Director;

" erect " includes

(a) erect or commence or continue to erect;

(b) do or commence or continue to do work in the course of or for the purpose of erecting;

(c) perform any structural work or make or do any alteration, addition or rebuilding;

(d) move from one position on an allotment to another position on the same allotment or on another allotment or partly on the same and partly on another allotment;

(e) re-erect, with or without alteration, on or partly on the same or another allotment;

(f) where a building or other structure is located on more than one allotment—

(i) move to another position on the same allotments or any of them or on another allotment or other allotments or partly on the same allotments or any of them and partly on another allotment or other allotments;

(ii) re-erect with or without alteration on another position on the same allotments or any of them or on another allotment or other allotments or partly on the same allotments or any of them and partly on another allotment or other allotments;

" Local Authority " means a Local Authority or Joint Local Authority constituted under the *Local Government Act* 1936–1974 and includes—

(a) any person who at the material time is to be deemed to be a Local Authority pursuant to that Act;

(b) Brisbane City Council constituted under the *City of Brisbane Act* 1924–1974;

(c) any person or persons to whom are delegated any of the powers, authorities, duties and discretions had by a Local Authority;

" Minister " means the Minister for Local Government and Main Roads or other Minister of the Crown who at the material time is charged with the administration of this Act and includes any person who at the material time is performing the duties of the Minister;

" owner " in relation to any land, building or other structure, includes any person having an estate or interest therein, or the occupier thereof, or any person who is a registered mortgagee or registered encumbrancee in respect thereof;

" structure " includes a wall or fence and anything that is affixed to or projecting from a building, wall, fence or other structure.

PART II—STANDARD BUILDING BY-LAWS

6. Schedule prescribes Standard Building By-laws. (1) The by-laws set forth in the schedule, as amended from time to time, are the Standard Building By-laws of the State.

(2) Subject to any modification thereof duly made, the Standard Building By-laws shall have force and effect in every Area, on and from the coming into operation of the schedule.

(3) The Standard Building By-laws having force and effect in any Area, whether as enacted in the schedule or as duly amended, or duly modified in relation to any Area, shall be administered by the Local Authority having jurisdiction in that Area as if they were by-laws duly made by that Local Authority.

7. Postponement of operation of schedule. The date appointed by the Governor for the coming into operation of the schedule shall be a date not earlier than six months after the passing of this Act.

8. Amendment of Standard Building By-laws. (1) The Governor in Council may, by Order in Council, amend the Standard Building By-laws in such manner as he thinks fit and every amendment so made shall have force and effect (unless it is disallowed according to law) as if it had been made by Parliament and shall become and be part of the schedule.

An amendment may be made under this section—

to repeal a by-law or any part thereof;

to substitute a new by-law or provision for any repealed by-law or provision;

to add a by-law or provision;

to vary a by-law;

to effect any other purpose that the Governor in Council thinks desirable.

(2) An amendment of the Standard Building By-laws shall not be made under this section where it is intended that the amendment to be effected thereby is to have force and effect in one or some only of the Areas within the State.

9. Modification of Standard Building By-laws. (1) Where the Governor in Council is satisfied that the Standard Building By-laws having force and effect within any Area should be modified he may, by Order in Council, modify those by-laws in such manner as he thinks fit and until the Order in Council is revoked or a further modification to those by-laws is duly made in respect of that Area the Standard Building By-laws shall have force and effect in that Area as so modified.

A modification of the Standard Building By-laws may be made for such purpose as is permitted by section 8 in relation to an amendment of those by-laws under that section and may be limited in its application as to any Area or locality or otherwise as to time, place or circumstance as is specified in the Order in Council whereby it is made.

(2) A modification made under this section shall not have the effect of amending the Standard Building By-laws as enacted in the schedule for the time being.

10. Amendments and modifications may be made at any time. An amendment or modification of the Standard Building By-laws may be made at any time after the passing of this Act notwithstanding that the schedule thereto has not then come into operation and upon the coming into operation of the schedule such amendment or modification shall have force and effect according to its terms and the provisions of this Part.

11. Inconsistent by-law inoperative. Upon and by reason of the coming into operation within any Area of a provision of the Standard Building By-laws with which any provision of a by-law of the Local Authority having jurisdiction in that Area is inconsistent such last-mentioned provision shall be and remain inoperative for as long as such firstmentioned provision continues to have force and effect within the Area either as enacted by this Act or as amended or modified under this Act.

12. Application of Acts Interpretation Act. The provisions of the *Acts Interpretation Act* 1954–1971 apply in relation to an amendment or modification made under this Act to the Standard Building By-laws as if such amendment or modification effected a repeal or amendment of those by-laws by Act of Parliament.

13. Transitional provisions. (1) A building or other structure that was lawfully erected before the coming into operation of the Standard Building By-laws shall not cease to be lawfully erected by reason of its not conforming in any respect with any provision of those by-laws.

(2) Where—

(a) the lawful erection of a building or other structure had commenced before the coming into operation of the Standard Building By-laws; or

(b) approval of a Local Authority to the erection of a building or other structure had been granted before the coming into operation of the Standard Building By-laws but such erection had not commenced before such coming into operation; or

(c) approval of a Local Authority to the erection of a building or other structure had been duly sought before the coming into operation of the Standard Building By-laws but the application for such approval had not been disposed of before such coming into operation; or

(d) planning for the erection of a building or other structure had commenced before the coming into operation of the Standard Building By-laws and the Local Authority having jurisdiction in the Area where the building or structure is to be erected

is of the opinion that to require the erection to be re-planned so as to conform with those by-laws would cause hardship to the person for whom the building or structure is to be erected having regard to—

(i) the stage the planning has reached;

(ii) the nature of the building or structure;

(iii) the means and circumstances of that person,

or any one or more of such matters,

it shall be lawful for the erection of the building or structure to be carried out or completed or for the approval of the Local Authority to be granted, as the case may be, subject to and in accordance with the law in force and applicable in the Area in question in respect of the erection of the building or structure in question at the material time before the coming into operation of those by-laws.

(3) The erection of an alteration of or addition to a building or other structure that was erected before the coming into operation of the Standard Building By-laws shall conform with the provisions of those by-laws save where, in the opinion of the Local Authority having jurisdiction in the Area wherein the building or structure is located, the general safety and structural standards of the building or structure would not be impaired by the erection thereof otherwise in which case it shall be lawful for the approval of the Local Authority to be granted otherwise than in accordance with those by-laws and for the erection to be carried out in accordance with such approval but otherwise than in conformity with those by-laws.

(4) Where approval of a Local Authority is sought to the erection of an alteration of or addition to a building or other structure that was erected before the coming into operation of the Standard Building By-laws and in the opinion of the Local Authority the building or structure is unsafe or structurally unsound the Local Authority may require, as a condition of its approval of the erection, that the whole building or structure be brought into conformity with those by-laws or (if the Local Authority thinks fit) with such of the provisions of those by-laws as will ensure that the building or structure is made safe and structurally sound.

(5) Where before the commencement of this Part an appeal has been duly brought against a Local Authority's decision pursuant to section 20A of the *City of Brisbane Town Planning Act* 1964–1974 or section 33 (16A) of the *Local Government Act* 1936–1974 and

(a) that appeal remains to be completed at the date of such commencement; or

(b) that appeal is determined after the date of such commencement so as to permit the erection of a building or other structure,

then, in the case referred to in provision (a), the appeal may be proceeded with and completed as if this Act had not been passed and, in the case referred to in provision (b), the determination made in the appeal may be given effect as if this Act had not been passed.

14. Provisions to effectuate s. 13. (1) For the purpose of effectually applying the provisions of section 13 (2) and (3), by-laws in force in an Area immediately before the coming into operation in that Area of the Standard Building By-laws shall be deemed to continue to be operative notwithstanding their inconsistency in any respect with a provision of the Standard Building By-laws.

(2) The provisions of section 13 shall apply not only in relation to the initial coming into operation of the Standard Building By-laws within an Area but also in relation to the coming into operation of those by-laws as duly amended or as duly modified in respect of that Area from time to time and for that purpose the expression " the coming into operation of the Standard Building By-laws " shall be construed to include reference to the coming into operation of those by-laws as so duly amended or modified at the material time.

PART III—APPOINTMENT OF REFEREES

15. Appointment of referees. (1) The Minister may, by notification published in the Gazette, appoint such number of persons (qualified as prescribed) as he thinks necessary to be referees for the purposes of this Act.

(2) A referee may be appointed in respect of the whole of the State or in respect of any portion thereof and the extent of his appointment shall be specified in the notification of his appointment.

(3) The jurisdiction of a referee for the purposes of this Act may be exercised by him within the State or within the portion thereof specified in such notification, according to the terms of his appointment.

16. Qualification of referee. (1) A person is qualified to be a referee if he is—

(a) an architect registered in accordance with the *Architects Act* 1962–1971; or

(b) a professional engineer registered in accordance with the *Professional Engineers Act* 1929–1973 in the division of Civil Engineering; or

(c) the holder of a current certificate of competency as an Engineer issued under the Local Authority Engineers and Overseers of Works Regulations made pursuant to the *Local Government Act* 1936–1974; or

(d) registered as a builder under the *Builders' Registration Act* 1971–1973,

and he is not a member of the Committee.

(2) An officer of the Department of Local Government or of any other department of the Public Service of the State may be appointed as a referee, if he is otherwise qualified as prescribed, and may hold that appointment in conjunction with any other appointment he holds in the Public Service.

17. Term of referee's appointment. (1) A person may be appointed as referee for any term not exceeding three years as the Minister thinks fit.

The term of appointment shall be specified in the notification of appointment.

A referee, if he remains qualified as prescribed, is eligible for re-appointment.

(2) A referee may at any time—

(a) resign his appointment as such by writing under his hand given to the Minister;

(b) be removed from his appointment as such by writing under the hand of the Minister given to him.

18. Remuneration of referee. A referee shall be paid such remuneration as may be prescribed.

19. Referee to make declaration. A person appointed as a referee shall make and subscribe before a justice of the peace a declaration in the prescribed form, before he enters upon the duties of his appointment.

A referee, having made such declaration, shall forthwith send the same to the Director.

20. Function of referee. (1) Subject to this Act, it is the function of a referee nominated by the Director under section 33 to determine an objection against a Local Authority's decision and to make his determination with all reasonable despatch.

(2) A referee shall not act as such with respect to an objection—

(a) that concerns any building or other structure of which he is the owner or a part owner, or for which he is the architect, engineer, planner or builder, or in which he has directly or indirectly a specific interest; or

(b) that concerns any building or other structure that is to be situated or is situated in the Area of a Local Authority of which he is a member.

PART IV—BUILDING ADVISORY COMMITTEE

21. Constitution of Committee. There shall be constituted from time to time, for the purposes of this Act, a committee to be called the Building Advisory Committee.

22. Membership of Committee. The Committee shall consist of the following members:—

(a) a representative of the Department of Local Government (who shall be chairman) nominated by the Minister for Local Government and Main Roads;

(b) a representative of The Queensland Housing Commission nominated by the Minister for Works and Housing;

(c) a representative of the Department of Works nominated by the Minister for Works and Housing;

(d) a representative of the State Fire Services Council nominated by the Minister for Industrial Development, Labour Relations and Consumer Affairs;

(e) a representative of Local Authorities nominated by the executive committee of the Local Government Association of Queensland;

(f) a representative of Brisbane City Council nominated by that council;

(g) a representative of the Royal Australian Institute of Architects (Queensland Chapter) nominated by that chapter;

(h) a representative of the Queensland Master Builders Association nominated by that association;

(i) a representative of the Institution of Engineers, Australia (Queensland Division) nominated by that division; and

(j) a representative of the Building Industry Sub-Contractors Organization of Queensland nominated by that organization.

23. Appointment of members of Committee. (1) Every member of the Committee shall be appointed by the Governor in Council by notification published in the Gazette.

(2) An officer of the Public Service of the State may be appointed as a member of the Committee and may hold that appointment in conjunction with any other appointment he holds in the Public Service.

(3) At least one month before the date when the Committee is to be constituted or re-constituted the Minister shall cause notice in writing to be given to each person (other than himself) or body that is entitled, pursuant to section 22, to nominate a person to be a member of the Committee and shall therein specify a date and shall require such person or body to furnish him, before the specified date, with a nomination of a person to be appointed as a member of the Committee.

If, by the specified date, one or more of the persons and bodies entitled to do so has not furnished the Minister with a nomination for appointment, the members of the Committee may nevertheless be appointed from persons who have been duly nominated and, in addition, the Governor in Council may appoint any person as if he had been nominated by a person or body entitled to make a nomination and who has failed to duly so do, and the Committee so constituted shall be taken to have been duly constituted or re-constituted, as the case may be.

(4) The Committee shall be taken to be constituted upon the publication in the Gazette of notification of the appointment of its members.

24. Term of Appointment of Committee member. (1) A person may be appointed as a member of the Committee for any term not exceeding three years as the Governor in Council thinks fit.

The term of appointment shall be specified in the notification of appointment.

A member of the Committee shall be eligible for re-appointment.

(2) A member of the Committee may at any time—

(a) resign his appointment as such by writing under his hand given to the Minister;

(b) be removed from his appointment as such by writing under the hand of the Minister given to him at the direction of the Governor in Council.

25. Casual vacancies. (1) When a vacancy occurs in the office of a member of the Committee before the expiration of his term of appointment the Governor in Council may, by notification published in the Gazette, appoint another person (duly nominated) thereto.

Unless he sooner resigns or is removed from his office as prescribed, a person appointed to fill such a casual vacancy shall hold office until the time when his predecessor's term of appointment would have expired.

(2) Where the vacancy has occurred in the office of a member nominated by a person or body other than the Minister, the Minister (if the vacancy is to be filled) shall cause notice to be given to the person or body who nominated the member in whose office the vacancy has occurred and shall therein specify a date and shall require such person or body to furnish him, before the specified date, with a nomination of a person to be appointed to fill the vacancy.

If such person or body fails to comply with the Minister's requisition before the specified date the Governor in Council may appoint any person as representative of that person or body as if he had been duly nominated.

26. Appointment of deputy members. (1) If it appears to any member of the Committee that he will be unable to adequately discharge his functions under this Act for any period he may, in writing, inform the Minister of that fact whereupon the Minister may, in writing, call upon the person or body who nominated that member to nominate to him another person for appointment as a deputy member of the Committee until that member is again able to adequately discharge such functions.

(2) Upon receipt of a nomination by the Minister the Governor in Council may, by notification published in the Gazette, appoint such nominee as a deputy member of the Committee.

(3) The term of appointment of a deputy member shall not be specified in his appointment, but shall be until the member in whose stead he is appointed a deputy member notifies the Minister in writing that he is again able to adequately discharge his functions under this Act or until the Committee is re-constituted, whichever event first occurs.

(4) A deputy member shall, for as long as his appointment subsists, be taken to be a duly appointed member of the Committee.

(5) A deputy member appointed in the stead of the member who is chairman of the Committee shall, for as long as his appointment subsists, be taken to be the chairman of the Committee.

27. Functions of Committee. The Committee—

(a) shall consider and decide appeals brought under section 37;

(b) shall consider and advise the Minister on such matters as the Minister may refer to it from time to time;

(c) may initiate and refer to the Minister recommendations for amendment or modification of the Standard Building By-laws of the State;

(d) may initiate consideration of and inform the Minister on matters touching the administration of this Act.

28. Remuneration of Committee. A member of the Committee shall be paid such remuneration as may be prescribed.

29. Proceedings of Committee. (1) All business of the Committee shall be conducted by a quorum at the least, which shall consist of five members.

(2) The Committee shall meet at such times and places as it determines and shall conduct its business in such manner as is prescribed or, in so far as it is not prescribed, as it determines from time to time.

(3) The chairman of the Committee shall preside at all meetings of the Committee at which he is present and, in his absence from any meeting, the members present shall elect from their number a member who shall preside at that meeting.

(4) The person who presides at a meeting of the Committee shall have a deliberative vote and, in the event of an equality of votes on any matter on which more than three members have voted, shall have a casting vote.

(5) A proceeding of the Committee shall not be invalidated by reason of a defect in the appointment of a member or a deputy member or by reason of a vacancy in the membership of the Committee.

30. Appointment of officers to assist Committee. (1) The Governor in Council may, from time to time, by notification published in the Gazette, appoint a secretary to the Committee and such other officers as he thinks necessary for the effectual discharge of the Committee's functions.

(2) An officer of the Public Service of the State may be appointed under subsection (1) or may be assigned to perform duties on behalf of the Committee and may hold such appointment or perform such duties in conjunction with any other appointment he holds in the Public Service.

(3) The secretary and other officers appointed or assigned as such under this section shall be paid such remuneration as may be prescribed but, in the case of an officer of the Public Service who holds the appointment or assignment in conjunction with any other appointment he holds in the Public Service, only upon the recommendation of the Public Service Board.

PART V—OBJECTIONS AND APPEALS AGAINST LOCAL AUTHORITIES' DECISIONS

Division I—Objections Against Local Authorities' Decisions

31. Objection to decision under Standard Building By-laws. (1) Subject to this Act an applicant to a Local Authority for approval to the erection of any building or other structure who is dissatisfied with the Local Authority's decision on his application may object against such decision to a referee appointed under Part III.

(2) The provisions of subsection (1) apply whether the application in question was made to the Local Authority under the Standard Building By-laws or under the law in force prior to the coming into operation of those by-laws.

32. Institution of objection. (1) An objection pursuant to section 31 shall be instituted within 30 days after the date of the receipt by the applicant of the notice informing him of the Local Authority's decision against which the objection is to be made, and not later, by—

(a) lodging a notice of objection, duly completed, together with the prescribed fee, with the secretary to the Committee; and

(b) giving a copy of the notice of objection to the Clerk of the Local Authority to whose decision the objection relates.

(2) A notice of objection—

(a) shall specify the grounds on which the objector is dissatisfied with or aggrieved by the decision to which it relates and the facts and circumstances relied on by him in support of those grounds; and

(b) if a form thereof is prescribed, shall be in or to the effect of that form.

(3) Where it is prescribed that a Local Authority shall make its decision on an application for an approval referred to in section 31 (1) within a prescribed time and a Local Authority to whom such an application is made—

(a) fails to make its decision on the application within the prescribed time; or

(b) fails to inform the applicant of its decision (whenever made),

it shall be deemed, for the purpose of instituting an objection, that the Local Authority has refused the application and an objection may be made pursuant to section 31 at any time after the expiration of the prescribed time.

This subsection shall be applied so that where an applicant is informed of an actual refusal by a Local Authority of his application or is informed of any other decision of a Local Authority on his application the time allowed by subsection (1) to such applicant within which to institute an objection against the refusal or other decision shall not be advanced or shortened.

33. Nomination of referee. (1) Upon receipt by him of a notice of objection the secretary to the Committee shall refer the matter of the objection to the Director who shall thereupon, by writing under his hand, nominate a referee appointed under Part III to determine the objection.

If the referee for the time being nominated to determine an objection is or becomes unable to enter upon or to complete the determination of the objection the Director may nominate another referee appointed under Part III to determine the objection.

(2) The secretary to the Committee—

(a) shall give to the referee nominated the original of his nomination by the Director and the notice of objection or, if the notice is not readily available, a copy thereof;

(b) shall give to each of them, the objector and the Clerk of the Local Authority against whose decision the objection is made, a copy of the nomination of the referee who is to determine the objection.

34. Duty of referee. (1) As soon as is practicable after receipt by him of his nomination by the Director to be the referee to determine an objection and of the relevant notice of objection, or a copy thereof, the referee shall appoint a time and place when and where he proposes to enter upon the determination and shall cause notice in writing of such time and place to be given to each of them, the objector and the Clerk of the Local Authority against whose decision the objection is made.

(2) Before he determines any objection the referee shall receive such representations thereon as are made to him, in accordance with this Act, by or on behalf of the objector and the Local Authority.

(3) If at the time and place appointed by the referee under subsection (1) or at any time and place to which he adjourns a proceeding under section 35 there is no appearance by or on behalf of the objector or the Local Authority (as permitted by section 49) it shall be taken that the party who does not so appear does not wish to make any representations on the matter of the objection and the referee may proceed to determine the objection without further reference to that party.

35. Powers of referee. Upon his entering upon the determination of an objection a referee—

(a) may adjourn the proceeding to such time and place certain as he thinks necessary to a proper consideration and determination of the objection;

(b) may reverse the Local Authority's decision or vary the same in such manner and to such extent as he thinks fit;

(c) may dismiss the objection.

36. Determination of referee. (1) Upon his determining an objection the referee shall give written notification of his determination—

(a) to the objector;

(b) to the Clerk of the Local Authority against whose decision the objection was made; and

(c) to the secretary to the Committee.

(2) If by his determination of an objection a referee reverses or varies the decision of a Local Authority against which the objection was made, the determination shall take effect upon the expiration of the period allowed by this Act within which an appeal against it may be duly instituted as if it were the decision of the Local Authority in respect of the application to which that decision relates and, subject to the right of appeal conferred by this Act, shall be final and binding on the objector and the Local Authority.

Where an appeal against the referee's determination is duly instituted the effect of the determination shall abide the outcome of the appeal.

Division II—Appeals Against Referees' Determinations

37. Appeal to Committee against referee's determination. Subject to this Act, an objector who or a Local Authority that is aggrieved by the determination of a referee on an objection made under section 31 may appeal against such determination to the Committee.

38. Institution of appeal. (1) An appeal pursuant to section 37 shall be instituted within 30 days after the referee's determination against which the appeal is to be brought first comes to the knowledge of the appellant, and not later, by—

(a) lodging a notice of appeal, duly completed, together with the prescribed fee, with the secretary to the Committee; and

(b) giving a copy of the notice of appeal—

(i) in the case of an appeal instituted by an objector, to the Clerk of the Local Authority against whose decision was made the objection that has led to such appeal;

(ii) in the case of an appeal instituted by or on behalf of a Local Authority, to the objector.

(2) A notice of appeal—

(a) shall specify the grounds of appeal and the facts and circumstances relied on by the appellant in support of those grounds; and

(b) if a form thereof is prescribed, shall be in or to the effect of that form.

39. Duty of Committee. (1) As soon as is practicable after receipt by him of a notice of appeal, the secretary to the Committee, after consultation with the chairman of the Committee, shall appoint a time and place when and where the Committee will consider the matter of the appeal and shall give notice in writing of such time and place to the appellant and to any other person or body, as the case may be, who was party to the proceeding before the referee against whose determination the appeal is brought.

(2) At the time and place so appointed the Committee shall (if a quorum be present) enter upon consideration of the matter of the appeal and, before it decides such appeal, shall receive such representations thereon as are made to it, in accordance with this Act, by or on behalf of the appellant and such party.

(3) If at the time and place appointed under subsection (1) or at any time and place to which the appeal is adjourned under section 40 there is no appearance by or on behalf of the appellant or such party (as permitted by section 49) it shall be taken that the party who does not so appear does not wish to make any representations on the matter of the appeal and the Committee may proceed to decide the appeal without further reference to that party.

40. Powers of Committee. Upon its entering upon consideration of an appeal the Committee—

(a) may adjourn the proceeding to such time and place certain as it considers necessary to a proper consideration and decision of the appeal;

(b) shall be competent to give its decision on the appeal notwithstanding—

(i) that a change or vacancy in its membership has occurred since the time of its entering upon such consideration;

(ii) that no more than three of its members have attended at all times when the matter of the appeal has been considered;

(c) may confirm, or vary in such manner and to such extent as it thinks fit, the determination against which the appeal is brought;

(d) may quash the determination against which the appeal is brought.

41. Decision of Committee. (1) When the Committee has decided an appeal the secretary to the Committee shall give written notification of the decision—

(a) to the appellant; and

(b) to any person or body, as the case may be, who was party to the proceeding before the referee against whose determination the appeal was brought.

(2) The decision of the Committee on an appeal brought against a determination of a referee on an objection shall take effect upon the expiration of the period allowed by this Act within which an appeal against it may be duly instituted and, subject to the right of appeal conferred by this Act shall be final and binding on the objector and the Local Authority against whose decision the objection in question was made and on any other person who is affected thereby.

Where an appeal against the Committee's decision is duly instituted the effect of the decision shall abide the outcome of the appeal and any further decision of the Committee made as a result thereof.

(3) Where, by reason of The Local Government Court's remission of any matter to the Committee pursuant to section 45, the Committee makes a further decision on an appeal brought against a determination of a referee on an objection, that further decision shall take effect as the Committee's decision in lieu of any decision of the Committee previously made on that appeal.

(4) If, by a decision of the Committee, the determination of a referee upon an objection is varied the determination as so varied shall be deemed to be the determination of the referee and shall take effect accordingly as prescribed.

Division III—Appeals against Committee's Decisions

42. Appeal to Local Government Court. (1) Subject to this Act, any person who or Local Authority that is aggrieved by a decision of the Committee on an appeal brought against the determination of a referee on an objection may appeal against the decision to The Local Government Court constituted under the *City of Brisbane Town Planning Act* 1964–1974 on the ground of—

(a) want of jurisdiction in the Committee; or

(b) mistake or error of law by the Committee,

and on no other ground.

(2) Jurisdiction is hereby conferred on The Local Government Court to hear and determine every such appeal duly brought.

43. Procedure on appeals to Local Government Court. (1) Subject to this Act, an appeal pursuant to section 42 shall be instituted within the time prescribed by this Act but in all other respects shall be brought, heard and determined and any order made therein shall be enforced in accordance with the practice and procedure of The Local Government Court.

(2) The power to make rules of court conferred by section 33 of the *City of Brisbane Town Planning Act* 1964–1974 includes power to make such rules not inconsistent with this Act to govern the institution and conduct of appeals pursuant to section 42.

44. Institution of appeal. An appeal pursuant to section 42 shall be instituted within 30 days after the Committee's decision against which the appeal is to be brought first comes to the knowledge of the appellant and not later.

45. Powers of court on appeal. (1) Upon the determination of an appeal duly brought pursuant to section 42 The Local Government Court—

(a) may quash the decision of the Committee, *in toto* or *pro tanto*, as the case requires, where the appeal is on the ground of want of jurisdiction;

(b) may declare the law and remit the matter, the subject of the appeal, to the Committee with a direction that it make its decision according to law, where the appeal is on the ground of mistake or error of law; or

(c) may dismiss the appeal.

(2) Upon the application of a person or Local Authority affected by delay in prosecuting an appeal brought pursuant to section 42, or of its own motion, The Local Government Court may strike out the appeal and make such order as to the costs of the appeal as it thinks fit.

46. Appeal from decision of court. No appeal shall lie from a decision of The Local Government Court upon an appeal brought pursuant to section 42 save as prescribed with respect to decisions of that court by the *City of Brisbane Town Planning Act* 1964–1974 and the rules of that court and, subject thereto, every such decision shall be final and binding on the parties to the appeal and, where the case requires it, shall be given effect to by the Committee.

Division IV—Regulation of Proceedings under Act

47. Decisions and determinations reviewed only under Act. Save as is prescribed by this Act, no appeal lies from a Local Authority's decision of a kind referred to in section 31, or from a referee's determination on an objection brought against such a decision, or from a decision of the Committee or The Local Government Court made in relation thereto or in connexion therewith nor shall any such decision or determination be impeached for any informality or want of form or be reviewed, quashed or in any way called in question in any court.

48. Referee and Committee control own proceeding. A referee or the Committee shall not be bound by rules of evidence or of procedure or by any practice in relation thereto in the discharge of his or its function under this Act but may inform himself or itself and may conduct proceedings in such manner as he or it considers sufficient to allow a proper discharge of that function and, in particular, may refer to a person considered by him or it to be an expert any question that appears to him or it to be of a technical nature or otherwise to require expert opinion by way of assistance to him or it and may accept the written report of that person as evidence in the proceeding.

49. Representation of parties. (1) Subject to subsection (3), a party to any proceeding before a referee or the Committee—

(a) being a Local Authority or other incorporated person, may appear in that proceeding by its agent duly notified as prescribed;

(b) being a person other than one described in provision (a), may appear in that proceeding in person or by his agent duly notified as prescribed.

(2) Where any person proposes to appear in any proceeding by an agent he shall, at least three days before the date appointed for the commencement of the hearing, notify in writing the name, address and occupation of the agent—

(a) in the case of a proceeding that is to determine an objection made pursuant to section 31, to the referee nominated to determine the objection;

(b) in the case of a proceeding that is an appeal brought pursuant to section 37, to the secretary to the Committee.

(3) In no case shall any person be represented before a referee or the Committee by an agent who has a legal qualification under the laws of this State or of any other place or who is of the nature of a professional advocate.

(4) Where an agent appears on behalf of any party to a proceeding before a referee or the Committee it shall be conclusively presumed that he has sufficient authority to bind his principal in all matters concerned in or arising out of the proceeding.

(5) Contravention of any provision of this section shall not invalidate the taking of the proceeding in which or in relation to which the contravention occurs, or any determination or decision made therein.

PART VI—REGULATORY POWERS OF LOCAL AUTHORITY

50. Notice to cease erection without approval. (1) If it comes to the knowledge of a Local Authority that a building or other structure is being erected—

(a) without an approval required by the Standard Building By-laws having been obtained in respect thereof; or

(b) otherwise than in accordance with plans and specifications approved by the Local Authority in connexion with an application made for the purposes of the Standard Building By-laws,

the Local Authority may, by notice in writing, require the person to whom such notice is given to cease such erection.

(2) A notice given pursuant to subsection (1) shall be given to the owner of the land on which the building or other structure in question is being erected and to any person engaged in erecting the building or structure in question.

(3) A person to whom a notice referred to in subsection (1) is given who fails to comply with the notice commits an offence against this Act, which offence shall be taken to be a continuing offence, and is liable to a penalty of $50.00 for each day on which is performed work in connexion with the erection of the building or other structure to which the notice relates.

51. Lawful to perform emergency work. (1) Where, by reason of an emergency that endangers the life or health of any person, or the structural safety of any building or other structure, it becomes necessary to perform work in connexion with the erection of a building or other structure without an approval required by the Standard Building By-laws

having been obtained in respect thereof a person shall not be liable as for an offence on account of his performing or procuring to be performed such work if the person who performs such work gives to the Local Authority notice in writing of its commencement as soon as is practicable after its commencement.

(2) Subsection (1) does not apply in relation to work performed in connexion with the erection of a building or other structure in respect of which there exists a notice given under section 50.

(3) A person who, being required under the condition expressed in subsection (1) to give notice of the commencement of work in connexion with the erection of any building or other structure, fails to give such notice as prescribed commits an offence against this Act and is liable to a penalty of $100.00.

52. Demolition of buildings erected unlawfully. (1) If it comes to the knowledge of a Local Authority that any building or other structure has been erected—

(a) without an approval required by the Standard Building By-laws having been obtained in respect thereof; or

(b) otherwise than in accordance with plans and specifications approved by the Local Authority in connexion with an application made for the purposes of the Standard Building By-laws,

the Local Authority may, subject to section 54, by notice in writing, require the owner of the building or structure to perform such work on the building or structure as is necessary to bring the same into conformity with the Standard Building By-laws or, if in its opinion it is impossible to bring the same into such conformity, to demolish the same, in either case within the time specified in such notice.

(2) If the owner of a building or other structure to which a notice given under subsection (1) relates fails to comply with the notice the Local Authority may cause the building or structure to be demolished.

53. Demolition of building etc. dangerous, neglected or unfit for occupation. (1) If in the opinion of a Local Authority any building or other structure or any part thereof is dangerous, the Local Authority may, subject to section 54, by notice in writing, require the owner thereof—

(a) to shore-up or otherwise secure such building or structure or part and to erect a proper hoarding or fence for the protection of persons using any road, path or way upon which the building or structure abuts; or

(b) to demolish, take down, secure or repair the building or structure or part as the Local Authority directs,

in either case within the time specified in such notice.

(2) If in the opinion of a Local Authority any building or other structure is a ruin or so far dilapidated as to be unfit for use or occupation or is, from neglect or other cause, in a structural condition prejudicial

to the inhabitants of or to property in the neighbourhood, the Local Authority may, subject to section 54, by notice in writing, require the owner thereof—

(a) to demolish or repair the building or structure; or

(b) to fence the land on which the building or structure stands; or

(c) to repair any fence that encloses or is on the land on which the building or structure stands,

in any case within the time specified in such notice.

(3) If in the opinion of a Local Authority any building or other structure is in a filthy or dilapidated condition, or is infected or is suspected of being infected with disease, or is infested or is suspected of being infested with lice, bugs, rats or other vermin, or is improperly constructed, or from any other cause is unfit to be used or occupied, the Local Authority may, subject to section 54, by notice in writing, require the owner thereof—

(a) to demolish the building or structure; or

(b) to cleanse, purify, disinfect, repair or alter the building or structure so as to make it fit to be used or occupied,

in either case within the time specified in such notice.

(4) If an owner of a building or other structure to which a notice given to him pursuant to any provision of this section relates fails to comply with such notice then—

(a) the Local Authority may, itself, cause such steps to be taken and such things to be done as it has, by the notice, required the owner of the building or structure to take or do;

(b) the owner commits an offence against this Act and is liable to a penalty of $200.00.

If after his conviction of the offence defined in the preceding paragraph of this subsection an owner fails to comply with the notice given to him he thereby commits an offence against this Act which shall be taken to be a continuing offence for so long as the requirements of the notice are not satisfied and is liable to a penalty of $50.00 for each day during which his failure continues after such conviction and he may be prosecuted in respect of such continuing offence from time to time until his failure to comply is remedied but he shall not be punished more than once in respect of the same period.

54. Local Authority to give owner opportunity to show cause. (1) Before it gives a notice, which it is empowered to give under section 52 or 53, a Local Authority shall afford to the owner of the building or other structure in question an opportunity to show cause why the notice should not be given, by notifying the owner in writing of a day (being not earlier than 30 days after the giving of the notification), a time and place when and where he may show cause why the notice, which it is proposed to issue, should not be issued.

(2) Any person to whom a notification is given under subsection (1)—

(a) may appear at the day, time and place so notified and take such steps as are calculated to show the prescribed cause; or

(b) may endeavour to show the prescribed cause by writing furnished to the Clerk of the Local Authority concerned at any time before the time so notified.

55. Register of notices given. (1) A Local Authority shall make and keep a register of—

(a) all notices given by it under section 39 (5) or 39 (6) of the *Local Government Act* 1936–1974 before the commencement of this section, which are not complied with at such commencement; and

(b) all notices given by it under section 52 or 53.

(2) The register shall show, in respect of every such notice—

the purport of the notice;

the date on which the notice is given;

the Real Property Office description and postal address of the land on which is the building or other structure to which the notice relates;

the name and address of the owner to whom the notice is given; and

the extent (if any) to which the notice has been complied with.

(3) The register shall be open to inspection by the public.

56. Demolition or repair of building etc. made dangerous by act of nature. (1) If in the opinion of a Local Authority any building or other structure or any part thereof is, by reason of fire, flood, tempest or other act of nature, a danger to users of any road, path or way upon which the building or structure abuts the Local Authority—

(a) may, by notice in writing, require the owner thereof—

(i) to shore-up or otherwise secure such building or structure or part and to erect a proper hoarding or fence for the protection of persons using any such road, path or way; or

(ii) to demolish, take down, secure or repair such building or structure or part as the Local Authority directs,

in either case within the time specified in such notice; or

(b) may, itself, cause such steps to be taken and such things to be done as it could have required the owner of such building or structure to take and do by notice given pursuant to provision (a) of this subsection.

(2) A notice given pursuant to provision (a) of subsection (1) may specify different times within which the several requirements of the notice are to be complied with.

(3) If an owner of a building or other structure to which a notice given to him pursuant to subsection (1) relates fails to comply with such notice then—

(a) the Local Authority may, itself, cause such steps to be taken and such things to be done as it has, by the notice, required the owner of the building or structure to take or do;

(b) the owner commits an offence against this Act and is liable to a penalty of $200.00.

If after his conviction of the offence defined in the preceding paragraph of this subsection an owner fails to comply with the notice given to him he thereby commits an offence against this Act which shall be taken to be a continuing offence for so long as the requirements of the notice are not

satisfied and is liable to a penalty of $50.00 for each day during which his failure continues after such conviction and he may be prosecuted in respect of such continuing offence from time to time until his failure to comply is remedied but he shall not be punished more than once in respect of the same period.

57. Objection against Local Authority's notice. (1) A person to whom a notice is given pursuant to section 52, 53 or 56 may object to the giving of the notice or to any requirement of the notice.

(2) An objection pursuant to subsection (1) shall be made within 30 days after the giving of the notice and no later or, where a longer period is specified for that purpose in the notice, within that longer period and no later.

(3) An objection pursuant to subsection (1) shall be made to and be heard and determined by a referee as if it were an objection made pursuant to section 31 and such referee shall have and may exercise in respect of such an objection the jurisdiction conferred on him by Division I of Part V of this Act.

(4) Divisions II, III and IV of Part V of this Act shall apply in respect of a determination of a referee on an objection made under this section and in respect of a decision of the Committee on an appeal brought in respect of such a determination as if the determination were a determination on an objection made pursuant to section 31 or, as the case may be, the decision were a decision on an appeal brought pursuant to section 37.

58. Effect of referee's determination. Where, by his determination on an objection pursuant to section 57 (1), a referee—

(a) allows the objection (being one made against the giving of a notice) *in toto* the notice to which the objection relates shall thereupon be of no further effect;

(b) allows the objection and thereby varies any requirement of the notice to which the objection relates the notice shall thereafter take effect as if the requirement as so varied were contained in the notice in lieu of the requirement actually specified therein by the Local Authority.

59. Disposal of building material and recovery of costs by Local Authority. (1) Where a Local Authority takes any step which it may lawfully take to secure compliance with a notice given by it pursuant to section 52, 53 or 56, it may—

(a) take possession of any building material or any other property resulting from the taking of such step; and

(b) dispose of such material and property by public auction or by public tender.

(2) A Local Authority that sells material or other property pursuant to subsection (1) shall appropriate the proceeds of such sale as follows:—

(a) firstly, in payment of the expenses of such sale;

(b) secondly, in payment of its costs and expenses duly incurred in or with a view to securing compliance with the notice given by it pursuant to section 52, 53 or 56 and whereby it became possessed of the material or other property sold;

(c) thirdly, in payment of all rates and charges due, at the time of such appropriation, to the Local Authority by the owner of the building or other structure to which the notice given pursuant to section 52, 53 or 56 related together with all interest payable on such rates and charges;

(d) fourthly, in payment of all moneys due, at the time of such appropriation, to the Crown or to any Crown instrumentality by the owner of the building or other structure to which the notice given pursuant to section 52, 53 or 56 related and of which the Local Authority, at that time has notice together with all interest payable on such moneys; and

(e) lastly, in payment to the owner of the building or other structure to which the notice given pursuant to section 52, 53 or 56 related of all such proceeds remaining unappropriated in the hands of the Local Authority.

(3) If the proceeds of a sale of materials or other property referred to in subsection (1) are insufficient to cover the costs and expenses referred to in provisions (a) and (b) of subsection (2) or if for any other reason the costs and expenses incurred by a Local Authority in or with a view to securing compliance with a notice given by it pursuant to section 52, 53 or 56 are not re-imbursed to the Local Authority the Local Authority may recover from the owner of the building or other structure to which the notice given pursuant to section 52, 53 or 56 related such costs and expenses, or, as the case may be, such part thereof as have not been re-imbursed to the Local Authority, by way of action in a court of competent jurisdiction for a debt due and owing by the owner to the Local Authority.

(4) If a Local Authority that has taken steps to secure compliance with a notice given under section 52, 53 or 56 has made demand on the owner of the building or other structure to which the notice related for payment of its costs and expenses incurred in or with a view to securing such compliance or of any part thereof and such demand remains unsatisfied for a period of three years from the date of its being made the Local Authority may realize the amount thereof outstanding, by sale of the land on which stood the building or other structure as provided by the *Local Government Act* 1936–1974 with respect to the sale of land for arrears of rates (with such adaptations of the provisions of that Act as the case may require) and shall deal with the proceeds of any such sale—

(a) firstly, in payment of the expenses of such sale;

(b) secondly, in satisfaction of the demand,

and thereafter in accordance with the directions and priorities prescribed by provisions (c), (d) and (e) of subsection (2).

(5) No claim shall be brought against a Local Authority or any of its officers or agents on account of damage to or loss of building material or other property suffered while such building material or other property is in the possession of the Local Authority, officer or agent in the circumstances referred to in subsection (1), save where such damage or loss is due to any wrongful act or negligence of the Local Authority, its officer or agent.

60. Removal of persons in buildings to be demolished. (1) If it is necessary or expedient to remove any person from a building or other structure, which is to be demolished, in whole or in part, by a Local Authority pursuant to any provision of this Act it shall be the duty of every member of the Police Force of Queensland—

(a) to comply with a request made on behalf of the Local Authority to remove such person; and

(b) to act in aid of an officer of the Local Authority in removing such person.

(2) For the purpose of removing any person from a building or other structure referred to in subsection (1)—

(a) any officer of the Local Authority concerned who is authorized in writing in that behalf by the Clerk of the Local Authority and any member of the Police Force of Queensland acting on a request of the Local Authority in that behalf may, without other authority than this Act, enter upon such building or other structure and all parts thereof and upon the land on which it stands; and

(b) any such officer and any such member of the Police Force may remove from such building or other structure all persons found therein, using such force as is reasonably necessary for the purpose.

61. Erection on impregnated land prohibited. (1) A person shall not erect a building or other structure on land that has been filled with matter impregnated with faecal, animal or vegetable matter, or on land upon which matter so impregnated has been deposited, unless such matter has been effectively removed or has been rendered or has become innocuous.

Penalty: $200.00.

(2) If after the expiration of 30 days from his conviction of the offence defined in subsection (1) a person suffers the building or other structure to remain erected in circumstances such that its erection in those circumstances would be a contravention of subsection (1) he commits an offence against this Act which shall be taken to be a continuing offence and is liable to a penalty of $50.00 for each day during which the building or other structure remains so erected and he may be prosecuted in respect of such continuing offence from time to time for as long as the offence continues but he shall not be punished more than once in respect of the same period.

62. Right of entry to remedy offence. Where a person who has erected a building or other structure on land in contravention of section 61 is not the owner of such land he shall, nevertheless, be entitled without other authority than this Act to enter upon such land, together with all necessary assistants and equipment, for the purpose of effectively removing all matter impregnated as prescribed by that section or of rendering the same innocuous.

63. Act extends to premises of gas supplier. Notwithstanding the provisions of any other Act the expression " building or other structure " used in this Act includes (save where a contrary intention appears) any building or other structure owned, occupied or used by a person or

body for the purpose of making, storing or supplying gas in any Area or for any purpose in connexion therewith and every Local Authority has and may exercise in respect of such building or other structure the powers and authorities which it could exercise pursuant to this Act were such building or other structure owned, occupied or used for any other purpose.

PART VII—GENERAL PROVISIONS

64. Provisions concerning notices under Act. (1) Any notice in writing required or permitted by this Act to be given by a Local Authority shall be made under the seal of the Local Authority by whom it is given and under the hand of its Clerk or its duly authorized delegate.

(2) Any notice in writing required or permitted by this Act to be given shall be sufficiently given if—

(a) it is served on the person to whom it is directed; or

(b) it is left at or sent by prepaid post letter to the address last known to the person by whom it is given or, where that person is a Local Authority, last known to its Clerk or its duly authorized delegate who caused the notice to be prepared, as the place of business or of residence of the person to whom it is directed.

65. Prosecution of offences. (1) A prosecution in respect of an offence against this Act (including any offence that consists of a breach of the Standard Building By-laws as enacted in the schedule or as duly amended or duly modified in relation to any Area) shall be by way of summary proceeding under the *Justices Act* 1886–1974 upon complaint laid within 12 months after the commission of the offence or within 6 months after the offence comes to the knowledge of the complainant, whichever period is the later to expire.

(2) A person who may lay a complaint in respect of an offence against this Act is a Local Authority or a person authorized in that behalf by a Local Authority.

(3) It shall not be necessary to prove the authority of the complainant in any proceeding in respect of an offence against this Act.

66. Liability for corporation's default. Where an offence against this Act is committed by a body corporate each member of the governing body of that body corporate shall be taken to have committed the offence and may be punished therefor accordingly, in addition to the body corporate, unless he proves that he had no knowledge of the commission of the offence or could not have prevented its commission by the exercise of reasonable diligence.

67. Regulations. (1) The Governor in Council may make regulations, not inconsistent with this Act, for or with respect to—

(a) the payment of remuneration to referees and members of the Committee;

(b) the form of declaration to be made and subscribed by a referee pursuant to this Act;

(c) fees payable for the purposes of this Act:

(d) all matters that may be convenient for the administration of this Act or that may be necessary or expedient to achieve the objects and purposes of this Act.

(2) Regulations may be made under this Act at any time after the passing of this Act.

(3) A regulation may be made to apply throughout the State or within any part or parts of the State and may be of general application or be limited as to time, place or circumstance prescribed therein.

PART VIII—AMENDMENT OF LEGISLATION

68. Citation of amended Acts. (1) The *Local Government Act* 1936–1974 as amended by this Part may be cited as the *Local Government Act* 1936–1975.

(2) The *City of Brisbane Town Planning Act* 1964–1974 as amended by this Part may be cited as the *City of Brisbane Town Planning Act* 1964–1975.

69. Amendment of s. 33 (16A) of Local Government Act. Section 33 of the *Local Government Act* 1936–1974 is amended by adding at the end of subsection (16A) the following paragraph:—

" This subsection does not apply to a decision, requisition or other act of authority in respect of which a right of objection is conferred by the *Building Act* 1975.".

70. Amendment of s. 35 of Local Government Act. Section 35 of the *Local Government Act* 1936–1974 is amended by adding at the end thereof the following subsection:—

" (26) **Cellars under roads to be kept in repair.** All vaults, arches and cellars under any road and all openings into such vaults, arches or cellars in the surface of any road and all cellar-heads, gratings, lights and coal-holes in the surface of any road and all landings, flags or stones of the road supporting any of the same shall be kept in good condition and repair by the owner of the building or other structure of which the same are a part or in connexion with which the same are used.

If the owner required by this subsection to keep any thing in good condition and repair fails to comply with this subsection the Local Authority may, upon giving to the owner at least 24 hours' notice of its intention so to do, cause all steps to be taken to put that thing in good condition and repair and the costs and expenses of the Local Authority in so doing shall be payable by the owner and may be recovered from him in any court of competent jursidiction as a debt due and owing by him to the Local Authority.".

71. Repeal of s. 39 of Local Government Act. (1) The *Local Government Act* 1936–1974 is amended by repealing section 39.

(2) Land that immediately before the commencement of this Part comprises a first-class section pursuant to a declaration made pursuant to subsection (5) of section 39 of the *Local Government Act* 1936–1974 shall, upon the commencement of this Part—

(a) where the land meets the requirements of By-law 5.8 of the Standard Building By-laws, be a primary fire zone;

(b) where the land meets the requirements of By-law 5.9 of the Standard Building By-laws, be a secondary fire zone,

and, in either case, Part 5 of those By-laws shall apply accordingly.

72. Repeal of s. 50 (6) of Local Government Act. Section 50 of the *Local Government Act* 1936–1974 is amended by omitting subsection (6).

73. Amendment of s. 20A of City of Brisbane Town Planning Act. Section 20A of the *City of Brisbane Town Planning Act* 1964–1974 is amended by adding at the end thereof the following paragraph:—

" This section does not apply to a decision, requisition or other act of authority in respect of which a right of objection is conferred by the *Building Act* 1975.".

74. Saving of existing appeals. Notwithstanding the amendments made to the *Local Government Act* 1936–1974 and to the *City of Brisbane Town Planning Act* 1964–1974 by sections 69 and 73 respectively The Local Government Court shall continue to have and may exercise the jurisdiction theretofore had by it in relation to any appeal duly made to it before the commencement of this Part.

75. Ordinance 801 of City of Brisbane Ordinances inoperative. (1) Ordinance 801 of the City of Brisbane Ordinances published in Government Gazette dated 1 January 1972 at pages 1 to 180, both inclusive, shall cease to be of any force or effect on and from the commencement of this Part.

(2) Land that immediately before the commencement of this Part comprises a first-class section pursuant to a declaration made pursuant to Ordinance 801 aforesaid shall, upon the commencement of this Part—

(a) where the land meets the requirements of By-law 5.8 of the Standard Building By-laws, be a primary fire zone;

(b) where the land meets the requirements of By-law 5.9 of the Standard Building By-laws, be a secondary fire zone,

and, in either case, Part 5 of those By-laws shall apply accordingly.

THE SCHEDULE [s. 6]

STANDARD BUILDING BY-LAWS 1975

DIVISION I—PRELIMINARY

PART 1—PRELIMINARY

1.1 Short Title. These By-laws may be cited as the "Standard Building By-laws 1975".

1.2 List of Contents. These By-laws are divided into Divisions and and Parts as follows:—

Interpretation

1.3 (1) **Definitions.** In these By-laws save where a contrary intention appears—

"Act" means the *Building Act* 1975.

"AS" means Australian Standard published by the Standards Association of Australia;

"adjoining owner" means an owner of land or premises adjoining the land or premises of a building owner;

"alteration", in relation to building, includes an addition or an extension to a building and "alter" and similar expressions shall be similarly construed;

"approved" means approved by the Local Authority;

"assembly building" means a building designed, constructed, or adapted for the assembly of persons for—

(a) civic, political, educational, transit, religious, social, or recreational purposes; or

(b) entertainment or amusement;

"automatic"—

(a) applied to a fire door, smoke door, or other member required to prevent or restrict the spread of fire or smoke through an opening, means designed to close automatically through operation of an approved heat-actuated or smoke-actuated device; and

(b) applied to a smoke-and-heat vent, means designed to open automatically through operation of an approved heat-actuated or fire-sensing device;

"awning" means an awning as defined in By-law 54.1;

"building" means a fixed structure that is wholly or partly enclosed by walls and is roofed and includes any part of a building;

"building owner" means the owner of the land or premises upon or in relation to which, building work is being or is to be carried out;

"building work" means work in the nature of—

(a) the erection, construction, underpinning, removal, alteration of, addition to, or demolition of, any building or other structure;

(b) the making of any excavation or filling for, or incidental to, the erection, construction, underpinning, removal, alteration of, addition to, or demolition of, any building or other structure,

but does not include work of a kind declared by these By-laws not to be building work for the purposes of these By-laws;

"by-law" includes a by-law made by a Local Authority and an ordinance made by Brisbane City Council;

"carport" means a carport as defined in By-law 54.3;

"closet fixture" means a water closet pan, sanitary pan, cesspit, or other receptacle for human excreta;

"combustible"—

(a) applied to a material, means combustible in accordance with AS A30, Fire Tests on Building Materials and Structures; and

(b) applied to construction or a part of a building, means constructed wholly or in part of materials that are combustible;

"construct" includes "erect";

"curtain wall" means a non-loadbearing external wall that is not a panel wall;

"dangerous material" means dangerous material as defined in By-law 53.4 (h);

"dwelling unit" means habitable rooms and other spaces used, or in the opinion of the Building Surveyor suitable to be used as a separate domicile;

"effective distance" means the effective distance as prescribed by subclause (4) of By-law 16.6;

"erect" includes—

(a) erect or commence or continue to erect;

(b) do, or commence or continue to do any work in the course of or for the purpose of erecting;

(c) perform any structural work or make any alteration, addition or rebuilding;

(d) move from one position on an allotment to another position on or partly on the same allotment or another allotment;

(e) re-erect with or without alteration on or partly on the same or another allotment; or

(f) where a building or other structure is located on more than one allotment—

(i) move to another position on the same allotments or any of them or to another allotment or allotments; or

(ii) re-erect with or without alteration on another position on the same allotments or any of them or on another allotment or allotments;

"exit" means an exit referred to in By-law 24.4;

"fire door" means a fire door as prescribed by By-law 21.1;

"fire main" means a water service pipe connected to a water supply and installed within a building or building site for fire-fighting purposes;

"fire-isolated passageway" means a corridor, hallway or the like, providing egress to or from a fire-isolated stairway or fire-isolated ramp or to a road or open space, and conforming with By-law 24.9;

"fire-isolated ramp" means a ramp within a fire-resisting enclosure, providing egress from a storey or space in the nature of a storey and conforming with By-law 24.10;

"fire-isolated stairway" means a stairway within a fire-resisting shaft which complies with the relevant provisions of Part 16;

"fire-resistance rating" means a fire-resistance grading or rating as determined in the Standard Fire Test;

"fire-resisting" applied to a structural member or other part of a building, means having the fire-resistance rating required for that structural member or other part;

"fire-resisting construction" means a building that meets the requirements of one of the types of construction prescribed by Part 16;

"fire shutter" means a fire shutter as prescribed by By-law 21.5;

"fire source feature" means a fire-source feature as defined in clause (1) of By-law 16.6;

"fire wall" means an internal wall that divides a storey or building into sections to resist the spread of fire;

"fire window" means a fire window as prescribed by By-law 21.4;

"fire-zone" means a primary or secondary fire-zone, as the case may be, for the purpose of Part 5 of these By-laws;

"flammable liquid" means flammable liquid as prescribed by By-law 53.4g;

"floor area" means—

(a) with respect to a storey—the gross area of that storey measured over the enclosing walls, if any, and such portions of the party walls as belong to that building; and

(b) with respect to a room—the gross area of the room measured within the finished surfaces of the walls, and includes the area occupied by any cupboards or other built-in furniture, fixtures, or fittings;

"foundation" means the ground which supports the building or structure;

"habitable room" means a room (other than a bathroom, laundry, water closet, or the like), that is designed, constructed or adapted for the activities normally associated with domestic living, and for this purpose—

(a) includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, sunroom, and the like; and

(b) * * * *

(ba) excludes, in addition to bathrooms, laundries, water closets, and the like, such rooms or spaces as food storage pantries, walk-in wardrobes, corridors, enclosed verandahs, hallways, lobbies, photographic darkrooms, clothes drying rooms and office spaces of a specialized nature occupied neither frequently nor for extended periods;

"hydrant" means a fire hydrant or plug connected to a fire main, or water main as the case requires, in a road;

"institutional building" means a building designed, constructed, or adapted as a clinic, convalescent home, hospital, infirmary, nursing home, sanatorium, asylum, pre-school centre, home or institute for orphans, poor, aged, sick, or physically or mentally handicapped persons, or similar institutions;

"kiosk" means a kiosk as prescribed by By-law 53.4d;

"laundry" means a room designed, constructed or adapted primarily for the washing of clothes or other laundering purposes;

"loadbearing" applied to a wall, a part of a wall, a shaft, or any similar member, means intended to support a vertical load additional to its own weight;

"Local Authority" means a Local Authority or Joint Local Authority constituted under the *Local Government Act* 1936–1974 and includes—

(a) any person who at the material time is to be deemed to be a Local Authority pursuant to that Act;

(b) Brisbane City Council constituted under the *City of Brisbane Act* 1924–1974,

(c) any person or persons to whom are delegated any of the powers, authorities, duties and discretions had by a Local Authority for the purposes of these By-laws;

"masonry" means stone, brick, terra-cotta block, concrete block, or other similar building units, or a combination thereof, assembled together unit by unit to form a wall, pier, chimney, or other part of a building;

"mezzanine" means that space within a room which space is situated between—

(a) an intermediate floor erected within the room; and

(b) the surface immediately above, which is a floor level, ceiling or roof, as the case may be,

where the area of the intermediate floor does not exceed one-third of the area of the room concerned and the smaller dimension of the intermediate floor is not greater than 4 m or one-third of the width of the room concerned, whichever is the less;

"multiple dwelling" means a building used, or in the opinion of the Building Surveyor suitable to be used for two or more dwelling units. The term includes home units, sole occupancy units, row houses, maisonettes, duplex houses, boarding houses, tenements and the like;

"non-combustible"—

(a) applied to a material, means not combustible in accordance with AS A30, Fire Tests on Building Materials and Structure; and

(b) applied to construction or a part of a building, means constructed wholly of materials that are non-combustible;

"opening" in relation to an external wall, means an opening as prescribed by By-law 22.2;

"open-deck parking station" means a parking station in which all parts of the parking storeys are cross-ventilated by means of permanently opened ventilation openings in not fewer than two opposite or approximately opposite sides, the openings in each case being no smaller in area than half the vertical area of the side concerned;

"open space" means a space on the site, open to the sky and connecting directly with a road;

"owner" in relation to any land, building or other structure, includes any person having an estate or interest therein, or the occupier thereof, or any person who is a registered mortgagee or registered encumbrancee in respect thereof;

"panel wall" means a non-loadbearing external wall, in frame or similar construction, that is wholly supported at each storey;

"partition wall" means—

(a) a non-loadbearing internal wall that does not extend beyond one storey of a building; or

(b) a non-loadbearing member resembling such a wall, as the case requires;

"party wall" means a wall built to separate two or more buildings, or a wall forming part of a building and built on the dividing line between adjoining premises for their common use;

"pre-school centre" means a building, other than a school, designed constructed, or adapted for the pre-school care or training of not fewer than six children;

"private garage" means a garage of a Class I building, or in relation to a building of another class, a single-storey garage which can accommodate not more than three motor vehicles;

"public corridor", "public hallway", or similar terms mean a corridor, hallway or the like which—

(i) serves as a means of egress from two or more sole-occupancy units to a required stairway or other required exit from the storey concerned; or

(ii) is required by these By-laws to be provided as a means of egress from any part of a storey to such a stairway or exit;

"public garage" means a garage which is neither a private garage nor a building designed, constructed or adapted for the servicing of vehicles, other than washing, cleaning or polishing;

"required" means required by these By-laws;

"rise" means the rise in storeys reckoned according to the provisions of By-law 17.1;

"SAA" means the Standards Association of Australia;

"school" includes a university, agricultural college, primary and secondary schools, teachers' training college, school of mines, theological college, or similar establishment designed, constructed, or adapted for primary, secondary, or tertiary education;

"self-closing" applied to a door or window means equipped with an approved device designed to bring the door or window to the fully closed and latched position after each manual opening;

"service station" means a garage which is not a private garage and which is designed, constructed or adapted for the servicing of vehicles, other than only washing, cleaning or polishing;

"shaft" means the walls and other parts of a building bounding a well or a vertical chute, duct, or similar passage, but not a chimney or like part of a building intended for the discharge of hot products of combustion;

"shop-front" means a shop-front as prescribed by By-law 53.4c;

"site" means the area of land upon which a building is built and the curtilage of the building as shown in a plan approved by the Local Authority under these By-laws;

"smoke door" means a smoke door as prescribed by By-law 21.3;

"sole occupancy unit" means a room or other portion of a building constructed, or adapted for occupation by one owner, lessee, tenant or other occupier to the exclusion of any other owner, lessee, tenant or other occupier. The unit may be occupied by one or more persons pursuant to a right or title, separate from the right or title under which adjacent portions of the building are occupied. The term applies to all classes of buildings;

"solid" applied to a wall, means without cavities, vertical cores or holes, or other voids, except those included within its individual masonry units;

"sprinkler system" means a system of water sprinklers within a building set to discharge automatically at a pre-determined temperature;

"stairway" includes the treads and risers of a flight of stairs and the landings between flights;

"Standard Fire Test" means the Fire-resistance Test of Structures set out in AS A30., Fire Tests on Building Materials and Structures;

"storey" means that space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but does not include—

(a) such a space in which the only use for which the space is designed, constructed, or adapted is for the accommodation of any one of the following, namely;

(i) lift shafts, stairways, or meter rooms; or

(ii) bathrooms, shower rooms, laundries, water closets, or other sanitary compartments; or

(iii) not more than three vehicles; or

(b) a mezzanine except as provided in clause (6) of By-law 17.1;

"storeys contained" means the number of storeys contained in a building reckoned according to the provisions of By-law 19.1;

"structural member" means a part of the structure of a building; and includes a footing, column, pier, wall, curtain wall, panel wall, spandre, parapet, partition wall, shaft, floor, roof, ceiling, stair, landing, ramp, or balcony, and any supporting part incorporated therewith;

"Town Planning Scheme" shall have the meaning assigned to it by the *Local Government Act* 1936–1974. The term also includes the Town Plan for the City of Brisbane approved for the time being pursuant to the provisions of the *City of Brisbane Town Planning Act* 1964–1974;

"walls" include—

(i) "external walls", being the outer walls of a building, not being party walls or common walls;

(ii) "common walls" being those walls common to adjoining buildings which are not party walls; and

(iii) "internal walls" being those walls of a building which are not external walls, common walls or party walls;

"window" means a window as prescribed by By-law 50.1.

(2) * * * *

(3) In these By-laws unless the contrary intention appears—

(a) language referring to an existing building in being shall be construed, with all necessary adaptations, for a proposed building, so that among other things—

(i) a reference to the owner of a building shall be construed as a reference to the person who, if the proposed building were then completed, would be its owner;

(ii) a reference to a structural member of certain materials shall be construed as a reference to a proposed structural member which, if erected as proposed, would be of those materials; and

(iii) a reference to the purpose of a building shall be construed as a reference to the purpose for which a proposed building is to be used on completion;

(b) a reference to a building shall be construed as a reference to an entire building or a portion of a building as the case requires;

(ba) abbreviations and symbols for units and multiples and sub-multiples of units have the meaning ascribed to them in AS 1155, Metric Units for Use in the Construction Industry.

Repeals and Savings

1.4 * * * *

1.5 Repairs to External Walls. Where for the repair of an external wall more than half its area must be renewed (whether because this part has fallen or must be taken down for any reason), the whole wall shall be brought into conformity with these By-laws as though it were a wall of a new building.

1.6 Alterations to Existing Buildings. (1) **Application of By-law.** This By-law shall apply wherever structural alterations are proposed for a building.

(2) **Certain Alterations not permissible.** The Local Authority shall not approve any structural alterations unless it is satisfied that those alterations—

(a) will not unduly reduce the existing level of fire protection afforded to persons accommodated in or resorting to the building;

(b) will not unduly reduce the existing level of resistance to fire of the building structure; and

(c) will not unduly reduce the existing safeguards against spread of fire to adjoining buildings.

(3) **Local Authority may require entire building to conform in some cases.** The Local Authority may require that the entire building shall be brought into conformity with these By-laws as though it were a new building if—

(a) the proposed alterations, together with any other structural alterations completed or approved within the previous three years, represent more than half the total volume of the original building, measured over the roof and the external walls; or

(b) the Local Authority considers that the safety of persons accommodated in or resorting to the building, or the risk of the spread of fire to adjoining buildings, so warrants.

(4) **Alterations associated with a change of use.** If structural alterations to a building are associated with a change of use from that of one class to that of another class, By-law 6.6 shall apply.

DIVISION II—GENERAL PROVISIONS

PART 2—LEGAL PROCEEDINGS AND NOTICES

* * * *

DIVISION II—GENERAL PROVISIONS

PART 3—ENFORCEMENT AND INSPECTIONS

3.1 (1) **Plans and Specifications. Copy to be kept on Site.** If approval is given by the Local Authority to any building work then the person who carries out the building work so approved shall, during the time the work is carried out, have available for inspection by the building surveyor on the site where the work is carried out and during the whole time the work is being carried out a certified legible copy of the approved plans, drawings and specifications for that building work.

(2) **Public may Inspect.** A person may with the consent of the owner or of the Local Authority inspect during office hours any site plan or other document preserved by the Local Authority.

3.2 (1) **Surveyor and Inspectors to be appointed by Local Authority.** For the purposes of these By-laws each Local Authority shall appoint a building surveyor and may appoint such number of building inspectors and other officers deemed necessary.

(2) **Officers to be paid by Local Authority.** The building surveyor, building inspectors, and any other officers appointed under clause (1) of this By-law shall be under the direction of the Local Authority and paid by the Local Authority.

(3) **Officers with private interests not to act.** If the building surveyor or building inspector or other officer appointed under this By-law has any private interest in the performance of any building work he shall not act in pursuance of these By-laws in respect of that building work but shall inform the Local Authority of his interest and the Local Authority shall thereupon appoint some other suitable person to act as building surveyor or building inspector in respect of that building work.

(4) **Power of Building Inspector where Building Surveyor is Part-time.** In any case where a building surveyor of the Local Authority is not employed by the Local Authority as a full time officer of the Local Authority such Local Authority may from time to time by resolution declare that a building inspector who is an officer of the Local Authority may exercise all or any of the following powers and carry out all or any of the following duties of a building surveyor:—

(a) any power to or duty imposed upon the building surveyor under any provision of these By-laws in relation to:

(i) any single storey building; or

(ii) any building of Class I or Class X of not more than two storeys for which structural calculations are not required;

(b) any inspection and prepare any report required to enable the Local Authority to take action under the Act.

(5) **Local Authority may Revoke.** Any resolution of the Local Authority made pursuant to subclause (1) hereof may from time to time be revoked or varied by a subsequent resolution of the Local Authority.

(6) For buildings of Class I or Class X where structural calculations are required and for buildings of Class II, III, IV, V, VI, VII, VIII or IX a building surveyor shall be appointed. The building surveyor so appointed may be full time or part time.

3.3 (1) **Building Surveyors to be qualified.** A Local Authority shall not employ any person as a building surveyor unless he holds the qualifications set out in By-law 3.4 (2).

(2) **Building Inspectors to be qualified.** A Local Authority shall not employ any person as a building inspector unless he holds the qualifications set out in By-law 3.5 (2): Provided that—

(a) if, at 1 January, 1970, any person held the office of building inspector under any Local Authority; or

(b) if, prior to that date, any person had held the office of building inspector for a period of not less than two years under any Local Authority or Local Authorities;

these By-laws shall not in any way affect the office or employment of that person under that Local Authority or any other Local Authority.

(3) (a) **Waiver for acting Surveyors and Inspectors.** Notwithstanding the provisions of this By-law a Local Authority may appoint a person who does not hold the qualifications set out in By-laws 3.4 and 3.5 to act as the acting building surveyor or acting building inspector as the case may be or to carry out the duties of either office:

(i) during the absence from his duties for any cause of the building surveyor or building inspector as the case may be; or

(ii) where the office of building surveyor or building inspector is vacant for any cause and the Local Authority is desirous of appointing some person to carry out the duties of the office pending the permanent appointment of some person thereto.

(b) **Restriction on appointment.** In no case shall a Local Authority appoint as aforesaid any person who does not hold the required qualifications unless the Local Authority is satisfied that it is not reasonably practicable to appoint a person who does hold the required qualifications.

(c) **Consent to be obtained.** No such appointment or appointments to any such office shall be made for any period or periods which in the aggregate amount to more than six months in any financial year of a Local Authority unless the consent of the Director of Local Government on the recommendation of the Committee is obtained to the appointment and unless any conditions included in the consent are observed.

(d) **Notice to be given of appointment.** If pursuant to the provisions of this By-law any Local Authority appoints to any such office any person who does not hold the required qualifications the Local Authority shall within seven days of the making of the appointment cause notice in writing thereof to be given to the Committee.

3.4 Building Surveyor. (1) **Qualifications.** Any person who satisfies the requirements of this By-law shall be deemed to hold the necessary qualifications for a building surveyor.

(2) **Requirements.** The person concerned shall produce evidence satisfactory to the Committee that he has a knowledge of the Act and By-laws and that—

(a) he has satisfied the examination entrance requirements of—
  (i) the Institution of Engineers, Australia for admission as a graduate; or
  (ii) the Royal Australian Institute of Architects for admission as an Associate; or
  (iii) the Architects Registration Board of Queensland; or
  (iv) the Australian Institute of Building as an Associate; or
  (v) the Australian Institute of Building Surveyors as a Fellow; or

(b) he has had experience satisfactory to the Committee for a period of not less than three years in the office of a building surveyor and of a nature which would make him familiar with the duties of a building surveyor.

3.5 Building Inspector. (1) **Qualification.** Any person who satisfies the requirements of this By-law or of By-law 3.4 shall be deemed to hold the necessary qualifications for a building inspector.

(2) **Requirements.** The person concerned shall furnish evidence satisfactory to the Committee that he has a knowledge of the Act and By-laws and that—

(a) he has passed—
  (i) Examinations leading to the qualifications for a Certificate for Building Construction Technician; or

(ii) Examinations in the subjects:

(A) Principles of Construction;

(B) Construction Materials;

(C) Trade Practice;

(D) Construction;

(E) Interpretation of Plans and Specifications;

(F) Regulations and Building Practice,

being subjects adapted for the purpose within the Certificate for Building Construction Technician course at a College of Advanced Education; or

(iii) Other Examinations which, in the opinion of the Committee, with or without any of the examinations prescribed in provision (i) of this subparagraph (a), provide a set of examinations of a standard equivalent to the set of examinations prescribed in provision (ii) of this subparagraph (a); or

(b) he has passed an examination of a standard satisfactory to the Builders Registration Board for registration as a Builder under the *Builders Registration Act* 1971–1973; or

(c) has had experience in the work of a building inspector of a nature satisfactory to the Committee for a period of not less than three years.

DIVISION II—GENERAL PROVISIONS

PART 4—PENALTIES

4.1 Offences and Penalties. (1) **Offences.** Any person who—

(a) does or causes to be done an act that is forbidden by these By-laws; or

(b) fails to do an act that is required by these By-laws to be done,

is guilty of an offence against these By-laws.

(2) **Penalties.** Any person guilty of an offence against these By-laws shall be liable, if no specific penalty is provided for that offence, to a penalty not exceeding $200.00 and if the offence is a continuing one a further sum not exceeding $50.00 for each day during which the offence continues.

4.2 Owner liable for offences. Where by these By-laws it is required that any act be done or not done and it is not provided who shall do or not do the act, and such act is not done or, as the case may be, done in breach of these By-laws the owner of the building or other structure in respect of which the breach occurs shall be taken to be guilty of the offence constituted by such breach and may be proceeded against accordingly.

DIVISION II—GENERAL PROVISIONS

PART 5—ESTABLISHMENT OF FIRE ZONES

5.1 * * * *

5.2 Fire Zones. (1) **Certain land covered by Planning Schemes deemed to be Fire Zones.** Any part of a Local Authority Area—

(a) zoned business, commercial, shopping or office under a town planning scheme; and

(b) meeting the requirements of By-law 5.8 or By-law 5.9,

shall be deemed to be a primary or secondary fire zone, as the case may be.

(1a) **Minister May Exempt.** The Minister may, if requested by a Local Authority, by notice published in the *Government Gazette,* declare that a defined part of a Local Authority Area shall be exempted from the provisions of subclause (1) hereof, and thereupon the defined part shall be deemed to be exempted therefrom.

5.3 Fire zones in areas where a planning scheme is being prepared. The Local Authority may by resolution published in a newspaper circulating in its Area, declare that any part of its Area—

(a) which may be zoned business, commercial, shopping or office, under a town planning scheme on approval by the Governor in Council; and

(b) meeting the requirements of By-law 5.8 or By-law 5.9,

shall be a primary or secondary fire zone, as the case may be.

5.4 Certain adjacent parts of areas to be included in the one fire zone. Adjacent parts of a Local Authority Area—

(a) zoned business, commercial, shopping or office under a town planning scheme or which may be zoned business, commercial, shopping or office under a town planning scheme on approval by the Governor in Council; and

(b) so situated that their boundaries are at any point less than 36 m from one another, shall be regarded as a single part of the Local Authority and, subject to meeting the requirements of By-law 5.8 or By-law 5.9,

shall be included in the same primary or secondary fire zone, as the case may be.

5.5 Fire zones in other areas. The Local Authority may, by resolution published in a newspaper circulating in its Area, declare that any defined part of its Area—

(a) not zoned business, commercial, shopping or office under a town planning scheme or which may not be zoned business, commercial, shopping or office under a town planning scheme on approval by the Governor in Council; and

(b) meeting the requirements of By-law 5.8 or By-law 5.9,

shall be a primary or secondary fire zone, as the case may be.

5.6 Where the Minister may declare fire zones. The Minister may, by notice published in the *Government Gazette* and in a newspaper circulating in the Area concerned declare that a defined part of a Local Authority Area—

(a) not zoned business, commercial, shopping or office under a town planning scheme; and

(b) meeting the requirements of By-law 5.8 or By-law 5.9,

shall be a primary or secondary fire zone, as the case may be.

5.7 Planning scheme approved after certain fire zones are established. Upon approval of a town planning scheme the provisions of By-law 5.2 shall apply, and thereupon any fire zone within the town planning scheme area—

(a) established pursuant to By-laws 5.3, 5.5, or 5.6 prior to the approval of the scheme; and

(b) incorporating land included in a fire zone established pursuant to By-law 5.2 subsequent to the approval of the scheme,

shall be deemed to be abolished.

5.8 Primary fire zones: Requirements. A primary fire zone shall—

(a) be not less than 18 000 m^2 in area, exclusive of public reserves, roads, railways and rivers; and

(b) include not fewer than four allotments of land.

5.9 Secondary fire zones: Requirements. A secondary fire zone shall—

(a) be not less than 9 000 m^2 and not more than 18 000 m^2 in area exclusive of public reserves, roads, railways and rivers; and

(b) include not fewer than four allotments of land.

5.10 Map and register of fire zones. (1) **Local Authority to prepare.** The Local Authority shall, within six months after the coming into force of these By-laws cause to be prepared a map and a register of the fire zones established within its Area.

(2) **Details required on map.** The map shall show clearly and accurately the boundaries for the time being of every fire zone established within the Area, and their designation as either primary or secondary fire zones.

(3) **Details required in register.** The register shall—

(a) where the fire zone has been established pursuant to By-law 5.2, be noted to that effect, with a reference to the relevant town planning scheme and zoning; or

(b) in other cases, contain a copy of the Local Authority resolution or the Minister's declaration, as the case may be, establishing the fire zone.

(4) **Inspection of map and register by public.** Any person may inspect the fire-zone map and register without fee at any time during the normal office hours of the Local Authority.

5.11 Effect of establishment of fire zones. A building shall not be erected in a fire zone established pursuant to this Part unless it complies with such of the requirements of these By-laws relating to buildings in fire zones as are applicable to that building.

DIVISION II—GENERAL PROVISIONS

PART 6—CLASSIFICATION OF BUILDINGS

6.1 Classification. (1) **Classes of Buildings.** For the purposes of these By-laws, buildings and portions of buildings are classified as follows:—

(a) Class I: a detached single dwelling;

(b) Class II: a building containing two or more dwelling units;

(c) Class III: residential buildings, being common places of abode for a number of unrelated persons, including—

(i) boarding houses, guest houses, hostels, and lodging houses;

(ii) the residential portions of hotels and motels;

(iii) the residential portions of schools;

(iv) the residential portions of institutional buildings accomodating members of the staff of the institution; and

(v) dwelling units not included in paragraph (b) or paragraph (d);

(d) Class IV: dwelling units in buildings that elsewhere are of Class V, VI, VII, VIII or IX, being in each case the only sole occupancy units in the building;

(e) Class V: office buildings, being buildings for professional or commercial purposes, excluding buildings of Classes VI, VII, VIII or IX;

(f) Class VI: shops and other buildings for the sale of goods by retail or the supply of services direct to the public, including—

(i) eating rooms, tea rooms, coffee rooms, cafes, restaurants, and milk and softdrink bars;

(ii) the non-residential portions of hotels and motels;

(iii) hairdresser's and barber's shops, public laundries, and undertaker's establishments; and

(iv) markets, sale rooms, show rooms, and service stations;

(g) Class VII: buildings that are—

(i) warehouses, being buildings for the storage of goods only or for the display of goods for sale by wholesale; or

(ii) public garages;

(h) Class VIII: buildings that are—

(i) factories, being buildings in which a handicraft or a process in or incidental to the making, assembling, altering, repairing, renovating, preparing, ornamenting, finishing, cleaning, washing, or adapting of goods is carried on for trade, sale, or gain—

(A) those used for a handicraft or process not mentioned in Appendix 1 being of Class VIIIa; and

(B) those used for a handicraft or process mentioned in Appendix 1 being of Class VIIIb; and

(ii) laboratories—

(A) those involving a process not mentioned in Appendix 1 being of Class VIIIa; and

(B) those involving a process mentioned in Appendix 1 being of Class VIIIb;

(i) Class IX: buildings of a public nature—

(i) institutional buildings as defined in By-law 1.3 being of Class IXa; and

(ii) schools and assembly buildings as defined in By-law 1.3 being of Class IXb,

but excluding portions of such buildings that are of Class III or used as laboratories;

(j) Class X: outbuildings.

(2) **Classes VIIIa, VIIIb, IXa and IXb.** Unless the contrary intention appears, Class VIIIa, VIIIb, IXa and IXb is each a separate classification.

(3) **Principles of Classification.** For the purposes of this By-law the classification of a building or portion of a building is determined by the purpose for which it is designed, constructed, or adapted to be used.

(4) **Multiple Classification.** Where portions of a building each have different purposes, each such portion shall, subject to By-law 6.7, be separately classified in accordance with this By-law.

6.2 Doubtful Classifications. (1) **Local Authority to Determine.** Where there is any doubt or dispute as to the classification of a building or portion of a building, the building shall be classified in such one of the classes mentioned in By-law 6.1 as the Local Authority considers appropriate.

(2) **Effect of Determination.** A classification so determined for a building or portion of a building shall be deemed to be its classification for the purposes of these By-laws.

(3) A building or portion of a building to which no other provision of these By-laws properly applies shall be classified as a temporary building or other structure or a special structure, as the case may require, and be subject to part 58 of these By-laws accordingly.

6.3 Certificate of Classification. (1) **Preparation.** Where approval is given for any building work, the Local Authority shall—

(a) on substantial completion of the building concerned; or

(b) where it consents in writing to the occupation of portion of the building concerned before the completion of the entire building concerned,

prepare a certificate of classification, in duplicate, in or to the effect of the form set out in Appendix 2.

(2) **Issue.** The original of the certificate shall be issued to the person on whose behalf the building was erected.

(3) **Inspection of Certificates.** The duplicate shall be retained in the office of the Local Authority and shall be open to inspection free of charge by any person during the normal office hours of the Local Authority.

(4) **Non-application to Class I and Class X.** This By-law does not apply to a Class I or Class X building.

6.3a No Occupation until Certificate is Issued. No person shall occupy any portion of a building of Class II, III, IV, V, VI, VII, VIII or IX until a certificate of classification has been issued in accordance with these By-laws.

6.4 Particulars to be Shown on Certificate of Classification. A certificate of classification shall show—

(a) the Class or Classes for which the building has been designed, erected or adapted for use, and approved; and

(b) where the building has portions differently classified, the portions to which each classification or group of classifications relates.

6.5 Certificates for a Building Occupied in Stages. Where a certificate of classification has been issued for part of an uncompleted building and the Local Authority approves the occupation of a further part of that building, it shall—

(a) revoke that certificate; and

(b) issue a further certificate of classification in accordance with By-law 6.3, covering all parts of the building for which approval to occupy has been given by the Local Authority.

6.6 Change of Use. (1) **Application of By-law.** This By-law applies to all buildings, whether erected before or after the coming into force of these By-laws.

(2) **Existing Buildings.** The use of a building in existence before the coming into force of these By-laws shall not be changed from that of one Class to that of another Class unless—

(a) the building complies with the requirements of these By-laws applicable to the new Class; and

(b) the change of use has been approved by the Local Authority, provided however, that the Local Authority shall approve the said change if the building complies with the provisions of these By-laws applicable to the new Class.

(3) **Buildings Erected after the Coming into Force of these By-laws.** A building erected after the coming into force of these By-laws shall not be used for a purpose—

(a) not specified in the certificate of classification; or

(b) for which it is required that a certificate of classification be issued,

unless the building complies with the requirements of these By-laws applicable to the new purpose and the proposed use of the building.

(4) **Change of Use to be Notified.** Before making any change in the use of a building which would result in a change of classification under these By-laws, the owner shall apply to the Local Authority in the manner prescribed in Appendix 3 for approval of such change, setting out the nature of the proposed change of use.

(5) **New Certificate.** If it approves a change of use the Local Authority shall—

(a) revoke any certificate of classification already in existence for the building;

(b) prepare a certificate of classification in accordance with By-law 6.3 in respect of the new use; and

(c) issue the original of that certificate to the person proposing the change of use.

6.7 Classification where Part of a Storey has an Ancillary Use. Where part of a storey, not being a laboratory, is used for a purpose—

(a) for which a different classification applies; but

(b) ancillary to a purpose for which not less than ninety per cent of the floor area of the storey is used,

the Local Authority may determine that the classification applying to the major use shall apply to the whole of the storey in determining the type of construction required according to the provisions of Part 17 or Part 18 as the case may be.

6.8 Offences. Any person who uses or occupies or permits the use or occupation of a building in contravention of these By-laws shall be guilty of an offence.

DIVISION II—GENERAL PROVISIONS

PART 7—UNITED BUILDINGS

7.1 When buildings are deemed united. If two or more buildings abutting each other—

(a) are connected through openings in the walls dividing them from one another; and

(b) collectively comply with all the requirements of these By-laws as though they were a single building,

they shall, for the purposes of these By-laws, be deemed to be united to form one building.

7.2 Alterations to a united building. If any alteration is made such that two or more buildings deemed to be united pursuant to By-law 7.1 cease to be connected through openings in the walls dividing them from one another then each such building shall, after the alteration, comply with all the requirements of these By-laws for a single building.

DIVISION II—GENERAL PROVISIONS

PART 8—BUILDING APPLICATIONS

8.1 (1) **Plans and specifications.** Before the erection of a building is commenced—

(a) two copies of the plans and specifications of the building;

(b) two copies of a plan and specification of any fences already erected or to be erected on the allotment or on the boundaries of the allotment;

(c) two copies of such calculations of stress and other technical details of or relating to the building work as may be prescribed or as may be required by the Building Surveyor; and

(d) a written application for approval, in or to the effect of the form set out in Appendix 3 and such other information as the Local Authority may require,

shall be submitted to the Local Authority.

The plans of the building shall be drawn to scale and consist of a general plan and a site plan.

(2) **Responsible Design.** Where an application for approval relates to—

(a) the erection of a building having a floor area greater than 400 m^2 or an addition to a building whereby the floor area is caused to be increased by more than 400 m^2; or

(b) the erection of any building or any alteration of any building in the course of which it is necessary to build or alter any reinforced concrete frame or steel frame or construction including a steel roof truss; or

(c) the erection of any building exceeding two storeys in height; or

(d) the addition of a structure, or part of a structure, to a building containing two or more storeys, or the addition of more than one storey to a building containing one storey; or

(e) the alteration of any building exceeding two storeys in height in such manner as to interfere with any structural load bearing member or part, or alter the stresses transmitted by such member or part,

the drawings, specifications and other required documents shall be prepared by a registered architect or registered professional engineer and shall bear his name indicating acknowledgement of authorship.

(3) **General plan and requirements.** The general plan of the building shall—

(a) be drawn to a suitable scale;

(b) show a plan of each floor section;

(c) show a plan of each elevation of the building;

(d) show the levels of the lowest floor and of any yard or unbuilt upon area belonging thereto and the levels of adjacent ground; and

(e) indicate the height, design, construction and provision for fire safety and fire resistance (if any).

(4) **Coloured plans.** The general plan shall not be required to be coloured except where the plans and specifications relate to a proposal to carry out, in respect of an existing building, any alteration or rebuilding, in which case one copy of the general plan shall be coloured so as adequately to distinguish the proposed alteration or rebuilding.

(5) **Specification.** The specification of the building shall—

(a) describe the construction and materials of which the building is to be built and the method of drainage, sewerage and water supply; and

(b) state whether the materials will be new or second-hand, and if second-hand materials are to be used shall give particulars.

(6) **Plan of fences.** The plan of fences shall be in such form as the Local Authority may require.

(7) **Specification of fences.** The specification of fences shall—

(a) describe in some sufficient manner the height, materials, stability, design and position or proposed position thereof; and

(b) state whether the materials will be new or second-hand, and if second-hand materials are to be used shall give particulars.

8.2 Structural drawings. Approval subject to conditions. Where an application for the approval of plans and specifications of a building necessitates the submission of a structural engineer's drawings or other engineering details prepared by a structural engineer, such drawings or details may be omitted from the plans and specifications at the time of lodging the application. If the application is approved by the Local Authority, such approval shall be subject to the following conditions—

(a) work on the footings shall not be commenced until full engineering details relating thereto have been submitted to and approved by the Local Authority; and

(b) no stage of the building work other than footings shall be commenced until full engineering details relating to that stage of the building work and such other stages as may be specified by the Local Authority have been submitted to and approved by the Local Authority.

8.3 Notices to Local Authority. When giving approval the Local Authority may impose a condition that forty-eight hours notice in writing shall be given prior to the covering of any or all of the following works in order that they may be inspected:—

(a) trenches before footings are laid;

(b) footings before trenches are filled in; and

(c) drains before they are covered in.

8.4 Local Authority may dispense with submissions of plans, specifications and applications in some circumstances. Notwithstanding anything to the contrary in this Part the Local Authority may, if it sees fit, dispense with the necessity for the submission of—

(a) a plan and specification of fences;

(b) plans and specifications to make minor alterations in an existing building; or

(c) an application and plans and specifications for the erection of a building or other structure to be used exclusively for the purpose of a green-house, conservatory, summer-house, private boat-house, fuel shed, tool-house, cycle shed, aviary, milking bail, hay shed, stable, fowl-house, pigsty, barn or the like or a swimming pool (being of a capacity less than 10 000 *l*).

8.5 Submission of survey certificates. (1) **General.** The Local Authority may, in respect of an application to erect a building, require the submission of an identification survey in the cases, and subject to the conditions, set out in this By-law.

(2) **Prior to determining application.** The Local Authority may, prior to determining the application, require the submission of an identification survey setting out the boundaries of the site and the location of the building proposed to be erected thereon and the location of any existing buildings on the site. If such survey, together with a true copy thereof, is submitted with the application for approval to erect the building, it shall not be necessary to submit a site plan to comply with subclause (1) of By-law 8.1.

(3) **When giving approval to building application.** When giving approval for the erection of a building, the Local Authority may, subject to subclause (4) of this By-law, impose a condition that an identification survey shall be submitted to the Local Authority setting out the boundaries of the site, and the actual situation of the building on the site. Such survey shall be furnished at the earliest stage (which stage shall be specified by the Local Authority when giving its approval in the particular case) at which the actual location of the building on the site may be established.

(4) **Class I and Class X buildings.** Subclause (3) of this By-law shall not apply in the case of a Class I building o a Class X building appurtenant thereto except where—

(a) the Local Authority is of opinion that the levels or width of the allotment or other exceptional conditions of the site necessitate the submission of an identification survey as mentioned in that subclause; and

(b) the Local Authority determines by resolution in the individual case that such a survey shall be submitted.

8.6 Approval or Disapproval of Building Work. (1) A Local Authority—

(a) shall obtain a report from the Building Surveyor as to whether the proposed building work complies with these By-laws;

(b) may require any environmental impact study pursuant to Section 32A of the Local Government Act to include reference to the ground level wind effects of tall buildings; and

(c) shall consider the plans, drawings and specifications together with the report of the surveyor and any Environmental Impact Study.

If the Local Authority is satisfied that the proposed building work complies with these By-laws it shall (except as otherwise expressly provided) by approving in writing the plans, drawings and specifications, approve the building work.

(2) If the Local Authority refuses to approve any building work because the building work does not comply with these By-laws it shall give notice in writing to the applicant stating the reasons for its refusal.

(3) The approval of building work pursuant to subclause (1) of this By-law or the notice of reasons for refusal pursuant to subclause (2) of this By-law shall be given by the Local Authority concerned—

(a) within 40 days from the date of receipt by it of the application to which it relates; or

(b) if, before the expiration of that 40 days the Local Authority has, with the prior approval of the Minister, by notice given to the applicant before the expiration of the aforesaid period of 40 days, extended such period, within the period specified in the notice of extension.

(4) The approval of any building work shall become void if the building work is not commenced within twelve months after the day on which the approval was given.

(5) The owner may at any time submit in accordance with these By-laws, an application for approval of an alteration or modification of any plans, drawings and specifications, previously submitted to the Local Authority pursuant to these By-laws, and the Local Authority shall deal with the application in all respects as it deals with the original plans, drawings and specifications under this Part.

8.7 Preservation of Documents. (1) **Minimum Preservation Period.** The Local Authority shall preserve for a minimum period of 10 years—

(a) all plans submitted for approval; and

(b) all other documents required by or pursuant to these By-laws to be submitted in connexion with an application for approval,

and shall maintain a register of all such plans and other documents.

(2) **Discretionary Preservation.** Upon the expiration of the period of 10 years referred to in subclause (1) the preservation of all plans and other documents held by the Local Authority shall be at its discretion.

DIVISION II—GENERAL PROVISIONS

PART 9—FEES

9.1 Amount and when to be paid. The appropriate fee which a Local Authority may fix from time to time by resolution shall be paid to the Local Authority before an application for approval of building work becomes valid.

DIVISION II—GENERAL PROVISIONS

PART 10—MATERIALS AND WORKMANSHIP—ADMINISTRATIVE PROVISIONS

10.1 Buildings to be Properly Constructed. All building work for which requirements are prescribed in these By-laws shall be performed in a good and workmanlike manner to the satisfaction of the building surveyor.

10.2 Suitability of Materials. (1) **Materials Dangerous to Health.** Materials which for any reason are dangerous to health, or that have been used in the construction of any cesspit, drain, or sewer, shall not be used in any building work.

(2) **Faulty or Unsuitable Materials.** Faulty or unsuitable materials shall not be used in any building work.

(3) **Local Authority may test Materials.** The Local Authority may test any material used or proposed to be used in the erection of a building, and may prohibit the use of any material which does not meet the relevant requirements of these By-laws or which is found to be unsuitable or unfit for the purposes for which it is intended.

10.3 Authentication of Materials and Forms of Construction. (1) **Local Authority Prerogative.** Where it is proposed to use in any part of a building any material or form of construction that is required by these By-laws—

(a) to meet a specific performance requirement; or

(b) to comply with any standard rule or specification,

the Local Authority may require that the building application shall be supported by satisfactory documentary evidence in support of the proposed use of that material or form of construction.

(2) **Form of Evidence.** The documentary evidence referred to in subclause (1) may be in one of the following forms:—

(a) a report issued by a competent testing authority, showing that the material or form of construction has been submitted to the tests listed in the report, and setting out the results of those tests and any other relevant information that demonstrates its suitability for use in the buildings as proposed;

(b) an Accreditation Certificate, being a certificate that—

(i) has been issued by the Director, Experimental Building Station, Department of Housing and Construction of the Commonwealth;

(ii) relates the properties and performance of a material or form of construction that is referred to therein to a specific provision of these By-laws, or to specific provisions thereof; and

(iii) has not been revoked or cancelled by the said Director; or

(c) any other form of satisfactory documentary evidence that, in the opinion of the Local Authority, correctly describes the properties and performance of the material or form of construction and adequately demonstrates its suitability for use in the building as proposed.

(3) **Evidence re Fire-resistance Ratings.** The provisions of this By-law do not operate so as to permit the acceptance by the Local Authority for the purposes of By-laws 20.1 or 20.2 of any evidence other than the evidence referred to in those By-laws.

10.4 Adoption of British, Australian and Other Standards. (1) Wherever any of these By-laws adopts by reference any standard rule, standard specification, code of practice, or other document issued by the British Standards Institution, the Standards Association of Australia or other body, that adoption, unless the relevant By-law specifies otherwise, shall not include the adoption of any provision—

(a) specifying or defining the respective rights, responsibilities, or obligations as between themselves of any manufacturer, supplier, or purchaser; or

(b) specifying or defining the responsibilities of any tradesman or other building operative; or

(c) requiring the submission for approval of any material, building component, or form or method of construction, or details thereof, to any person or body other than a person or body specifically empowered by these By-laws to give that approval; or

(d) specifying that a material, building component, or form or method of construction, or details thereof, shall be submitted to the Standards Association of Australia or a committee of the association for expression of opinion; or

(e) permitting a departure from any provision of the standard rule, specification, code of practice, or other document at the sole discretion of the manufacturer or purchaser, or by arrangement or agreement between the manufacturer and purchaser.

(2) A reference in any By-law to a document mentioned in subclause (1) shall be taken—

(a) to be a reference to any document that supercedes that document or to any document that supercedes a previous superceding document;

(b) to be a reference to that document or, as the case may be, a superceding document as published at a date specified in the bulletin last issued for the purposes of these By-laws on behalf of the Director of Local Government for the State or if, in relation to a particular document referred to in that bulletin, a date is not specified, to be a reference to that particular document as published at the date of issue of such bulletin in which the reference is contained.

DIVISION II—GENERAL PROVISIONS

PART 11—SITE REQUIREMENTS

11.1 Building Lines. (1) **Fixed by By-law.** Except as provided in By-law 11.3 a Local Authority may by by-law fix building lines and such a by-law shall clearly define the building lines so fixed.

(2) **Inspection by Public.** Any by-law fixing a building line pursuant to subclause (1) and, where applicable, a map illustrating the building line shall be open for inspection by the public free of charge during the office hours of the Local Authority.

(3) **Saving.** Any building line fixed by by-law and in force immediately prior to the coming into operation of these By-laws, shall continue to apply until amended or repealed pursuant to a by-law made under this part.

(4) **Buildings between Building Line and Road.** A building shall not be erected between a building line and any road.

(5) **Structures between Building Line and Road.** A person shall not erect or cause to be erected between the building line and the road alignment of any allotment—

(a) a screen or fence the height of which above the level of the ground surface exceeds 2 m, save with the approval of the building surveyor; or

(b) any structure other than a screen or fence the height of which above the level of the ground surface exceeds 1 m.

Nothing in the preceding paragraph shall be taken to prohibit the erection of structures (including screens and fences) which, in the opinion of the building surveyor are merely ornamental structures for horticultural purposes.

11.2. Distances where no Building Lines fixed. (1) **Class I, II and III Buildings.** Subject to subclauses (3) and (4) a person shall not erect or cause to be erected on any land a building of Class I, II or III and of a height within a description specified in the first column of the following Table 11.2 so that the distance (measured along a horizontal plane) from the outer-most projections of the building to the boundary of that land (being a boundary in relation to which a building line is not fixed) is less than the minimum distance specified in the second column of that Table opposite to that description of height.

TABLE 11.2
OUTERMOST PROJECTIONS:

Height above Ground	Minimum Distance from Boundaries
Up to 4·5 m	1·5 m
Over 4·5 m but not exceeding 7·5 m	2 m
Over 7·5 m	2 m plus 0·5 m for every 3 m or part thereof by which the building exceeds 7·5 m in height

(2) If a building is so erected that its height is stepped the outer-most projections of each step of the building shall conform with subclause (1) and Table 11.2 contained in that subclause shall apply as if each step of the building were a separate building.

(3) Where an allotment has a frontage to a road of less than 10·5 m, the minimum boundary clearances shall be 750 mm for a building up to 4·5 m in height and 1 m for a building over 4·5 m but not exceeding 7·5 m in height.

(4) The Local Authority may in a particular case alter the minimum distances set out in Table 11.2 where—

(a) the levels or depth of the allotment; or

(b) exceptional conditions of the site,

make it necessary or expedient in the opinion of the Local Authority to do so and in that case the Table as so altered shall be taken to be the Table 11.2.

11.3 Class I buildings. (1) **Building Lines.** In any proposed Class I building the building line shall be 6 m from the road alignment: Provided that the Local Authority may, in respect of any part of a proposed Class I building alter the building line where—

(a) the levels or depth of the allotment;

(b) exceptional conditions of the site;

(c) the nature of the buildings; or

(d) the amenity of the locality,

make it necessary or expedient to do so.

(2) **Site Coverage.** A person shall not erect or cause to be erected a building so that the area covered by the building including a garage or outbuilding exceeds forty per centum (40%) of the total area of the allotment.

(3) **Access.** One door of every building shall be accessible from a road, or through a space on the site which is unobstructed for at least 1·2 m in width and at least 2·03 m in height above that 1·2 m of width, over the entire length from the road to the door.

(4) **Structures on or within 1·5 m from a side or rear boundary.** A person shall not erect or cause to be erected on or within 1·5 m of the side or rear boundary of an allotment any screen, fence, or other structure of any kind whatsoever more than 2 m in height without the express permission of the Building Surveyor: Provided that nothing herein shall prohibit the erection of structures which in the opinion of the Building Surveyor are merely ornamental structures for horticultural purposes.

11.4 Class II and III Buildings. (1) **Approval of sanitary system.** A person shall not erect or cause to be erected a building of Class II or Class III on an allotment to which sewerage is not connected unless the installation of a septic tank or other sanitary system not being an earth closet has first been approved in respect of the building.

(2) **Access.** At least one door, which shall be a required exit from the building if such is required by the provisions of Part 24 of these By-laws, shall be accessible from a road, through a space on the site which is unobstructed except for a gate.

Where required by the local fire authority as defined in the Fire Safety Act, suitable access for wheeled fire fighting vehicles may be made a condition of the Interim Certificate of Fire Safety.

(3) **Structures on or within 1·5 m from a Side or Rear Boundary.** A person shall not erect or cause to be erected on or within 1·5 m of the side or rear boundary of an allotment any screen, fence, or other

structure of any kind whatsoever more than 2 m in height without the express permission of the Building Surveyor: Provided that nothing herein shall prohibit the erection of structures which in the opinion of the Building Surveyor are merely ornamental structures for horticultural purposes.

11.5 Class IV Buildings. (1) **Recreation Space.** A Class IV building shall not be erected on an allotment unless a space open to the air and without roof is provided for the exclusive use of the occupants of the building. Such space—

(i) shall have an area of not less than 50 m^2 on one level;

(ii) may be provided in the form of a flat roof higher than the floor of the ground storey of the building to which it is attached; and

(iii) shall be of a dimension of not less than 3 m in any direction.

11.6 Class V and VI Buildings. (1) **Special Provisions.** A building of Class V or Class VI shall not be erected unless—

(a) subject to the provisions of By-law 8.5 an identification survey is made by an authorised surveyor of the allotment on which the building is to be erected, indicating the position of the building (if any) on the adjacent allotment whether there are any encroachments on the allotment on which the building is to be erected, or whether there will remain between the building (if any) on the adjacent allotment and the building which is to be erected, a narrow space which could be likely in the opinion of the Building Surveyor to permit the penetration of water thereto, or harbour vermin therein;

(b) adequate precautions to the satisfaction of the Building Surveyor are specified and clearly shown on the plans of the building to seal off or flash over the narrow space (if any) revealed on the identification survey to prevent the penetration of water thereto or the harbourage of vermin therein.

(2) **Access.** The provisions of By-law 11.4 (2) shall apply to buildings of Class V or Class VI.

11.7 Class VII and VIII Buildings. (1) **Identification Survey.** The provisions of By-law 11.6 (1) shall apply to buildings of Class VII or Class VIII.

(2) **Access.** The provisions of By-law 11.4 (2) shall apply to buildings of Class VII or Class VIII.

11.8 Class IX Buildings. (1) **Special Provisions.** The provisions of By-law 11.6 (1) shall apply to Class IX buildings.

(2) **Width of Road.** A Class IX building shall not be erected on an allotment unless such allotment abuts onto a road which is not less than 15 m in width.

(3) **Access.** The provisions of By-law 11.4 (2) shall apply to Class IX buildings.

11.9 Class X Buildings. (1) **Erection on Boundaries where no Building Lines.** A Class X building may be erected on or within 750 mm of the boundary of an allotment in relation to which boundary a building line is not fixed if—

(i) such building is a minimum distance of 1 m from a building of Class I, II or III;

(ii) adequate precautions to the satisfaction of the Building Surveyor are taken to avoid the discharge of rainwater onto an adjoining allotment; and

(iii) the walls erected on the boundary or boundaries or within 750 mm thereof are constructed of materials having a fire resistance rating of not less than two (2) hours and are carried up as a parapet at least 400 mm in height above the adjacent roof or gutter of such building.

11.10. Erection beyond Building Lines. A carport, the construction whereof complies with By-law 54.3, may be erected between the building line and the boundary of the allotment in relation to which the building line is fixed, whether it is a building of Class X or part of a building of Class I, II or III, if—

(a) the building that is erected between the building line and that boundary or the part of the building so erected is not enclosed; and

(b) the total face-width of supports of the building that is erected between the building line and that boundary or of the part of the building so erected does not exceed 5 per centum of the perimeter of the building that is erected between the building line and that boundary or, as the case may be, of the part of the building so erected; and

(c) the Local Authority considers it necessary or expedient that the building or, as the case may be, part thereof be so erected.

DIVISION III—BUILDINGS IN COURSE OF ERECTION OR DEMOLITION

PART 12—PRECAUTIONS DURING CONSTRUCTION

* * * * (Refer Construction Safety Act)

DIVISION III—BUILDINGS IN COURSE OF ERECTION OR DEMOLITION

PART 13—DEMOLITIONS

* * * * (Refer Construction Safety Act)

DIVISION IV—BUILDINGS IN RELATION TO PUBLIC ROADS

PART 14—HEIGHT IN RELATION TO WIDTHS OF ROADS

14.1 Width of Road. For the purposes of this By-law the width of a road shall be measured at right angles from the centre of the road alignment in front of the building to the opposite alignment of that road.

14.2 Maximum Building Height. (1) **Sites Having One Road Frontage.** A building shall be contained within a plane or planes drawn from the permanent footpath level opposite the centre of the frontage of the site and on the opposite alignment of the road and inclined to the horizontal at a slope of 2·5 vertical to 1 horizontal towards the site.

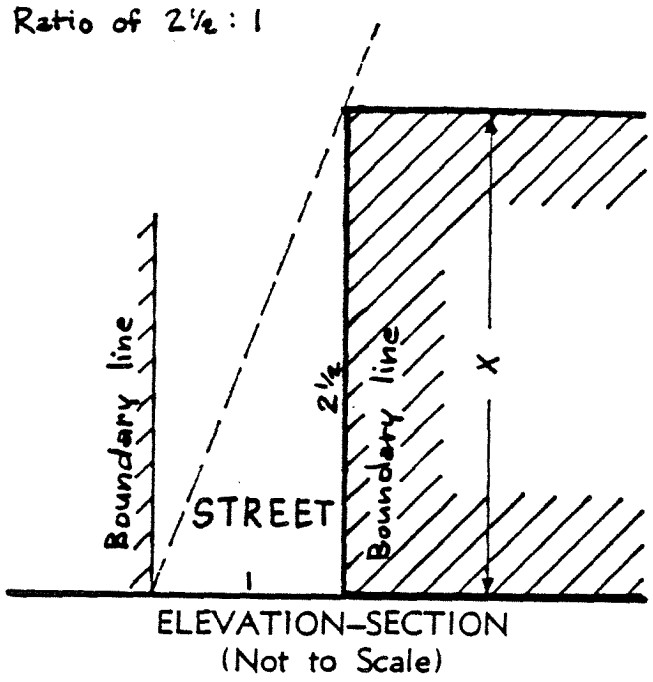


FIGURE ILLUSTRATING BY-LAW 14.2 (1)

(2) **Corner Sites.** Where the site is a corner site and the abutting roads are approximately at right angles to each other and such roads are—

(a) of unequal widths, the plane determined in relation to the wider road shall be used within 60 m of the wider road or for a distance along the narrower road from the wider road equal to the permissible height of the building at the wider road alignment, whichever is the greater.

(b) of equal widths, the Local Authority shall determine which of such roads shall be deemed to be the wider.

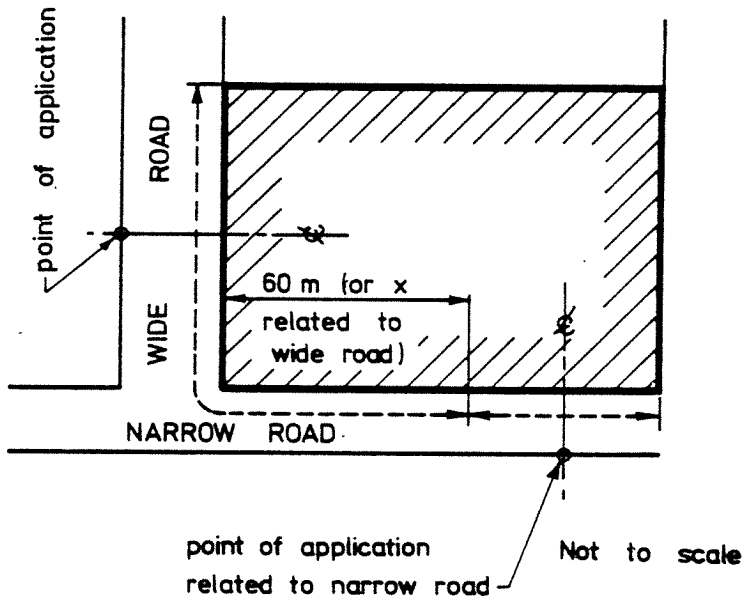


FIGURE ILLUSTRATING BY-LAW 14.2 (2)

(3) **Corner Sites having Three Road Frontages.** Where the site has three frontages making two corners approximately at right angles, the provisions of subclause (2) shall apply in respect of each corner except that if one of the approximately parallel frontages is a frontage to the narrowest road, it shall be deemed to be the same width as the road joining the approximately parallel frontages and the plane relating to the narrowest road frontage shall be drawn from a line which would be on the alignment of the wider road.

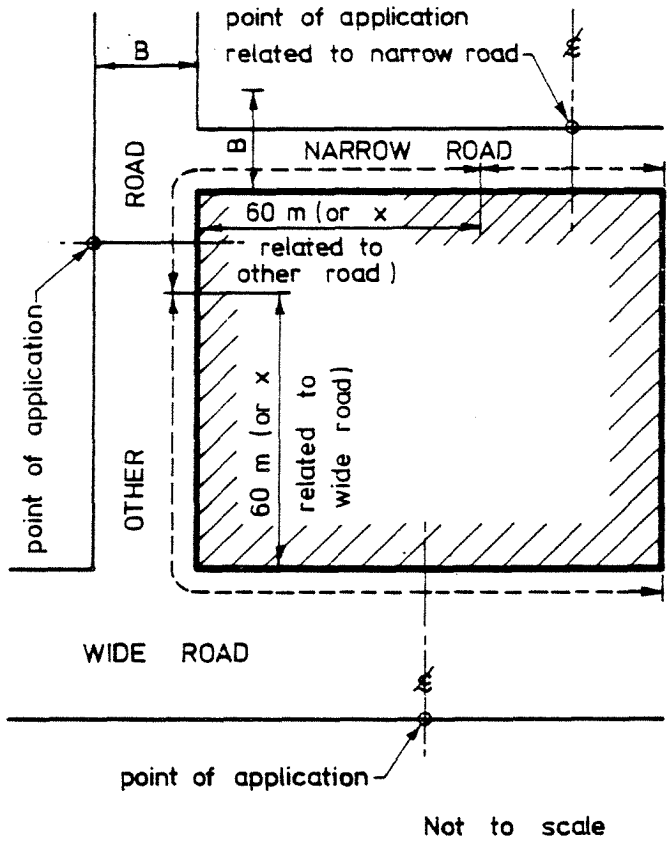


FIGURE ILLUSTRATING BY-LAW 14.2 (3)

(4) **Common Boundaries of Sites.** Where a site has a common boundary with other land and the building to be erected on the site is of a Class other than Class I, II or III an unobstructed court shall be provided between the building and such common boundary. Such court shall be not less than 5 m in width commencing at a height of 15 m above road level at the centre of the site frontage and on the road alignment where the building is to be erected: Provided that all portions of the building shall be contained within planes drawn from the intersection of the levels determined in accordance with this By-law and the adjoining common boundaries and inclined to the horizontal at a slope of 8 vertical to 1 horizontal towards the building site.

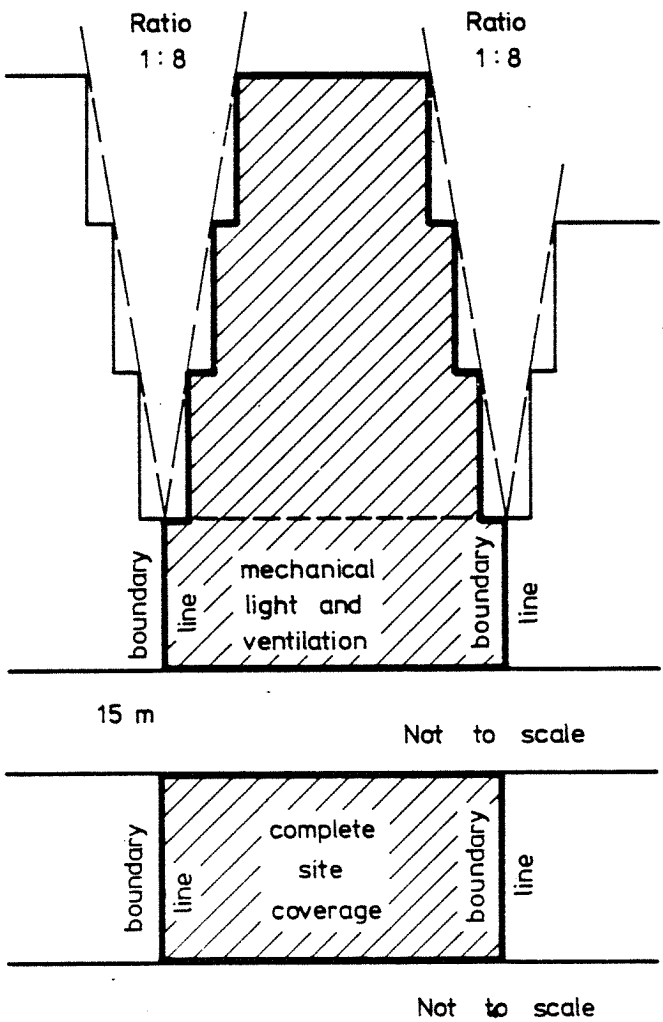
A utility shaft containing only lifts, stairways, toilets and utility rooms may be built within a court required to be provided under this By-law provided that such shaft occupies not more than one half of the width of the court nor one quarter of the depth of the court commencing at a point not less than a quarter of the depth of the court measured from the alignment.

In determining the height at which a court required to be provided under this By-law shall commence, a basement shall not be considered.

Notwithstanding the foregoing, where the dimensions of the site measured parallel to the width of the court required to be provided under this By-law is not more than 25 m, the court shall be in accordance with the following Table 14.2:—

TABLE 14.2

Width of Site (Metres)	Depth of Court (Metres)
10	2·1
12	2·2
14	2·6
16	2·9
18	3·3
20	3·7
22	4·1
24	4·4
25	4·6



FIGURES ILLUSTRATING BY-LAW 14.2 (4)

(5) **Applications not in Accordance with By-law.** (a) A Local Authority may approve the erection of a building not in accordance with the requirements of this By-law if it is considered desirable to do so having regard to—

(i) the relation of total floor space to site area;

(ii) the effect of the proposal on possible developments of the adjoining sites and on the opposite side of the road; and

(iii) the effect on the amenity of the road particularly in relation to similar effects had the building been designed in accordance with this By-law.

(b) A building erected in accordance with this subclause shall be mechanically ventilated and provided with artificial lighting in every storey that covers the whole site unless natural light and ventilation are provided as required by Part 50.

Where a building covers the whole of a site such site coverage shall be limited to 15 m above road level at the centre of the site frontage designated by the Local Authority as the principal frontage.

(c) Where a building does not cover the whole of a site, the requirements in relation to mechanical ventilation and artificial lighting shall not be applicable in that part of the building (the extent of which shall be determined by the Local Authority) which is set back the distance set out in Table 14.2 from any common boundary and is within a plane inclined to the horizontal at a slope of 8 vertical to 1 horizontal towards the building and commencing at ground level.

Any part of the building (the extent of which shall be determined by the Local Authority) less than the distance set out in Table 14.2 from the common boundary or outside the plane of 8 vertical to 1 horizontal commencing at ground level and inclined towards the building shall be deemed to be a full site coverage for the purposes of the requirements of this By-law.

14.3 Maximum Heights for Various Classes of Buildings. The permissible heights for various classes of buildings shall be determined by the Local Authority

DIVISION IV—BUILDINGS IN RELATION TO PUBLIC ROADS

PART 15—PROJECTIONS BEYOND ROAD ALIGNMENT

15.1 General. Except as otherwise provided in these By-laws, no part of a building shall project beyond the alignment of any road to which the building has frontage.

15.2 Footings Projection. Footings may project beyond the alignment of any road to the extent of not more than:—

(a) 450 mm if the projecting parts are not less than 1350 mm below the pavement level at the road alignment; and

(b) 750 mm if the projecting parts are not less than 3 m below pavement level at the road alignment.

In no case shall such projection extend under the carriageway of the road.

15.3 Service Pipes. Service pipes may project beyond the road alignment provided that—

(a) rainwater heads may project not more than 450 mm;

(b) they project not more than 200 mm above a height of 3 m above footpath level.

15.4 Weather Protection. Projections may be approved where they are for the purpose of weather protection only. Such projections shall not exceed—

(a) 1,000 mm in roads over 10 m in width; and

(b) 600 mm in roads less than 10 m in width.

15.5 Awnings, Balconies and other Attachments. Awnings, balconies and other attachments, may project beyond the road alignment subject to the provisions of Part 54.

DIVISION V—FIRE SAFETY AND FIRE RESISTANCE

PART 16—FIRE-RESISTING CONSTRUCTION OF BUILDINGS

16.1 Certain Buildings to be of Certain Types of Construction. (1) **The Buildings and Types of Construction Concerned.** Unless otherwise permitted by these By-laws, buildings of Classes II to IX inclusive shall be erected in one of the following types of construction—

(a) Type 1, in accordance with By-law 16.7;

(b) Type 2, in accordance with By-law 16.8;

(c) Type 3, in accordance with By-law 16.9;

(d) Type 4, in accordance with By-law 16.10;

(e) Type 5, in accordance with By-law 16.11.

(2) **The Buildings deemed to be of Fire-Resisting Construction.** For the purposes of these By-laws, a building that meets the requirements of this Part for one of the types of construction described in subclause (1) shall be deemed to be a building of fire-resisting construction.

(3) **Order of Fire-Resistance of the Types of Construction.** Type 1 construction shall be deemed to be the most fire-resistant and Types 2 to 5 the successively less fire-resistant of the types of fire-resisting construction.

16.2 Type of Construction in a Particular Building. (1) **The Type Required.** The type of fire-resisting construction required in a building shall be the least fire-resistant type of construction permissible—

(a) under Part 17 if the building is not in a fire-zone; or

(b) under Part 18 if the building is in a fire-zone.

(2) **Types Permissible.** A building that is required by Part 17 or Part 18 to be of a particular type of fire-resisting construction may be erected in a more fire-resistant type of construction.

(2a) **Class IV.** The structural members of a Class IV section of a building shall be of the same fire-resisting construction as is required for corresponding members in the building of which it is part.

16.3 Fire-Separated Sections of a Building. Each section of a building that is required to be fire-separated according to Part 23 from the remainder of the building shall be subject to this Part as though it were itself a building.

16.4 Fire Protection for a Support of Another Part of a Building. A part of a building that gives direct or indirect vertical support to another part required to have a fire-resistance rating shall have a fire-resistance rating not less than the greater of—

(a) the fire-resistance rating required for the part it supports; and

(b) the fire-resistance rating, if any, required for the part itself,

and be non-combustible if the part it supports is required to be non-combustible.

16.5 Certain Materials Permissible where Non-Combustible Materials are Required. The following materials, though combustible or containing combustible fibres, may be used wherever these By-laws require a non-combustible material—

(a) Plasterboard.

(b) Perforated gypsum lath with a normal paper finish.

(c) Fibrous-plaster sheet conforming to AS, A44, Fibrous Plaster Products.

16.6 Exposure to Fire-source Features. (1) **The Features in Relation to a Building.** In these By-laws, "fire-source feature" means, in relation to a building, and as the case requires—

(a) the farther boundary of a road adjoining the site; or

(b) a side boundary of the site, together with a 1·5 m straight projection of that boundary onto the road; or

(c) a rear boundary of the site; or

(d) an external wall of another building, not being a building of Class I or Class X, that stands on the site.

(2) **Where the Exposure is Deemed to Occur.** Except as provided in subclause (3), a part of a structural member shall be deemed to be exposed to a fire-source feature if any of the horizontal straight lines between that part and the fire-source feature, or a vertical projection thereof, is not obstructed by another part of the building that—

(a) has a fire-resistance rating of not less than ½ hour; and

(b) is neither transparent nor translucent.

(3) **Where a Fire-source Feature is to be Neglected.** A part of a structural member shall not be deemed to be exposed to a fire-source feature if—

(a) the fire-source feature is an external wall of another building that stands on the site and the part concerned is more than 15 m above the highest part of that external wall; or

(b) the fire-source feature is a side or rear boundary of the site and the part concerned is below the level of the finished ground at every relevant part of the boundary concerned.

(4) **Effective Distance and its Determination.** The effective distance between a part of a structural member and a fire-source feature to which it is exposed means the less of—

(a) the horizontal distance from that part to the fire-source feature, or a vertical projection thereof, measured at right angles to the vertical face of the part; and

(b) three times the horizontal distance from the fire-source feature to that part, measured at right angles to the fire-source feature or a vertical projection thereof,

or, if one of these distances cannot be found (because of the particular geometrical considerations concerned) then the other distance or triple-distance, as applicable.

(5) **Where Various Effective Distances Apply.** Where, in terms of this By-law various effective distances apply for different portions of a structural member, that member shall be constructed so that—

(a) the entire member has the fire-resistance rating applicable to that portion having the least effective distance between itself and the relevant fire-source feature; or

(b) each such portion of the member has the fire-resistance rating applicable according to its individual effective distance from the relevant fire-source feature,

but this provision shall not operate so as to permit exemption from By-law 16.4.

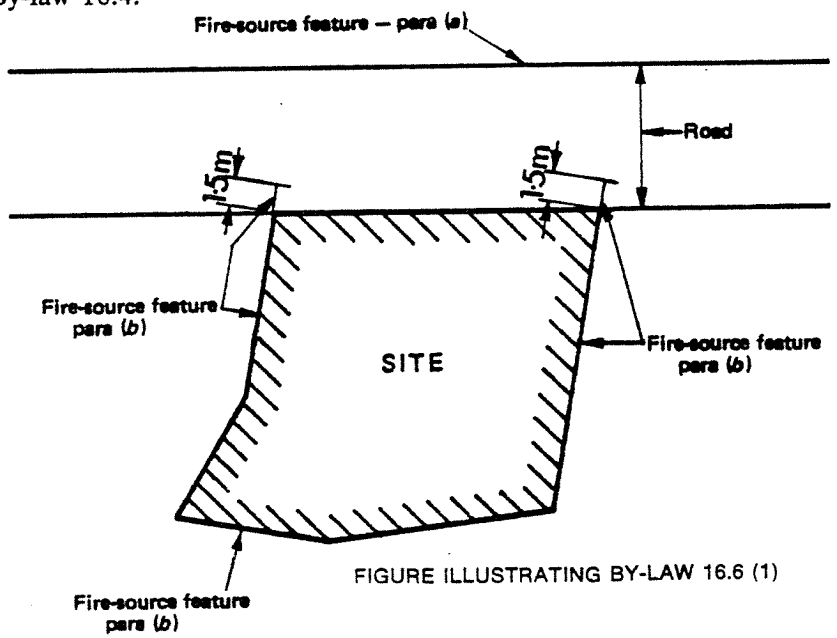
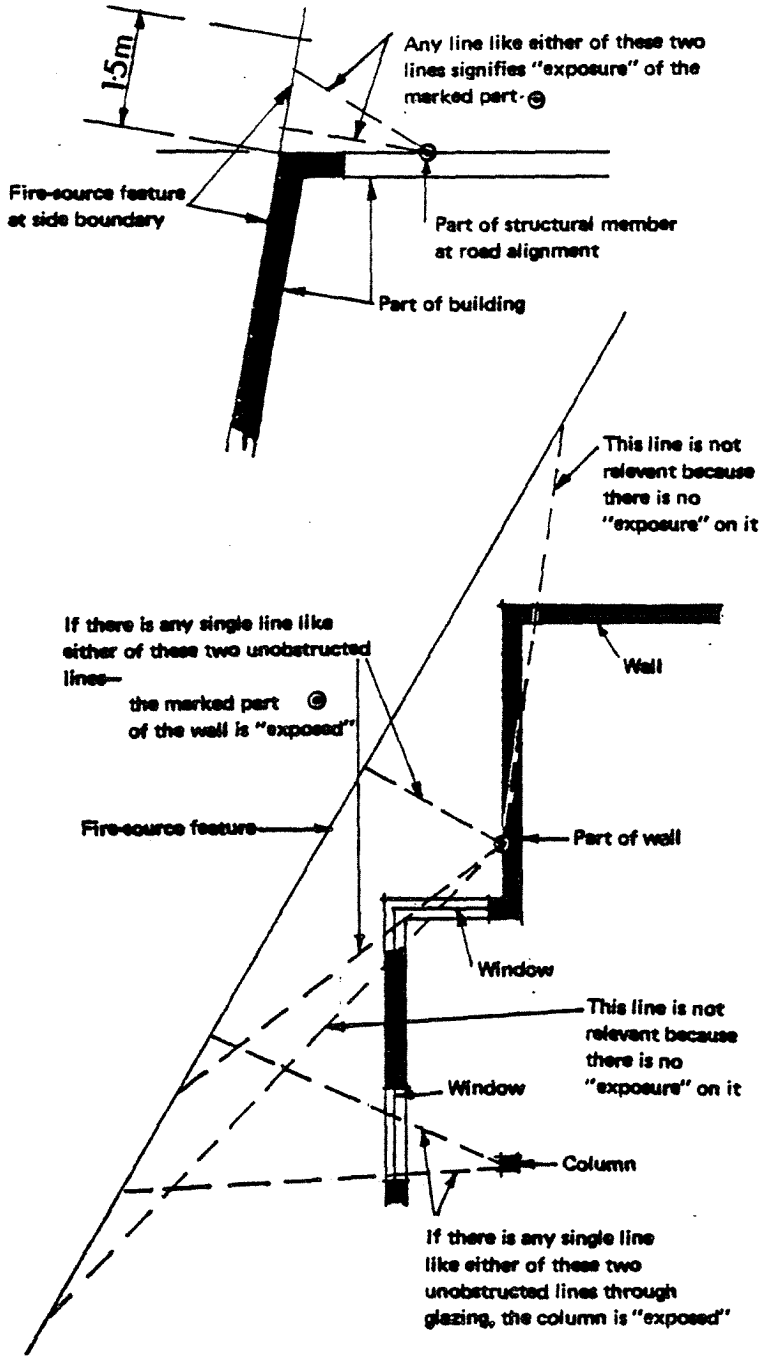


FIGURE ILLUSTRATING BY-LAW 16.6 (1)



FIGURES EACH ILLUSTRATING BY-LAW 16.6 (2)

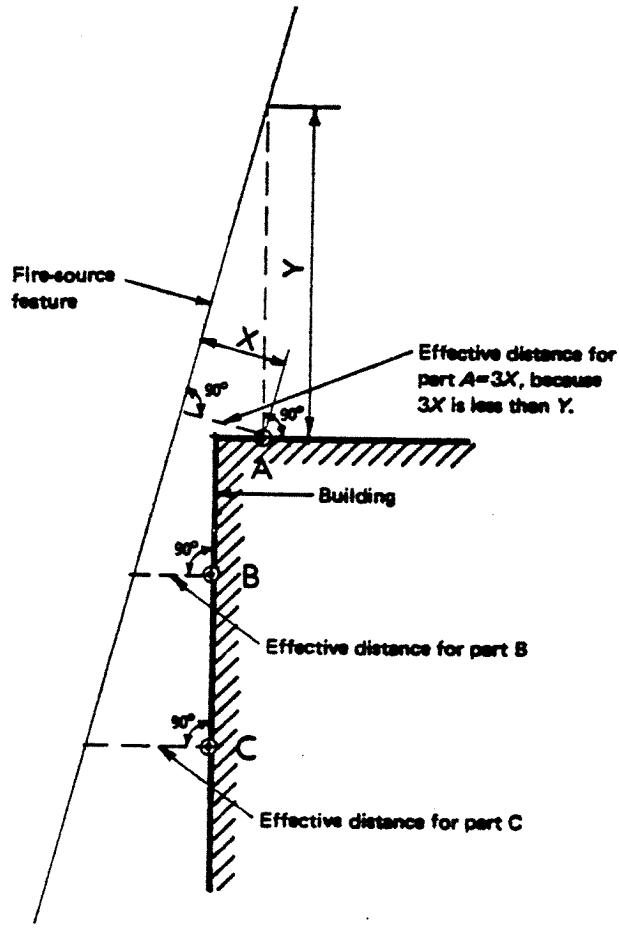


FIGURE ILLUSTRATING BY-LAW 16.6 (4)

16.7 Type 1 Construction. (1) **Requirements.** In a building required to be of Type 1 construction, each part mentioned in the following Table 16.7, and any beam or column incorporated in it, shall (subject to the modifications set out in this By-law and By-law 16.22)—

(a) be non-combustible except where a rating is not listed;

(b) have a fire-resistance rating not less than that listed in the Table, for the particular Class of building concerned; and

(c) be constructed according to subclause (11) or subclause (12) where applicable.

TABLE 16.7

TYPE 1 CONSTRUCTION: FIRE-RESISTANCE RATINGS OF STRUCTURAL MEMBERS

Structural Members	Ratings (in hours)							
	Class of Building							
	II	III	V	VI	VII	VIIIa	VIIIb	IX
External walls (including beams and columns incorporated in them) and other external structural members where, in terms of By-law 16.6 the effective distance between the wall or other member and any fire-source feature to which it is exposed is—								
for loadbearing parts—								
less than 4·5 m	3	3	3	3	4	3	4	3
4·5 m to less than 6 m	2	2	2	3	4	3	4	2
6 m or more	1½	1½	2	3	4	3	4	2
for non-loadbearing parts (including spandrels)—								
less than 4·5 m	3	3	3	3	4	3	4	3
4·5 m to less than 6 m	2	2	2	3	4	3	4	2
6 m to less than 7·5 m	1½	1½	2	3	4	3	4	2
7·5 m to less than 9 m	1	1	1½	2	3	2	3	1½
9 m or more	1	1	1	1½	2	1½	2	1
Common walls and party walls	4	4	4	4	4	4	4	4
Internal loadbearing walls and fire walls (including those bounding public corridors, public hallways, and the like, or between or bounding sole-occupancy units, and those of loadbearing shafts)	1½	1½	2	3	4	3	4	2
Lift shafts and stair shafts required to be fire-resisting that are not loadbearing	1½	1½	2	2	2	2	2	2
Ventilating, pipe, garbage and like shafts neither intended for discharge of hot products of combustion nor loadbearing	1½	1½	1½	2	2	2	2	1½
Internal non-loadbearing walls (including partition walls)—								
bounding public corridors, public hallways, and the like	1	1	..	..	1	1	1	..
between or bounding sole-occupancy units	1	1	..	..	..	..	..	..
bounding a stairway that is not required to be enclosed by a fire resisting shaft	1	1	..	..	..	..	..	..
Floors (including floor beams), roofs (including roof beams and trusses), and internal columns	1½	1½	2	3	4	3	4	2

(2) **Class II Buildings not in Fire-Zones: Concession.** In a Class II building not in a fire-zone a fire-resistance rating of 1½ hours shall apply, as a modification of Table 16.7, for any structural member, except a common or party wall, required by that Table to have a fire-resistance rating exceeding 1½ hours.

(3) **Class II Buildings: Concession for Floors Within Multiple Dwellings.** In a Class II building of Type 1 construction, where—

(a) a dwelling unit extends through two storeys; and

(b) all the walls bounding that dwelling unit are non-combustible and have a fire-resistance rating of not less than 1½ hours,

the floor separating the two storeys within the dwelling unit may be combustible and need not have a fire-resistance rating.

(4) **Buildings of Classes II, III, V or IX: Concession for Certain Floors.** In a building of Class II, III, V or IX and of Type 1 construction, the following floors need not have a fire-resistance rating or be non-combustible—

(a) A floor laid directly on the ground,

(b) A floor, not laid directly on the ground, the space below which is not a storey and is not designed, constructed, or adapted for:

(i) the accommodation of motor vehicles; or

(ii) the accommodation of bathrooms, shower rooms, laundries, water closets, or other sanitary compartments; or

(iii) use as a work area; or

(iv) storage or any other ancillary purpose.

(5) **Class V or IXb Buildings: Concession According to Floor Loading.** In a building of Class V or IXb, if any floor is designed for a live load not exceeding 3·0 kPa, a fire-resistance rating of 1½ hours shall apply, as a modification of Table 16.7, for—

(a) the floor next above (including floor beams); or

(b) the roof, if that is next above (including roof beams).

(6) **Certain Class VII Buildings: Concession for Certain Internal Non-loadbearing Walls.** In a Class VII building having a rise of not more than six storeys, internal non-loadbearing walls (including partition walls) bounding public corridors, public hallways, and similar spaces may contain combustible framing if the combustible material so concerned—

(a) has not been glued or similarly joined; and

(b) has a mass per unit length in the aggregate of not more than 45 kg/m of partition wall measured horizontally.

(7) **Class VII—Open-deck Parking Stations: Modifications for Certain Parts.** For an open-deck parking station which is either—

(a) a whole building; or

(b) a section of a building of mixed classification,

the following fire-resistance ratings shall apply, as modifications of Table 16.7 and of clause (10) hereof, for those structural members which are not subject to the provisions of By-law 16.4—

(a) For a column situated, in terms of By-law 16.6, at an effective distance of less than 4·5 m from a fire-source feature to which it is exposed	3 hours
(b) For any other column	2 hours
(c) For an internal loadbearing wall or fire wall	2 hours
(d) For a floor beam wherever more than half its cross-section is less than 3 m from an edge of a floor	2 hours
(e) For a floor beam otherwise	1 hour
(f) For a floor	1 hour

(8) **Certain Buildings of Class II, III or IX: Concession for Roof.** In a building of Class II, III or IX having a rise of not more than six storeys the roof need not comply with subclause (1) if—

(a) the roof covering is non-combustible; and

(b) the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of one hour, as determined in the Standard Fire Test.

(9) **Certain Buildings of Classes V to VIII: Concession for Roof.** In a building of Class V, VI, VII or VIII having a rise of not more than six storeys, the roof need not comply with subclause (1) but if the building has a rise of more than three storeys—

(a) the roof covering shall be non-combustible; and

(b) the ceiling immediately below the roof shall have a resistance to the incipient spread of fire to the roof space of one hour, as determined in the Standard Fire Test.

(10) **Internal Columns Exposed Through a Window to a Fire-Source Feature.** That section of Table 16.7 specifying fire-resistance ratings according to effective distance extends also to those parts of an internal column that—

(a) face and are within 1·5 m of a window; and

(b) are exposed (in terms of By-law 16.6) through that window to a fire-source feature.

(11) **Certain Internal Walls to be Constructed in Specific Ways.** Every internal wall (including a partition wall) required by Table 16.7 to have a fire-resistance rating—

(a) shall extend to:

(i) the underside of the floor, if any, next above; or

(ii) the underside of a roof complying with subclause (1); or

(iii) the roof covering of any other roof; or

(iv) a ceiling immediately below the roof and having a resistance to the incipent spread of fire to the roof space of one hour, as determined in the Standard Fire Test; and

(b) shall be so fixed to the floor, roof, or ceiling concerned as to be held by it against over-turning in the event of fire.

(12) **Certain Parts of Type 1 Construction to be Constructed of Specific Materials.** In a building of Type 1 construction—

(a) internal loadbearing walls and fire walls (including those that are parts of loadbearing shafts) shall be of concrete or masonry; and

(b) non-loadbearing—

(i) lift shafts and stair shafts required to be fire-resisting; and

(ii) ventilating, pipe, garbage, and similar shafts that are not intended for discharge of hot products of combustion,

shall be of concrete, masonry, or plaster on metal lath, or other material not less hard and dense than plaster on metal lath.

(13) **Concessions for Certain Internal Columns and Walls.** Where pursuant to subclause (8) or subclause (9), a roof that does not have a fire-resistance rating is used in a building having a rise of not more than six

storeys, internal columns (excluding those referred to in subclause (10)) and internal loadbearing walls (excluding fire walls) in the storey immediately below that roof may have the following fire-resistance ratings instead of those listed in Table 16.7—

(a) A building of Class II or Class III—one hour;

(b) A building of Class V, VI, VII or VIII—one hour if the building has a rise exceeding three storeys, but otherwise no rating.

16.8 Type 2 Construction. (1) **Requirements.** In a building required to be of Type 2 construction—

(a) external walls, common or party walls, and any beams or columns incorporated in them shall be non-combustible; and

(b) each part mentioned in the following Table 16.8, and any beam or column incorporated in it, shall (subject to the modifications set out in this By-law):

(i) have a fire-resistance rating not less than that listed in the Table, for the particular class of building concerned; and

(ii) be constructed according to subclause (10) or subclause (11) where applicable.

TABLE 16.8

TYPE 2 CONSTRUCTION: FIRE-RESISTANCE RATINGS OF STRUCTURAL MEMBERS

Structural Members	Ratings (in hours)							
	Class of Building							
	II	III	V	VI	VII	VIIIa	VIIIb	IX
External walls (including beams and columns incorporated in them) and other external structural members where, in terms of By-law 16.6, the effective distance between the wall or other member and any fire-source feature to which it is exposed is—								
for loadbearing parts—								
less than 4·5 m	3	3	3	3	4	3	4	3
4·5 m to less than 6 m	2	2	2	3	4	3	4	2
6 m or more	1½	1½	2	3	4	3	4	2
for non-loadbearing parts (including spandrels)—								
less than 4·5 m	3	3	3	3	4	3	4	3
4·5 m to less than 6 m	2	2	2	3	4	3	4	2
6 m to less than 7·5 m	1½	1½		3	4	3	4	2
7·5 m to less than 9 m	1	1	1½	2	3	2	3	1½
9 m or more	1	1	1	1½	2	1½	2	1
Common walls and party walls	4	4	4	4	4	4	4	4
Internal loadbearing walls and fire walls (including those bounding public corridors, public hallways, and the like, or between or bounding sole-occupancy units, and those of load bearing shafts)	1½	1½	2	3	4	3	4	2
Lift shafts and stair shafts required to be fire-resisting that are not load bearing	1½	1½	2	2	2	2	2	2

TABLE 16.8
TYPE 2 CONSTRUCTION: FIRE-RESISTANCE RATINGS OF STRUCTURAL MEMBERS

Structural Members	Ratings (in hours)							
	Class of Building							
	II	III	V	VI	VII	VIIIa	VIIIb	IX
Ventilating, pipe, garbage, and like shafts neither intended for discharge of hot products of combustion nor loadbearing	1½	1½	1½	2	2	2	2	1½
Internal non-loadbearing walls (including partition walls)—								
bounding public corridors, public hallways, and the like	1	1	..	..	1	1	1	..
between or bounding sole-occupancy units	1	1	..	..	..	..	..	..
bounding a stairway that is not required to be enclosed by a fire-resisting shaft	1	1	..	..	..	..	..	..
Floors (including floor beams), roofs (including roof beams and trusses), and internal columns	1	1	1	1	1	1	1	1

(2) **Certain Floor and Roof Construction deemed to apply.** In a building of Type 2 construction, a floor or roof shall be deemed to have a fire-resistance rating of one hour if—

(a) the ceiling immediately below the floor or roof has a resistance to the incipient spread of fire to the space above itself of one hour, as determined in the Standard Fire Test; and

(b) in the case of a roof, the roof covering is non-combustible.

(3) **Concession for certain Floors.** In a building of Type 2 construction the following floors need not have a fire-resistance rating—

(a) A floor laid directly on the ground.

(b) A floor, not laid directly on the ground, the space below which is not a storey and is not designed, constructed or adapted for:

(i) the accommodation of motor vehicles; or

(ii) the accommodation of bathrooms, shower rooms, laundries, water closets, or other sanitary compartments; or

(iii) use as a work area; or

(iv) storage or any other ancillary purpose.

(4) **Class II buildings not in Fire-Zones: Concession.** In a Class II building not in a fire-zone a fire-resistance rating of 1½ hours shall apply,

as a modification of Table 16.8, for any structural member, except a common or party wall, required by that Table to have a fire-resistance rating exceeding 1½ hours.

(5) **Class II buildings: Concession for floors within multiple dwellings.** In a Class II building of Type 2 construction, a floor separating two storeys within a single dwelling unit need not have a fire-resistance rating if all the walls bounding that dwelling unit—

(a) are non-combustible; or

(b) have surfaces within the flat, with indexes as in subclause (11).

(6) **Concession for certain Loadbearing Walls.** Where the roof of a building and the ceiling immediately below that roof comply with subclause (2), a fire-resistance rating of one hour shall apply as a modification of Table 16.8, for an internal loadbearing wall (excluding a fire wall) in the storey immediately below that roof.

(7) **Class VII—Open-deck Parking Stations: Modifications for Certain Parts.** For an open-deck parking station which is either—

(a) a whole building; or

(b) a section of a building of mixed classification,

the following fire-resistance ratings shall apply, as modifications of the provisions of Table 16.8 and of subclause (9) hereof, for those structural members which are not subject to the provisions of By-law 16.4—

(a) For a column situated, in terms of By-law 16.6, at an effective distance of:

(i) less than 4·5 m from a fire-source feature to which it is exposed	2 hours
(ii) 4·5 m to less than 9 m from such a feature	1½ hours
(iii) 9 m or more from such a feature	1 hour
(b) For an internal loadbearing wall or fire wall	2 hours

(8) **Roofs and certain columns in certain Low-rise Buildings: Concession.** In a building of Type 2 construction, the roof and its internal supporting columns (excluding those referred to in subclause (9)) need not comply with subclause (1) if the rise of the building does not exceed two storeys.

(9) **Internal columns exposed through a window to a fire-source feature.** Those parts of an internal column in a building of Type 2 construction that—

(a) face and are within 1·5 m of a window; and

(b) are exposed (in terms of By-law 16.6) through that window to a fire-source feature,

shall, if the effective distance between the fire-source feature and the part of the column concerned is less than 6 m, have a fire-resistance rating of not less than 1½ hours.

(10) **Certain partition walls to be Constructed in Specific Ways.** A partition wall required by Table 16.8 to have a fire-resistance rating—

(a) shall extend to:

(i) the underside of the floor, if any, next above; or

(ii) the underside of a roof complying with subclause (1); or

(iii) a ceiling as described in subclause (2); and

(b) shall:

(i) be so fixed to the floor, roof, or ceiling concerned as to be held by it against overturning in the event of fire; or

(ii) be of concrete or masonry carried on a wall of concrete or masonry below.

(11) **Other parts of Type 2 Construction to be Constructed in Specific Ways.** In a building of Type 2 construction—

(a) internal loadbearing walls and fire walls (including those that are parts of loadbearing shafts) shall be of concrete or masonry; and

(b) non-loadbearing—

(i) lift shafts and stair shafts required to be fire-resisting; and

(ii) ventilating, pipe, garbage, and similar shafts that are not intended for discharge of hot products of combustion,

shall be of concrete, masonry, or plaster on metal lath or other material not less hard and dense than plaster on metal lath; and

(c) those surfaces of internal non-loadbearing walls (including partition walls) that face public corridors, public hallways and the like shall, if the walls are not constructed wholly of materials that are non-combustible, have

(i) an index of early fire hazard not exceeding 25; and

(ii) an index for spread of flame not exceeding 3,

according to AS A30 (Part III), Tests for Early Fire Hazard Properties of Materials.

16.9 Type 3 Construction. (1) **Requirements.** In a building required to be of Type 3 construction—

(a) external walls, common or party walls, and any beams or columns incorporated in them shall be non-combustible;

(b) each part mentioned in the following Table 16.9, and any beam or column incorporated in it, shall (subject to the modifications set out in this By-law):

(i) have a fire-resistance rating not less than that listed in the Table, for the particular class of building concerned; and

(ii) be constructed according to subclause (6) or subclause (9) where applicable; and

(c) parts mentioned in subclause (5) shall be constructed in the way specified in that subclause.

TABLE 16.9

TYPE 3 CONSTRUCTION: FIRE-RESISTANCE RATINGS OF STRUCTURAL MEMBERS

Structural Members	Ratings (in hours)							
	Class of Building							
	II	III	V	VI	VII	VIIIa	VIIIb	IX
External walls (including beams and columns incorporated in them) and other external structural members where, in terms of clause 16.6, the effective distance between the wall or other member and any fire-source feature to which it is exposed is—								
for loadbearing parts—								
less than 4·5 m	3	3	3	3	4	3	4	3
4·5 m to less than 6 m	2	2	2	3	4	3	4	2
6 m or more	1½	1½	2	3	4	3	4	2
for non-loadbearing parts (including spandrels)—								
less than 4·5 m	3	3	3	3	4	3	4	3
4·5 m to less than 6 m	2	2	2	3	4	3	4	2
6 m to less than 7·5 m	1½	1½	2	3	4	3	4	2
7·5 m to less than 9 m	1	1	1	1½	2	1½	2	1
9 m or more	½	½	½	1	1	1	1	½
Common walls and party walls	4	4	4	4	4	4	4	4
Internal loadbearing walls and fire walls (including those bounding public corridors, public hallways, and the like, or between, or bounding sole-occupancy units and those of loadbearing shafts)	1½	1½	2	3	4	3	4	2
Lift shafts and stair shafts, required to be fire-resisting that are not loadbearing	1½	1½	2	2	2	2	2	2
Ventilating, pipe, garbage, and like shafts neither intended for discharge of hot products of combustion nor loadbearing	1½	1½	1½	2	2	2	2	1½
Internal non-loadbearing walls (including partition walls)—								
bounding public corridors, public hallways, and the like	1	1	..	..	..	..	..	..
between or bounding sole-occupancy units	1	1	..	..	..	..	..	..
bounding a stairway that is not required to be enclosed by a fire-resisting shaft	1	1	..	..	..	..	..	..

(2) **Class II Buildings not in Fire-Zones: Concession.** In a Class II building not in a fire-zone a fire-resistance rating of 1½ hours shall apply, as a modification of Table 16.9, for any structural member, except a common or party wall, required by that Table to have a fire-resistance rating exceeding 1½ hours.

(3) **Concession for certain loadbearing walls.** An internal loadbearing wall (excluding a fire wall) in a storey immediately below the roof shall not be required to comply with subclause (1), but in a building of Class II or Class III—

(a) shall have a fire-resistance rating of not less than one hour if the wall bounds:

(i) a public corridor, public hallway, or the like; or

(ii) a sole-occupancy unit; or

(iii) a stairway that is not required to be enclosed by a fire-resisting shaft; and

(b) shall, if it is a wall referred to in paragraph (a), extend:

(i) to the underside of a ceiling having a resistance to the incipient spread of fire to the roof space of not less than one hour, as determined in the Standard Fire Test; or

(ii) to the underside of the roof covering if it is non-combustible but shall not be crossed by timber purlins or other combustible material; or

(iii) 450 mm above the adjoining roof covering if it is combustible, but shall not be crossed by timber purlins or other combustible material.

(4) **Class VII—Open-deck Parking Stations; Modifications for certain parts.** For an open-deck parking station which is either—

(a) a whole building; or

(b) a section of a building of mixed classification,

the following fire-resistance ratings shall apply as modifications of Table 16.9 for those structural members which are not subject to the provisions of By-law 16.4—

(a) For a column situated, in terms of By-law 16.6, at an effective distance of:

(i) less than 6 m from a fire-source feature to which it is exposed . . . . . 1 hour

(ii) 6 m or more from such a feature . . Nil

(b) For an internal loadbearing wall or fire wall . . 2 hours

(5) **Certain Junctions of Floor Members and Stair Shafts to be Constructed in a specific way.** Where, in a building of Type 3 construction, a stair shaft supports a floor or any structural part thereof, the junction of—

(a) the stair shaft; and

(b) the floor or part,

shall, unless the floor or part has a fire-resistance rating of one hour or more, be so constructed that the floor or part, if sagging or falling as a result of fire, will be free to do so without causing structural damage to the shaft.

(6) **Extent of certain partition walls.** In a building of Class II or Class III, a partition wall required by Table 16.9 to have a fire-resistance rating shall extend—

(a) to the underside of the floor, if any, next above; or

(b) to the underside of a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than one hour, as determined in the Standard Fire Test; or

(c) to the underside of the roof covering if it is non-combustible but shall not be crossed by timber purlins or other combustible material; or

(d) 450 mm above the adjoining roof covering if it is combustible but shall not be crossed by timber purlins or other combustible material.

(7) **Buildings of Classes II and III: Certain Ceilings to be Constructed in a Specific Way.** In a building of Class II or Class III and of Type 3 construction, the ceiling of the topmost storey shall be as specified in By-law 16.12, except where all internal walls in that storey extend to the roof.

(8) **Certain parts to be covered with fire-protective material.** In a building of Class II, III or IX and of Type 3 construction, the following, if combustible or of metal, shall be covered with a fire-protective material in accordance with By-law 16.12—

(a) The underside of a floor (including the sides and undersides of its floor beams, if any) where the floor is above a storey or above a space (not being a storey) that is designed, constructed or adapted for:

(i) the accommodation of motor vehicles; or

(ii) the accommodation of bathrooms, shower rooms, laundries, water closets, or other sanitary compartments; or

(iii) use as a work area; or

(iv) storage or any other ancillary purpose.

(b) A column supporting such a floor.

(9) **Other parts of Type 3 construction to be constructed in specific ways.** In a building of Type 3 construction—

(a) internal loadbearing walls and fire walls (including those that are parts of loadbearing shafts) shall be of concrete or masonry; and

(b) non-loadbearing—

(i) lift shafts and stair shafts required to be fire-resisting; and

(ii) ventilating, pipe, garbage, and similar shafts that are not intended for discharge of hot products of combustion,

shall be of concrete, masonry, or plaster on metal lath or other material not less hard and dense than plaster on metal lath.

16.10 Type 4 Construction. (1) **Application of By-law.** In a building of Type 4 construction all parts mentioned in this By-law shall be constructed in accordance with the relevant requirements set out herein.

(2) **Certain parts to have Fire-Resistance Ratings.** Each part mentioned in the following Table 16.10, and any beam or column incorporated in it, shall (subject to the modification set out in subclause (3))—

(a) be non-combustible; and

(b) have a fire-resistance rating not less than that listed in the Table, for the particular class of building concerned.

TABLE 16.10
TYPE 4 CONSTRUCTION: FIRE-RESISTANCE RATINGS OF STRUCTURAL MEMBERS

Structural Members	Ratings (in hours)					
	Class of Building					
	V	VI	VII	VIIIa	VIIIb	IX
External walls (including beams and columns incorporated in them) and other external structural members where, in terms of By-law 16.6, the effective distance between the wall or other member and any fire-source feature to which it is exposed is less than 3 m	1	1	1	1	1	1
Fire walls	2	3	4	3	4	2

(3) **Class VII—open-deck parking stations: concession for fire walls.** For an open-deck parking station a fire-resistance rating of 2 hours shall apply, as a modification of Table 16.10, for a fire wall (including one that is part of a shaft).

(4) **Certain External and Internal Walls.** External walls not mentioned in Table 16.10 and internal loadbearing walls (including those that are parts of loadbearing shafts), shall—

(a) be of concrete or masonry; or

(b) have their main framing (including its diagonal bracing) in steel or concrete, and their sheeting, if any, in non-combustible material,

except for that part, if any, of an internal wall that supports only a roof.

(5) **Fire Walls.** In a building of Type 4 construction fire walls shall be of concrete or masonry.

(6) **Internal Columns.** Internal columns, if any, that support a floor in a building of Type 4 construction shall be of—

(a) steel, concrete, or masonry; or

(b) hardwood having nominal dimensions of not less than 125 mm x 125 mm.

(7) **Floors: General Requirements.** Floors in a building of Type 4 construction shall (subject to the modification set out in subclause (8))—

(a) be non-combustible; or

(b) have their main framing (including all floor beams and joists) in:

(i) steel or concrete; or

(ii) hardwood having nominal dimensions of not less than 100 mm x 75 mm; or

(iii) timber, other than hardwood, having nominal dimensions of not less than 125 mm x 100 mm.

(8) **Concession for Certain Floors.** In a building of Type 4 construction the following floors need not comply with subclause (7)—

(a) A floor laid directly on the ground;

(b) A floor, not laid directly on the ground, the space below which is not a storey and is not designed, constructed, or adapted for:

(i) the accommodation of motor vehicles; or

(ii) the accommodation of bathrooms, shower rooms, laundries, water closets, or other sanitary compartments; or

(iii) use as a work area; or

(iv) storage or any other ancillary purpose.

(9) **Buildings of Classes II, III and IX: Use of Type 4 Construction.** A building of Class II, III or IX and of Type 4 construction shall, in addition to meeting the relevant requirements of this By-law, comply with the provisions of By-law 16.11 applicable to a building of the class concerned, regarding, as the case requires—

(a) the fire-resistance rating and construction of internal walls (including partition walls):

(i) bounding public corridors, public hallways and the like; or

(ii) between or bounding sole-occupancy units; or

(iii) bounding a stairway;

(b) the level to which a wall referred to in paragraph (a) shall extend;

(c) the protection to be afforded to the underside of a floor and its supporting columns, if any; and

(d) the construction of the ceiling of the topmost storey.

(10) **Certain Parts to be Covered with Fire-Protective Material.** In a Class IX building of Type 4 construction the following if combustible or of metal, shall be covered with fire-protective material in accordance with By-law 16.12—

(a) The underside of a floor (including the sides and underside of its floor beams, if any) where the floor is above a storey, or above a space (not being a storey) that is designed, constructed, or adapted for:

(i) the accommodation of motor vehicles; or

(ii) the accommodation of bathrooms, shower rooms. laundries, water closets, or other sanitary compartments; or

(iii) use as a work area; or

(iv) storage or any other ancillary purpose.

(b) A column supporting such a floor.

16.11 Type 5 Construction. (1) **Application of By-law.** In a building required to be of Type 5 construction all parts mentioned in this By-law shall be constructed in accordance with the relevant requirements set out herein.

(2) **Certain Parts to have Fire-Resistance Ratings.** Each part mentioned in the following Table 16.11, and any beam or column incorporated in it, shall (subject to the modifications set out in this By-law) have a fire-resistance rating not less than that listed in the Table,

for the particular class of building concerned, unless it is subject to the provisions of By-law 16.20, in which case the application of the provisions of this clause is modified to the extent provided in By-law 16.20.

TABLE 16.11
TYPE 5 CONSTRUCTION: FIRE-RESISTANCE RATINGS OF STRUCTURAL MEMBERS

Structural Members	Ratings (in hours)							
	Class of Building							
	II	III	V	VI	VII	VIIIa	VIIIb	IX
External walls (including beams and columns incorporated in them) and other external structural members where, in terms of By-law 16.6 the effective distance between the wall or other member and any fire-source feature to which it is exposed is less than 3 m ..	1	1	1	1	1	1	1	1
Fire walls	1½	1½	1½	3	3	3	4	1½
Internal walls (including partition walls)—								
bounding public corridors, public hallways, and the like	1	1	..	..	..	..	..	..
between or bounding sole-occupancy units	1	1	..	..	..	..	..	..
bounding a stairway	1	1	..	..	..	..	..	..

(3) **Certain External Walls to be Non-Combustible.** An external wall (including beams and columns in it) that is required by Table 16.11 to have a fire-resistance rating shall, subject to subclause (4), be non-combustible.

(4) **External Walls: Outer Section may meet Certain Requirements for the Wall.** Where an external wall is required by subclauses (2) and (3) to have a fire-resistance rating and be non-combustible, those requirements shall be deemed to have been met if the outer section of the wall has the required fire-resistance rating and is non-combustible.

(5) **Certain Buildings of Classes VII and VIIIb: Construction of Certain Other External Walls.** In a Class VII building of Type 5 construction for the storage or display of goods referred to in Appendix 1, or in a Class VIIIb building of Type 5 construction, an external wall—

(a) that faces and is within 7·5 m of a boundary of the site, and land of an adjoining owner; and

(b) that is not required by Table 16.11 to have a fire-resistance rating,

shall be non-combustible or be sheeted externally with non-combustible material.

(6) **Buildings of Class II or III: Concession for Certain Internal Walls.** In a building of Class II or Class III and of Type 5 construction, internal walls (including partition walls), bounding a sole-occupancy unit, or separating adjoining sole-occupancy units, need not have a fire-resistance rating if—

(a) each sole-occupancy unit concerned has direct egress to the ground or to an external balcony providing egress in two different directions from the building; and

(b) the sheeting of those walls, if not backed by concrete or masonry, is non-combustible.

(7) **Fire Walls.** In a building containing two storeys and of Type 5 construction, fire walls shall be of concrete or masonry.

(8) **Extent of Certain Partition Walls.** In a building of Class II or Class III a partition wall required by Table 16.11 to have a fire-resistance rating shall extend—

(a) to the underside of the floor, if any, next above; or

(b) to the underside of a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than one hour, as determined in the Standard Fire Test; or

(c) to the underside of the roof covering if it is non-combustible but shall not be crossed by timber purlins or other combustible materials; or

(d) 450 mm above the adjoining roof covering if it is combustible but shall not be crossed by timber purlins or other combustible material.

(9) **Buildings of Classes II and III: Certain Ceilings to be Constructed in a Specific Way.** In a building of Class II or Class III and of Type 5 construction, the ceiling of the topmost storey shall be as specified in By-law 16.12, except where all internal walls in that storey, required by Table 16.11 to have a fire-resistance rating, extend to the roof.

(10) **Buildings of Class II, III or IX: Certain Parts to be Covered with Fire-Protective Material.** In a building of Class II, III or IX and of Type 5 construction, the following, if combustible or of metal, shall be covered with a fire-protective material in accordance with By-law 16.12—

(a) The underside of a floor (including the sides and undersides of its floor beams, if any) where the floor is above a storey, or above a space (not being a storey) that is designed, constructed, or adapted for:

(i) the accommodation of motor vehicles; or

(ii) the accommodation of bathrooms, shower rooms, laundries, water closets, or other sanitary compartments; or

(iii) use as a work area; or

(iv) storage or any other ancillary purpose.

(b) A column supporting such a floor.

16.12 Fire-Protective Covering of Certain Members in Buildings of Class II, III or IX. The fire-protective covering or ceiling required by subclauses (7) and (8) of By-law 16.9 and subclauses (9) and (10) of By-law 16.11 for certain parts of buildings of Classes II, III or IX and of Type 3 or Type 5 construction shall be a lining or ceiling of—

(a) 12·7 mm plasterboard; or

(b) 12·7 mm asbestos-silica board; or

(c) 12·7 mm mesh-reinforced fibrous plaster in which the mesh is one of 12·7 mm x 12·7 mm x 0·71 mm welded wire located not more than 6 mm from the exposed face; or

(d) any other material not less fire-protective than 12·7 mm plasterboard.

The material in each case shall be of fire-protective grade and fixed in accordance with the normal trade practice applicable to the fixing of the material as a fire-protective covering.

16.13 Construction of Stairs and Landings. (1) **Stairways Required to be Within Fire-Resisting Shafts.** In stairways that are required to be within fire-resisting shafts—

(a) the stairs and landings shall be constructed only of:

(i) reinforced or prestressed concrete in no part less than 75 mm thick, measured exclusive of topping; or

(ii) precast reinforced concrete, not prestressed, in no part less than 63 mm thick,

finished throughout in non-combustible material; and

(b) * * * *

(ba) structural members, if any, supporting stairs or landings shall be non-combustible.

(2) **Class II Buildings: Stairways not Required to be Within Fire-Resisting Shafts.** In a Class II building having a rise of more than two storeys, the stairs and landings (including any supporting structural members) of a required stairway that is not required to be within a fire-resisting shaft shall—

(a) be constructed according to subclause (1); or

(b) be constructed only of:

(i) reinforced or prestressed concrete; or

(ii) steel in no part less than 6·3 mm thick; or

(iii) timber that has not been glued or similarly joined and has an average density at a moisture content of 12 per cent of not less than 800 kg/m^3 and a finished thickness of not less than 44 mm.

16.14 Construction of Ramps. Ramps and their landings, where required to be within fire-resisting shafts, shall—

(a) be non-combustible; and

(b) have a fire-resistance rating of not less than one hour.

16.15 Fire-Resistance Ratings of Fire Walls and Floors Common to Two Sections of a Building. (1) **When the Sections are of Different Classes.** Where a building has sections of different Classes—

(a) the fire-resistance rating of a fire wall required between the sections (including a Class IV section, if any) shall be as follows:—

(i) Where the sections are served in any storey by the same public corridor, public hallway, or the like—1½ hours in that storey;

(ii) in every other case the fire-resistance rating prescribed in this Part for both sections (if those ratings are the same) or for that section for which the greater rating is prescribed (if those ratings are different); and

(b) a fire-resistance rating that applies according to By-law 16.7 or By-law 16.8 for a floor in the lower section (if one section is below the other) shall apply also for the floor between the sections.

(2) **When Bounding a Plant Room.** A fire wall required to bound a room designed, constructed, or adapted for the housing of equipment such as lift, heating, ventilating, or air-conditioning plant or transformers, generators, or other electrical equipment, or other special equipment for the servicing of the building, shall have a fire-resistance rating not less than the greater of—

(a) 2 hours; and

(b) the rating for a fire wall prescribed in this Part for the particular class of the building in which the room is situated.

16.16 Mezzanine Floors. (1) **Application of Part 16.** The provisions of this Part relating to the construction of floors and any supporting columns shall, except as otherwise provided in this By-law, apply to the floor of a mezzanine and its supporting columns, if any.

(2) **Concession for Mezzanines of Restricted Area.** Mezzanine floors, and any columns supporting only those floors, need not have a fire-resistance rating or be non-combustible if the following conditions are met—

(a) the area of the mezzanine floor is not more than 200 m^2 or one-third of the area of the room concerned, whichever is the less,

(b) if a room includes two or more mezzanines and the floors of those mezzanines are at or near the same level, the aggregate area of such floors is not more than 200 m^2 or one-third of the area of the room concerned, whichever is the less,

(c) every wall or column that supports any part of the building except the mezzanine floor or floors has:

(i) if it is at any part within 6 m of the mezzanine floor or floors; and

(ii) if it is required elsewhere in this Part to have a fire-resistance rating,

a fire-resistance rating of not less than one and one-third the rating otherwise required.

16.17 Certain Parts Within Ducts or Wells to be Specially Constructed for Fire-Resistance. A beam, column or other framing member—

(a) that passes through a duct or a well within a shaft; and

(b) that is required to have a fire-resistance rating,

shall be of concrete, or be encased in concrete, and have a fire-resistance rating of not less than 2 hours.

16.18 Buildings of Class II or III: Certain Ceilings and Ceiling Supports to be Non-combustible. In a building of Class II or Class III, a ceiling—

(a) above a public corridor, public hallway, or the like, or above a stairway or ramp that is required to be bounded by fire-resisting walls; and

(b) not forming an integral part of the floor, or roof next above, and not being a ceiling with a resistance to the incipient spread of fire to the space above itself of not less than one hour,

shall be non-combustible, and, if in a building of Type 1, or Type 2 construction, shall have only non-combustible supports.

16.19 Combustible Internal Linings. Unless otherwise stated in these By-laws, a combustible lining may be attached, inside a building, to a face of a structural member that is required—

(a) to have a fire-resistance rating; or

(b) to be non-combustible.

16.19a Insulation Material. Any material not being part of a structural member and not being a lining used as a surface finish which is placed in any cavity in a building or fitted to any part of a building for the purpose of insulation shall be non-combustible.

16.20 Construction of Certain External Walls and Steelwork. (1) **Calculation of Number of Storeys Contained.** For the purposes of this By-law, By-law 19.1 shall apply in determining the number of storeys a building contains.

(2) **Constructional Concession: One Storey.** Where, in a building that contains one storey only, a steel column is incorporated in an external wall that is required to have a fire-resistance rating, the column need not have a fire-resistance rating.

(3) **Constructional Requirements: More than One Storey.** Where, in a building that contains more than one storey, a steel column that supports a roof truss or beam at an external wall has either no fire-resistance rating or a rating that is less than that required for the wall—

(a) the truss or beam and the column shall be so constructed that in the event of fire they will not tend to overturn the wall; and

(b) the wall shall be so constructed that it does not at any time depend upon the column for support.

16.21 Ancillary Construction at External Walls. In a building required to be of Type 1 or Type 2 construction, the following shall be non-combustible—

(a) Materials, if any, attached to the outside face of an external wall;

(b) The construction of and frames around external doors and windows, if the building is in a fire-zone.

16.22 Roofing Felt on a Roof Required to Have a Fire Rating. A roof required by By-law 16.7 to have a fire-resistance rating and to be non-combustible may be covered with built-up roofing consisting of successive layers of bitumen-impregnated, tar-impregnated, or similar roofing felt.

16.23 Roof Superimposed on Concrete Slab in Types 1 and 2 Construction. In a building of Type 1 or Type 2 construction, a roof, not complying with this Part as to fire-resisting construction, may be superimposed on a concrete slab roof if—

(a) the superimposed roof and any construction between it and the concrete slab roof are non-combustible throughout; and

(b) the concrete slab roof complies with this Part as to fire-resisting construction.

16.24 Concession for Certain Structures Situated on Roofs. A non-combustible structure situated on a roof and containing singly or together only—

(a) hot-water or other water tanks; or

(b) ventilating ductwork; or

(c) ventilating fans and their motors; or

(d) air-conditioning chillers; or

(e) window-cleaning equipment; or

(f) lift equipment; or

(g) other service units that are non-combustible and do not contain combustible fluids,

need not comply with the other provisions of this Part.

16.25 Lintels. (1) **Where a Fire-Resistance Rating is Required.** Every lintel shall have the fire-resistance rating, if any, required for the part of the building in which it is situated, except as provided in subclause (2).

(2) **Where a Fire-Resistance Rating is not Required for the Lintel.** Steel angles, plates, or bars comprising lintels that span openings—

(a) in walls of buildings containing only one storey; or

(b) in non-loadbearing walls of Class II buildings; or

(c) not exceeding 3 m in width, and bridged by non-loadbearing masonry; or

(d) not exceeding 1·8 m in width, and bridged by loadbearing masonry, being part of a solid wall or part of one of the leaves of a cavity wall, the masonry in each case being not more than 150 mm in thickness,

shall not be subject to subclause (1) unless the lintels help to support fire doors or fire shutters.

16.26 Appurtenant Design Not to Impair Fire-Resistance Performance. The design of every method of attachment or installation—

(a) of a facing or finish to a part of a building required to have a fire-resistance rating; or

(b) of ducting or any other service to such a part,

shall provide for the attachment or installation to proceed without impairing the potential fire-resistance performance of that part.

16.27 Buildings Above Certain Public Facilities. (1) **Facilities Concerned.** This By-law applies to a building built above a road, railway, bus terminal, or similar public facility.

(2) **Fire Ratings Required.** The fire-resistance rating of each structural member in, immediately above, or immediately alongside a public facility referred to in subclause (1) shall be not less than that determined by the Local Authority having regard to—

(a) the particular circumstances; and

(b) the other provisions of this Part.

(3) **Floor Construction.** The Local Authority may require that any column or floor subject to subclause (2) shall be of reinforced or pre-stressed concrete, or structural steel encased in concrete.

DIVISION V—FIRE SAFETY AND FIRE RESISTANCE

PART 17—CONSTRUCTION REQUIRED EXCEPT IN FIRE ZONES

17.1 Rise in Storeys. (1) **Definition.** For the purposes of these By-laws, the rise in storeys of a building means the number of storeys above the ground, calculated in accordance with the provisions of these By-laws.

(2) **Determination.** The greatest number of storeys at any part of the external walls of a building, counted above the finished ground adjacent to that part, shall be deemed to be the rise in storeys of the building.

(3) **Calculation Where Wall abuts a Boundary of an Adjoining Allotment.** When any part of an external wall abuts the boundary of land of an adjoining owner, the natural ground level at the relevant part of the boundary shall be regarded as the finished ground in reckoning the number of storeys at the part of the wall concerned.

(4) **Certain levels to be Determined by the Local Authority.** In applying subclause (3), if there is any doubt as to the natural ground level (because of prior excavation or other cause) this level shall be assessed to the satisfaction of the Local Authority.

(5) **Certain Storeys Excluded from the Reckoning.** In counting the number of storeys above the finished ground at any part of an external wall, a storey shall be excluded from the reckoning if—

(a) it is situated at the top of the building and contains only heating, ventilating, lift, or other equipment, water tanks, or similar service units; or

(b) it is situated partly below the finished ground against that part of the wall and extends not more than 1 m above the average level of that ground, the measurement being taken to:

(i) the underside of the ceiling; or

(ii) where there is no ceiling, the underside of the construction at the top of the storey,

except that, if the length of that part of the wall exceeds 12 m, the average level of the finished ground against it, used in the measurement, shall be the average for that 12 m section of its length where the ground is lowest.

(6) **Certain Mezzanines to be Regarded as Storeys.** In calculating the rise in storeys of a building which incorporates one or more mezzanines—

(a) any mezzanine having a floor area of more than 200 m^2; or

(b) two or more mezzanines at or near the same level in a room and having an aggregate floor area of more than 200 m^2,

shall be regarded as a storey in that portion of the building in which they are situated.

(7) **Certain High Storeys to be Regarded as Two Storeys.** Any storey that has an internal height of more than 5·2 m shall be regarded as—

(a) one storey, if it is the only storey above the ground; or

(b) two storeys in any other case.

(8) **Determination of Rise of a Fire-Separated Section.** The rise in storeys of a section of a building that is fire-separated according to Part 23 from the remainder of the building shall be determined as though the section were itself a building.

17.2 Type of Fire-Resisting Construction Required. (1) **Classes Concerned and their Location.** The type of fire-resisting construction required in a building of Class II, III, V, VI, VII, VIII or IX—

(a) except in a fire-zone; and

(b) except as provided in By-laws 17.4, 17.5 and 17.6 for certain Class II buildings, and in By-law 17.8 for open-deck parking stations,

shall be that stated in the relevant column of the following Table 17.2.

TABLE 17.2

TYPE OF FIRE-RESISTING CONSTRUCTION REQUIRED EXCEPT IN A FIRE-ZONE

Rise in Storeys	Class of Building								
	II	III	V	VI	VII	VIIIa	VIIIb	IXa	IXb
6 or more	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1
5	Type 1	Type 1	Type 2	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1
4	Type 1	Type 1	Type 2	Type 1	Type 2	Type 2	Type 1	Type 1	Type 1
3	Type 1	Type 1	Type 3	Type 2	Type 3	Type 3	Type 3	Type 1	Type 1
2	Type 3	Type 3	Type 5	Type 5	Type 5	Type 5	Type 5	Type 2	Type 3
1	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5

(2) **Fire-Separated Sections.** A section of a building that is fire-separated according to Part 23 from the remainder of the building shall be subject to subclause (1) as though the section were itself a building.

(3) **Buildings of Mixed Classifications.** In a building of mixed classifications, the type of fire-resisting construction required shall be that type of construction that is the most fire-resistant of the types arising from the application of subclause (1) at each storey, based on the assumptions that—

(a) a classification applying to the particular storey applies also to the storeys vertically below it; and

(b) the particular storey and those vertically below it comprise an entire building.

17.3 Lightweight Construction. (1) **Definition.** For the purposes of this By-law lightweight construction means—

(a) that variety of fire-resisting construction in which the construction affording fire protection:

(i) is not in continuous contact with the principal construction that it fire-protects; or

(ii) is of sheet or board material, plaster, render, sprayed application, or other material similarly susceptible to damage by pressure or abrasion; and

(b) that variety of fire-resisting construction which incorporates or comprises:

(i) concrete containing pumice, perlite, vermiculite, or other soft material; or

(ii) masonry having a measured thickness of less than 70 mm.

(2) **Restrictions on the use of Lightweight Construction.** Subject to subclause (3), in a building having a rise exceeding four storeys, a beam or column, or a wall required to have a fire-resistance rating, not being a partition wall, shall not incorporate or be of lightweight construction if it is in—

(a) any Class VI, VII, or VIII section; or

(b) any portion, regardless of its classification, that is below the level of a Class VI, VII, or VIII section.

(3) **Where the restrictions do not apply.** Subclause (2) shall not apply where any Class VI section concerned is designed, constructed, or adapted for use as—

(a) a cafe or restaurant; or

(b) a tea room, coffee room, or milk or soft-drink bar; or

(c) a hairdresser's or barber's shop; or

(d) a shop of any other kind, the normal functioning and servicing of which would not, in the opinion of the Local Authority, represent undue risk of damage to the lightweight construction of any beam, column, or wall.

17.4 Type of Fire-Resisting Construction Required in Certain Class II Buildings. (1) **Description and Location of Buildings.** A building that is entirely of Class II and that is not in a fire-zone shall be subject to subclause (2), instead of By-law 17.2, if it is so designed that—

(a) no part of any dwelling unit is vertically above any part of another dwelling unit; and

(b) the floor between each dwelling unit and any garage below is constructed of reinforced or prestressed concrete.

(2) **Type of Construction Required.** The type of fire-resisting construction required in a building referred to in subclause (1) shall be as follows, according to the greatest number of storeys contained in any dwelling unit, and irrespective of its rise in storeys—

(a) For three storeys contained—Type 2.

(b) For one or two storeys contained—Type 5.

17.5 Buildings of Class II or III Having a Rise of Two Storeys: Concession as to Type of Construction. A building of Class II or Class III having a rise of two storeys may be of Type 5 construction if it complies with the special provisions of Part 24 as to means of egress from sole-occupancy units in such a building.

17.6 Existing Buildings Converted from Class I to Class II. (1) **Type of Construction Required.** Where the Local Authority approves of the conversion of an existing building from Class I to Class II, the converted building shall be of that type of fire-resisting construction stated in the relevant column of Table 17.2, subject to the provisions of By-laws 17.4 or 17.5, if applicable, and to the provision for external walls set out in subclause (2) of this By-law.

(2) **Concession for external walls in certain buildings.** The external walls of a building described in subclause (1) shall not be required to have a fire-resistance rating or be non-combustible if the building—

(a) is not in a fire-zone; and

(b) contains not more than two storeys.

17.7 Requirements for Class IV Sections of Buildings. A Class IV section of a building shall be of that type of fire-resisting construction required for the building of which it is a part.

17.8 Class VII—Open-deck Parking Stations: Concession as to Type of Construction. An open-deck parking station which is—

(a) a whole building; or

(b) a section of a building of mixed classification, which section—

(i) has no structural members subject to the provisions of By-law 16.4; and

(ii) is not subject to the provisions of subclause (3) of By-law 17.2,

need not comply with the other requirements of this Part if—

(a) it contains not more than three storeys; and

(b) it is of Type 4 construction in which:
(i) the floors are of concrete; and
(ii) all the columns and floor beams are of steel or concrete; and

(ba) all other construction is non-combustible.

DIVISION V—FIRE SAFETY AND FIRE RESISTANCE

PART 18—CONSTRUCTION REQUIRED IN FIRE-ZONES

18.1 Buildings Deemed to be in Fire-Zones. A building shall be deemed to be in a fire-zone if not less than half its total volume, measured over the roof and the external walls, is situated within the zone.

18.2 Construction Required in a Primary Fire-Zone. In a primary fire-zone, the type of fire-resisting construction required in a building of Class II, III, V, VI, VII, VIII or IX shall be that stated in the second column of the following Table 18.2.

TABLE 18.2

TYPE OF FIRE-RESISTING CONSTRUCTION REQUIRED IN A PRIMARY FIRE-ZONE

Rise in Storeys	Type of Construction
3 or more	Type 1
2	Type 2
1	Type 3

18.3 Construction Required in a Secondary Fire-Zone. In a secondary fire-zone, the type of fire-resisting construction required in a building of Class II, III, V, VI, VII, VIII or IX shall be that stated in the relevant column of the following Table 18.3.

TABLE 18.3

TYPE OF FIRE-RESISTING CONSTRUCTION REQUIRED IN A SECONDARY FIRE-ZONE

Rise in Storeys	Class of Building							
	II	III	V	VI	VII	VIIIa	VIIIb	IX
4 or more	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1
3	Type 1	Type 1	Type 2	Type 2	Type 2	Type 2	Type 2	Type 1
2	Type 2	Type 2	Type 3	Type 3	Type 3	Type 3	Type 3	Type 2
1	Type 3	Type 3	Type 3	Type 3	Type 3	Type 3	Type 3	Type 3

18.4 Fire Separated Sections. Each section of a building that is required to be fire-separated according to Part 23 from the remainder of the building shall be subject to By-law 18.2 or By-law 18.3, as the case requires, as though the section were itself a building.

18.5 Buildings of Mixed Classifications. In a building of mixed classifications, the type of fire-resisting construction required in a fire-zone shall be that type of construction that is the most fire-resistant of the types arising from the application of By-law 18.2 or By-law 18.3, as the case requires, at each storey, based on the assumptions that—

(a) a classification applying to the particular storey applies also to the storeys vertically below it; and

(b) the particular storey and those vertically below it comprise an entire building.

18.6 Use of Lightweight Construction. By-law 17.3 regarding restrictions on the use of lightweight construction in certain buildings extends to buildings in a fire-zone.

18.7 Requirements for Class IV Sections of Buildings. A Class IV section of a building shall be of that type of fire-resisting construction required for the building of which it is a part.

18.8 Construction Required for Class I Buildings. A Class I building in a fire-zone, if containing more than two storeys, shall have external walls of concrete or masonry.

18.9 Construction Required for Class X Buildings. A Class X bunding in a fire-zone, if containing more than one storey, shall have external walls of concrete or masonry.

18.10 Class VII—Open-deck Parking Stations: Concession as to Type of Construction. An open-deck parking station which is either—

(a) a whole building; or

(b) a section of a building of mixed classifications, which section—

(i) has no structural members subject to the provisions of By-law 16.4; and

(ii) is not subject to the provisions of By-law 18.5,

need not comply with the other requirements of this Part if—

(a) the number of storeys it contains does not exceed the number stated in the following Table 18.10, according to the category of fire-zone in which the building is situated and according to the average area across each storey, measured to the outside of the building and irrespective of any internal walls (including fire walls);

(b) the area across any storey is not less than the area across a storey at a higher level;

(c) the building is of Type 4 construction in which—

(i) the floors at each parking level are of concrete or concrete and steel decking;

(ii) the floors are structurally continuous across all floor beams, and have a fire-resistance rating of not less than ½ hour;

(iii) the floor beams which have any part less than 3 m from the outside of a floor have a fire-resistance rating of not less than 1½ hours;

(iv) the other floor beams and the columns are of steel or concrete;

(v) any part of an internal column that—

(a) is exposed, in terms of By-law 16.6, to a fire-source feature; and

(b) has an effective distance of less than 9 m between itself and the fire-source feature,

has a fire-resistance rating of not less than 2 hours; and

(va) all other construction is non-combustible.

TABLE 18.10

OPEN-DECK PARKING STATIONS

MAXIMUM PERMISSIBLE NUMBER OF STOREYS, ACCORDING TO CATEGORY OF FIRE-ZONE AND AVERAGE AREA ACROSS EACH STOREY

In this Table, the area across a storey includes the areas above the ramps that lead down from the storey.

Category of Fire-Zone	Maximum Permissible Number of Storeys for an Average Area Across Each Storey (in square metres) Of—					
	Less than 650	650 to less than 900	900 to less than 1 300	1 300 to less than 1 800	1 800 to less than 3 200	3 200 to less than 7 400
Primary ..	5	6	7	8	9	10
Secondary ..	4	5	6	7	8	9

DIVISION V—FIRE SAFETY AND FIRE RESISTANCE

PART 19—FLOOR AREA LIMITATIONS

19.1 Interpretive Provisions. (1) **Certain Storeys deemed to be Excluded from Calculations.** In these By-laws the number of storeys contained in a building shall be deemed not to include a storey situated at the top of the building and containing only heating, ventilation, lift, or other equipment, water tanks, or similar service units and the floor area of such a storey shall not be taken into account for the purposes of this Part.

(2) **Class VII and Class VIII Buildings of Partly One and Partly Two Storeys.** For the purposes of this Part, a building of Class VII or Class VIII shall be deemed to contain only one storey if—

(a) it contains two storeys in one or more portions and only one storey in the remainder of the building; and

(b) the sum of the floor areas of the storeys in the portion or portions containing two storeys does not exceed one-fourth of the floor area of the remainder of the building.

19.2 General Floor-area Limitations. (1) **Application of By-law.** This Part applies to buildings of Class V, VI, VII or VIII and of Type 2, 3, 4, or 5 construction, subject to the exemptions permissible under By-laws 19.3 and 19.4 in regard to certain buildings containing only one storey, and to the provisions of By-law 18.10.

(2) **Limitations on Total Floor Area.** In a building to which this By-law applies, the sum of the floor areas of all storeys shall not (subject to subclause (3)) exceed the relevant maximum floor area set out in the following Table 19.2.

(3) **Limitations to Apply to Individual Storeys in Certain Cases.** In a building containing two or more storeys, the relevant maximum floor area set out in Table 19.2 shall apply to each storey, instead of the sum of all storeys, if—

(a) every floor (including its vertical supports) between the storeys has a fire-resistance rating of not less than 2 hours;

(b) the storeys are not interconnected by escalators;

(c) every lift well, stairway, or ramp is bounded by a shaft that has a fire-resistance rating of not less than two hours; and

(d) the external walls, in a building of Type 4 or Type 5 construction, are of concrete or masonry.

(4) **Fire-separated Sections of a Storey.** Where a storey is divided into sections by fire walls, the following provisions shall apply—

(a) If the building contains only one storey, the relevant maximum floor area set out in the following Table 19.2 shall apply to each such section as though it were a complete building.

(b) If the building contains two or more storeys and complies with subclause (3), the relevant maximum floor area set out in the following Table 19.2 shall apply to each such section as though it were a complete storey.

TABLE 19.2

MAXIMUM FLOOR AREAS ACCORDING TO TYPE OF FIRE-RESISTING CONSTRUCTION, CLASSIFICATION, AND WHETHER OR NOT AN APPROVED SPRINKLER SYSTEM IS INSTALLED (in square metres)

In this Table, the maximum floor areas apply to—

(*a*) the total floor area throughout a single or multi-storey building; or

(*b*) the floor areas of each storey of a building if the provisions of clause (3) of By-law 19.2 are met.

Type of Fire-resisting Construction of Building	Class V		Class VI	
	Not Sprinklered	Sprinklered	Not Sprinklered	Sprinklered
Type 2	5 500	9 000	3 500	5 500
Type 3	5 500	9 000	3 500	5 500
Type 4	4 500	7 500	3 000	4 500
Type 5	2 800	4 500	2 000	2 800

	Class VII			
	For storage or display of goods not referred to in Appendix 1 (Medium or Low Hazard)		For storage or display of goods referred to in Appendix 1 (High Hazard)	
	Not Sprinklered	Sprinklered	Not Sprinklered	Sprinklered
Type 2	5 500	9 000	3 500	5 500
Type 3	5 500	9 000	3 500	5 500
Type 4	4 500	7 500	3 000	4 500
Type 5	2 800	4 500	2 000	2 800

	Class VIIIa (Medium or Low Hazard)		Class VIIIb (High Hazard)	
	Not Sprinklered	Sprinklered	Not Sprinklered	Sprinklered
Type 2	5 500	9 000	3 500	5 500
Type 3	5 500	9 000	3 500	5 500
Type 4	4 500	7 500	3 000	4 500
Type 5	2 800	4 500	2 000	2 800

19.3 Exemption for Single-Storey Buildings Not Exceeding 18 000 m² in Area. A building containing only one storey and having a floor area not exceeding 18 000 m² shall not be subject to the floor-area limitations specified in By-law 19.2 if—

(a) an open space, not less than 18 m in width, is provided on or associated with the site of the building in accordance with By-law 19.5; or

(b) the building is of Type 2 or Type 3 construction and complies with the following requirements:

(i) The space below the roof shall be divided into compartments in accordance with By-law 19.6;

(ii) The building shall be provided with approved automatic smoke-and-heat vents in accordance with By-law 19.7;

(iii) Every external wall facing the boundary of an adjoining allotment of land shall be provided with a parapet in accordance with By-law 19.8, except where the provisions of that By-law permit the height of the parapet to be reduced to nil; and

(iv) Windows and other openings in every external wall facing the boundary of an adjoining allotment of land shall be so limited in area as to comply with By-law 19.9.

19.4 (1) **Exemption for Single-storey Class VI, VII or VIII Buildings Exceeding 18 000 m² in Area.** A building of Class VI, VII or VIII containing only one storey and having a floor area exceeding 18 000 m² shall not be subject to the floor-area limitations specified in By-law 19.2 if—

(a) an open space, not less than 24 m in width, is provided on or associated with the site of the building in accordance with By-law 19.5; or

(b) the building is of Type 2 or Type 3 construction and complies with the following requirements:

(i) The space below the roof is divided into compartments in accordance with By-law 19.6;

(ii) The building is provided with approved automatic smoke-and-heat vents in accordance with By-law 19.7;

(iii) Every external wall facing the boundary of an adjoining allotment of land is provided with a parapet in accordance with By-law 19.8, except where the provisions of that By-law permit the height of the parapet to be reduced to nil;

(iv) Windows and other openings in every external wall facing the boundary of an adjoining allotment of land is so limited in area as to comply with By-law 19.9; and

(v) An approved sprinkler system is installed throughout the building.

(2) **Two or More Buildings on the Site.** In determining whether subclause (1) is applicable, all buildings of Class VI, VII or VIII on the one site that are within 27 m of each other shall be deemed to be the one building, except in a case where—

(a) the external walls facing each other in the buildings concerned:

(i) have a fire-resistance rating of not less than 2 hours; and

(ii) are non-combustible; and

(b) each such wall complies with By-law 19.8 and By-law 19.9 as though the buildings were on different sites, with an imaginary boundary line in a position nominated by the owner.

19.5 Requirements for Open Spaces Around Large Single-storey Buildings. An open space required by this Part to be provided on or associated with the site of a building—

(a) shall, except as provided in paragraph (c), be contiguous with or straddle all the boundaries of the site, as the case requires, and shall include any river, or road adjoining the site, but not the farthest 6 m thereof;

(b) shall not include any part of an adjoining site;

(c) shall not in any part be built upon, or designed or adapted for the storage or processing of materials, or any like purpose, except that guard houses and service buildings (such as sub-stations and pump houses) may encroach upon the width of the space if the Local Authority is satisfied that the encroachment—

(i) will not unduly impede fire fighting at any part of the perimeter of the site; and

(ii) will not unduly add to the risk of spread of fire to an adjoining site.

19.6 Draught Curtains, Vertical Glazing, and Smoke-and-Heat Compartments. In a building required to have the space below the roof divided into compartments, the following requirements shall be met:—

(a) The compartments shall be formed by:

(i) vertical non-combustible non-shattering draught curtains (including asbestos-silica board and excluding asbestos-cement board) hung from the roof structure; or

(ii) the use of a saw-tooth roof, with or without a non-combustible ceiling attached to the roof purlins, in which the vertical sections of the "saw-tooth" comprise non-combustible, non-shattering material, or wired glass not less than 6·3 mm thick;

(b) The foregoing curtains or vertical roof sections shall extend from the roof sheeting to a level not less than 1·5 m below the lowest part of the opening, to the outside air, of the lowest required smoke-and-heat vent;

(c) The holes through which any non-metallic curtains are fixed shall be not less than 10 mm in diameter oversize, and shall be so located as to allow expansion of the curtains in the event of fire within the building;

(d) None of the compartments so formed shall exceed 1 000 m^2 in area, measured in a horizontal plane;

(e) In spaces of abnormal fire hazard specified in Appendix 1—

(i) the horizontal distances between the foregoing curtains or vertical roof sections; and

(ii) the horizontal distance between any external wall and the curtain or glazing, if any, nearest to it

shall not exceed 30 m;

(f) A ceiling or like construction shall not be used in or below any such compartment.

19.7 Smoke-and-Heat Vents. (1) **Definition.** In this Part, smoke and heat vent means a vent, located in or near the roof of a building, to provide means for the escape of smoke and hot gases if there is an outbreak of fire in the building.

(2) **Requirements.** In a building required to have approved automatic smoke-and-heat vents, the following requirements shall be met:

(a) Each of the compartments below the roof and separated by the curtains or vertical roof sections described in By-law 19.6 shall have one or more approved automatic smoke-and-heat vents.

(b) The automatic opening of the vents, if a sprinkler system is installed, shall be set for a temperature not less than 5° on the Celsius scale above that at which the sprinkler system is set to operate.

(c) The aggregate airway of vent openings in each compartment shall bear not less than the following ratio to the area of the compartment:

(i) Where the space vertically below the compartment is or includes a space of abnormal fire hazard specified in Appendix 1 . . . . . 3:100;

(ii) In all other cases . . . . . 3:200.

19.8 Parapets. (1) **Height Requirements.** A parapet required by this Part to be provided on an external wall shall, subject to subclause (2), have a height not less than set out in the second column of the following Table 19.9, according to—

(a) the distance of the wall from the boundary of the adjoining site it faces; and

(b) the aggregate area of windows and other openings to be used below the parapet.

(2) **Concession in Height of Parapet.** The height of parapet required by the following Table 19.9 may be reduced by an amount equal to one-third the distance to which a concrete or other non-combustible roof extends into the building from the external wall concerned if—

(a) the fire-resistance rating of the section of the roof extending in from the external wall is not less than one hour; and

(b) the supports of the roof section concerned are non-combustible and have a fire-resistance rating of not less than one hour.

(2a) **Fire-Resistance of Parapets.** The fire-resistance rating of a parapet required by the provisions of By-law 19.3 or of By-law 19.4 shall not be less than the fire-resistance rating required for the wall it surmounts.

19.9 Limitations on Areas of Window Openings. In an external wall in which the windows and other openings are required by this Part to be limited in area, their aggregate area shall not exceed the maximum permissible aggregate area of windows and other openings stated in the following Table 19.9, according to the distance of the wall from the boundary of the adjoining site it faces.

TABLE 19.9

MAXIMUM PERMISSIBLE AGGREGATE AREAS OF WINDOWS AND OTHER OPENINGS

Distance of Wall from Boundary (metres)	Height of Parapet (metres)	Maximum Permissible Aggregate Area of Openings (square metres)
Less than 1·5	1·5	Nil
1·5 to less than 2	1	Nil
	1·25	0·5 in any 2 m length of wall
	1·5	1 in any 2 m length of wall
2 to less than 3	0·75	Nil
	1	0·5 in any 3 m length of wall
	1·25	1 in any 3 m length of wall
	1·5	2 in any 3 m length of wall
3 to less than 4·5	0·5	Nil
	0·75	1 in any 4 m length of wall
	1	2 in any 4 m length of wall
	1·25	3 in any 4 m length of wall
	1·5	4 in any 4 m length of wall
4·5 to less than 6	Nil	Nil
	0·25	1·5 in any 5 m length of wall
	0·5	3 in any 5 m length of wall
	0·75	4 in any 5 m length of wall
	1	5 in any 5 m length of wall
	1·25	6·5 in any 5 m length of wall
	1·5	7·5 in any 5 m length of wall
6 to less than 7·5	Nil	4 in any 7 m length of wall
	0·25	5 in any 7 m length of wall
	0·5	7 in any 7 m length of wall
	0·75	9 in any 7 m length of wall
	1	10·5 in any 7 m length of wall
	1·25	12·5 in any 7 m length of wall
	1·5	14 in any 7 m length of wall
7·5 to less than 9	Nil	9 in any 9 m length of wall
	0·25	11·5 in any 9 m length of wall
	0·5	13·5 in any 9 m length of wall
	0·75	16 in any 9 m length of wall
	1	18·5 in any 9 m length of wall
9 to less than 10·5	Nil	17 in any 11 m length of wall
	0·25	19·5 in any 11 m length of wall
	0·5	22·5 in any 11 m length of wall
10·5 to less than 13·5	Nil	30·5 in any 15 m length of wall
13·5 to less than 18	Nil	45·5 in any 18 m length of wall
18 and over	Nil	No limitation

19.10 Change of Use of Existing Class VII and Class VIII Buildings. (1) **Certain Uses Associated with Class VII.** An existing Class VII building (erected before or after the coming into force of these By-laws) that is not being used for the storage or display of—

(a) goods referred to in Appendix 1; or

(b) combustible goods of any kind,

shall not be used for such a storage or display unless the building complies with the relevant requirements of this Part.

(2) **Certain Uses Associated with Class VIII.** An existing Class VIII building (erected before or after the coming into force of these By-laws) that is not being used for a handicraft or process—

(a) referred to in Appendix 1; or

(b) in which a principal material of any kind is combustible,

shall not be used for such a handicraft or process unless the building complies with the relevant requirements of this Part.

19.11 Exemption of Certain Class VII and Class VIII Buildings from Requirements of this Part. (1) **Buildings for Storage, Display, or Processing of Non-combustible Materials.** The Local Authority may exempt a building of Class VII or Class VIII from the requirements of this Part, if it is satisfied that substantially all of the materials stored or displayed, or used in a handicraft or process therein, are non-combustible.

(2) **Other Buildings.** The Local Authority may exempt a building erected before or after the coming into force of these By-laws, to which subclause (1) does not apply, if it is satisfied that satisfactory provisions, alternative to those of Part 19 of these By-laws, and additional to those prescribed by Part 27 of these By-laws, have been made to restrict or combat the spread of fire.

(3) **Conditions in Granting Exemption Under Clause (2).** An exemption pursuant to subclause (2) shall be granted only by resolution of the Local Authority—

(a) in the particular case; and

(b) having regard to the purposes for which the building is intended or adapted to be used.

19.12 Special Provisions for Certain Buildings. (1) **Buildings Concerned.** This By-law shall apply, irrespective of any other provision of this Part, to any building of Class V, VI, VII or VIII and of Type 1, 2, 3, 4 or 5 construction where—

(a) the total floor area throughout the building exceeds 36 000 m^2; or

(b) the Local Authority is of opinion, irrespective of total floor area, that special provisions should be made in a particular building to restrict or combat the spread of fire.

(2) **Local Authority May Impose Special Requirements.** The Local Authority may impose such special requirements for restricting or combating the spread of fire as it considers desirable.

(3) **Conditions in Imposing Special Requirements.** Any special requirement pursuant to subclause (2) shall—

(a) be imposed only by resolution of the Local Authority in the particular case;

(b) be imposed only by reason of the purposes for which the building is intended or adapted to be used; and

(c) be additional to the relevant requirements of this Part, except that exemptions may be granted from one or more of those requirements where the Local Authority so resolves.

DIVISION V—FIRE SAFETY AND FIRE RESISTANCE

PART 20—FIRE-RESISTANCES OF STRUCTURAL MEMBERS

20.1 Fire-resistance Ratings: Method of Establishment. Where a structural member of a building is required to have a fire-resistance rating the structural member shall be—

(a) one that is deemed, pursuant to By-law 20.10, to have the required fire-resistance rating; or

(b) one that is identical with a prototype that has been submitted to—

(i) the Standard Fire Test; or

(ii) a test that is similar to the Standard Fire Test,

and is shown by documentary evidence in the form of a report, as referred to in By-law 20.2, to have achieved the required fire-resistance rating; or

(c) one that is identical with a tested prototype as specified in paragraph (b), except for the variations permissible under By-laws 20.3 or 20.4, as the case may be; or

(d) one that is approved by the Local Authority pursuant to By-law 20.5.

20.2 Documentary Evidence of Fire-resistance Ratings. (1) **Form of Evidence.** The report referred to in paragraph (b) of By-law 20.1 shall be an unabridged official report issued by one of the following testing authorities—

(a) Experimental Building Station, Department of Housing and Construction of the Commonwealth;

(b) Fire Research Station, Building Research Establishment; Department of the Environment, Great Britain;

(c) National Bureau of Standards, United States of America;

(d) Underwriters' Laboratories Incorporated, United States of America;

(e) National Research Council, Canada;

(f) Underwriters' Laboratories of Canada; and

(fa) Any laboratory registered with the National Association of Testing Authorities, Australia in the appropriate field to conduct Standard Fire Tests.

(2) **Details of Report.** The report shall fully describe the conditions of test, and the form of construction of the tested prototype.

(3) **Conditions of Acceptance of Report.** Where a report issued pursuant to subclause (1) indicates that the tested prototype was subjected to restraints applied by direct compression, or compression forces developed as a result of the inability of the tested prototype to expand thermally because of the nature of its supports and its position during the tests, the following conditions shall apply—

(a) In the case of a deck or floor the report shall not be acceptable for the purposes of this Part;

(b) In the case of a steel beam, open-web joist or column the report shall certify that the temperature of the steel in the tested prototype did not exceed—

(i) 538°C average; and

(ii) 649°C maximum.

(4) **Variation Permitted to Method of Restraint.** The method of restraint may differ from that of the tested prototype, if calculations according to By-law 20.3 are submitted and approved.

(5) **Submission of Report to Local Authority.** A copy of the official report referred to in this By-law shall be submitted to the Local Authority by or on behalf of the person for whom the building is being erected, but the Local Authority may waive this requirement if a copy of the report is already in its possession.

20.3 Variation in Span of Certain Members. (1) **Conditions of Acceptance.** Where the structural member prescribed in By-law 20.1 is a floor, roof, or beam of steel or reinforced concrete (other than prestressed concrete), it may be of longer or shorter span than that of the prototype if approved evidence is produced to satisfy the Local Authority that the following conditions are met:—

(a) The calculated stresses at the centre of the span of the structural member under the total dead and live load shall not exceed those in the centre of the span of the construction referred to in the official test report.

(b) The calculated tensile stress in steel in the structural member shall not be greater at the centre of the span under the total dead and live load than—

(i) 100 per cent of the design tensile stress in the steel referred to in the official test report, where the average temperature of the steel measured in accordance with the requirements of the Standard Fire Test does not exceed 538°C; or

(ii) 70 per cent of that stress, where the average temperature of the steel so measured is 593°C; or

(iii) between 100 and 70 per cent of that stress, on a proportionately interpolated basis, where the average temperature of the steel so measured is between 538°C and 593°C.

(c) A negative bending moment, if any, at either end of the span, if additional to a negative bending moment referred to in the official test report may be taken into account in the calculation but shall not be deemed to relieve the central bending moment by more than one-tenth thereof. Two such negative bending moments, one at each end of the span, may be so taken into account in the calculations but collectively shall not be deemed to relieve the central bending moment by more than one-fifth.

(d) If the tested protoype contained a feature which produced a negative bending moment during the relevant fire-resistance test, that feature shall be repeated in the structural member proposed to be used.

(e) If a condition of horizontal restraint was introduced during the relevant fire-resistance test of the tested protoype, the structural member proposed to be used shall be designed to compensate for that condition.

(2) **Evidence of Compliance with Conditions.** The evidence referred to in subclause (1) shall be in the form of a report and calculations prepared by a practising structural engineer.

20.4 Variations in Columns. A steel column prescribed in By-law 20.1 may vary from the size of the tested prototype if—

(a) its cross-sectional profile is similar to that of the tested prototype; and

(b) its slenderness ratio and ratio of surface area to mass unit of length are not greater than those of the tested prototype.

20.5 Minor Variations from Prototype. (1) **Local Authority Discretion.** Where a structural member that is required to have a fire-resistance rating—

(a) is deemed, pursuant to By-law 20.10 not to have that rating; and

(b) departs in some minor degree from the tested prototype but in a manner other than that permissible under By-law 20.3 or By-law 20.4,

the Local Authority may approve its use upon production of a report in accordance with subclause (2).

(2) **Reports from Specified Authorities.** For the purposes of subclause (1), the Local Authority may accept a report in the following terms from one or other of the authorities indicated, whichever it considers appropriate in the particular case—

(a) A testing authority registered with the National Association of Testing Authorities in the appropriate fields of Mechanical and Chemical testing, certifying that the materials incorporated in the structural member have physical and chemical properties that are identical with those of the materials—

(i) incorporated in a tested prototype that has achieved the required fire-resistance rating; and

(ii) described in the relevant report of that test.

(b) One of the authorities listed in By-law 20.2—

(i) certifying that, in the opinion of the authority concerned, the proposed construction would, despite the minor departures from a tested prototype, be capable of achieving the required fire-resistance rating if submitted to the Standard Fire Test; and

(ii) giving details of materials, construction, and methods of restraint or support which must be complied with to achieve the required fire-resistance rating.

20.6 Dimensions of Materials and Components. Where dimensions of components are stated in this Part they are minimum acceptable dimensions and shall be calculated according to the following:—

(a) The stated dimensions for—

(i) burnt-clay and burnt-shale brickwork;

(ii) sand-lime brickwork;

(iii) solid concrete blockwork; and

(iv) timber,

are, unless otherwise stated to the contrary, nominal dimensions subject to normal trade tolerances;

(b) Where hollow concrete blocks are permitted according to the following Table 20.10 their stated thickness shall be calculated according to the notes set out in the annexure to that table;

(c) For materials not referred to in paragraphs (a) and (b) the stated dimensions are actual measured dimensions subject to normal trade tolerances.

20.7 Certain Materials Interchangeable. (1) **In Concrete and Plaster.** A fire-resistance rating achieved when using any material of Group A, B, C, D, or E, set out below, as an ingredient in concrete or plaster, shall be deemed to apply equally when any other material of the same group is used in the same proportions in concrete or plaster:—

Group A: Any portland cement.

Group B: Any lime.

Group C: Any dense sand.

Group D: Any dense calcareous aggregate, including any limestone or any calcareous gravel.

Group E: Any dense siliceous aggregate, including any basalt, diorite, dolerite, granite, granodiorite, or trachyte.

(2) **Perlite and Vermiculite.** A fire-resistance rating achieved when using gypsum-perlite plaster or gypsum-vermiculite plaster shall be deemed to apply equally for both gypsum-perlite and gypsum-vermiculite plasters.

20.8 Certain Materials to Meet Special Requirements. (1) **Application of By-law.** If a structural member is required to have a fire-resistance rating and it incorporates any of the materials mentioned in this By-law, their uses shall be subject to such of the requirements of this By-law as the case requires.

(2) **Bricks and Certain Blocks.** Bricks, terra-cotta blocks, and concrete blocks shall be laid in cement mortar or composition mortar and such mortars shall comply with the relevant provisions of Part 28.

(3) **Gypsum Blocks.** Gypsum blocks shall be laid in gypsum-sand mortar or lime mortar.

(4) **Gypsum-sand Mortar and Plaster.** Gypsum-sand mortar and gypsum-sand plaster—

(a) shall consist of not more than 3 parts by volume of sand to 1 part by volume of gypsum; or

(b) shall consist of not more than 2·5 parts by volume of sand to 1 part by volume of gypsum, if lime putty is added, in which case the lime putty shall not exceed 5 per cent by volume of the mixed ingredients.

(5) **Plaster of cement and sand, or cement, lime and sand.** Where plaster is prescribed in the following Table 20.10 the plaster—

(a) shall consist of:

(i) cement and sand; or

(ii) cement lime and sand,

having a thickness not less than that shown in the Table; and

(b) may be finished with gypsum, gypsum-sand, gypsum-perlite or gypsum-vermiculite plaster, or with lime putty.

(6) **Gypsum-perlite and Gypsum-vermiculite Plaster.** Where gypsum-vermiculite or gypsum-perlite plaster is prescribed in the following Table 20.10 the plaster—

(a) shall have a thickness not less than that shown in the Table, and shall conform with the following:—

(i) Where the required thickness is less than 25 mm the plaster shall be applied in either one or two coats each consisting of material in the proportion of 1 m^3 of perlite or vermiculite to 640 kg of gypsum.

(ii) Where the required thickness is more than 25 mm the plaster shall be applied in two coats, the first of which shall consist of material in the proportions of 1 m^3 of perlite or vermiculite to 800 kg of gypsum and the second of which shall consist of material in the proportions of 1 m^3 of perlite or vermiculite to 530 kg of gypsum.

(7) **Gypsum for Plaster or Mortar.** In this Part, gypsum, in relation to a plaster mix or mortar, means plaster-of-paris or any similar material derived from gypsum and used as an ingredient in plaster or mortar.

(8) **Reinforcement.** Where expanded metal lath is required as a reinforcement for plaster, or as a base for plaster or sprayed application it shall—

(a) have a mass per unit area of not less than 1·34 kg/m^2;

(b) have not less than 98 meshes/m; and

(c) be protected against corrosion by galvanizing or other approved method.

(9) **Plaster Reinforcement.** Where plaster used as a fire protective material has a thickness exceeding 19 mm the plaster shall be reinforced with—

(a) expanded metal lath complying with clause (8); or

(b) 12·7 mm x 12·7 mm x 0·71 mm galvanized steel wire mesh,

the reinforcement being securely fixed to the wall and positioned at a distance from the face of the wall concerned of not less than one-third of the total thickness of the plaster.

20.9 Column Coverings. (1) **Protection Against Injury Generally.** The fire-protective covering of a steel column, if of lightweight construction as defined in By-law 17.3, shall be protected by metal or other suitable material, if the column is liable to damage from the movement of vehicles, materials, or equipment, or any like cause.

(2) **Protection Against Indenting of Lightweight Construction.** In addition, where any such covering so subject to injury is not in continuous contact with the column, the voids concerned shall be filled solid, with approved non-combustible material, to a height of not less than 1 200 mm above each floor.

(3) **Sealing at Floor Level in Certain Lightweight Construction.** Where—

(a) a steel column extends through two or more storeys; and

(b) its fire protective covering is not in continuous contact with it,

a plug of approved non-combustible fire protective material shall be inserted at each floor to seal all voids at those floor levels, including the voids between the column and its fire protective covering.

(3a) **Flow of Plugging Material.** The non-combustible material prescribed in subclauses (2) and (3) shall, in addition to complying with the requirements of AS A30, Fire Tests on Building Materials and Structures, not flow at a temperature below 1120°C.

20.10 Certain Structural Members Deemed to have Specific Fire-Resistance Ratings. (1) **Reinforced Concrete.** A structural member of reinforced concrete in which—

(a) the cross-sectional dimensions of the member are not less than those given in Appendix B of AS 1480, Concrete Structures Code (according, where relevant, to the loads to be supported by the member); and

(b) the types and thicknesses of the fire-protective concrete or other material used therein are in accordance with those given in that Appendix,

shall be deemed to have the relevant fire-resistance rating set out in that Appendix.

(2) **Prestressed Concrete.** A structural member of prestressed concrete in which—

(a) the cross-sectional dimensions of the member are not less than those given in AS 1481, Prestressed Concrete Code (according, where relevant, to the loads to be supported by the member); and

(b) the types and thicknesses of the fire protective concrete or other material used therein are in accordance with those given in that Standard,

shall be deemed to have the relevant fire-resistance rating set out in that Standard.

(3) **Other Materials.** A structural member listed in column 1 of the following Table 20.10 in which the construction incorporates a material or combination of materials listed opposite thereto in column 2, shall be deemed to have the fire-resistance rating at the head of column 3, 4, 5, 6, or 7, as the case may be if—

(a) the principal material has the thickness, if any, listed in the relevant column;

(b) the construction meets the conditions or requirements set out in the numbered notes, if any, listed opposite thereto in column 8 and included in the annexure to the Table; and

(c) the construction meets all other relevant requirements of these By-laws.

(4) **Construction not Tested or not Complying.** A blank space in any of columns 3 to 7 indicates that—

(a) the relevant construction has not achieved the particular fire-resistance rating concerned; or

(b) the relevant construction has not been tested to achieve the particular fire-resistance rating concerned.

(5) **Fire-Resistance Rating Deemed to Satisfy Lower Requirements.** Where a particular type and thickness of construction is deemed to have a particular fire-resistance rating that construction shall be deemed to satisfy any requirement for a lower fire-resistance rating.

TABLE 20.10

FIRE-RESISTANCE RATINGS DEEMED TO APPLY TO CERTAIN STRUCTURAL MEMBERS

Figures appearing in columns 3, 4, 5, 6, and 7 denote thicknesses in millimetres of materials, and are the thicknesses of the principal material of construction measured according to By-law 20.6.

Column 1	Column 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Structural Member	Construction of Member	Thickness of principal material (millimetres)					Annexure Reference note number
		1 hr	1½ hr	2 hr	3 hr	4 hr	
Loadbearing walls whether internal or external, and common and party walls whether load bearing or non-loadbearing	Solid walls and cavity walls, excluding the width of the cavity—						
	Ashlar stone masonry	..	..	..	..	300	1
	Solid pressed clay bricks	..	110	..	..	230	2
	Extruded cored clay bricks	..	110	..	..	230	3, 18
	Solid concrete blocks and concrete bricks	..	127	150	177	200	2
	Concrete—						
	Un-reinforced	..	..	..	177	200	..
	Reinforced	Refer to subclause (1) of By-law 20.10					
	Prestressed	Refer to subclause (2) of By-law 20.10					
Non-loadbearing walls whether internal or external (except common and party walls—see above)	Solid walls and cavity walls, excluding the width of the cavity—						
	Ashlar stone masonry	..	..	..	..	300	1
	Extruded, cored or lattice clay bricks—						
	Unplastered	100	110	139	..	200	3
	Plastered 19 mm thick on both sides	..	..	110	150	..	3, 6
	Solid pressed clay and calcium-silicate bricks—						
	Unplastered	..	110	..	..	190	4
	Plastered 19 mm thick on both sides	..	..	110	..	..	6
	Solid concrete blocks and concrete bricks	100	127	150	177	200	..
	Cavity wall—						
	230 mm cavity wall—						
	One leaf of solid clay brick on flat and one leaf sold clay brick on edge	..	..	..	..	190	4
	250 mm cavity wall—						
	One leaf of solid clay brick and one leaf of concrete block stretcher units	..	..	..	..	200	5
	Concrete—						
	Un-reinforced	..	..	..	177	200	..
	No-fines, plastered 19 mm thick on both sides	..	..	..	150	..	6
	Reinforced	Refer to subclause (1) of By-law 20.10					
	Prestressed	Refer to subclause (2) of By-law 20.10					

TABLE 20.10—*continued*

FIRE-RESISTANCE RATINGS DEEMED TO APPLY TO CERTAIN STRUCTURAL MEMBERS

Figures appearing in columns 3, 4, 5, 6, and 7 denote thicknesses in millimetres of materials, and are the thicknesses of the principal material of construction measured according to By-law 20.6.

Column 1	Column 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Structural Member	Construction of Member	Thickness of principal material (millimetres)					Annexure Reference note number
		1 hr	1½ hr	2 hr	3 hr	4 hr	
Non-loadbearing walls whether internal or external (except common and party walls—see above)—*continued*—	Hollow blocks of concrete with—						
	Category A aggregate	66	83	96	119	142	7, 8
	Category B aggregate	73	93	109	134	157	7, 8
	Category C aggregate	82	101	121	149	172	7, 8
	Terra-cotta—						
	Plastered 19 mm thick one side	150	..	..	..	..	6, 9
	Plastered 19 mm thick on both sides ..	100	150	..	..	..	6, 9
	Solid gypsum blocks ..	75	88	100	110	127	..
	Gypsum-perlite or gypsum-vermiculite plaster on metal lath and channels ..	..	51	63	..	..	10
Steel columns and pipe columns	Columns incorporated in, or in contact on one or more sides with solid masonry or concrete walls not less than 100 mm thick, with fire protection of—						
	Solid clay bricks with—						
	column spaces filled	50	50	50	50	63	11, 12
	column spaces not filled ..	50	50	50	..	..	11
	Solid concrete blocks with—						
	column spaces filled	50	50	50	63	88	11, 12
	column spaces not filled ..	50	50	63	..	..	11
	Gypsum blocks laid in gypsum-sand mortar with—						
	column spaces filled	..	..	50	63	88	11, 12
	column spaces not filled	..	..	50	..	..	11
	Hollow terra-cotta blocks plastered 13 mm thick with—						
	column spaces filled	..	..	50	63	88	9, 11, 12
	column spaces not filled	..	..	50	..	..	9, 11
	Structural concrete cast *in-situ* around mesh or binding, and non-loadbearing	25	32	38	51	63	11, 12, 13

TABLE 20.10—*continued*

FIRE-RESISTANCE RATINGS DEEMED TO APPLY TO CERTAIN STRUCTURAL MEMBERS

Figures appearing in columns 3, 4, 5, 6, and 7 denote thicknesses in millimetres of materials, and are the thicknesses of the principal material of construction measured according to By-law 20.6.

Column 1	Column 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Structural Member	Construction of Member	Thickness of principal material (millimetres)					Annexure Reference note number
		1 hr	1½ hr	2 hr	3 hr	4 hr	
Steel columns and pipe columns—*continued*—	Columns incorporated in, or in contact on one or more sides with solid masonry or concrete walls not less than 100 mm thick with fire protection of—						
	As above, plastered 13 mm thick ..	..	25	32	38	51	6, 11, 12, 13
	Structural concrete cast *in-situ* around mesh or binding and designed to be load-bearing and incorporating—						
	Category B or C aggregate ..	25	32	38	57	76	8, 11, 12, 13
	Category A aggregate ..	25	32	38	51	63	8, 11, 12, 13
	Gypsum cast *in-situ* ..	..	..	..	..	48	..
	Gypsum-perlite or gypsum-vermiculite plaster—						
	Sprayed on metal lath	19	22	25	35	44	14, 15
	Sprayed to contour	22	25	35	48	57	..
	Columns not incorporated in, or in direct contact with solid masonry or concrete walls not less than 100 mm thick, with fire protection of—						
	Solid clay bricks with—						
	column spaces filled	50	50	50	63	75	11, 12
	column spaces not filled ..	50	50	63	..	..	11
	Solid concrete blocks with—						
	column spaces filled	50	50	51	75	100	11, 12
	column spaces not filled ..	50	50	63	..	..	11

TABLE 20.10—*continued*

FIRE-RESISTANCE RATINGS DEEMED TO APPLY TO CERTAIN STRUCTURAL MEMBERS

Figures appearing in columns 3, 4, 5, 6, and 7 denote thicknesses in millimetres of materials, and are the thicknesses of the principal material of construction measured according to By-law 20.6.

Column 1	Column 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Structural Member	Construction of Member	Thickness of principal material (millimetres)					Annexure Reference note number
		1 hr	1½ hr	2 hr	3 hr	4 hr	
Steel columns and pipe columns—*continued*—	Gypsum blocks laid in gypsum-sand mortar with—						
	column spaces filled	..	..	50	75	100	11, 12
	column spaces not filled	..	..	50	..	..	11
	Hollow terra-cotta blocks plastered 13 mm thick with—						
	column spaces filled	..	..	50	75	100	9, 11, 12
	column spaces not filled	..	..	50	..	..	9, 11
	Structural concrete cast *in-situ* around mesh or binding not subjected to any applied loading	25	32	38	51	63	11, 12, 13
	As above, plastered 13 mm thick	..	25	32	38	51	6, 11, 12, 13
	Structural concrete cast *in-situ* around mesh or binding and designed to be load-bearing and incorporating—						
	Category B or C aggregate	25	38	44	63	89	8, 11, 12, 13
	Category A aggregate	25	32	38	51	70	8, 11, 12, 13
	Columns not incorporated in, or in direct contact with solid masonry or concrete walls not less than 100 mm thick, with fire protection of—						
	Gypsum cast *in-situ*	..	..	..	..	51	..
	Gypsum-perlite or gypsum-vermiculite plaster—						
	sprayed on metal lath	19	22	29	38	48	14, 15
	sprayed to contour	25	32	41	54	63	..

TABLE 20.10—*continued*

FIRE-RESISTANCE RATINGS DEEMED TO APPLY TO CERTAIN STRUCTURAL MEMBERS

Figures appearing in columns 3, 4, 5, 6, and 7 denote thicknesses in millimetres of materials, and are the thicknesses of the principal material of construction measured according to By-law 20.6.

Column 1	Column 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Structural Member	Construction of Member	Thickness of principal material (millimetres)					Annexure Reference note number
		1 hr	1½ hr	2 hr	3 hr	4 hr	
Concrete columns	Columns of—						
	Reinforced concrete ..	Refer to subclause (1) of By-law 20.10					
	Prestressed concrete ..	Refer to subclause (2) of By-law 20.10					
Steel rolled or open-webbed joists, beams, girders and trusses	Joists, beams, girders and trusses in direct contact with solid reinforced concrete slab or hollow block floor or roof construction, with fire protection of—						
	Structural concrete encasement incorporating—						
	Category B or C aggregate ..	25	32	38	51	63	8, 16
	Category A aggregate ..	25	25	32	44	57	8, 16
	Gypsum-perlite or gypsum-vermiculite plaster—						
	Sprayed on metal lath	19	22	25	35	44	15, 17
	Sprayed to contour	22	25	35	48	57	15, 17
	Joists, beams, girders and trusses not in direct contact with solid reinforced concrete slab or hollow-block floor or roof construction, with fire protection of—						
	Structural concrete encasement incorporating—						
	Category B or C aggregate ..	25	38	44	63	89	8, 16
	Category A aggregate ..	25	32	38	51	70	8, 16
	Gypsum-perlite or gypsum-vermiculite plaster—						
	Sprayed on metal lath	19	22	29	38	48	15, 17
	Sprayed to contour	25	32	41	54	63	15, 17
Floors, roofs, and ceilings	Concrete—						
	Reinforced	Refer to subclause (1) of By-law 20.10					
	Prestressed	Refer to subclause (2) of By-law 20.10					

ANNEXURE TO TABLE 20.10

1. *Ashlar Stone Masonry.* The ashlar masonry used shall be in a portion of the building containing not more than two storeys, and shall not be of—

(a) aplite, granite, grandodiorite, quartz dacite, quartz diorite, quartz porphyrite, or quartz porphyry; or

(b) conglomerate, quartzite, or sandstone; or

(c) chert or flint; or

(d) limestone or marble.

2. *Stresses in Loadbearing Masonry.* The calculated compressive stresses in loadbearing masonry less than 150 mm thick shall not exceed 1.1MPa, the calculations being based on net areas of masonry units if these contain cores or similar holes.

3. *Cored or Lattice Bricks.* The cored or lattice bricks used shall have a net volume, exclusive of cored and similar holes, of not less than 70 per cent of their gross volume, measured on the overall rectangular shape of the bricks.

4. *Cavity of Solid Clay Bricks.* Cavity walls of solid clay bricks shall be subject to the following rules—

(a) One leaf of brickwork shall have an actual thickness of not less than 110 mm and the other leaf shall have an actual thickness of not less than 75 mm.

(b) The thickness of brickwork shall be subject to the tolerances permitted for bricks by AS A21, Burnt Clay and Shale Building Bricks.

(c) The cavity shall be not more than 50 mm wide.

5. *Cavity Walls having one leaf of Solid Clay Bricks and one leaf of Concrete Blocks.* Cavity walls of solid clay bricks and concrete blocks shall be subject to the following provisions—

(a) The outer leaf of the wall shall consist of solid clay bricks not less than 110 mm thick.

(b) The inner leaf of the wall shall consist of solid or hollow concrete blocks having:

(i) an actual thickness of not less than 90 mm; and

(ii) a net thickness in the case of hollow concrete blocks of not less than 68 mm, calculated in accordance with the provisions applicable to concrete blocks of Category C aggregate according to note 7.

(c) The leaves shall be tied with wall ties as in figure 2 of SAA Interim 324, Metal Wall Ties for Brickwork but of galvanised steel wire of 3·15 mm diameter or equivalent cross-sectional area.

(d) The cavity shall be not more than 50 mm wide.

6. *Certain Tabulated Thicknesses Exclude Plaster.* The thickness of plastering used shall be additional to the listed thickness of the principal material.

7. *Thickness of Hollow Concrete Blocks.*

(1) The thickness listed in Table 20.10 shall be calculated by taking the total actual volume of a concrete block, subtracting the volume of all core holes and dividing the resultant figure by the actual area of one vertical exposed face of the block.

(2) Where the blocks are plastered the thickness of the block according to subnote (1) may be increased by the amount shown in the following table:

INCREASE OF THE EQUIVALENT THICKNESS FOR WALLS OF CONCRETE BLOCKS BY APPLICATION OF PLASTER

Type of Aggregate used in Manufacture of Blocks (See Note 8)	Type of Plaster and its Location		
	Cement and sand, or cement, lime and sand on ONE face only	Cement and sand, or cement, lime and sand on BOTH faces	Gypsum, or gypsum-perlite, or gypsum-vermiculite on ONE or BOTH faces
Category A Aggregate	No concession shall be made	Equivalent thickness of concrete block without plaster plus 25 per cent of total thickness of plaster	Equivalent thickness of concrete block without plaster plus total thickness of plaster
Category B Aggregate	No concession shall be made	Equivalent thickness of concrete block without plaster plus 35 per cent of total thickness of plaster	Equivalent thickness of concrete block without plaster plus 1·1 times the total thickness of plaster
Category C Aggregate	No concession shall be made	Equivalent thickness of concrete block without plaster plus 50 per cent of total thickness of plaster	Equivalent thickness of concrete block without plaster plus 1·25 times the total thickness of plaster

8. *Aggregates for Concrete and Concrete Blocks.* (1) Category A aggregate shall comply with the following requirements—

(a) The aggregate shall consist of particles with a uniformly porous and cellular structure.

(b) The aggregate may be:

(i) material prepared by expanding, calcining or sintering such materials as clay, shale, slate, diatomaceous shale, perlite, vermiculite or obsidian;

(ii) expanded blast-furnace slag produced by treating molten blast-furnace slag with water; or

(iii) material from natural deposits of frothed types of lava such as certain pumices and certain scorias, being porous volcanic-glass formations, friable in character and predominantly light grey in colour for pumice and dark grey for scoria.

(c) Aggregate other than pumice or scoria shall not contain more than 65 per cent by weight of silica (SiO_2) when determined by chemical analysis.

(2) Category B aggregate shall be one of the following—

(a) Coal or coke cinders.

(b) Scorias other than those referred to in subnote (1).

(c) Unexpanded blast-furnace slag.

(3) Category C aggregate shall comply with the following—

(a) Aggregate shall comply with AS 1465, Dense Natural Aggregates for Concrete and AS A77, Aggregates for Concrete.

(b) Aggregate shall be:

(i) calcareous material;

(ii) river gravel, granite, feldspar, dolerite, diorite, basalt; or

(iii) greywacke or sandstone.

(c) Aggregate shall contain not more than 65 per cent by weight of silica (SiO_2), determined by chemical analysis.

(4) Fine aggregate shall comply with the following—

(a) Where Category A aggregates are used the fine aggregate shall be of the same material as is used for the coarse aggregate, or if silicious sand is used its total amount shall be not more than 20 per cent of the total weight of all fine and coarse aggregates.

(b) Lightweight fine aggregate shall have a density when dry and loose of not more than 1 120 kg/m^3.

9. *Hollow Terra-cotta Construction.* (1) The volume of cored holes in a block shall not exceed—

(a) 35 per cent of the gross volume of the block in a block of 75 mm nominal thickness; or

(b) 40 per cent of the gross volume of the block in a block of 100 mm nominal thickness; or

(c) 50 per cent of the gross volume of the block in a block of 150 mm nominal thickness.

(2) The net thickness of a terra-cotta block shall be the nominal total thickness of that block.

10. *Gypsum-perlite or Gypsum-vermiculite Plaster in Walls.* The gypsum-perlite or gypsum-vermiculite plaster used shall be applied to each exposed side of steel expanded-metal lath, the lath being securely wired to 19 mm x 0·44 kg/m steel channels used as studs and spaced at not more than 380 mm centres.

11. *Protection of Steel Columns and Pipe Columns.* (1) Where the principal fire-protective construction of a steel column or pipe column is brickwork, blockwork, concrete, or similarly hard construction placed against the steel, the thickness listed for the material of that construction shall be construed to mean the thickness measured from the face of the steel or from the outer part of any rivet or bolt, whichever is the nearer to the outside of the fire-protective construction, subject to the provisions of subnote (2).

(2) The following provisions shall apply to construction other than terra-cotta blockwork—

(a) Where the construction has an overall thickness of not less than 38 mm the measurement may be made disregarding rivet heads.

(b) Where the construction has an overall thickness of not less than 50 mm the measurement may be made disregarding any part of a bolt that is not a high-tensile bolt.

(c) Where the construction has an overall thickness of not less than 50 mm, any splice plate having no part located in that part of the column that begins 915 mm above the level of a floor, and terminates at the underside of the floor or roof next above, may encroach upon that thickness by not more than 25 per centum thereof.

(d) Where the construction is in a column intended to have a 4-hour fire-resistance rating, the edge of any flange not more than 38 mm thick (measured inclusive of any splice plate) that projects more than 63 mm beyond a web may encroach by 12 mm upon the overall thickness.

(3) Bricks and concrete blocks shall have steel wire or mesh reinforcement laid in alternate courses, but not further apart than 200 mm, lapped at corners, and gypsum blocks and hollow terra-cotta blocks shall be similarly reinforced in every horizontal joint.

12. *Re-entrant and Like Parts of Certain Steel Columns.* Where steel columns are required to have a 3-hour or a 4-hour fire-resistance rating, re-entrant parts and parts, if any, between the required fire-protective material and the steel shall be filled with concrete or other hard fire-protective material.

13. *Reinforcement of Fire-protective Concrete for Columns.* A steel wire mesh or binding shall be placed approximately 20 mm from the outer surface of the fire-protective concrete used, and the mesh or binding shall include wires—

(a) having a diameter of not less than 3·25 mm; and

(b) spaced at not more than 100 mm centres vertically,

except that, where the concrete has an overall thickness of not less than 50 mm, wires having a diameter of not less than 4·87 mm and spaced at not more than 150 mm centres vertically may be used instead.

14. *Column Protection of Gypsum-perlite or Gypsum-vermiculite plaster on Metal Lath.* In column protection of gypsum-perlite or gypsum-vermiculite plaster on metal lath as listed—

(a) the plaster shall be applied to the lath; and

(b) the lath shall be of:

(i) steel expanded metal, not less than 12 mm clear of the column where the plaster has a thickness of 35 mm or more, or not less than 6 mm clear of the column otherwise, and fixed at not more than 610 mm centres vertically to steel furring channels; or

(ii) self-furring steel expanded metal with furring dimples to hold it not less than 10 mm clear of the column.

15. *Material Sprayed on Metal Lath.* The lath shall be steel expanded metal lath and the thickness of the sprayed material shall be measured from the back of the lath.

16. *Protection of Steel Open-webbed Joists, Beams, Girders, and Trusses.* Where the principal fire-protective material of a steel open-webbed joist, beam, girder, or truss is structural concrete encasement—

(a) the thickness of such encasement listed shall be construed to mean the minimum thickness measured from the face of the steel or from the outer part of any rivet or bolt, whichever is the nearer to the outside of the encasement, except that:

(i) where the encasement has an overall thickness of not less than 38 mm the measurement may be made disregarding rivet heads; and

(ii) where the encasement has an overall thickness of not less than 50 mm the measurement may be made disregarding any part of a bolt that is not a high-tensile bolt;

(b) a steel wire mesh or binding shall be placed in the encasement approximately 20 mm from the outer surface thereof, and the mesh or binding shall include wires:

(i) having a diameter of not less than 3·25 mm; and

(ii) spaced at not more than 100 mm centres horizontally, except that, where the concrete has an overall thickness of not less than 50 mm, wires having a diameter of not less than 4·7 mm and spaced at not more than 150 mm centres horizontally may be used instead; and

(c) where the encasement, being on the soffit of a joist, beam, girder, or truss, has a thickness of less than 38 mm plus one-twelfth the width of that soffit, it shall be mechanically vibrated into position.

17. *Gypsum-perlite, or Gypsum-vermiculite Plaster as Protection for Joists, Beams and the like.* Where the protection is applied to a steel rolled or open-webbed joist, beam or truss, the lath shall be spaced not less than 20 mm clear from the steel, using steel furring channels at not more than 610 mm centres.

18. *Limitation on use of Extruded Cored Clay Bricks.* The extruded cored clay bricks used in load-bearing walls, whether internal or external, or in common or party walls, whether load-bearing or non load-bearing, shall be in a portion of the building containing not more than four storeys.

DIVISION V—FIRE SAFETY AND FIRE RESISTANCE

PART 21—FIRE DOORS, SMOKE DOORS, FIRE WINDOWS, AND FIRE SHUTTERS—CONSTRUCTION REQUIREMENTS—SPECIFICATIONS 1, 2 AND 3

21.1 Fire Doors: General Requirements. Every required fire door shall—

(a) comprise a complete doorset as described in AS CA57, Fire Door Code;

(b) comply with the relevant provisions of that Standard; and

(c) subject to the variations permissible under that Standard, be identical with a tested prototype which—

(i) has achieved the required fire-resistance rating;

(ii) during the first 30 minutes after the commencement of the fire test, did not have a rise in temperature on the side remote from the furnace of more than 121°C, except in any glazed portion thereof.

21.2 Glazing in Fire Doors. Notwithstanding the provisions of AS CA57, Fire Door Code, a required fire door—

(a) shall not incorporate glazing if it protects an opening in a fire wall; and

(b) shall not incorporate glazing in excess of $64{\cdot}6 \times 10^3$ mm^2 in any other case.

21.3 Smoke Doors. Every smoke door shall—

(a) comprise one door-leaf or two door-leaves;

(b) be side-hung;

(c) inhibit the penetration of smoke, at every part, through the doorway to which it is fitted;

(ca) be automatically self-closing; and

(cb) have a fire-resistance rating of not less than half an hour.

21.4 Fire Windows: Alternative Construction. Every required one-hour fire window shall be—

(a) a window that is:

(i) identical in construction with a prototype thereof that has been subjected to the Standard Fire Test and in that test has demonstrated its ability, for one hour, to prevent the spread of flames and hot gases through the window opening;

(ii) installed in the same manner as was the tested prototype referred to in subparagraph (i); and

(iii) not used in an opening that is greater in height or width than the opening in which the prototype was tested under the Standard Fire Test; or

(b) a window of wired glass in framing of galvanized steel, complying as to maximum dimensions, construction, and installation with the following Specification No. 1; or

(c) a glass-block window panel, complying as to maximum dimensions, construction, and installation with the following Specification No. 2.

21.5 Fire Shutters: Alternative Construction. Every required fire shutter shall be—

(a) a shutter that is—

(i) identical with a prototype thereof that has been subjected to the Standard Fire Test and in that test has demonstrated its ability, for the required period, to prevent the spread of fire through the opening concerned;

(ii) erected in the same manner as was the tested prototype referred to in subparagraph (i); and

(iii) not used in an opening that is greater in height or width than the opening in which the prototype was tested under the Standard Fire Test; or

(b) a shutter comprising a curtain of interlocking steel slats, mounted on a barrel and sliding in steel guides, and complying as to maximum dimensions, construction, and installation with the following Specification No. 3.

SPECIFICATION No. 1

Fire Windows

1. *Scope.* This specification relates to the construction and installation of windows of wired glass, in framing of galvanized steel, in window openings required by Part 22 to be protected by one-hour fire windows.

2. *Dimensions.* (1) An opening in which a fire window referred to in this specification is to be installed shall not exceed—

(a) 5·2 m^2 in area; and

(b) 2 950 mm in height or width,

the measurements being taken between the jambs and between the sill and the lintel of the opening.

(2) The overall dimensions of a window, measured over the outer frame but not any part of an anchoring lug, shall be 0·12 mm less in both width and height than the inside dimensions of the opening in which it is to be installed.

3. *Make-up of Windows.* Each window shall comprise principally—

(a) an outer frame, and, in the case of a window having an openable sash:

(i) a moveable frame as part of that sash; and

(ii) a supplementary frame, housing the moveable frame and held to a fixed position within the window;

(b) glazing bars, if required under the limitations of this specification on sizes of panes of glass, or to support a supplementary frame;

(c) glazing beads; and

(d) a pane or panes of glass:

(i) cut to size and shape;

(ii) located within the frame or frames, or between the frame and any glazing bars;

(iii) held (by way of glazing compound) by the glazing beads; and

(iv) sealed at all edges by glazing compound.

4. *Openable Sashes.* An openable sash may be incorporated in a window if—

(a) the sash is the only one in the window;

(b) it is horizontally pivoted 76 mm above the level of its centre;

(c) it is constructed to close under its own weight, unassisted by any other agency; and

(d) the overall dimensions of the frame of the sash do not exceed:

(i) 1000 mm in width; and

(ii) 1305 mm in height.

5. *Make-up of Openable Sashes.* An openable sash shall comprise principally—

(a) the moveable frame together with its particular parts of the pivots;

(b) glazing bars, if required under the limitations of this specification on sizes of panes of glass;

(c) glazing beads;

(d) the particular parts of a latching mechanism and a hold-open device, each in accordance with this specification, that are appropriate to the moveable frame; and

(e) a pane or panes of glass:

(i) cut to size and shape;

(ii) located within the frame, or between the frame and any glazing bars;

(iii) held (by way of glazing compound) by the glazing bead; and

(iv) sealed at all edges by glazing compound.

6. *Make-up of Supplementary Frames.* A supplementary frame shall comprise the frame together with its particular parts of the pivots and other mechanical devices.

7. *Maximum Clear Spans of Panes.* Neither the width nor the height of a pane shall exceed—

(a) 610 mm, if the pane is in an openable sash; or

(b) 762 mm, otherwise,

the measurements being between the nearer edges of the supporting steel members.

8. *Glass.* The glass in the panes shall—

(a) have a nominal thickness of 6·3 mm;

(b) have a mass per unit area of not less than 17 kg/m^2; and

(c) be reinforced, near the centre of its thickness, with steel wire not thinner than 0·45 mm and in one of the following forms:

(i) A square mesh, in which the wires are not more than 20 mm apart and are electrically welded at each intersection (the glass then being commonly known as "Georgian Wired").

(ii) A hexagonal mesh, in which the average width of the hexagon is not more than 23 mm and the wires are intertwined in one direction at their intersections (the glass then being commonly known as "Hexagonal Wired").

(iii) A diamond mesh, in which the sides of the diamonds are not longer than 20 mm and the wires are electrically welded at each intersection (the glass then being commonly known as "Diamond Wired").

9. *Steel.* Frames, glazing bars, and glazing beads shall be of approximately uniform thickness and of solid rolled mild steel in conformity with the following—

(a) In outer frames, the steel shall be of modified T cross-section in which:

(i) the top of the T is off-centre by 4·7 mm;

(ii) the bottom of the T is extended to one side, to form a flange not less than 11 mm wide, parallel to the top of the T and off-centre in the same direction;

(iii) the T has a height of 34·9 mm;

(iv) the top of the T has a width of 33·3 mm;

(v) the area of the T is such that the steel section has a nominal mass per unit length of not less than 1·9 kg/m.

(b) In moveable frames and supplementary frames, above the pivot points in each case, the steel shall be of modified L cross-section in which:

(i) the top of the L is extended to each side, to form a flange 17·4 mm wide, parallel to the bottom of the L and widening the L by 9·5 mm;

(ii) the L has a height of 31·7 mm;

(iii) the bottom of the L has a width of 23·8 mm; and

(iv) the area of the L is such that the steel section has a nominal mass per unit length of not less than 2·3 kg/m.

(c) In moveable frames and supplementary frames, below the pivot points in each case, the steel shall be of modified unsymmetrical channel cross-section in which:

(i) the top flange of the channel is 23·8 mm wide, and the bottom flange not less than 7·9 mm wide;

(ii) a secondary top flange extends 9·5 mm backwards from the back of the channel, 4·7 mm below the main top flange;

(iii) the channel has a height of 31·7 mm; and

(iv) the area of the channel is such that the steel section has a nominal mass per unit length of not less than 2·3 kg/m.

(d) In glazing bars that are not in openable sashes, the steel shall be of T cross-section in which:
  (i) the T has a height of 34·9 mm;
  (ii) the top of the T has a width of 22 mm; and
  (iii) the area of the T is such that the steel section has a nominal mass per unit length of not less than 1·6 kg/m.

(e) In glazing bars that are in openable sashes, the steel shall be of T cross-section in which:
  (i) the T has a height of 26·9 mm;
  (ii) the top of the T has a width of 22 mm; and
  (iii) the area of the T is such that the steel section has a nominal mass per unit length of not less than 1·1 kg/m.

(f) In glazing beads, the steel shall be of 9·5 mm square cross-section.

10. *Fabrication of Steel.* The steel shall be fabricated as follows—

(a) In all frames:
  (i) the steel members shall be mitred and flash-butt-welded at all corners;
  (ii) glazing bars, if any, shall be tenoned into mortises in the frame, the ends of the tenons being extended through the frame members and expanded and secured by pressure-weld riveting; and
  (iii) all holes to be punched, drilled, or drilled and countersunk, but not to be tapped, shall be run through.

(b) In moveable frames and supplementary frames:
  (i) the upper and the lower side members shall be flash-butt-welded at each pivot point, the meeting faces of the moveable and the supplementary frames being so aligned as to ensure their close fitting when in service; and
  (ii) the frames shall be notched to receive the pivots.

(c) Where glazing bars intersect:
  (i) one glazing bar shall be passed through a deformed mortise in the other; and
  (ii) the two bars shall be pressed together to reform the mortise and form a joint that tightly locks.

(d) Glazing beads shall be drilled and countersunk for their fixing screws.

11. *Galvanizing of Steel.* All steel shall be galvanized by hot-dipping after fabrication.

12. *Pivots.* Each pivot shall consist of two brass cups, nominally 3 mm thick, one working inside the other and—

(a) the outer cup having an inside diameter of not more than 44·5 mm and an inside depth of not less than 9·5 mm, and being riveted to the supplementary frame; and

(b) the inner cup having an inside depth of approximately 12·5 mm and being riveted to the moveable frame,

Rivets shall be of cadmium-plated steel and not fewer than two to a cup.

13. *Fixing of Supplementary Frames.* Supplementary frames shall be fixed, within the window, to—

(a) a glazing bar; or

(b) a member of the outer frame,

by 6·3 mm galvanized or cadmium-plated screws along each edge, at points not more than 75 mm from a corner and elsewhere not more than 230 mm apart.

14. *Fixing of Glazing Beads.* Glazing beads shall be fixed to frames and glazing bars by countersunk 4·7 mm galvanized or cadmium-plated screws, at points not more than 100 mm from an end and elsewhere not more than 400 mm apart.

15. *Glazing Compound.* All glazing compound shall be a non-setting mastic that does not harden except at a surface exposed to the air.

16. *Tolerances of Sizes of Panes.* After selvage is removed, each pane shall fit the rebates of the supporting steel with a clearance—

(a) not more than 2·5 mm; and

(b) not less than 1·5 mm,

at every point on its perimeter.

17. *Latching Mechanism.* The latching mechanism shall—

(a) be located at the top of the openable sash concerned;

(b) incorporate latchbolts located not more than 150 mm from each side thereof;

(c) have keeps that will engage the latchbolts by not less than 9·5 mm;

(d) be self-latching in a manner that will ensure it will remain fully latched if there is any mechanical failure at any time; and

(e) be of stainless steel or nickel-silver.

18. *Hold-open Device.* The hold-open device—

(a) shall incorporate a thermal-release unit:

(i) actuated by fusing, shattering, or burning; and

(ii) capable of meeting the relevant requirements of AS CA57, Fire Door Code;

(b) shall on operation of that unit allow the openable sash to close itself;

(c) shall not provide for the openable sash to be held at less than 30 degrees off vertical;

(d) shall be located in a position, near the top of the sash; and

(e) shall not be accompanied by any other device that can be made to hold the sash open.

19. *Anchoring of Outer Frame.* The outer frame shall be anchored within its opening in the wall by either Method A or Method B that follows, the points of anchoring being—

(a) along each edge of the frame; and

(b) not more than 175 mm from a corner thereof and elsewhere not more than 610 mm apart, but not more than 100 mm on one or other side of a glazing bar that supports the supplementary frame around an openable sash:

Method A—The construction around the opening shall be:

(i) drilled; and

(ii) fitted with all-metal masonry anchors, but not any incorporating aluminium, lead, or tin,

and the frame shall be screwed towards the anchors, using 6·3 mm galvanized or cadmium-plated screws, until the anchors and frame are all firmly locked.

Method B—Lugs of:

(i) galvanized 25·4 mm x 6·3 mm steel flat, not less than 255 mm long and bent sideways by 20 mm at one end for screwing to the frame; or

(ii) galvanized deformed 16 mm reinforcing bar, not less than 230 mm long and drilled endwise at one end and tapped for screwing to the frame,

shall be screwed thereto, using 7·9 mm galvanized or cadmium-plated screws, and built into the construction around the opening.

20. *Mortar Packing Around Outer Frame.* The whole of the space between the outer frame and the construction around its perimeter shall be packed with cement or composition mortar.

SPECIFICATION NO. 2

Hollow Glass-Block Window Panels

1. *Scope.* This specification relates to the construction and installation of window panels of hollow glass blocks in window openings required by Part 22 to be protected by one-hour fire windows.

2. *Dimensions.* An opening in which a glass-block window panel referred to in this specification is to be installed shall not exceed—

(a) 5·2 m² in area;

(b) 2 415 mm in height; and

(c) 2 375 mm in width.

3. *Form of Window Panels.* Each window panel shall—

(a) be constructed of glass blocks, jointing mortar, and joint reinforcement; and

(b) have an expansion joint, across its top and down its sides, in recesses in the wall at these positions.

4. *Glass Blocks.* The hollow glass blocks shall—

(a) not support any load additional to their own weight;

(b) be not more than 197 mm wide and 197 mm high;

(c) be not less than 98 mm thick;

(d) have face shells not less than 4·5 mm thick at any part, with an average thickness of not less than 6·3 mm;

(e) have a sanded finish, to provide a key for mortar, on each of the side and top and bottom faces; and

(f) be manufactured by casting two half-blocks and fusing them together to form a unit:

(i) seamless at the back and front; and

(ii) partially evacuated of air.

5. *Jointing Mortar.* The jointing mortar shall be a mortar obtained by mixing portland cement, hydrated lime, and well graded clean sand in the proportions of—

(a) 1 m^3 of cement of mass not less than 1 505 kg;

(b) 1 m^3 of hydrated lime of mass not less than 560 kg; and

(c) 4 m^3 of sand,

no portion of the mixture containing any ingredient detrimental to the strength or setting of the whole.

6. *Joint Reinforcement.* The joint reinforcement shall be strips of galvanized steel-wire mesh—

(a) 63 mm wide; and

(b) of wires not thinner than 1·8 mm and not more than 12·7 mm apart, both parallel and perpendicular to the length of the strip.

7. *Expansion-joint Infilling.* All expansion-joint infilling shall be—

(a) a non-hardening material incapable of resisting sustained loading; and

(b) 25 mm thick when ready to be placed in position.

8. *Glazing Compound for Expansion Joints.* All glazing compound for expansion joints shall be a non-setting mastic that does not harden except at a surface exposed to the air.

9. *Recesses in Wall.* The jambs and the lintel of the opening for the window panel shall be recessed—

(a) 57 mm deep; and

(b) to a width of 22 mm more than the thickness of the glass bricks,

to accept the sides and top of the panel, the expansion-joint filling, and the asbestos-rope edge-sealing concerned.

10. *Coating of Sill.* Before the first course of glass blocks is laid, the sill concerned shall be coated with a bituminous emulsion or with a like material.

11. *Construction of Window Panel.* The construction of the window panel shall be in conformity with the following:—

(a) Bedding joints, including that of the first course, shall be of jointing mortar 6 mm thick.

(b) Perpends shall be 6 mm wide and filled with jointing mortar.

(c) Every third bedding joint shall incorporate a strip of joint reinforcement:

(i) extending the whole length of the joint; and

(ii) secured lengthwise at each end to the adjacent part of the wall, by either:—

(A) being carried not less than 230 mm into that part, at the same or a slightly higher level; or

(B) being spliced by an overlap of 230 mm, in the window panel to a strip of joint reinforcement so carried into that part.

(d) The top and the two edges of the panel shall be finished short of the surrounding construction by 25 mm, except for the joint reinforcement.

(e) The gaps so left between the panel and the parts of the wall in which it stands shall be:

(i) filled with expansion-joint infilling;

(ii) caulked at each edge with 12 mm asbestos rope; and

(iii) sealed outside the rope with glazing compound.

SPECIFICATION NO. 3

Fire-Resistant Roller Shutters

1. *Scope.* This specification relates to the construction and installation of metal roller shutters installed in openings in concrete or masonry walls where 2-hour fire shutters are permitted by Part 22 of these By-laws, to be installed in place of required fire doors.

2. *Dimensions.* An opening in which a fire shutter referred to in this specification is to be installed shall not exceed 3 600 mm in width or 13·9 m^2 in area.

3. *Components.* Each shutter shall comprise principally—

(a) a curtain of horizontal interlocking metal slats;

(b) two vertical guides, one at each side of the opening, between which the curtain can be raised and lowered; and

(c) a horizontal barrel, above the opening, on which the curtain will be rolled while being raised to clear the opening.

4. *Slats.* The slats shall be in conformity with the following:—

(a) they shall be of steel strip not less than 0·88 mm in thickness;

(b) Each shall be rolled to form a curl of not less than 300° at each edge, so that the curls of successive slats will interlock to form hinges that extend the full width of the curtain;

(c) they shall be so formed that the curtain in the closed position will be capable of withstanding a pressure at right angles to itself of not less than:

(i) 575 Pa if the curtain is to be used on an external wall; or

(ii) 383 Pa if it is to be used on an internal wall.

5. *Ends of Slats.* End pieces of steel or malleable iron shall be constructed and fitted to the slats in conformity with the following—

(a) They shall be at no part less than 3 mm thick, and shall be suitably formed to fit the contours of the slats and fill the vertical guides as completely as is consistent with movement of the curtain within the guides.

(b) One shall be fitted at each end of each slat, or at each end of each alternate slat, being riveted or welded to position.

(c) Where rivets are used, they shall be iron or steel not less than 3 mm diameter, and not fewer than two shall be used to fix each end piece.

6. *Bottom of Curtain.* A bottom rail shall be constructed and fitted to the curtain in conformity with the following—

(a) the rail shall comprise:

(i) two mild steel angles, each not less than 38 mm x 38 mm x 3 mm in cross section; or

(ii) a mild steel T not less than 76 mm x 76 mm x 3 mm in cross section and a mild steel backing strip not less than 63·5 mm x 3 mm in cross section; or

(iii) other like construction in mild steel that is at least as strong.

(b) The two parts of the rail shall be fixed to opposite sides of the bottom slat, being bolted, riveted, or spot welded to position by bolts, rivets, or spot welds at not more than 300 mm pitch.

(c) Where bolts or rivets are used they shall be of mild steel not less than 7·9 mm in diameter.

(d) The rail shall extend between the guides, and be formed to make close contact, over its whole length, with the threshold of the opening.

7. *Lifting Handles.* Four rigid lifting handles shall be fitted to the bottom rail, two on each side and centred not more than 760 mm apart.

8. *Vertical Guides.* Each vertical guide shall be in conformity with the following—

(a) It shall be of U cross-section, not less than 57 mm x 25 mm in overall size, in mild steel not less than 3 mm thick, one side of the U being held against the wall and the other to face away from the wall.

(b) It shall extend continuously from a level not less than 76 mm above the top of the opening to a level between 20 mm and 30 mm above the threshold of the opening, and shall have a flared lead-in at the top.

(c) It shall have fixing lugs welded to it at not more than 685 mm pitch, the top lug being centred not more than 152 mm from the top of the guide.

(d) The fixing lugs shall be of mild steel not less than 38 mm wide x 6·3 mm thick, and they shall be L-shaped so that:

(i) in holding the guide to position on the wall, one leg will bear against the wall at positions not less than 38 mm clear of the base of the U; and

(ii) the other leg will extend across not less than three-quarters of that side of the guide that faces away from the wall.

(e) Each fixing lug shall be drilled to take a fixing bolt not less than 9·5 mm in diameter, not more than 3 mm clear of the base of the U, and centred on the centre-line of the lug.

9. *Barrel.* The barrel shall comprise a mild steel tube in which are mounted two mild steel axles, one at each end of the tube, the sizes of tube and axles being not less than shown in Table 9 for the particular width of opening to be protected by the shutter, except that tubes of larger diameter that are thinner but at least as strong in longitudinal bending may be used.

TABLE 9—MINIMUM SIZES OF BARREL TUBES AND AXLES

Width of Wall Opening, Measured Between Jambs (mm)	Minimum Sizes of Tube		Minimum Diameter of Axle (mm)
	Outside Diameter (mm)	Thickness (mm)	
Not exceeding 2 590	101·6	4·7	28·5
Exceeding 2 590 but not 2 745	101·6	5·8	31·7
	114·3	3·6	
Exceeding 2 745 but not 2 895	114·3	4·4	31.7
Exceeding 2 895 but not 3 050	114·3	7·9	34·9
	127·0	4·0	
Exceeding 3 050 but not 3 200	127·0	6·3	34·9
	139·7	4·4	
Exceeding 3 200 but not 3 350	139·7	4·8	38·1
Exceeding 3 350 but not 3 505	139·7	7·9	38·1
	152·4	4·7	
Exceeding 3 505 but not 3 660	152·4	6·3	38·1
	165·1	4·4	

10. *Mounting of Barrel.* Each axle shall be set in two iron or steel bearings, one at the end of the barrel tube and the other not less than 610 mm from that end, and be concentric with the tube.

11. *Brackets for the Barrel.* The barrel shall be supported on brackets that are in conformity with the following—

(a) The brackets shall be of steel or cast or malleable iron, forming bearings of an enclosed type for the axles.

(b) They shall project beyond the curtain when this is fully rolled onto the barrel, so as to protect the edges of the curtain and the operating mechanism from possible damage by impact or like cause.

12. *Connexion of Curtain to Barrel.* The curtain shall be connected to the barrel by either Method A or Method B that follows—

Method A—

(i) A series of rings or collars of ferrous metal, gun metal, or phosphor bronze shall be screwed or bolted to the barrel at positions not more than 1 065 mm apart, centre-to-centre, and, as relevant, not more than 405 mm from the edges of the curtain.

(ii) A mild steel bar not less than 25·4 mm x 6·3 mm in cross section shall be attached to each of the rings or collars by screws or bolts not less than 7·9 mm in diameter.

(iii) The top slat of the curtain shall be attached to the bar by screws or bolts not less than 7·9 mm in diameter and at not more than 300 mm pitch.

Method B—

(i) A series of steel-strip chains shall be screwed to the barrel at positions not more than 300 mm apart, centre-to-centre, and, as relevant, not more than 100 mm from the edges of the curtain, using screws not less than 7·9 mm in diameter.

(ii) The chains shall be made of links of material having a minimum cross-sectional area at any part of 64·5 mm^2 and have steel connecting pins not less than 4·7 mm in diameter between their links.

(iii) They shall each be attached to the top slat of the curtain by not fewer than two black-iron or tinned rivets not less than 4·7 mm in diameter.

13. *Operating Mechanism.* The barrel shall be fitted with an operating mechanism to raise and lower the curtain as required in normal service.

14. *Automatic Operation of Operating Mechanism.* The operating mechanism shall incorporate a heat-actuated device that—

(a) will operate automatically at a temperature of not more than 88°C when the door is in any position; and

(b) in so operating will cause the curtain to descend to the threshold of the opening.

15. *Height of Barrel.* The height of the centre of the barrel above the head of the opening shall be not less than 254 mm.

16. *Length of Curtain.* The length of the curtain shall be such that, when the shutter has descended to the threshold, the curtain is in contact with the barrel not less than half-way and not more than three-quarters way round the barrel, measured to the centre of the end slat.

17. *Width of Curtain.* The curtain shall overlap the jamb at each side of the opening by not less than 63 mm.

18. *Threshold.* The threshold shall be of concrete or other non-combustible material for a distance of not less than 15·5 mm on each side of the line between the centres of the bottoms of the vertical guides.

19. *Mounting of Barrel Brackets.* The brackets to support the barrel shall each be fixed to the wall by not fewer than two mild steel bolts, not less than 12·7 mm in diameter, that—

(a) pass through the wall and each have a mild steel washer, not smaller than 63 mm square x 4·7 mm thick, providing bearing beneath its head; or

(b) are embedded not less than 155 mm into the wall:

(i) by being cast therein; or

(ii) by being set in parallel-sided holes neatly cut therein and rammed hard with stiff 2:1 portland-cement mortar.

20. *Mounting of Vertical Guides.* The vertical guides shall be mounted on the wall in conformity with the following—

(a) They shall be so located that the curtain and its end pieces enter the guides, at every part of the height of the guides, to within not more than 6 mm from the bottoms of the grooves measured simultaneously at both guides.

(b) The fixing lugs of the guides shall each be fixed to the wall by a mild steel bolt:

(i) not less than 9·5 mm in diameter; and

(ii) embedded not less than 63 mm into the wall, being set in a parallel-sided hole neatly cut therein and rammed hard with stiff 2:1 portland-cement mortar.

DIVISION V—FIRE SAFETY AND FIRE RESISTANCE

PART 22—LOCATION AND PROTECTION OF OPENINGS

22.1 Application. This Part shall apply to every building except a building of Class I or Class X.

22.2 Opening Defined. For the purpose of these By-laws an opening in an external wall includes—

(a) a doorway;

(b) a window or other glazed area, whether fixed or openable; and

(c) any section of the wall, such as a panel-filled section, that does not have the relevant fire-resistance rating specified by Part 16 or other provision in these By-laws for the structural sections of the wall.

22.3 Vertical Separation of Openings in External Walls. (1) **Application of By-law.** This By-law shall apply to buildings required to be of Type 1 and Type 2 construction, but shall not extend to—

(a) a building or portion of a building designed, constructed or adapted as an open-deck parking station; or

(b) openings above one another within a stairway.

(2) **Alternative Methods of Separation.** Where any part of an opening in an external wall is situated vertically above another opening in the storey next below, there shall be provided between those openings—

(a) a spandrel or other vertical construction not less than 900 mm in height and complying with the following conditions:—

(i) The construction shall extend not less than 600 mm above the upper surface of the intervening floor.

(ii) The construction shall comprise non-combustible material having the relevant fire-resistance rating prescribed for external walls by By-law 16.7 (where required to be of Type 1 construction) or By-law 16.8 (where required to be of Type 2 construction).

(iii) There shall be no voids between the edge of the floor and the inside face of the spandrel or other vertical construction, as the case may be; or

(b) a slab or other horizontal construction that:

(i) projects outwards from the face of the wall for a distance of not less than 1 100 mm;

(ii) extends along the wall not less than 450 mm beyond the lateral limits of the openings concerned; and

(iii) is non-combustible and has a fire-resistance rating of not less than one hour.

(3) **Combined vertical-horizontal separation.** The following variations from the provisions set out in subclause (2) shall be permissible:—

(a) It shall not be necessary for the slab or other horizontal construction to comply with paragraph (b) of subclause (2) if a combination of the following dimensions produces an overall dimension of not less than 2 200 mm:—

(i) The horizontal dimension from the plane of the opening in the lower storey to the outside edge of the slab or other horizontal construction. If the plane of the opening in the lower storey is behind the plane of the opening above, the measurement shall be taken as though the lower opening were in the same plane as that of the opening above.

(ii) The vertical dimension, measured from the level of the top of the opening in the lower storey (or from any part of the slab or other horizontal construction which extends below that level) to the bottom level of the opening in the upper storey (or to any part of the slab or other horizontal construction which extends above that level). If such vertical dimension is less than 300 mm, it shall not be counted in the calculations.

(iii) The horizontal dimension from the outside edge of the slab or other horizontal construction to the plane of the opening in the upper storey.

(b) It shall not be necessary for the construction at any side of the two openings to comply with paragraph (b) (ii) of subclause (2) if—

(i) the construction is provided with a vertical upstand at or beyond the lateral limits of the two openings;

(ii) the height of the vertical upstand is not less than 300 mm; and

(iii) the combination of the height of the vertical upstand plus twice the distance, if any, by which the construction extends beyond the lateral limits of the two openings produces an overall dimension of not less than 900 mm.

(4) **Approval of other construction.** Notwithstanding anything to the contrary in this By-law, the Local Authority may, in lieu of requiring compliance with the foregoing provisions, approve the use in an external wall of a form of construction which—

(a) comprises non-combustible material having a fire-resistance rating of not less than one hour; and

(b) is capable, in the opinion of the Local Authority, of inhibiting the spread of fire from storey to storey via openings in the wall either better or as effectually as construction complying with subclause (2) or (3).

22.4 Protection of Openings in External Walls. (1) Where **Protection Required.** In a fire zone, the following openings in an external wall shall be protected in accordance with subclause (2):—

(a) An opening that faces and is less than 6 m from the farther boundary of a road adjoining the allotment of land, other than one located in a storey at or near ground level.

(b) An opening that faces and is less than 3 m from the boundary of the allotment of land (not being a boundary to a road).

(ba) An opening in that portion of a wall prescribed in paragraph (b) of subclause (3a) of By-law 23.1.

(2) **Protection Required.** The protection referred to in subclause (1) shall be as follows:—

(a) Doorways—one-hour fire doors (self-closing or automatic).

(b) Windows and other glazed areas—one-hour fire windows (automatic or permanently fixed in closed position) or one-hour automatic fire shutters.

(c) Other openings—construction having a fire-resistance rating of not less than one hour.

22.5 Limitations of Openings in External Walls. Openings between successive floors in an external wall referred to in By-law 22.4 shall not occupy more than one-third of the area of the wall between those floors, except where the openings face a public road and are located in a storey at ground level.

22.6 Openings in Fire Walls. (1) **Permissible Openings.** No opening shall be permitted in a fire wall except—

(a) doorways protected in accordance with this By-law; or

(b) openings for services installed or protected in accordance with By-law 22.13.

(2) **Protection of doorways.** A doorway in a fire wall shall be protected by one of the following alternative methods:—

(a) Two fire doors or fire shutters, one on each side of the doorway, each of which shall—

(i) have a fire-resistance rating of not less than half that required by Part 16 for the fire wall; and

(ii) is self-closing, or automatic if the automatic closing device is so designed as to operate in the event of fire in a section on either side of the fire wall; or

(b) A fire door on one side and a fire shutter on the other side of the doorway, each of which shall comply with sub-paragraphs (i) and (ii) of paragraph (a); or

(c) A single fire door or fire shutter which—

(i) has a fire-resistance rating of not less than that required by Part 16 for the fire wall; and

(ii) is self-closing, or automatic if the automatic closing device is so designed as to operate in the event of fire in a section on either side of the fire wall.

(3) **Limitation on Doorway Openings.** The aggregate width of openings for doorways in a fire wall shall not exceed one-half of the length of the fire wall concerned.

22.7 Doorways in Fire-isolated Stairways, Passageways, and Ramps. Every doorway that opens to a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp (not being a doorway opening to a road or open space) shall be protected by a self-closing one-hour fire door.

22.8 Openings in Fire-isolated Lift Shafts. (1) **Doorways.** Where, pursuant to Part 23, a lift shaft is required to be fire-isolated, the entrance doorways to that shaft shall be protected by one-hour fire doors that—

(a) comply with the provisions of AS CA3, Lift Code, relating to fire-rated lift landing doors; and

(b) are set to remain in the closed position at all times except where they are required to be open for the reception or discharge of passengers, goods or vehicles.

(2) **Lift Indicator Panels, etc.** Lift call panels, indicator panels and other panels in the walls of a fire-isolated lift shaft shall, if they exceed $32{\cdot}5 \times 10^3$ mm^2 in area, be backed by construction having a fire-resistance rating of not less than one hour.

22.9 Doorways in Buildings of Class II or III. (1) **Doorways to Public Corridors, Etc.** In a building of Class II or Class III, every doorway providing access from a sole-occupancy unit or a room not within a sole-occupancy unit to—

(a) a public corridor, public hallway, or the like; or

(b) the landing of an internal non-fire-isolated stairway serving as a required exit,

shall be protected in accordance with subclause (3).

(2) **Doorways Between Sole-Occupancy units, etc.** In a building of Class II or Class III a doorway providing access from a sole-occupancy unit to another sole-occupancy unit or to a room not within a sole-occupancy unit shall be protected in accordance with subclause (3).

(3) **Protection Required.** The protection required by subclauses (1) and (2) shall be as follows:—

(a) In a building of Type 1 or Type 2 construction—a self-closing one-hour fire door.

(b) In a building of Type 3, 4 or 5 construction—a self-closing, tight-fitting, solid core door, not less than 35 mm thick.

22.10 Entrance Doorways of Class IV Buildings. The doorway of a Class IV section of a building providing access to any internal part of the building not within the Class IV section shall be protected as follows:—

(a) In a building of Type 1 or Type 2 construction—a self-closing one-hour fire door.

(b) In a building of Type 3, 4 or 5 construction—a self-closing, tight-fitting, solid core door, not less than 35 mm thick.

22.11 Openings in Floors for Certain Services. In a building of Type 1 or Type 2 construction, services associated with the functioning of a building and passing through a floor shall either be in individual metal pipes, metal conduits, metal ducts or the like, or be installed in shafts complying with Part 16.

22.12 Openings to Shafts, Etc. (1) **Protection in Type 1 and 2 Construction.** In a building of Type 1 or Type 2 construction, an opening in a wall providing access to a ventilating, pipe, garbage, or other service shaft shall, except as provided in subclause (2), be protected by—

(a) a self-closing one-hour fire door; or

(b) an access panel having a fire-resistance rating of not less than one hour; or

(c) one of the devices referred to in paragraphs (a) and (b) or by a door or hopper of non-combustible construction if the shaft is a garbage shaft.

(2) **In Sanitary Compartments.** An opening referred to in subclause (1) shall not be subject to that subclause if it is—

(a) located within a sanitary compartment; and

(b) provided with a door or panel which, together with its frame, is non-combustible or has a fire-resistance rating of not less than one-half hour.

22.13 Openings for Service Installations. (1) **Application of By-law.** This By-law shall apply to openings through a wall, floor, or ceiling that is required to have a fire-resistance rating or a resistance to the incipient spread of fire.

(2) **Pipes and Conduits.** Individual openings for metal pipes, metal conduits, or the like, conveying—

(a) wires or cables for electrical or telephone services; or

(b) gas, including liquefied petroleum gas; or

(c) other services associated with the functioning of the building,

shall be no larger than is necessary to permit of their installation and all gaps around them shall be packed or otherwise treated to the full thickness of the wall, floor, or ceiling, as the case requires, so that its fire-resisting performance will not be impaired.

(3) **Wiring Not in Pipes, etc.** Wires or cables for electrical, telephone, or other services that—

(a) are not enclosed in metal pipes, metal conduits, or other non-combustible material; and

(b) are installed within or pass through a wall, floor, or ceiling,

shall be installed according to Part 55, including any relevant provisions of that Part for the protection of openings made for those services.

(4) **Ventilating and Air-Conditioning Ducts.** Openings for ventilating or air-conditioning ducts or other equipment shall be protected as required by Part 55 (Specification No. 7).

(5) **Other Services.** Openings for other services not mentioned in subclauses (2), (3), and (4) shall be protected in an approved manner.

22.13a Other Openings. Openings in floors, walls, and roofs, not provided for elsewhere in these By-laws, shall be protected in an approved manner to resist effectively the spread of fire and the products of combustion, and shall be of such approved dimensions and construction as not to endanger persons using the building.

DIVISION V—FIRE SAFETY AND FIRE-RESISTANCE

PART 23—SEPARATION OF SECTIONS OF A BUILDING BY FIRE-RESISTING CONSTRUCTION

23.1 Separation of Sections by Fire Walls. (1) **When Section Regarded as a Separate Building.** A section of a building that is fire-separated from the remainder of the building by a fire wall in accordance with this By-law shall be subject to the provisions of these By-laws as though it were a separate building.

(2) **Fire Wall to Extend Through All Storeys.** A fire wall shall extend through all storeys and spaces in the nature of storeys that are common to the section concerned and the adjoining section of the building and shall be carried through to the underside of the roof covering.

(3) * * *

(3a) **Where Sections have Roofs at Different Levels.** If the roof of one of the adjoining sections is lower than the roof of the other section—

(a) the fire wall shall be carried through to the underside of the covering of the lower roof; and

(b) a wall having a fire-resistance rating equal to that required for the fire wall shall surmount it for a height of at least 6 m above the lower roof, or to the underside of the higher roof, whichever is the lower, and every opening in that wall within that height shall be protected in accordance with the provisions of By-law 22.4.

(4) **Combustible Materials Not to Cross Fire Wall.** Timber purlins or other combustible material shall not pass through or cross the fire-wall.

(5) **Fire-Resistance Rating of Fire Wall.** The fire-wall shall have the relevant fire-resistance rating prescribed by Part 16, according to the type of fire-resisting construction required for each of the adjoining sections and where these are different the greater rating shall apply.

(6) **Openings.** Openings in the fire wall shall comply with the relevant provisions of Part 22.

23.2 Separation Between Different Classes of Use. (1) **When Required.** Where, in terms of Part 6, a building has sections of different Classes of use, those sections shall be separated from one another by fire-resisting or fire-protective construction in accordance with this By-law, except as provided in By-laws 23.3 and 23.4.

(2) **Within the Same Storey.** If the sections of different Classes of use are alongside one another in the same storey, they shall be separated in that storey by a fire wall, the fire-resistance rating of which shall be determined according to paragraph (a) of subclause (1) of By-law 16.15.

(3) **Within Different Storeys.** If the sections of different Classes of use are situated one above the other in adjoining storeys they shall be separated as follows according to the required Type of construction of the building:—

(a) Type 1 and Type 2 construction—the floor between the adjoining sections shall have a fire-resistance rating not less than that listed for a floor under By-law 16.7 (if Type 1 construction is required) or By-law 16.8 (if Type 2 construction is required) for the Class in the lower of the two adjoining storeys concerned.

(b) Type 3, 4 or 5 construction (applicable only if one of the adjoining sections is of Class II or Class III)—the underside of the floor (including the sides and underside of its floor beams, if any) shall be protected by—

(i) 12·7 mm plasterboard; or

(ii) 12·7 mm asbestos-silica board; or

(iii) 12·7 mm mesh-reinforced fibrous plaster in which the mesh is one of 12·7 mm x 12·7 mm x 0·71 mm welded wire located not more than 6 mm from the exposed face; or

(iv) any other material not less fire-protective than 12·7 mm plasterboard,

the material in each case being of fire-protective grade and fixed in accordance with the normal trade practice applicable to the fixing of the material as a fire-protective covering.

23.3 Class IV Sections of Buildings: Exemption. The walls or floors separating a Class IV section from the remainder of the building of which it is a part (including the case of a combined shop and dwelling) shall not be subject to By-law 23.2.

23.4 Exemption from Separation within same Storey. It shall not be necessary to provide a fire wall between sections of different Classes of use that are alongside one another in the same storey if each of the structural members throughout the storey has a fire-resistance rating as follows:—

(a) Where Part 16 specifies the same rating for that member for each of the classes concerned—the rating so specified.

(b) Where Part 16 specifies different ratings for that member for any of the classes concerned—the highest of the ratings so specified.

23.5 Separation of Lifts from Remainder of Building. (1) **When Required.** In a building required to be of Type 1, 2, or 3 construction, lifts connecting more than two storeys shall be separated from the remainder of the building by way of enclosure in a fire-resisting shaft in which—

(a) the walls have the relevant fire-resistance ratings prescribed by Part 16; and

(b) openings for lift landing doors and services are protected in accordance with Part 22.

(2) **Stairways and Lifts in the One Shaft.** A stairway and lift shall not be incorporated in the one shaft if either the stairway or the lift is required to be in a fire-resisting shaft.

23.5a Stairways, Passageways and Ramps. Stairways, passageways and ramps shall be separated from the remainder of a building as provided in Part 24.

DIVISION V—FIRE SAFETY AND FIRE-RESISTANCE

PART 24—MEANS OF EGRESS

Section 1—Introductory

24.1 Sections of Part 24. This part comprises the following Sections:—

Section 1—Introductory

Section 2—General Provisions

Section 3—Class II and III Buildings

Section 4—Class IV, V, VI, VII, and VIII Buildings

Section 5—Class IX Buildings

24.2 * * * *

24.3 Exits and Paths of Travel to Comply with this Part. The exits and paths of travel to exits in a building, shall comply with the provisions of this Part.

24.4 Types of Exits. Exits shall comprise—

(a) internal or external stairways;

(b) ramps;

(c) fire-isolated passageways;

(d) doorways opening to a road or open space,

or a combination of two or more such exits providing egress from a storey or space in the nature of a storey to a road or open space.

Section 2—General Provisions

24.5 Application of Section. This Section shall apply to every building except a building of Class I or Class X.

24.6 Alterations to Buildings. Where alterations, extensions, or additions are proposed in respect of a building erected before or after the coming into force of these By-laws, and where such alterations, extensions, or additions would adversely affect the exits or paths of travel to the exits, the Local Authority may require that the building shall comply with this Part or such of the provisions of this Part as it considers necessary.

24.7 Protection of Openings in Exits and Paths of Travel. Doorways serving as required exits to a road or open space, and doorways and other openings in the enclosing walls, floors and ceilings of required exits or public corridors, hallways, or the like, shall be protected in accordance with Part 22.

24.8 Direct Access to Rooms from Certain Exits. Doorways from rooms, other than—

(a) sole-occupancy units occupying the whole of a storey; and

(b) sanitary compartments,

shall not open directly to a stairway, passageway, or ramp that is required to be fire-isolated.

24.9 Fire-isolated Passageways: Construction. A fire-isolated passageway shall be enclosed by walls, floors, and ceilings of non-combustible construction having a fire-resistance rating of not less than one hour.

24.10 Fire-isolated Ramps: Construction. A fire-isolated ramp may be substituted for a fire-isolated stairway if the construction enclosing the ramp complies with Part 16 for the shaft of a fire-isolated stairway.

24.11 External Stairways in Lieu of Fire-isolated Stairways. (1) **Where Permissible.** External stairways may serve as required exits in lieu of fire-isolated stairways, subject to this By-law.

(2) **Construction.** The stairway (including connecting bridges, if any) shall be of non-combustible construction throughout.

(3) **Enclosure under Certain Conditions.** If any part of the stairway is less than 6 m from a window or doorway in an external wall of the building from which the stairway serves as a required exit—

(a) the stairway shall be enclosed for its full height above the lowest level of the window or doorway by non-combustible construction having a fire-resistance rating of not less than one hour; and

(b) no window or other glazed section in the enclosing walls of the stairway shall be within 6 m of any window or doorway in the external walls of the building.

(4) **Exemption From Enclosure.** Subclause (3) shall not apply if—

(a) every window is more than 3 m from any part of the stairway; and

(b) the following windows and doorways are protected as follows:—

(i) Windows which are less than 6 m from stairway—one-hour automatic fire shutters, or one-hour fire windows (automatic or permanently fixed in closed position).

(ii) Doorways less than 3 m from stairway—one-hour self-closing fire doors.

(iii) Doorways 3 m to 6 m from stairway—one-hour self-closing fire doors, or one-hour automatic fire shutters.

24.12 Escalators and Non-required Stairways. (1) **Number of Storeys Served.** Escalators and non-required non-fire-isolated stairways shall not connect more than—

(a) three storeys where each of those storeys is provided with an approved sprinkler system throughout; or

(b) two storeys otherwise,

and one of those storeys shall be situated at a level at which egress to a road or open space is provided.

(2) **Exemptions.** Subclause (1) shall not apply to an escalator or stairway that is—

(a) within a dwelling unit in a Class II building; or

(b) an external escalator or external stairway irrespective of the classification of the building.

24.13 Travel via Non-fire-isolated Stairways. A non-fire-isolated stairway serving as a required exit shall provide a continuous means of travel via its own flight of stairs and landings from every storey served to the level at which egress to a road or open space is provided.

24.14 Discharge of Fire-isolated Stairways and Ramps. (1) **To Road or Open Space.** Every fire-isolated stairway and fire-isolated ramp shall lead directly or by way of a fire-isolated passageway to a road or open space, except as provided in subclause (2).

(2) **To Space in Building that is not Fully Enclosed.** In a building of Class V, VI, VII, or VIII, a fire-isolated stairway or fire-isolated ramp discharging into a storey or similar space within the confines of the building shall not be subject to subclause (1) if—

(a) that storey or space is at a level at which egress to a road or open space is provided;

(b) that storey or space is unenclosed or only partly enclosed; and

(c) any walls, columns, piers, glazing or other construction at the periphery of that storey or similar space do not occupy, in total, more than one-third of its perimeter.

(2a) Notwithstanding the provisions of subclause (1) of this By-law, where, for a particular building of Class V, VI or VII situated on a site having a frontage of not more than 12 m, the Local Authority is satisfied that the application of the provisions of subclause (1) will unnecessarily interfere with the course and operation of business and that a modification

of the application will attain the objects of these By-laws as effectually, the Local Authority may approve of a fire-isolated stairway or fire-isolated ramp discharging into a storey or similar space within the confines of the building if—

(a) that storey or space is at a level at which egress to a road or open space is provided; and

(b) the nearest part of the doorway leading from the fire-isolated stairway or fire-isolated ramp is distant not more than 12 m from a doorway opening to a road or open space, measured in a straight line.

(3) **Offences relating to Exits.** It shall be an offence under these By-laws to place in or across any exit, any structure, material, substance or thing whatever, either temporarily or permanently which does, or may, interfere with, impede, obstruct, delay or endanger the egress of persons to that exit, or to interfere with or cause obstruction or impediment to the normal operation of the self-closing fire doors.

24.15 Separation of Rising and Descending Stair Flights. (1) **No Direct Connexion.** Where a stairway serving as an exit is required to be fire-isolated, there shall be no direct connexion between—

(a) a flight of stairs rising from a storey below the lowest level of access to a road or open space; and

(b) a flight of stairs descending from a storey above that level.

(2) **Construction Separating Flights.** Any construction that is common to or separates rising and descending flights of stairs, as referred to in subclause (1), shall be non-combustible and have a fire-resistance rating of not less than one hour.

24.16 Discharge of Non-fire-isolated Stairways and Ramps in Class VI Buildings. In a Class VI building, a required non-fire-isolated stairway or ramp shall discharge at a point not more than—

(a) 18 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or

(b) 30 m from one of two such doorways or passageways where travel to each of them from the stairway or ramp is in opposite or approximately opposite directions.

24.17 Installations in Exits and Paths of Travel. (1) **Gas Meters.** Gas meters shall not be installed in a required exit or in any corridor, hallway, lobby or the like leading to a required exit.

(2) **Gas Pipes.** Gas pipes and other fuel pipes shall not be installed in a required exit.

(3) **Other Services.** The following services and equipment shall not be installed in a required exit or in any corridor, hallway, lobby, or the like leading to a required exit unless enclosed by non-combustible construction or a material listed in By-law 16.12—

(a) Electricity meters or ducts.

(b) Telephone switchboards.

(c) Electrical motors or other motors serving equipment in the building.

24.17a Lining Materials and Surface Finishes. The Local Authority may disapprove the use of any lining or surface finish in any required exit, if it is satisfied that by reason of—

(a) the likelihood of the emission of noxious fumes; or

(b) (i) the Spread of Flame Index; or

(ii) the Smoke Developed Index; or

(iii) any combination of both,

when measured in accordance with the provisions of AS A30, Fire Tests on Building Materials and Structures,

the lining or surface finish may impede rapid and safe evacuation of the building via that required exit.

24.18 Openings to Chutes for Hot Products of Combustion. An opening to any chute or duct intended for conveying the hot products of combustion shall not be located in any part of a required exit or any corridor, hallway, lobby, or the like leading to a required exit.

24.19 Enclosure of Space Under Stairs. (1) **Fire-isolated Stairways.** The space below a flight of stairs of a required fire-isolated stairway, if such space is within the fire-isolated shaft, shall not be enclosed to form a cupboard or similar enclosed space.

(2) **Non-fire-Isolated Stairways.** The space below a flight of stairs of a non-fire-isolated stairway (including an external stairway) serving as a required exit shall not be enclosed to form a cupboard or other enclosed space unless—

(a) the enclosing walls and ceilings have a fire-resistance rating of not less than one hour; and

(b) any access doorway to the enclosed space is fitted with a self-closing fire door having a fire-resistance rating of not less than one hour.

24.20 Doorways and Doors. (1) **Application of By-law.** This By-law shall apply to doorways and doors—

(a) serving as required exits; or

(b) forming part of a required exit.

(2) **Revolving Doors and Roller Shutters.** A revolving door or roller shutter shall not be fitted to a doorway referred to in subclause (1).

(3) **Sliding and Swinging Doors.** A sliding door shall not be fitted to a doorway referred to in subclause (1) other than one leading to a road or open space and any such door, or any swinging door, if power operated, shall be so constructed that in the event of malfunction or failure of the power source, it may be opened manually under a force of not more than 110 N.

(4) **Swinging Doors: Encroachment.** A swinging door fitted to a doorway referred to in subclause (1)—

(a) shall not, at any part of its swing, encroach by more than 510 mm on the required width of a required stairway or ramp, including the landings thereof; and

(b) shall not, when fully open, encroach by more than 100 mm on the required width of a required exit,

the measurement of encroachment in each case shall include door handles or other furniture or attachments to the door.

(5) **Direction of Swing.** A swinging door fitted to a doorway referred to in subclause (1) shall swing in the direction of egress except in the case of—

(a) a doorway opening to a sanitary compartment; and

(b) * * * *

(ba) a doorway opening to a road, open space, or external balcony, in which case the door may swing against the direction of egress if fitted with an approved means of fixing it readily in the fully open position, or if it is a door hinged to swing both ways.

(6) **Operation of Locks.** A door referred to in subclause (1) shall be readily openable, without a key and by single handed action, from the side that would face any person seeking egress from the building.

24.21 Thresholds. (1) **Incorporation of Steps or Ramps.** The threshold of a doorway serving as a required exit or forming part of a required exit shall not, except as provided in subclause (2), incorporate a step or ramp at any point closer to the doorway than the width of the door leaf.

(2) **Doorways Opening to Exterior of Building.** A doorway opening to a road, open space, or external balcony shall not be subject to subclause (1) if the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.

24.22 Egress to Open Space. Where a required exit leads to an open space that is at a different level to the road to which it is connected, the path of travel to the road shall be by way of—

(a) a ramp or other incline having a grade of not more than 1 in 8 at any part; or

(b) a stairway complying with the relevant provisions of this part.

24.23 Widths of Stairways. (1) **To be Measured Clear of Obstructions.** The required widths of stairways (as represented by the dimension "W" in the following figure 24.23) shall be measured clear of all obstructions, handrails, projecting parts of balustrades, and the like, and shall extend without interruption, except for ceiling cornices, to a height of not less than 2 030 mm vertically above a line along the nosings of the treads, or the floor of the landing, as the case requires.

(2) **Exceeding 2 040 mm.** A stairway that exceeds 2 040 mm in unobstructed width shall be deemed to have a width of 2 040 mm, unless—

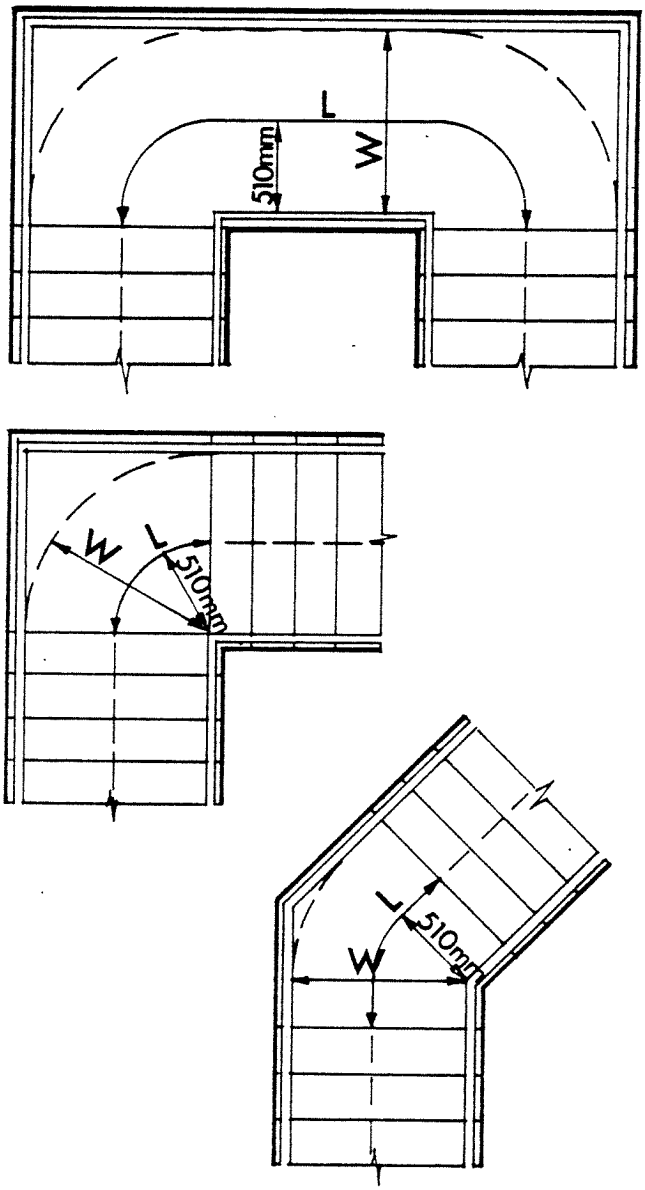
(a) it is divided into sections by a balustrade or handrail continuous between landings; and

(b) each such section is not less than 1 020 mm in width,

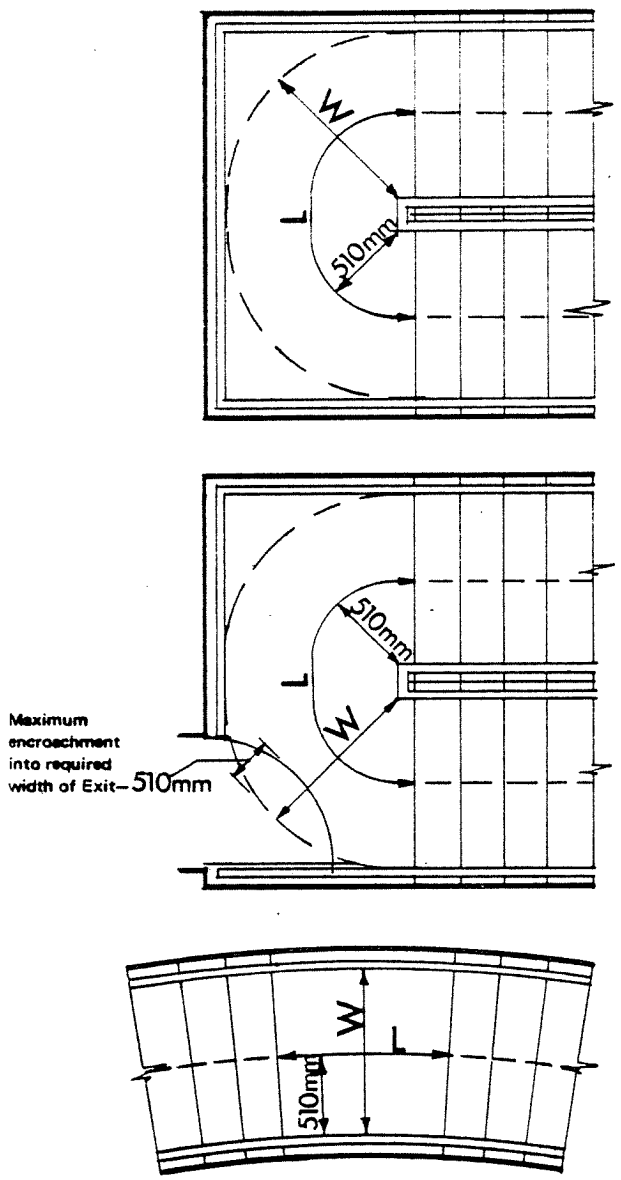
in which case the full unobstructed width of the stairway may be counted for the purposes of this Part.

Figure 24.23

STAIRWAY REQUIREMENTS



STAIRWAY REQUIREMENTS



24.24 Landings. (1) **Between Flights.** Every stairway serving as an exit shall be provided with landings, where necessary, to limit the number of risers in a flight of stairs to 18.

(2) **Length.** The length of travel along a landing measured 510 mm from the inside edge of the landing (as represented by the dimension "L" in figure 24.23) shall be not less than 760 mm.

(3) **Surface Finish.** Landings shall be provided with a non-slip finish throughout or with an approved non-skid strip near the edge of the landing where it leads to a flight of stairs below.

24.24a Fall. The fall on the upper surface of landings shall not exceed a ratio of 1:50.

24.25 Treads and Risers. (1) **Number in a Flight.** The flight of a stairway shall have not more than 18 or less than 2 risers.

(2) **Going and Riser Height.** The going and riser height of stairs in a stairway shall be constant throughout all flights of that stairway.

(3) **Construction of Treads.** The treads of a flight of stairs in a required stairway shall—

(a) be constructed within the limits of shape and size illustrated in the following Figure 24.25 and specified in the following Table 24.25; and

(b) be provided with a non-slip finish throughout or with an approved non-skid strip near the edge of the nosings.

(ba) have a fall not exceeding a ratio of 1:50.

(4) **Construction of Risers.** The risers of a flight of stairs in a stairway shall be constructed within the limits of shape and size illustrated in the following Figure 24.25 and the following Table 24.25.

(5) **Risers may be Open.** Nothing in this clause shall be deemed to prevent the space between the treads of a stairway from being completely open.

TABLE 24.25
LIMITS OF RISER HEIGHT AND GOING

<table>
<tr><td colspan="2">Shape of Treads in Plan</td><td>Rectangular</td><td colspan="3">Tapered as in a Curved Stairway</td></tr>
<tr><td rowspan="2">Riser Height
R mm</td><td>Max.</td><td>190</td><td colspan="3">190</td></tr>
<tr><td>Min.</td><td>115</td><td colspan="3">115</td></tr>
<tr><td rowspan="2">Going
G mm</td><td>Max.</td><td>395</td><td>Wide end of Tread</td><td colspan="2">445</td></tr>
<tr><td>Min.</td><td>255</td><td>Narrow end of Tread</td><td colspan="2">205</td></tr>
<tr><td rowspan="4">Quantity
2R + G</td><td rowspan="2">Max.</td><td rowspan="2">625</td><td rowspan="2">Wide end of Tread</td><td>Max.</td><td>675</td></tr>
<tr><td>Min.</td><td>625</td></tr>
<tr><td rowspan="2">Min.</td><td rowspan="2">585</td><td rowspan="2">Narrow end of Tread</td><td>Max.</td><td>590</td></tr>
<tr><td>Min.</td><td>545</td></tr>
</table>

FIGURE 24.25

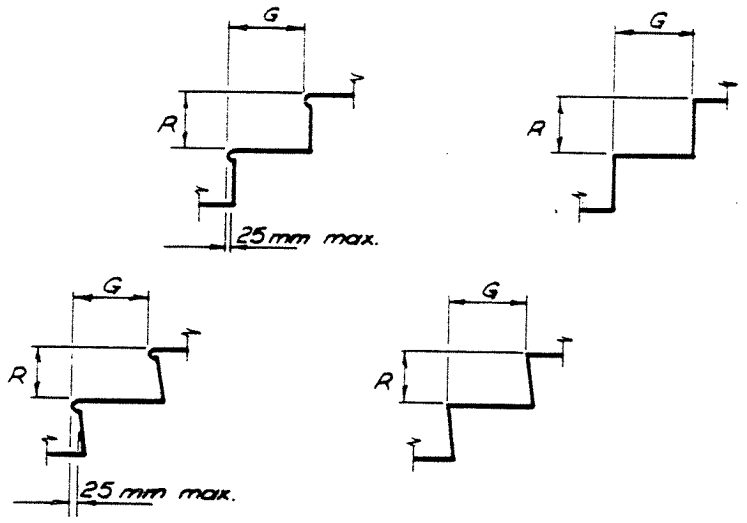


FIGURE ILLUSTRATING BY-LAW 24.25

24.26 Ramps: General Requirement. (1) **Measurement of Width.** The width of a ramp serving as an exit shall be measured clear of all obstructions, handrails, projecting parts of balustrades, and the like, and shall extend without interruption, except for ceiling cornices, to a height of not less than 2 030 mm vertically above the floor surface of the ramp.

(2) **Gradient.** The slope of a ramp serving as an exit shall have a grade of not more than 1 in 8 in any part.

(3) **Surface Finish.** The floor surface of a ramp shall have a non-slip finish.

24.27 Handrails and Balustrades. (1) **Where Stairway Etc. not Bounded by a Wall.** A balustrade shall be provided along every side of any stairway or ramp, and any corridor, hallway, external access balcony, or bridge, or the like, wherever the side is not bounded by a wall and is more than 915 mm (or 5 risers in the case of a stairway) above the finished surface of the adjoining floor or ground, as the case may be.

(2) **Number of Handrails.** A handrail shall be provided along at least one side of every flight of stairs in a stairway and where the flight is 1 525 mm or more in width, a handrail shall be provided along each side.

(3) **Height, etc. of Handrails.** Required handrails shall be fixed at a vertical height of not less than 865 mm above—

(a) the nosings of stair treads; and

(b) the floor surface of ramps, landings, corridors, hallways, external access balconies, bridges and the like,

and shall be so constructed that there will be no obstruction on or above them that will tend to break a hand hold.

(4) **Handrails for External Stairs.** Every required handrail to stairs shall be continuous between stair flight landings, and have no opening therein wider than 150 mm.

24.28 Widths of exits according to number of persons. (1) **Application of By-law.** This By-law shall apply wherever this Part regulates the minimum width of required exits or doorways leading to required exits according to the number of persons accommodated in a storey.

(2) **Calculation of number accommodated.** The number of persons deemed to be accommodated in a storey shall be the sum of the numbers obtained by dividing the floor area of each portion of the storey by the relevant number of square metres per person listed in the following Table 24.28, according to the use or proposed use of that portion.

(3) **Occupancy use not listed.** Where a particular use of portion of a storey is not listed in the following Table 24.28, the number of square metres per person to be used in the calculation shall be as determined by the Local Authority.

(4) **Calculation of floor area.** In this By-law, the floor area of a storey or portion of a storey shall exclude spaces set aside for—

(a) lifts, stairs, and escalators;

(b) corridors, hallways, lobbies, and the like;

(c) service ducts and the like; and

(d) sanitary compartments or other ancillary uses.

TABLE 24.28

AREAS PER PERSON ACCORDING TO USE

Type of Use	Square Metres per Person
Assembly room for—	
(a) civic, political, transit, religious, social or recreational purposes	1·2
(b) entertainment or amusement	1·2
Bar	1
Boiler	30
Board room	2
Boarding-house	15
Cafe	1
Cafeteria	1
Computer room	25
Dining room	1
Factory—	
(a) a machine shop, fitting shop, or like place for cutting, grading, finishing or fitting of metals or glass, except in the fabrication of structural steelwork or manufacture of vehicles or bulky products	5
(b) areas used for fabrication and processing other than those in (a)	50
(c) a space in which the layout and natural use of fixed plant or equipment determine the number of persons which will occupy the space during working hours	The area per person determined by the natural use of the fixed plant or equipment and as approved by the Local Authority
Garage—public	30
Guest-house	15
Hostel	15
Kiosk	1
Kitchen	10
Laboratory	10
Laundry	10
Library—	
reading space	2
storage space	30

TABLE 24.28—*continued*
AREAS PER PERSON ACCORDING TO USE—*continued*

Type of Use	Square Metres per Person
Office, including one for typewriting or document copying ..	10
Plant room for—	
ventilation, electrical or other service units	30
boilers or power plant	50
Reading room	2
Restaurant	1
Shop-space for sale of goods—	
(a) at a level entered direct from the open air or any lower level	1·5
(b) all other levels	3
Showroom—display area	5
Staff room	10
Storage space	30
Switch room	30
Telephone exchange—private	30
Transformer room	30
Workshop—	
for maintenance staff	30
for manufacturing processes	As for " Factory "

24.29 Exit Signs. (1) **Application of By-law.** The provisions of this By-law are subject to the provisions set out in subclause (6) in regard to Class II buildings and in subclause (7) in regard to the entrance doors of certain sole-occupancy units.

(2) **Provision at Doorways of Certain Exits.** Exit signs shall be provided in the following positions:—

(a) On or near every door affording direct access from a storey to—

(i) an enclosed stairway or ramp serving as a required exit;

(ii) an external stairway serving as a required exit; and

(iii) an external access balcony leading to a required exit.

(b) On or near every door discharging from an enclosed stairway or ramp at every level of access to a public place or open space.

(2a) In premises where exit signs are required doors not leading to exits should be provided with signs indicating to the satisfaction of the Local Authority the purpose for which the room is used.

(3) **In Corridors, etc., Under Certain Conditions.** Exit signs shall also be installed in corridors, hallways, lobbies, and the like, indicating the direction of a required exit, if the Local Authority is of opinion that the location of the exits will not otherwise be readily apparent to persons occupying or visiting the building.

(4) **Position and Illumination of Signs.** A required exit sign shall—

(a) in the cases referred to in subclause (2) be installed on or near the doorway concerned in such a position as to be clearly visible to persons approaching the exit or external balcony, as the case may be;

(b) in the cases referred to in subclause (3) be installed in positions approved by the Local Authority; and

(c) be illuminated in accordance with the provisions of By-law 55.13.

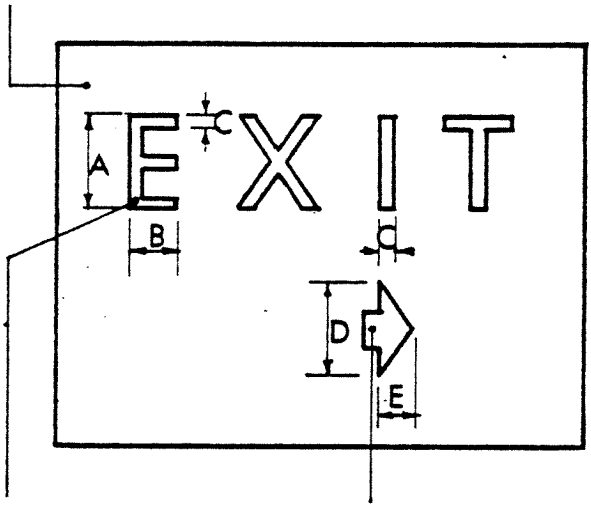
(5) **Details on Signs.** Every sign required by this By-law shall—

(a) conform with the details and dimensions of the following Figure 24.29 and the following Table 24.29; and

(b) contain only the word "EXIT", together with an arrow where necessary to indicate the direction of the exit.

FIGURE 24.29

Background to be white or in the case of an internally illuminated sign either translucent white or an opaque material. Background colour to extend not less than 25 mm in any direction from any point of a letter or arrow.



Capital letters in legible style, colour to approximate "safety" green as indicated by colour No. 280 in Australian Standard K185, Colours for Specific Purposes, illuminated internally or externally in accordance with paragraph (c) of By-law 24.29 (4).

Arrow (if required to indicate direction of exit); position on sign optional; colour to approximate "safety" green as indicated by colour No. 280 in Australian Standard K185, Colours for Specific Purposes, illuminated internally or externally in accordance with paragraph (c) of By-law 24.29 (4).

TABLE 24.29

MINIMUM DIMENSIONS

Dimension	Minimum Value Permitted
A	100 mm
B	1/2 A
C	12 mm
D	100 mm
E	1/3 D

Note—Figure 24.29 and Table 24.29 do not apply to a Class II building complying with subclause (6) of By-law 24.29

(6) **Class II Buildings.** The foregoing provisions shall not apply to a Class II building in which every door referred to in paragraphs (a) and (b) of subclause (2) is clearly and legibly labelled on the side remote from the exit or balcony, as the case may be, with the word "EXIT" in capital letters 25 mm high in a colour contrasting with that of their background.

(7) **Entrance Doors to Certain Sole-Occupancy Units.** Notwithstanding anything to the contrary in this By-law, it shall not be necessary to provide an exit sign on or near an entrance doorway of a sole-occupancy unit in a building of Class II, III, or IV.

Section 3—Class II and III Buildings

24.30 Application of Section. This Section, in addition to Section 1 and Section 2, shall apply to buildings of Class II and Class III, but shall not apply to any sole-occupancy unit or room therein which has its own direct access to a road or open space.

24.31 Number of Exits. (1) **Buildings Not More Than Six Storeys in Rise.** In a building having a rise of not more than six storeys, one exit only is required except where—

(a) the building is subject to subclause (2); or

(b) the requirements of By-law 24.32 cannot be met by the provision of a single exit.

(2) **Buildings of Type 4 or 5 Construction and Two Storeys in Rise.** In a building of Type 4 or Type 5 construction having a rise of two storeys, at least two exits shall be provided.

(3) **Buildings More than Six Storeys in Rise.** In a building having a rise of more than six storeys, at least two exits shall be provided.

24.32 Situation of Sole-occupancy Units, Etc. (1) **Where One Exit is Permissible.** Where only one exit is required in a building of Class II or Class III—

(a) the entrance doorway of any sole-occupancy unit shall be not more than 5·5 m from that exit; and

(b) no part of any room, not being a room in a sole-occupancy unit, shall be more than 15 m from that exit.

(2) **Where Two or More Exits are Required.** Where two or more exits are required in a building of Class II or Class III—

(a) the entrance doorway of a sole-occupancy unit shall be not more than 5·5 m from a point from which travel in different directions to two of those exits is available; and

(b) no part of a room, not being a room in a sole-occupancy unit, shall be more than 15 m from a point from which travel in different directions to two of those exits is available.

24.33 Distance Between Alternative Exits. Where two exits are required to serve as alternative exits in relation to any room or sole-occupancy unit in a building of Class II or Class III, the distance between those two exits shall be not more than 45 m, and in a Class III building the distance between the two exits shall be not less than 9 m.

24.34 Measurement of Distances. (1) **Nearest Part of an Exit Defined.** In this By-law, the nearest part of an exit means—

(a) in the case of a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp, the nearest part of the doorway providing access thereto;

(b) in the case of a non-fire-isolated internal or external stairway the nearest part of the nearest riser;

(c) in the case of a non-fire-isolated ramp, the nearest part of the junction of the floor of the ramp and the floor of the storey concerned; and

(d) in the case of a doorway opening to a road or open space, the nearest part of that doorway.

(2) **Method of Measurement.** In measuring the distances referred to in By-laws 24.32 and 24.33, the following provisions shall apply:—

(a) In the case of a room, not being a sole-occupancy unit, the distance shall include the straight-line measurement from any part of the room to the nearest part of a doorway leading therefrom, together with the distance from such part of the doorway to the single required exit or point from which travel in different directions to two required exits is available, as the case requires.

(b) The distance from the doorway of a room or sole-occupancy unit shall, subject to paragraph (d), be measured in a straight line to the nearest part of the required single exit or point from which travel in different directions to two required exits is available, as the case requires.

(c) The distance between two required exits shall, subject to paragraph (d), be measured in a straight line between the nearest parts of those exits.

(d) Where a corridor, hallway, external balcony, or other path of travel leading to a required exit or connecting two required exits, includes a curve or change of direction, the distance shall include the shortest measurement along the corridor or other path of travel, whether by curves, or straight lines, or a combination of both.

24.35 Alternative Exits to Discharge Separately. Where two or more exits are required in a building of Class II or Class III, they shall provide separate egress to a road or open space and at the level of discharge shall not be connected by any corridor, hallway, lobby, or the like (other than a fire-isolated passageway) that is common to two or more of them.

24.36 Required Stairways in Class II Buildings. (1) **Where Stairways Must be Fire-Isolated.** In a Class II building every required stairway shall be a fire-isolated stairway, except as provided in subclause (2).

(2) **Where Non-Fire-Isolated Stairways are Permissible.** Non-fire-isolated stairways may serve as required exits in Class II buildings where—

(a) such stairways connect not more than three storeys, or not more than four storeys if at least one storey is set aside solely for the accommodation of motor vehicles or other ancillary purposes; and

(b) the provisions of By-law 24.38 are met.

24.37 Required Stairways in Class III Buildings. (1) **Where Stairways Must be Fire-Isolated.** In a Class III building every required stairway shall be a fire-isolated stairway, except as provided in subclause (2).

(2) **Where Non-Fire-Isolated Stairways are Permissible.** Non-fire-isolated stairways may serve as required exits in Class III buildings where—

(a) such stairways connect not more than two storeys, or not more than three storeys if at least one storey is set aside solely for the accommodation of motor vehicles or other ancillary purposes; and

(b) the provisions of By-law 24.38 are met.

24.38 Non-fire-isolated Stairways: Conditions to be Met. (1) **Travel Distance to Road or Open Space.** The distance between the doorway of a room or sole-occupancy unit and the point of egress to a road or open space by way of any stairway that is non-fire-isolated and is required to serve that room or sole-occupancy unit shall not exceed—

(a) 30 m in a building of Type 4 or Type 5 construction; and

(b) 60 m in all other cases.

(2) **Measurement of Travel Distance.** For the purposes of subclause (1) the distance to a stairway shall be measured in accordance with By-law 24.34, the remainder of the distance being measured—

(a) along the shortest line of travel to the road or open space; and

(b) in the case of the treads and risers of a stair, along a line connecting the nosings of the treads.

24.39 Dimensions of Doorways, Exits and Paths of Travel. (1) **Doorways.** In a building of Class II or Class III, every doorway—

(a) serving as a required exit from a storey; or

(b) leading to or forming part of a required exit or path of travel to an exit,

shall have a clear opening of not less than 1 980 mm in height and not less than 760 mm in width.

(2) **Exits and Paths of Travel.** In a building of Class II or Class III, every required exit and path of travel to an exit shall, except for doorways, have a minimum unobstructed vertical clearance throughout of 2 030 mm and a mimimum unobstructed width throughout of 1 020 mm.

24.39a Access for Handicapped Persons. Wherever the public has general access to a Class III building, provision shall be made for access for handicapped persons in accordance with the provisions of AS CA52, Design for Access by Handicapped Persons—unless the Local Authority approves otherwise by reason of unlikelihood of demand, undue cost, alternative provision in other buildings, size of the building, or other well founded cause.

Section 4—Class IV, V, VI, VII, and VIII Buildings

24.40 Application of Section. This Section, in addition to Section 1 and Section 2, applies to buildings of Class IV, V, VI, VII, or VIII and any Class IV section thereof.

24.41 Number of Exits Required. (1) **Buildings Not More Than Six Storeys in Rise.** In a building having a rise of not more than six storeys, one exit only is required except where—

(a) the building is subject to subclause (2); or

(b) the requirements of subclause (1) of By-law 24.42 cannot be met by the provision of the single exit, in which case two or more exits are required.

(2) **Certain Storeys at Low Level to have Two Exits.** Where egress from a storey would involve a vertical rise within the building of more than 1·5 m, at least two exits are required from that storey.

(3) **Buildings More Than Six Storeys in Rise.** In a building having a rise of more than six storeys, at least two exits shall be provided.

24.42 Situation of Parts of Building in Relation to Exits. (1) **Where One Exit is Permissible.** Where only one exit is required in a building of Class V, VI, VII, or VIII, no point on a floor shall be more than 18 m from that exit.

(2) **Where Two or More Exits are Required.** Where two or more exits are required, no point on a floor shall be more than 18 m from—

(a) one of those exits; or

(b) a point from which travel in different directions to two of those exits is available, in which case the maximum distance to one of those exits shall not exceed 40 m.

(3) **Class VI Buildings—Distance to Single Exit in Ground Storey.** In a Class VI building, the distance to a single exit serving a storey at the level of access to a road or open space may be increased to 30 m.

(4) **Class IV Portions of Buildings—Distance to Exits, Etc.** The entrance doorway to a Class IV section of a building shall be situated at a distance of not more than 5·5 m from—

(a) an exit; or

(b) a point from which travel in different directions to two exits is available.

24.43 Distance Between Alternative Exits. (1) **Maximum Distance.** Where two exits are required to serve as alternative exits in relation to any point on the floor of a storey, the distance between those two exits shall not exceed 60 m.

(2) **Minimum Distance.** Where two or more exits are required to serve a storey, the distance between any two of them shall be not less than 9 m.

24.44 Measurement of Distances. (1) **Nearest Part of an Exit.** In this By-law, the "nearest part of an exit" shall have the meaning ascribed to it by subclause (1) of By-law 24.34.

(2) **Method of Measurement.** In measuring the distances referred to in By-laws 24.42 and 24.43, the following provisions shall apply:—

(a) In the case of a room, the distance shall include the straight-line measurement from any part of the room to the nearest part of a doorway leading therefrom, together with the distance from that part of the doorway to—

(i) the nearest part of a required exit; or

(ii) a point from which travel in different directions to two required exits is available,

as the case requires.

(b) The distance from the doorway of a room, or of a Class IV section of the building, or from a point on the floor not within a room shall, subject to paragraphs (d), (e), and (f), be measured in a straight line to—

(i) the nearest part of a required exit; or

(ii) a point from which travel in different directions to two required exits is available,

as the case requires.

(c) The distance between two required exits shall, subject to paragraphs (d), (e), and (f), be measured in a straight line between the nearest parts of those exits.

(d) Where a corridor, hallway, external balcony, or other path of travel leading to a required exit or connecting two required exits, includes a curve or change of direction, the distance shall include the shortest measurement along the corridor or other path of travel, whether by curves, or straight lines, or a combination of both.

(e) Where more than one corridor, hallway, or other internal path of travel connects two required exits, the measurement shall be along the path of travel producing the greatest distance.

(f) Where a wall (including a demountable partition wall) that does not bound—

(i) a room; or

(ii) a corridor, hallway, or the like,

necessitates a change of direction in proceeding to a required exit, the distance shall be measured along the line of travel past that wall or partition.

24.45 Types of Stairways Required. In a building of Class V, VI, VII, or VIII required stairways—

(a) may be non-fire-isolated if the building contains not more than two storeys; and

(b) shall be fire-isolated in all other cases.

24.46 Dimensions of Doorways. (1) **Generally.** Every doorway—

(a) serving as a required exit from a storey; or

(b) leading to or forming part of a required exit or path of travel to an exit,

shall have a clear opening of not less than 1 980 mm in height and not less than 760 mm in width, this width to be increased, where necessary, to comply with subclause (2) or subclause (3) as the case may be.

(2) **Leading to Road, etc., from Storeys with Large Populations.** Where, pursuant to By-law 24.28, a storey at the level of access to a road or open space is deemed to accommodate more than 100 persons—

(a) the clear width of a doorway serving as the only exit from that storey; and

(b) the sum of the clear widths of two or more doorways serving as required exits from that storey,

shall be not less than 760 mm plus 255 mm for every 25 persons (or part of 25 persons) in excess of 100.

(3) **Leading to or from Stairway or Ramp.** Where, pursuant to By-law 24.48, a stairway or ramp is required to be more than 1 020 mm in clear width at any level, the following doorways leading to or from the stairway or ramp shall have the minimum clear widths listed—

(a) A doorway providing direct access from a storey—255 mm less than the required clear width of the stairway or ramp at that storey level.

(b) A doorway providing direct access from the stairway or ramp at the level of access to a road or open space—255 mm less than the required clear width of the stairway or ramp at that level.

24.47 Dimensions of Paths of Travel. Every required path of travel to an exit shall, except for doorways, have a minimum unobstructed vertical clearance throughout of 2 030 mm and a minimum unobstructed width throughout of 1 020 mm.

24.48 Dimensions of Exits. (1) **Vertical Clearance.** Every required exit shall, except for doorways, have a minimum unobstructed vertical clearance throughout of 2 030 mm.

(2) **Minimum Widths.** Every required exit shall, except for doorways, have a minimum unobstructed width throughout of 1 020 mm and this width shall be increased, if necessary, to meet the provisions of subclause (3).

(3) **Width to be Sufficient to Accommodate all Persons in a Storey.** Where, pursuant to By-law 24.28, a storey is deemed to accommodate more than 100 persons and not more than 200 persons—

(a) the width of a single stairway or ramp serving that storey (if only one such exit is required); and

(b) the sum of the widths of two or more stairways or ramps required to serve that storey,

shall, at the level of entry from the storey concerned, be not less than the relevant dimension set out in the following Table 24.48, according to the number of persons deemed to be accommodated in that storey, and where the number of persons deemed to be accommodated exceeds 200, the relevant width shall be 2 040 mm plus 255 mm for every 25 persons (or part of 25 persons) in excess of 200.

(4) **Width not to Diminish in Direction of Travel.** The required width of a required stairway or ramp shall not diminish in the direction of travel to a road or open space.

TABLE 24.48
CLEAR WIDTHS OF STAIRWAYS AND RAMPS ACCORDING TO NUMBER OF PERSONS ACCOMMODATED IN A STOREY

Number of Persons Accommodated according to By-law 24.28		Aggregate Clear Width
Exceeding	Not Exceeding	
	100	1 020 mm
100	125	1 275 mm
125	150	1 530 mm
150	175	1 785 mm
175	200	2 040 mm

24.48a Access for Handicapped Persons. Wherever the public has general access to a building of Class V or VI, provision shall be made for access for handicapped persons in accordance with the provisions of AS CA52, Design for Access by Handicapped Persons—unless the Local Authority approves otherwise by reason of unlikelihood of demand, undue cost, alternative provision in other buildings, size of the building, or other well founded cause.

Section 5—Class IX Buildings

24.49a Application of Section. This Section, in addition to Sections 1 and 2, applies to Class IX buildings.

24.49b Number of Exits Required. (1) **The Number.** At least two exits are required from each storey and mezzanine, but if the total floor area of the storey or mezzanine, does not exceed 60 m^2, only one exit is required from that storey or mezzanine, unless that storey or mezzanine is subject to the provisions of subclause (2).

(2) **Certain Storeys at Low Level to have Two Exits.** Where egress from a storey would involve a vertical rise within the building of more than 1·5 m, at least two exits are required from that storey.

24.49c Situation of Parts of Building in Relation to Exits. (1) **Where One Exit is Permissible.** Where only one exit is required, no point on a floor shall be more than 18 m from that exit.

(2) **Where Two or More Exits are Required.** Where two or more exits are required, no point on a floor shall be more than 18 m from—

(a) one of those exits; or

(b) a point from which travel in different directions to two of those exits is available, in which case the maximum distance to one of those exits shall not exceed 40 m.

(3) **Extra Provision for Class IXb Buildings.** No point on a floor of a room which has permanently fixed seating in a Class IX building shall be more than 13 m from an aisle leading to an exit.

24.49d Distance Between Alternative Exits. (1) **Maximum Distance.** Where two exits are required to serve as alternative exits in relation to any point on the floor of a storey or mezzanine, the distance between those two exits shall not exceed 60 m.

(2) **Minimum Distance.** Where two or more exits are required to serve a storey or mezzanine the distance between any two of them shall not be less than 9 m.

24.49e Measurement of Distances. (1) **Nearest Part of an Exit.** In this By-law, the nearest part of an exit shall have the meaning ascribed to it by subclause (1) of By-law 24.34.

(2) **Methods of Measurement.** In measuring the distances referred to in By-law 24.49c and 24.49d, the following provisions shall apply:—

(a) In the case of a room, the distance shall include the straight-line measurement from any part of the room to the nearest part of a doorway leading therefrom, together with the distance from that part of the doorway to:

(i) the nearest part of a required exit; or

(ii) a point from which travel in different directions to two required exits is available,

as the case requires.

(b) The distance from the doorway of a room, or of a Class IV section of the building, or from a point on the floor not within a room, shall, subject to paragraphs (d), (e) and (f), be measured in a straight line to:

(i) the nearest part of a required exit; or

(ii) a point from which travel in different directions to two required exits is available,

as the case requires.

(c) The distance between two required exits shall, subject to paragraphs (d) and (e), be measured in a straight line between the nearest parts of those exits.

(d) Where a corridor, hallway, external balcony, or other path of travel leading to a required exit or connecting two required exits, includes a curve or change of direction, the distance shall include the shortest measurement along the corridor or other path of travel, whether by curves, or straight lines, or a combination of both.

(e) Where more than one corridor, hallway, or other internal path of travel connects two required exits, the measurement shall be along the path of travel producing the greatest distance.

(f) Where a room in a Class IX building has permanently fixed seating the distance from a point on a floor in that room to an aisle leading to an exit shall be measured along the curve of the plan of the seats to the nearest aisle which is accessible without obstruction.

24.49f Types of Stairways Required. In a Class IX building required stairways—

(a) may be non-fire-isolated if the building contains not more than two storeys; and

(b) shall be fire-isolated in all other cases.

24.49g Dimensions of Doorways. (1) **Generally.** Every doorway—

(a) serving as a required exit from a storey; or

(b) leading to or forming part of a required exit or path of travel to an exit,

shall have a clear opening of not less than 1 980 mm in height and not less than 760 mm in width, this width to be increased where necessary, to comply with subclause (2) or subclause (3) as the case may be.

(2) **Leading to Road, etc., from Storeys with Large Populations.** Where, pursuant to By-law 24.28, a storey at the level of access to a road or open space is deemed to accommodate more than 100 persons—

(a) the clear width of a doorway serving as the only exit from that storey; and

(b) the sum of the clear widths of two or more doorways serving as required exits from that storey,

shall be not less than 760 mm plus 255 mm for every 25 persons (or part of 25 persons) in excess of 100.

(3) **Leading to or from a Stairway or Ramp.** Where, pursuant to By-law 24.49i, a stairway or ramp is required to be more than 1 020 mm in clear width at any level, the following doorways leading to or from the stairway or ramp shall have the minimum clear widths listed:—

(a) A doorway providing direct access from a storey—255 mm less than the required clear width of the stairway or ramp at that storey level.

(b) A doorway providing direct access from the stairway or ramp at the level of access to a road or open space—255 mm less than the required clear width of the stairway or ramp at that level.

24.49h Dimensions of Paths of Travel. Every required path of travel (including aisles) to an exit, shall, except for doorways and spaces between rows of permanently fixed seats, have a minimum unobstructed vertical clearance throughout of 2 030 mm, and a minimum unobstructed width throughout of 1 020 mm.

24.49i Dimensions of Exits. (1) **Vertical clearance.** Every required exit shall, except for doorways, have a minimum unobstructed vertical clearance throughout of 2 030 mm.

(2) **Minimum width.** Every required exit shall, except for doorways, have a minimum unobstructed width throughout of 1 020 mm, and this width shall be increased, if necessary, to comply with the provisions of subclause (3).

(3) **Width to be Sufficient to Accommodate all Persons in a Storey.** Where, pursuant to By-law 24.28, a storey containing a room referred to in subclause (2) is deemed to accommodate—

(a) more than 100 persons and not more than 200 persons, the aggregate width of the required stairway shall, at the level of entry from that storey, be not less than the relevant dimension set out in the following Table 24.49 according to the number of persons deemed to be accommodated in that storey;

(b) more than 200 persons, the aggregate width of the required stairways shall, at the level of entry from that storey, be 2 040 mm plus 255 mm for every 25 persons (or part of 25 persons) in excess of 200.

TABLE 24.49
WIDTH OF STAIRWAYS ACCORDING TO NUMBER OF PERSONS ACCOMMODATED IN A STOREY

Number of persons accommodated according to By-law 24.28		Aggregate width
Exceeding	Not exceeding	
		mm
	100	1 020
100	125	1 275
125	150	1 530
150	175	1 785
175	200	2 040

24.49j Access for Handicapped Persons. Wherever the public has general access to a Class IX building, provision shall be made for access for handicapped persons in accordance with the provisions of AS CA52, Design for Access by Handicapped Persons—unless the Local Authority approves otherwise by reason of unlikelihood of demand, undue cost, alternative provision in other buildings, size of the building, or other well founded cause.

DIVISION V—FIRE SAFETY AND FIRE-RESISTANCE

PART 25—CHIMNEYS, FLUES, FIREPLACES, STOVES AND SIMILAR FEATURES

25.1 Application of Part. Every chimney, flue, fireplace, stove, heating appliance, and similar feature that is situated within or forms part of a building of any of the classes I to X inclusive shall comply with such of the provisions of this Part as are applicable thereto.

25.2 Gas Burning Appliances: Installation. A gas stove, gas heater or other gas-burning appliance shall be installed in accordance with—

(a) the requirements of the gas supply authority concerned; and

(b) any relevant installation requirements laid down by or under any Act relating to the supply of gas in the area concerned.

25.3 Domestic Type Oil-Heaters. A domestic-type oil-heating appliance shall be provided with a flue and the appliance, together with its flue and other associated fittings shall be installed in accordance with AS CB21, Oil Heating Appliances Installation Code.

25.4 Domestic Type Solid-fuel Appliances. A domestic-type solid-fuel-burning appliance shall be provided with a flue and the appliance, together with its flue, shall be installed in accordance with AS CB21, Oil Heating Appliances Installation Code, as though it were an oil-heating appliance, subject to the following conditions:—

(a) The minimum distances between the appliances and any nearby combustible material shall be as specified in Appendix A of that Standard.

(b) Where the case temperature of the appliance is not known it shall, for the purposes of Appendix A of that Standard, be deemed to have a case temperature exceeding 149°C.

(c) The minimum distances between the appliance and any nearby combustible material may be reduced below the distances specified in such Appendix under the same conditions as those specified for an oil heating appliance by Rule 3.2.1.2. or Rule 3.4.1.2. of that Standard, whichever is appropriate.

(d) The flue shall be constructed of asbestos cement not less than 9·5 mm thick, cast iron or other approved material.

25.5 Boilers. A boiler to which AS CB1 (Part 1), Boiler Code, applies shall be provided with a flue, and the boiler, together with its flue, shall be installed in accordance with the relevant provisions of that Standard.

25.6 Hearths. (1) **When to be Provided.** Every open fireplace and every solid-fuel-burning appliance in which the fuel-burning compartment is not enclosed shall be provided with a hearth.

(2) **Construction.** A required hearth shall be of stone, concrete, masonry or other similar non-combustible material and be so constructed that—

(a) its upper surface does not slope away from the grate or appliance; and

(b) combustible material situated below the hearth shall not be nearer than 155 mm from the upper surface of the hearth, but this requirement shall not apply to combustible material below that portion of the hearth which is required to extend beyond the appliance, fire-place opening, or the limits of the fireplace, as the case requires.

(3) **Limits of Hearth.** A required hearth—

(a) shall extend not less than 300 mm beyond the front of the fireplace opening and not less than 150 mm beyond each side of that opening; and

(b) where the fireplace or appliance is free-standing from any wall of the room, shall extend beyond the limits of the fireplace or appliance for a distance of not less than 300 mm unless, by reason of the design of the fireplace or appliance, the Local Authority approves a variation of this requirement.

25.7 Chimneys and Flues: Special Requirements. (1) **One Flue Per Appliance.** A flue shall not be used to convey the hot products of combustion from more than one appliance or fireplace except in the case of—

(a) gas-burning appliances where the relevant requirements referred to in By-law 25.2 permit otherwise; or

(b) boilers referred to in By-law 25.5 where AS CB1 (Part 1), Boiler Code, permits otherwise.

(2) **Position of Terminal.** A flue or chimney shall not terminate in such a position as to constitute—

(a) a risk of fire to nearby combustible materials; or

(b) a risk of penetration of flue-gases through nearby windows or other openings, fresh air inlets, mechanical ventilation, inlets or exhausts, or the like.

(3) **Flues to Extend for Full Height.** Where a chimney contains more than one flue, each flue shall extend throughout the full height of the chimney.

(4) **Fire-Resistance of Chimney or Flue.** A chimney or flue shall be so constructed that—

(a) it is capable of withstanding the temperatures likely to be generated by the appliance or appliances to which it is connected;

(b) the temperature of the exposed faces will not exceed a level that would cause damage to nearby parts of the building;

(c) the hot products of combustion will not escape through the walls of the chimney or flue; and

(ca) the flue may be cleaned internally throughout its length.

(5) **Certain Flues Deemed to Comply with subclause (4).** A flue attached to an appliance referred to in By-law 25.2, 25.3, 25.4, or 25.5 and constructed according to the requirements or Standard to which it is subject pursuant to the By-law concerned shall be deemed to comply with subclause (4).

(6) **Certain Chimneys in Class I and X Buildings Deemed to Comply with subclause (4).** In a building of Class I or Class X an open fireplace and a chimney connected thereto that are constructed according to the following provisions shall be deemed to comply with subclause (4):—

(a) Up to the level of 300 mm above the underside of the arch or lintel the walls forming the sides and back of the fireplace shall be constructed in two separate sections of solid masonry having a total thickness, exclusive of any cavity, of not less than 190 mm.

(b) Concrete masonry shall not be used in the construction of the inner section of the masonry referred to in paragraph (a).

(c) The walls of the fireplace and chimney above the level referred to in paragraph (a) shall be constructed of masonry units having a net volume, exclusive of cored and similar holes, of not less than 75 per centum of their gross volume, measured on the overall rectangular shape of the units, and having an actual thickness of not less than 90 mm.

(d) The chimney shall have its flue lined internally to a thickness of not less than 12 mm with rendering consisting of cement, lime and sand in the proportions of 1 part cement, 3 parts lime and 10 parts sand by volume or other approved material.

(7) **Evidence of Compliance with subclause (4).** In the case of a chimney or flue that is not deemed, pursuant to subclause (5) or subclause (6), to comply with subclause (4), the Local Authority may require the production of satisfactory evidence that the chimney or flue concerned will meet the requirements of subclause (4).

(8) **Building in of Combustible Material.** Combustible material shall not be situated nearer to the inner face of a flue or fireplace opening than—

(a) 90 mm in the case of an appliance having an output rating of not more than 55 MJ per hour; or

(b) 190 mm in the case of an open fireplace or an appliance having a rating of more than 55 MJ per hour but less than 320 MJ per hour; or

(c) 280 mm in the case of an appliance having a rating of more than 320 MJ per hour.

(9) **Damp-proof Course and Flashing.** A chimney shall be constructed with damp-proof courses and flashings so arranged as to prevent the penetration of rainwater to any part of the interior of the building.

25.8 Incinerator Rooms. (1) **Construction.** Where an incinerator is installed in a separate room within a building that room shall be separated from other portions of the building by construction having a fire-resistance rating of not less than 1 hour.

(2) **Construction of Chimneys and Flues.** The chimney or flue of an incinerator, except an incinerator not forming part of a building, shall comply with the relevant provisions of By-law 25.7.

(3) **Hopper in Charging Chute.** A hopper giving access to a charging chute of an incinerator within or forming part of a building shall be non-combustible and

(a) shall be gastight when closed;

(b) shall be so designed as to return to the closed position automatically after use;

(c) shall not be attached to a chute that connects directly to a flue except where the hopper is located in the open air; and

(d) shall not be located in a required exit.

25.9 Ducts and Pipes: Construction and Installation. The following shall be constructed and installed according to Part 55:—

(a) Ducts for the movement or carriage of—

(i) air;

(ii) industrial wastes;

(iii) dust;

(iv) chemicals;

(v) steam; and

(vi) products of cooking and the like.

(b) Steampipes.

(c) Exhaust pipes from stationary engines.

DIVISION V—FIRE SAFETY AND FIRE-RESISTANCE

PART 26—FIRE PROTECTION IN CLASS IX BUILDINGS—ADDITIONAL PROVISIONS

* * * *

DIVISION V—FIRE SAFETY AND FIRE-RESISTANCE

PART 27—FIRE-FIGHTING SERVICES AND APPLIANCES

27.1 * * * *

27.2 Fire Mains. (1) **When to be Provided.** Where, pursuant to these By-laws—

(a) hose reels are required in a building; or

(b) hydrants are required to be installed within the building or building site, or at roof level,

a fire main shall be provided and every such hose reel and hydrant shall be connected to that fire main.

(2) **For Fire-Fighting Purposes Only.** A fire main shall not be designed, constructed, or adapted for use for any purpose other than the supply of water for fire-fighting purposes.

(3) **Water Pressures.** A fire main shall be so constructed that—

(a) the water pressure at the nozzle end of every required hose reel, when fully extended, shall be not less than 200 kPa; and

(b) a flow of not less than 750 *l*/min at a running pressure of not less than 400 kPa nor more than 650 kPa shall be available from each of two hydrants (located on the same storey or on adjacent storeys and brought into use simultaneously),

at all times except where abnormal conditions affect the water supply to which the fire main is connected; and

(ba) if a building has a rise of more than four storeys, or is subject to the provisions of paragraph (b) of clause (1) of By-Law 27.4, it is equipped with the necessary valves and connections at an approved location at ground level, for the connection of a fire-brigade booster pump;

(bb) the static pressure at any hydrant shall not exceed 700 kPa;

(bc) the diameter of any part of a fire main, which supplies a required hydrant, shall be not less than 75 mm.

(4) **Certification of Design, Etc.** The applicant shall submit to the Local Authority evidence satisfactory to the Local Authority to the effect that—

(a) the design of any required fire main meets the provisions of subclause (3); and

(b) all required hydrants are accessible and suitable for use in conjunction with the fire hoses of the fire brigade serving the locality.

27.3 Hose Reels. (1) **Required in Certain Buildings.** In the classes of buildings listed in the following Table 27.3, hose reels shall be installed in the storeys listed in the second column of that Table.

TABLE 27.3—BUILDINGS IN WHICH HOSE REELS ARE REQUIRED IN CERTAIN STOREYS

Class of Building	Storeys in which hose reels are required
II	Every storey if the rise in storeys of the building includes more than three storeys of flats.
III	Every storey if the rise in storeys of the building includes more than two residential storeys.
V, VI, VII, VIII and IX	(a) Every storey exceeding 500 m^2 in floor area, irrespective of the rise in storeys. (b) Every storey if the building has a rise of more than four storeys.

(2) **Location of Hose Reels.** In those storeys of a building in which hose reels are required pursuant to subclause (1)—

(a) no part of the storey shall be beyond the reach of the nozzle end of a fully extended hose reel installed within the storey; and

(b) at least one hose reel shall be accessible to all occupants of that part of the storey served by it, except that a hose reel shall not be installed in a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp.

(3) **Standards of Construction and Installation.** Every required hose reel shall—

(a) comply with AS 1221, Fire Hose Reels; and

(b) be installed in accordance with the relevant provisions of AS CA18, Installation of Portable Fire Extinguishers and Hose Reels.

(4) **Exemption in Certain Areas.** The Local Authority may exempt a building from any or all of the provisions of this By-law if—

(a) a public water supply is not available; and

(b) any other sufficient water supply is not, or cannot reasonably be made available for connection to the building concerned.

27.4 Hydrants. (1) **Required in Certain Buildings.** One or more hydrants shall be provided at the level of every storey in the following buildings:—

(a) Buildings of Class II, III, V, VI, VII, VIII or IX having a rise of more than four storeys, irrespective of floor area;

(b) Buildings of Class VI, VII, VIII or IX in which, irrespective of the rise in storeys, the sum of the floor areas of all storeys exceeds the relevant floor area figure set out in the second column of the following Table 27.4.

TABLE 27.4

HYDRANTS IN BUILDINGS OF CERTAIN FLOOR AREA

(To be installed where total floor area exceeds figure listed in second column)

Class of Building	Floor Area Figure (Square metres)
VI	2 000
VII—	
(a) For storage or display of goods referred to in Appendix 1	2 000
(b) Other cases	2 800
VIIIa	2 800
VIIIb	2 000
IXa	2 800
IXb	2 000

(2) **Distance of Parts of Storeys from Hydrants.** In the buildings referred to in subclause (1), no part of a storey shall be outside a radius of 36 m from a hydrant installed within that storey.

(3) **Hydrants at Roof Level of Certain Buildings.** In a building having a rise of more than six storeys, in addition to complying with subclause (1), one or more hydrants shall be provided at the level of the roof except—

(a) a roof having a pitch of more than 10 degrees; or

(b) a roof of a plant room or other subsidiary structure erected on or above the level of the main roof of the building,

and shall be so located that no part of the roof shall be outside a radius of 36 m from a hydrant.

(4) **Distances of Certain Class VI, VII, VIII and IX Buildings from Hydrants.** In a building of Class VI, VII, VIII or IX that is not required, pursuant to subclause (1), to be provided with internal hydrants and in which the total floor area exceeds 500 m^2, no part of the building shall be more than 90 m from a hydrant situated—

(a) in the road to which the site has frontage; or

(b) in the building; or

(c) within the site but external to the building.

(5) **External Hydrants to be Provided in Certain Cases.** Where, pursuant to this By-Law—

(a) hydrants are required to be installed within a building; and

(b) every entrance to the building is more than 90 m from a hydrant situated in the road to which the site has frontage,

one or more hydrants shall be provided additionally on the site (but external to the building), the number and location of such hydrants to be approved by the Local Authority.

(6) **Measurement of Distances from Hydrants.** For the purposes of subclauses (4) and (5) the distance of any part of a building, from a hydrant shall be measured as follows—

(a) In a straight line between the hydrant and the part of the building concerned if it is in a storey providing direct access to the hydrant; and

(b) in other cases by adding together:

(i) the distance between the hydrant and the nearest stairway or ramp leading to the storey concerned;

(ii) the distance between the landing of the stairway or ramp at the level of access to the hydrant and the landing of the storey concerned, the distance being measured in the case of stairways along the nosings of the treads; and

(iii) the distance in a straight line, from the relevant landing to the part of the building concerned.

(7) **Use by Fire Brigade Personnel.** Every required hydrant shall be—

(a) suitable for the connection of the fire hoses of the fire brigade serving the locality; and

(b) installed in a position that is accessible to fire brigade personnel, but shall not be installed in a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp.

(8) **Exemption from Provision of Hydrants.** The Local Authority may grant exemption from any or all of the provisions of this By-law if—

(a) a public water supply is not available; and

(b) any other sufficient water supply is not or cannot reasonably be made available,

for use on the site concerned.

27.5 Sprinklers in Buildings Over Certain Height. (1) **General.** Where the floor of the topmost storey (excluding a storey containing only heating, ventilating, lift or other equipment, water tanks, or similar units) of a building is more than 42 m above the floor of the lowest storey providing egress to a road or open space, an approved sprinkler system shall be installed throughout the building.

(1a) **In Substations, Transformer Stations and the Like.** That part of the sprinkler system required by the provisions of subclause (1), which is installed in a substation, transformer station or the like within that building, and which is supplied with electricity by a public electricity supply authority, shall be installed in accordance with the requirements of that authority.

27.5a Deemed to comply sprinkler systems. If a sprinkler system is installed in a building which complies with the provisions of these By-Laws, and the sprinkler system complies with the provisions of AS CA16, Rules for Automatic Sprinkler Installations, then that sprinkler system shall be deemed to be an approved sprinkler system.

27.6 * * * *

27.7 Provision for Special Hazards. Where the Local Authority is of the opinion that in a particular building of Class VII, VIII or IX special problems of fighting fire will arise because of the nature or quantity of materials stored or displayed, or of the manufacturing process employed, or the particular use of the building if the building is of Class IX, it may impose such special requirements to facilitate the fighting of fire as it considers desirable in the particular case.

27.7a Smoke Venting Through Windows. (1) Each storey in a building having a rise of four storeys or more shall be provided with windows or ventilators which are capable of being opened, having an aggregate opening or openable size of not less than 5 per cent. of the floor area of the storey they are required to ventilate.

(2) Such windows or ventilators shall be openable from a storey below the storey in which they are fitted.

DIVISION VI—STRUCTURAL PROVISIONS

PART 28—MATERIALS

28.1 Bricks (1) * * * *

(1a) **Burnt Clay and Shale Bricks.** Every burnt clay and shale brick used in a building shall comply with the provisions of AS A21 Burnt Clay and Shale Building Bricks, except that the provisions of Clause 5 thereof shall not apply, and the following provisions shall apply in lieu thereof:—

DIMENSIONS—Bricks shall conform to one or other of the following sets of work size dimensions.

	Standard Bricks	Modular Bricks
Length—mm	230	290
Width—mm	110	90
Depth—mm	76	90

TOLERANCES ON DIMENSIONS—When sampled and tested in accordance with the method prescribed in ASA140, Methods of Test for Burnt Clay and Shale Building Bricks, the tolerance for variation from work size dimensions shall not exceed—

	Standard Bricks	Modular Bricks
(a) in the length of 24 stretchers —mm	76	96
(b) in the width of 24 bricks —mm	44	36
(c) in the depth of 24 bricks —mm	44	36

(2) **Concrete Bricks.** Every concrete brick used in a building shall comply with AS 1346, Precast Concrete Masonry Units.

(3) **Sand-Lime Bricks.** Every sand-lime brick used in a building shall—

(a) comply with AS 1653 Calcium Silicate Bricks; and

(b) have a transverse strength of not less than that specified for burnt clay and shale bricks in By-law 36.2.

28.2 Concrete Blocks. Every concrete block used in a building shall comply with the provisions of AS A87 Concrete Blocks for Masonry Construction.

28.3 Mortar. (1) **Brickwork Masonry.** Mortar used for brickwork masonry shall comply with AS 1640 (Appendix D), Brickwork Code.

(2) **Concrete block Masonry.** Mortar used for concrete-block masonry shall comply with AS CA32, Concrete Blocks in Masonry Construction.

28.4 Plain concrete. Plain concrete used in a building shall comply with the relevant provisions of AS 1480, Concrete Structures Code.

28.5 Reinforced concrete. Reinforced concrete used in a building shall comply with the relevant provisions of AS 1480, Concrete Structures Code.

28.6 Prestressed Concrete. Prestressed concrete used in a building shall comply with the provisions of AS 1481, Prestressed Concrete Code.

28.6a Steel. Steel used in building work shall comply with the provisions of the relevant Australian Standard Code invoked by these By-laws to control the construction, unless the construction is allowed pursuant to the provisions of subclause (2) of By-law 40.2, 40.3 or 40.4 or the provisions of By-law 40.5.

28.7 Other Materials. Where it is proposed to use in a building for structural purposes any material not otherwise provided for in these By-laws—

(a) the Local Authority may require the submission of satisfactory evidence to show that the material will be suitable for the purpose for which it is intended; and

(b) it shall be subject to any requirements specified elsewhere in these By-laws as may be relevant thereto.

DIVISION VI—STRUCTURAL PROVISIONS

PART 29—STRESSES AND LOAD FACTORS

29.1 Stresses Deflections and Load Factors on Special Materials. The working stresses, deflections and load factors used for materials or forms of construction for which specific provision is not made in these By-laws shall be subject to the approval of the Local Authority.

29.2 Loading Notice Plates. (1) On completion of any building of Class V, VI, VII or VIII erected after the coming into force of these By-laws and before occupation of any such building, any floor or part of a floor which has been designed to sustain a uniformly distributed live load exceeding 5·0 kPa shall have a notice conspicuously and permanently posted adjacent thereto in the form hereunder indicating the actual loadings for which the floor or part of the floor has been structurally designed, and the part of the floor affected.

DESIGNED FLOOR LOADING

Distributed..... kg/m²

Concentrated..... kg

Part of floor affected.....

(2) **Design and Position of Notice Plates.** The lettering of such notice shall be embossed or cast into a metal tablet not less than 225 mm square and located not less than 1 m above floor level.

DIVISION VI—STRUCTURAL PROVISIONS

PART 30—DESIGN FOR DEAD AND OTHER LOADS

30.1 Loads. The design of every building shall comply with the relevant provisions of AS 1170, Loading Code. Part 1: Dead and live loads. Part 2: Wind forces.

30.2 Seismic Activity. Where a building is erected in an area which the Local Authority considers to be subject to seismic activity it shall be designed in accordance with any requirements of the Local Authority that relate to that activity.

DIVISION VI—STRUCTURAL PROVISIONS

PART 31—EXCAVATION, EARTHWORK AND RETAINING WALLS

31.1 Excavations and backfilling. (1) **Safety.** All excavations and backfilling shall be executed in a safe and workmanlike manner.

(2) **Guarding of excavations.** All excavations shall be properly guarded and protected to prevent them from being dangerous to life or property.

31.2 Water Removal or Diversion. The Local Authority may require water to be removed or diverted from excavations before, during, or after concrete or other building materials are deposited therein.

31.3 Retaining Walls. Wherever the soil conditions so require, retaining walls or other approved methods of preventing movement of the soil shall be provided and adequate provision made for drainage.

DIVISION VI—STRUCTURAL PROVISIONS

PART 32—FOUNDATIONS

32.1 * * * *

32.2 Foundations. Assessment of Adequacy. The adequacy of foundations shall be assessed on the basis of—

(a) well established and relevant local knowledge and experience of foundation conditions in the vicinity of the proposed building; or

(b) tests on the foundation materials.

32.3 Treatment of Excavation. Foundations shall be treated or excavations taken to the depths necessary to provide adequate support to the loads superimposed by the building.

32.4 Allowable Bearing Pressures. The bearing pressures on the foundation of a building shall be designed in accordance with any relevant requirements of the Local Authority.

DIVISION VI—STRUCTURAL PROVISIONS

PART 33—FOOTINGS NOT ON PILING OR CAISSONS

33.1 Provision of Footings. Suitable footings shall be provided where necessary to reduce the intensity of the pressure of the building on the foundation.

33.2 Design of Footings. Footings, including slab-on-ground footings, shall be designed and constructed so that any relative movements of separate footings and of different portions of any one footing under loading, or of a footing and any other element of the substructure will not impair the stability of, or cause significant structural damage to, the superstructure.

DIVISION VI—STRUCTURAL PROVISIONS

PART 34—PILING AND CAISSONS

34.1 Part Not to Apply in Some Cases. This Part shall not apply to piers or stumps used as a substructure above ground level in which such piers or stumps are designed to transmit the loads of the superstructure to the footings or foundation.

34.2 Design and Construction. Substructures wholly or partly of piling or caissons shall be so designed and constructed that any relative movements of the substructure or of separate parts of the substructure will not impair the stability of, or cause significant structural damage to, the superstructure.

34.3 Piles. (1) **Requirements.** Piles shall be—

(a) designed and constructed to resist the forces involved in handling and driving and in supporting all loads superimposed on the piles; and

(b) of timber, concrete, steel or other approved material or any approved combination thereof.

(2) **Superimposed Loads.** The superimposed loads on piles shall, where possible, be applied concentrically with the axis of each single isolated pile or the centre of gravity of any pile group.

34.4 Timber Piles. Every timber pile shall—

(a) be of hardwood or other approved timber;

(b) be sound and straight;

(c) have a diameter at the point of not less than 155 mm;

(d) have a diameter at the butt of not less than 255 mm;

(e) be used only under conditions where it remains permanently damp; and

(f) be located in a position so that its centre is not less than twice its butt diameter from the centre of the nearest other timber pile.

DIVISION VI—STRUCTURAL PROVISIONS

PART 35—WALLS—GENERAL REQUIREMENTS

35.1 Load Bearing Wall Construction. (1) **Definition.** For the purposes of this By-law loadbearing wall construction, applied to a building, means that type of construction in which loadbearing walls are designed as the principal means of transmitting downwards throughout the height of the building its dead and live loads.

(2) **Application.** This By-law applies to every building of loadbearing wall construction in which the level of the floor of the topmost storey is more than 11 m above the lowest level of the finished ground adjacent to the building.

(3) **Structural Design: Alternatives.** Every building to which this By-law applies shall comply with one of the following alternative provisions:—

(a) The building shall be provided with horizontal continuity at every floor level by means of—

(i) a concrete floor cast in situ capable of resisting all the negative bending moments specified for such a floor by AS 1480, Concrete Structures Code; or

(ii) a floor comprising precast concrete units connected in such a manner as to be capable of resisting all the negative bending moments specified by AS 1480, Concrete Structures Code, for a reinforced concrete floor cast *in situ*.

(b) The building shall be so constructed that the floors, together with the loadbearing walls, shall be capable of resisting bending moments which are equivalent, in their effect, to the negative bending moments specified by AS 1480, Concrete Structures Code, for a reinforced concrete floor cast *in situ*.

(c) The building shall be so constructed that if any part of a loadbearing wall, 6 m in length and not exceeding in height the height of the storey in which it is located is removed or displaced from any cause whatsoever, the stresses developed in the remaining parts of the wall shall not exceed normal working stresses by more than 25 per cent. and the remaining structural parts of the building shall be held in place.

(4) **Structural Engineer's Certificate.** If the Local Authority is not otherwise able to satisfy itself that a building, to which this By-law applies, complies with one of the provisions of subclause (3), it may require the submission of a certificate by a practising structural engineer approved by the Local Authority, that the proposed building will so comply.

DIVISION VI—STRUCTURAL PROVISIONS

PART 36—WALLING OF MASONRY

36.1 External Wall Thicknesses. (1) **Cavity Walls.** For the purposes of this Part the sum of the standard thickness of the inner and outer leaves of a cavity wall shall be deemed to be the nominal thickness of the wall.

(2) **Minimum Thickness of External Walls.** The external walls of a building, if of masonry construction, shall be designed and constructed in accordance with the provisions of this Part and shall be not less than 200 mm in nominal thickness except—

(a) in the case of buildings of Class VII or Class VIII where the Local Authority permits in writing to the use of external walls having a standard thickness of less than 180 mm; or

(b) in the case of single-storey buildings or the topmost storey of multi-storey buildings where cavity wall construction is used and the combined standard thickness of the inner and outer leaves is not less than 180 mm; or

(c) in the case of Class X buildings or of garages, laundries, tool sheds, privy closets and the like forming part of a building used for other purposes.

(3) **Walls Less Than 180 mm in Thickness.** The Local Authority may require a certificate from a practising structural engineer approved by the Local Authority as to the structural adequacy of any wall less than 200 mm in nominal thickness if—

(a) the wall exceeds 3 m in height; or

(b) the Local Authority is unable for any reason to satisfy itself that the wall will be structurally adequate.

36.2 Brickwork Masonry. (1) Masonry of—

(a) burnt clay and shale bricks;

(b) sand-lime (calcium silicate) bricks; and

(c) concrete bricks,

shall be designed and erected in accordance with AS 1640, Brickwork Code.

(2) In addition to the requirements of subclause (1) the following provisions shall apply:—

(a) The compressive strength figures used in the design calculations shall be based on the known compressive strength of the bricks to be used in the walls.

(b) If the known compressive strength of the bricks exceeds 48·0 MPa the design calculations shall be based on a maximum figure of 48·0 MPa.

(c) Bricks shall comply with the following transverse strength requirements, according to the figures used in the design calculations for the compressive strength of the bricks—

(i) Compressive strength not exceeding 24·0 MPa—no brick shall have a transverse strength of less than 1·7 MPa and the average transverse strength of the bricks shall be not less than 2·0 MPa.

(ii) Compressive strength exceeding 24·0 MPa—no brick shall have a transverse strength of less than 1·9 MPa and the average transverse strength of the bricks shall be not less than 2·7 MPa.

(d) The Local Authority may require the submission of evidence that the bricks meet the relevant requirements of paragraph (c) and that the compressive strength of the bricks is not less than that used in the design calculations.

36.3 Sand-lime Brickwork. Masonry of sand-lime (calcium silicate) bricks shall be constructed in accordance with the provisions of By-law 36.2 as though it were masonry of burnt clay and shale bricks or of concrete bricks.

36.4 Concrete Block Masonry. (1) Concrete block masonry shall be designed and erected in accordance with the provisions of AS CA32, Concrete Block Masonry Construction.

(2) **Certain Provisions Do Not Apply.** For the purposes of this By-law—

(a) the following provisions of AS CA32, Concrete Block Masonry Construction, shall not apply:—

(i) rule 1.4.1—Approved;

(ii) rule 4.11—Damp-proof Course; and

(b) a free standing wall shall mean a wall not subject to any superimposed load other than wind load and having no effective lateral support.

(3) **Free Standing Walls.** Notwithstanding the provisions of AS CA32, Concrete Block Masonry Construction, a free standing wall shall be constructed so as to have a height to thickness ratio of not more than 8 except—

(a) where a membrane type damp-proof course is inserted near the base in which case such ratio shall be not more than 5; and

(b) where it is in the nature of a parapet in which case such ratio shall be not more than 3.

(4) **Use of Certain Classes of Blocks.** Notwithstanding the requirements of AS CA32, Concrete Block Masonry Construction, any Class B or Class C block may be used in a Class X building.

36.5 Special Masonry. (1) The Local Authority may permit the erection of buildings of masonry construction in which—

(a) the walls are less than the minimum thickness prescribed in By-law 36.1, 36.2, 36.3, or 36.4; or

(b) the masonry is not built of—

(i) burnt clay and shale bricks; or

(ii) concrete bricks; or

(iii) sand-lime (calcium silicate) bricks; or

(iv) concrete blocks,

if such buildings are constructed in accordance with the requirements of this By-law.

(2) **Limitations.** If the masonry described in subclause (1) is—

(a) loadbearing—the building shall not contain more than two storeys;

(b) non-loadbearing—the masonry shall be fully supported at the level of every floor by:

(i) frame construction; or

(ii) rigid construction effectually functioning as frame construction; or

(iii) brickwork masonry complying with By-law 36.2 or 36.3; or

(iv) concrete block masonry complying with By-law 36.4.

(3) **Certificates of Engineers and Others.** In the case of any proposal to build under the conditions of this By-law, where the Local Authority is not otherwise able to satisfy itself beyond doubt that the whole or any part is acceptable, it may require the submission of a certificate by a practising structural engineer or other person or body approved by the Local Authority, certifying that when completed the building will be structurally sound. Such certificate shall set forth in detail the bases on which it is given and the extent to which the engineer, person or body has relied on relevant specifications, rules, codes of practice or publications with respect to materials and methods of construction.

DIVISION VI—STRUCTURAL PROVISIONS

PART 37—WALLING NOT OF MASONRY, TIMBER, OR VENEER ON TIMBER

37.1 Wall of Concrete or Steelwork. Walls of concrete or steelwork shall be designed and erected in accordance with Part 40 and any other By-laws which are applicable.

37.2 Special Walling. (1) Walls not of masonry, timber, veneer on timber, concrete or steelwork shall be so designed and erected as to ensure that they are structurally sound.

(2) **Certificates of Engineers and Others.** In the case of any proposal to build under the conditions of this By-law, where the Local Authority is not otherwise able to satisfy itself beyond doubt that the whole or any part is acceptable, it may require the submission of a certificate by a practising structural engineer or other person or body approved by the Local Authority certifying that when completed the building will be structurally sound. Such certificate shall set forth in detail the bases on which it is given and the extent to which the engineer, person or body has relied on relevant specifications, rules, codes of practice or publications with respect to materials and methods of construction.

DIVISION VI—STRUCTURAL PROVISIONS

PART 38—FLOORS

38.1 Floors: Generally. The floors of a building shall be so designed and erected as to be capable of carrying the dead and live loads to be imposed on them.

38.2 Timber Floors. Floors of timber shall be designed and erected in accordance with Part 41 and any other By-laws which are applicable.

38.3 Concrete Floors. Floors of concrete shall be designed and erected in accordance with Part 40 and any other By-laws which are applicable.

38.4 Steelwork Floors. Floors of steelwork shall be designed and erected in accordance with Part 40 and any other By-laws which are applicable.

DIVISION VI—STRUCTURAL PROVISIONS

PART 39—ROOFS AND ROOF STRUCTURES

39.1 Roofs: General Requirements. Roofs and roof structures shall, in addition to the requirements set out in this By-law, be designed and erected in accordance with Parts 44 and 47 and any other By-laws which are applicable.

39.2 Timber Roofs. Roofs and roof structures of timber shall be designed and erected in accordance with Part 41 and any other By-laws which are applicable.

39.3 Concrete Roofs. Roofs and roof structures of concrete shall be designed and erected in accordance with Part 40 and any other By-laws which are applicable.

39.4 Steelwork Roofs. Roofs and roof structures of steelwork shall be designed and erected in accordance with Part 40 and any other By-laws which are applicable.

39.4a Anchorage of Timber Roofs. If a timber framed roof is anchored against wind in a manner not less effective than that prescribed in AS CA38 Light Timber Framing Code, such anchorage shall be deemed to comply with the requirements of By-law 30.1.

39.4b Self Supporting Metal Roofing. Roofs of self-supporting metal roofing shall be constructed in accordance with the provisions of AS 1562, Design and Installation of Self-Supporting Metal Roofing without Transverse Laps, and any other provisions or exemptions of these By-laws which are applicable.

DIVISION VI—STRUCTURAL PROVISIONS

PART 40—STRUCTURAL CONCRETE AND STEELWORK

40.1 Plain concrete. Plain concrete construction shall be designed and erected in accordance with the relevant requirements of AS 1480, Concrete Structures Code.

40.2 Reinforced concrete. (1) **Australian Standard 1480.** Reinforced concrete construction shall be designed and erected in accordance with the relevant requirements of AS 1480, Concrete Structures Code.

(2) **Variation from Australian Standard.** Notwithstanding the requirements of subclause (1) the Local Authority may approve the erection of reinforced concrete construction not complying with all the relevant rules set out in AS 1480, Concrete Structures Code, if the construction is—

(a) substantially similar to principles of design set out in that Code; and

(b) capable of sustaining the most adverse combination of loads to which it will be subjected in accordance with the provisions of these By-laws.

(3) **Certificates of engineers and others.** In the case of any proposal to build under the conditions of subclause (2), where the Local Authority is not otherwise able to satisfy itself beyond doubt that the whole or any part is acceptable, it may require the submission of a certificate by a practising structural engineer or other person or body approved by the Local Authority certifying that when completed the construction will be structurally sound. Such certificate shall set forth in detail the bases on which it is given and the extent to which the engineer, person or body has relied on relevant specifications, rules, codes of practice or publications in respect of the construction.

40.3 Prestressed concrete. (1) **Australian Standard 1481.** Prestressed concrete construction shall be designed and erected in accordance with the relevant requirements of AS 1481, Prestressed Concrete Code.

(2) **Variation from Australian Standard.** Notwithstanding the requirements of subclause (1) the Local Authority may approve the erection of prestressed concrete construction not complying with all the relevant rules set out in AS 1481, Prestressed Concrete Code, if the construction is—

(a) substantially similar to principles of design set out in that Code; and

(b) capable of sustaining the most adverse combination of loads to which it will be subjected in accordance with the provisions of these By-laws.

(3) **Certificates of engineers and others.** In the case of any proposal to build under the conditions of subclause (2), where the Local Authority is not otherwise able to satisfy itself beyond doubt that the whole or any part is acceptable, it may require the submission of a certificate by a practising structural engineer or other person or body approved by the Local Authority certifying that when completed the construction will be structurally sound. Such certificate shall set forth in detail the bases on which it is given and the extent to which the engineer, person or body has relied on relevant specifications, rules, codes of practice or publications in respect of the construction.

40.4 Steel structures. (1) **Australian Standard 1250.** Steel structures for which provision is made in AS 1250, Steel Structures Code shall be designed and erected in accordance with that Standard.

(2) **Variation from Australian Standard.** Notwithstanding the requirements of subclause (1) the Local Authority may approve the erection of steel structures for which provision is made in AS 1250, Steel Structures Code, but which do not comply with all the relevant rules set out in that Standard if the construction is—

(a) substantially similar to principles of design set out in that Code; and

(b) capable of sustaining the most adverse combination of loads to which it will be subjected in accordance with the provisions of these By-laws.

(3) **Certificates of engineers and others.** In the case of any proposal to build under the conditions of subclause (2), where the Local Authority is not otherwise able to satisfy itself beyond doubt that the whole or any part is acceptable, it may require the submission of a certificate by a practising structural engineer or other person or body approved by the Local Authority certifying that when completed the construction will be structurally sound. Such certificate shall set forth in detail the bases on which it is given and the extent to which the engineer, person or body has relied on relevant specifications, rules, codes of practice or publications in respect of the construction.

40.5 Steel Structures not covered by AS 1250. Steel structures for which provision is not made in AS 1250, Steel Structures Code, or in By-law 40.4 shall be designed and erected to the satisfaction of the Local Authority.

DIVISION VI—STRUCTURAL PROVISIONS

PART 41—TIMBER CONSTRUCTION

41.1 * * * *

41.1a Construction. Timber structures and members shall be—

(a) constructed in accordance with the principles of structural mechanics; and

(b) capable of sustaining safely the most adverse combinations of loads to which they will be subjected in accordance with the provisions of these By-laws.

41.2 Australian Standards. (1) **CA38.** Timber structures and members complying with the timber structural provisions of AS CA38, Light Timber Framing Code, shall be deemed to satisfy the requirements of By-law 41.1a to the extent that that Standard is applicable to the structure or member concerned.

(2) * * * *

(2a) **CA65.** Timber Structures and members complying with the provisions of AS CA65, Timber Engineering Code, shall be deemed to satisfy the requirements of By-law 41.1a to the extent that that Standard is applicable to the Structure or member concerned.

(3a) **Certificates of engineers and others.** In the case of any proposal to build under the conditions of this Part, where the Local Authority is not otherwise able to satisfy itself beyond doubt that the whole or any part is acceptable, it may require the submission of a certificate by a practising structural engineer or other person or body approved by the Local Authority certifying that when completed the construction will be structurally sound. Such certificate shall set forth in detail the bases on which it is given and the extent to which the engineer, person or body has relied on relevant specifications, rules, codes of practice or publications in respect of the construction.

DIVISION VI—STRUCTURAL PROVISIONS

PART 42—VENEER-ON-TIMBER CONSTRUCTION

42.1 Construction. (1) **Timber Section.** Timber structures and members forming part of a building of veneer-on-timber construction shall comply with Part 41.

(2) **Wall Ties.** The masonry shall be tied to the load bearing frame with wall ties of such size, spacing and fixing as will safely withstand all required forces from the masonry leaf across the cavity to the load bearing frame.

Wall ties as in figures 4 and 5 of SAA Interim 324 for metal wall ties for brickwork but of galvanized steel wire of 3·15 mm diameter or equivalent cross-sectional area or 0·914 mm mild steel strip spaced not further apart than 600 mm horizontally and 600 mm vertically shall be deemed to satisfy these requirements.

If the vertical spacing is less than 600 mm the horizontal spacing may be increased so that the number of ties per unit area is maintained.

Each tie shall be embedded in the mortar joint at a minimum depth of 50 mm and shall be fixed to the frame with a galvanised clout measuring 25 mm by 2·5 mm or with other approved method of fixing.

42.2 Wall Cavities. (1) **Width.** The external walls shall be so designed and erected as to leave a clear space of not less than 25 mm or more than 50 mm between the veneer and timber framework of the external walls.

(2) **Mortar Droppings.** Wire mesh fixed at the base of cavities in the external walls of masonry veneer-on-timber construction shall be protected with paper or other material capable of collecting mortar droppings falling in the cavity during the time of construction of masonry above the level of the base of the cavity. Such paper or other material shall be removed from the cavity before any internal linings are fixed in position.

DIVISION VI—STRUCTURAL PROVISIONS

PART 43—OTHER KINDS OF CONSTRUCTION

43.1 Construction Where Specific Provisions are Non-existent. (1) **Local Authority's Discretion.** The Local Authority may approve of an application to erect a building using a system of construction for which no specific provision is made in Division VI " Structural Provisions ", of these By-laws if—

(a) it is satisfied that the building will be structurally sound; and

(b) subclauses (2) and (3) are met.

(2) **Compliance with Relevant Requirements.** The building shall be subject to all relevant requirements of these By-laws.

(3) **Certificates of Engineers and Others.** In the case of any proposal to build under the conditions of this Part, where the Local Authority is not otherwise able to satisfy itself beyond doubt that the whole or any part is acceptable, it may require the submission of a certificate by a practising structural engineer or other person or body approved by the Local Authority certifying that when completed the building will be structurally sound. Such certificate shall set forth in detail the bases on which it is given and the extent to which the engineer person or body has relied on relevant specifications, rules, codes of practice or publications with respect to materials and methods of construction.

DIVISION VII—HEALTH AND AMENITY

PART 44—DRAINAGE OF BUILDING AND SITE

44.1 Roof drainage. (1) **Provision of drainage system.** The roof or roofs of every building shall be provided with a complete drainage system.

(2) **Design of drainage system.** The design and construction of every roof drainage system and the position and manner of discharge of every storm-water drain shall be to the satisfaction of the Local Authority but shall not, in any case—

(a) result in the entry of water into the building; or

(b) unduly affect the stability of the building or any other building on the same site; or

(c) create any unhealthy or dangerous condition on the site.

(3) **Exemption from roof drainage system.** Notwithstanding subclause (1), the Local Authority may permit the omission of a system of drainage from the whole or part of a roof if the Local Authority is satisfied that such omission will not result in or create any of the conditions referred to in paragraphs (a), (b), and (c) of subclause (2).

44.2 Building on land subject to dampness. Where, in the opinion of the Local Authority, the dampness of the site on which a building is proposed to be erected so warrants, the Local Authority may require that one or all of the following measures shall be carried out.

(a) The subsoil shall be effectually drained.

(b) The surface of the ground beneath the building shall be regraded or filled and provided with adequate outlets to prevent any accumulation of water beneath the building.

(c) The ground beneath the building shall be covered with an approved damp-resisting material.

44.3 Drainage of land external to building. If paving, excavation, or any other work on the natural surface of the site causes undue interference with the existing drainage of rain-water falling on any part of the site external to the building, whether the existing drainage is natural or otherwise, the Local Authority may require the provision of a system of drainage to its satisfaction to offset any problems arising from such interference.

DIVISION VII—HEALTH AND AMENITY

PART 45—DISPOSAL OF GARBAGE AND OTHER HOUSEHOLD WASTES

45.1 Disposal of garbage from dwelling unit. (1) **Means.** The owner of every Class II building shall provide, within each dwelling unit or conveniently accessible from each dwelling unit—

(a) means satisfactory to the Local Authority for the destruction of garbage; or

(b) means satisfactory to the Local Authority for conveying garbage to a common receptacle; or

(c) a separate and suitable receptacle for holding garbage until it is removed.

(2) **Space for receptacles and removal.** Where receptacles are provided pursuant to paragraph (c) of subclause (1), the owner of the building shall provide—

(a) a space in the open air or in some closed-off closet or space so that garbage shall be free from offence; and

(b) means satisfactory to the Local Authority whereby such receptacles may be removed without having to be conveyed through the main or front entrance of the building.

DIVISION VII—HEALTH AND AMENITY

PART 46—PROVISION OF BATHROOMS, CLOSETS, KITCHENS AND LAUNDRIES

46.1 * * * *

46.2 Certain combined facilities permissible. In a building of Class I, II, or IV a bathroom or shower room may include clothes washing facilities, or a water closet, or both if the floor area is increased in accordance with Part 49.

46.3 * * * *

46.4 Class I buildings. (1) **Facilities to be provided.** Every Class I building shall be provided with—

(a) a kitchen or facilities in another room for the preparation and cooking of food;

(b) a bath or shower;

(c) clothes washing facilities; and

(d) a closet fixture.

(2) **Facilities detached from main building.** Where any of the facilities referred to in subclause (1) are not included in the main building, they shall be set aside for the exclusive use of the occupants of the Class I building.

46.5 Class II buildings. (1) **Facilities for each dwelling unit.** Every dwelling unit of a Class II building shall be provided with—

(a) a kitchen or facilities in another room for the preparation and cooking of food;

(b) a bath or shower; and

(c) a closet fixture,

and these facilities shall, except for a closet fixture in an unsewered area, be provided within the dwelling unit.

(2) **Common laundries: number required.** In a Class II building a separate laundry shall be provided for every four or fraction of four dwelling units in the building and every such laundry shall be provided with at least one washtub and space for the installation of a washing machine or wash copper.

(3) **Common laundries: exclusions from calculations.** For the purposes of subclause (2) it shall not be necessary to take into account any dwelling unit that is provided with its own clothes washing facilities in accordance with subclause (4).

(4) **Individual washing facilities.** A dwelling unit in a Class II building may be provided with its own clothes washing facilities, comprising at least one washtub and space within the same room for the installation of a washing machine or wash copper, and where these facilities are not installed within the dwelling unit they shall be installed in a laundry that is set aside for the exclusive use of the occupants of the dwelling unit concerned.

(5) **Clothes drying facilities: types required.** Every Class II building shall be provided with—

(a) clothes lines or clothes hoists erected in positions approved by the Local Authority and comprising at least 7·5 m of line per dwelling unit in the building; or

(b) one heat-operated drying cabinet or appliance for every four or fraction of four dwelling units in the building.

(6) **Clothes drying facilities: exclusions from calculations.** For purposes of clause (5) it shall not be necessary to take into account any dwelling unit that is provided with a heat-operated drying cabinet or similar appliance for the exclusive use of the occupants of that unit.

(6a) **Coin Operated Automatic Washing Machines.** Notwithstanding the requirements of any or all, of the provisions of subclauses (2) to (6) hereof, the Local Authority may approve instead one or more coin operated automatic washing machines in approved locations on the site, and with approved provision of spaces for appliances for drying clothes.

(7) **Closets for employees.** In addition to complying with subclause (1)—

(a) every Class II building containing more than 10 dwelling units; or

(b) every group of Class II buildings which are erected on the one site and contain, in the aggregate, more than 10 dwelling units,

shall be provided with at least one closet fixture and every such closet fixture shall be installed in a compartment or room that is located at or about ground level and is accessible without entering a dwelling unit.

46.6 Class III buildings. (1) **Facilities for residents.** Every class III building shall be provided with at least one bath or shower and one closet fixture for every eight or fraction of eight persons for whom bedroom or dormitory accommodation is or will be provided in the building.

(2) **Situation of facilities.** It shall not be necessary for the facilities referred to in subclause (1) to be situated within the building.

(3) **Exclusions from calculations.** For the purposes of subclause (1), it shall not be necessary to take into account the number of persons to be accommodated in a bedroom to which is attached—

(a) a bath or shower; or

(b) a water closet pan,

as the case may be, for the exclusive use of the occupants of that bedroom.

46.7 Class IV buildings: facilities to be provided. Every Class IV building shall be provided with—

(a) a kitchen or facilities in another room for the preparation and cooking of food;

(b) a bath or shower;

(c) clothes washing facilities;

(d) a clothes line or clothes hoist erected in a position approved by the Local Authority, or a heat-operated drying cabinet or similar appliance for the exclusive use of the occupants; and

(da) a closet fixture.

46.7a Provision for handicapped persons. (1) **Closet fixtures.** If in a building of Class V, VI, VII, VIII or IX, 10 or more closet fixtures are provided, then at least one of the closet fixtures and its compartment or cubicle shall be constructed, equipped, and provided with access, in

accordance with the provisions of AS CA52 (Part 1), Design for Access by Handicapped Persons, and where only one closet fixture is provided pursuant to the provisions of this clause, it shall be accessible to both sexes.

(2) **Suites in hotels, motels and the like.** If in any hotel, motel, boarding house or the like, 20 or more dwelling units are provided, then at least one of the dwelling units shall be constructed, equipped and provided with access, in accordance with the provisions of AS CA52 (Part 1), Design for Access by Handicapped Persons.

DIVISION VII—HEALTH AND AMENITY

PART 47—WEATHERPROOFING, DAMP-PROOFING AND FLASHING

47.1 Roofs and Walls. (1) **Roofs to be Waterproof.** Roofs shall be so constructed as to prevent the penetration of rain or other water to the inner parts of a building.

(2) **External Walls to be Waterproof.** External walls (including openings around windows and doors) shall be so constructed as to prevent the penetration of rain or other water to the inner parts of the building.

(3) **Exemptions from Weatherproofing.** The Local Authority may grant exemption from part or all of the requirements of subclause (1) or (2) in the following cases:—

(a) A building of Class VII, VIII, or X where the Local Authority is satisfied in the particular case that there is no necessity to require compliance.

(b) A garage, tool shed, privy-closet, or the like, forming part of a building used for other purposes.

47.2 Concrete Roofing Tiles. (1) **With Weathering Check.** A roof that is covered with concrete roofing tiles with weathering checks shall be deemed to comply with subclause (1) of By-law 47.1 if the tiles—

(a) comply with AS A14, Concrete Interlocking Roofing Tiles (with Weathering Check); and

(b) are fixed in accordance with AS CA6, Fixing of Concrete Interlocking Roofing Tiles (with Weathering Check).

(2) **Without Weathering Check.** A roof that is covered with concrete roofing tiles without weathering checks shall be deemed to comply with subclause (1) of By-law 47.1 if the tiles—

(a) comply with AS A158, Concrete Interlocking Roofing Tiles (without Weathering Check); and

(b) are fixed in accordance with AS CA46, Fixing of Concrete Interlocking Roofing Tiles (without Weathering Check).

47.3 Terra-cotta Roofing Tiles. A roof that is covered with terra-cotta roofing tiles shall be deemed to comply with subclause (1) of By-law 47.1 if the tiles—

(a) comply with AS A13, Terra-cotta Roofing Tiles; and

(b) are fixed in accordance with AS CA5, Fixing of Terra-cotta Roofing Tiles.

47.4 Corrugated Asbestos-Cement Roof. A roof that is covered with corrugated asbestos-cement sheeting shall be deemed to comply with subclause (1) of By-law 47.1 if the sheeting—

(a) complies with AS 1611, Asbestos Cement Corrugated Sheets for Roofing and Cladding; and

(b) is fixed in accordance with AS 1639, Corrugated Asbestos Cement Roofing.

47.5 Corrugated Galvanized Steel. Corrugated hot-dipped galvanized steel having a 76 mm pitch used as a roof covering shall comply with AS 1445, 76 mm Pitch Currugated Hot-Dipped Galvanised Zinc coated Steel Sheets.

47.6 Pliable Roof Sarking. Pliable roof sarking used under roof or wall coverings shall comply and be fixed in accordance with AS CA22, Pliable Roof Sarking.

47.7 Steel Supporting Masonry Over Openings. Steel members supporting masonry over openings in external walls, and which, in the opinion of the Local Authority are exposed to salt laden atmosphere, shall be protected against corrosion by—

(a) hot-dip galvanizing not less than 127 μm in thickness properly bonded to the steel; or

(b) encasing in concrete; or

(c) other approved means not less effective than galvanising as specified in paragraph (a).

47.8 Damp-proofing of certain Rooms. (1) **Walls of Certain Compartments.** The floor surfaces of bathrooms, shower rooms, slop sink compartments, laundries, closet compartments and urinal compartments shall be of a material impervious to moisture and, except in the case of earth closet compartments, the junctions of the floor with the walls shall be so treated as to prevent the penetration of moisture into the walls.

(2) **Walls Adjoining Baths and Showers.** The walls—

(a) immediately adjoining or behind a bath; or

(b) of a shower compartment, including the walls about an open shower,

shall be finished to a height of not less than 1 800 mm above the floor with cement render, ceramic tiles or other approved impervious finish.

(3) **Walls of Closets and Urinals.** Except in a building of Class I, II or IV the walls of closet compartments and urinal compartments shall be finished internally to a height of not less than 1 800 mm above the floor with cement render, ceramic tiles or other approved impervious finish.

47.9 Damp-proof courses. (1) **Use.** Except in a building that is subject to an exemption granted by the Local Authority pursuant to subclause (3) of By-law 47.1, damp-proof courses shall be laid in masonry walls and piers in such a manner that moisture from the ground—

(a) shall be prevented from reaching the lowest floor timbers and the walls above the lowest floor joists; and

(b) in the case of any suspended floor constructed of a material other than timber, shall be prevented from reaching the underside of such floor or the supporting beams or girders.

(2) **Use of damp-proof courses in external cavity walls.** In an external cavity wall of masonry construction, damp-proof courses shall be laid in the inner and outer leaves.

(3) **Use of termite shields and damp-proof courses.** Notwithstanding anything to the contrary in this Part, where approved termite shields are used on piers a damp-proof course shall not be required in such piers.

(4) **Overlap of damp-proof courses.** Where, pursuant to subclause (1), a damp-proof course is used it shall be overlapped not less than 100 mm at any joints.

47.10 Damp-proof Courses. * * * *

47.10a Materials. Damp-proof courses used in a building shall be—

(a) uncovered annealed lead having a mass not less than 9·7 kg/m²; or

(b) uncovered copper having a mass not less than 2·8 kg/m² and having a thickness not less than 314 μm; or

(c) felt based bituminous asphalt neither less than 2·54 mm thick nor more than 3·05 mm thick (applicable only to walls not higher than 7·8 m above the level of the damp-proof course); or

(d) polyethylene film not less than 254 μm thick; or

(e) annealed sheet aluminium not less than 101 μm thick, with a bitumen coat and sheeted with polyethylene film; or

(f) bituminous coated metal complying with SAA Interim 326, Bituminous Damp-proof Courses with Metal Centre; or

(g) bituminous coated fibre felt complying with SAA Interim 327, Bituminous Damp-proof Courses with Fibre Felt Bases; or

(h) such other materials as may be approved.

47.11 (1) **Damp-proofing of floors on the ground.** Where a concrete slab or paved floor is laid on the ground or on filling, moisture from the ground shall be prevented from reaching the inner surfaces of the floor and adjacent walls by the insertion of damp-proof courses or membranes or by other approved damp-proofing means.

(2) **Exemptions.** The Local Authority may exempt from the requirements of subclause (1)—

(a) a building Class of VII, VIII or X where it is satisfied in the particular case that there is no necessity to prevent moisture from reaching the inner surfaces of the floor and adjacent walls;

(b) a garage, tool shed, privy-closet, or the like, forming part of a building used for other purposes;

(c) any building if it is satisfied that the conditions of the subsoil or the construction of the floor is such that moisture will be prevented from reaching the inner surfaces of the floor or walls without the insertion of damp-proof courses or membranes or the use of other damp-proofing means; and

(d) the base of any stair, lift or like shaft which is satisfactorily drained by gravitional or mechanical means.

(3) **Construction of Doors and Windows to Prevent Rain Penetration.** The door frames and window frames of a building shall be so designed and constructed as to prevent the penetration of rain water to the inner parts of the building or shall be effectively flashed by approved materials.

DIVISION VII—HEALTH AND AMENITY

PART 48—TERMITE AND RODENT PROTECTION

48.1 Termite protection. A Local Authority may disapprove of any building work which, by reason of the evidence available, it considers is subject to the hazard of termite (white ant) attack, unless the building work is protected from such attack in accordance with the provisions of AS CA43, Code for Soil Treatment for Protection of Buildings, against Subterranean Termites or AS CA50, Code for Physical Barriers used in the Protection of Buildings against Subterranean Termites, or by other approved means.

48.2 Rodent protection. * * * * (refer Plague Prevention Regulations)

DIVISION VII—HEALTH AND AMENITY

PART 49—ROOM SIZES AND HEIGHTS

49.1 * * * *

49.2 Sizes of habitable rooms in residential buildings. (1) **Kitchen excluded.** The minimum floor areas prescribed by this clause shall not apply to fully-enclosed kitchens.

(2) **Basic minimum area.** A habitable room in a building of Class I, II, III, or IV shall have a minimum floor area of 7·5 m^2 and such area shall be increased, when necessary, to comply with subclauses (3), (4), and (5).

(3) **One-room dwellings or dwelling units.** In a dwelling-house or dwelling unit containing only one habitable room (not counting any fully-enclosed kitchen), such room shall have a minimum floor area of 18·5 m^2.

(4) **Dwellings and dwelling units containing more than one habitable room.** In a dwelling-house or dwelling unit containing more than one habitable room (not counting any fully-enclosed kitchen)—

(a) at least one habitable room shall have a minimum floor area of 14 m^2; and

(b) at least one other habitable room shall have a minimum floor area of 11 m^2.

(5) **Habitable rooms incorporating cooking facilities.** Where, in lieu of a fully-enclosed kitchen, an alcove or other space within a habitable room is provided for the preparation and cooking of food, the required minimum floor area of that room shall be increased by 3 m^2.

49.3 Sizes of bathrooms and shower rooms in residential buildings. (1) **Basic minimum areas.** A bathroom or shower room in a building of Class I, II, III, or IV shall have a minimum floor area as follows:—

(a) Bathroom—2·16 m^2.

(b) Bathroom provided with a bath and a shower that is not above the bath—2·7 m^2.

(c) Shower room—1·08 m^2.

(2) **Additional facilities installed.** It shall not be necessary to increase the area of a bathroom or shower room to accommodate a wash-hand basin, but where a water closet pan is installed, or the bathroom or shower room is designed to accommodate clothes washing facilities, the minimum floor areas prescribed by subclause (1) shall be increased for each such facility as follows:

(a) Water closet pan—0·81 m^2.

(b) Washing machine without washtub (where this is additional to the provision elsewhere of the clothes washing facilities required by Part 46)—0·72 m^2.

(c) Washing machine and washtub—1·26 m^2.

(d) Copper and washtub—1·26 m^2.

(e) Clothes-drying cabinet—0·63 m^2.

49.4 Sizes of water closets: all buildings. A water closet in any class of building shall have a minimum floor area of 1·35 m^2 and a minimum width of 900 mm.

49.5a Height of Rooms. (1) **Class I, II, III or IV.** In a building of Class I, II, III, or IV, the following rooms shall have the heights not less than those set out for at least two-thirds of the floor area of the room—

(a) Habitable rooms—2 400 mm.

(b) Other rooms and spaces—2 100 mm.

(2) **Other Classes.** In buildings of Class V, VI, VII, VIII, or IX rooms and spaces not otherwise legally required to have a minimum height, shall have the heights not less than those set out, for at least two-thirds of the floor area of the room—

(a) bathrooms, ablution rooms, water closets and the like, and corridors, hallways, lobbies, clothes drying rooms, and other spaces of a specialized nature occupied neither frequently nor for extended periods—2 100 mm.

(b) Other rooms and spaces—2 400 mm.

DIVISION VII—HEALTH AND AMENITY

PART 50—LIGHT AND VENTILATION

Section 1—*Lighting*

50.1 Interpretative provisions. For the purposes of this Part, window—

(a) includes roof lights, glass panels, glass bricks, glass louvres, glazed sashes, glazed doors, or other devices capable of transmitting natural light directly from the exterior of a building to the room concerned; but

(b) does not include doors or other devices not capable of transmitting natural light from the exterior of a building to the room concerned when in the closed position.

50.2 Provision of natural light. (1) **Application of By-law.** Natural lighting shall be provided in the following buildings to the rooms indicated:—

(a) Buildings of Class I, II and IV—all habitable rooms;

(b) Class III buildings—all bedrooms and dormitories;

(c) Class IX buildings—all bedrooms, dormitories, wards and other rooms used for sleeping purposes.

(2) **Methods and required extent of natural lighting.** Natural lighting required by subclause (1) shall be provided by means of windows having an aggregate light transmitting area of not less than one-tenth of the floor area of the room concerned.

(3) **Measurement of areas of windows.** The light transmitting areas of windows shall be measured exclusive of framing members, glazing bars and other obstructions.

50.3 Situation of windows. (1) **Generally.** The required windows of a room shall face—

(a) a court or space open to the sky; or

(b) an open verandah, open car port or the like.

All parts of any habitable room in a building of Class I, II, III or IV shall be within 9 m of a required window in such room, and where a room opens onto a verandah or other room the distance required by this By-law shall be 9 m less the width of the verandah or other room, and, in addition, less the horizontal distance of any roof, balcony or similar projection beyond the required window in the external wall where such projection is approximately at, or below the ceiling line of the room, at the external wall.

(2) **Windows in Class I buildings.** In a Class I building a required window facing the boundary of the allotment (not being a boundary to a road) shall be separated from that boundary by a horizontal distance of not less than 900 mm.

(3) **Windows in Class II, III, IV and IX buildings.** In a building of Class II, III, IV or IX a required window facing an adjoining allotment of land or a wall of the same building or another building on the site shall be separated from that boundary or wall by a horizontal distance of not less than the square root of the height of the wall in which the window is located, measured from its sill.

(4) **Local Authority may allow concession.** Where the Local Authority is satisfied that compliance with subclause (3) would create undue problems in the design of a building, it may permit a less horizontal distance (which shall not in any case be less than 1·2 m) between a required window and the boundary or wall facing it if it is satisfied that the objects of that clause will be attained either better or as effectually.

50.4 Artificial lighting to be provided in certain rooms and spaces. Where in any room not mentioned in subclause (1) of By-law 50.2 natural lighting by means of windows is not provided to a standard equivalent to that required by By-law 50.2 for rooms mentioned therein, a system of artificial lighting shall be provided to the rooms indicated in the following buildings:—

(a) Buildings of Class I or IV—sanitary compartments, bathrooms, shower rooms, airlocks and laundries;

(b) Class II buildings—sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces designed for the common use of the occupants of the building;

(c) Buildings of Class III, V, VI, VIII or IX—all rooms intended to be occupied by any person for any purpose and all corridors, lobbies, internal stairways and other spaces.

50.5 Artificial Lighting of Stairways and Ramps. Required stairways and ramps shall be provided with artificial lighting by means of separate electrical wiring circuits from the main switchboard for the exclusive use of the stairway or ramp.

50.6 Natural Lighting from Adjoining Rooms. (1) **Conditions.** Notwithstanding the requirements of By-law 50.2, a room in a building of Class I, II or IV or in a sole-occupancy unit of a Class III building may be lighted by way of a glazed area or other opening facing directly into an adjoining room (including an enclosed verandah) subject to the following conditions:

(a) Such glazed area or other clear opening shall be not less in area than one-tenth of the floor area of the room concerned.

(b) The adjoining room shall be provided with windows having an aggregate light transmitting area of not less than one-tenth of the combined floor areas of the rooms concerned.

(c) In the case of a building of Class II, III or IV the adjoining rooms shall be within the same sole-occupancy unit.

(2) **Reduction in size of Glazed Areas.** The areas specified in paragraphs (a) and (b) of subclause (1) may be reduced by the area of each window in the first-mentioned room transmitting natural light directly to that room.

Section 2—Ventilation

50.7 Provision of Ventilation. Every habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room designed to be occupied by any person for any purpose shall be provided with either—

(a) natural ventilation complying with By-law 50.8; or

(b) a mechanical ventilation or air-conditioning system complying with Part 55.

Whether the ventilation system is by natural or mechanical means By-law 27.7a shall apply.

50.8 Natural ventilation. (1) **Methods and required extent of Natural Ventilation.** Natural ventilation required by By-law 50.7 shall be provided by means of permanent openings or windows, doors or other devices which are capable of being opened, having an aggregate opening or openable size of not less than one-twentieth of the floor area of the room they are required to ventilate.

(2) **Situation of natural Ventilation Devices.** Unless otherwise stated in these By-laws required natural ventilation devices shall open to—

(a) a court, vent shaft or space open to the sky; or

(b) an open verandah, open car port or the like:

Provided that the provisions of subclause (1) of By-law 50.3 are complied with in respect of habitable rooms in buildings of Class I, II, III or IV.

(3) **Construction of Vent Shafts.** A vent shaft or a fully enclosed court serving as the source of required natural ventilation to an abutting room shall comply with the following requirements:—

(a) The top shall be open to the sky.

(b) If it has a cross-sectional area of less than 18 m^2 it shall be provided with permanent ventilation openings comprising one or more horizontal air intakes or passages which—

(i) communicate directly with a road or open space leading to a road;

(ii) are situated at or below the level of the lowest required natural ventilation device serviced by such vent shaft or fully enclosed court;

(iii) have an aggregate cross-sectional area of not less than 0·5 m^2 or 5 per cent of the horizontal cross-sectional area of the shaft, whichever is the greater; and

(iv) are not less than 0·1 m^2 in cross-sectional area in any one such air intake or passage.

(c) It shall have a minimum internal horizontal—

(i) dimension of 1 200 mm; and

(ii) cross-sectional area of 1·5 m^2.

(4) **Natural Ventilation of Certain Rooms in Class I, II, III or IV Buildings.** Notwithstanding the requirements of subclause (1), a room in a building of Class I, II or IV or in a sole-occupancy unit of a Class III building may be ventilated by way of a clear opening or a window, door or other device capable of being opened, which faces directly into an adjoining room (including an enclosed verandah) subject to the following conditions:—

(a) Such clear opening, window, door or other device shall have a ventilating area of not less than one-twentieth of the floor area of the room concerned.

(b) The adjoining room shall be provided with a clear opening or a window, door or other device having a ventilating area of not less than one-twentieth of the combined floor areas of the rooms concerned.

(c) In the case of a building of Class II, III or IV the adjoining rooms shall be within the same sole-occupancy unit.

(5) **Reduction in size of Ventilating Areas.** The ventilating areas specified in paragraphs (a) and (b) of subclause (4) may be reduced by the ventilating area of any clear opening, window, door or other device capable of being opened in the first-mentioned room which opens directly to the exterior of the building.

(6) **Ventilation of Partitioned Spaces and Rooms in Certain Buildings.** Notwithstanding the requirements of subclause (1), a partitioned space or room in a building of Class V, VI, VII, VIII, or IX may be ventilated by way of a clear opening or an openable device (excluding a door) which faces into another room that is naturally ventilated in accordance with subclauses (1) and (2) or mechanically ventilated or air-conditioned in accordance with Part 55 subject to the following conditions:—

(a) The opening or openable device shall have an airway of not less than one-tenth of the floor area of the partitioned space or room.

(b) In measuring the area of the opening or openable device for the purposes of this clause, any portion thereof that is more than 3 600 mm above the level of the floor shall be excluded from the calculations.

(7) **Restriction on position of rooms containing Water Closets and Urinals.** A room containing a water closet or urinal shall not open directly into a kitchen and, except in a building of Class I or Class IV or in a sole-occupancy unit of a building of Class II or Class III, shall not open directly into—

(a) a room for storage or the consumption of food; or

(b) a dormitory or bedroom for a number of unrelated persons.

(8) **Airlocks.** Where, pursuant to subclause (7), a room containing a water closet is prohibited from opening directly to a kitchen, room for storage or the consumption of food or a dormitory or bedroom for a number of unrelated persons access shall be by way of an airlock, hallway or other room which—

(a) in the case of buildings of Class I or Class IV and sole-occupancy units in buildings of Class II or Class III has a floor area of not less than 1·08 m^2; and

(b) in the case of buildings of Class V, VI, VII or VIII—

(i) has a floor area of not less than 1·08 m^2; and

(ii) is fitted with self-closing doors at all access doorways.

50.9 Arcade Ventilation. Where any shop, room or space opens to an arcade the Local Authority may, subject to such conditions as it considers desirable, exempt such shop, room or space from the requirements of this Section.

50.10 Sub-floor Ventilation. (1) **Requirements.** Where the lowest floor of a building is of timber frame construction a space shall be provided between the underside of every joist and bearer and the ground surface, and that space shall be—

(a) ventilated and cross-ventilated by means of evenly distributed openings in the external walls having an unobstructed area of not less than 6 300 mm^2/m of external wall; and

(b) not less than 600 mm in depth in every part.

(2) **Reduction or increase in requirements.** Notwithstanding the requirements of subclause (1) the Local Authority may—

(a) approve a reduction of the area of the openings or the depth of the space referred to in subclause (1), or both, if it is satisfied in the particular case that by reason of—

(i) the nature of the site; or

(ii) the design of the building; or

(iii) the provision of an impervious cover over the ground surface beneath the building; or

(iv) a combination of the factors referred to in paragraphs (i), (ii) and (iii),

undue deterioration of the floor timbers will not occur as a result of such reduction; or

(b) require an increase in the area of such openings where it considers in the particular case that by reason of the—

(i) nature of the site; or

(ii) design of the building;

such increase is necessary to prevent undue deterioration of the floor timbers.

(3) **Position of Sub-floor Ventilation Openings in Cavity Walls.** In cavity wall construction the openings specified in paragraph (a) of subclause (1) shall be provided in the outer section of the wall, and openings of the same area shall be provided in the inner sections in positions as near as practical to those in the outer section.

(4) **Openings in Internal Walls in Sub-floor Area.** Internal walls constructed in the under-floor space referred to in subclause (1) shall be provided with openings having an aggregate area of not less than 6 300 mm^2/m run of wall concerned, and such openings shall be evenly distributed.

50.11. Public garages and Parking Stations. Every storey of a public garage or parking station shall be provided with either—

(a) a mechanical ventilation or air-conditioning system complying with Part 55; or

(b) a system of permanent natural ventilation to the approval of the Local Authority.

50.11a Venting of Stages. (1) **Application.** This By-law applies to every stage in a building, which stage—

(a) is used for the viewing by an audience of 500 or more persons reckoned by—

(i) the number of fixed seats, if the auditorium is fitted throughout with fixed seats; or

(ii) the population reckoned according to subclauses (2), (3) and (4) of By-law 24.28 if the auditorium has movable seating; or

(b) has a floor area, including the area of any rigging loft, in excess of 300 m^2.

(2) **Local Authority may modify Application.** Where by reason of one or more of—

(a) the likely use of the building or of the stage;

(b) the fire-fighting and exit facilities installed;

(c) the likely maximum number in the audience;

(d) the floor area of the stage; or

(e) any other sound cause,

the Local Authority is satisfied that the hazard arising from fire to the occupants, or to neighbouring property, is not more than provided for elsewhere in these By-laws, then the Local Authority may approve of such modifications of the provisions of this By-law as it deems fit.

(3) **Nature of Venting.** Every stage prescribed, by subclause (1) shall be vented from the highest portion of the space above the stage, in the event of fire on the stage, by emergency vents to expel the hot products of combustion and smoke by either—

(a) natural venting as prescribed in subclause (4); or

(b) mechanical exhaust venting as prescribed in subclause (5).

(4) **Requirements for Natural Venting.** The natural venting required in paragraph (a) of subclause (3), shall comply with the following conditions:—

(a) the vents shall be both—

(i) automatic, and operating at a temperature 5°C above that at which any installed fire-alarm system or installed sprinkler system, is set to operate; and

(ii) manually operable from both the location normally to be used by the stage manager and from near an exit from the stage, remote therefrom;

(b) the total openable area of the vents shall be not less than one-twentieth of the total floor area of the stage and the rigging loft;

(c) no single vent shall have an openable area of less than one-fifth of the total openable area required by condition (b) hereof; and

(d) the vents shall be of non-combustible construction throughout.

(5) **Requirements for Mechanical Venting.** The mechanical exhaust venting required in paragraph (b) of subclause (3) hereof, shall comply with the following conditions:—

(a) the provisions of By-law 55.7 shall apply so far as they are compatible with the requirements of this clause;

(b) the mechanical exhaust system shall be provided with sufficient capacity to exhaust an amount of air at least equal to the sum of the following:—

(i) 10 *l*/s m^2 of the performing area of the stage; and

(ii) 20 *l*/s m^2 of the remainder of the area of the stage and of the rigging loft;

(c) the ducts shall not serve any other purpose and shall comply with the requirements of Clauses 11 and 12 of Specification 7 prescribed in By-law 55.7;

(d) no part of the ducts shall be closer than 300 mm to timber or other combustible material;

(e) the electric motors and fans of the mechanical exhaust system shall be constructed to operate at a temperature of not less than 250°C for a period of not less than two hours, but the

Local Authority may approve of the motors having other characteristics if they are protected from the effects of fire and temperature to its satisfaction;

(f) the electrical service for the mechanical exhaust system shall be connected to the supply side of the main disconnection switch for the building and shall—

(i) consist of copper sheathed mineral-insulated cable with copper conductors; or

(ii) be protected on all sides by material having a fire resistance value of not less than that provided by 13 mm gypsum plaster or 25 mm cement render on metal lath; and

(g) the mechanical exhaust system shall be operable—

(i) manually; and

(ii) automatically at a temperature 5°C above that at which any installed fire-alarm system or installed sprinkler system is set to operate.

DIVISION VII—HEALTH AND AMENITY

PART 51—SPECIAL HEALTH AND AMENITY REQUIREMENTS FOR PARTICULAR ROOMS

* * * *

DIVISION VII—HEALTH AND AMENITY

PART 52—NOISE TRANSMISSION

52.1 Application of Part. (1) **Class II Buildings of 3 Storeys or More.** This Part applies to a Class II building having a rise of three or more storeys.

(2) **Certain Class II Buildings of 1 or 2 Storeys.** In a Class II building having a rise of not more than two storeys the Local Authority may require that the building shall comply with any or all of the provisions of this Part.

52.2 * * * *

52.3 Sound Insulation of Walls. (1) **Between Dwelling Units and Between Dwelling Units and Certain Areas.** A wall dividing separate dwelling units or a wall dividing a dwelling unit from a plant room, lift shaft, stairway, public corridor, hallway or the like shall have a Sound Transmission Class of not less than 45.

(2) **Between a Bathroom, Laundry or Kitchen, and a Habitable Room in an Adjoining Dwelling Unit.** A wall dividing a bathroom, laundry or kitchen in one dwelling unit from a habitable room (other than a kitchen) in an adjoining dwelling unit shall—

(a) have a Sound Transmission Class of not less than 50; and

(b) incorporate the following construction in order to reduce the transmission of impact sound:—

(i) The wall shall be constructed in two or more separate leaves without rigid mechanical connection other than at its periphery.

(ii) Any connexion between the leaves, other than at the periphery, shall be by means of devices incorporating resilient plugs or mountings except that in the case of a masonry wall wire ties according to SAA Interim 324, Metal Wall Ties for Brickwork, shall be permitted.

(3) **Certain Construction Deemed to Satisfy.** A wall constructed according to one of the following provisions shall be deemed to satisfy the requirements of subclause (2)—

(a) two leaves 90 mm brick or solid concrete block masonry complying with Part 36; and having:

(i) all joints filled solid with mortar; and

(ii) an air space of not less than 40 mm between the leaves.

(b) 190 mm thick concrete block masonry complying with Part 36 and having—

(i) each face of the blocks fitted with 50 mm x 50 mm timber battens, spaced at not more than 610 mm centres, screw-fixed into resilient plugs with rubber inserts;

(ii) the space between the battens completely filled with mineral or glass wool blanket or batts not less than 50 mm thick; and

(iii) the outer face of the studs finished with plasterboard not less than 9·5 mm thick or other material having a mass per unit area of not less than 7·3 kg/m^2.

(c) 110 mm brick masonry complying with Part 36, and having—

(i) each face rendered 12 mm thick;

(ii) 50 mm x 12 mm thick timber battens at not more than 600 mm centres fixed to each face but not recessed into the render;

(iii) one layer of 12·7 mm thick softboard nailed to the battens; and

(iv) 6·3 mm thick medium density hardboard adhesive fixed to the softboard.

52.4 Ducts Not to Penetrate Certain Walls. A duct shall not pass through a wall dividing a habitable room, other than a kitchen, in one dwelling unit from a bathroom, laundry or kitchen in an adjoining dwelling unit.

52.5 Soil and Waste Pipes to be Separated. (1) **Application of By-law.** This By-law shall not apply to those sections of a soil or waste pipe serving only one dwelling unit and located wholly within that dwelling unit.

(2) **Type of Separation Required.** Soil and waste pipes, including those that pass through a floor, shall be separated from the rooms of any dwelling unit immediately adjacent thereto by construction having the following Sound Transmission Class:—

Type of room Immediately Adjacent	Sound Transmission Class of not less than—
Habitable rooms other than kitchens	45
Kitchens	30
All other rooms	30

(3) **Access Door or Panel.** Where a soil or waste pipe is required by subclause (2) to be separated from the rooms of any dwelling unit immediately adjacent thereto by construction as specified in that clause—

(a) no access door or panel shall be provided in any part of that construction that is immediately adjacent to a habitable room (other than a kitchen); and

(b) an access door or panel in any other part of that construction shall be firmly fixed so as to overlap the frame or rebate of a frame by not less than 10 mm and shall be fitted with a sealing gasket along all edges and constructed of—

(i) wood, particle board or blockboard having a thickness of not less than 38 mm; or

(ii) dense asbestos-cement sheet having a thickness of not less than 9·5 mm; or

(iii) approved material having a mass per unit area of not less than 24·4 kg/m².

52.6 Sound Insulation of Floors Between Dwelling Units. A floor dividing separate dwelling units shall have a Sound Transmission Class of not less than 45.

52.7 Isolation of Pumps. A flexible coupling shall be used at the point of connexion between the service pipes in a building and any circulating or other pump.

52.8 Sound Transmission Class—Interpretation. A form of construction required by this Part to have a certain Sound Transmission Class, shall, subject to By-law 52.10, be—

(a) one that has achieved not less than the required value when tested by one of the laboratories listed in subparagraphs (i) to (iii) of paragraph (b) of subclause (1) of By-law 52.10; or

(b) one that is deemed, pursuant to By-law 52.3 or By-law 52.9, to have not less than the required value.

52.9 Construction Deemed to Satisfy. (1) **General Requirements.** For the purposes of this Part the forms of construction that—

(a) are listed in the following Table 52.9; and

(b) comply with the requirements of subclauses (2), (3), (4), (5) and (6) as applicable,

shall be deemed to have the Sound Transmission Class stated in the second column of that Table.

(2) **Masonry.** Masonry units shall be laid with all joints, including those between the masonry and any adjoining constructions, filled solid.

(3) **Concrete Slabs.** Joints between concrete slabs and any adjoining construction shall be filled solid.

(4) **Fire-grade Plaster-board.** Fire-grade plaster-board shall be a special grade as manufactured for use in fire-resisting construction, and fixed according to the following provisions:—

(a) Where one layer is required to be fixed to studs it shall be screw-fixed to the studs with joints staggered on opposite faces.

(b) Where two layers are required the first layer shall be fixed according to paragraph (a) and the second layer shall be fixed so that the joints do not coincide with those of the first layer and each sheet shall be fixed to the first layer with nails, screws or adhesive, or a combination of those methods as appropriate.

(c) Joints between sheets shall be taped and filled solid.

(d) Joints between sheets and any adjoining construction shall be filled solid.

(5) **Standard Plaster-board.** Plaster-board that is not fire-grade quality shall be fixed in a similar way to that described for fire-grade plaster-board in subclause (4).

(6) **Steel Studs and Perimeter Members.** Where the construction involves the use of steel studs—

(a) the studs shall be of a thickness not more than 0·99 mm thickness and not less than 0·63 mm thickness and be not less than 63·5 mm in depth;

(b) the studs shall be fixed to steel top and bottom plates of sufficient depth to permit secure fixing of the plaster-board; and

(c) all steel members at the perimeter of the wall shall be securely fixed to the adjoining structure and shall be bedded thereto in resilient compound or caulked so that there are no voids.

TABLE 52.9

SOUND TRANSMISSION CLASS DEEMED TO APPLY TO CERTAIN CONSTRUCTION

Construction	Sound Transmission Class not less than—
Walls—	
Solid clay or shale bricks, 110 mm thick, rendered 12·5 mm thick on both faces.	
Solid clay or shale bricks, having a total thickness of not less than 230 mm.	
Extruded cored clay bricks 110 mm thick rendered 12 mm thick on both faces.	
Concrete bricks, 110 mm thick and conforming to Australian Standard Interim 306 and having a total mass per unit area of not less than 195 kg/m².	
Dense concrete masonry blocks, 190 mm thick having a total mass per unit area of 215 kg/m².	
Dense concrete masonry blocks, 140 mm thick having a wall thickness of not less than 44 mm and having—	45
(a) 50 mm x 50 mm timber battens spaced at not more than 610 mm centres screw-fixed on one face of the blocks into resilient plugs with rubber inserts;	
(b) the face of the battens clad with 12·7 mm thick standard plaster-board; and	
(c) a total mass per unit area of not less than 220 kg/m².	
Dense concrete masonry blocks 140 mm thick rendered 12·5 mm thick on both faces and having a total mass per unit area of not less than 215 kg/m².	

TABLE 52.9—*continued*

SOUND TRANSMISSION CLASS DEEMED TO APPLY TO CERTAIN CONSTRUCTION—*continued*

Construction	Sound Transmission Class not less than—
Walls—*continued* 125 mm thick *in situ* concrete slab. 100 mm thick *in situ* dense concrete slab. 100 mm thick precast concrete slab without joints. Steel studs having two layers of 15·8 mm thick fire-grade plaster-board fixed to each face. Steel studs having— (a) one layer of 12·7 mm thick fire-grade plaster-board fixed to one face. Before fixing 50 mm thick mineral wool or glass-fibre blanket shall be stapled to the back of each sheet so that the sheet is completely covered; and (b) two layers of 12·7 mm thick fire-grade plaster-board fixed to the other face. Steel studs having— (a) 50 mm thick mineral wool or glass-fibre batts wedged firmly between the studs; (b) one layer of 15·8 mm fire-grade plaster-board fixed to one face; and (c) two layers of fire-grade plaster-board fixed to the other face, the inner layer consisting of 15·8 mm thick fire-grade plaster-board and the outer layer consisting of 12·7 mm thick plaster-board.	45
Floors— 125 mm thick *in situ* concrete slab. 100 mm thick *in situ* dense concrete slab. 100 mm thick precast concrete slab without joints. Timber floor comprising— (a) timber joists not less than 175 mm x 50 mm; (b) tongued and grooved boards not less than 19 mm thick and secured to 75 mm x 50 mm battens between each joist and laid over joists but not affixed thereto; (c) 25 mm thick glass-fibre blanket laid over entire floor, including tops of joists before boards are laid; and (d) 75 mm thick mineral wool cut to fit tightly between joists and laid on 9·5 mm thick plaster-board fixed to underside of joists.	45
Ducts or other Construction Separating Soil and Waste Pipes from Dwelling units— Masonry not less than 90 mm thick with all joints, including those between the masonry and any adjoining construction, filled solid. Two layers of 9·5 mm standard plaster-board— (a) fixed to timber studs not less than 75 mm x 50 mm spaced at not more than 407 mm centres; (b) with the joints in the two layers of plaster-board staggered; and (c) with all joints in the plaster-board, including those between the plaster-board and any adjoining construction filled solid.	30

52.10 Acceptance of Construction Without Test. (1) **Testing Authority's Report.** Where it is proposed to use a form of construction that—

(a) * * * *

(b) does not comply with By-law 52.3, or By-law 52.9 as the case requires,

the Local Authority may approve the use of that form of construction upon production of a report in accordance with subclause (2) from an acoustic laboratory with facilities for and engaged in the making of airborne sound transmission tests being—

(i) Experimental Building Station, Department of Housing and Construction of the Commonwealth;

(ii) Division of Building Research, Commonwealth Scientific and Industrial Research Organization;

(iii) a laboratory registered in the appropriate field with the National Association of Testing Authorities Australia.

(2) **Report to include Certain Details.** The report referred to in subclause (1) shall state—

(a) that in the opinion of the authority concerned the proposed construction would be capable of achieving the required Sound Transmission Class, and if applicable, would be not less resistant to the transmission of impact sound than the construction described in subclause (3) of By-law 52.3; and

(b) details of materials, construction, and methods of fixing which shall be complied with in order to achieve the required performance.

DIVISION VIII—ANCILLARY PROVISIONS

PART 53—SPECIAL REQUIREMENTS FOR CERTAIN BUILDINGS AND COMPONENTS

53.1 Swimming pools. A swimming pool shall be subject to any special conditions imposed by the Local Authority for the disposal of waste water and for the drainage of the pool.

53.2 Refrigerated and cooling chambers. (1) **Safety devices.** Refrigerated and cooling chambers forming part of a building and which are of sufficient size to permit the entry of a person shall be provided with—

(a) a door which can at all times be opened from inside without a key; and

(b) an approved alarm device located outside but controllable only from within the chamber.

(2) **Door widths.** The door referred to in paragraph (a) of subclause (1) shall be set in an opening having a clear width of not less than 600 mm.

53.3 Strong rooms. Strong rooms in buildings shall be provided with—

(a) internal lighting controllable only from within;

(b) a pilot light located outside the room but controllable only by the switch for internal lighting referred to in paragraph (a); and

(c) an approved alarm device located outside the room but controllable only from within the room.

53.4a Glazing. All glass installed in buildings shall be in conformity with Australian Standard AS 1288, Installation of Glass in Buildings.

53.4b Stables. No building of Class X which contains a stable shall be constructed unless—

(a) the stable floor is drained to the satisfaction of the Local Authority, is constructed of concrete or masonry and is impervious to moisture;

(b) every room, other than a store room, constructed over or adjoining the stable is separated from the stable by walls or floor or both, as the case may be, of masonry or concrete which is impervious to moisture; and

(c) a manure pit constructed of impervious material and fitted with covers approved by the Local Authority is provided adjacent to and in connexion with the stable.

53.4c Shopfronts. (1) **Interpretation.** For the purposes of these By-laws shop-front means such portion of the structure of a Class VI building as abuts or faces a road and is not in the nature of a wall supporting a wall or frame, or portion of a wall or frame, above.

(2) No shop-front shall exceed two storeys in height.

(3) **Construction.** The construction of every shop-front shall comply with the following provisions:—

(a) No part of any shop-front frame shall be fixed—

(i) nearer than 75 mm to the centre line of a reinforced concrete party wall;

(ii) nearer than 100 mm to the centre of a masonry party wall; or

(iii) nearer than 100 mm to the boundary of an abutting site when there is no party wall on that boundary.

(b) The construction immediately surrounding every shop-front shall comply with the provisions of Division VI of these By-laws.

(c) The openings in every shop-front shall be protected as required by the provisions of Part 22 of these By-laws.

(d) The external surfaces of stall-boards under shop-fronts shall be impervious to moisture.

53.4d Kiosks. (1) **Interpretation.** For the purposes of these By-laws kiosk means a stall or a compartment enclosed by walls, which the public does not enter, and which is used for the sale or distribution of goods or services.

(2) **Construction.** No kiosk shall be erected unless—

(a) it is situated at least 1·5 m from a road or, being a kiosk to be constructed as a compartment enclosed by walls, at such less distance from a road as the Local Authority may consent to in writing;

(b) it is in an arcade or, not being in an arcade, has a minimum height of 2 400 mm measured from floor to ceiling or wall plate, as the case may be;

(c) it has no internal dimension less than 1 m;

(d) it has a floor area of at least 1·5 m^2, if it is to be occupied by one person, or of at least 2 m^2 per person if it is to be occupied by two or more persons; and

(e) it has ventilation in accordance with the provisions of Part 50 of these By-laws.

53.4e Operating theatres. Requirements. (1) No room shall be constructed or converted for use as an operating theatre or as an ancillary room thereto unless it complies with the provisions of this By-law, and of AS 1169, Flammable Medical Agents Safety Code, to the satisfaction of the Local Authority.

(2) **Walls to be impervious.** The walls and floor of every operating theatre shall be constructed of material which is impervious to water up to 1 800 mm above the floor and those for operations on human beings shall have finishes complying with the requirements of the State Department of Health.

53.4f Timber mills and storage of combustible materials. (1) **In fire-zones.** No timber mill shall be constructed, or space for the storage of timber or combustible material established, on any site within a fire-zone, except in a building complying with the provisions of these By-laws.

(2) **Not in fire-zones.** Wherever a timber mill is constructed, or space for the storage of timber or combustible material established on a site which is not in a fire-zone, the Local Authority may, by resolution in the particular case, require compliance with such of the provisions of these By-laws as pertain—

(a) to a Class VIII building of Type 5 construction; and

(b) to the spread or combating of fire,

as it deems reasonable in the particular circumstances.

(3) **Exemptions.** Nothing in this By-law shall apply to the storage in his own storage space of fuel to be used solely for his own domestic purposes, by the occupier of any sole-occupancy unit.

53.4g Dangerous and flammable materials. (1) **Interpretation.** For the purposes of these By-laws—

(a) dangerous material includes any substance liable to sudden explosion, flammation or ignition, whether so liable inherently, by reason of its mode of containment, or by reason of contact with other materials, and any material which is radioactive or which will emit toxic gases; and

(b) flammable liquid means any liquid substance that has been classified in either Class A or Class B of the following Table:—

TABLE

Class A—Any liquid substance that is a flammable liquid having a flash point less than 23°C (but excluding any such liquid that is a potable liquid containing ethyl alcohol).

Class B—Any liquid substance that is a flammable liquid having a flash point not exceeding 61°C but not less than 23°C (but excluding any such liquid that is a potable liquid containing ethyl alcohol).

(2) **Requirement.** No room intended to be used as a store room for flammable liquids shall be constructed unless it complies with the provisions of this By-law.

(3) **Drawings.** The drawings submitted with the application shall show every room intended to be used to store more than 114 *l* of flammable liquid, and the quantity intended to be stored.

(4) **Quantities.** No room in any building of Class I, II, III, IV, V, or IX shall be constructed to store more than 114 *l* of Class A flammable liquid or 1 140 *l* of any flammable liquid.

(5) **Fire-separation and ventilation.** (a) Wherever quantities exceeding 114 *l* of Class A flammable liquid, or exceeding 1 140 *l* of any flammable liquid are to be stored in a room in a building of Class VI, VII or VIII the room shall—

(i) be fire-separated from every other section of the building in accordance with the provisions of By-law 16.15 (2), as though the room were a room containing mechanical or electrical equipment for the servicing of the building; and

(ii) be ventilated in accordance with the provisions of Part 50 section 2 as though it were a room occupied by a person.

(b) No such room shall be used for the storage of flammable liquid unless the building is constructed in accordance with these By-laws.

(6) **Dangerous materials.** No room shall be constructed, altered or used for the storage of dangerous materials, other than flammable liquids, unless—

(a) The room is fire-separated from every other section of the building in accordance with the provisions of By-law 16.15 (2) as though the room were a room containing mechanical or electrical equipment for the servicing of the building; and

(b) the room is ventilated in accordance with the provisions of Part 50 section 2 as though it were a room occupied by a person.

53.4h Separation of cinematograph rooms. Every cinematograph projection room shall be constructed to comply with the following conditions:—

(a) it shall be fire-separated from the rest of the building by construction having a fire-resistance rating of not less than two hours.

(b) it shall have all doorways protected by self-closing fire-doors having a fire-resistance rating of not less than two hours, which shall open outwards from the cinematograph room, but not into a path of travel or exit from the storey, nor into a hall, theatre, classroom or the like.

(c) it shall be ventilated either naturally to the satisfaction of the Local Authority or by mechanical ventilation in accordance with the provisions of By-law 55.7.

DIVISION VIII—ANCILLARY PROVISIONS

PART 54—AWNINGS AND OTHER ATTACHMENTS

54.1 Interpretation. In these By-laws awning includes a light metal structure which is cantilevered or otherwise supported from the building.

54.2 Awnings and Balconies. (1) **General Provisions.** No awning or balcony shall be constructed as part of any building unless—

(a) the whole of the exposed perimeter of every balcony is fitted with a guardrail at least 865 mm high for buildings of not more than three storeys of Class I, II or X, and at least 1 050 mm high for other buildings, the space between the guardrail and the floor of the balcony having no opening wider than 150 mm;

(b) structural calculations for the awning or balcony and handrails, and for their attachment to the building are submitted before the plans, drawings and specifications of the structure are approved;

(c) the roof (if any) of the balcony, or of the awning, and the floor of the balcony, are impervious to water and have an approved system of drainage;

(d) the fire-resistance rating of the floor of the balcony is at least equal to that required for the floor of the building which gives access to the balcony;

(e) the balcony is provided with means of egress therefrom as required by the provisions of Part 24 of these By-laws; and

(f) in a building which is of Type 1, 2, 3, or 4 construction, except a building of Class I or Class X, if any part of an opening in the external wall of a storey next above the awning is:

(i) in the plane of the wall to which the awning is attached; and

(ii) vertically above any part of the awning,

the awning is of incombustible construction or, if of combustible construction, is separated from the opening above by construction complying with the provisions of By-law 22.3 (2) as though the awning were an opening and the building were of at least Type 2 construction.

(2) **Special Provisions over Roads.** (a) No awning or balcony shall be constructed over a road unless—

(i) it is cantilevered or otherwise entirely supported from the building;

(ii) it has a continuous lining or soffit and is constructed throughout of incombustible material, except that battens of timber may be used for fixing linings;

(iii) it is set back at least 250 mm from the kerb at a height of not less than 3 m above the level of the kerb; and

(iv) the awning is, or the roof (if any) and the floor of the balcony are impervious to water and are so drained with an approved system that water will not drop on to the road.

(b) An awning to be erected or erected over a road—

(i) shall not be designed or constructed to be used or used as a balcony;

(ii) shall provide reasonable continuity between adjoining awnings and adequate protection of the footway beneath from the weather;

(iii) shall not detract from the amenity of the area of its location: and

(iv) shall have a fascia of a depth not exceeding 600 mm.

(3) **Moveable Awnings and Sun Shades over Roads.** No moveable awning or sun shade shall be constructed or attached to any building or to any balcony or fixed awning of a building over any road unless—

(a) the awning or sun shade, when fully lowered, is everywhere at least 2 150 mm above the footpath except that a flap of canvas or similar material may extend a further 150 mm towards the footway;

(b) no part of the awning or sun shade overhangs the kerb or comes within 250 mm of it;

(c) all steel or iron work in the awning or sun shade is protected against corrosion to the satisfaction of the Local Authority;

(d) the awning is securely fastened in such a manner as will prevent danger, obstruction or inconvenience in any road by swaying or flapping in the wind;

(e) the awning or sun shade may be rolled up, folded up or removed (together with any brackets or other devices for supporting the sun shade from its hangings or fastenings) by the occupier of the premises to which it is attached.

54.3 Carports. (1) **Interpretation.** For the purpose of this By-law carport includes an awning or balcony capable of sheltering a motor car.

(2) **Carports to be Open.** No carport shall be constructed unless it is open and without doors—

(a) along the full length of at least one side; and

(b) for at least one-third of the total perimeter of the carport.

(3) **Attached Carports.** If a carport is attached to a building the provisions of By-law 54.2 and Part 50 shall apply so far as they are applicable.

54.4 Certain Attachments. (1) **The Attachments Concerned.** A person shall not erect any structure which is a clock, showcase, architectural projection, bridge, gangway, portico, cornice, hoarding (including a trade sign), sky-sign, aerial, antenna, flagpole, mast, tower, lantern, gargoyle, cathead, crane, chimney, flue or duct, installation or machine for cleaning windows, or any structural or ventilating attachment to a building, or a tunnel which is ancillary to a building or other structure being, in any case, building work unless the requirements of the provisions of this By-law are satisfied.

(2) **Steel to be Protected.** All steel or iron work of every aerial, antenna or flagpole shall be protected against corrosion to the satisfaction of the Local Authority.

(3) **Height above Roads.** A structure referred to in subclause (1) that is to overhang a road shall be so erected that—

(a) being a hoarding (including a trade sign), none of its parts overhangs the footway at a height less than 2·5 m above the footway;

(b) being any other such structure, none of its parts overhangs the footway at a height less than 3 m above the footway.

(4) **Drainage from Ventilating Equipment.** No ventilating equipment shall be constructed over any road unless drainage from that equipment is satisfactory to the Local Authority.

(5) **Protection from Lightning.** The structure shall be protected from lightning to the satisfaction of the Local Authority.

(6) **Structural Calculations Required.** Structural calculations for the structure, its attachment to the building and the building shall be submitted before the plans, drawings and specifications are approved.

(7) **Construction.** The structures referred to in subclause (1) shall be—

(a) constructed of fire resisting materials approved for the purpose by the Local Authority; and

(b) constructed so that they may be removed at any time without causing the building of which they are a part to become structurally unsafe and without causing a reduction in the fire resistance rating of any structural member of the building required by these By-laws.

(8) **Certain Structures not Building Work.** It is hereby declared that the erection of any non-load-bearing aerial, antenna, flagpole, mast or tower, which is detached from a building or other structure and is not more than 10 m in height or which is attached to a building or other structure and is not more than 2·5 m in height is not building work for the purposes of these By-laws.

DIVISION VIII—ANCILLARY PROVISIONS

PART 55—GENERAL SERVICES AND EQUIPMENT—SPECIFICATION 7

55.1 Electrical Wiring. Electrical wiring in a building that is connected to a public electricity supply source shall comply with and be installed in accordance with the requirements of the relevant statutory electricity supply authority.

55.2 Gas Services. Gas burning appliances installed in a building shall be subject to the requirements of Part 25.

55.3 Water Supply Plumbing. Water pipes, fittings or appliances connected to a town water supply shall comply with and all plumbing work shall be carried out in accordance with the requirements of the Standard Water Supply By-laws.

55.4 Waste Water and Sewerage. (1) **Where building is connected to Sewerage.** Where a building is in a sewered area the fixtures, appliances, pipes and fittings and the installation of such fixtures, appliances, pipes and fittings shall comply with the Standard Sewerage By-laws.

(2) **Where not connected to Sewerage.** Where a building is not in a sewered area and a septic tank is required by the Local Authority all plumbing and drainage work shall comply with the Standard Sewerage By-laws in respect of pipes, fittings and fixtures as if the building were in a sewered area. Sullage shall be conveyed to a soakage trench as directed by the Building Surveyor.

55.5 Openings in Fire-Resisting Construction. (1) **Wires and Cables.** Wires or cables for electrical, telephone or other services that—

(a) are not enclosed in metal pipes, metal conduits or other noncombustible materials; and

(b) pass through a wall, floor or ceiling required to have a fire-resistance rating,

shall comply with subclauses (2) and (3).

(2) **Packing of Holes.** The space between any wire or cable referred to in subclause (1) and the inside faces of the holes in the walls, floors, or ceilings through which they pass, including the inside faces of sleeves or the like that may be inserted to carry them, shall be packed solid with gypsum-vermiculite plaster, asbestos, or other approved non-combustible material.

(3) **Area of Holes Limited.** The total cross-sectional area of any holes for the accommodation of wires or cables referred to in subclause (1) in any 10 m^2 section of a floor or ceiling required to have a fire-resistance rating shall not exceed 7×10^3 mm^2.

55.6 * * * *

55.7 Mechanical Ventilation and Air-Conditioning Systems. (1) **Installation Requirements.** Where a system of mechanical ventilation or air-conditioning is installed pursuant to any requirement of these By-laws that installation shall comply with the provisions of the following Specification No. 7.

(2) **Openings Subject to Approval.** The position of external openings for supply inlets, exhaust outlets and relief openings shall be to the satisfaction of the Local Authority.

(3) **Operation in Event of Fire.** In a building that is required by Part 24 to be provided with one or more fire-isolated stairways, any ducted air-handling system which is designed to recirculate air in the building shall be so installed that—

(a) in the event of a fire the system shall operate automatically so that there shall be no re-circulation of air and all air shall be exhausted outside the building in a position approved by the Local Authority; and

(b) the action referred to in paragraph (a) shall be arranged to take place by the actuation of a smoke detector at the end of the return air shaft, such detector being of a type suitable for monitoring the presence of smoke in air streams.

(4) **Exemptions from subclause (3).** Subclause (3) shall not apply to a system handling air in one room or one storey only.

SPECIFICATION NO. 7

Air Handling Systems

Scope. This Specification relates to the construction and installation of air-handling (mechanical ventilation or air-conditioning) systems required by these By-laws and is divided into three sections as follows—

Section 1—Air Quantities

Section 2—Fire Precautions in Buildings with Air-Handling Systems

Section 3—Fire Dampers

Section 1—Air Quantities

1. *Ventilation.* (1) *Sanitary Compartments, Bathrooms, etc.* Where natural ventilation according to Part 50 is not provided, air shall be extracted from bathrooms, shower rooms, water closets and laundries at the rate of not less than 0·5 m^3/min m^2 of floor area.

(2) *Spaces having Harmful Products.* Where, in the opinion of the Local Authority, harmful products such as dust, noxious fumes, vapours, odours, gases, and the like are generated in any room or other space within a building, air shall be extracted—

(a) at the rate of not less than 0·5 m^3/min m^2 of floor area, or such greater rate as the Local Authority considers necessary in the particular case; and

(b) from a position as near to the source of contamination as possible.

2. *Recirculation Not Allowed and Extract Requirements.* In the rooms and other spaces referred to in clause 1—

(a) there shall not be recirculation of any extracted air; and

(b) where there is likely to be a concentration of any harmful products near floor level at least one-half of the air shall be extracted through openings which have their lowest part not more than 300 mm above the floor.

3. *Fresh Air Quantities*—

(a) In rooms and other spaces except those referred to in clause 1, fresh air shall be supplied at the rate of not less than 0·3 m^3/min per person.

(b) For the purposes of paragraph (a) the number of persons deemed to occupy a room or other space shall be calculated according to By-law 24.28.

4. *Relief Openings.* Where a mechanical-ventilation system is designed to—

(a) supply air only; or

(b) exhaust air only,

relief venting shall be provided and air shall not pass through the relief openings at a velocity exceeding 4 m/s.

Section 2—Fire Precautions in Buildings With Air-Handling Systems

5. *Fire Dampers.* (1) *Required in Certain Ductwork.* Where the ductwork of an air-handling system passes through a wall or floor that is required to have a fire-resistance rating, fire dampers complying with section 3 shall be mounted within the ductwork at every point at which it passes through such wall or floor except as otherwise permitted by the following subclause (3), (4) or (5).

(2) *Required behind Certain Grilles.* Where a grille forming part of an air-handling system is installed within a wall that is required to have a fire-resistance rating, a fire damper complying with section 3 shall be mounted immediately behind that grille except as otherwise permitted by the following subclause (5).

(3) *Horizontal Supply Branch Ducts.* It shall not be necessary to install a fire damper in accordance with subclause (1) in the case of a horizontal supply branch duct passing through a wall if—

(a) the opening in the wall to accommodate the ductwork:

(i) has a cross-sectional area of not more than 20 x 10^3 mm^2; and

(ii) is not at any part more than 1 200 mm above floor level or is not less than 6 m from any other unprotected ductwork opening within the room;

(b) the duct at the point at which it passes through the wall, and any continuation ducting within 1 200 mm of that part is of non-combustible material with a fusing temperature of not less than 980°C;

(c) the space between the duct and the perimeter of the opening in the wall is packed solid with non-combustible material with a fusing temperature of not less than 980°C; and

(d) the air which passes through the duct is discharged at heights of not more than 1 200 mm above floor level.

(4) *Return-Air Shafts.* It shall not be necessary to install a fire damper in accordance with subclause (1) where the duct passes through a wall and discharges air into a fire-isolated return-air shaft if—

(a) the opening in the wall of the return-air shaft to accommodate the duct has a cross-sectional area of not more than 52×10^3 mm^2;

(b) the section of duct discharging into the return-air shaft—

(i) is of non-combustible material with a fusing temperature of not less than 980°C; and

(ii) has a vertical upstand within the return-air shaft of not less than 510 mm measured from the upper side of the horizontal duct to the point of discharge, unless air is drawn downwards from the point where the duct passes through the wall; and

(c) the space between the duct and the perimeter of the opening in the wall of the return-air shaft is packed solid with non-combustible material with a fusing temperature of not less than 980°C.

(5) *Exhaust Ducts Serving Sanitary Compartments, Bathrooms, etc.* It shall not be necessary to install a fire damper in accordance with subclause (1) or (2) in the case of a grille or horizontal exhaust branch duct serving only as a means of exhausting air from a bathroom, shower room, water closet, or laundry into a fire-isolated shaft if—

(a) the shaft is designed to operate at negative pressure;

(b) the grille or section of duct exhausting into the shaft:

(i) is of non-combustible material with a fusing temperature of not less than 980°C; and

(ii) has attached to it a vertical upstand within the shaft of not less than 510 mm measured from the upper side of the grille or duct to the point of discharge; and

(c) the space between the grille or duct and the perimeter of the opening in the wall of the shaft is packed solid with non-combustible material with a fusing temperature of not less than 980°C.

6. *Vertical Air Ducts.* Vertical air ducts that perforate two or more consecutive floors—

(a) in a building of Type 1 construction shall be contained in a shaft having a fire-resistance rating of not less than:

(i) 1½ hours in buildings of Class II, III or V; or

(ii) 2 hours in buildings of Class VI, VII or VIII.

(b) in a building of Type 2 construction shall be contained in a shaft having a fire-resistance rating of not less than 1 hour.

7. *Openings in Fire-rated Ceilings.* (1) The space above a suspended ceiling which forms part of a fire-rated floor-ceiling or roof-ceiling construction shall not contain ducting unless ducting was incorporated in the tested prototype that qualified for the required fire-resistance rating, in which case the ducting shall be identical with that incorporated in the tested prototype.

(2) Openings in the ceiling, including openings to enable the ceiling to be used as a plenum, shall be protected by fire dampers identical with those used in the tested prototype and such openings in the ceiling shall be so arranged that—

(a) no opening is greater in area than that corresponding in the prototype test panel;

(b) the aggregate area of the openings per unit ceiling area does not exceed that of the prototype test panel; and

(c) the proximity of any opening to any structural member is not less than that in the prototype test panel.

8. *Fire-isolated Stairs and Passageways.* A fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp shall not be used as a plenum to introduce air into or extract air from other areas except when air-handling systems are brought into operation to control the flow of smoke in a fire situation.

9. *Duct Heaters.* Duct heaters shall be designed and installed in accordance with the following requirements:—

(a) All elements shall be sheathed.

(b) The temperature of the element shall be so controlled that rise in temperature above the designed maximum working temperature shall cause the heating element to be de-energized.

(c) The duct shall be insulated for a distance of not less than 255 mm on either side of the heater with non-combustible material of thermal conductance not greater than 30 W/m^2K at 98·3°C.

10. *Air Filters.* Air filters shall be designed and installed in accordance with the following requirements:—

(a) Liquid-adhesive coatings shall have a flash point not less than 163°C as measured in a Cleveland Cup Tester.

(b) Electrostatic air filters which are not preceded by or followed by fabric or liquid-adhesive type filters shall be provided with lint screens readily accessible or removable for cleaning and not coarser than sieve of aperture size 1·00 mm according to AS 1152, Test Sieves.

(c) Where the building has a system of smoke detectors installed, smoke detectors of a type suitable for monitoring the presence of smoke in air streams shall be installed in the air-handling system on the discharge side of the filters.

(d) Where the building has a sprinkler system installed air filters, other than electrostatic filters, shall be sprinkler protected.

11. *Duct Materials.* (a) Ducts for pressurization of fire-isolated stairways, fire-isolated ramps and fire-isolated passageways shall be of non-combustible construction having a fire-resistance rating of not less than 1 hour.

(b) A duct that passes through a wall or floor required to have a fire-resistance rating shall be constructed of rigid non-combustible material extending on both sides of the wall or floor for a distance of

not less than 3 times the diagonal or diameter of the duct, as the case requires, the distance being measured from the surface of the wall or floor concerned.

12. *Duct Linings.* Internal duct linings shall comply with one of the following alternative requirements:—

(a) The linings shall be fully encased in sandwich panel unperforated metal sheeting continuous around all edges, with seams which form effective seals and where gaskets are used the joints shall be completely covered on both faces by strips of metal to seal the joint completely.

(b) The linings, including adhesives and surfacing materials, shall have an index number for spread-of-flame not greater than 0 and an index number for smoke developed not greater than 5, both as determined in the Standard Fire Test.

13. *Return-Air Systems.* Return-air systems shall be so designed and constructed that—

(a) their integrity as a continuously enclosed system of air passages is preserved, from all points of entry to the point of discharge; and

(b) the aerodynamic design ensures that in all circumstances of operation, the air pressure at all points of entry is 37 Pa greater than at the point of discharge.

Section 3—*Fire Dampers*

14. *Fire Damper—Interpretation.* A fire damper means a device manufactured completely of non-combustible materials (except for paints and similar finishes) and which consists of one or more blades arranged to pivot or slide when released by a sensing device so as to restrict the passage of fire and products of combustion.

15. *Fire Damper Construction.* (1) A fire damper required by this Specification to be mounted within the ductwork of an air-handling system shall—

(a) be located centrally within the thickness of the wall or floor at the point through which the ductwork passes and where necessary—

(i) the wall or floor adjacent to the damper shall be increased in thickness to accommodate the damper; or

(ii) the projection of the damper outside the plane of the wall or floor shall be encased in fire-protective material equal to the fire-resistance rating of the wall or floor;

(b) be attached to ductwork in such a manner that any deformation or collapse of the ductwork under fire conditions will not dislodge the damper or affect its operation or performance; and

(c) have a fire-resistance rating of not less than that required for the wall or floor through which the relevant section of the ductwork passes.

(2) *Use of Fire Doors as Dampers.* Nothing in this Part shall be deemed to prohibit the use of a fire door as a fire damper where the circumstances so require.

16. *Damper to be a Replica of Prototype.* Every fire damper shall be a replica of the tested prototype and—

(a) shall not have a mounting area greater than that of the prototype;

(b) shall not have blades that are—

(i) longer than those of the prototype; and

(ii) greater than 1·125 or less than 0·9 times the width of the prototype; and

(c) shall not have any of its components of a lesser thickness than those of the prototype.

17. *Hinge Mechanism.* Hinge mechanisms and blade assemblies shall be so designed and manufactured that operation of the fire damper will not be affected by corrosion or the accumulation of dust.

18. *Access to Release Mechanism.* Where a release mechanism is incorporated in the design of a fire damper—

(a) convenient access shall be provided to facilitate removal of the release mechanism for inspection and replacement; and

(b) no device shall be incorporated which will prevent the damper from closing while the release mechanism is removed.

19. *Locking Device for Gravity Operated Dampers.* A positive action locking device shall be provided for each gravity-operated fire damper to retain automatically the blades in the closed position when the damper is operated, and a convenient means of access shall be provided to enable hand resetting of the locking device.

20. *Motorized Damper.* A motorized fire damper—

(a) shall operate on the principle that, in the event of loss of motive power, the damper will close;

(b) shall have a drive that is either direct or by means of a rigid linkage to the damper blade or shaft; and

(c) shall have its drive mechanism mounted either completely inside or completely outside the damper.

21. *Volume Control Mechanism.* Where a fire damper is used for the purposes of both air volume control and fire protection the volume control mechanism—

(a) shall not restrict the automatic operation of the damper as a fire damper; and

(b) shall be mounted either completely inside or completely outside the damper.

22. *Testing.* (1) *Type test.* Each fire damper submitted for test shall comply with the following tests in the order stated—

(a) When steel parts used in the pivot assembly are manufactured of stainless steel having a corrosion resistance of not less than the 300 series of stainless steels—

(i) Dust test described in subclause (3);

(ii) Air-leakage test described in subclause (4); and

(iii) Fire-resistance test described in subclause (5).

(b) When steel parts used in the pivot assembly are not manufactured of stainless steel having a corrosion resistance of not less than the 300 series of stainless steels—

(i) Corrosion test described in subclause (2);

(ii) Dust test described in subclause (3);

(iii) Air-leakage test described in subclause (4); and

(iv) Fire-resistance test described in subclause (5).

(2) *Corrosion Test.* The corrosion test shall be carried out as follows:—

(a) The fire damper shall be completely degreased by treatment with an organic solvent prior to the test.

(b) A salt solution consisting of 20 per centum by mass of sodium chloride and 80 per centum of water and having a pH between 6·5 and 7·2 and specific gravity at 35°C between 1·126 and 1·157 shall be sprayed in the form of a fine mist at 35°C to come into contact with all of the interior surfaces of the fire damper for three minutes at three hourly intervals three times per day for three days.

(c) The fire damper shall then be allowed to dry for not less than 24 hours at ambient air temperature.

(d) The fire damper shall be operated after the test and shall close in the manner in which it is designed to close in normal use.

(e) The fire damper shall then be subjected to and shall comply with the dust test described in subclause (3).

(3) *Dust Test.* The dust test shall be carried out as follows:—

(a) Dust of particle size not greater than 50 μm shall be poured over the pivot assembly with the damper blades in the open position until no more dust can be retained on the pivot assembly.

(b) The fire damper shall then be closed.

(c) The procedure described in paragraphs (a) and (b) shall be repeated fifty times.

(d) The fire damper shall be operated after the test and shall close in the manner in which it is designed to close in normal use.

(4) *Air-Leakage Test.* The air-leakage test shall be carried out as follows:—

(a) The damper shall be closed and a differential pressure shall be applied across the damper.

(b) The rate of flow through the damper:

(i) shall be measured by a method conforming with British Standards Institution BS 1042, Methods for the Measurement of Fluid Flow in Pipes;

(ii) shall not be greater than the face area of the damper (in square metres) multiplied by the following factors:

16 at 1·245 kPa
15 at 0·996 kPa
13 at 0·747 kPa
10 at 0·498 kPa
6 at 0·249 kPa

(5) *Fire-Resistance Test.* The fire-resistance test shall be carried out in accordance with AS A30, Section 4, Fire-Resistance Test of Structures.

23. *Marking.* The following information shall be marked in a permanent and legible manner on a durable and corrosion-resistant plate permanently attached to the fire damper in a location where the information can be viewed after the fire damper has been installed:—

(a) Manufacturer's identification.

(b) Fire-resistance rating in hours.

(c) Maximum temperature for operation of the release mechanism.

(d) Critical instructions regarding installation, such as direction of air flow, top of damper, maximum air velocity, whether lintel beam is required in installation.

55.8 Exclusion of Smoke from Fire-isolated Stairways, Ramps and Passageways. (1) **In Buildings Over Six Storeys.** Every required fire-isolated stairway, fire-isolated ramp and fire-isolated passageway which serves a building having a rise of more than six storeys shall be protected from the entry of smoke by one of the alternative sets of requirements set out in subclause (3) or (4).

(2) **Serving Below-Ground Storeys.** Every required fire-isolated stairway, fire-isolated ramp and fire-isolated passageway that serves three or more storeys from which egress would involve a vertical rise within the building of more than 1·5 m shall be protected from the entry of smoke in accordance with subclause (3).

(3) **Pressurization.** (a) The fire-isolated stairway, fire-isolated ramp or fire-isolated passageway shall be positively pressurized by means of a pressurizing system constructed to operate in the event of a fire on any storey by the actuation of—

(i) approved automatic smoke detection devices located in the storey and close to every doorway affording access to the fire-isolated stairway, fire-isolated ramp, or fire-isolated passageway (except doorways provided pursuant to the provisions of paragraph (b) of By-law 24.8); and

(ii) any other required automatic fire-detection system that is installed in the building.

(b) The pressurizing system shall be so designed that when it comes into operation—

(i) the system will be capable of maintaining an airflow into the storey of not less than 1 m/s through the doorways leading from any two successive storeys when the two doors forming part of those doorways, together with the main discharge door, are in the fully open position; and

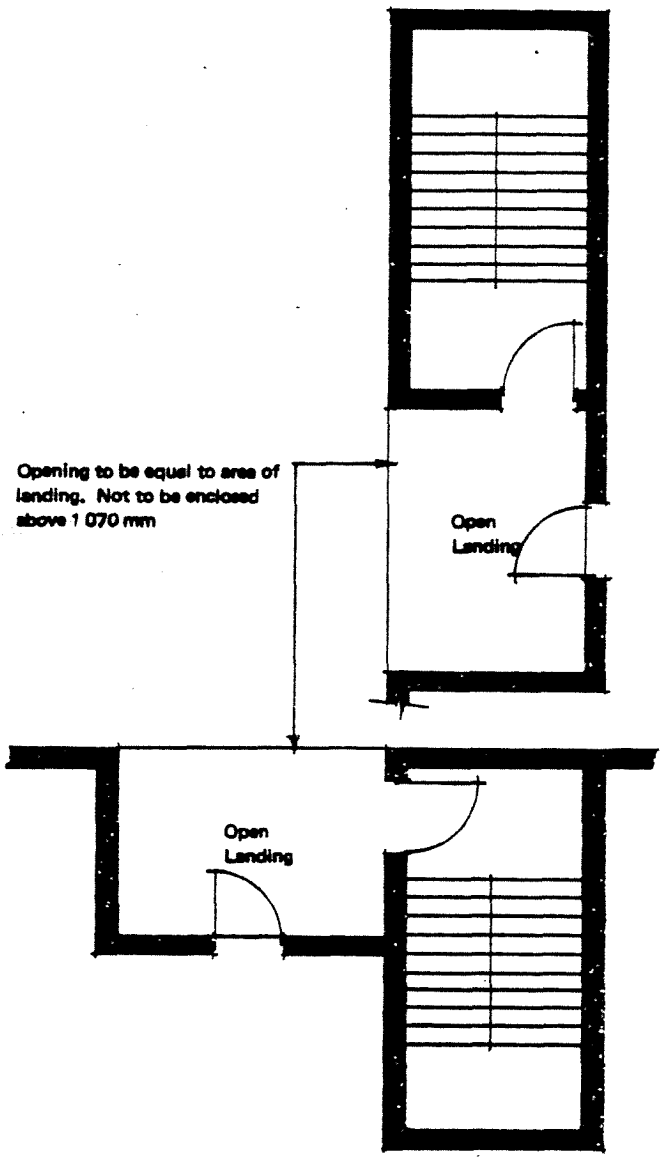
(ii) the system will be capable of maintaining a positive pressure differential between the stairway, ramp or passageway, as the case may be, and any storey served thereby of not more than 50 Pa when all doors of such stairway, ramp or passageway are in the fully closed position.

(c) No openable window or other openable device (other than necessary doorways, pressure-controlled relief louvres and windows openable by a key) shall be constructed in the stairway, ramp or passageway.

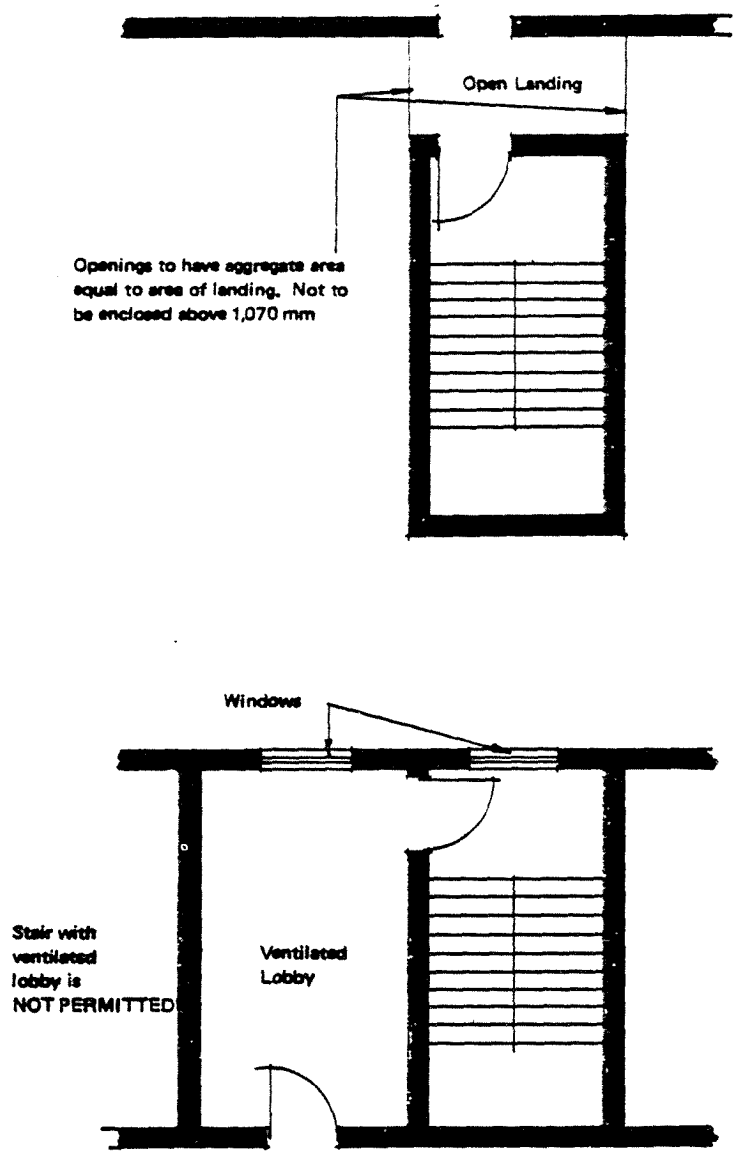
(d) A pressurizing system may serve more than one fire-isolated stairway, fire-isolated ramp or fire-isolated passageway but shall not form part of any other air-conditioning or ventilating system.

(e) Ducts used for the pressurizing system shall be of non-combustible construction having a fire-resistance rating of not less than one hour and shall draw air from outside the building through inlets in positions approved by the Local Authority.

(f) The electrical service for the pressurizing system shall be connected to the supply side of the main disconnexion switch for the building and shall consist of copper-sheathed mineral-insulated cable with copper conductors, or be protected on all sides by material having a resistance to fire not less than that provided by 12·5 mm of gypsum plaster or 25 mm of cement render on metal lath.



TYPICAL OPEN LANDING ACCESS–SEE BY-LAW 55.8 (4)



TYPICAL OPEN LANDING ACCESS—SEE BY-LAW 55.8 (4)

(4) **Balcony Access.** As an alternative to complying with subclause (3) every means of access from within a building having a rise of more than six storeys to a fire-isolated stairway, fire-isolated ramp or fire-isolated passageway shall be by way of an open access ramp or balcony complying with the following requirements:—

(a) It shall have an unobstructed ventilation opening to the outside air—

(i) of area not less than the floor area of the ramp or balcony; and

(ii) which is evenly distributed along the open sides of the ramp or balcony.

(b) It shall not be enclosed on its open sides above a height of 1 070 mm except by an open grille or the like having a free air space of not less than 75 per centum of its area.

55.9 Buildings with Floors Higher than 21 m to have Emergency Lift. (1) All buildings in which the floor of the topmost storey is more than 21 m above the floor of the lowest storey providing egress to a road or open-space shall have at least one lift capable of becoming an emergency lift to serve all floors served by the lifts in the building and where there are two or more lifts serving such building there shall be at least two lifts capable of becoming emergency lifts serving all floors served by the lifts in the building.

(2) **Requirements for Emergency Lifts.** For the purposes of this Part an emergency lift shall mean a lift which has its operating controls so installed that it may be removed from normal automatic operation by means of a keyed switch located in the lift lobby of the main entrance storey of the building, or other approved location, and in such a way that the key—

(a) is readily accessible to the Fire Brigade in the event of fire; and

(b) the housing of the key is conspicuously marked " LIFT DOOR KEY ".

(3) **Electrical Requirements.** Every lift capable of being used as an emergency lift pursuant to the provisions of this By-law shall have its electrical service connected to the supply side of the main disconnexion switch for the building and such electrical service shall consist of a copper-sheathed mineral-insulated cable with copper conductors, or be protected on all sides by material having a resistance to fire of not less than that provided by 12·5 mm of gypsum plaster or 25 mm of cement render on metal lath.

(4) **Operation of Controls.** An emergency lift installation shall be so constructed that upon the operation of the keyed switch referred to in subclause (2)—

(a) the lift shall return to the floor of the storey in which the keyed switch is located and the doors shall open and if the lift must stop and reverse in order to return to that storey the doors at the reversal floor shall not open;

(b) all light beam or electronic door protective devices on all emergency lifts shall be de-activated but the protection from door edge re-opening devices shall be retained;

(c) the lift shall respond only to the controls within the car;

(d) the lift doors shall not open at any floor other than the floor of the storey in which the keyed switch is located unless the " Open Door " button is pressed and, when so opened, the doors shall remain open until the " Close Door " button is pressed;

(e) all lifts in the building shall return to the floor of the storey in which the keyed switch is located.

(4a) **Emergency Tools for Lifts.** An approved set of emergency tools for lifts shall be located in the lift lobby of the main entrance storey of the building, or in other approved location, in such a way that the tools—

(a) are readily accessible to the Fire Brigade in the event of fire; and

(b) the housing of the tools is conspicuously marked " LIFT EMERGENCY TOOLS ".

55.9a Lifts for Stretchers. Wherever lifts are installed in a building having a rise exceeding three storeys, at least one lift car shall be capable of accommodating a stretcher with a patient thereon lying horizontal.

55.10 Ventilation of Lift Shafts. (1) **Minimum Area.** The top of every lift shaft shall be ventilated to the outside air by unobstructed openings having an aggregate area of not less than 10 per centum of the cross-sectional area of the shaft.

(2) **Cross Ventilation.** The unobstructed openings referred to in subclause (1) shall be so arranged as to induce exhaust ventilation of the shaft.

55.11 Warning Against Use of Lifts in Fire. (1) **Signs to be Displayed.** A warning sign conforming with the details and dimensions of the following Figure 55.11 shall be displayed in a conspicuous position near every call button for a lift or group of lifts throughout a building.

(2) **Details of Signs.** The warning sign shall consist of—

(a) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or

(b) letters incised or inlaid directly into the surface of the material forming the wall.

(3) **Exception for Certain Small Lifts.** It shall not be necessary to install a warning sign for a small lift such as a dumb waiter or the like that is intended for the transport of goods only and is not large enough to accommodate a person.

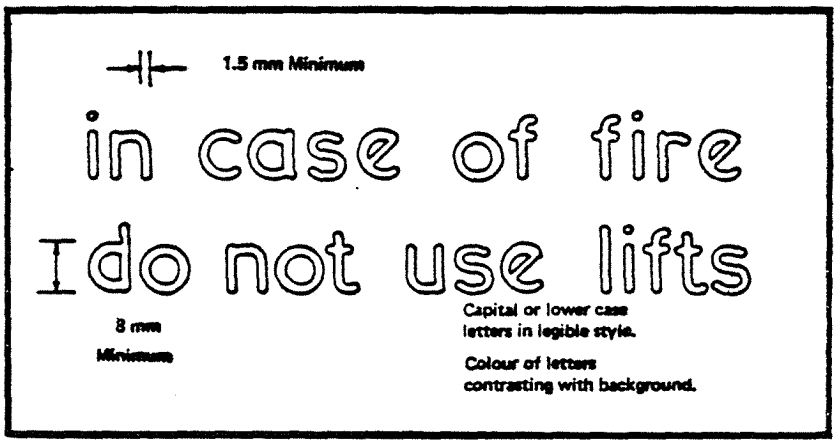


FIGURE 55.11

55.11a Escalators to Stop in the Event of Fire. Every escalator in a building shall be so constructed, and the electrical service thereto so arranged, that in the event of a fire in any storey in that building the escalator shall be stopped by the action of any automatic fire-detection system that is installed in the building.

55.12 Emergency Lighting. (1) **Location.** A system of emergency lighting complying with the provisions of this Part shall be installed in the following locations:—

(a) In a building of Class II or Class III in which any stairway is required to be fire-isolated—

(i) in every fire-isolated stairway, fire-isolated ramp or fire-isolated passageway; and

(ii) in every corridor, hallway or the like having a length of more than 5·5 m from the entrance doorway of any sole-occupancy unit to the nearest doorway opening directly—

(A) into a fire-isolated stairway, fire-isolated ramp or fire-isolated passageway; or

(B) to an external stairway serving in lieu of a fire-isolated stairway pursuant to clause 24.11; or

(C) onto an external access balcony leading to a fire-isolated stairway, fire-isolated ramp or fire-isolated passageway; or

(D) onto a road or open space.

(b) In a building of Class V, VI, VII, VIII or IXa in which any stairway is required to be fire-isolated—

(i) in every fire-isolated stairway, fire-isolated ramp or fire-isolated passageway; and

(ii) in every corridor, hallway or path of travel within the building having a length of more than 5·5 m from the entrance doorway of a Class IV building incorporated therein to the nearest doorway opening directly—

(A) into a fire-isolated stairway, fire-isolated ramp or fire-isolated passageway; or

(B) to an external stairway serving in lieu of a fire-isolated stairway pursuant to clause 24.11; or

(C) onto an external access balcony leading to a fire-isolated passageway; or

(D) onto a road or open space; and

(iii) in every room where the floor area is more than 300 m².

(c) In every storey in a Class VI building where—

(i) the floor area in that storey, calculated according to the provisions of clause 24.28, is more than 300 m²; or

(ii) any point on the floor of that storey is more than 18 m from the nearest doorway opening directly to a stairway, ramp, passageway, road or open space; or

(iii) egress from that storey involves—

(A) a vertical rise within the building of more than 1·5 m; or

(B) any vertical rise and the storey concerned is not equipped with sufficient means of admitting light; or

(iv) that storey provides a path of travel from any other storey required by subparagraphs (i), (ii) and (iii) to have emergency lighting.

(d) In a building of Class III or Class IXa—

(i) in every room other than a sole occupancy unit where that room is on a storey other than a storey which gives access to a road or public place and has a floor area of more than 100 m² which may be used for dormitory purposes; and

(ii) in every stairway, ramp, passageway, corridor or the like in the path of travel from that room to a road or public place.

(e) In a Class IXb building—

(i) in every room where the floor area is more than 300 m^2; and

(ii) in every stairway, ramp, passageway, corridor or the like in the path of travel from that room to a road or public place.

(2) **Special locations.** The Local Authority may require the installation of emergency lighting in any storey of any of the buildings referred to in subclause (1) where it considers that illumination sufficient for safe egress will not be available under conditions of emergency.

(3) **Measurement of distance.** The distances, other than vertical rise referred to in subclause (1) shall be the shortest measurement along the corridor or other path of travel whether by straight lines, curves or a combination of both.

(4) **Type and position.** The type and position of emergency lights required shall be as follows:—

(a) In stairways—

(i) each light shall have a luminous flux of not less than that provided by a 25 W incandescent lamp or a 6 W fluorescent tube; and

(ii) each light shall be mounted in an approved position in the vicinity of each landing at a height of not less than 1·8 m above that landing;

(b) In spaces other than stairways—

(i) each light shall have a luminous flux of not less than that provided by a 25 W incandescent lamp or a 6 W fluorescent tube; and

(ii) each light shall be located so that no point on a floor, including a corridor, passageway or the like, is more than 12 m from a lamp, measured in a horizontally straight line.

(5) **Power source.** The power source of required emergency lighting shall comply with the following provisions:—

(a) The power source shall consist of—

(i) batteries with approved suitable charging equipment arranged so that the batteries are kept fully charged; or

(ii) an approved standby power system.

(b) The power source shall be capable of energising lighting according to subclauses (1), (2) and (4) for a period of not less than—

(i) one hour in any case;

(ii) two hours if the building has a rise of more than twelve storeys or is a Class IX building wherein infirm or handicapped persons may be accommodated.

(c) The power source shall be such that—

(i) upon failure of the mains supply to any distribution board the emergency lighting in the area served by that distribution board will be automatically and immediately activated;

(ii) upon failure of the mains supply to any self-contained emergency light that emergency light will be automatically and immediately activated.

(d) The power source, other than—

(i) one in a building of Type 4 or Type 5 construction; or

(ii) one located outside the external walls of the building concerned; or

(iii) one intended to supply a single light only,

shall be contained in a separate enclosure having a fire-resistance rating of not less than 1 hour.

(6) **Wiring.** Where more than one light is supplied by the emergency power source—

(a) wiring shall be—

(i) copper covered mineral insulated cable with copper conductors; or

(ii) protected by being completely surrounded by not less than 25 mm of concrete or masonry or covered by not less than 25 mm of gypsum plaster or cement render on metal lath; and

(b) lights serving any two contiguous areas of floor each of which shall not exceed 324 m^2—

(i) shall be on separate circuits; and

(ii) arranged so that upon the failure of any one circuit no point on a floor shall be more than 30 m from an active emergency light.

(6a) **Test Facility.** In any emergency lighting system there shall be suitable facilities for testing the system and where emergency lights are self-contained units each unit shall incorporate a pilot lamp which shall be illuminated whenever a charging current is being received.

55.13 Exit Signs. Illumination. Every sign required by clause 24.29 to be illuminated shall—

(a) be illuminated by—

(i) a system of emergency lighting incorporating wiring if any and a power source complying with clause 55.12; or

(ii) an approved self-luminous device, but not luminous paint reflective material or the like; and

(b) be installed so that upon failure of the mains supply to any, distribution board every exit sign in the area served by that board shall be illuminated so that it is clearly visible to any person approaching the sign.

DIVISION VIII—ANCILLARY PROVISIONS

PART 56—REPAIR, ALTERATION AND RESTORATION

56.1 Exemption of certain Actions from Building Work. The Local Authority may in its discretion declare by its resolution in relation to a particular case that repair, alteration or restoration of a building or other structure is not building work within the meaning of these By-laws whereupon, unless such declaration is revoked by the Local Authority, such repair, alteration or restoration shall be deemed not to be building work within the meaning of these By-laws.

DIVISION VIII—ANCILLARY PROVISIONS

PART 57—RUINOUS AND DANGEROUS BUILDINGS

* * * *

DIVISION VIII—ANCILLARY PROVISIONS

PART 58—TEMPORARY AND SPECIAL STRUCTURES

58.1 Temporary Structures. Limitation of Time. If the Local Authority approves an application made with respect to the erection of a temporary building or other structure—

(a) it shall limit the time during which the building or other structure shall be allowed to remain in place;

(b) it may subject its approval to such conditions, as to the removal of the building or other structure, or otherwise as it thinks fit.

58.2 Special structures. (1) **Owner to seek approval.** The owner of any land upon which it is proposed to erect a special structure shall apply to the Local Authority for approval in manner according to the provisions of Part 8 of these By-laws.

(2) **Local Authority shall approve if satisfied.** The Local Authority, if satisfied that the proposed structure reasonably complies with the provisions of these By-laws, shall signify its approval of the same in writing, and thereupon the special structure may be constructed according to the particulars submitted in the application for approval.

(3) **Expenses of approval.** All expenses incurred in and about the obtaining of the approval of the Local Authority shall be paid by the owner to the Local Authority and in default of payment may be recovered in a summary manner as a debt due and owing by the owner to the Local Authority.

(4) **Exemption by Local Authority.** The Local Authority may, by its resolution, exempt from the application of these By-laws such special structure or class of special structure as it thinks fit and, unless such resolution is revoked, such special structure or class shall be exempt accordingly.

(5) **Meaning of special structure.** For the purposes of this By-law a special structure is any structure that is not a building, fence, carport, or structure of a class that is exempted by the Local Authority pursuant to subclause (4).

[By-laws 6.1; 6.11; 19.2; 19.6; 19.7; 19.10 and 27.4]

APPENDIX 1

BUILDINGS AND SPACES OF ABNORMAL FIRE HAZARD

(a) Any building or space within a building that is used for:

(i) the storage of goods only, or the display of goods for sale by wholesale; or

(ii) a handicraft; or

(iii) a process in or incidental to the making, assembling, altering, repairing, renovating, preparing, ornamenting, finishing, cleaning, washing, or adapting of goods; or

(iv) a process in a laboratory,

and in which a principal material concerned is one of the following:—

Bitumen, tar, or any product thereof, including—

(A) asphalt;

(B) caulking and sealing compounds; and

(C) surfacing materials;

Cork;

Enamel, lacquer, paint, or varnish;

Explosive, fireworks, or matches;

Fibre or any fibrous product, including—

(A) bristles, cloth, cord, felt, fur, raw fibres, straw, and thread; and

(B) made-up products of cotton, flax, hemp, jute, silk, synthetic fibres, or wool, including bedding, carpets, and upholstery;

Flammable gas or flammable liquid, including—

(A) liquified petroleum gas;

(B) natural gas and coal gas; and

(C) hydrogen;

Fodder or any foodstuff—

(A) including grain and kernels (whether as cereal or crushed and milled); but

(B) excluding fresh food as fish, fruit, meat, and vegetables;

Gum, polish, resin, or wax, or any product thereof, including linoleum, oilcloth, and tarpaulin;

Inorganic chemical such as—

(A) calcium carbide, potassium nitrate, and sodium nitrate;

(B) metallic sodium and phosphorous; and

(C) finely powdered metal;

Leather, skin, or any product thereof, including boots, shoes, furs, and clothing;

Oil (animal, mineral, or vegetable), including animal fats and refined oils, or any product thereof;

Organic chemical comprising—

(A) alcohol or any alcoholic liquor;

(B) any industrial solvent;

(C) any synthetic resin;

(D) any cellulose product;

(E) any peroxide; or

(F) any like material;

Paper or any paper product, including—

(A) books, cardboard, and fibre containers; and

(B) newsprint, except when stored in rolls;

Plastic or any plastic product, including cellulose acetate and nitro-cellulose (such as celluloid or pyroxlyn);

Rubber (natural or synthetic) or any product thereof, including motor tyres, foamed rubber, and garments; or

Timber or any timber product, including fibreboard, particle board, and plywood.

(b) Any building or space within a building in which, in the opinion of the Local Authority the potential severity of combustion—

(i) that may occur (if there is an outbreak of fire) in stored or displayed goods or in connexion with a handicraft or process described in paragraph (a); or

(ii) that may arise (if there is an outbreak of fire) from the storage in the space of materials in connexion with such a handicraft or process,

equals or exceeds that for a storage, display, handicraft, or process of paragraph (a).

APPENDIX 2

[By-law 6.3]

Building Act 1975

Council/City/Town/Shire of | Certificate No.:

CERTIFICATE OF CLASSIFICATION | Date of Certificate:

This is to certify that the Council has approved of the use of the building as a building of the class or classes detailed below*—

OWNER:—

Name:

Actual residential address: Post Code:

FULL SITE ADDRESS OF WORK: (Accurate Site Location)—

Street No.: Street:

Suburb or Town: Post Code:

REAL PROPERTY DESCRIPTION of land on which building is situated:

Sub.	Resub.	Sub.	Resub.	Sub.	Resub.	Sub.	Allot.	Section	Portion

Lot No.	Reg. Plan No.		Rate Assess No.
		Parish:	
		County:	

Storey or Portion of Building	Class or Classes

Signed: Town/Shire Clerk.

NOTE: The use of the above building or any portion thereof for a purpose in contravention of this certificate is an offence against the *Building Act* 1975.

* As required by By-laws 6.3 and 6.4.

APPENDIX 3 [By-law 8.1]

Building Act 1975

Council/City/Town/Shire of

Application No.:

Rate Card No.:

APPLICATION FOR APPROVAL OF BUILDING WORK
(Please Print)

Building Permit No.: 1

Census Dist. Code: 2

I hereby apply for approval to Construct/Demolish/Remove/Change Classification of a Building*

For Statistical Use

OWNER:—

Name: 3

Actual residential address: 4

Post Code:

BUILDER: (where known)—

Name: 5

Address: Post Code: 6

Registration No.: 7

FULL SITE ADDRESS OF WORK: Accurate Site Location—

Street No.: Street: 8

Suburb or Town: Post Code:

REAL PROPERTY DESCRIPTION:

Sub.	Resub.	Sub.	Resub.	Sub.	Resub.	Sub.	Allot.	Section	Portion	O/S	9
										T/BL	10

Lot No.	Reg. Plan No.	Assess. No.

Parish

County

LAA 11

LOT 12

T/W 13

T/B 14

DESCRIPTION OF BUILDING OPERATIONS:

(State type of Work—e.g. New, Additions; and Type of Building—e.g. House, Multiple Dwelling, Shop)

Number of New or Additional Self Contained Dwelling Units:

Estimated Cost (including value of all labour and materials): 15

Site Area: Frontage: Zoning: 16

Intended Use of Building: Class: F/A 17

In case of an Existing Building, Present Use: E/W 18

Or Last Known Class:

Total Floor Area:** square metres: T/F 19

General Description of Building Work: R/T 20

External walls: Frame: M/Y 21

Internal walls: Roof Covering:

Authorised Agent (Architect, Engineer, or Builder)—

Name: Phone:

Address: Post Code:

I undertake that the construction, demolition, removal, will be carried out in accordance with approved plans, specifications and other documents and in accordance with the *Building Act* 1975 and the By-laws made under the Act.

Dated this day of , 19 .

Signature: (*Authorised Agent*)

An Interim Certificate of Fire Safety shall, if necessary, be obtained in accordance with the *Fire Safety Act* 1974.

* As required by By-law 6.6 (4) or 8.1 as applicable.

** Measured in accordance with By-law 1.3.