

Minnesota Attorney General: Administrative Rules Proceedings

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PROPOSED

ADOPTION OF AMENDMENTS

TO THE STATE BUILDING CODE

PUBLIC HEARING

OCTOBER 1979

STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION
BUILDING CODE DIVISION
408 METRO SQUARE BUILDING
7th AND ROBERT STREETS
SAINT PAUL, MINNESOTA 55101
(612) 296-4639

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SECTION I

Proposed Amendments to State Building Code including adoption of 1979 Uniform Building Code

THE COMPOSITION AND USE OF THE MINNESOTA STATE BUILDING CODE

The State Building Code, to be known as the "Code", includes several documents or codes pertaining to buildings. They are as follows:

1. State Building Code rules will be known and identified by 2 MCAR Sec. 1.0101 through 2 MCAR Sec. 1.18901.

2. The State Building Code adopts by reference the following codes:

(a) ~~1976~~ 1979 Edition of the Uniform Building Code, identified as "UBC";

(b) 1978 National Electrical Code, identified as "NEC";

(c) ~~1971~~ 1978 American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks, identified as ANSI A17.1-~~1971~~, 1978, and Supplements ANSI A17.1a-~~1972~~, 1979, ~~ANSI A17.1b-1973, ANSI A17.1c-1974, ANSI A17.1d-1975, ANSI A17.1e-1975, ANSI A17.1f-1975 and ANSI A17.1g-1976.~~

(d) ~~1976~~ 1979 Minnesota Plumbing Code, identified as MHD 120 through MHD 135;

(e) "Flood Proofing Regulations" (FPR), Office of the Chief Engineers, U.S. Army.

3. Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code, identified as SBC 7101 through SBC 8505.

4. "Design and Evaluation Criteria for Energy Conservation in New Buildings, Additions and Remodeled Elements of Buildings and Standards for Certain Existing Public Buildings," identified as 2 MCAR Sec. 1.16001 through 2 MCAR Sec. 1.16006. (2 MCAR Sec. 1.16007 through 2 MCAR Sec. 1.16013 reserved for future use.)

5. Standards of Performance for Solar Energy Systems and Subsystems Applied to Energy Needs of Buildings, 1977 Edition, identified as 2 MCAR Sec. 1.16101 through 2 MCAR Sec. ~~1.16108~~ 1.16107.

6. State of Minnesota Mobile Home Installation Standards 1977, identified as 2 MCAR Sec. 1.90450 and related definitions in 2 MCAR Sec. 1.90103.

7. Certain appendices which contain the listing of various National Standards referred to in the body of the code; technical requirements for fallout shelters; and various chapters of those codes adopted by reference which chapters may be adopted by municipalities and administered and enforced by such municipalities. The Code is to be used in its entirety by the municipalities in administering and enforcing the Code as well as by designers and builders in their designs and construction of structures. It is necessary to use the entire Code to ensure uniformity in compliance with the Code as well as uniformity in its administration and enforcement.

The above referenced Minnesota State Building Code and Minnesota Plumbing Code are available from the Department of Administration, Documents Section, 140 Centennial Office Building, St. Paul, Minnesota 55155.

Other codes are available from the publishers of the codes.

(a) Uniform Building Code:

International Conference of Building Officials

5360 South Workman Mill Road

Whittier, California 90601

(b) National Electrical Code:

National Fire Protection Association

470 Atlantic Avenue

Boston, Massachusetts 02110

(c) American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks:

American Society of Mechanical Engineers

United Engineering Center

345 East 47th Street

New York, New York 10017

(d) ASHRAE Standard 90-75

American Society of Heating, Refrigeration, and Air-Conditioning Engineers Inc.

345 East 47th Street

New York, New York 10017

(e) One and Two Family Dwelling Code

International Conference of Building Officials

5360 South Workman Mill Road

Whittier, California 90601

Sec. 1.10101 Title, rules and regulations. The rules and regulations contained in this Code and rules and standards adopted by reference therein shall be collectively known as the Minnesota State Building Code, and may be cited as such and will be referred to herein as "this Code". The administative chapters of the UBC (Chapters 1,2 and 3), as amended herein, shall govern the application of the Code.

Sec. 1.10102 Purpose and application. The purpose of this Code is to provide uniform standards to safeguard life or limb, health, property and public welfare by regulating and controlling design, construction, quality of materials, use and occupancy of all buildings and structures.

The State Building Code shall apply state wide and supersede the building code of any municipality. The State Building Code Shall not apply to agricultural buildings except with respect to state inspections required or rulemaking authorized.

Sec. 1.10103 Definitions. Wherever the term "Administrative Authority" appears in this Code the words "Building Official" shall be substituted therefore.

Wherever the terms "Mayor" or "City Council" appear in this Code the words "Governing Body" shall be substituted therefore.

A. "City" means a home rule charter or statutory city.

B. "Code" means the State Building Code or any amendments thereof.

C. "Municipality" means any city, county, or town.

D. "Town" shall be defined as a town meeting the requirements of Minnesota Statutes 368.01.

~~1.10103 General. Building or structures to which additions, alterations, or repairs are made shall comply with all the requirements for new building or structures except as specifically provided in this Code. Note: For the requirements of energy conservation in remodeled buildings see 2 MCAR 1.16001-1.16006.~~

~~A. Applications to existing buildings: additions, alterations, and repairs. More than 50 per cent. When additions, alterations, or repairs within any 12 month period exceeds 50 per cent of the value of an existing building or structure, such building or structure shall be made to conform to the requirements for new buildings or structures.~~

~~B. Additions, alterations, and repairs: 25 to 50 per cent. Additions, alterations, and repairs exceeding 25 per cent but not exceeding 50 per cent of the value of an existing building or structure and complying with the requirements for new buildings or structures may be made to such building or structure within any 12 month period without making the entire building or structure comply. The new construction shall conform to the requirements of this Code for a new building of a like area, height, and occupany. Such building or structure, including new additions, shall not exceed the areas and heights specified in this Code.~~

~~C. Additions, alterations, repairs: 25 per cent or less. Structural additions, alterations, and repairs to any portion of an existing building or structure, within any 12 month period, not exceeding 25 per cent of the value of the building or structure shall comply with all the requirements for new buildings or structures, except that minor structural additions, alterations, or repairs, when approved by the building official, may be made with the same material of which the building or structure is constructed. Such building or structure, including new additions, shall not exceed the areas and heights specified in this Code.~~

~~D. Nonstructural alterations and repairs: 25 per cent or less. Alterations or repairs not exceeding 25 per cent of the value of an existing building or structure, which are nonstructural and do not affect any member or part of the building or structure having required fire resistance, may be made with the same materials of which the building or structure is constructed.~~

~~EXCEPTION: The installation or replacement of glass in hazardous locations, as specified in UBC, Section 5406, shall be as required for new installation.~~

~~E. Existing occupancy. Buildings in existence at the time of the passage of this Code may have their existing use or occupancy continued, if such use or occupancy was legal at the time of passage of this Code, provided such continued use is not dangerous to life or property.~~

~~Any change in the use of occupancy of any existing building or structure shall comply with the provisions of UBC, Section 306 and Section 502.~~

F. Moved buildings. Buildings or structures moved from one location to another location shall comply with the provisions of this Code for New Buidings.

G. Alternate materials and methods of construction. The provisions of this Code are not intended to prevent the use of any material or method of construction not specifically prescribed by this Code, provided any such alternate has been approved.

The Building Official may approve any such alternate provided he finds that the proposed design is satisfactory and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in this Code, in quality, strength, effectiveness, fire resistance, durability, and safety.

The Building Official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use.

H. Maintenance. All buildings or structures both existing and new, and all parts thereof, shall be maintained in a safe and sanitary condition. All devices or safeguards which are required by this Code in a building or structure when erected, altered, or repaired, shall be maintained in good working order. The owner or his designated agent shall be responsible for the maintenance of buildings or structures.

~~Y. Unsafe building appendages. Parapet walls, cornices, spires, towers, tanks, statuary and other appendanges or structural members which are supported by, attached to, or a part of a building and which are in a deteriorated condition or are otherwise unable to sustain the design loads which are specified in this Code, are hereby designated as unsafe building appendages. All such unsafe buildings appendages are public nuisances and shall be abated in accordance with UBC, Section 203, of this Code.~~

Sec. 1.10104 Scope. The provisions of this Code shall apply to the construction, alteration, moving, demolition, repair and use of any building or structure within the municipality, except work located primarily in a public way, public utility towers and poles, mechanical equipment not specifically regulated in this Code, and hydraulic flood control structures.

Additions, alterations, repairs and changes of use or occupancy in all buildings and structures shall comply with the provisions for new buildings and structures except as otherwise provided in UBC Sections 104, 306 307 , and 502 of this Code. Where, in any specific case, different sections of this Code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

Wherever in this Code reference is made to the Appendix, the provisions in the Appendix shall not apply unless specifically adopted.

The provisions of this Code relating to fallout shelters shall apply only to state-owned buildings.

Sec. 1.10105 Fallout shelters. Whenever it has been determined by the Department of Public Safety, Division of Civil Defense and the State Architectural Engineer that fall-out protection is needed for a particular location the "Technical Requirements for Fallout Shelters" as contained in Appendix "A" shall be complied with.

Sec. 1.10106 State-owned buildings. State owned buildings shall mean all buildings and structures financed in whole or in part by state funds and which are under the exclusive jurisdiction and custodial control of one or more state department or agencies.

Sec. 1.10107 State plan checking fees. Plan checking of buildings or structures conducted by the Division shall have a fee based on valuation in accordance with Table No. 107-A. "Valuation" means total cost of construction exclusive of site work not related to the construction.

EXCEPTION: When the Plan Review is limited to non-structural aspects, the fee shall be 75% of those listed in Table 107-A.

There shall be no additional fee charge for consultation with designers, or for re-checking provided no substantial change in the design has been made. When, ~~in the opinion of the Division,~~ a determination is made by the Division that a substantial change has been made in the design, the re-checking fee shall be ~~based on a rate of~~ $15.00 per hour or fraction thereof. No fee shall be charged for state-owned buildings.

TABLE NO. 107-A

Valuation	Plan Fee Check
$ 3,000.00 or less	No Charge
3,001.00 to 5,000.00	$ 21.00
5,001.00 to 10,000.00	34.00
10,001.00 to 15,000.00	47.00
15,001.00 to 20,000.00	60.00
20,001.00 to 25,000.00	72.00
25,001.00 to 30,000.00	83.00
30,001.00 to 35,000.00	93.00
35,001.00 to 40,000.00	102.00
40,001.00 to 45,000.00	112.00
45,001.00 to 50,000.00	122.00
50,001.00 to 55,000.00	129.00
55,001.00 to 60,000.00	135.00
60,001.00 to 65,000.00	142.00
65,001.00 to 70,000.00	148.00
70,001.00 to 75,000.00	155.00
75,001.00 to 80,000.00	161.00
80,001.00 to 85,000.00	168.00
85,001.00 to 90,000.00	174.00
90,001.00 to 95,000.00	181.00
95,001.00 to 100,000.00	187.00
100,001.00 to 500,000.00	187.00 for the first $100,000.00 plus $1.00 for each additional $1,000.00 or fraction thereof.
500,001.00 and up	577.00 for the first $500,000.00 plus $ .65 for each additional $1,000.00 or fraction thereof.

Sec. 1.10108 Disclaimer clause. The inclusion of specific requirements relative to the manner of installation of any plant or equipment in any one or more parts of said Code shall not limit this procedure to any particular type of installer nor provide a basis upon which determination of the right to perform such procedures shall be made. The authority for such determination will be found in the various licensing statutes or ordinances for each type of installer who performs the work.

Sec. 1.10109 Appendices.

A. The following appendices, annexes and supplemental material listed in this Code shall be mandatory to enforce by any municipality.

1. ~~2 MCAR Sec. 1.10111~~ Minnesota State Building Code Appendix "A", Technical Requirements for Fallout Shelter.

2. ~~2 MCAR Sec. 1.10111~~ Minnesota State Building Code Appendix "B", Variation in Snow Loads.

3. ~~1976~~ 1979 UBC Appendix, Chapters ~~23,~~ 35. deleted, HE #10

4. Minnesota Plumbing Code Appendix B.

B. The following appendices, annexes and supplemental material listed in this Code shall not be mandatory but may be adopted without change at the discretion of any municipality, except UBC Appendix Chapter 70 may be adopted with revised fee and bond requirements.

1. ~~2 MCAR Sec. 1.10111~~ Minnesota State Building Code. Appendix "C" abbreviations and addresses of technical Organizations.

2. ~~1976~~ 1979 UBC Appendix, Chapters ~~13~~, 15 12 , 38, 48, 49, ~~51~~, ~~57~~ and 1,55 70.

3. Minnesota Plumbing Code Appendices ~~A~~, C, ~~D~~, ~~E~~ and ~~F~~, D.

~~4. Flood Proofing Regulations, Sections 201.2 through 208.2.~~

4.~~5.2 MCAR Sec. 1.10111~~ Minnesota State Building Code Appendix "D", Building Security Sections 4101-4110.

NOTE CHANGE IN FORMAT FOR 2MCAR SECTION 1.10111.
Deletions and underlined portions are designated changes to U.B.C. 1979 Edition.

2MCAR Sec. 1.10111 is deleted in its entirety and is replaced by the following:

Sec. 1.10111 Adoption of the Uniform Building Code by reference. Chapters 1 through 60 and appendices of the 1979 Edition of the Uniform Building Code, hereinafter "UBC", as promulgated by the International Conference of Building Officials, are incorporated by reference and hereby made part of the State Building Code (SBC) except as qualifed by 2 MCAR Sec. 1.10109. Said UBC shall be subject to the following alterations and amendments:

UBC Sections 101, 102 and 103 are deleted in their entirety.

UBC Sec. 104 (a) is amended by changing the last sentance to read: See Section 1210 for provisions requiring installation of smoke detectors in existing Group R, Division 3 or 4 Occupancies.

UBC Sec. 104(f) is amended by adding an additional item number 4 as follows:

4. All approvals must be based on the applicants submission of complete architectural and engineering plans and specifications.

UBC Section 203 is amended to read as follows:

UBC Sec. 203. All buildings or structures regulated by this code which are structurally unsafe or not provided with adequate egress, or which constitute a fire hazard, or are otherwise dangerous to human life are, for the purpose of this section, unsafe. Any use of buildings or structures constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment are, for the purpose of this section, unsafe uses. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members which are supported by, attached to, or part of a building and which are in deteriorated condition or otherwise unable to sustain the design loads which are specified in the Building Code are hereby designated as unsafe building appendages.

All such unsafe buildings, structures or appendages are hereby declared to be public nuisances and shall by abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in ~~the Dangerous Building Code or such alternate procedures as may have been or may be adopted by this jurisdiction.~~ Minnesota Statutes, Chapter 463 Sections 15 through 26. ~~As an alternative, the building official, or other employee or official of this jurisdiction as designated by the governing body, may institute any other approporiate action to prevent, restrain, correct or abate the violation.~~

UBC Sec. 204 is amended by amending the last sentence as follows: The Board shall adopt reasonable rules and regulations for conducting its investigations and shall render all decisions and findings in writing to the Building Official with a duplicate copy to the appellant and to the State Building Inspector within fifteen (15) days of such decision.

UBC Sec. 205 is amended by adding a sentence as follows: Any violation of provisions of this code is a misdemeanor (Minn. Stat. 16.865)

UBC Sec. 301(a) is amended by the addition of item 12 as follows:

12. Agricultural buildings as defined in Minn. Stat. 16.84 Subd. 6.

Section 304(a) of the UBC is amended to read as follows:

UBC Sec. 304. (a) Permit Fees. The fee for each permit shall be as set forth in Table 3-A. Each municipality shall adopt its own schedule of permit fees. The fee schedule of Table 3-A is hereby made optional for use by the local authority and is a recommended schedule. In areas outside of the enforcement authority of a city, the fee charged for the issuance of permits and inspections for single family dwellings may not exceed the greater of $100 or .005 times the value of the structure, addition or alteration. (Minn. Stat. 16.851).

The determination of value or valuation under any of the provisions of this code shall be made by the building official. The value to be used in computing the building permit and building plan review fees shall be the total value of all construction work for which the permit is issued as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire-extinguishing systems and any other permanent equipment.

Section 305(e) of the UBC is amended to read as follows:

UBC Sec. 305(e) Required Inspections. Reinforcing steel or strucural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the building official.

The building official, upon notification from the permit holder or his agent, shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his agent wherein the same fails to comply with this code:

1. FOUNDATION INSPECTION: To be made after trenches are excavated and forms erected and when all materials for the foundation are delivered on the job. Where concrete from a central mixing plant (commonly termed "transit mixed") is to be used, materials need not be on the job.

2. CONCRETE SLAB OR UNDER-FLOOR INSPECTION: To be made after all in-slab or under-floor building service equipemnt, conduit, piping accessories and other ancillary equipment items are in place but before any concrete is poured or floor sheathing installed, including the subfloor.

3. FRAME INSPECTION: To be made after the roof, all framing, fire blocking and bracing are in place and all pipes, chimneys and vents are complete and the rough electrical, plumbing and heating wires, pipes and ducts are approved.

4. INSULATION INSPECTION: To be made after all required insulation is in place but before any covering material is in place.

~~4.~~5. LATH AND/OR GYPSUM BOARD INSPECTION: To be made after all lathing and gypsum board, interior and exterior, used as a structural element or a part of a fire resistive assembly, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

~~5.~~6. FINAL INSPECTION: To be made after finish grading and the building is completed and ready for occupancy.

7. INSTALLATION OF MOBILE HOMES: To be made after the installation of the support system and all utility service connections. This shall include the inspection of the anchoring system where installed.

Section 307(a) of the UBC is amended to read as follows:

Certificate of Occupancy

Sec. 307(a) Use or Occupancy. No building or structure of Groups A,E,I,H,B or R, Division 1 Occupancy, shall be sued or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the Building Official has issued a Certificate of Occupancy therefore as provided herein. A municipality may require certificates of occupancy for Group R3, R4 and Group M Occupancies.

Section 406 of the UBC is amended by the addition of the following definition:

EARTH SHELTERED STRUCTURE is a building constructed so that more than 50 percent of the exterior surface area of the building, excluding garages or other accessory buildings, is covered with earth. Partially completed buildings shall not be considered to be earth sheltered. (See MN Stat. 116H.02 Subd. 3.)

Section 407 of the UBC is amended as follows:

UBC Sec. 407. FIRE CODE is the Minnesota Uniform Fire Code, ~~1979 Edition~~ authorized by Minn. Stat. 299F.011.

Section 420 of the UBC is amended by adding the following definition.

UBC Sec. 420 Definitions

SUPERVISED LIVING FACILITIES

CLASS A SUPERVISED LIVING FACILITIES shall include homes providing boarding and lodging for ambulatory and mobile disabled persons who are capable of semi-independent living with minimum supervision and who are mentally and physically capable of self-preservation under emergency conditions. Physically handicapped persons shall be housed at street level. See UBC 1201 as amended.

CLASS B SUPERVISED LIVING FACILITIES shall include homes providing boarding and lodging for:

1. Mobile disabled persons who are capable of semi-independent living with minimum supervision, but who are not physically capable of self-preservation;

2. Persons with diverse dependencies who require various degrees of supervised guidance and assistance, and who are not mentally or physically capable of self-preservation under emergency conditions. See UBC 1001 as amended.

UBC Table 5-A Group I and R1 are amended to read as follows:

UBC Sec. 501 Table 5-A

I.1 - Nurseries for full-time care of children under the age of six (each accommodating more than ~~five~~ four persons). Hospitals, sanitariums, nursing homes with nonambulatory patients and similar buildings (each accommodating more than ~~five~~ four persons).

I.2 - Nursing homes for ambulatory patients, Boarding care homes, detoxification centers, homes for children six years of age or over, supervised living facilities Class B as defined in UBC 420 (each accommodating more than ~~five~~ four persons).

R.1 - Hotels and apartment houses, convents and monasteries (each accommodating more than 10 persons). Supervised living facilities Class A as defined in UBC 420 (accommodating more than four persons).

Section 503(d) exception 4 of the UBC is amended to read as follows:

EXCEPTION 4. In the one-hour occupancy separation between a Group R, Division 3 and M occupancy, the separation may be limited to the installation of one half inch thick gypsum board, or equivalent, ~~materials approved for one-hour fire-resistive construction~~ on the garage side and a self-closing, tight-fitting solid wood door 1 3/8 inches in thickness will be permitted in lieu of a one-hour fire assembly. Fire dampers shall not be required in ducts piercing this separation for ducts constructed of not less than No. 26 gauge galvanized steel.

Chapter 5 of the UBC is amended by adding a new section to read as follows:

UBC Sec. 512 Roof Access. Unless specifically exempted by the Building Official due to space limitation, roof height above grade or other special considerations, buildings on which any heating, air conditioning, or refrigeration equipment is hereafter installed on the roof and which equipment will require periodic inspection, service and maintenance in accordance with the mechanical code SBC 7101-8810 shall meet the following requirements:

A stairway complying with UBC Chapter 33 or a stair leading to a scuttle or bulkhead in the roof having such equipment shall be provided to make such equipment safely accessible. Said stair leading to the scuttle or bulkhead shall be placed at an angle of not more than 60 degrees measured from the horizontal with flat treads not less than six inches in width and a minimum length of 24 inches at the tread. No riser shall be more than nine inches and handrails shall be provided on both sides of the access stairs. The minimum opening of the scuttle or bulkhead shall be not less than nine square feet in area with the minimum dimension being not less than two feet. In no case shall this required access be located in or pass through the elevator shaft or elevator machine room.

Equipment should be located with at least six feet of clearance from the edge of the roof or similiar hazards. If the clearance is less than six feet, a suitable rail or guard not less than forty-two inches in height shall be provided.

Each unit of equipment shall have an accessible disconnect switch. A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed on or adjacent to the unit or equipment. The circuit for this convenience outlet shall be approved ground-fault protection and shall not be connected to the equipment circuit.

Section 605 of the UBC is amended to read as follows:

UBC 605. All enclosed portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with natural light by means of exterior glazed openings with an area not less than one-tenth of the total floor area, and natural ventilation by means of openable exterior openings with an area of not less than one-twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating systems shall supply a minimum of 5 cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building and such system shall be kept continuously in operation during such time as the building is occupied. If the velocity of the air at the register exceeds 10 feet per second, the register shall be placed more than 8 feet above the floor directly beneath.

Exit lighting in portions of buildings other than the stage shall be on a separate circuit from that of the stage. Such exit lighting shall be controlled from the box office or other approved central control center located in a portion of the building other than the stage. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and shall be operated by fusible links located on both sides of the proscenium wall and both inside of and outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, See UBC Sec. 1711(h) as specified herein.

Section 705 of the UBC is amended to read as follows:

UBC Sec. 705. All portions of Group B Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of total floor area, or shall be provided with artifical light and mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all enclosed parking garages used for storing or handling of automobiles operating under their own power and on all loading platforms in bus terminals, ventilation shall be provided capable of exhausting a minimum of ~~1.5~~ 3/4 cfm per square foot of gross floor area. The building official may approve an alternate ventilation system designed to exhaust a minimum of 14,000 cfm for each operating vehicle. Such system shall be based upon the anticipated instantaneous movement rate of vehicles but not less than 2.5 percent (or one vehicle) of the garage capacity. Automatic CO sensing devices may be employed to modulate the ventilation system to maintain a maximum average concentration of CO of 50 ppm during any eight-hour period, with a maximum concentration not greater than 200 ppm for a period not exceeding one hour. Connecting offices, waiting rooms, ticket booths, etc., shall be supplied with conditioned air under positive pressure.

EXCEPTION: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding in area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilites shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored or servced shall be a nonabsorbent interior finish as specifed in Section 1711, shall have hand-washing facilities therein or adjacent thereto, and shall be separated from food preparation or storage rooms as specified in Section 510.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h) as amended specified.

UBC Sec. 709(e) Area and Height Increases. The area and height of structures with cross ventilation throughout may be increased in accordance with provisions of this subsection. In structures with sides open (as defined in Subsection (b)) three-fourths of the building perimeter may be increased 25 percent in area and one tier in height. Structures with sides open (as defined in Subsection (b) around the entire building perimeter may be increased 50 percent in area and one tier in height. Structures of Type II -FR Type, II-1 hr, or Type II-N construction, with sides open (as defined in subsection(b) around the entire building, may be unlimited in area when the height does not exceed 8 tiers.

Open parking garages constructed to heights less than the maximums established by Table No. 7-A may have individual tier areas exceeding those otherwise permitted, provided the gross tier area of the structure does not exceed that permitted for the higher structure. At least three sides of each such larger tier shall have continuous horizontal openings not less than 30 inches in clear height extending for at least 80 percent of the length of the sides and no part of such larger tier shall be more than 200 feet horizontally from such an opening. In addition, each storage opening shall face a street or yard accessible to a street with a width of at least 30 feet for the full length of the opening and standpipes shall be provided in each tier.

Section 709 of the UBC is amended by adding a new paragraph (m):

UBC Sec. 709(m) Every parking ramp or other parking facility shall include spaces for the parking of motor vehicles having a capacity of seven (7) to sixteen (16) persons. Such vehicles shall be classifed as commuter vehicles for the transportation of employees to and from their place of employment or to or from a transit stope authorized by a local transit authority. The number of required spaces shall be determined by 2% of the gross designed parking area with a minimum of two spaces. Such spaces to accommodate commuter vehicles shall be at least 10 feet in width, 20 feet in length and a height clearance of 10'-6''in the entry level and shall not apply to other levels of a ramp.

Section 802(c) of the UBC is amended to read as follows:

UBC Sec. 802(c) Special Provisions. Rooms in Divisions 1 and 2 Occupancies used for day-care purposes, kindergarten ~~first or second grade~~ pupils and Division 3 Occupancies shall not be located above the first story, nor shall they be located in a basement unless there is provided at least one exit door directly on grade from the occupied space.

Storage and janitor closets shall be of one-hour fire-resistive construction. Stages and enclosed platforms shall be constructed in accordance with Chapter 39. For attic space partitions and draft stops, see section 3205.

Section 805 of the UBC is amended to read as follows:

UBC Sec. 805. All portions of Group E Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in Section 605.

~~Water closets shall be provided on the basis of the following ratio of water closets to the number of students:~~

	~~Boys~~	~~Girls~~
~~Elementary Schools.....~~	~~1:100~~	~~1:35~~
~~Secondary Schools.....~~	~~1:100~~	~~1:45~~

~~In addition, urinals shall be provided for boys on the basis of 1:30 in elementary and secondary schools.~~

~~There shall be provided at least one lavatory for each two water closets or urinals, and at least one drinking fountain on each floor for elementary and secondary schools.~~

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711 (h) as specified herein.

Section 809 of the UBC is amended to read as follows:

UBC 809. Approved fire alarms shall be provided for all Group E Occupancies with an occupant load of more than 50 persons, and in Group E Divison 3 Occupancies with an occupant load of more than 29 persons. In every Group E Occupancy with an automatic sprinkler or detection system, the operation of such system shall automatically activate the school fire alarm system. ~~Which shall include an alarm mounted on the exterior of the building.~~

The fire alarm system shall be installed in compliance with NFPA Standard 72-A-75, "Local Protective Signaling Systems."

An approved fire alarm is a fire alarm and detection system consisting of the following:

1. A complete non-coded continuously sounding until manually reset, electronically supervised type.

2. Shall have sounding stations on 100 foot to 150 foot spacing; (a) in corridors, (b) in areas of high noise levels, such as band rooms, shops, boiler rooms, (c) a weatherproof station on exterior of building facing residential areas.

3. Shall have automatic sending stations (detectors) in boiler rooms, kitchens, shops, painting areas, lounges, laundries, janitor's closets, storerooms, etc., or unsupervised and unoccuped spaces; namely, critical or hazardous areas.

4. Manual sending stations shall be provided in the natural path of escape from fire, near each exit from an area, on each floor, and shall be readily accessible, unobstructed and at visible locations.

Section 905 of the UBC is amended to read as follows:

UBC Sec. 905. All portions of Group H Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four complete air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all buildings used for the repair or handling of automobiles operating under their own power, ventilation shall be provided capable of exhausting a minimum of ~~1~~ 3/4 cfm per square foot. Additionally, each engine repair stall shall be equipped with an exhaust pipe extension duct, extending to the outside of the building, which, if over 10 feet in length, shall mechanically exhaust 300 cubic feet per minute. Connecting offices and waiting rooms shall be supplied with conditioned air under positive pressure.

EXCEPTION: In public repair garages and aircraft hangars not exceeding an area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opeinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed.

Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

<u>For other requirements on water closets, see Section 1711 as amended herein</u>

<u>For additional sanitation facilities requirements, see UBC Sec. 1711(h), as specified herein</u>.

Section 1001 of the UBC is amended to read as follows:

UBC Sec. 1001. Group I Occupancies shall be:

Division 1. Nurseries for the full-time care of children under the age of six (each accommodating more than ~~five~~ four persons).
Hospitals, sanitariums nursing homes with nonamoulatory patients and similar buildings (each accommodating more than ~~five~~ four persons).

Division 2. Nursing homes for ambulatory patients, Boarding care homes, detoxification centers, homes for children six years of age or over, supervised living facilities. Class B as defined, for the mentally retarded, mentally ill, chemically dependent and the physically handicapped (each accommodating more than ~~five~~ four persons.)

Division 3. Mental hospitals, mental sanitariums, jails, prisons, reformatories and buildings where personal liberties of inmates are similarly restrained.

For occupancy separations, see Table No. 5-B.

For occupant load, see Section 3301.

EXCEPTION: Group 1 Occupancies shall not include buildings used only for private residential purposes for a family group.

Section 1002(b) of the UBC is amended to read as follows:

UBC Sec. 1002(b) Special Provisions. Division 3 Occupancies shall be housed in buildings of Type 1 or Type II-F.R. construction.

~~EXCEPTION: One story buildings of Type II One-hour, Type III One hour, or V One-hour construction may be permitted, provided the floor area does not exceed 3900 square feet between separation walls of two-hour fire-resistive construction with openings protected by fire assemblies having one and one-half-hour fire protection rating. See Section 3319(g) for limitation on locking devices.~~

Every story of a Group I, Division 1 Occupancy accommodating more than five nonambulatory persons, unless provided with a horizontal exit, shall be divided into not less than two compartments accommodating approximately the same number of nonambulatory persons in each compartment by a smoke-stop partition meeting the requirements of one-hour occupancy separation so as to provide an area of refuge within the building. Corridor openings in the smoke-stop partition shall be protected with doors as required in Section 3304(h). Other openings shall be limited to ducts which have fire dampers in the plane of the wall activated by detectors of products of combustion other than heat conforming to Section 4306(b) 2.

Rooms occupied by inmates or patients whose personal liberties are restrained shall have noncombustible floor surfaces.

Section 1005 of the UBC is amended to read as follows:

UBC Sec. 1005. All portions of Group 1 Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the mechanical code.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements see UBC Sec. 1711(h) as specified herein.

Section 1009 of the UBC is amended to read as follows:

UBC Sec. 1009. An approved fire alarm system shall be provided for all Group I Occupancies. Audible alarm devices shall be used in all nonpatient areas. Visible alarm devices may be used in lieu of audible devices in patient-occupied areas. An approved alarm system shall comply with UBC Sec. 809 as amended herein. Operation of any fire alarm activating device shall automatically, without delay, accomplish general alarm indication and control functions. Zoned, coded systems shall be permitted to be used. Exception: Alarm systems may be installed in accordance with NFPA 101, 1977 Edition, 10-3.3.3.

Section 1201 of the UBC is amended by adding a new Division to read as follows:

UBC Sec. 1201 Group R, Division 4 Occupancies: This use group shall include all one and two family dwellings built exlusively by the standards as established in the 1975 One and Two Family Dwelling Code as promulgated by the national model code organizations and 2 MCAR Sections 1.16001 through 1.16006. Use and installation of foam plastics shall comply with section 1717 of the U.B.C. as amended herein.

Exception: The plumbing requirements found in Part V (Chapters 20 through 25) and the references portions of Part VII (2-26.2001 - S-26.2103) are deleted in their entirety. The requirements of the Minnesota Plumbing Code for plumbing shall apply to this occupancy group.

UBC Section 1201 Group R Division 1 occupancy definition is changed to read as follows:

Division 1. Hotels and apartment houses. Convents and monastaries (each accommodating more than 10 persons) Supervised living facilities, Class A as defined, for the mentally retarded, mentally ill, chemically dependent, and the physically handicapped (each accommodating more than four persons.)

U.B.C. Section 1201 Group R, Division 3 is amended to read as follows:

U.B.C. Sec. 1201, Division 3. Dwellings and lodging houses.

For occupancy separations, see Table No. 5-B. For purposes of occupancy separation, mobile homes shall be considered as Group R, Division 3 occupancies. For occupant load, see Section 3301.

U.B.C. Sec. 414 Definition of Mechanical Code is amended as follows:

U.B.C. Sec. 414 MECHANICAL CODE is the Uniform Mechanical Code, 1979 Edition Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code.

see p. 15
Adopted Rule for slightly different wdg

Section R-202 of the One and Two Family Dwelling Code is amended to read as follows:

Sec. R-202. Buildings shall be constructed in accordance with the provisions of this Code using the design criteria set forth in Table No. 2-A. These criteria shall be established by the jurisdiction based solely or in part on the climatic and geographic conditions set forth in Appendix A. Roof snow loads shall be in accordance with 2 MCAR Sec. 1.10111 - UBC Sec. 2305(d). Frost line depth shall be in accordance with 2 MCAR Sec. 1.10111 - UBC Sec. 2907(a) Wind velocity shall be in accordance with the conditions set forth in Appendix A of the One and Two Family Dwelling Code.

Section R-204 of the One and Two Family Dwelling Code is amended to read as follows:

Sec. R-204. All habitable rooms shall be provided with aggregate glazing area of not less than ~~10~~ 8 square feet nor ~~1/10~~ 8 percent of the floor area of such rooms. One-half of the required area of glazing shall be openable.

Exception: The glazed areas need not be openable where an approved mechanical ventilation system is provided capable of producing a change of air every 30 minutes and the opening is not required by Sec. R-211.

Bathrooms, water-closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable.

Exception: The glazed areas are not required where artificial light and an approved mechanical ventilation system is provided capable of producing a change of air every 12 minutes.

Required glazed openings shall open directly onto a street or public alley, or a yard or court located on the same lot as the building.

Exception: Required glazed openings may face into a roofed porch where the porch abuts a street, yard or court and the longer side of the porch is at least 65 per cent open and unobstructed and the ceiling height is not less than 7 feet.

Section R-211 of the One and Two Family Dwelling Code is amended to read as follows:

Section R-211 Exits. No less than one exit conforming to this Chapter shall be provided from each dwelling unit.

Every sleeping rooms shall have at least one operable window or exterior door approved for emergency egress of rescue. The units must be operable from the inside to a full clear opening without the use of separate tools. Where windows are provided as a means of egress or rescue they shall have a sill height of not more than ~~44~~ 48 inches above the floor.

All egress or rescue windows from sleeping rooms must have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches.

Section 1204 of the UBC is amended to read as follows:

UBC Sec. 1204. Stairs, exits and smokeproof enclosures shall be as specified in Chapter 33.

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency egress or rescue.

The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are provided as a means of egress or rescue they shall have finished sill height not more than ~~44~~ 48 inches above the floor.

Section 1205 of the UBC is amended to read as follows:

UBC Sec. 1205. (a) Light and Ventilation. All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural light by means of exterior glazed openings with an area not less than ~~one-tenth~~ 8 per cent of the floor area of such rooms with a minimum of ~~10~~ 8 square feet. All bathrooms, water closet compartments, laundry rooms and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than one-twentieth of the floor area of such rooms with a minimum of 1 1/2 square feet.

All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural ventilation by means of openable exterior openings with an area of not less than ~~one-twentieth~~ 4 per cent of the floor area of such rooms with a minimum of ~~5~~ 4 square feet.

In lieu of required exterior openings for natural ventilation, a mechanical ventilating system may be provided. Such system shall be capable of providing two air changes per hour in all guest rooms, dormitories, habitable rooms and in public corridors. One-fifth of the air supply shall be taken from the outside. In bathrooms, water closet compartments, laundry rooms and similar rooms a mechanical ventilation system connected directly to the outside, capable of providing five air changes per hour, shall be provided.

For the purpose of determing light and ventilation requirements, any room may be considered as a portion of an adjoining room when one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet, whichever is greater.

Required exterior openings for natural light and ventilation shall open directly onto a street or public alley or a yard or court located on the same lot as the building.

EXCEPTION: Required windows may open into a roofed porch where the porch:

1. Abuts a street, yard, or court; and
2. Has a ceiling height of not less than 7 feet; and
3. Has the longer side at least 65 percent open and unobstructed.

(b) Sanitation. Every building shall be provided with at least one water closet. Every hotel or subdivision thereof where both sexes are accommodated shall contain at least two separate toilet facilities which are conspicuously identified for male or female use, each which contains at least one water closet.

Additional water closets shall be provided on each floor for each sex at the rate of one for every additional 10 guests, or fractional part thereof, in excess of 10.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with a bathroom equipped with facilities consisting of a water closet, labatory and either a bathtub or shower. Each sink, lavatory and bathtub or shower shall be equipped with hot and cold running water necessary for its normal operation.

For other requirements on water closets, see Sections 510 and 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h), as specified herein.

Section 1210(a) of the UBC is amended to read as follows:

UBC Sec. 1210. (a) Fire-warning Systems. Every dwelling unit and every guest room in a hotel or lodging house used for sleeping purposes shall be provided with smoke detectors conforming to U.B.C. Standard No. 43-6. In dwelling units, detectors shall be mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to rooms used for sleeping purposes. In an efficiency dwelling unit, hotel sleeping room and in hotel suites, the detector shall be centrally located on the ceiling of the main room or hotel sleeping room. Where sleeping rooms are on an upper level, the detector shall be placed at the center of the ceiling directly above the stairway. All detectors shall be located in accordance with approved manufacturer's instructions. When actuated, the detector shall provide an alarm in the dwelling unit or guest room.

When alterations, repairs or additions requiring a permit and having a valuation in excess of $1000 occur, or when one or more sleeping rooms are added or created in existing Group R, Division 3 or 4 Occupancies, the entire building shall be provided with smoke detectors located as required for new Group R, Divison 3 or 4 Occupancies.

In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Smoke detectors may be battery operated when installed in existing buildings, or in buildings without commercial power, or in buildings which undergo alterations, repairs or additions regulated by the second paragraph of this section.

Section 1213 of the UBC is deleted in its entirety.

~~Sec. 1213. Buildings containing more than 20 dwelling units or 20 guest rooms shall be accessible to the physically handicapped by a level entry, ramp or elevator. The number of dwelling units or guest rooms accessible to the physically handicapped shall be not less than the following:~~

~~21 through 99~~	~~one unit~~
~~100 and over~~	~~one, plus one for each additonal 100 units or fraction thereof~~

~~To determine the total number of accessible units, more than one structure on a building site shall be considered as one building.~~

Toilet facilities in accessible units shall comply with Section 1711.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC Sec. 1216 For Group R Division 1 Occupancies sound transmission control shall be provided to meet the standards defined in UBC Appendix Chapter 35.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC Section 1217 Deadbolt Locks Required. All doors leading to public or shared areas from all apartment dwelling units and hotel units shall be provided with deadbolt locks, at least one of which must be capable of being locked from the exterior of said unit. For the purpose of this section a "deadbolt lock" is a locking bolt, which, when in the locked position, can only be moved positively by turning a knob, key, or sliding bolt.

Deadbolt locks having a bolt moved by turning a key shall be of the five-pin tumbler type or an approved equivalent. Lock throw shall be not less than three-quarters inch (3/4"). Locks shall meet requirements of UBC Section 3303(c).

Section 1706(d) of the UBC is deleted in its entirety.

~~UBC Sec. 1706(d) Elevator Shafts. Shafts housing elevators and extending through more than two stories shall be vented to the outside. The area of vents shall be not less than 3 1/2 percent of the area of the elevator shaft, with a minimum of 3 square feet per elevator.~~

Section 1711(b) of the UBC is amended to read as follows:

UBC Sec. 1711(b) Toilet Facilities. Each water closet stool shall be located in a clear space not less than 30 inches in width and have a clear space in front of the water closet of not less than 24 inches.

~~Where toilet facilities are provided on any floor where access by the physically handicapped is required by Table No. 33-A, at least one such facility for each sex shall comply with the requirement of this section. Except in dwelling units and guest rooms, such facilities must be available to all occupants. All doorways leading to such toilet rooms shall have a clear and unobstructed width of not less than 30 inches.~~

~~Each such toilet room shall have the following:~~

~~1. A clear space of not less than 44 inches on each side of doors providing access to toilet rooms. This distance shall be measured at right angles to the face of the door when in the closed postion. Not more than one door may encroach into the 44-inch space.~~

~~2. Except in dwelling units and guest rooms, a clear space within the~~ toilet room of sufficient ~~size to inscribe a circle with a diameter not less than 60 inches. Doors in any position may encroach into this space by not more than 12 inches.~~

~~3. A clear space not less than 42 inches wide and 48 inches long in front of at least one water closet stool for the use of the handicapped. When such water closet stool is within a compartment, entry to the compartment shall have a clear width of 30 inches when located at the end and a clear width of 34 inches when located at the side. A door, if provided, shall not encroach into the required space in front of the water closet. Except for door swing, a clear unobstructed access not less than 44 inches in width shall be provided to toilet compartments designed for use by the handicapped.~~

~~4. Grab bars near each side or one side and the back of the toilet stool securely attached 32 inches to 34 inches above and parallel to the floor. Grab bars at the side shall be 42 inches long with the front end positioned 24 inches in front of the water closet stool. Grab bars at the back shall be not less than 30 inches long. Grab bars shall have an outside diameter of not less than 1 1/4 inches nor more than 1 1/2 inches and shall provide a clearance of 1 1/2 inches between the grab bar and adjacent surface. Grab bars need not be provided in Group R, Division 1 apratment houses.~~

~~5. When it can be established that the facilites are usable by a person in a wheelchair, dimensions other than those above shall be acceptable.~~

For provisions for the physically handicapped see 2 MCAR Sec. 1.15501 - 1.15508.

Section 1711(c) of the UBC is deleted in its entirety.

~~(c) Toilet Room Facilities. In other than Group R, Division 3, Group M, Group R, Divison 1 apartment houses and Group B, Divisions 2 and 4 storage occupancies, toilet room facilities shall be as follows:~~

~~1. Except for the projection of bowls and waste piping, a clear unobstructed space 26 inches in width, 27 inches in height and 12 inches in depth shall be provided under at least one lavatory.~~

~~2. Where mirrors are provided, at least one shall be installed so that the bottom of the mirror is within 40 inches of the floor.~~

~~3. Where towel and disposal fixtures are provided, they shall~~ be ~~accessible to the physically handicapped and at least one shall be within 40 inches of the floor.~~

Section 1711 of the UBC is amended by adding a new subsection (h) that reads as follows:

UBC Sec. 1711(h) Sanitation Facilities. Sanitation facilities shall be provided for each Occupancy in accordance with Table 17-B and UBC Sec. 605, 705, 805, 905, 1005 and 1205 as amended herein. Fixtures shall be provided for each sex in accordance with the percentage of occupants of each sex. When the percentage of each sex is not known, one-half for each sex shall be assumed. For sanitation facilities for the handicapped see 2MCAR Sec. 1.15503.

Types of building occupancy not shown, or when the provisions of Table 17-B are excessive due to a specific use or occupant load, facilities may be considered individually by the Administrative Authority.

Section 1716 of the UBC is amended to read as follows:

UBC Sec. 1716. All unenclosed floor and roof openings, open and glazed sides of landings and ramps, balconies or porches which are more than 30 inches above grade or floor below, and roofs used for other than service of the building shall be protected by a guardrail. Guardrails shall be not less than 42 inches in height. Open guardrail and stair railings shall have intermediate rails or an ornamental pattern such that a sphere 9 inches in diameter cannot pass through. The height of stair railings on open sides may be as specified in Section 3305 (j) in lieu of providing a guardrail. Ramps shall, in addition, have handrails when required by Section 3306.

<u>On all earth sheltered structures a means shall be provided to restrict access to the roof area unless guardrails are provided and the roof is designed for vehicular loads.</u>

EXCEPTIONS: 1. Guardrails need not be provided on the loading side of loading docks.

2. Guardrails for Group R, Division 3 and Group M, Division 1 Occupancies may be 36 inches in height.

3. Interior guardrails within individual dwelling units or guest rooms of Group R, Division 1 Occupancies may be 36 inches in height.

4. The open space between the intermediate rails or ornamental pattern of guardrails in areas of commercial and industrial type occupancies which are not accessible to the public may be increased such that a 12-inch-diameter sphere cannot pass through.

5. Guardrails on a balcony immediately in front of the first row of fixed seats and which are not at the end of an aisle may be 26 inches in height.

Section 1717(b) (1) (B) of the UBC is amended to read as follows:

UBC Sec. 1717(b)(1) (B). On the room side surface of conforming walls or ceiling or other surfaces referred to in the first sentence of Section 1717(b), provided the foam plastic is fully protected from the interior of the building by a thermal barrier of 1/2 inch gypsum wallboard ~~having a finish rating of not less than 15 minutes~~ or other approved material having an equivalent finish rating as determined by U.B.C. Standard No. 43-1. Thermal barriers shall be installed in a manner that they will remain in place for a minimum of 15 minutes under the same test conditions.

TABLE NO. 17-B REQUIRED SANITATION FIXTURES BASED ON OCCUPANCY LOAD (1) (2)

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS	LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	KITCHEN SINKS	SERVICE SINKS
Group A Occupancies	Auditoriums Bowling Alleys Churches Conference Rooms Dance Floors Dining, Drinking Exhibit Rooms Gymnasiums Libraries Lodge Rooms Lounges Rinks Stadiums, Grandstands Theaters Waiting Rooms	30 30 60 80 30 30 80 30 100 80 80 30 80 30 80	Churches 1 for each 300 Men 1 for each 300 women Other Occupants Fixtures 1-100 1 101-200 2 201-400 3 Over 400 1 addt'nl each 500	Churches (3) (3)	Churches 1 for each 300 Other Occupants Fixtures 1-200 1 201-400 2 401-750 3 Over 750 1 addt'nl for each 500	1 for each 300	-	-	1
Group E Occupancies (6)	Elementary Secondary	85 130	Boys Girls 1/ea. 100 1/ea. 30 1/ea. 100 1/ea.25	1/ea. 30	1 for each 100 1 for each 100	1 for each 75	-	-	1 per floor
Group I Occupancies	Prisons, Jails Hospitals, Nursing Homes	100 100	1/ea. cell 1/ea.exercise room 1/ea. 8 patients 1/ea. waiting room Other 1/ea. 25 men 1/ea. 20 women	 1/ea. 50	1 in each cell 1 ea. exercise rm 1 for ea. 10 patients Other 1 for each 10	1 for each 100 1 for each 100	1 at each cell block floor 1 for each 20 Other 1 for each 10	-	1 per floor 1 per floor
Group H Occupancies Group B Occupancies	Aircraft Hangers Factories Municipal Buildings Office Buildings Sales Service Stations Storage Garages Warehouses	500 200 80 200 200 200 500 500	Factories, Warehouses Occupants, Fixtures 1-10 1 11-25 2 26-50 3 51-75 4 76-100 5 Over 100 1 addt'nl for 30 Sales, Office, etc. Occupants Fixtures 1-15 1 16-35 2 36-60 3 61-90 4 91-125 5 Over 125 1 to 45	Fact. Occ. Wrhse. Fixt. (3) Sales, Office (3)	Factories, Warehouses Occupants Fixtures for each 1-100 1-10 (4) Over 100 1-15 (5) Sales, Offices Occupants Fixtures 1-15 1 16-35 2 36-60 3 61-90 4 91-125 5 Over 125 1 to 45	Factories Warehouses 1 for each 75 Sales, Offices 1 FOR EACH 150			1 per floor
Group B-4 Occupancies	Factories Sales Warehouses	200 200 500							
Group R-1 Occupancies	Dwelling Units, Apt. Motel, Hotel Units Rooming Houses Dormitories	- - 200 200	1 1 for each 10 1 for each 10 1 for each 10	-	1 1 for each 10 1 for each 10 1 for each 10	-	1 1 for each 10 1 for each 10 1 for each 10	1	1 laundry tray for each 10 dwelling units or guest rooms
Group R-3 and R-4 Occupancies	1 and 2 Family	-	1		1	-	1	1	-
Group M Occupancies	-	-	-	-	-	-	-	-	-
TEMPORARY FACILITIES			1 for each 30	1 for each 30		1 for each 100			

*A-Area of building occupancy classification served
S.F. - per Occ. - from Column 3 of this table

Footnotes:

(1) Occupant load is computed using the equation: $\frac{A^*}{\text{S.F. per Occ.}}$ = Occupant Load

(2) Square feet per occupant is only for computing the occupant load to determine the plumbing fixtures required.

(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.

(4) 1 fixture for each 10 occupants. (6) For waterclosets, and lavatories, these numbers

(5) 1 fixture for each 15 occupants. are minimum & equal number for each sex is required.

Section 1807(h) of the UBC is amended to read as follows:

UBC Sec. 1807(h) Elevators. Elevators and elevator lobbies shall comply with the provisions of Chapter 51 2 MCAR Sections 1.18801 - 1.18806 and the following:

NOTE: A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all those elevators which respond to a single call button constitute a bank of elevators. There is no limit on the number of cars which may be in a bank or group but there may be not more than four cars within a common hoistway.

1. Except for the main entrance level, all elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building as is required for corridor construction in Section 3304 (g) and (h). see HE P 56

2. Each elevator lobby shall be provided with an approved smoke detector located on the lobby ceiling. When the detector is activated, elevator doors shall not open and all cars serving that lobby are to return to the main floor and be under manual control only. If the main floor detector or a transfer floor detector is activated, all cars serving the main floor or transfer floor shall return to a location approved by the fire department and building official and be under manual control only. The smoke detector is to operate before the optical density reaches 0.03 per foot. The detector may serve to close the lobby doors.

3. A permanent sign shall be installed in each elevator cab adjacent to the floor status indicator and at each elevator call station on each floor reading "IN FIRE EMERGENCY, DO NOT USE ELEVATOR - USE EXIT STAIRS," or similar verbage approved by the building offical.

4. Elevator hoistways shall not be vented through and elevator machine room. Cable slots entering the machine room shall be sleeved beneath the machine room floor and extend to not less than 12 inches below the shaft vent to inhibit the passage of smoke into the machine room.

~~5. At least one elevator car serving all floors shall have a minimum inside car platform of 4 feet 3 inches deep 6 feet 8 inches wide with a minimum clear opening width of 42 inches, unless otherwise designed and approved to provide equivalent utility to accommodate an ambulance stretcher having minimum size of 22 inches by 78 inches in its horizontal position. This elevator shall be identified.~~ For car size requirements see 2 MCAR Sec. 1.18806(B)(4).

Section 2303(a) of the UBC shall be amended to read as follows:

UBC Sec. 2303. (a) General. All buildings and portions thereof shall be designed and constructed to sustain, within the stress limitations specified in this code, all dead loads and all other loads specified in this chapter or elsewhere in this code. Impact loads shall be considered in the design of any structure where impact loads occur.

EXCEPTION: Unless otherwise required by the building offical buildings or portions thereof, other than earth sheltered structures, which are constructed in accordance with the conventional framing requirements specified in Chapter 25 of this code shall be deemed to meet the requirements of this section.

Section 2305(d) of the UBC is amended to read as follows:

UBC Sec. 2305(d) Snow Loads. Snow loads full or unbalanced shall be considered in place of loads set forth in Table No. 23-C, where such loading will result in larger members or connections.

A basic snow load of 40 pounds per square foot of horizontal projection is required in the following counties: Anoka, Carlton, Carver, Chisago, Cook, Dakota, Hennepin, Isanti, Lake, Pine, Ramsey, St. Louis, Scott and Washington. A basic snow load of 30 pounds per square foot of horizontal projection is required for all other counties.

Potential accumulation of snow at valleys, parapets, roof structures and offsets in roofs of uneven configuration shall be considered. Where snow loads occur, the snow loads shall be determined by the building official in accordance with Appendix "B".

EXCEPTIONS:

1. The requirements of Appendix "B" shall not apply to Group R Division 3, Group R Division 4 and M Occupancies.

2. A basic snow load of 30 pounds per square foot of horizontal projection shall be acceptable for detached Group M, Division 1 Occupancies in all counties.

Snow loads in excess of 20 pounds per square foot may be reduced for each degree of pitch over 20 degrees. ~~by R, as determined by the following formula:~~ See Appendix B, Section A.

~~$R = \frac{S}{40} - \frac{1}{2}$~~

~~WHERE:~~

~~R = Snow load reduction in pounds per square foot per degree of pitch over 20 degree.~~

~~S = Total snow load in pounds per square foot.~~

Section 2311(g) of the UBC is amended to read:

UBC Sec. 2311(g) Open Frame Towers. Radio towers and other towers of trussed construction shall be designed and constructed to withstand wind pressures specified in this Section, multiplied by the shape factors set forth in Table No. 23-H.

Wind pressures shall be applied to the total normal projected area of all the elements of one face (excluding ladders, conduits, lights, elevators, etc., which shall be accounted for separately by using the indicated factor for these individual members).

The effect of one-half inch of radial ice shall be included in the design of open frame towers including all supporting guys. This effect shall include the weight of the ice and the increased profile of each such tower component so coated.

Section 2312(a) of the UBC is amended to read as follows:

UBC Sec. 2312(a) General. For the purpose of the Code this State shall be considered to be in Zone "0", No Damage Area. Every building or structure and every portion thereof shall be designed and constructed to resist stresses produced by lateral forces as provided in this Section. Stresses shall be calculated as the effect of a force applied horizontally at each floor or roof level above the base. The Force shall be assumed to come from any horizontal direction.

Structural concepts other than set forth in this section may be approved by the Building Official when evidence is submitted showing the equivalent ductility and energy absorption are provided.

Where prescribed wind loads produce higher stresses, such loads shall be used in lieu of the loads resulting from earthquake forces.

Section 2403(e) is amended to read as follows:

UBC Sec. 2403(e) Concrete Masonry Units. Concrete masonry units shall be of a quality at least equal to the requirements set forth in U.B.C. Standard No. 24-4 or No. 24-5 when used for bearing walls or piers or when in contact with ground or exposed to the weather; or equal to the requirements set forth in U.B.C. Standard No. 24-6 when used for nonbearing purposes and not exposed to the weather. Solid units subject to the action of weather or soil shall be Grade A. Concrete masonry units shall be tested as set forth in U.B.C. Standard No. 24-7.

Concrete masonry units used for walls below grade or for other uses as determined by the designer shall not be subject to the moisture control provisions of Table 24-4-A of UBC Standard 24-4.

Section 2417 is amended by the addition of paragraph (n):

UBC Sec. 2417(n) Alternate Design Method. The Specfication for the Design and Construction of Load-Bearing Concrete Masonry 8th Printing May, 1978, published by the National Concrete Masonry Association may be used as an alternate design method providing the following conditions are satisifed:

1. The permit applicant must inform the building official, in writing, that the masonry design is based on the requirements of this subsection prior to granting of a building permit.

2. An outline of testing and field inspection schedules and design calculations signed by the responsible design professional shall be submitted to the building official prior to granting of a building permit.

3. Prior to occupancy, the permit applicant shall submit to the building official written evidence from a registered professional engineer certifying compliance with all requirements of this subsection.

Section 2501(a) of the UBC is amended to read:

UBC Sec. 2501(a) Quality and Design. The quality and design of wood members and their fastenings shall conform to the provisions of this chapter, and to the applicable standards listed in Chapter 60 as amended herein.

Section 2510(h) of the UBC is amended to read as follows:

UBC 2510(h) Metal Plate Connectors. ~~The material and workmanship during fabrication and the design of metal place connectors employed as joint connectors for light wood trusses shall conform with the requirements of U.B.C. Standard No. 25-17.~~ Metal plate connectors employed as joint connectors in light wood trusses, and the design and testing of such trusses, shall conform to the Design Specification for Metal Plate Connected Wood Trusses, 1978 Edition published by the Truss Plate Institute, Inc. (TPI78) and the following amendments. thereto.

Sec. 102(c) 5 of TPI(78) shall be amended to read as follows: Concentrated loads, ~~and~~ their points and method of application.

Section 310 shall be added and reads: 310 Cross Grain Stress. Where design loads or their method of application induce cross-grain tension or bending stress, such cross-grain stress shall be considered in the design.

Snow loads shall be determined in accordance with the requirements of 2 MCAR Sec. 1.10111 UBC Sec. 2305(d). Wind loads shall be determined in accordance with the requirements of UBC Sec. 2311.

Other loads shall be determined in accordance with the design requirements of UBC Chapter 23.

Each truss manufacturer shall retain an approved agency having no financial interest in the plant being inspected to make nonscheduled inspections of truss fabrication and delivery and operations.

The inspection shall cover all phases of truss operation, including lumber storage, handling, cutting, fixtures, presses or rollers, fabrication, bundling and banding, handling and delivery.

Section 2907(a) of the UBC is amended to read as follows:

UBC Sec. 2907(a) General. Footings and foundation, unless otherwise specifically provided, shall be constructed of masonry, concrete or treated wood in conformance with U.B.C. Standard No. 29-3 and in all cases shall extend below the frost line. Footings of concrete and masonry shall be of solid material. Foundations supporting wood shall extend at least 6 inches above the adjacent finish grade. Footings shall have a minimum depth below finished grade ~~as indicated in Table No. 29A~~ for the Zone as established below unless another depth is recommended by a foundation investigation.

1 In the absence of a determination by an engineer competent in soil mechanics, the minimum allowable footing depth in feet due to freezing shall be five feet in Zone 1 and three and one-half feet in Zone II.

Zone I-Shall include the counties of: Aitkin, Becker, Beltrami, Carlton, Cass, Clay, Clearwater, Cook, Crow Wing, Douglas, Grand, Hubbard, Itasca, Kanabec, Kittson, Koochiching, Lake, Lake of the Woods, Mahnomen, Marshall, Mille Lacs, Morrison, Norman, Otter Tail, Pennigton, Pine, Polk, Red Lake, Roseau, St. Louis, Tood, Traverse, Wadena, Wilkin.

Zone II-Shall include the counties of: Anoka, Benton, Big Stone, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac Qui Parle, Le Sueur, Lincoln, Lyon, McLeod, Martin, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Pope, Ramsey, Redwood, Renville, Rice,

Rock, Scott, Sibley, Sherburne, Stearns, Steele, Stevens, Swift, Wabasha, Waseca, Washington, Watonwan, Winona, Wright, Yellow Medicine. Less depths may be permitted when supporting evidence is presented by an engineer competent in soil mechanics.

2. Soil Under Slab on Grade Construction for Buildings. When soil, natural or fill, is sand or pit run sand and gravel, and of depth in accordance with minimum footings depth requirements for each zone, slab on grade construction which supports roof and wall loads shall be permitted. Slab on grade construction for detached buildings Group M, Division 1 Occupancies may be placed on any soil except peat or muck.

UBC Sec. 3203(d) 3 is amended to read as follows:

UBC Sec. 3203(d) 3. Shingle; shake and tile roofs. A General. Installation shall be in accordance with Table No. 32-B. Underlayment, when required, shall be lapped horizontally and vertically so as to shed water.

In areas subject to roof ice build-up, underlayment consiting of two layers of Type 15 felt applied shingle fashion shall be instazlled and solid mopped together with approved cementing material between the plies extending from the eave up the roof to a point 24 inches inside the exterior wall line of the building.

The entire State of Minnesota shall be deemed an area subject to roof ice build-up.

EXCEPTIONS: 1. For wood shingle or wood shake roofs the underlayment shall extend 36 inches inside the exterior wall line of the building.

2. When interlocking tiles are used, the underlayment may consist of one layer of Type 40 or heavier asphalt-coated base sheet extending from the eave to a point 24 inches inside the exterior wall line of the building. When this method is used, all horizontal and vertical seams of the base sheet shall be lapped 6 inches and be continuously sealed with approved cementing material and shall be applied only over solid sheathing.

Section 3205(c) is amended to read as follows:

UBC Sec. 3205(c) Ventilation. Where determined necessary by the building official due to atmospheric or climatic conditions, enclosed attics and enclosed rafter spaces formed where ceilings are applied direct to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. The net free ventilating area shall be not less than 1/150 of the area of the space ventilated, except that the area may be 1/300, provided at least 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.

~~Where eave or cornice vents are used to provide the ventilation of combustible attic spaces, vent openings shall not be located within 3 feet measured laterally above window or door openings in the wall of the story immediately below.~~

~~EXCEPTION: Group M and Group R, Division 3 Occupancies.~~

Section 3207(c) of the UBC is amended to read as follows:

UBC Sec. 3207(c). Where roof drains are required, overflow drains having the same size as roof drains shall be installed with the inlet flow line located 2 inches above the low point of the roof, or overflow scuppers having three times the size of the roof drains may be installed in adjacent parapet walls with the inlet flow line located 2 inches above the low point of the adjacent roof and having a minimum opening height of 4 inches. Overflow drains shall be connected to drain lines independent from the roof drains, and shall discharge above grade.

UBC Section 3303(a) is amended to read as follows:

UBC Section 3303. (a) General. This section shall apply to every exit door serving an area having an occupant load of more than 10, or serving hazardous rooms or areas, except that Subsections (c), (i) and (j) shall apply to all exit doors regardless of occupant load. Buildings or structures used for human occupancy and each dwelling unit or guest room leased for gain shall have at least one exit door that meets the requirements of Subsection (e).

UBC Section 3305(j) exception 2 is amended to read as follows:

Exception 2 - Private Stairway 30 inches or less in height may have handrails on one side only. Handrails are not required on private stairways with less than 3 risers.

UBC Table 33A is amended as follows:

Delete the right hand column entitled "Egress by means of a ramp or elevator must be provided for the physically handicapped as indicated."

Also delete footnotes 2, 3, 4, 5, 6 and 8.

UBC Table 38A is amended as follows:

Section 2, occupancy column, shall read: Occupancies 4 3 stories or more but less than 150 feet in height, except Group R, Division 3 or 4. Class II standpipes are not required in Group E or Group R-1 occupancies.

UBC Section 4701(a) is amended to read as follows:

UBC Section 4701(a) General. The installation of lath, plaster and gypsum board shall be done in a manner and with materials as specified in this Chapter, or as set forth in ANSI A42.2, 1971 Specifications for Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and Interior and ANSI A42.3, 1971 Specifications for Lathing and Furring for Porland Cement and Porland Cement-Lime Plastering, Exterior (Stucco) and Interior; and, when required for fire-resistive construction, also shall conform with the provisions of UBC Chapter 43.

Other approved wall or ceiling coverings may be installed in accordance with the recommendations of the manufacturer and the conditions of approval.

UBC Sections 5001 through 5006 are amended to read as follows:

UBC Sections 5001 through 5006 are deleted and replaced by 2MCAR Sections 1.10301 - 1.10337.

UBC Sections 5101 through 5104 are amended to read as follows:

UBC Sections 5101, 5102, 5103 and 5104, Elevators, Dumbwaiters, Escalators, Manlifts, Moving Walks, Hoists and Lifts are deleted. Refer to 2MCAR Section 1.18801 - 1.18806.

Section 6001 of the UBC is amended as follows:

UBC Sec. 6001. The UBC Standards which are referred to in various parts of this code shall be the Uniform Building Code Standards, 1979 Edition, and are hereby declared to be a part of this code with the following amendment.

UBC Section 6001, Chapter 25, 25-17 is amended to read as follows:

Chapter 25, 25-17, 2510(a), 2510(b), 2510(c), 2510(d), 2510(e), 2510(h), 2514(b)1, 2514(b)2, Tables Nos. 25-F, 25-G, 25-H and 47-H Timber Connector Joints, Bolted Joints, Drift Bolts and Wood Screws, Lag Screws, National Design Specification for Stress-grade Lumber and its Fastenings (1971), National Forest Products Association. Light Metal Plate Connected Wood Trusses TPI ~~68~~ 78, Truss Plate Institute, Nails and Staples, Federal Specification No. FF-N-105B (March 17, 1971).

END OF SUBSTITUTION - NOTE CHANGE IN FORMAT

2 MCAR Sec. 1.18701 is amended to read as follows:

Sec. 1.18701 Plumbing. All plumbing in buildings and structures as defined in the Minnesota ~~Plumbing~~ Building Code shall comply with the provisions of the Minnesota Plumbing Code ~~1976~~ 1979, which code is adopted by reference and made apart of the Code.

SECTION II

Validity Clause

Section 1.10112 Validity Clause. If any sections, subsection, sentence, clause, or phrase of this Code, is for any reason, held to unconstitutional, such decision shall not affect the validity of the remaining portions of this Code.

It is hereby declared that the Department of Administration would have adopted this Code and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

SECTION III

Proposed Amendments to the provisions for Accessibility and Usability of Building by Physically Handicapped Persons

REVISED JULY 3, 1979

~~STATE BUILDING CODE CHAPTER 55~~

~~FACILITIES FOR THE HANDICAPPED~~

ACCESSIBILITY AND USABILITY FEATURES FOR HANDICAPPED PERSONS

1.15501 Where Required.

A. General. ~~In addition to other provisions in this code, facilities for the handicapped~~ Accessibility and useability features shall be provided in accordance with ~~this chapter~~ these rules, ~~See UBC Chapter 17~~ for additional requirements See Chapter 17 of the Uniform Building Code as amended by the State Building Code, Chapter 33 of the Uniform Building Code, and S.B.C. 1.18801 through 1.18806, & 1.18811 through 1.18813.

B. Scope. Accessibility provisions of this Chapter shall apply to all buildings, occupancies and skyways except the following:

1. Group R Division 3, Group R Division 4 and Group M occupancies.

2. Temporary Building, except group E and I (as amended by the S.B.C.) occupancies.

~~3. Building not exceeding 150 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in 2MCAR s 1.15503.~~

~~4. One story buildings, other than service stations, not exceeding 2000 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in 2MCAR s 1.15503 when approved by the Building Official.~~

~~5. Floors of buildings not used by the general public and on which handicapped persons can not be employed because of the nature of the work.~~

~~6. Group R-1 occupancies in which dwelling units are individually owned, sanitation facilities for the handicapped specified in 2MCAR s 1.15503 and other facilities for the handicapped specified in 2 MCAR 1.15504 need not be provided.~~

1.15502 Definitions ~~Building Accessibility~~

A. Definitions

A. General. These definitions are applicable to 2MCAR Sections 1.15501 through 1.15517.

~~1. Ramp is a sloped walking surface within a building or attached to a building connecting levels of the building and may be part of an exit in accordance with U.B.C. s 3306.~~

~~2. Walk is a continuous, permanently defined pathway at grade between public ways and buildings, parking areas and buildings, or between buildings.~~

~~3. Slip resistant is any surfacing of a floor, ramp, or walk which has an anti-slip coefficient of not less than 0.04 as defined in Research Paper No. R.P. 1879 of the National Bureau of Standards.~~

1. Accessible. Accessible shall mean readily approached, entered and used by handicapped persons without additional assistance.

2. Ancillary areas. Ancillary areas shall mean areas of common auxillary use and include, but are not limited to, exterior site improvements and laundry, recreation, community and other common tenant spaces.

3. Curb ramp. Curb ramp shall mean a short inclined walking surface used to by-pass abrupt changes in level of less than nine (9) inches with a maximum slope ratio of one to ten (1:10). Such ramps shall have an aggregate finish in compliance with the State Department of Transportation specifications and shall contrast in color and texture with adjacent surfaces.

4. Floor. Floor shall mean occupied horizontal space within the exterior walls of a building. All raised or depressed levels of said floor available to the public and/or employees shall be accessible. Landings in stairways are not included.

5. Grip strength. Grip strength shall mean the compressive pressure a person can exert by closing his hand around an object.

6. Handicapped person. Handicapped person shall mean any person who has a physical or mental impairment which substantially limits one or more major life activities.

7. Hazardous area. Hazardous area shall mean an area in which obstacles exist or in which a risk or peril exists which could jeopardize the health, safety, or life of a human being including, but not limited to, areas housing HVAC equipment, electrical transformers or panels, equipment with hot or moving parts, tunnels, pits, and loading platforms.

8. Public way. Public way shall mean any street, alley or similar parcel of land, public or private, unobstructed, which is deeded, dedicated, or otherwise permanently appropriated to the public for public use and having an unobstructed width of not less than 10 feet.

9. Ramp. Ramp shall mean an enclosed sloped walking surface within a building, or within an enclosure attached to a building, connecting floors and levels of floors of a building and may be part of an exit when constructed according to U.B.C. Section 3306 except for slope as required by Section 1.15505 A 2. of these rules.

10. S.B.C. S.B.C. shall mean the Minnesota State Building Code

11. Skyways. Skyway shall mean an enclosed pedestrian passageway, elevated above street level, used to connect structures. Skyways shall not be considered as required exits from structures.

12. Slip Resistant. Slip resistant shall mean a surface that is firm, flat, continuous which retards the sliding action of heels and shall have anti-slip co-efficient of not less than 0.40 as defined in Research Paper No. RP-1879 of the National Bureau of Standards.

13. Temporary Buildings. Temporary building shall mean any building(s) or structure(s) authorized by the local authority for use for a determined period of time. Such building or structure shall be completely removed upon expiration of the time limit stated in such permit.

14. U.B.C. U.B.C. shall mean the Uniform Building Code

15. Walk. Walk shall mean a permanently defined exterior pathway between a public way and buildings, parking areas and buildings, or between buildings and shall include public ways on private property.

~~B. Site Approaches~~

1.15503 Site Approach

Access to a defined accessible building entrances shall be by ~~walks~~ a walk.

Exception: access to temporary buildings and remodeled buildings may be by ramp or other approved means.

Such walks shall be of concrete, asphaltic paving or other ~~similar~~ permanent materials, with a slip resistant surface, and shall be not less than forty eight (48) inches wide with a slope not to exceed a ratio of one vertical to 20 twenty horizontal (1:20).

Exception: Existing buildings or facilities may use other approved materials. Walks shall not have any abrupt change in level. When walks are more than six (6) inches above the adjacent ground level, guardrails or curb 6" high shall be provided. When walks are thirty inches (30") or more above the adjacent ground level, guardrails shall be provided. Cross slope of walks shall not exceed a ratio of 1 to 48.

1.15504 Building entrances

~~C.~~ Building Entrances: At least two ~~one~~ required exits of the building shall be accessible for use as ingress for the handicapped. Primary entrances (required exit) to each building where required shall be accessible and shall be identified for such use. Such building entrances shall be at the main lobby or corridor, or shall be accessible thereto by ramp or elevator.

Clarification: It is preferable that all or most entrances (required exits) should be accessible to, and usable by, individuals in wheelchairs and individuals with other forms of physical disability. Signage or directional aids giving direction to the main lobby or corridor in compliance with Section 1.15516 of this chapter shall be provided.

1.15505 ~~D.~~ Access to ~~other stories~~ floors and levels:

~~Access for the handicapped to other stories or levels of the building used by the general public and/or employees shall be by elevator or ramp, except the following:~~

~~1. Group R-1 occupancies not exceeding three stories in height.~~

A. Access to all floors and levels of a building used by the general public and/or employees shall be by elevator or ramp

Exception: In Group R-1 occupancies not exceeding three (3) stories in height, at least one floor shall be accessible.

~~1. Other occupancies not exceeding two (2) stories in height, and where the total occupant load is less than 100 on all floors other than the main floor.~~ ~~Such~~ Ramps shall have a slip-resistant surface. ~~It~~ Ramps shall have a slope not to exceed a ratio of one (1) ~~foot~~ vertical to twelve (12) ~~feet~~ horizontal (1:12). ~~and~~ Ramps shall have a landing at the top and the bottom, and ~~where the rise exceeds three feet vertically, it~~ shall have an intermediate landing ~~located not to exceed~~ for each two feet six inches ~~vertically~~ of vertical rise. The bottom landing shall have a minimum dimension of six feet (6'0") measured in the direction of the adjacent ramp run(s). ~~and~~ The top landing and intermediate landing(s) shall have a minimum dimension of five feet (5'0") measured in the direction of the adjacent ramp run(s). Width of ramp, handrails, and guardrails shall be provided as required for stairs (UBC Chapters 33 and 17).

1.15506 ~~E. Automobile parking areas~~ Vehicle Offstreet Parking:

~~Where automobile parking spaces are provided at least one space per 50 spaces or fraction thereof, shall be provided for the use of the handicapped, and shall be identified for such use. Such parking spaces shall be not less than 12 feet in width, and located as near as practicable to the building entrance specified in 2MCAR 1.15502(c).~~

When vehicle offstreet parking is provided, the number of offstreet parking spaces required for vehicles transporting handicapped persons shall be in the ratio required by Table 55-C. The spaces provided shall be immediately adjacent to an accessible entrance or immediately adjacent to an accessible path of travel, using the most direct route, to an accessible entrance. The spaces provided shall be identified by means of a permanent upright sign designating such spaces only for vehicles transporting handicapped persons. The center of the sign shall be forty eight (48) inches above the surface or ground, located so as to prevent the sign or sign post from being damaged by vehicles. Spaces provided shall have minimum dimensions of twelve (12) feet in width and twenty (20) feet in length.

1.15507 ~~F.~~ Doors and Doorways:

~~Doors and doorways serving buildings or portions thereof regulated by this chapter shall comply with the following:~~

A. This section applicable to Accessible Building entrance doors, entry doors to undividual non residential tenant spaces, conferences rooms, accessible sanitation facilities and all doors in dwelling units required to be provided per table 55 A.

1. Doorways or doors in an open position shall ~~have a clear opening width of not less than 31 inches.~~ provide not less than thirty-two inches (32") of clear opening which shall be measured at all points up to thiry inches (30") above the floor.

2. Doors shall be operable by a single effort with one hand. All door hardware shall be operable by persons with no grip strength and shall be positioned not more than three feet six inches (3'6") above the floor. Nothing herein shall be construed to preclude the use of keyed locks.

3. In doorways consisting of two or more door leafs, at least one door leaf shall comply with the provisions of this Section. See U.B.C. 3303(d) for minimum exit door width.

4. Where access regulated by this chapter is through two (2) or more sets of doors, ~~as~~ in ~~a~~ the same entry, foyer, vestibule, or lobby the ~~space separating the doorways shall be not less than seven feet.~~ distance between the sets of door shall be a minimum of forty-eight inches (48") plus the width of the door that swings into the space between doors or there shall be an area in the space between doors at least five feet (5'0") in diameter exclusive of door swing.

5. The floor or landing at doorways required for accessiblity shall be level with, ~~or not more than~~ or shall not exceed one half inch (1/2") ~~lower than the threshold~~ of elevation change from the threshold exclusive of compressible gaskets. Thresholds shall be flush or beveled. Where the door swings over a floor or a landing

such floor or landing shall extend eighteen inches (18") ~~not less than one foot~~ or more beyond the door to any obstruction on the latch side of the door in the closed position. Exterior landings shall not exceed a slope of one to forty eight (1 to 48).

~~6. In dwelling units specified in 2MCAR s 1.15503 A.1. entrances specified in 2MCAR s 1.15502 C., and toilet rooms or compartments specified in 2MCAR s 1.15503 C.1., door opeing latch hardware shall have lever handles, and shall be not more than three feet six inches above the floor.~~

6. Doors with automatic closers shall have a maximum opening resistance pressure of eight point five (8.5) pounds and shall be so maintained.

7. Doors serving toilet rooms or stalls shall be capable of being ~~unlocked from either side.~~ locked from the inside and unlocked from either side. Stall doors shall have handles on both sides to pull the door open or closed.

~~(C) Stair tread nosing.~~

~~Riser shall be slanted to meet the tread nosing edge, or where the tread extends beyond vertical risers, nosing shall be rounded and not project beyond the riser more than one inch.~~

1.15508 Maneuvering Space.

Floor space shall be unobstructed by walls, cabinets, fixtures, appliances, door swing, or other obstructions so as to provide a space at least five feet (5') in diameter in all habitable rooms and ancillary areas of buildings, including toilet rooms and all rooms of dwelling units or guest rooms required to be accessible. Where cabinets, appliances, fixtures, and similar features have a base toe space not less than ten inches (10") or more in height above the floor surface, the clear floor space may be measured up to six inches (6") insides such toe space.

1.15509 ~~Aisles and lanes~~ Interior Circulation :

A. ~~Where Pedestrian aisles or lanes~~ All interior circulation systems which are defined with directional barriers, rails, benches, merchandise, tables, seats, or fences, ~~at least one~~ shall have not less than ~~31 inches~~ thirty two inches (32") of clear width. ~~for use of the handicapped and shall be identified for such use.~~

B. Where turnstiles or checkout lanes are used in internal circulation at least one (1) alternate means of circulation, thirty-two (32") inches of clear width shall be provided and shall be identified as accessible.

C. Corridors and aisles which serve doors or doorways and accessible sanitation fixtures and accessories shall be in compliance with Table 55-D.

D. Corridors, aisles, exit passageways, and foyers shall be clear of all hard objects suspended from the ceiling for a distance of eighty four inches (84") above the floor. Below eighty-four inches (84") hard objects shall extend no more than four inches (4") from the sidewall. In all occupancies regulated by this chapter, public corridors less than five feet (5') in width shall have at each end and at intervals no greater than seventy five feet (75') an area large enough to permit a wheelchair to be turned around. An area having a minimum dimension of five feet (5') shall meet this requirement.

E. Stairways shall have risers which slant to meet the tread nosing edge or where the treads extend beyond the risers the nosing edge shall be beveled at an angle of 60 degrees from the horizontal surface and shall not project more than one inch beyond the riser.

F. Ancillary Areas: At least one of each type of ancillary improvements, building, space or room shall be served by at least one accessible path of travel from the required accessible principal entrance(s) and regulated accessible dwelling units or guest rooms.

1.15510 Refuge Areas:

In All structures used for educational purposes for grades K through 12 in occupancy groups A-2.1, A-3, E-1, E-2, and E-3 a safe area of refuge shall be provided at all floors served exclusively by stairways or elevators This area shall be clearly identified. The refuge area shall be of sufficient space to accomodate five percent (5%) of the total occupant load of each such level as determined by Table 33-A of the U.B.C. The minimum area per handicapped individual shall be twenty (20) square feet. The refuge area shall be of not less than two (2) hour non combustible fire resistive construction with interior openings protected with a

fire-assembly having a 1 1/2 hour fire protection rating. An exterior eggress or rescue window openable by persons without special knowledge or grip strength and providing a clear openable area of not less than twenty (20) inches in width, twenty-four (24) inches in height and not less than five point seven (5.7) square feet in area with the bottom of the openable area not more than forty-eight (48) inches above the floor shall be provided for each refuge area. This window shall have interior identification for the building occupants and exterior identification for the fire department. Such openings shall be maintained readily accessible to the fire department and shall not be obstructed in a manner that rescue cannot be accomplished from the exterior. The maximum distance of travel from any point on a floor or level to a refuge area shall not exceed one hundred fifty (150) feet. In non emergency situations the refuge area may be occupied space other than storage.

1.15511 Sanitation Facilities

A. General. Sanitation facilities ~~may~~ shall include ~~toilets~~ water closet, urinals, lavatories, bathtubs, showers, sinks, and other similar plumbing fixtures. For number and type of sanitation fixtures required in each occupancy, see SBC Table 17-B and the amendments to U.B.C. Section 1711(h).

~~A.~~ B. Where Required:

1. In group R-1 occupancies having ~~eight~~ four (4) or more dwelling units or guest rooms, accessible sanitation facilities shall be provided in dwelling units and guest rooms in accordance with Table 55-A. At least one dwelling unit or guest room shall have a shower as prescribed in H 7 of this section. In a multiple building development, the dwelling units or guest rooms containing sanitation facilities shall not be located solely in one building and shall be located in at least 25% of the buildings when more than three accessible units or guest rooms are required.

2. Sanitation facilities shall be provided in all other occupancies regulated by this Code except the following:

a. Group R-3, R-4, and M occupancies.

b. Temporary buildings other than group E and I occupancies.

c. One story buildings, other than service stations, not exceeding 2000 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in this Section when approved by the Building Official.

d. Group R-1 occupancies in which dwelling units are owner-occupied.

3. Coin actuated access to toilet rooms and compartments required in this section shall be prohibited.

~~2. In other buildings regulated by this chapter, at least one required toilet room for each sex shall have not less than one toilet and lavatory complying with this section, and where urinals are provided, not less than one urinal complying with this section. In buildings having more than one toilet room for each sex shall comply with this section. Toilet rooms having plumbing fixtures required by this section shall be identified for use by the handicapped. Buildings having a posted room directory shall list the location of such toilet rooms in the directory.~~

C. Patient care areas of health care facilities shall comply with the requirements of the Minnesota Department of Health.

D. When toilet rooms are provided in all other occupancies regulated by these rules and in ancillary areas of group R-1 occupancies, at least one toilet room for each sex shall have not less than one (1) water closet and lavatory complying with this section, and where urinals are provided in such toilet rooms, not less than one (1) urinal complying with this section shall be provided. In toilet rooms having more than one (1) water closet, at least one (1) water closet and one (1) lavatory shall be in compliance with this section. Toilet rooms having plumbing fixtures

in compliance with this section shall be identified as accessible by use of the State Symbol of Accessibiltiy. Buildings having a posted room directory shall list the location (s) of accessible sanitation facilities in the directory.

E. Transportation terminals, theaters, museums, and shopping malls shall, in addition to other requirements for accessible sanitation facilities, provide at least one (1) toilet room which houses only one water closet and one lavatory. This toilet room shall be in compliance with all other requirements of this section. Such faciltites will be open to the public regardless of sex, and will have a sign indicating when in use that automatically displays when the door is locked from the inside.

F. In existing buildings, without sanitation facilities for the handicapped, and where it is desired or required to provide sanitation facilities for the handicapped and where because of existing physical limitations it is impossible to convert existing toilet rooms for use of the handicapped, a toilet room complying with the requirements of this section shall be provided.

~~B.~~ G. Location~~s~~:

~~Other than group R-1 apartment occupancies. In buildings with an elevator or ramp, the sanitation facilities may be located at any level served by elevator or ramp.~~ Where sanitation facilities are required in buildings without an elevator or ramp, the accessible sanitation facilities shall be conveniently located ~~at the required entrance level,~~ on the accessible floor and shall be usable without leaving or re-entering the building.

~~G.~~ H. Fixture Sizes and Clearance:

1. Toilets. Water closet location and dimensions. Toilet rooms or water closet compartments shall have not less than thirty-six inches (36") clear space at the front of the ~~toilet~~ water closet and not less than ~~36 inches~~ fifty-four inches (54") clear width between walls free of door swing and other obstructions. The center line of the water closet shall be eighteen inches (18") from one of the side walls of the room or compartment. In renovation work the center line may be fifteen (15) inches. Clear floor space for the water closet shall be free of all obstructions such as lavatories, door swings, heat registers etc. ~~Toilet seats shall be not less than 17 inches nor more than 20 inches above the floor.~~

2. Height. The top of the water closet seat shall be seventeen (17) inches to eighteen inches (18") above the floor, except that group R-1 (multi dwellings) may use standard height water closets.

3. Accessory fixtures The toilet paper dispenser shall be mounted on the nearer side wall of the room or compartment beneath the horizontal leg of the grab bar described herein and not less than six inches (6") nor more than ten inches (10") beyond the front of the water closet.

4. Grab bars.

a. Grab bars shall be provided at ~~both sides or one side and rear of the toilet~~ the nearer side wall and the rear wall of the water closet compartment. Such grab bars shall be securely fastened to support a load of not less than two-hundred-fifty (250) pounds. They shall have an outside diameter not to exceed one and one-half inches (1 1/2") nor less than one and one-quarter inches (1 1/4") and shall have precisely one and one-half inches (1 1/2") clearance from walls ~~and~~ or partitions.

b. Group E, I-1, and I-2 occupancies housing children below the age of ten (10) shall have grab bars one inch (1") in diameter, plus or minus one-eight inch (1/8"), and with precisely one inch (1") clearance from walls or partitions when other standard facilities are provided for persons 10 years and older.

~~A. A horizontal grab bar shall be mounted so that the lowest point is ten inches above the toilet seat, and extends not less than six inches in front of the toilet bowl. Grab bar shall be not less than 12 inches long.~~

c. The grab bar on the nearer side wall shall be "L" shaped with the vertical leg at least sixteen inches (16") long and the horizontal leg at least thirty-two inches (32") long. The shorter leg shall be mounted vertically twelve inches (12") in front of the seat of the water closet and shall extend upward from the horizontal leg. The center line of the horizontal leg shall be twelve inches (12") above the height of the seat of the water closet and six inches (6") for group E occupancies housing children under the age of ten (10). This does not exclude 2 bars from forming the "L" shape configuration.

~~b. A vertical grab bar shall be mounted 12 inches from the front of the toilet bowl extending from 12 inches above the height of the toilet seat to 30 inches above the toilet seat.~~

d. The grab bar at the rear shall be a straight bar at least thirty inches (30") long mounted horizontally twelve inches (12") above the height of the water closet seat or two inches (2") above the water closet flush tank and shall extend six to nine inches (6 to 9") beyond the center line of the water closet towards the nearest wall

e. The requirements listed in 1.15511 H 1 and in 1.15511 H 4B may be altered for Group E and I-1 and 2 occupancies housing handicapped children when approved by the Building Official.

f. Also see 7 and 8 of this section.

~~2.~~ 5. Urinals: When provided ~~urinals~~ at least one urinal shall be centered in and have a clear access width of not less than ~~31~~ thirty-two inches (32"). When other than floor mounted urinals are used the front lip of the bowl ~~of wall mounted urinals~~ shall be not more than ~~18~~ fourteen inches (14") above the floor.

~~3.~~ 6. Lavatories: Lavatories shall be centered in and have a clear access width of not less than ~~31~~ thirty-two inches (32"), clear height of not less than ~~29~~ twenty-nine inches (29") to the bottom of the fixture apron, clear height of not more than ~~34~~ thirty-four inches (34") to the rim of the fixture, and a clear depth of not less than ~~12~~ twelve inches (12") under the fixture, exclusive of bowl or piping. The water control valves shall ~~have lever handles~~ be operable by persons with no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. The waste pipe and hot water supply shall be shielded or insulated.

~~4. Bathtubs: When provided, and shower is not furnished, the bathtub shall be equipped with a flexible base hand shower not less than six feet in length, and a vertical height adjustment bar for the shower head of not less than four feet in length. The bathtub shall have a seat, either folding, retractable, or fixed, not less than 17inches nor more than 20 inches above the tub floor and not less than 15 inches deep, and of water resistive material. Grab bars shall be provided at one side of the bathtub. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of one and one half inches and shall have one and one half inches clearance from wall and partitions.~~

~~a. A horizontal grab bar shall be mounted not less than four inches nor more than six inches above the rim of the bathtub. Grab bar shall be not less than 36 inches long.~~

~~b. A vertical grab bat shall be mounted 30 inches from the end of the tub extending from a height of nine inches to a height of three feet six inches above the rim of the tub. Water valves shall be a single lever control, and shall be accessible from the seat.~~

7. Shower Stalls: Shower stalls when provided in required accessible dwelling units/ guest rooms and in ancillary areas of other occupancies, such as schools, gymnasiums, swimming pools, etc. shall have at least one (1) in compliance with this section. The accessible shower stall shall be a minimum size of three feet by three feet (3'x 3'), have no more than a one-half inch (1/2") lip or curb at the entry, and shall be equpped with a flexible hand held shower head with not less than six feet (6') of hose and water control valves shall be mounted thirty-six (36) to forty-two (42) inches above the floor and shall be operable by persons with no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. The shower head shall have a vertical height adjustment bar of not less than four feet (4'). A siphon break device shall be installed at the piping/hose connection.

A grab bar at least one and one fourth (1-1/4) inches and not more than one and one half (1-1/2) inches in diameter with precisely one and one half (1-1/2) inches clearance from the wall shall be mounted horizontally to provide continuous support along three walls of the shower stall. This does not exclude three (3) bars from forming the continuous configuration. A grab bar with identical specifications at least twenty-four (24) inches long shall be mounted vertically within six (6) inches of the shower head vertical height adjustment bar extending upwards from between two (2) inches and four (4) inches above the horizontal grab bar.

~~5. Showers: When provided, the shower stall shall be accessible for the handicapped with a lip or curb at entry no higher than one half inch above the floor of room or stall. The shower stall shall have a seat, either folding, retractable or fixed, not less than 17 inches nore more than 20 inches above the shower floor, and not less than 15 inches deep, and of water resistive material. Grab bars shall be provided at two sides of the shower compartment. Such grap bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of one and one half inches and shall have one and one half inches clearance from walls and partitions.~~

~~a. A vertical grab bar shall be mounted on the wall opposite the seat extending from a height of three feet to a height of five feet above the floor of the shower.~~

~~b. A horizontal grab bar shall be mounted on the wall adjacent to the seat ten inches above the seat. Grab bar shall be not less than 18 inches long.~~

~~Water valves shall be single lever control and shall be accessible from the seat.~~

8. Bathtubs: Bathtubs when provided in required accessible dwelling units/guest rooms and in ancillary areas of other occupancies, such as schools, gymnasiums, swimming pools etc. shall have at least one (1) in compliance with this section.

The accessible bathtub shall have a seat either fixed or folding, eighteen inches (18") above the tub room floor, not less than fifteen inches (15") deep and of water-resistive non-slip material. Clear floor space thirty-two (32) inches wide beside the tub shall be provided at the seat end. The tub shall be equipped with a flexible hose hand held shower head with not less than six feet (6') of hose and a vertical height adjustment bar not less than four feet (4') long extending upwards from ten inches (10") above the tub rim. The vertical height adjustment bar shall be mounted on the long wall of the tub enclosure and centered six inches (6") from the vertical grab bar described below on the side opposite the seat. Water control valves, shall be centered six inches (6") from the vertical grab bar on the seat side and operable with persons of no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. A siphon break device shall be installed at the piping/hose connection. There shall be no raised tracks mounted on the tub edge.

Grab bars shall be mounted on the long wall adjacent to the tub seat and shall be at least one and one-fourth inches (1 1/4") and not more than one and one-half inches (1 1/2") in diameter with precisely one and one half inches (1 1/2") clearance from the wall and shall be capable of supporting not less than two hundred and fifty (250) pounds.

a. A straight bar not less than thiry-six inches (36") long shall be mounted horizontally not less than four inches (4") nor more than six inches (6") above the tub rim. The horizontal bar shall extend six inches (6") behind the leading edge of the seat in its unfolded position.

b. A straight bar not less than thirty-six inches (36") long shall be mounted extending upwards from nine inches (9") above the tub rim. The vertical bar shall be mounted twelve inches (12") in front of the leading edge of the seat in its unfolded position.

9. Kitchen Sinks: ~~When provided kitchen sinks shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe. The water control valve shall have lever handles.~~ Kitchen sinks in accessible dwelling units with sanitation facilities for the

handicapped and when provided in other than residential kitchens, shall comply with this section. At least one (1) sink shall have a fixture bowl depth of not more than five and one-half inches (5 1/2") and have, or be adaptable, to provide a clear knee space width of not less than thirty-two inches (32"), a clear height to the bottom of the apron of not less than twenty-nine inches (29"), a clear height to the rim of not more than thirty-four inches (34") and, a clear depth of not less than eighteen inches (18") under the fixture exclusive of the piping. The water control valves shall be operable by persons with no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. The waste pipe and hot water supply shall be insulated or shielded.

~~B. Toilet room accessories.~~

10. Accessory equipment. Mirrors and/or shelves: Where mirrors ~~and/or shelves~~ are provided, at least one shall be mounted so that the bottom is no higher than ~~40 inches above~~ thirty-eight inches (38") from the floor. (When shelves are provided they shall be no higher than thirty eight inches (38") from the floor.)

~~2. Towel racks, dispensers, disposal units.~~

11. ~~Where~~ When provided wall mounted towel racks, dispensors, waste disposal containers, soap holders or dispensers or similar ~~appliances are provided~~ accessory equipment at least one of each shall be mounted so that working ~~height is not higher than 40 inches~~ all operable parts are not more than forty inches (40") above the floor and shall be free of interference by grab bars, or other appliances or fixtures. Such devices shall be operable by persons with no grip strength.

1.15512 Kitchen ~~Other~~ Facilities:

~~A. Kitchen Facilities: In dwelling units in which sanitation facilities for the handicapped are required, kitchen facilities shall be provided as follows:~~

A. General. Kitchen facilities in compliance with this section shall be provided in Group R Division 1 dwelling units equipped with accessible sanitation facilities as designated in Table 55-A.

~~1. Space. Clear space of not less than five feet measured between walls, cabinets, appliances, or other obstructions shall be provided. Where cabinets have a base toe space of not less than deep and eight and three fourths inches high. The clear space may be measured from toe space.~~

1. Work Surface: A work surface of not less than four (4) square feet shall be provided with a clear access width of thirty-two inches (32"), a clear height to the bottom of not less than twenty-nine inches (29"), a clear height of not more than thirty-three inches (33") to the top, and a clear depth of not less than eighteen inches (18") under the work surface. The work surface shall have a minimum dimension of twenty-four inches (24") and be located in the normal working area without obstructing space requirements of this section and may be fixed, folding or retractable.

~~2. Range: Controls. When a range is provided, range control handles shall be located at the front or side of the range.~~

2. Appliances. When appliances including but not limited to ranges, cooktops, ovens, freezers, refrigerators, etc. are provided, they shall be equipped with controls within functional reach of handicapped and operable by persons with no grip strength.

~~3. Work Space: Work space shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom, clear height of not more than 34 inches to the top, and clear depth of not less than 12 inches under the work space. The work space shall have not less than four square feet of area with a minimum demension of 24 inches. It may be fixed, folding or retractable.~~

3. Counters: Kitchen counters shall not exceed twenty-four inches (24") in depth unless accessible from opposite sides. (Also see Section 1.15502 G.)

1.15513 Laboratory Facilities

A. General. Laboratory facilities in compliance with this section in E and educational portions of I occupancies.

B. Where required. Rooms and areas used for home economics, art studios, shops, model offices, science, occupational training, and similar intructional rooms having work stations composed of but not limited to sinks, counters, benches, testing equipment, preparation appliances, utility connections, and special task lighting shall have at least one such station accessible.

C. Work surfaces. A work surface of not less than four (4) square feet shall be provided with a clear access width of thirty-two inches (32"), a clear height to the bottom of not less than twenty-nine inches (29"), a clear height of not more than thirty-three inches (33") to the top, and a clear depth of not less than eighteen inches (18") under the work surface. The work surface shall have a minimum dimension of twenty-four inches (24") and be located in the normal working area without obtructing space requirements of this section and may be fixed, folding or retractable.

D. Items of equipment in B of this section shall be equipped with controls within functional reach and shall be operable by persons with no grip strength.

E. Counters: Laboratory counters required in B of this Section shall not exceed twenty-four inches (24") in depth unless accessible from opposite sides. (Also see Section 1.15502 G.)

1.15514 Viewing Positions in Assembly Occupancies Areas:

A. General. In assembly occupancies performance viewing positions in compliance with this section shall be provided on the main floor in accordance with Table 55-B. There shall be a minimum of two (2) viewing positions adjacent to each other in any given area. ~~Accessibility: Viewing positions required in this section shall be accessible for the handicapped by walk, ramp, or elevator or combination thereof through a principal entrance(s).~~

B. Level floor space at least thirty-two (32) inches wide by forty-eight (48) inches long with a thirty-two (32) inch dimension approximately perpendicular to the sight line to the stage or performance area, and which does not block the access to adjacent seating shall be provided by either clear floor space; or readily removable fixed or portable seating. ~~Number: Performance viewing positons in assembly occupancies with fixed seating shall be provided in accordance with Table 55-B.~~

C. Viewing positions required by this section shall be accessible by walks, ramps, elevators, or combination thereof through required accessible principal entrance(s). ~~Location: Viewing positions shall be located at the main floor.~~

~~C. Space Requirements: One of the following shall be provided:~~

~~1. Clear space free of fixed or portable seats, or with removable fixed seats.~~

~~2. Spaces with readily removable portable seats~~

~~E. Floor Surface: Viewing positions shall have level floor surfaces.~~

1.15515 Controls and Electrical ~~Switches~~ Devices:

A. Height: The top of controls for ~~elevator control, thermostats, manual fire alarm, and similar equipment in all buildings regulated by this chapter and electrical switches and receptacles in dwelling units regulated by this chapter shall be no higher than five feet~~

~~above the floor.~~ thermostats, electrical switches, manual fire alarms, or other emergency signal controls and similar equipment in buildings or portions thereof regulated by these rules, and also all electric panels, controls, required receptacles, and controls for heating, ventilating, air conditioning, and other equipment which require regular or periodic adjustment in accessible dwelling units and guest rooms, shall not be more than forty-eight (48) inches nor less than twenty-four inches (24") above the floor. Access to such controls shall be unobstructed. (See elevator code for controlled dimensions.)

B. Emergency and Security Signals: Emergency alarms shall provide and other signaling devices when provided shall be adaptable to provide, both audio and visual cues. Visual alarms shall either blink the lights, not faster than one (1) hz, or the visual component of the signal should raise or lower the ambient light level of the space ten percent (10%) once per second for the duration of the alarm sequence.

1.15516 Tactile Identification:

A. Where Required: Spaces normally used by the general public and all doors leading to stairways shall have tactile identification such as raised or recessed letters, labels, or plaques of colors contrasting sharply with their background. The center of the tactile identification shall ~~not be less than~~ be located four feet six inches (4'6") ~~nor more than five feet six inches~~ above the floor, mounted on the wall adjacent to the door of the space identified, on the strike jamb side ~~nearest the door handle~~ of the door.

B. Floor numbers at elevators ~~Floor numbers~~ shall be tactily identified for the visually handicapped by raised or recessed numbers ~~attached to the elevator door jamb at each floor, not less than three feet six inches nor more than~~ of colors contrasting sharply with their backgroud, attached to either the strike jamb or both elevator door jambs at each floor. The center of the tactile identification shall be located four feet six inches (4'6") in height above the floor.

C. Elevator Controls: Elevator controls shall have tactile identification by raised or recessed letters, numbers, labels, or plaques of colors contrasting sharply with their background.

~~D. Door handles: Doors to stairs other than exit stairs, loading platforms, boiler rooms, stage, and doors serving other hazardous locations shall have knurled or similarly marked door handles.~~

D. Doors: Doors that are not intended for normal use, and that might prove dangerouse if a blind person were to exit or enter by them, should be made quickly identifiable to the touch by knurling the door handle or knob. Knurling may also be accomplished by the use of an acceptable plastic, abrasive coating. Example: such doors might lead to loading platforms, boiler rooms, stages, fire escapes, etc.

~~1.15508 Figures 55-1 through 55-18 of this chapter are illustrative only. See appropriate chapter sections for specific provisions.~~

~~Table 55-A~~
~~Sanitation Facilities for the Handicapped~~

~~Number of Dwelling Units/ Guest Rooms in Building~~	~~Number of Dwelling Units/Guest Rooms requiring Sanitation Facilities~~
~~0- 7~~	~~0~~
~~8- 39~~	~~1~~
~~40- 59~~	~~2~~
~~60- 79~~	~~3~~
~~80- 99~~	~~4~~
~~100-119~~	~~5~~
~~120-139~~	~~6~~
~~140-159~~	~~7~~
~~160-179~~	~~8~~
~~180-199~~	~~9~~
~~200~~	~~10 plus 1 per each 50 units exceeding 200~~

~~Table 55-B~~
~~Viewing Positions~~

~~Motion Picture Auditoriums~~	
~~Occupant Load~~	Minimum Viewing Positions
~~500 and Less~~	~~4~~
~~Over 500~~	~~8~~
~~Other Assembly Occupancies~~	
~~500 and Less~~	~~4~~
~~501-1000~~	~~12~~
~~1001-1500~~	~~16~~
~~Over 1500~~	~~16 plus 1 per 500 additional~~

TABLE 55-A

RATIO OF UNITS TO HAVE FACILITIES FOR THE HANDICAPPED

Column I Number of Dwelling Units/Guest Rooms in Development	Column 2 Number Required to have facilities
0 - 3	0
4 - 19	1
20 - 39	2
40 - 59	3
60 - 79	4
80 - 99	5
100 - 119	6
120 - 139	7
140 - 159	8
160 - 179	9
180 - 199	10
200 and over	10 plus 1 for each additional 50 units or fraction thereof

TABLE 55-B

REQUIRED ACCESSIBLE SEATING

OCCUPANT LOAD OF SEATING AREA	MINIMUM NUMBER OF ACCESSIBLE SEATS
Less than 500	4
500 - 999	12
1000 - 1499	16
1500 and over	16 plus 1 for each additional 500 seats or fraction thereof

TABLE 55-C

RATIO OF OFF STREET PARKING SPACES FOR

VEHICLES TRANSPORTING HANDICAPPED PERSONS

TOTAL NUMBER OF PARKING SPACES PROVIDED	NUMBER OF SPACES REQUIRED FOR HANDICAPPED USAGE	NUMBER REQUIRED FOR HANDICAPPED USAGE (I-1) OCCUPANCIES
5 or less	Optional	1
6 - 25	1	2
26 - 50	2	4
51 - 250	2 plus 1 additional per 50 parking spaces over 50	4 plus 1 additional per 25
251 - 1000	6 plus 1 additional per 100 parking spaces over 250	4 plus 1 additional per 25

NUMBER OF SPACES REQUIRED FOR
HANDICAPPED USAGE FOR R-1 OCCUPANCIES

(See Table 55A)

1 per accessible dwelling unit

TABLE 55-D

Corridors, Hallways and Aisles Which Have Doors or Doorways

HALLWAY WIDTH OR OTHER NEAREST OBSTRUCTION	CLEAR USABLE OPENING OF DOORWAY REQUIRED
36 inches	38 inches
38 inches	34 inches
42 inches	32 inches

This table shall apply wherever it is necessary to turn a wheelchair from an aisle, hallway or corridor into a doorway or from a doorway into an aisle and hallway or corridor.

SECTION IV

Proposed Amendments to the Elevator Code including provisions for Wheelchair Lifts for Existing Buildings

Sec. 1.18801 Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts. General. Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property.

Sec. 1.18802 Definitions. For the purpose of this chapter, the terms or words listed below shall have the meaning indicated:

EXISTING INSTALLATION. Shall mean an installation on which the construction or installation was begun prior to the effective date of this Code.

NEW INSTALLATION. Shall mean an installation on which the construction or installation was begun subsequent to the effective date of this Code.

Sec. 1.18803 Existing installations is amended to read as follows:

A. All existing installations may be continued in service as long as they are properly maintained and are, in the opinion of the administrative authority, installed and maintained in a safe condition. The Administrative Authority may order the installation of car gates, car tops, and the car walls extended to the car top on all existing installations. The administrative authority shall have the authority to shut down any piece of equipment covered by this chapter, which in his opinion is dangerous to life, limb, and adjoining property, and such equipment shall not be put back into operation until such unsafe condition has been corrected and approved by the Administrative Authority.

B. Any installation which is materially changed subsequent to the date of enactment of this Code shall comply with all of the requirements covering a new installation.

A material change shall be defined as any change which moves the location, increases or decreases the length of travel, changes the type of operation, increases the speed or carrying capacity or changes the types of power supply of an existing installation.

Any installation, whether new or existing, which shall become damaged, defective or worn by fire or other causes including ordinary wear to such an extent that in the opinion of the administrative authority it becomes dangerous to life, limb and adjoining property, such installations shall be repaired or rebuilt in conformity with the provisions of this chapter for new installations. Such equipment shall, if in the opinion of the administrative authority, it is found necessary to protect life, limb and property, be taken out of service until such unsafe condition has been removed.

Following Section relocated from Sec. 1.18806 B.14.

C. Unsafe conditions. When an inspection reveals an unsafe condition, the inspector shall immediately file with the owner and the Administrative Authority a full and true report of such inspection and such unsafe condition. If the Administrative Authority finds that the unsafe condition endangers human life, he shall cause to be placed on such elevator, escalator or moving walk in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the Administrative Authority. The Administrative Authority shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance which are necessary to render it safe, and may order the operation thereof discontinued until the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only by the Administrative Authority when he is satisfied that the unsafe conditions have been corrected.

Sec. 1.18804 Inspection, tests and approval is amended to read as follows:

A. Approval of plans. Any person, firm or corporation desiring to install, relocate, alter materially or extend any installation covered by this chapter shall be required to obtain approval for so doing from the administrative authority. Two sets of drawings and specifications showing such installations, relocation, alteration or extension shall be submitted for approval.

B. Inspections and tests. It shall be unlawful for any person, firm or corporation to put into service any installation covered by this chapter whether such installation is newly installed, relocated or altered materially without such installation being inspected and approved by the administrative authority. The installer of any equipment included in this chapter shall notify the administrative authority seven days prior to completion of the installation for such inspection. The administrative authority shall have the authority to require such tests as provided in ANSI A17.1-~~1971~~ 1978 Edition and Supplement as he may deem necessary to prove the safe operation of any installation.

C. Approval. A certificate or letter of approval shall be issued by the administrative authority for such installation when the entire installation is completed in conformity with this chapter. The entire installation shall include all enclosures or shafts, gates, doors, machinery safety and control devices and all other appurtenances necessary.

Following Section Relocated from Sec. 1.8806 C.

D. Limited use of an elevator. When a building or structure is to be equipped with one or more elevators, as least one of such elevators may be approved for limited use prior to the completion of the building or structure.

The use of such elevators may be permitted by the administrative authority under the authority of a limited permit issued by him for each class of service. Such limited permit shall specify the class of service. Such limited permit shall specify the class of service permitted and it shall not be issued until the elevator has been tested with rated load and the car safety and terminal stopping equipment have been tested to determine the safety of the equipment and until permanent or temporary guards or enclosres are placed on the car and around the hoistway and at the landing entrance on each floor. Landing entrance guards shall be provided with locks that can be released from the hoistway side only. Automatic and continuous pressure elevators shall not be placed in temporary operation from the landing push buttons unless door locking devices and/or interlocks are installed and operative.

Sec. 1.18805 Accidents.

A. To be reported. The owner or person in control of an elevator or other installation covered by this chapter shall promptly notify the administrative authority of any accident to a person or apparatus, on, about, or in connection with such elevator or other installation, and shall afford the administrative authority every facility for investigating such accident and the damage resulting therefrom. Notification may be given to the administrative authority by telephone or verbally, but such notification shall be confirmed in writing.

B. Investigation. The administrative authority shall make or cause to be made an investigation of the accident and the report of such investigation shall be placed on file in his office. Such report shall give in detail the cause or causes, so far as they can determine, and such report shall be open to public inspection.

C. Operation discontinued. When an accident involves the failure or destruction of a part of the installation or the operating mechanism, the elevator or other installation shall be taken out of service and shall not be used again until it has been made safe and such re-use approved by the administrative authority.

The administrative authority may, if deemed necessary, order the discontinuance of operation of any such elevator or installation until a new certificate of approval has been issued.

D. Removal of parts restricted. No part of the damaged installation, construction or operating mechanism shall be removed from the premises until permission is granted by the administrative authority.

Sec. 1.18806 Elevators, dumbwaiters, escalators and moving walks is amended to read as follows:

A. The ~~eighth~~ ninth edition of the American National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks - ANSI A17.1-~~1971~~, 1978 including supplement~~s~~ ANSI A17.1a - ~~1972~~, 1979, ~~A17.1b - 1973, as amended herein. ANSI A17.1c - 1974, ANSI A17.1d - 1975, ANSI A17.1e - 1975, ANSI A17.1f - 1975 and ANSI A-17-1g - 1976~~ are hereby incorporated by reference and made a part of this Code. All references in ANSI A17.1 - ~~1971~~, 1978 and supplements, to the National Electrical Code ~~ANSI C1 - 1968 and ANSI C1 1971~~ shall be changed to read: "National Electrical Code" ANSI C1 1978 (NFPA 70-1978).

B. Exceptions ~~and Amendments~~ to ANSI A17.1.

1. Winding drum machine. Winding drum machines shall not be permitted on new elevators installations nor replacements on existing installation.

2. Swing doors. Horizontal swing doors, either single section or center opening two section, shall not be permitted on new elevator installations nor as replacements on existing installations, except the administrative authority may approve such installation if the conditions are such as to make it impossible to install other than swing doors.

3. Side exits. Side emergency exits on elevator cars shall not be permitted.

~~4. Solid bumpers. Solid bumpers shall be not permitted on new installations nor as a replacement on existing installations.~~

~~5. Clearances. The minimum pit depth shall be not less than three (3) feet. Overhead clearance shall be not less than two (2) feet with piston in stop ring and in no case less than three (3) feet when car is leveled at top landing.~~

This Section Relocated to Sec. 1.18806 C (Rule 111.9e)

~~6. Door unlocking devices hoistway door unlocking devices shall not be permitted except at the bottom landings~~.

This Section Relocated to Sec. 1.18806 C (Rule 111.9b)

~~a. Top and bottom landings shall be provided with hoistway access switches conforming to Rule 111.9b and 111.9e of ANSI A17.1 - 1978. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor~~.

This Section Relocated to Sec. 1.8806 C (Rule 111.9e)

~~(b. The door at the lowest landing shall be provided with a special key not easily duplicated and said key shall be available only to elevator mechanics and inspectors. The interlocks shall be designed and adjusted as to prevent movement of the car until after the door is closed and in the locking position.~~

~~c. Access to hoistways for emergency purposes.~~

~~(1) The elevator shall have hoistway doors which are unlocked when closed with the car at floor, or locked but openable from landing by means effective only when car is in landing zone.~~

~~(2) The operating means for unlocking the doors shall be kept on the premises by the person reponsible for the maintenance and operation of the elevators in a location readily accessible to qualifed persons in case of an emergency but where they are not accessible to the general public.~~

This Section Relocated to Sec. 8806 C (Rule 110.2a)

~~7. Elevator doors shall provide a clear opening of at least 32 inches.~~

~~8. Automatic closing doors shall have a closing interval of not less than three (3) seconds except center opening horizontal sliding doors.~~

4. ~~9.~~ In each elevator lobby served by elevators complying with ANSI rule 211.3 of ~~the supplement to~~ the Elevator Code identified as ANSI A17.1-~~1973~~ 1978, all automatic-operation elevators serving three or more stories above or below the main floor or having a travel of twenty five (25) feet or more above or below the main floor, at least one elevator car serving

all floors in a building shall have a platform size that is standard for the elevator supplier, and capable of accommodating an ambulance stretcher in its horizontal position. The opening to the elevator car shall be capable of passageway for such ambulance stretcher.

5. ~~10.~~ Exterior elevator call buttons shall be placed not higher than 60 inches above the floor. No emergency stop switch, door opening and door closing buttons, or elevator floor buttons shall be placed higher than 60 inches above the floor.

6. ~~11.~~ Standby power. In every building over one story and more than 75 feet in height, emergency power shall be provided for at least one passenger elevator in each bank. This emergency power shall be transferable to any other elevator in the bank and shall be capable of operating the elevator with a full load at contract speed or not less than 150 feet per minute. Emergency power shall be provided by an approved self-contained generator set to operate whenever there is a loss of power in the normal power supply. The generator shall be in a separate room having at least a one-hour fire resistive occupancy separation from the remainder of the building and shall have an on site fuel supply adequate to operate the equipment for two hours. See UBC Standards 18-1.

This Section Relocated to Sec. 1.8806 C (Rule 211.a)

~~12. Emergency communications. Every elevator car shall be provided with a two way communication system connected to an approved emergency service which operates 24 hours every day.~~

7. ~~13.~~ Operating devices. All operating devices shall be of the enclosed electric type. Rope or rod operated devices activated by hand, or rope operating devices activated by wheels, levers or cranks, shall be removed. EXCEPTION: This shall not be considered a material change.

This Section Relocated to Sec. 1.18803 C

~~14. Unsafe conditions. When an inspection reveals an unsafe condition the inspector shall immediately file with the owner and the Administrative Authority a full and true report of such inspection and such unsafe condition. If the Administrative Authority finds that the unsafe condition endangers human life, he shall cause to be placed on such elevator, escalator or moving walk in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the Administrative Authority. The Administrative Authority shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance which are necessary to render it safe, and may order the operation thereof discontinued until the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only the Administrative Authority when he is satisified that the unsafe conditions have been corrected.~~

~~15. A guard light and convenience outlet shall be provided on the top and underside of each elevator car.~~

This Section Relocated to Sec. 1.18806 C (Rule 100.4a)

~~16. a. ANSI 100.4a Vents required. Hoistways of elevators serving more than three (3) floors shall be provided with means of venting smoke and hot gases to the outer air in case of fire. Vents may be manually openable or remote control automatic vents.~~

Exceptions: Hoistways not extending into the top floor of the building, in buildings other than hotels, apartment houses, hospitals and similar buildings with overnight sleeping quarters, where the hoistways are equipped with approved automatic sprinklers connected to the building water-supply system or to an approved automatic sprinkler system (See NFPA No. 13 - 1976 Sprinkler

~~Such systems shall be responsive to an accumulation of smoke as well as heat at the top of the hoistway.~~

This Section Relocated to Sec. 1.18806 C (Rule 100.4b)

~~b. ANSI 100.4b Location of vents~~.

~~(1) In the side or top of the hoistway enclosure or directly below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air; or~~

~~(2) In the wall or roof of the pent-house or overhead machinery space above the roof, provided that openings have a total area not less than the minimum specified in ANSI Rule 100.4c and vents passing through machine rooms must be in noncombustible ducts. When a vent is installed in the roof of the hoistway, a protective grill shall be provided to prevent persons from falling into hoistway.~~

This Section relocated to Sec. 1.18806 C (Rule 204.2.2.)

~~17. ANSI 204.2a 2. Slow burning combustible materials for insulating, sound deadening or decorative purposes may be used for lining enclosures if firmly bonded flat to the enclosure. Such materials shall not be padded. Materials used must have a Class I flame spread rating.~~

This Section Relocated to Sec. 1.18804 D.

~~C. Limited use of an elevator. When a building or structure is to be equipped with one or more elevators, at least one of such elevators may be approved for limited use prior to the completion of the building or structure.~~

~~The use of such elevators may be permitted by the administrative authority under the authority of a limited permit issued by him for each class of service. Such limited permit shall specify the class of service.~~

~~Such limited permit shall specify the class of service permitted and it shall not be issued until the elevator has been tested with rated load and the car safety and terminal stopping equipment have been tested to determine the safety of the equipment and until permanent or temporary guards of enclosures are placed on the car and around the hoistway and at the landing entrance on each floor. Landing entrance guards shall be provided with locks that can be released from the hoistway side only. Automatic and continuous pressure elevators shall not be placed in temporary operation from the landing push buttons unless door locking devices and/or interlocks are installed and operative.~~

~~D. Access to elevator pits. A pit ladder shall be provided for each elevator in all pits where access is from the bottom landing. Access to elevators pits which extend more than eighteen (18) inches below the sill of the pit access door shall have a pit ladder as required.~~

This Section relocated to Sec. 1.18806 C (Rule 602.1 and 703.1)

~~E. Dumbwaiters and handpowered elevators. All dumbwaiters and handpowered elevators shall be equipped with a broken rope safety device.~~

This Section Relocated to Sec. 1.18806 C (Rule 206.4C)

~~F. Car safety mechanism switch. Car safety mechanism switches shall be of the manually reset type.~~

This Section Relocated to Sec. 1.18806 C (Rule 112.5)

~~G. Hoistway door protection in passenger elevators. Hoistway doors on all passenger elevators shall not be solely dependent upon the door edge reopening device for protection from the doors closing on an obstruction, but shall also be provided with an approval light beam or electronic door protection device.~~

This Section relocated to Sec. 1.18806 C (Rule 211.3a)

~~H. Emergency elevators. All keyed switches installed to operate elevators on emergency service will be required to be keyed alike to a pattern approved by the Administrative Authority. In lieu of the above, keys for emergency elevator service may be in a metal box placed in a location approved by the Administrative Authority, provided said box is locked with a 5 pin tumbler core lock or equivalent which is keyed to the same pattern.~~

This Section Relocated to Sec. 1.18806 C (Rule 211.3a)

~~I. One (1) car in each bank of automatic operation elevators serving five (5) or more floors above or below the main floor shall be provided with emergency service controls as specified in ANSI Rule 211.3a of this supplement. ANSI Rule 211.3a-4. A two position (off and on) key operated switch shall be provided in or adjacent to an operating panel in each car and it shall be effective when the main floor key operated switch (see 211.3a-1) is in the "on" position or a sensor has been activated and the car has returned to the main floor or other approved level. The key shall be removable only in the "off" position and when in the "on" position, it shall place the elevator on emergency operation.~~

C. Amendments to ANSI A 17.1 - 1978

ANSI A17.1 - Rule 100.4a is amended to read as follows:

100.4a - Vents Required.

Hoistways of elevators serving more than three (3) floors shall be provided with means for venting smoke and hot gases to the outer air in case of fire. Vents may be manually openable or remote control automatic vents. Location of operating devices are subject to approval of the Fire Chief.

EXCEPTIONS Hoistways not extending into the top floor of the building, in buildings other than hotels, apartment houses, hospitals and similar buildings with overnight sleeping quarters, where the hoistways are equipped with approved automatic spinklers connected to the building water-supply system or to an approved automatic sprinkler system (See NFPA No. 13-1976 Sprinkler Systems). Such systems shall be responsive to an accumulation of smoke as well as heat at the top of the hoistway.

ANSI A17.1 - Rule 100.4b is amended to read as follows:

100.4b Location of Vents.

Vents shall be located:

1. In the side of the hoistway enclosure directly below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air; or

2. In the wall or roof of the penthouse or overhead machinery space above the roof, provided that openings have a total area not less than the minimum specified in Rule 100.4c. Vents passing though machine rooms must be in noncombustible ducts. When a vent is installed in the roof of the hoistway, a protective grill shall be provided to prevent persons from falling into hoistway.

ANSI A17.1 - Rule 101.5a is amended to read as follows:

101.5a Lighting.

Permanent electric lighting shall be provided in all machine rooms and machinery spaces.

The illumination shall be not less than ten (10) foot-candles at the floor level. The lighting control switch shall be located within easy reach of the access to such rooms or spaces. Where practicable, the light control switch shall be located on the lock-jamb side of the access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the machine room. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1 - Rule 106.1e is amended to read as follows:

106.1e Illumination of Pits.

A permanent lighting fixture shall be provided in all pits, which shall provide an illumination of not less than five (5) foot-candles at the pit floor. A light switch shall be provided and shall be so located as to be accessible from the pit access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the pit. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1 - Rule 110.2a is amended to read as follows:

ANSI A17.1 - Rule 110.2a - For Passenger Elevators and Freight Elevators Authorized to Carry Employees.

Entrances shall be one of the following types:

1. Horizontal side, single or multisection.
2. Swing, single-section.
3. Combination horizontal slide and swing.

4. Power-operated, vertical slide biparting counterbalanced, or vertical slide counterweighted which slide down to open, where located at entrances used by passenger (See RUle 207.4).

5. Hand or power-operated vertical slide which slide up to open.

EXCEPTION: At landing openings used exclusively for freight, any type of entrance permitted by Rule 110.2b.

6. Elevator doors shall provide a clear opening of at least 32 inches.

ANSI A17.1 - Rule 111.9b is amended to read as follows:

111.9b - Location and Design of Hoistway Access Switches.

Hoistway access switches shall conform to the following:

1. ~~The switch shall be installed only at the access landings.~~ Hoistway access switches shall be provided at top and bottom landings. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.

2. The switch shall be installed adjacent to hoistway entrance at the access landing with which it is identified.

3. The switch shall be of the continuous-pressure spring-return type, and shall be operated by a cylinder-type lock having not less than a five (5) pin or five (5) disc combination with the key removable only when the switch is in the "OFF" position. The lock shall not be operable by any key which will operate locks or devices used for other purposes in the building. The key shall be available to and used only by inspectors, maintenance men, and repairmen.

ANSI A17.1 - Rule 111.9e is amended to read as follows:

111.9e - Location and Design of Hoistway Door Unlocking Devices.

Hoistway door unlocking devices shall conform to the following:

1. The device shall unlock and permit the opening of the hoistway door from the ~~access~~ lowest landing irrespective of the position of the car.

2. The device shall be installed only at the ~~access~~ lowest landings.

EXCEPTION: For Emergency use see Rule 111.10.

3. The device shall be designed to prevent unlocking the door with common tools.

4. The operating means for unlocking the door shall be ~~available to and used only by inspectors, maintenance men, and repairmen.~~ provided with a special key not easily, duplicated and said key shall be available only to elevator mechanics and inspectors. The interlocks shall be designed and adjusted as to prevent movement of the car until after the door is closed and in the locking position.

5. The unlocking - device keyway shall be located at a height not greater than six (6) feet eleven (11) inches above the floor.

NOTE: For diagrammatic representation See Appendix C.

ANSI - A17.1 Rule 112.5 is amended to read as follows:

ANSI A17.1 - Rule 112.5 - Reopening Device for Power-Operated Car Doors or Gates.

Where required by Rule 112.3d or Rule 112.4, a power-operated car door or gate shall be provided with a reopening device which will function to stop and reopen a car door or gate and the adjacent hoistway door in the event that the car door or gate is obstructed while closing. If the closing kinetic energy is reduced to two and one-half (2 1/2) foot pounds or less, the reopening device may be rendered inoperative (See Rule 112.4-a).

For center-opening doors, the reopening device shall be so designed and installed that the obstruction of either door panel when closing will cause the reopening device to function.

Hoistway door protection in passenger elevators. Hoistway doors on all passenger elevators shall not be solely dependent upon the door edge reopening device for protection from the doors closing on an obstruction, but shall also be provided with an approved light beam or electronic door protection device.

ANSI A17.1 - Rule 204.2a is amended to read as follows:

204.2a - Material for Enclosures and Enclosure Linings.

Car enclosures and car-enclosure linings shall conform to the following:

1. Material for enclosures shall be:
   a. Metal; or
   b. Fire-retardant-treated wood; or
   c. Other equally fire retardant approved material.

EXCEPTION: Non-fire-retardant treated wood or materials of equivalent combustible characteristics may be used if all exterior surfaces of the enclosure are covered with sheet metal not less than No. 27 U.S. gage or other equally fire-retardant material or are protected by painting with an approved fire-retardant paint having a flame spread rating of not over 50, applied in accordance with the instructions of the manufacturer. Such ratings shall be based on the test procedure specified in ANSI/ASTM E84.

2. Slow buring combustible materials for insulating, sound deadening or decorative purposes may be used for lining enclosures if firmly bonded flat to the enclosure. Such materials shall not be padded ~~or tuffed.~~ Materials must have a Class 1 Flame Spread Rating.

EXCEPTION: Padded protective linings used temporarily in passenger cars during the handling of freight, provided the pads are made of fire-retardant material or treated with an acceptable fire retardant. The fire retardant-treatment shall be renewed as needed. The protective linings shall clear the floor of the car by not less than four (4) inches.

ANSI A17.1 - Rule 206.4c is amended to read as follows:

206.4c - Type of Speed-Governor Overspeed Switches, Speed-Reducing Switches, and Car-Safety-Mechanism Switches Required.

Switches used to perform the function specified shall be positively opened. Overspeed and speed-reducing switches permitted by the exception to Rule 206.4b and operated by the speed governor shall remain in the open position until manually reset. Switches operated by the car safety mechanism shall be ~~of a type which will not reset unless the car safety mechanism has been returned to the off position.~~ the manually reset type.

ANSI A17.1 - Rule 211.1 is amended to read as follows:

~~Rule 211.1 - Car Emergency Signals for Elevators Operated Without a Designated Operator in the Car.~~

~~Elevators which are operated at any time without a designated operator in the car shall be provided with the following signal devices:~~

~~a. In all buildings, the elevators shall be provided with the following system:~~

~~1. An audible signaling device operable from the car, located inside the building and audible outside the hoistway. One device may be used for a group of elevators.~~

~~2. Means of two-way conversation between each elevator and a readily accessible point outside the hoistway. (Telephone, intercome, etc.).~~

~~3. If the audible signaling device, or the means of two-way conversation, or both, are normally connected to the building power supply, they shall automatically transfer to a source of emergency power within ten (10) seconds after the normal power supply fails. The power source shall be capable of providing for the operation of the audible signaling device for at least one (1) house and the means of two-way conversation for at least four (4) hours.~~

~~b. In buildings in which an attendant or watchman is not continuously available to take action when the required emergency signal is operated, the elevators shall be provided with one of the following additional emergency signal devices:~~

~~1. A telephone connected to a central telephone exchange system.~~

~~2. A weatherproof audible signalling device with a minimum rating of eighty (80) decibles operable from inside the car and identifed "ELEVATOR EMERGENCY - CALL POLICE", in letters not less than two (2) inches high. The device shall be mounted on the outside of the building near the main entrance and located so that the sign can be read from the entrance sidewalk. Only one (1) outside signal is required if operable from all cars of all elevators of the type specified in the building.~~

~~An emergency power system shall be provided conforming to the requirements of Rule 211.1-a-3.~~

~~3. Means within the car for communicating with or signaling to and approved emergency service which opeates twenty-four (24) house each day.~~

~~c. The systems required by Rule 211.1a and b shall be inspected and tested during the inspections specified by Rules 1000.1 and 1001.1.~~

Rule 211.1

Emergency communications. Every elevator car shall be provided with a two-way communication systems connected to an approved emergency service which operates 24 hours every day.

ANSI A17.1 - Rule 211.3a is amended to read as follows:

211.3a - Automatic-Operation Elevators.

All automatic-operation elevators serving three or more landings or having a travel of twenty-five (25) feet or more, shall conform to the following:

1. A three position (on, off, and by-pass) key-operated switch shall be provided at the main floor for each single elevator or for each group of elevators. The key shall be removable only in the "on" and "off" positions. When the switch is in the "on" position, all elevators controlled by this switch and which are on automatic service shall return nonstop to the main floor, and the doors shall open and remain open.

a. An elevator traveling away from the main floor shall reverse at the next available floor without opening its doors.

b. Elevators equipped with automatic power-operated doors and standing at a floor other than the main floor, with doors open, shall close the doors without delay, and proceed to the main floor.

c. Door reopening devices for power-operated doors which are sensitive to smoke, heat or flame shall be rendered inoperative.

d. All car and corridor call buttons shall be rendered inoperative and all call registered lights and direction lanterns shall be extinguished and remain inoperative.

e. A car stopped at a landing shall have its "Emergency Stop Switch" rendered inoperative as soon as the doors are closed and it starts toward the main floor. A moving car, traveling to or away from the main floor, shall have its "Emergency Stop Switch" rendered inoperative immediately.

f. A sensor in each elevator lobby, which when activated prevents cars from stopping at that floor, shall not be substituted for the above requirements.

2. Sensing Devices.

In addition to the key-operated switch required in 1 above, heat and smoke or products of combustion sensing devices shall be installed in accordance with NFPA No. 72D 1975 in each elevator lobby at each floor, except the main floor. The activation of a sensing device in any elevator lobby shall cause all cars in all groups that serve that lobby to return nonstop to the main floor. The operation shall conform to the requirements of 211.3a-1-a to 211.3a-1-e. The key-operated switch required by 211.3a-1, when moved to the "by-pass" position, shall restore normal service independent of the sensing devices.

EXCEPTIONS:

(1) Elevators in buildings which are completely protected by an automatic sprinkler system (See NFPA No. 13 1976 Sprinkler Systems).

(2) Freight elevators located in or at openings into manufacturing areas.

(3) Elevator lobbies at unenclosed landings.

3. Elevators without a terminal landing at grade level shall be returned to that landing closest to grade level or other approved level and shall conform to the requirements of 211.3a-1,- 2,- 3,-4,-5,-6.

4. One (1) car in each bank of automatic-operation elevators serving five (5) or more floors above or below the main floor or having a travel of fifty (50) feet or more above or below the main floor ~~All elevators having a travel of seventy (70) feet or more and elevators having a terminal landing seventy (70) feet or more above the lowest grade elevation surrounding the building~~ shall be provided with the following operation:

A two position (off and on) key-operated switch shall be provided in or adjacent to an operating panel in each car and it shall be effective only when the main floor key-operated switch (211.3a-1) is in the "on" position or a sensing device has been activated and the car has returned to the main floor or other approved level. The key shall be removable only in the "off" position and when in the "on" position, it shall place the elevator on emergency operation.

The operation of elevators on emergency service shall be as follows:

a. An elevator shall be operable only by a person in the car.

b. Elevators shall not respond to elevator corridor calls.

c. The opening of power-operated doors shall be controlled only by continuous pressure "open" buttons of switches. If the switch or button is released prior to the doors reaching the fully open position, the doors shall automatically reclose. Open doors shall be closed by either the registration of a car call or by pressure on "door close" switch or button.

d. Elevator shall be removed from emergency service by moving the emergency service key-operated switch in the car to the "off" position with the car at the amin floor.

5. Multi-deck elevators shall conform to the requirements of 211.3a-1,-2,-3,-4,-6, and to additional requirements as follows:

a. The key-operated switch required by 211.3a-1 may be located at either main lobby.

b. The key-operated switch in the car required by 211.3a-4 for emergency service operation shall be located in the top deck. The elevators shall be provided with means for placing the lower deck out of service including closing of car and hoistway doors. The lower deck shall be out of service before the emergency service operation from the top deck becomes effective. The means for placing the lower deck out of service shall be located in that deck or adjacent to the entrance in the corridor.

6. The switches required by 211.3a-1 ~~and 211.3a-4~~ shall be operated by the same key but which is not a part of a building master key system. There shall be a key for the main floor switch and for each elevator in the group and these keys shall be kept on the premises by persons responsible for maintenance and operation of the elevators, in a location readily accessible to authorized persons, but not where they are available to the public.

7. The switches required by 211.3a-4 shall conform to the following:

Emergency elevators. All keyed switches installed to operate elevators on emergency service shall be required to be keyed alike to a pattern approved by the Administrative Authority. In lieu of the above, keys for emergency elevator service may be in a metal box placed in a location approved by the Administrative Authority, provided said box is locked with a 5 pin tumbler core lock or equivalent which is keyed to the same pattern.

ANSI A17.1 - Rule 602.1 is amended to read as follows:

Rule 602.1 - Car Safeties

Elevators having a travel of more than fifteen (15) feet shall be provided with a car safety, attached to the underside of the car frame, capable of stopping and sustaining the car and rated load.

The car safety device is not required to be operated by a speed governor, and may be of the instantaneous type operated as a result of the breaking or slackening of the suspension members.

Where the travel exceeds forty (40) feet, driving machines having hand-operated brakes shall also be equipped with an automatic speed retarder.

<u>All handpowered elevators shall be equipped with a broken rope safety device</u>.

ANSI A17.1 - Rule 703.1 is amended to read as follows:

Rule 703.1 - Where Required

Car and counterweight safeties shall not be required except for protection of spaces below hoistways for all dumbwaiter cars and counterweights having a rated load over twenty-five (25) pounds. Where required, the car and counterweight safeties may be operated as a result of breaking the suspension means and may be of the inertia type without grovernors. Car safeties may be located in the car crosshead.

<u>All dumbwaiters shall be equipped with a broken rope safety device</u>.

Sec. 1.18807 Stage and orchestra lifts. Stage and orchestra lifts shall be designed, installed, constructed and maintained so as to be reasonably safe to life, limb and adjoining property and shall be approved by the administrative authority prior to installation or construction.

Sec. 1.18808 Manlifts. Mainlifts shall be designed, installed, constructed, and maintained so as to be reasonably safe to life, limb, and adjoining property shall conform to the standards specified in the American National Safety Code for manlifts, ANSI A90.1 - 1969 and Regulations of the Department of Labor and Industry. 8 MCAR 1.7120 - 1.7129.

Sec. 1.18809 Temporary interior and exterior hoists. Temporary interior and exterior hoists shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, shall conform to Safety Requirements for Workman's Hoists, ANSI 10.4 - 1963, Safety Requirements for material hoists, ANSI 10.5 - 1969 and Regulations of the Department of Labor and Industry.

Sec. 1.18810 Mechanical parking garage equipment. Mechanized parking garage equipment shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, shall conform to the standards specified in the American Standard Safety Code for Mechanized Parking Garage Equipment ANSI A113.1 (R-1971).

~~Sec. 1.18901 Special provisions for handicapped persons is deleted in its entirety. (2 MCAR 1.18901 is reserved for future use).~~

STANDARDS FOR WHEELCHAIR

ELEVATING DEVICES

Add new Sections 2MCAR Sec. 1.18811 through 1.18813 to read as follows:

Sec. 1.18811 Standards for wheelchair elevating devices.

A. Applicability

1. These rules apply to electric powered vertically traveling elevating devices used to raise or lower physically handicapped persons from one level to another in existing buildings, hereinafter in these rules referred to as a device.

2. The device shall conform to all applicable sections of ANSI A17.1-1978 National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks, which are directly referred to in these rules.

Sec. 1.18812 Hoistways, hoistway enclosures.

A. Hoistway walls shall be provided on all sides of the device not used for entrance or exits. Walls shall be fully enclosed and of non-combustible material. Walls shall extend to a height of at least the top terminal landing level. When terminated at top landing level or any level below 42" above top terminal landing a guard rail conforming to UBC Section 1716 shall be provided.

B. Strength of enclosure. See Rule 100.1e

C. Construction at top of hoistway.

A ceiling at the top of the hoistway is not required unless a hazard exists from falling objects from overhead. When a ceiling is provided it must be noncombustible material and must reject a ball 1" in diameter. Minimum clear headroom 7'-0".

D. Construction at bottom of hoistway.

A pit is not required, but when provided it shall be designed as to prevent entry of ground water. The floor at the bottom level shall be designed to accept the loads imposed upon it. (U.B.C. Chapter 23).

E. All ramp surfaces leading to or from the device shall be of the nonskid type. Ramps slope shall not to exceed a ratio of 1 vertical to 12 horizontal.

F. Devices shall not be exposed to the outside elements.

G. Projections recesses and setbacks in hoistway enclosures, see Rule 100.6 and Rule 110.10A (Omit Item 1 only).

H. Means shall be provided to prevent movements of platform when loading or unloading.

I. For electrical wiring, pipes and ducts in hoistways and machine rooms, see Rule 102.

J. Location of device.

The device may be installed in a stair enclosure or exit system provided it does not reduce or obstruct exit widths as required in UBC Chapter 33.

K. All exposed equipment on a device shall be guarded to protect against accidental contact which could cause bodily injury.

L. A movable barrier (or gate) at the upper terminal landing shall be installed to prevent a wheelchair from rolling off end of landing while waiting for the device. All movable barriers are to be self closing when the platform leaves the floor level. Means shall be provided so barrier can not be opened unless platform is in the top landing zone. When the movable barriers to the device are power operated they must meet all requirements of Section 1 Rule 112.

M. The terminal landings shall be permanently fastened, and constructed so as to safely carry the imposed loads.

N. Upper terminal ramp or landing shall be provided with guard rails on open sides.

O. Lighting shall conform to Rule 204.7(a).

P. The device shall be permanently anchored and maintained in a level position.

Q. Guardrails shall be provided to protect against access to the area of the bottom terminal landing when skirt is utilized as a loading ramp.

R. The running clearance from front or rear to the permanent hoistway enclosure shall not be more than 1" nor less than 1/2".

Sec. 1.18813 Machinery and equipment for the devices.

A. The frame and platform shall be of steel or approved non combustible material. The platform shall not be larger than 42" wide by 60" long and not less than 36" wide x 48" long (inside dimensions).

B. The rated capacity shall be not less than 420 lbs. nor less than 35# per square foot.

C. The device shall be designed to insure a safety factor of 5.

D. Welding on the device shall conform to rule 203.7.

E. Means shall be provided on vertical traveling devices to prevent access below the platform when it is in the raised position.

F. When a skirt is provided, they must be solid (not perforated or grilled), and may be hinged or collapsible type. If of hinged or collapsible type they shall have a switch to cut off the power to the driving machine in case of accidental contact with any object while device is moving downward. The required pressure on the skirt to make the switch function shall not exceed 4 lbs.

G. Means shall be provided to prevent wheelchair from rolling off platform when in operation.

H. The speed of the device shall not exceed 15 feet per minute in either direction under full load conditions.

I. The total travel of the device shall not exceed 54".

J. (1) Operating means shall be provided by the use of a universal key or magnetic card available and restricted to key personnel and physically handicapped persons.

(2) Operation shall be by continuous pressure, key operated switches. Switches shall be arranged so that they will not remain in the run position unless held in position and will automatically return to the "off" position if released. Key switches shall be so located as to permit an unobstructed view of the entire length of the travel of the device.

(3) A slack cable or chain switch shall be provided where applicable.

(4) An upper and lower terminal stopping switch shall be provided to stop the device at the terminal landings.

(5) The device shall conform to Rule 501.11b for emergency stop switch in car and Rule 501.11c for control and operating circuit requirements.

deleted see F.9F##

K. A mechanical stop shall be provided at the top and bottom. Overtravel and undertravel shall not be more than 1" until the mechanical stop is reached. Stops shall be designed to stop the car at full load, full speed in both directions and have a safety factor of not less than 5.

L. A data plate shall be installed under the platform which shall contain: car weight, capacity, total load, and speed plus total load, and speed plus total weight of device.

M. A full load speed safety test shall be performed on an annual basis.

N. Covers to mechanism shall be removable, for inspection purposes.

O. A sign shall be placed inside the device indicating, "for use by physically handicapped persons only". Letters shall not be less than 2" high.

P. Maintenance shall be provided on the device and shall conform to applicable rules of Part 10.

Q. If the device is of the hydraulic type, the engineering shall conform to Rule 1302.

R. An alarm bell shall be installed in accordance with Rule 211.1 and shall be connected to a push button on car operating panel marked "alarm".

SECTION V

Proposed Amendment to the National Electrical Code

2 MCAR 1.18601 - Electrical

NEC Table 220-2(b) is amended as follows:

Unit load per sq. ft. (Watts) for Banks and Office Buildings shall be reduced from 5 to 3.

Table 220-2(b). General Lighting Loads by Occupancies

Type of Occupancy	Unit Load per Sq. Ft. (Watts)
Armories and Auditoriums	1
Banks	~~5~~ 3
Barber Shops and Beauty Parlors	3
Churches	1
Clubs	2
Court Rooms	2
*Dwelling Units	3
Garages – Commercial (storage)	½
Hospitals	2
*Hotels and Motels, including apartment houses without provisions for cooking by tenants	2
Industrial Commercial (Loft) Buildings	2
Lodge Rooms	1½
Office Buildings	~~5~~ 3
Restaurants	2
Schools	3
Stores	3
Warehouses (storage)	¼
In any of the above occupancies except one-family dwellings and individual dwelling units of multifamily dwellings:	
Assembly Halls and Auditoriums	1
Halls, Corridors, Closets	½
Storage Spaces	¼

* All receptacle outlets of 20-ampere or less rating in one-family and multifamily dwellings and in guest rooms of hotels and motels [except those connected to the receptacle circuits specified in Section 220-3(b)] shall be considered as outlets for general illumination, and no additional load calculations shall be required for such outlets.

SECTION VI

Proposed Amendments to the Flood Proofing Regulations

~~1.10110~~ Sec. 1.18901 Adoption of "Flood Proofing Regulations." Sections 100 through 1406 of the 1972 Edition of "Flood Proofing Regulations" (FPR) as promulgated by the Office of the Chief Engineers, U.S. Army, Washington, D.C. is incorporated by reference and hereby made a part of the State Building Code subject to the following amendments:

~~(FPR Sections 201.2 through 208.2 are placed in the appendix of this Code.)~~

FPR Section 200.2 is amended to read as follows:

Official Flood Plain Zoning Map: The Official Plain Zoning Map showing the extent and boundaries ofthe Primary and Secondary Flood Hazard Areas is hereby declared and established as part of these Regulations. Hereinafter reference to term Primary Flood Hazard Areas in these regulations shall by synonymous with the term "flood plain areas" as used in the Minnesota Regulations NR 85-93.

FPR Section 200.3 is amended to read as follows:

Regulatory

Flood Datum: For the purpose of these regulations, the Regulatory Flood Datum, or as hereinafter referred to as the "RFD", is hereby declared and established for use as the reference datum for determining the elevation above mean sea level to which flood-proofing protection shall be provided. Hereinafter reference to the term "Regulatory Flood Datum" in these regulations shall be synoymous with the term "flood protection elevation" as used in Minnesota Regulations NR 85-93.

FPR Section 201.1 is amended to read as follows:

Application: These regulations shall apply to the construction, alteration, and repair of any building or parts of a building or structure in the Flood Hazard Area(s) of the municipalities. Additions, alterations, repairs and changes of use occupancy shall comply with all provisions for new buildings and structures as otherwise required in the Building Code, except as specifically provided in these Regulations.

FPR Section 201.2 is amended to read as follows:

This section shall apply unless equivalent provisions are incorporated in the Flood Plain Zoning Ordiance.

Nonconforming Use: A structure ~~of~~ or the use of a structure or premises which was lawful before the passage or amendment of the ordinance but which is not in conformity with the provisions of these Regulations may be continued subject to the following conditions:

1. No such use shall be expanded, changed, enlarged or altered in a way which increases its nonconformity.

2. No structural alteration, addition, or repair to any conforming structure over the life of the structure shall exceed 50 percent of its value at the time of its becoming a nonconforming use, unless the structure is permanently changed to a conforming use.

3. If such use is discontinued for 12 consecutive months, any future use of the building premises shall conform to these Regulations. The assessor shall notify the zoning administrator in writing of instances of non-conforming uses which have been discontinued for a period of 12 months.

4. If any nonconforming use or structure is destroyed by any means, including floods, to an extent of 50 percent or more of its assessed value, it shall not be reconstructed except in conformance with the provisions of these Regulations; provided, the Board of Appeals may permit reconstruction if the use or structure is located outside the floodway and is adequately and safely flood-proofed, elevated, or otherwise protected in conformance with these Regulations.

5. Uses or adjuncts thereof which are or become nuisances shall not be entitled to continue as nonconforming uses.

~~6. Except as provided in "The Building Code," any use which has been permitted as a special exception shall not be deemed a nonconforming use but shall be considered a conforming use.~~

~~7.~~6. Any alteration, addition, or repair to any nonconforming structure which would result in substantially increasing its flood damage or flood hazard potential shall be protected as required by these Regulations.

~~8.~~7. The Building Official shall maintain a list of nonconforming uses including the date of becoming nonconforming, accessed value at the time of its becoming a nonconforming use, and the nature and extent of nonconformity. This list shall be brought up-to-date annually.

~~9.~~8. The Building Official shall prepare a list of those nonconforming uses which have been flood-proofed or otherwise protected in conformance with these regulations. He shall present such list to the Board of Appeals which may issue a certificate to the owner stating that such uses, as a result of these corrective measures, are inconformance with these Regulations.

FPR Section 203.3 is amended to read as follows:

Records. Copies of such tests, reports, certifications, or the results of such tests shall be kept on file in the office of the Building Official for a period of not less than two (2) years after the approval and acceptance of the completed structure for beneficial occupancy.

FPR Section 204.6 is amended to read as follows:

Board of Appeals: ~~In order to determine the suitability of alternate materials and methods of construction and to provide reasonable interpretations of the provisions herein, there shall be and is hereby created a Board of Appeals of five (5) members. Each member of the Board shall be a licensed professional architect or engineer, or builder or superintendent of building construction, with at least ten years experience, for five years of which he shall have been in responsible charge of work. At no time shall there be more than two members from the same profession. At least one of the members shall be licensed structural or civil engineer with architectural engineering experience. The Board shall adopt reasonable rules for its investigations and shall render writen decisions to the Building Official.~~ See UBC Sec. 204 and 2 MCAR Sec. 1.10111 UBC Sec. 204.

FPR Section 204.7 is amended to read as follows"

Validity: It shall be unlawful for any person, firm or corporation or agency (state or local) to erect, construct, enlarge, alter, repair, move, improve, remove, convert, or demolish, any building or structure in the Flood Hazard Area(s), or cause the same to be done, contrary to or in violation of any of the provisions of these Regulations and/or "The Building Code".

FPR Section 205.1 is amended to read as follows:

Statement of Intention to Improve: The Owner or any registered architect or licensed professional engineer authorized to represent the Owner shall, before preparing final plans for any improvement in the Flood Hazard Area(s), file with the Building Official a Statement of Intention to Improve, including a brief description of the type of improvement being considered and giving its precise location, on a form provided by the Building Official. The Building Official shall note on two copies the elevation of the RFD at the location of the proposed improvement. One copy of the Statement of Intention to Improve shall be retained by the Building Official until a permit copy for improvement on the site is approved or one year has elapsed; a second copy shall be returned to the Owner for his use in final siting and design of his improvement. Assignments of the RFD elevations at all locations shall be made from profiles and/or cross sections provided by the Army Corps of Engineers, SCS, USGS. This information shall be open to public examination at all reasonable times.

FPR Section 205.2 is amended to read as follows:

Permits Required: No person, form or corporation shall erect, construct, alter, repair, move, remove convert, or demolish any building or structure or any part thereof, or make any other improvement within the structure or any part thereof, or make any other improvement within the Flood Hazard Area(s), or cause same to be done, without first obtaining a separate building flood proofing permit for any such improvement from the Building Official. Ordinary minor repairs may be made with the approval of the Building Official without a permit, provided that such repairs shall not violate any provisions of these Regulations or of "The Building Code".

FPR Section 205.3 No. 2 is amended to read as follows:

Two (2) sets of complete plans and specifications, in addition to plans and specifications required by "The Building Code", except that plans and specifications for any and all proposed improvement in the primary Flood Hazard Area(s) shall be prepared by an engineer or architect licensed by the State to practice as such. All drawings and specifications shall bear the name of the author thereof in his true name, followed by such title as he may be lawfully authorized to use. All plans and sections shall be noted with the proposed flood-proofing class of each space below the RFD including detail drawings of walls and wall openings.

Exception: Plans for Group R Division 3 & 4 Occupancies need not be prepared by a licensed architect or engineer.

FPR Section 205.3 No. 3 is amended to read as follows:

Two (2) copies of the Owner's Contingency Plan, which shall describe in detail all procedures for temporary placement and removal or contingent protection proposed items in spaces affected by these Regulations including:

~~1.~~(a) Plans and schedules for items to be removed and locations of places above the RFD to which they will be removed if these contents violate restrictions associated with the flood-proofing class of the space in which they are placed temporarily, including specific organizational responsiblities.

~~2.~~(b) Procedures, materials and equipment for protecting items required to have protection by their flood-proofing class, but for which this protection is proposed to be provided contingently, including specific organizational responsibilities for accomplishing this protection.

Waivers of restrictions implicitly requested by submission of the Owner's Contingency Play may be granted by the Building Official as provided by 1101.2.

FPR Section 209.1 is amended to read as follows:

New Building and Structures: Every building or structure hereafter erected, that is located in the primary Flood Hazard Area(s) where the ground surface is two (2) feet or more below the RFD, or where flood water velocities may exceed five (5) feet per second, shall be provided with an enclosed refuge space above the RFD, of sufficient area to provide for the occupany load with a minimum of 12 square feet per person. It shall be provided with one or more exits through the exterior walls above the RFD to an exterior platform and stairway not less than three (3) feet wide.

FPR Section 209.3 is amended to read as follows:

Use of Space Below the Regulatory Flood Datum: No floor level or portion of the building or structure that is below the RFD regardless of structure or space classification shall be used ~~for human occupancy~~ as habitable space, or for storage of any property, materials, or equipment that might constitute a safety hazard when contacted by flood waters.

FPR Section 210.7 is amended to read as follows:

Placard Types: Placards shall be white rigid plastic or other non-water susceptible materials eight (8) inches long and twelve (12) inches wide, and shall have printed thereon in black letters the information shown in Figure 2.

FPR Section 300.0 is amended by adding a subsection to read as follows:

FPR Section 300.2 Interpretation: For the purpose of these regulations, where definition of terms as set forth in this Chapter conflict in meaning with those as set forth in Minn. Regs. NP 85(c), the latter shall take precedence.

FPR Section 301.2.9 is amended to read as follows:

Habitable space (Room) A is space ~~used~~ in a structure for living, sleeping, eating or cooking. ~~, or combination thereof, but not including bathrooms.~~ Bathrooms, toilet compartments, closets, halls, storage rooms, laundry and or utility ~~rooms~~ space, ~~cellars and similar spaces~~ and similar areas, are not considered habitable space.

FPR Section 301.4.1 is amended to read as follows:

Building Code: The State Building Code setting forth standards for the construction, addition and modification and repair of buildings and other structures for the purpose of protecting health, safety, and general welfare of the public.

FPR Section 402.1 (Table 2) is amended to read as follows:

General: Table 2 indicates the various degrees of protection required to permit use of spaces for each flood-proofing, the chart in itself shall not be construed as being exhaustive with respect to all requirements imposed by these Regulations. Any disputes arising over the interpretation of this chart, the written provisions of these Regulations shall be considered as definitive.

Table 2
SPACE CLASSIFICATION CHART

FLOOD-PROOFING CLASSIFICATION OF SPACES
MINIMUM REQUIREMENTS

Flood-Proofing Classes	Water-Proofing	Structural Loads	Closure of Openings	Internal Flooding & Draining	Flooring	Walls and Ceilings	Contacts	Electrical	Mechanical
W1 Completely Dry	Type A	Class 1	Type 1		Class 1	Class 1	Class 1		
W2 Essentially Dry	Type B	Class 1	Type 2		Class 2	Class 2	Class 2		
W3 Flooded with Potable Water	Type A	Class 2	Type 3	See Chapter 8	Class 3	Class 3	Class 3	See Chapter 12	See Chapter 13
W4 Flooded with Flood Water	Type C	Class 3	Type 4		Class 4	Class 4	Class 4		
W5 Non-Flood-Proofing	-	-	Type 5		Class 5	Class 5	Class 5		

FPR Section 612.2.1 is amended to read as follows:

Natural Terrain: In addition to the requirements of "The Building Code", the building shall be located not less than fifteen (15) feet back from the line of incidence of the RFD on the ground, foundation design shall take into consideration the effects of soil saturation on the performance of the foundations, the effects of flood waters on slope stability shall be investigated, normal access to the building shall be by direct connections with areas above the RFD and all utility service lines shall be designated and constructed as required to protect the building and/or its components from damage or failure during a flooding event to the RFD.

FPR Section 612.2.2 is amended to read as follows:

Building on Fill: The building and all parts thereof may be constructed above the RFD on an earth fill. Prior to placement of any fill or embankment materials the area upon which fill is to be placed, including a five-foot strip measured horizontally beyond and contiguous to the toe line of the fill, shall be cleared of standing trees and snags, stumps, brush, down timber, logs and other growth, and all objects including structures on above the ground surface or partially burned. The area shall be stripped of topsoil and all other material which is considered unsuitable by the Building Official as foundation material. All combustible and noncombustible materials and debris from the clearing, grubbing and stripping operations shall be removed from the proposed fill area and disposed of at locations above the RFD and/or in the manner approved by the Building Official. Fill material shall be of a selected type, preferable granular and free-draining placed in compacted layers. Fill selection and placement shall recognize the effects of saturation from flood waters on slope stability, uniform and differential settlement, and scour potential.

The minimum elevation of the top slope for the fill section shall be no more than one foot below the RFD. Minimum distance from any point of the building perimeter to the top of the fill slope shall be either fifteen (15) feet or twice the depth of fill at that point, whichever is the greater distance. This requirement does not apply to roadways, driveways, playgrounds and other related features which are not integral and functional parts of the building proper. Fill slopes for granular materials shall be not steeper than one vertical on one and one-half horizontal, unless substantiating data justifying steeper slopes are permitted to the Building Official and approved. For slopes exposed to flood velocities of less than five (5) feet per second, grass or vine cover, weeds, bushes and similar vegetation undergrowth will be considered to provide adequate scour protection.

FPR Section 802.1 is amended to read as follows:

Applicability: Spaces to be intentionally flooded with flood water (W4) shall be provided with the necessary equipment, devices, piping, controls, etc. necessary for automatic flooding during the flood event and drainage system (s) shall utilize approved piping materials and have sufficient capacity for raising or lowering the internal water level at a rate comparable to the anticipated rate of rise and fall of a flood that would reach the RFD. These pipe systems shall be directly connected to the external flood waters to maintain a balanced internal and external water pressure condition. Provisions shall be made for filling the lower portions of the structure first and for interconnections through or around all floors and partitions to prevent unbalanced filling of chambers or parts within the structures. All spaces below the RFD, shall be provided with air vents extending to at least three (3) feet above the elevation of the RFD to prevent the trapping of air by the rising water surface. All openings to the filling and draingage systems shall be protected by screens for grills to prevent the entry or nesting of rodents or birds in the systems.

FPR Section 1101.3.2 is amended by changing the "Contents Class" of Food Products from X to 1.

FPR Section 1301.2.1 is amended to read as follows:

Heating systems utilizing gas or oil fired furnaces shall have a float operated automatic control valve installed in the fuel supply line which shall be set to operate when flood waters reach an elevation equal to the floor level of the space where furnace equipment is installed. A manually operated gate valve that can be operated from a loction above the RFD shall be provided in the fuel supply line to serve as a supplementary safety provision for fuel cutoff. The heating equipment and fuel storage tanks shall be mounted on and securely anchored to a foundation pad or pads of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. As an alternate means of protection, elevation of heating equipment and fuel storage tanks above the RFD on platforms or by suspension from overhead structural systems will be permitted. All unfired pressure vessels will be accorded similar treatment. Fuel lines shall be attached to furnances by means of flexible or swing type couplings. All heating equipment and fuel storage tanks shall be vented to an elevation of at least three (3) feet above the RFD. Air supply for combustion shall be furnished if required for systems installed in W1 or W2 spaces and piping or duct work for each purposes shall be terminated at least three (3) feet above the RFD.

FPR Section 1302.2.2. is amended to read as follows:

Where the state of dryness of a space is dependent on a sump pump system, or where the stability of a structure during a flood event depends on the relief of up-lift pressures on building components, all interior storm water drainage or seepage, appliance drainage, and underslab drain tile systems shall be directly connected to a sump (pump) and discharged at an elevation at least three (3) feet above the RFD.

FPR Section 1302.2.3.1 is amended to read as follows:

All vents shall extend to an elevation of at least three (3) feet above the RFD.

FPR Section 1302.3 is amended to read as follows:

Sewage Disposal/Treatment. Individual sewage disposal and/or treatment facilities will be permitted in a Flood Hazard Area but only at locations where connection with a public sewer systems is not permissible or feasible. Such facilities shall conform to applicable standards, criteria, rules and regulations of the Minnesota Department of Health and Pollution Control Agency in terms of size, construction, use and maintenance and with standards and criteria of the Minnesota Department of Natural Resources regaring setbacks from normal high water mark of a water-course in accordance with the public water classificaztion. ~~Installations in low swampy areas or areas where the highest known ground water table is within four feet of the bottom of the soil absorption systems or which may be subject to recurrent flooding will not be permitted.~~

FPR Section 1302.3.1 regarding cesspools/sewage disposals has been amended by deleting this section in its entirety.

FPR Section 1302.3.2 regarding seepage pits has been amended by deleting this section in its entirety.

FPR Section 1302.4.1 is amended to read as follows:

Water supply wells, tanks, filters, softeners, heaters, and all appliances located below the RFD shall be protected against contamination by covers, walls, copings, or castings. All vents shall be extended to a minimum elevation of three (3) feet above the RFD.

SECTION VII

Proposed Amendments to the Minnesota Plumbing Code

1. Amend MHD 122(g) by adding (4) as follows:

"(4) Connection to Public or Private Sewer. Every building shall have its own independent connection with a public or private sewer, except that a group of buildings may be connected to one or more manholes which are constructed on the premises, and connected to a public or private sewer."

2. Amend MHD Table 123(c) (3) VI. Water Service as follows:

"Water Service - Minimum working pressure rating shall be at least ~~160~~ 150 psi for municipal water service and ~~120~~ 100 psi for other service."

3. Amend MHD 123(d) (2) as follows:

"(dd) Copper tube 3E or 3G and 3D fittings 3D or 3N.

~~(ee) Copper tube 3G and 3D fittings with the provision that this pipe be used only in yard areas.~~

(ff) Lead pipe 4B with heavy duty bronze unions or wiped joints with the provision that each joint must be supported by a durable support without abrasive or cutting edge.

(ff)(gg) Asbestos cement pipe 5A and fittings with the provision that this material be supported continuously and laid in granular soil and only in yard areas. Further that it not be used to convey extremely soft water, and shall pass through the floor within 3 feet of the outside wall.

(gg) (hh) Concrete pipe 5N.

(hh) ~~(ii)~~ Plastic pipe 6D, 6E, 6F and 6G ~~provided that these materials be used only in yard areas~~, may be used for water service pipe only up to the water meter or pressure tank and provided there is no more than 2 feet of such piping exposed within the building. These materials shall be installed in accordance with ASTM D.2774-72. Particular care ~~should~~ shall be taken to avoid sharp edges in contact with the pipe and to provide for expansion and contraction."

4. Amend MHD 124(a) (2) (11-4) as follows:

"(11-4) Mechanical Joints in Hubless Cast Iron Soil Pipe. Mechanical joints for hubless cast iron soil pipe and fittings may be made --by using a neoprene sleeve and stainless steel retaining band as specified in CISPI standard 301, --by using a transition fitting made of elastomeric material (ASTM C 425 and ASTIM C 564) and 300 series stainless steel bands and bolts, or ~~mechanical joints for hubless cast iron soil pipe and fittings may be made~~ by using a two part coupling ~~consisting of the~~ whose housing is fabricated ~~in two parts~~ of grey-cast iron ~~casting in accordance with~~ (ASTM A 48), with a ~~The~~ coupling gasket ~~shall be molded~~ made of neoprene rubber ~~per~~ (ASTM C 564), ~~Coupling~~, and coupling bolts and nuts ~~shall be~~ made of 18-8 stainless steel."

5. Amend MHD 124(a) (4) by adding a new part (ff) as follows:

"(ff) Transition Couplings. A transition coupling is one which is to be used when pipes made of different materials are to be joined. A transition coupling may be made of elastomeric materials (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts. Any transition coupling joining plastic to plastic, copper to copper, or galvanized to galvanized, must be approved by the Administrative Authority.

6. Amend MHD 125(b) (3) as follows:

(3) Cleanout Materials. The bodies of cleanout ferrules shall be made to standard pipe sizes, conform in thickness to that required for pipes and fittings of the same material and extend not less than 1/4 inch above the hub. The cleanout cover or plug shall be of brass, cast-iron or approved plastic and be provided with a raised nut or recessed socket for removal.

Neoprene or nordel rubber with a plastic disc and a single stainless steel (300 series) band may be used for a cleanout cover provided that it is exposed and readily accessible. ~~Cleanouts for cast iron soil pipe shall have~~ Cleanout covers ~~made of brass and~~ shall conform to specifications and details as shown in Figuire 125 (b) (3), Appendix B."

7. Amend MHD 130(b) (2) (aa) as follows:

"(aa4) Where the provisions of subsections (aa1) and (aa2) cannot be met, the sewer pipe shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) and the water pipe of copper, or cast iron, or plastic 6D, 6E, 6F or 6G (MHD Table 123(C) (3) VI.).

(aa5) Where the water service pipe must cross the building sewer, the bottom of the water service pipe located within 10 feet of the point of crossing shall be at least 12 inches above the top of the sewer, except where this is not feasible, the sewer shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) (MHD Table 123(C) (3) VI.) for at least 10 feet on either side of the crossing."

8. Amend MHD 130(e) (9) (gg) (gg1) as follows:

"(gg1) Connections Not Subject to Back Pressure: Where a water connection is not subject to back pressure ~~a nonpressure~~ an atmospheric type vacuum breaker shall be installed on the discharge side of the last valve on the line serving the fixture or equipment. Where a valve is installed on the discharge side of a vacuum breaker, that vacuum breaker must be a pressure-type vacuum breaker which complies with MHD 130(e) (9) (dd). A list of some conditions requiring protective devices of this kind is given in Table 130(e) (9) (gg1) Cross Connections Where Protective Devices Are Required and Critical Level (C-L) Settings for Backflow Preventers."

9. Amend MHD 130(f) by adding (6) as follows:

"Every water heater installation shall be readily accessible for inspection, repair or replacement. The appliance space shall be provided with an opening or doorway of sufficient size to provide such access."

10. Amend MHD Table 131(a) (2) (A) by changing the second heading as follows:

"Building Sewer *****, Building Drain and Building Drain Branches - from Stacks ****" and by adding a footnote to the Table as follows:

"***** No building sewer shall be less than 4 inches in diameter."

11. Amend MHD 131(b) (5) by adding (aa-5) as follows:

"(aa5) In single family dwellings the minimum capacity of a sump shall be 18 gallons."

Amend Table 123(C) (3) VI PLASTIC PIPE AND FITTINGS DRAIN, WASTE AND VENT BUILDING SEWER by adding 6C(3) as follows:

"6C(3) Acrylonitrile-Butadiene-Styrene(ABS) ASTM D 2751"

Amend MHD 123(d) (4) (gg) as follows:

"(gg) Plastic 6A, 6B, 6C(1), ~~and~~ 6C(2) and 6C(3) laid on a continuous granular bed."

Amend MHD 130(e) (5) as follows:

"Potable water connections to boiler feed water systems ~~or~~, cooling systems, or other liquid systems, in which water conditioning chemicals ~~are~~ may be introduced shall be made through an air gap or provided with an approved backflow preventer located in the potable water line before the point where such chemicals ~~are~~ may be introduced. ~~When water conditioning chemicals will not be introduced, an approved check valve shall be installed in the water supply line to the boiler or cooling device.~~ Where a system is filled with an anti-freeze or toxic solution a permanent tag will be placed in plan view stating "Caution, this system contains anti-freeze/toxic solution." There shall be no permanent direct connection between this system and the potable water supply to the building."

SECTION VIII

Proposed Amendments to the Manufactured Building Code

2 MCAR 1.10303 is amended to read as follows:

Sec. 1.10303 Definitions. Unless otherwise expressly stated, the following terms shall, for the purpose of this Code, have the meaning indicated in this section. The definitions promulgated by the Model Code Standardization Council shall apply to terms included within this Code but which are not herein defined.

A. APPROVED is approved by the State Building Inspector.

B. CODE is the Minnesota State Building Code ~~including such revisions adopted by the Commissioner of Administration.~~

C. COMMISSIONER is the Commissioner of Administration.

D. CLOSED CONSTRUCTION is any building component, assembly or system manufactured in such a manner that all portions cannot be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

E. OPEN CONSTRUCTION is any building, component, assembly or system manufactured in such a manner that all portions can be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

F. MANUFACTURED BUILDING means any building which is of closed construction and which is made or assembled in manufacturing facilities, on or off the building site, for installation, or assembly and installation, on the building site. Manufactured building may also mean, at the option of the manufacturer, any building of open construction, made or assembled in manufacturing facilities away from the building site, for installation, or assembly and installation, on the building site.

G. BUILDING COMPONENT is any sub-system, sub-assembly, or other system designed for use in, or as a part of, a structure, including but not limited to: structural, electrical, mechanical, fire protection, and plumbing systems, and other systems affecting health and safety.

H. BUILDING SYSTEM is plans, specifications and documentation for a system of manufactured building or for a type or a system of building components, including but not limited to, structural, electrical, mechanical, fire protection and plumbing systems, and including such variations thereof as are specifically permitted by regulation, and which variations are submitted as part of the building system or amendment thereof.

I. CODE COMPLIANCE CERTIFICATE is the certificate provided by the manufacturer to the State Building Inspector which warrants that the manufactured building or building component complies with the Code.

J. Compliance Assurance Program means the system documentation and methods of assuring that manufactured buildings and building components, including their manufacture, storage, transportation, assembly, handling and installation, conform with these rules and regulations.

~~J.~~ K. EVALUATION AGENCY is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to investigate, evaluate and approve manufactured buildings or building components, building systems, or compliance assurance programs.

~~K.~~ L. INDEPENDENCE OF JUDGMENT means not being affiliated with or influenced or controlled by building manufacturers or producers, suppliers, or vendors of products or equipment used in manufactured buildings and building components in any manner which is likely to affect their capacity to render reports and findings objectively and without bias.

~~L.~~ M. INSPECTION AGENCY is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to conduct or supervise compliance assurance programs relating to the manufacture, handling, storage, and transportation of manufactured buildings or building components, and attach labels evidencing compliance with the Code.

~~M.~~ N. INSTALLATION is the process of affixing or assembling and affixing, manufactured buildings or building components on the building site, or to an existing building.

~~N.~~ O. LABEL is an approved device affixed to a manufactured building or building component, by an approved agency, evidencing code compliance.

~~O.~~ P. LOCAL ENFORCEMENT AGENCY is an agency of a municipality which enforces the Code.

Q. QUALITY CONTROL PROGRAM as used herein shall be synonymous with compliance assurance program.

~~P.~~ R. SEAL is a device or insignia issued to the Manufacturer by the State Building Inspector evidencing compliance with the Code.

2 MCAR 1.10310 is amended to read as follows:

Sec. 1.10310 Inspection. ~~The State Building Inspector, his approved inspection agency, or his approved local enforcement agency shall inspect, as required, at the manufacturing facility, manufactured buildings or components for which applications for a state seal have been made. The manufacturer shall consent to such inspections at all reasonable hours.~~

GENERAL:

The State Building Inspector shall make, or cause to be made, such inspections of the entire process of manufacturing, certifying, handling, storing and transporting of manufactured buildings and building components produced pursuant to approved building systems as he deems necessary.

MANUFACTURING FACILITIES:

A. As part of the approval process of evaluating building systems and compliance assurance programs, the State Building Inspector or an evaluation agency shall inspect the manufacturing facilities in which the buildings or building components are to be manufactured.

PRODUCTION PROCESS:

B. The State Building Inspector or an inspection agency, shall make such inspections as may be required by an approved compliance assurance program, or as may be deemed necessary by the State Building Inspector.

DAMAGED BUILDINGS OR COMPONENTS:

C. Prior to the issuance of a building permit, the State Building Inspector or an inspection agency shall inspect, or cause to be inspected, certified manufactured buildings or building components which it determines to have been sufficiently damaged after certification to warrant such inspection and take such action with regard to such buildings or building components as is authorized under MCAR 1.10319, or as is otherwise necessary to eliminate dangerous conditions.

The State Building Inspector shall require manufactured buildings or building components which are so damaged as no longer to comply with the Act and these rules and regulations to be brought into compliance promptly. If such buildings or building components are not brought into compliance with the Act and these rules and regulations within a reasonable time, or if they are so damaged that they cannot be brought into compliance, the State Building Inspector shall order that the labels be removed from such buildings or building components. Irreparably damaged buildings or building components shall be disposed of in accordance with applicable law.

INSPECTION AGENCY REVIEW:

D. The State Building Inspector shall have the right to examine each approved inspection agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency and of its monitoring of each compliance assurance program. Each such examination shall investigate the adequacy of all procedures used by the agency in monitoring compliance assurance programs including inspection, tests, production methods, process controls, operator performance, materials receipt, storage and handling, workmanship standards, records and all other activities which implement the compliance assurance program in the manufacturing facility during transport, on-site, and at critical subcontractors' facilities. The results of such examinations shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the inspection agency. Inspection agencies shall be specifically notified of any deficiencies and of the manner in and time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, an agency's approval may be suspended or revoked as provided in 2 MCAR 1.10334. Such inspections shall take place at the manufacturing facility, and may also take place at the inspection agencies office, or at the site of installation.

EVALUATION AGENCY REVIEW:

E. The State Building Inspector shall have the right to examine each approved evaluation agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency. Each such examination shall investigate the adequacy of all evaluative procedures including engineering evaluation of plans, specifications and test results, testing, and analysis of compliance assurance programs. The results of such examination shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the evaluation agency. Agencies shall be specifically notified of any deficiencies and of the manner in time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, approval of an evaluation agency may be suspended or revoked as provided in 2 MCAR 1.10334.

2 MCAR Sec. 1.10312 is amended to read as follows:

Sec. 1.10312 Local zoning. Local use zone requirements, ~~fire zone requirements based on performance~~, building setback, side and rear yard requirements, site development and property line requirements are specifically and entirely reserved to local municipalities.

2 MCAR Sec. 1.10320 shall be revised to read as follows:

Sec. 1.10320 Seals. A. R-3 and R-4 Occupancies. Each manufactured building ~~or system~~ manufactured pursuant to the Code shall have permanently attached thereto in a ~~visible~~ location ~~as~~ shown on the approved plans, a state seal evidencing the State Building Inspector's approval of such building, ~~component or system.~~ When a manufactured building consists of one or more sections, that may be transported or stored individually each section must be marked or labeled to indicate that the section is a part of a manufactured structure and shall bear the number of the State of Minnesota Seal assigned to the building.

The marking or label shall also indicate the name of the manufacturer, the address of the manufacturing facility and the manufacturers serial number or other designator assigned to the building. All labels shall be visible from the exterior, shall be legible and shall remain on the structure until the building is complete.

B. All other occupancies. One seal is required per transportable unit.

2 MCAR Sec. 1.10321 is amended to read as follows:

Sec. 1.10321 Issuance. A seal shall be issued by the State Building Inspector to the manufacturer upon application and after plan approval has been issued, and shall be issued in accordance with the following:

a. If the State Building Inspector delegates the issuance of seals to an inspection agency, the agency shall be required to obtain approval from the State Building Inspector for the manner in which they are handled;

b. Seals must be serially numbered;

c. A manufacturer's compliance assurance program, submitted in accordance with 2 MCAR 1.10332A shall include requirements for issuance, possession of, attachment of and accounting for all seals to assure that seals are attached only to buildings or building components manufactured pursuant to an approved building system and inspected pursuant to an approved compliance assurance program;

d. If the State Building Inspector or an inspection agency determines that the manufacturer's record of compliance is such that the State Building Inspector or inspection agency need not maintain an inspector in a given plant at all times, the State Building Inspector or inspection agency may entrust seals to the custody of one or more employees of the manufacturer, who shall be charged with controlling the use of such seals. Such employees shall not be given custody of more seals than are necessary to accommodate the manufacturer's anticipated production for one month. If the conditions of custody are violated, the State Building Inspector or an inspecton agency shall immediately regain posession of all seals that have not applied to the manufactured buidings or building components and shall take such further action with respect to buildings or components already sealed, and with respect to future seals, as it may deem necessary to assure compliance with the Act and these rules and regulations.

Sec. 1.10325 Manufacturer's data plate. The data plate form furnished by the State Building Inspector shall contain but not be limited to the following information, and shall be placed by the manufacturer ~~directly or by reference on one or more permanent manufacturer's data plates~~ in the vicinity of the electrical distribution panel or in some other approved designated location that is readily accessible for inspection:

A. Manufacturer's name and address.

B. Serial number of the unit.

C. Model designation and name of manufacturer of major factory-installed appliances.

D. Where applicable, identification of permissible type of gas for appliances and direction for water and drain connections.

E. Name and date of standards complied with.

F. Seal serial number.

G. Design loads

H. Special conditions or limitations of the unit.

I. Date of manufacture

J. Electrical ratings-instructions and warnings on voltage, phase, size and connections of units and grounding requirements.

2 MCAR Sec. 1.10334 is amended to read as follows:

Sec. 1.10334 ~~Requirements for inspection agency.~~ Approval of inspection and evaluation agencies.

~~A. The inspection agency shall provide acceptable evidence and certify to the State Building Inspector and the evaluation agency that it is totally independent of the manufacturer, and maintains independence of judgment.~~

~~B. The inspection agency shall establish that it has the capabilities to inspect the type of construction proposed by the manufacturer and inspect for compliance ith the approved plans and specifications and approved quality control manual.~~

~~C. When the quality control program involves sampling and testing of materials or components, the inspection agency must substantiate that it has experienced personnel and adequate equipment to witness and verify testing in accordance with the approved quality control manual.~~

~~D. The inspection agency shall employ a professional engineer or architect to be in responsible charge of all undertakings of the agency in connection with these rules and regulations and the Code.~~

~~E. When requested by the State Building Inspector, the inspection agency shall, independently of any reporting by the manufacturer, send directly to the State Building Inspector or the evaluation agency a full and complete report as to the results of all tests, inspections, recommendations, actions, analyses, evaluations and dispositions during any specified period.~~

~~F. The inspection agency shall prepare and submit for approval by the State Building Inspector and/or the evaluation agency a detailed inspection manual for use by their inspectors.~~

A. Requirements For Submission.

An inspection or evaluation agency seeking approval shall submit an application to the State Building Inspector which shall include the items listed in this Section.

1. The original Articles of Incorporation of the agency and all subsequent amendments thereto, as filed in the State of incorporation.

2. The bylaws of the organization, if any.

3. The names, addresses and business affiliations of all members of the Board of Directors and of top management personnel.

4. Stock owned in amounts over $5,000 reflecting the financial interests of the agency's Board of Directors and top management personnel.

5. Certification by the agency that:

a. Its board of directors, as a body, and its technical personnel, as individuals, can exercise independence of judgment; and,

b. Its activities pursuant hereto will result in no financial benefit to the agency via stock ownership, or other financial interests in any producer, supplier or vendor of products involved, other than through standard published fees for services rendered.

c. Names, years of experience, State in which professionally registered and other qualifications of the directors of inspection or evaluation programs.

d. Names and years of experience of employees practicing in the following disciplines: architecture, structural engineering, mechanical engineering, electrical engineering, fire protection and other branches of engineering; the States in which each is registered and the services each performs.

E. An organization chart showing management and supervisory persons including the number of graduate engineers and architects, and the names of all consulting engineers or architects, designating which are full-time and which are part-time engineers.

6. Number and location of factory inspectors, supervisors, and other technicians, including evaluators of factory inspectors and the qualifications of each specialized group, including records of work experience, licenses held and other pertinent qualifications; descriptions of the type of work each group and each technician is expected to perform, and the qualifications of each group and each technician to perform the work assigned.

7. An outline of the training program, if any, of the agency to assure that all inspectors, evaluators and other technicians are properly trained to do each job assigned to them.

8. An outline of the general procedures for supervision of inspectors and evaluators, including checking and evaluation of their work.

9. All engineers, technicians and other personnel who will perform services for the organization but who are not employees of the organization, and the supervisory and other relationships which each will have to the agency.

10. Type of products, components, equipment, structures and other items which the organization has evaluated, tested, or inspected, and the number of years of experience the organization has had with each, and the type of codes, standards, specifications and requirements with respect to which the organization has had experience in providing evaluation, inspection or testing services, and the number of years of experience with each.

11. Description of the record-keeping system the agency proposes to use with particular regard to availability of records to the State Building Inspector and the capacity to render reports to the State Building Inspector.

12. Description of the frequency with which the agency is capable of performing inspections or evaluations.

13. List of States in which the agency is now approved to inspect or evaluate manufactured buildings or building components, and a further listing of those States in which the agency intends to seek such approval within the next two (2) years.

14. Certification that the agency is able to evaluate building systems for compliance with the codes, standards, specifications and requirements adopted herein, or manufactured buildings or building components for compliance with approved building systems.

15. Fee as required by 2 MCAR 1.10335

B. PROCEDURES FOR APPROVING AND DELEGATING

1. The State Building Inspector may approve inspection or evaluation agencies which meet the requirements of Section 1 of this Part and which the State Building Inspector finds otherwise qualified to perform the functions proposed to be delegated to them.

2. Prior to a full evaluation of an application for approval, the State Building Inspector shall determine whether such application is complete and suitable for processing. In the event the application is found to be unsuitable for processing, the applicant shall be notified in writing of such unsuitability and the basis thereof within thirty (30) days of the date the application is received by the State Building Inspector. In such event, all but $25.00 of the fee will be returned, and the findings of unsuitability shall be without prejudice. Any subsequent submission shall be treated as a new application.

3. In the event the an inspection or evaluation agency is not approved, the State Building Inspector shall return one complete application to the applicant with a written explanation of the reasons for such disapproval attached thereto.

4. Approval of inspection or evaluation agencies shall be evidenced by a letter to the applicant indicating such approval and stating specifically the functions which the applicant has been approved to perform. Such approval shall not constitute the actual delegation of such functions.

C. SUSPENSION AND REVOCATION

1. Grounds

The State Building Inspector may suspend or revoke its approval of any evaluation agency or inspection agency if the approval was issued in error, was issued on the basis of incorrect information, or was issued in violation of the Act or these rules and regulations, or if the agency violates the Act or these rules and regulations, if examination pursuant to MCAR 1.10310 4 (D) and (E) disclose that the agency has failed to perform properly, or for such other cause as may be deemed sufficient by the State Building Inspector to warrant such action. Appeals from suspensions or revocations shall receive timely review.

2. Procedures in Event or Revocation

a. General

If the State Building Inspector suspends or revokes the approval of an evaluation or inspection agency, the evaluation or inspection agency shall be given notice in writing of the suspension or revocation with the reasons therefor set forth therein. Manufacturers being evaluated or inspected by such agencies, and all local enforcement agencies within this State shall also be notified in writing of such suspensions or revocations.

Such notices shall contain instructions to the local enforcement agencies as to manufactured buildings or building components previously certified by an agency whose approval has been suspended or revoked.

b. Records

An evaluation or inspection agency whose approval has been suspended or revoked shall within (90) days of the suspension or revocation deliver to the custody of the State Building Inspector the originals of all records required by these rules and regulations to be made of, or in the course of, the agency's operations pursuant to the Act and these rules and regulations.

C. Seals

An evaluation or inspection agency for which approval has been suspended or revoked shall, within ten (10) days of the suspension or revocation, deliver to the custody of the State Building Inspector all seals in the agency's possession, under its control, or for which it is responsible pursuant to these rules and regulations.

1.10335 Fees. General. All fees shall be:

A. In the form of checks or money orders.

B. Payable to: Minnesota State Treasurer.

C. Addressed to: State of Minnesota
Department of Administration
Building Code Division
No. 408 Metro Square Building
7th and Robert Streets
St. Paul, Minnesota 55101

D. Seal Fee, twenty dollars($20.00) per Seal. Replacement seal fee for damaged seals, five dollars($5.00) per Seal.

E. For all other work performed by the Building Code Division such as, but not limited to: the review of plans, specifications, and independent agency reports, inspection and quality control evaluation, a fee of ~~fifteen~~ twenty dollars ~~($15.00)~~ ($20.00) per man hour shall be charged.

F. Travel expense shall be charged at the rates established for state employees by the Commissioner of Administration.

G. Inspection and/or evaluation agencies.

1. Initial fee of $150.00 shall be submitted with the application for agency approval. The initial fee shall be submitted prior to September 1, 1979 by all currently approved agencies and shall include any additional data necessary to show compliance with MCAR 1.10310, 1.10321, 1.10334.

2. A registration fee of $75.00 is required annually, due January 1 of each year, to maintain State approval.

~~Section 1.10336 Provisional authority. A manufacturer who files an application in proper form for quality control approval shall have temporary authority to acquire seals commencing twenty days after the date of filing of the application, unless within such period the Commissioner, by written notice mailed to the manufacturer at the address shown on his application or served upon him personally, shall deny temporary authority and state his reasons for doing so. Such temporary authority shall continue until final determination of the manufacturer's application for quality control approval, or revocation pursuant to 2 MCAR Section 1.10319, whichever shall first occur, and shall empower the manufacturer to affix seals to all models whose plans have been approved and which comply with Code. A manufacturer operating under temporary authority is subject to all verification inspections and other requirements imposed upon a manufacturer who has obtained quality control approval.~~

SECTION IX

Amendments proposed by other than the Building Code Division

PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Minneapolis Association of Building Owners & Managers Inc., Arthur Olofson, Executive Vice President

2 MCAR 1.18601

N.E.C. Section 300-22(b) is amended to read as follows:

(b) Ducts or Plenums Used for Environmental Air. Only wiring methods consisting of mineral-insulated metal-sheathered cable, Type MC cable employing a smooth or corrugated impervious metal sheath, electrical metallic tubing, flexible metallic tubing, intermediate metal conduit, or rigid metal conduit shall be installed in ducts or plenums used for environmental air. Flexible metal conduit, flexible metallic tubing and liquidtight flexible metal conduit shall be permitted, in lengths not to exceed 4 feet, to connect physically adjustable equipment and devices permitted to be in these ducts and plenum chambers. The connectors used with flexible metal conduit shall effectively close any openings in the connection. Equipment and devices shall be permitted within such ducts or plenum chambers only if necessary for their direct action upon, or sensing of, the contained air. Where equipment or devices are installed and illumination is necessary to facilitate maintenance and repair, enclosed gasketed-type fixtures shall be permitted.

Exception: Circuits and equipment as set out in Section 800-1 when installed in return air handling plenums located above ceilings in new and existing buildings housing Group B2 occupancies, are not required to be installed in metallic tubing, metal conduit, or any other type of metallic raceway. All such communication wiring shall be grouped and shall be independently supported from the structure. All such communication wiring, when abandoned, shall be removed.

PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHER THAN BUILDING CODE DIVISION

Proponent - Minneapolis Association of Building Owners & Managers, Inc., Arthur W. Olofson, Executive Vice President

Section 1807 (h) (1) is amended as follows:

1807 (h)1. Except for the main entrance level, all elevators on all floors shall open into elevator lobbies, which are separated from the remainder of the building as is required for corridor construction in Section 3304 (g) and (h).

Exception: When a complete and approved automatic fire extinguishing system is installed in Group B Division 2 Office Buildings, separation of elevator lobbies is not required on any floor.

PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Minneapolis Association of Building Owners & Managers Inc., Arthur Olofson, Executive Vice President.

Section 1807 (m) (1)(2) is amended as follows: Delete the following paragraph 1. in its entirety.

1807 (m) ~~1. The fire resistive time periods set forth in Table No. 17-A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. Vertical shafts other than stairway enclosures and elevator shafts may be reduced to one hour when sprinklers are installed within the shafts at alternate floors.~~

Substitute with the following paragraph 1.:

1. The fire-resistive time periods set forth in Table 17-A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. All office building partitions required to be of one-hour fire-resistive construction by Table No. 17-A and Section 3304(g) may be of noncombustible construction without a fire-resistive time period. Openings in corridor walls shall be protected by tight-fitting, self-closing doors that need not have a fire-resistive time period. In Group R, Division 1 Occupancies, corridor and dwelling unit or guest room separation may be reduced to one-half hour.

Delete the following paragraph 2:

1807 (m)2. ~~Except for corridors in Group B, Division 2 and Group R, Division 1 Occupancies and partitions separating dwelling units or guest rooms all interior nonbearing partitions required to be one-hour fire-resistive construction by Table No. 17-A may be of noncombustible construction without a fire resistive time period.~~

PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Minnesota Energy Agency - Robert Gish

(1)

See HE 58

2 MCAR 1.16005

ASHRAE 90-75 Section 4.2.2 is amended to read as follows: withdrawn.

4.2.2 The gross area of exterior walls consists of all opaque wall areas (including foundation walls, between-floor spandrels, peripheral edges of floors, etc.), window areas (including sash), and door areas, where such surfaces are exposed to outdoor air or are within frostline depth of outdoor air, and enclose a heated and/or mechanically cooled space (including intersticial areas between two such spaces).

PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Minnesota Energy Agency - Robert Gish

2 MCAR 1.16005

ASHRAE 90-75 Figure 1 page 13 is deleted and replaced with the new figure 1 as follows:

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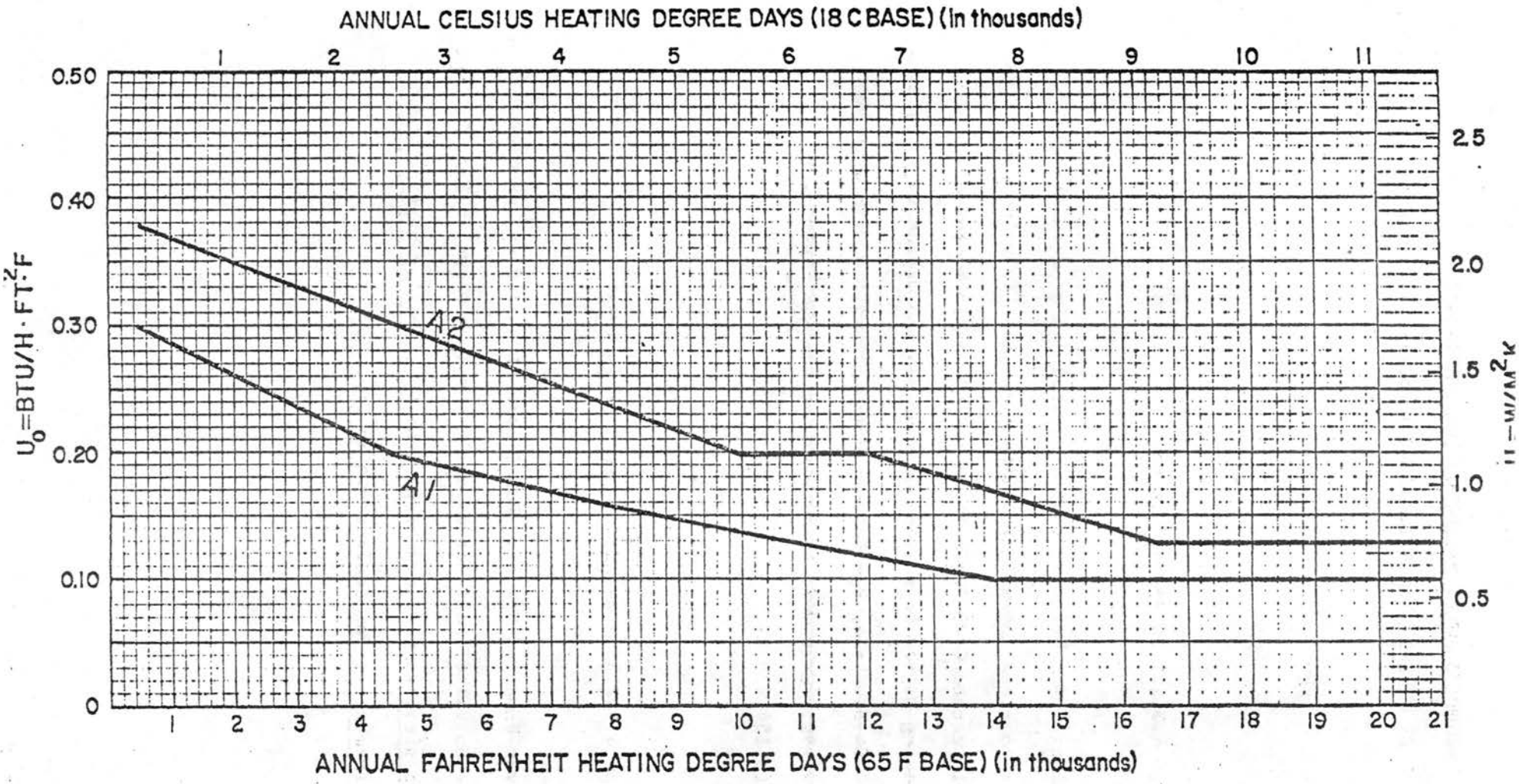


Fig. 1 U_o Type "A" Buildings

Type "A" Buildings Shall Include: A_1 Detached One- and Two-Family Dwellings
A_2 All other Buildings; Three Stories or Less
Including but not Limited to—Multi-family Dwellings
Hotel and Motels

PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Minnesota Energy Agency - Robert Gish

2 MCAR 1.16005

ASHRAE 90-75 Section 4.3.2.2 is amended to read as follows:

4.3.2.2 Roof/Ceiling. Any building that is heated and/or mechanically cooled shall have a combined thermal transmittance value (Uo value) for roof/ceilings not to exceed ~~0.05 Btu/h ft. 2 - F (0.28 W/m2K) for area with 8000 fahrenheit Heating Degree Days (4444 Celsius Heating Degree Days) or less and not to exceed 0.04 Btu/h-Ft. 2 - F (0.23 W/m2K) for areas with more than 8000 Fahrenheit Heating Degree Days (4444 Celsious Heating Degree Days).~~ 0.027 Btu/h-ft2-F (o.154 W/m2K).

2 MCAR 1.16005

ASHRAE 90-75 Section 4.4.2.3 is amended to read as follows:

4.4.2.3. Floors Over Unheated Spaces. For floors of heated spaces over unheated areas, the Uo value shall not exceed the values shown in Fig. 5. For floors over outdoor air (example: overhangs) the Uo value for heating shall meet the same requirements a for roofs shown in Fig. 4.

PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Minnesota Energy Agency - Robert Gish

2 MCAR 1.16005

ASHREA 90-75 Section 4.4.3.2 is amended to read as follows:

4.4.3.2 Roof/Ceiling. Any building that is mechanically cooled shall have a combined Thermal Transmittance valve (Uo Valve) for roof/ceilings not to exceed that which would be determined by the heating criteria above (see 4.4.2.2.) an Overall Thermal Transfer Value, OTTVr, for the gross area of a roof assembly not exceeding 8.5 Btu/h-ft. 2 (26.8 W/M2)

4.4.3.2.2 Eq 4 shall be used to determine acceptable combinations to meet the requirements of 4.4.3.2.1.

Equation 4 - Roof/Ceiling

OTTVr

$$8.5 = \frac{Ur\ Ar\ TDeqr + 138\ As\ SCs + Us\ As\ \Delta T}{Ao}$$

where

Ur = the thermal transmittance of all elements of the opaque roof area, Btu/H-ft. 2 F (w/M2K)

Ar = opaque roof area, ft2 (M2)

TDeqr = Value given in Fig. 8

As = skylight area, ft2 (M2)

SCs = shading coefficient of the skylight

Us = the thermal transmittance of the skylight, btu/H-ft2F (W/m2K)

ΔT = temperature difference between exterior and interior design conditions, F, (see 4.2.5)

NOTE: Where more than one type of roof and/or skylight is used, the respective term or terms shall be expanded:

(Url Arl TDfqrl) + (Ur2 Ar2 TDfqr2), + ..., etc.

(Add fig. 8, TDeg Values for use in EQ. 4

PROPOSED STATE BUILDING CODE AMENDMENTS

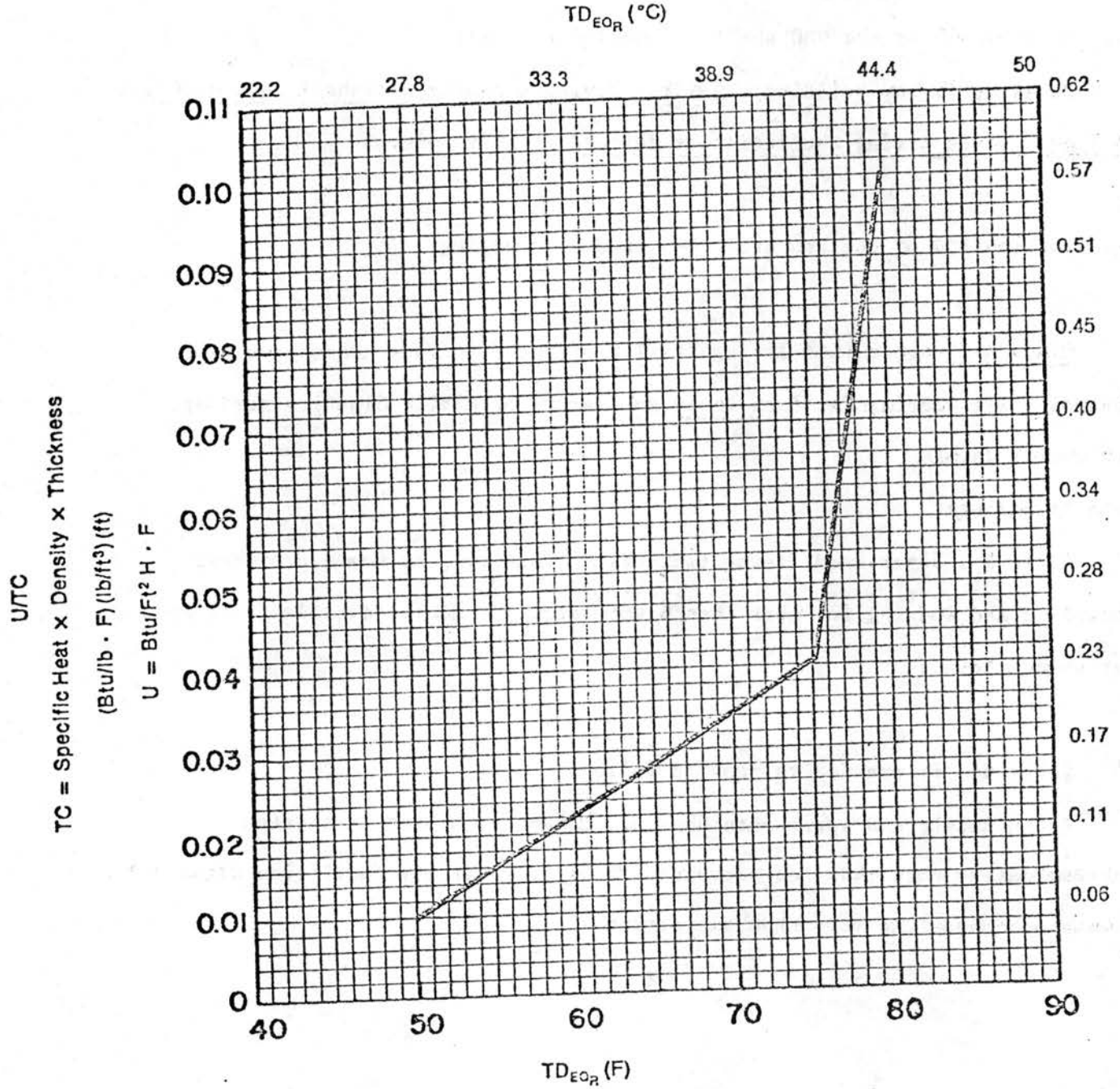
BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Minnesota Energy Agency - Robert Gish

2 MCAR 1.16005

ASHREA 90-75 is amended by adding new figure 8 as follows:

FIG 8
TD_{EQ_R} VALUES FOR USE IN EQ. 4



PROPOSED STATE BUILDING CODE AMENDMENTS

BY OTHERS THAN BUILDING CODE DIVISION

Proponent - Legal Advocacy for the Developmentally Disabled of Minnesota

Stephen E. Scott, Attorney

PROPOSED AMENDMENTS

The following sections of the Uniform Building Code should be amended as shown.

1. Section 405 of the UBC shall be amended to read:

Dwelling is any building . . . for living purposes and shall include Class A-1 Supervised Living Facilities as defined in this Code.

2. Section 420 of the UBC shall be amended by adding:

Class A-1 supervised living facilities shall include homes providing boarding and lodging for 6 or fewer ambulatory or mobile disabled persons . . at street level.

and by adding:

Class A-2 supervised living facilities shall include homes providing boarding and lodging for more than 6 ambulatory or mobile disabled persons . . at street level.

3. Table 5-A is amended to read as follows:

R-1 - Hotels and apartments houses. Convents, monasteries (each accommodating more than ten persons). Supervised living facilities Class A-2 (each accommodating more than six persons).

R-3 - Dwellings and lodging houses. Supervised living facilities Class A-1 (each accommodate six or fewer persons).

4. Section 1201 shall be amended by changing Supervised living facility Class A to Supervised living facility Class A-2.

5. Section 1201 shall be amended by adding:

Supervised living facility Class A-1 as defined in Section 420 of this Code (each accommodating six or fewer persons).

Air File #607

Permanent Rule X

Temporary Rule _____

RULES REVIEW CHECKLIST

DATE RULES RECEIVED 6/24 DUE DATE 7/14 - 8/6

Resubmitted and Received 7/29 ~

a. Returned to Agency w/o Filing w/Secretary of State 7/14

b. Approved 7/31 Date Sent Back to Agency 7/31

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1. Rules as Adopted ✓
2. Rules as Proposed ✓
3. Certificate of Board's Authorizing Resolution, where applicable N/A
4. Order for Hearing A) for Hrg. 10.9/10.79 ✓ B) for Hrg. 2.22.80 ✓
5. Notice of Hearing A) Hrg. 10.9/10.79 ✓ B) Hrg. 2.22.80 ✓
   Sufficiency A) ? see HE ₱9 B) ✓
6. Secretary of State's List A) ✓ B) ✓ (one copy only)
7. Certificate of Acquisition of Secretary of State's List A) ✓ B) ✓
8. Secretary of State's Certification of Delivery of Secretary of State's List to Agency A) ✓ B) ✓
9. Affidavit of Mailing A) ✓ B) ✓
   At least 30 days prior to hearing A) 8.27.79 B) ✓ 1.15.80
10. Publication in State Register A) ✓ Copy not submitted, see HE ₱2 + ₱9. B) ✓
    At least 30 days prior to hearing A) 9.3.79 B) ✓ 1.21.80
11. Statement of Need and Evidence A) ✓ B) ✓ 1.25.80
12. Hearing Examiner's Report A) ✓ B) ✓
13. Agency's Findings of Fact ✓
14. Certificate of Board's Resolution Adopting Rules, where applicable N/A
15. Order Adopting Admin ✓ Order Adopting Health ✓
16. Report of Chief Hearing Examiner 1st ✓ 2nd ✓
17. Order Approving Incorporation by Reference, where applicable N/A
18. Certificate of Compliance with Rulemaking Procedures ✓
19. Copy of Notice of Intent to Solicit Outside Opinion, where applicable ✓
20. Petition by Public, where applicable see Section IX of Rules as Proposed

ADMIN 1000 (Rev. 1/78)
SF-00006-01

Our File: 607

STATE OF MINNESOTA

DEPARTMENT ATTORNEY GENERAL

Office Memorandum

TO : DON PATES
Assistant Director
Building Code Division

DATE: July 31, 1980

FROM : H. THEODORE GRINDAL HTG
Special Assistant
Attorney General

PHONE: 297-3471

SUBJECT: Rules as Approved In the Matter of Proposed Amendments to the State Building Code

Enclosed herewith are the rules you have submitted for approval. These rules have been approved by this office and filed with the Secretary of State. Note that they have NOT been filed with the State Register; this must be done promptly by your agency.

Upon receipt and before transmittal to your agency, however, it is important that you recheck these rules as to:

1. Affixation of the stamps of the Attorney General and Secretary of State to the last page of the rules;

2. Coverage by these stamps of all rules submitted; and

3. Inclusion of all pages of the rules in the approved set.

Directly following the approved rules is a complete set of required documents and transcript which must be retained with the rules by you or your agency.

If you have any questions in this regard, please contact me.

HTG/bw
Encl.
cc: Duane Harves
Susan Robertson

PUBLIC HEARINGS

OCTOBER 9 - 10, 1979

FEBRUARY 22, 1980

ADOPTION OF AMENDMENTS TO

THE STATE BUILDING CODE

RESUBMITTED

RULES AS ADOPTED

PUBLIC HEARINGS

OCTOBER 9 - 10, 1979
FEBRUARY 22, 1980

ADOPTION OF AMENDMENTS TO

THE STATE BUILDING CODE

R U L E S A S A D O P T E D

THE COMPOSITION AND USE OF THE

MINNESOTA

STATE BUILDING CODE

The State Building Code, to be known as the "Code", includes several documents or codes pertaining to buildings. They are as follows:

1. State Building Code rules will be known and identified by 2 MCAR Sec. 1.0101 through 2 MCAR Sec. 1.18901.

2. The State Building Code adopts by reference the following codes:

(a) 1979 Edition of the Uniform Building Code, identified as "UBC";

(b) 1978 National Electrical Code, identified as "NEC";

(c) 1978 American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks, identified as ANSI A17.1-1978, and Supplements ANSI A17.1a-1979.

(d) 1979 Minnesota Plumbing Code, identified as MHD 120 through MHD 135;

(e) "Flood Proofing Regulations" (FPR), Office of the Chief Engineers, U.S. Army.

(f) One and Two Family Dwelling Code, 1975 Edition.

3. Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code, identified as SBC 7101 through SBC 8505.

4. "Design and Evaluation Criteria for Energy Conservation in New Buildings, Additions and Remodeled Elements of Buildings and Standards for Certain Existing Public Buildings," identified as 2 MCAR Sec. 1.16001 through 2 MCAR Sec. 1.16006. (2 MCAR Sec. 1.16007 through 2 MCAR Sec. 1.16013 reserved for future use.)

5. Standards of Performance for Solar Energy Systems and Subsystems Applied to Energy Needs of Buildings, 1977 Edition, identified as 2 MCAR Sec. 1.16101 through 2 MCAR Sec. 1.16107.

6. State of Minnesota Mobile Home Installation Standards 1977, identified as 2 MCAR Sec. 1.90450 and related definitions in 2 MCAR Sec. 1.90103.

7. Certain appendices which contain the listing of various National Standards referred to in the body of the code; technical requirements for fallout shelters; and various chapters of those codes adopted by reference which chapters may be adopted by municipalities and administered and enforced by such municipalities. The Code is to be used in its entirety by the municipalities in administering and enforcing the Code as well as by designers and builders in their designs and construction of structures. It is necessary to use the entire Code to ensure uniformity in compliance with the Code as well as uniformity in its administration and enforcement.

The above referenced Minnesota State Building Code and Minnesota Plumbing Code are available from the Department of Administration, Documents Section, 117 University Avenue, St. Paul, Minnesota 55155.

Other codes are available from the publishers of the codes.

(a) Uniform Building Code:

International Conference of Building Officials

5360 South Workman Mill Road

Whittier, California 90601

(b) National Electrical Code:

National Fire Protection Association

470 Atlantic Avenue

Boston, Massachusetts 02110

(c) American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks:

American Society of Mechanical Engineers

United Engineering Center

345 East 47th Street

New York, New York 10017

(d) ASHRAE Standard 90-75

American Society of Heating, Refrigeration, and Air-Conditioning Engineers Inc.

345 East 47th Street

New York, New York 10017

(e) One and Two Family Dwelling Code

International Conference of Building Officials

5360 South Workman Mill Road

Whittier, California 90601

Sec. 1.10101 Title, rules and regulations. The rules and regulations contained in this Code and rules and standards adopted by reference therein shall be collectively known as the Minnesota State Building Code, and may be cited as such and will be referred to herein as "this Code". The administrative chapters of the UBC (Chapter 1, 2 and 3), as amended herein, shall govern the application of the Code.

Sec. 1.10102 Purpose and application. The purpose of this Code is to provide uniform standards to safeguard life or limb, health, property and public welfare by regulating and controlling design, construction, quality of materials, use and occupancy of all buildings and structures.

The State Building Code shall apply state wide and supersede the building code of any municipality. The State Building Code Shall not apply to agricultural buildings except with respect to state inspections required or rulemaking authorized.

Sec. 1.10103 Definitions. Wherever the term "Administrative Authority" appears in this Code the words "Building Official" shall be substituted therefore.

Wherever the terms "Mayor" or "City Council" appear in this Code the words "Governing Body" shall be substituted therefore.

A. "City" means a home rule charter or statutory city.

B. "Code" means the State Building Code or any amendments thereof.

C. "Municipality" means any city, county, or town.

D. "Town" shall be defined as a town meeting the requirements of Minnesota Statutes 368.01.

Sec. 1.10104 Scope. The provisions of this Code shall apply to the construction, alteration, moving, demolition, repair and use of any building or structure within the municipality, except work located primarily in a public way, public utility towers and poles, mechanical equipment not specifically regulated in this Code, and hydraulic flood control structures.

Additions, alterations, repairs and changes of use or occupancy in all buildings and structures shall comply with the provisions for new buildings and structures except as otherwise provided in UBC Sections 104, 306, 307, and 502 of this Code. Where, in any specific case, different sections of this Code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

Wherever in this Code reference is made to the Appendix, the provisions in the Appendix shall not apply unless specifically adopted.

The provisions of this Code relating to fallout shelters shall apply only to state-owned buildings.

Sec. 1.10105 Fallout shelters. Whenever it has been determined by the Department of Public Safety, Division of Civil Defense and the State Architectural Engineer that fall-out protection is needed for a particular location the "Technical Requirements for Fallout Shelters" as contained in Appendix "A" shall be complied with.

Sec. 1.10106 State-owned buildings. State owned buildings shall mean all buildings and structures financed in whole or in part by state funds and which are under the exclusive jurisdiction and custodial control of one or more state department or agencies.

Sec. 1.10107 State plan checking fees. Plan checking of buildings or structures conducted by the Division shall have a fee based on valuation in accordance with Table No. 107-A. "Valuation" means total cost of construction exclusive of site work not related to the construction.

EXCEPTION: When the Plan Review is limited to non-structural aspects, the fee shall be 75% of those listed in Table 107-A.

There shall be no additional fee charge for consultation with designers, or for re-checking provided no substantial change in the design has been made. When a determination is made by the Division that a substantial change has been made in the design, the re-checking fee shall be $15.00 per hour or fraction thereof. No fee shall be charged for state-owned buildings.

TABLE NO. 107-A

Valuation	Plan Fee Check
$ 3,000.00 or less	No Charge
3,001.00 to 5,000.00	$ 21.00
5,001.00 to 10,000.00	34.00
10,001.00 to 15,000.00	47.00
15,001.00 to 20,000.00	60.00
20,001.00 to 25,000.00	72.00
25,001.00 to 30,000.00	83.00
30,001.00 to 35,000.00	93.00
35,001.00 to 40,000.00	102.00
40,001.00 to 45,000.00	112.00
45,001.00 to 50,000.00	122.00
50,001.00 to 55,000.00	129.00
55,001.00 to 60,000.00	135.00
60,001.00 to 65,000.00	142.00
65,001.00 to 70,000.00	148.00
70,001.00 to 75,000.00	155.00
75,001.00 to 80,000.00	161.00
80,001.00 to 85,000.00	168.00
85,001.00 to 90,000.00	174.00
90,001.00 to 95,000.00	181.00
95,001.00 to 100,000.00	187.00
100,001.00 to 500,000.00	187.00 for the first $100,000.00 plus $1.00 for each additional $1,000.00 or fraction thereof.
500,001.00 and up	577.00 for the first $500,000.00 plus $ .65 for each additional $1,000.00 or fraction thereof.

Sec. 1.10108 Disclaimer clause. The inclusion of specific requirements relative to the manner of installation of any plant or equipment in any one or more parts of said Code shall not limit this procedure to any particular type of installer nor provide a basis upon which determination of the right to perform such procedures shall be made. The authority for such determination will be found in the various licensing statutes or ordinances for each type of installer who performs the work.

Sec. 1.10109 Appendices.

A. The following appendices, annexes and supplemental material listed in this Code shall be mandatory to enforce by any municipality.

1. Minnesota State Building Code Appendix "A", Technical Requirements for Fallout Shelter.

2. Minnesota State Building Code Appendix "B", Variation in Snow Loads.

3. 1979 UBC Appendix, Chapter 35.

4. Minnesota Plumbing Code Appendix B.

B. The following appendices, annexes and supplemental material listed in this Code shall not be mandatory but may be adopted without change at the discretion of any municipality, except UBC Appendix Chapter 70 may be adopted with revised fee and bond requirements.

1. Minnesota State Building Code. Appendix "C" abbreviations and addresses of technical Organizations.

2. 1979 UBC Appendix, Chapters 12 , 38, 48, 49, 55, and 70. UBC appendices not listed as mandatory or optional are not incorporated in the State Building Code.

3. Minnesota Plumbing Code Appendices C and D.

4. Flood Proofing Regulations, Sections 201.2 through 208.2.

5. Minnesota State Building Code Appendix "D", Building Security Sections 4101-4110.

Sec. 1.10111 Adoption of the Uniform Building Code by reference. Chapters 1 through 60 and appendices of the 1979 Edition of the Uniform Building Code, hereinafter "UBC", as promulgated by the International Conference of Building Officials, are incorporated by reference and hereby made part of the State Building Code (SBC) except as qualifed by 2 MCAR Sec. 1.10109. Said UBC shall be subject to the following alterations and amendments:

UBC Sections 101, 102 and 103 are deleted in their entirety.

UBC Sec. 104 (a) is amended by changing the last sentence and adding a sentence to read: See Section 1210 for provisions requiring installation of smoke detectors in existing Group R, Division 3 or 4 Occupancies. Unsafe conditions as defined in Section 203 shall be abated.

UBC Sec. 104(f) is amended by adding an additional item number 4 as follows:

4. All approvals must be based on the applicants submission of complete architectural and engineering plans and specifications.

UBC Section 203 is amended to read as follows:

UBC Sec. 203. All buildings or structures regulated by this code which are structurally unsafe or not provided with adequate egress, or which constitute a fire hazard, or are otherwise dangerous to human life are, for the purpose of this section, unsafe. Any use of buildings or structures constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment are, for the purpose of this section, unsafe uses. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members which are supported by, attached to, or part of a building and which are in deteriorated condition or otherwise unable to sustain the design loads which are specified in the Building Code are hereby designated as unsafe building appendages.

All such unsafe buildings, structures or appendages are hereby declared to be public nuisances and shall by abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in Minnesota Statutes, Chapter 463 Sections 15 through 26.

UBC Sec. 204 is amended by amending the last sentence as follows: The Board shall adopt reasonable rules and regulations for conducting its investigations and shall render all decisions and findings in writing to the Building Official with a duplicate copy to the appellant and to the State Building Inspector within fifteen (15) days of such decision.

UBC Sec. 205 is amended by adding a sentence as follows: Any violation of provisions of this code is a misdemeanor (Minn. Stat. 16.865)

UBC Sec. 301(a) is amended by the addition of item 12 as follows:

12. Agricultural buildings as defined in Minn. Stat. 16.84 subd. 6.

Section 304(a) of the UBC is amended to read as follows:

UBC Sec. 304. (a) Permit Fees. The fee for each permit shall be as set forth in Table 3-A. Each municipality shall adopt its own schedule of permit fees. The fee schedule of Table 3-A is hereby made optional for use by the local authority and is a recommended schedule. In areas outside of the enforcement authority of a city, the fee charged for the issuance of permits and inspections for single family dwellings may not exceed the greater of $100 or .005 times the value of the structure, addition or alteration. (Minn. Stat. 16.851).

The determination of value or valuation under any of the provisions of this code shall be made by the building official. The value to be used in computing the building permit and building plan review fees shall be the total value of all construction work for which the permit is issued as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire-extinguishing systems and any other permanent equipment.

Section 305(e) of the UBC is amended to read as follows:

UBC Sec. 305(e) Required Inspections. Reinforcing steel or structural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the building official.

The building official, upon notification from the permit holder or his agent, shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his agent wherein the same fails to comply with this code:

1. FOUNDATION INSPECTION: To be made after trenches are excavated and forms erected and when all materials for the foundation are delivered on the job. Where concrete from a central mixing plant (commonly termed "transit mixed") is to be used, materials need not be on the job.

2. CONCRETE SLAB OR UNDER-FLOOR INSPECTION: To be made after all in-slab or under-floor building service equipment, conduit, piping accessories and other ancillary equipment items are in place but before any concrete is poured or floor sheathing installed, including the subfloor.

3. FRAME INSPECTION: To be made after the roof, all framing, fire blocking and bracing are in place and all pipes, chimneys and vents are complete and the rough electrical, plumbing and heating wires, pipes and ducts are approved.

4. INSULATION INSPECTION: To be made after all required insulation is in place but before any covering material is in place.

5. LATH AND/OR GYPSUM BOARD INSPECTION: To be made after all lathing and gypsum board, interior and exterior, used as a structural element or a part of a fire resistive assembly, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

6. FINAL INSPECTION: To be made after finish grading and the building is completed and ready for occupancy.

7. INSTALLATION OF MOBILE HOMES: To be made after the installation of the suuport system and all utility service connections. This shall include the inspection of the anchoring system where installed.

Section 307(a) of the UBC is amended to read as follows:

Certificate of Occupancy

Sec. 307(a) Use or Occupancy. No building or structure of Groups A,E,I,H,B or R, Division 1 Occupancy, shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the Building Official has issued a Certificate of Occupancy therefore as provided herein. A municipality may require certificates of occupancy for Group R3, R4 and Group M Occupancies.

Section 405 of the UBC, Definition of Dwelling shall be amended to read:

DWELLING is any building or any portion thereof which is not an "Apartment House", "Lodging House" or a "Hotel" as defined in this code, which contains one or two "Dwelling Units" or "Guest Rooms", used, intended or designed to be built, used, rented, leased, let or hired out to be occupied, or which are occupied for living purposes and shall include Class A-1 Supervised Living Facilities as defined in Section 420.

Section 406 of the UBC is amended by the addition of the following definition:

EARTH SHELTERED STRUCTURE is a building constructed so that more than 50 percent of the exterior surface area of the building, excluding garages or other accessory buildings, is covered with earth. Partially completed buildings shall not be considered to be earth sheltered. (See MN Stat. 116H.02 Subd. 3.)

Section 407 of the UBC Definition of Fire Code is amended as follows:

UBC Sec. 407. FIRE CODE is the Minnesota Uniform Fire Code, authorized by Minn. Stat. 299F.011.

UBC Sec. 414 Definition of Mechanical Code is amended as follows:

UBC Sec. 414 MECHANICAL CODE is the Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code.

Section 420 of the UBC is amended by adding the following definitions.

Supervised Living Facility" means a facility in which there is provided supervision, lodging, meals, and, in accordance with the provisions of rules of the Department of Public Welfare, counseling and developmental habilitative or rehabilititative services to five or more persons who are mentally retarded, chemically dependent, adult mentally ill or physically handicapped.

"Class A Supervised Living Facility" means a Supervised Living Facility for ambulatory and mobile persons who are capable of taking appropriate action for self-preservation under emergency conditions as determined by program licensure provisions.

Class A-1 supervised living facilties shall include homes providing boarding and lodging for 6 or fewer ambulatory or mobile disabled persons.

Class A-2 supervised li[redacted]g facilities shall include hom[redacted] providing boarding and lodging for more than 6 ambulatory or mobile disabled persons.

"Class B Supervised Living Facility" means a Supervised Living Facility for ambulatory, non-ambulatory, mobile or non-mobile persons who are not mentally or physically capable of taking appropriate action for self-preservation under emergency conditions as determined by program licensure provisions.

UBC Table 5-A, Group I-1, I-2, R1 and R3 are amended to read as follows:

UBC Sec. 501 Table 5-A

I.1 - Nurseries for full-time care of children under the age of six (each accommodating more than four persons). Hospitals, sanitariums, nursing homes and similar buildings (each accommodating more than four persons).

I.2 - Detoxification centers, homes for children six years of age or over, supervised living facilities Class B as defined in UBC 420, for the mentally retarded, mentally ill or the physically handicapped (each accommodating more than four persons).

R.1 - Hotels and apartment houses, convents and monasteries (each accommodating more than 10 persons). Supervised living facilities Class A2 as defined in UBC 420 (accommodating more than six persons).

R-3 - Dwellings and lodging houses. Supervised living facilities Class A-1 as defined in UBC 420 (each accommodating six or fewer persons).

Section 503(d) Exception 4 is amended to read as follows:

EXCEPTION 4. In the one-hour occupancy separation between a Group R, Division 3 and M occupancy, the separation may be limited to the installation of one half inch thick gypsum board, or equivalent, on the garage side and a tight-fitting solid wood door 1 3/8 inches in thickness will be permitted in lieu of a one-hour fire assembly. Fire dampers shall not be required in ducts piercing this separation for ducts constructed of not less than No. 26 gauge galvanized steel.

Chapter 5 of the UBC is amended by adding a new section to read as follows:

UBC Sec 512 Roof Access. Unless specifically exempted by the Building Official due to space limitation, roof height above grade or other special considerations, buildings on which any heating, air conditioning, or refrigeration equipment is hereafter installed on the roof and which equipment will require periodic inspection, service and maintenance in accordance with the mechanical code SBC 7101-8810 shall meet the following requirements:

A stairway complying with UBC Chapter 33 or a stair leading to a scuttle or bulkhead in the roof having such equipment shall be provided to make such equipment safely accessible. Said stair leading to the scuttle or bulkhead shall be placed at an angle of not more than 60 degrees measured from the horizontal with flat treads not less than six inches in width and a minimum length of 24 inches at the tread. No riser shall be more than nine inches and handrails shall be provided on both sides of the access stairs. The minimum opening of the scuttle or bulkhead shall be not less than nine square feet in area with the minimum dimension being not less than two feet. In no case shall this required access be located in or pass through the elevator shaft or elevator machine room.

Equipment should be located with at least six feet of clearance from the edge of the roof or similar hazards. If the clearance is less than six feet, a suitable rail or guard not less than forty-two inches in height shall be provided.

Each unit of equipment shall have an accessible disconnect switch. A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed on or adjacent to the unit or equipment. The circuit for this convenience outlet shall be approved ground-fault protection and shall not be connected to the equipment circuit.

Section 605 of the UBC is amended to read as follows:

UBC 605. All enclosed portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with natural light by means of exterior glazed openings with an area not less than one-tenth of the total floor area, and natural ventilation by means of openable exterior openings with an area of not less than one-twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating systems shall supply a minimum of 5 cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building and such system shall be kept continuously in operation during such time as the building is occupied. If the velocity of the air at the register exceeds 10 feet per second, the register shall be placed more than 8 feet above the floor directly beneath.

Exit lighting in portions of buildings other than the stage shall be on a separate circuit from that of the stage. Such exit lighting shall be controlled from the box office or other approved central control center located in a portion of the building other than the stage. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and shall be operated by fusible links located on both sides of the proscenium wall and both inside of and outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, See UBC Sec. 1711(h) as specified herein.

Section 705 of the UBC is amended to read as follows:

UBC Sec. 705. All portions of Group B Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of total floor area, or shall be provided with artifical light and mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all enclosed parking garages used for storing or handling of automobiles operating under their own power and on all loading platforms in bus terminals, ventilation shall be provided capable of exhausting a minimum of 3/4 cfm per square foot of gross floor area. The building official may approve an alternate ventilation system designed to exhaust a minimum of 14,000 cfm for each operating vehicle. Such system shall be based upon the anticipated instantaneous movement rate of vehicles but not less than 2.5 percent (or one vehicle) of the garage capacity. Automatic CO sensing devices may be employed to modulate the ventilation system to maintain a maximum average concentration of CO of 50 ppm during any eight-hour period, with a maximum concentration not greater than 200 ppm for a period not exceeding one hour. Connecting offices, waiting rooms, ticket booths, etc., shall be supplied with conditioned air under positive pressure.

EXCEPTION: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding in area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilites shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored or servced shall be a nonabsorbent interior finish as specifed in Section 1711, shall have hand-washing facilities therein or adjacent thereto, and shall be separated from food preparation or storage rooms as specified in Section 510.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h) as specified herein.

Section 709(e) of the UBC is amended to read as follows:

UBC Sec. 709(e) Area and Height Increases. The area and height of structures with cross ventilation throughout may be increased in accordance with provisions of this subsection. In structures with sides open (as defined in Subsection (b)) three-fourths of the building perimeter may be increased 25 percent in area and one tier in height. Structures with sides open (as defined in Subsection (b) around the entire building perimeter may be increased 50 percent in area and one tier in height. Structures of Type II -FR, Type II-1 hr, or Type II-N construction, with sides open (as defined in

subsection(b) around the entire building, may be unlimited in area when the height does not exceed 8 tiers.

Open parking garages constructed to heights less than the maximums established by Table No. 7-A may have individual tier areas exceeding those otherwise permitted, provided the gross tier area of the structure does not exceed that permitted for the higher structure. At least three sides of each such larger tier shall have continuous horizontal openings not less than 30 inches in clear height extending for at least 80 percent of the length of the sides and no part of such larger tier shall be more than 200 feet horizontally from such an opening. In addition, each storage opening shall face a street or yard accessible to a street with a width of at least 30 feet for the full length of the opening and standpipes shall be provided in each tier.

Section 709 of the UBC is amended by adding a new paragraph (m):

UBC Sec. 709(m) Every parking ramp or other parking facility shall include spaces for the parking of motor vehicles having a capacity of seven (7) to sixteen (16) persons. The number of required spaces shall be determined by 2% of the gross designed parking area with a minimum of two spaces. Such spaces to accommodate commuter vehicles, shall be at least 10 feet in width, 20 feet in length and a height clearance of 10'-6" in the entry level and shall not apply to other levels of a ramp.

Section 802(c) of the UBC is amended to read as follows:

UBC Sec. 802(c) Special Provisions. Rooms in Divisions 1 and 2 Occupancies used for day-care purposes, kindergarten pupils and Division 3 Occupancies shall not be located above the first story, nor shall they be located in a basement unless there is provided at least one exit without intervening stairs directly on grade from the occupied space.

Storage and janitor closets shall be of one-hour fire-resistive construction. Stages and enclosed platforms shall be constructed in accordance with Chapter 39. For attic space partitions and draft stops, see section 3205.

Section 805 of the UBC is amended to read as follows:

UBC Sec. 805. All portions of Group E Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in Section 605.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h) as specified herein.

Section 809 of the UBC is amended to read as follows:

UBC 809. Approved fire alarms shall be provided for all Group E Occupancies with an occupant load of more than 50 persons, and in Group E Division 3 Occupancies with an occupant load of more than 29 persons. In every Group E Occupancy with an automatic sprinkler or detection system, the operation of such system shall automatically activate the school fire alarm system.

The fire alarm system shall be installed in compliance with NFPA Standard 72-A-75, "Local Protective Signaling Systems."

An approved fire alarm is a fire alarm and detection system consisting of the following:

1. A complete non-coded continuously sounding until manually reset, electronically supervised type.

2. Shall have sounding stations on 100 foot to 150 foot spacing; (a) in corridors, (b) in areas of high noise levels, such as band rooms, shops, boiler rooms, (c) a weatherproof station on exterior of building facing residential areas.

3. Shall have automatic sending stations (detectors) in boiler rooms, kitchens, shops, painting areas, lounges, laundries, janitor's closets, storerooms, etc., or unsupervised and unoccupied spaces; namely, critical or hazardous areas.

4. Manual sending stations shall be provided in the natural path of escape from fire, near each exit from an area, on each floor, and shall be readily accessible, unobstructed and at visible locations.

Section 905 of the UBC is amended to read as follows:

UBC Sec. 905. All portions of Group H Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four complete air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all buildings used for the repair or handling of automobiles operating under their own power, ventilation shall be provided capable of exhausting a minimum of 3/4 cfm per square foot. Additionally, each engine repair stall shall be equipped with an exhaust pipe extension duct, extending to the outside of the building, which, if over 10 feet in length, shall mechanically exhaust 300 cubic feet per minute. Connecting offices and waiting rooms shall be supplied with conditioned air under positive pressure.

EXCEPTION: In public repair garages and aircraft hangars not exceeding an area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opeinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed.

Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h), as specified herein.

Section 1001 of the UBC is amended to read as follows:

UBC Sec. 1001. Group I Occupancies shall be:

Division 1. Nurseries for the full-time care of children under the age of six (each accommodating more than four persons). Hospitals, sanitariums nursing homes and similar buildings (each accommodating more than four persons).

Division 2. Detoxification centers, homes for children six years of age or over, supervised living facilities Class B as defined for the mentally retarded, mentally ill or the physically handicapped (each accommodating more than four persons).

Division 3. Mental hospitals, mental sanitariums, jails, prisons, reformatories and buildings where personal liberties of inmates are similarly restrained.

For occupancy separations, see Table No. 5-B.

For occupant load, see Section 3301.

EXCEPTION: Group I Occupancies shall not include buildings used only for private residential purposes for a family group.

Section 1002(b) of the UBC is amended to read as follows:

UBC Sec. 1002(b) Special Provisions. Division 3 Occupancies shall be housed in buildings of Type I or Type II-F.R. construction.

Every story of a Group I, D[redacted]sion 1 Occupancy accommodatin[redacted]ore than five nonambulatory persons, unless provided with a horizontal exit, shall be divided into not less than two compartments accommodating approximately the same number of nonambulatory persons in each compartment by a smoke-stop partition meeting the requirements of one-hour occupancy separation so as to provide an area of refuge within the building. Corridor openings in the smoke-stop partition shall be protected with doors as required in Section 3304(h). Other openings shall be limited to ducts which have fire dampers in the plane of the wall activated by detectors of products of combustion other than heat conforming to Section 4306(b) 2.

Rooms occupied by inmates or patients whose personal liberties are restrained shall have noncombustible floor surfaces.

Section 1005 of the UBC is amended to read as follows:

UBC Sec. 1005. All portions of Group 1 Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the mechancial code.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements see UBC Sec. 1711(h) as specified herein.

Section 1009 of the UBC is amended to read as follows:

UBC Sec. 1009. An approved fire alarm system shall be provided for all Group I Occupancies. Audible alarm devices shall be used in all nonpatient areas. Visible alarm devices may be used in lieu of audible devices in patient-occupied areas. An approved alarm system shall comply with UBC Sec. 809 as amended herein. Operation of any fire alarm activating device shall automatically, without delay, accomplish general alarm indication and control functions. Zoned, coded systems shall be permitted to be used. Exception: Alarm systems may be installed in accordance with NFPA 101, 1977 Edition, 10-3.3.3.

UBC Sec. 1101 Group M, 6th line is amended to read as follows:

For occupancy separations, see Table No. 5-B. For purposes of occupancy separation, mobile homes shall be considered as Group R, Division 3.

Section 1201 of the UBC is amended by adding a new Division to read as follows:

UBC Sec. 1201 Group R, Division 4 Occupancies: This use group shall include all one and two family dwellings built exclusively by the standards as established in the 1975 One and Two Family Dwelling Code as promulgated by the national model code organizations and 2MCAR Section 1.16001 through 1.16006. Use and installation of foam plastics shall comply with Section 1717 of the UBC as amended herein.

Exception: The plumbing requirements found in Part V (Chapters 20 through 25) and the references portions of Part VII (2-26.2001 - S-26.2103) are deleted in their entirety. The requirements of the Minnesota Plumbing Code for plumbing shall apply to this occupancy group.

UBC Section 1201 Group R Division 1 occupancy definition is changed to read as follows:

Division 1. Hotels and apartment houses. Convents and monastaries (each accommodating more than 10 persons), Supervised living facilities Class A-2 as defined in Section 420 for the mentally retarded, mentally ill, chemically dependent, and the physically handicapped (each accommodating more than four persons.) Physically handicapped persons shall be housed at street level.

U.B.C. Section 1201 Group R, Division 3 is amended to read as follows:

U.B.C. Section 1201, Division 3. Dwellings and lodging houses, supervised living facilities Class A-1 as defined in Section 420. For occupancy separations see Table No. 5-B.

Section R-202 of the One and Two Family Dwelling Code is amended to read as follows:

Sec. R-202. Buildings shall be constructed in accordance with the provisions of this Code using the design criteria set forth in Table No. 2-A. These criteria shall be established by the jurisdiction based solely or in part on the climatic and geographic conditions set forth in Appendix A. Roof snow loads shall be in accordance with 2MCAR Sec. 1.10111 - UBC Sec. 2305(d). Frost line depth shall be in accordance with 2MCAR Sec. 1.10111 - UBC Sec. 2907(a) Wind velocity shall be in accordance with the conditions set forth in Appendix A of the One and Two Family Dwelling Code.

Section R-204 of the One and Two Family Dwelling Code is amended to read as follows:

Sec. R-204. All habitable rooms shall be provided with aggregate glazing area of not less than 8 square feet nor 8 percent of the floor area of such rooms. One-half of the required area of glazing shall be openable.

Exception: The glazed areas need not be openable where an approved mechanical ventilation system is provided capable of producing a change of air every 30 minutes and the opening is not required by Sec. R-211.

Bathrooms, water-closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable.

Exception: The glazed areas are not required where artificial light and an approved mechanical ventilation system is provided capable of producing a change of air every 12 minutes.

Required glazed openings shall open directly onto a street or public alley, or a yard or court located on the same lot as the building.

Exception: Required glazed openings may face into a roofed porch where the porch abuts a street, yard or court and the longer side of the porch is at least 65 per cent open and unobstructed and the ceiling height is not less than 7 feet.

Section R-211 of the One and Two Family Dwelling Code is amended to read as follows:

Section R-211 Exits. No less than one exit conforming to this Chapter shall be provided from each dwelling unit.

Every sleeping room shall have at least one operable window or exterior door approved for emergency egress of rescue. The units must be operable from the inside to a full clear opening without the use of separate tools. Where windows are provided as a means of egress or rescue they shall have a sill height of not more than 48 inches above the floor.

All egress or rescue windows from sleeping rooms must have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches.

Section 1204 of the UBC is amended to read as follows:

UBC Sec. 1204. Stairs, exits and smokeproof enclosures shall be as specified in Chapter 33.

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency egress or rescue.

The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are provided as a means of egress or rescue they shall have finished sill height not more than 48 inches above the floor.

Section 1205 of the UBC is amended to read as follows:

UBC Sec. 1205. (a) Light and Ventilation. All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural light by means of exterior glazed openings with an area not less than 8 per cent of the floor area of such rooms with a minimum of 8 square feet. All bathrooms, water closet compartments, laundry rooms and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than one-twentieth of the floor area of such rooms with a minimum of 1 1/2 square feet.

All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural ventilation by means of openable exterior openings with an area of not less than 4 per cent of the floor area of such rooms with a minimum of 4 square feet.

In lieu of required exterior openings for natural ventilation, a mechanical ventilating system may be provided. Such system shall be capable of providing two air changes per hour in all guest rooms, dormitories, habitable rooms and in public corridors. One-fifth of the air supply shall be taken from the outside. In bathrooms, water closet compartments, laundry rooms and similar rooms a mechanical ventilation system connected directly to the outside, capable of providing five air changes per hour, shall be provided.

For the purpose of determining light and ventilation requirements, any room may be considered as a portion of an adjoining room when one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet, whichever is greater.

Required exterior openings for natural light and ventilation shall open directly onto a street or public alley or a yard or court located on the same lot as the building.

EXCEPTION: Required windows may open into a roofed porch where the porch:

1. Abuts a street, yard, or court; and
2. Has a ceiling height of not less than 7 feet; and
3. Has the longer side at least 65 percent open and unobstructed.

(b) Sanitation. Every building shall be provided with at least one water closet. Every hotel or subdivision thereof where both sexes are accommodated shall contain at least two separate toilet facilities which are conspicuously identified for male or female use, each which contains at least one water closet.

Additional water closets sha[redacted] be provided on each floor for[redacted]ch sex at the rate of one for every additional 10 guests, or fractional part thereof, in excess of 10.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with a bathroom equipped with facilities consisting of a water closet, lavatory and either a bathtub or shower. Each sink, lavatory and bathtub or shower shall be equipped with hot and cold running water necessary for its normal operation.

For other requirements on water closets, see Sections 510 and 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h), as specified herein.

Section 1210(a) of the UBC is amended to read as follows:

UBC Sec. 1210. (a) Fire-warning Systems. Every dwelling unit and every guest room in a hotel or lodging house used for sleeping purposes shall be provided with smoke detectors conforming to U.B.C. Standard No. 43-6. In dwelling units, detectors shall be mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to rooms used for sleeping purposes. In an efficiency dwelling unit, hotel sleeping room and in hotel suites, the detector shall be centrally located on the ceiling of the main room or hotel sleeping room. Where sleeping rooms are on an upper level, the detector shall be placed at the center of the ceiling directly above the stairway. All detectors shall be located in accordance with approved manufacturer's instructions. When actuated, the detector shall provide an alarm in the dwelling unit or guest room.

When alterations, repairs or additions requiring a permit are having a valuation in excess of $1000 occur, or when one or more sleeping rooms are added or created in existing Group R, Division 3 or 4 Occupancies, the entire building shall be provided with smoke detectors located as required for new Group R, Divison 3 or 4 Occupancies.

In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Smoke detectors may be battery operated when installed in existing buildings, or in buildings without commercial power, or in buildings which undergo alterations, repairs or additions regulated by the second paragraph of this section.

Section 1213 of the UBC is deleted in its entirety.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC Sec. 1216 For Group R Division 1 Occupancies sound transmission control shall be provided to meet the standards defined in UBC Appendix Chapter 35.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC Section 1217 Deadbolt Locks Required. All doors leading to public or shared areas from all apartment dwelling units and hotel units shall be provided with deadbolt locks, at least one of which must be capable of being locked from the exterior of said unit. For the purpose of this section a "deadbolt lock" is a locking bolt, which, when in the locked position, can only be moved positively by turning a knob, key, or sliding bolt.

Deadbolt locks having a bolt moved by turning a key shall be of the five-pin tumbler type or an approved equivalent. Lock throw shall be not less than three-quarters inch (3/4"). Locks shall meet requirements of UBC Section 3303(c).

Section 1706(d) of the UBC is deleted in its entirety. See Section 2MCAR 1.8806 C.

Section 1711(b) of the UBC is amended to read as follows:

UBC Sec. 1711(b) Toilet Facilities. Each water closet stool shall be located in a clear space not less than 30 inches in width and have a clear space in front of the water closet of not less than 24 inches.

For provisions for the physically handicapped see 2 MCAR Sec. 1.15501 - 1.15508.

Section 1711(c) of the UBC is deleted in its entirety.

Section 1711 of the UBC is amended by adding a new subsection (h) that reads as follows:

UBC Sec. 1711(h) Sanitation Facilities. Sanitation facilities shall be provided for each Occupancy in accordance with Table 17-B and UBC Sections 605, 705, 805, 905, 1005 or 1205 as amended herein. Fixtures shall be provided for each sex in accordance with the percentage of occupants of each sex. When the percentage of each sex is not known, one-half for each sex shall be assumed. For sanitation facilities for the handicapped see 2MCAR Sec. 1.15503.

Types of building occupancy not shown, or when the provisions of Table 17-B are excessive due to a specific use or occupant load, facilities may be considered individually by the Administrative Authority.

Section 1716 of the UBC is amended to read as follows:

UBC Sec. 1716. All unenclosed floor and roof openings, open and glazed sides of landings and ramps, balconies or porches which are more than 30 inches above grade or floor below, and roofs used for other than service of the building shall be protected by a guardrail. Guardrails shall be not less than 42 inches in height. Open guardrail and stair railings shall have intermediate rails or an ornamental pattern such that a sphere 9 inches in diameter cannot pass through. The height of stair railings on open sides may be as specified in Section 3305 (j) in lieu of providing a guardrail. Ramps shall, in addition, have handrails when required by Section 3306.

On all earth sheltered structures a means shall be provided to restrict access to the roof area unless guardrails are provided and the roof is designed for vehicular loads.

EXCEPTIONS: 1. Guardrails need not be provided on the loading side of loading docks.

2. Guardrails for Group R, Division 3 and Group M, Division 1 Occupancies may be 36 inches in height.

3. Interior guardrails within individual dwelling units or guest rooms of Group R, Division 1 Occupancies may be 36 inches in height.

4. The open space between the intermediate rails or ornamental pattern of guardrails in areas of commercial and industrial type occupancies which are not accessible to the public may be increased such that a 12-inch-diameter sphere cannot pass through.

5. Guardrails on a balcony immediately in front of the first row of fixed seats and which are not at the end of an aisle may be 26 inches in height.

Section 1717(b) (1) (B) of the UBC is amended to read as follows:

UBC Sec. 1717(b)(1) (B). On the room side surface of conforming walls or ceiling or other surfaces referred to in the first sentence of Section 1717(b), provided the foam plastic is fully protected from the interior of the building by a thermal barrier of 1/2 inch gypsum wallboard or other approved material having an equivalent finish rating as determined by U.B.C. Standard No. 43-1. Thermal barriers shall be installed in a manner that they will remain in place for a minimum of 15 minutes under the same test conditions.

TABLE NO. 17-B REQUIRED SANITATION FIXTURES BASED ON OCCUPANCY LOAD (1) (2)

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS	LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	KITCHEN SINKS	SERVICE SINKS
Group A Occupancies	Auditoriums	30	Churches	Churches	Churches	1 for each 300	—	—	1
	Bowling alleys	30							
	Churches	60							
	Conference Rooms	80	1 for each 300 Men	(3)	1 for each 300				
	Dance Floors	30	1 for each 300 women						
	Dining, Drinking	30							
	Exhibit Rooms	80							
	Gymnasiums	30	Other		Other				
	Libraries	100	Occupants / Fixtures		Occupants / Fixtures				
	Lodge Rooms	80	1-100 / 1		1-200 / 1				
	Lounges	80	101-200 / 2		201-400 / 2				
	Rinks	30	201-400 / 3		401-750 / 3				
	Stadiums, Grandstands	80	Over 400 / 1 addt'nl each 500	(3)	Over 750 / 1 addt'nl for each 500				
	Theaters	30							
	Waiting Rooms	80							
Group E Occupancies (6)	Elementary	85	Boys: 1/ea. 100 — Girls: 1/ea. 30	1/ea. 30	1 for each 100	1 for each 75	—	—	1 per floor
	Secondary	130	1 ea. 100 — 1/ea. 25		1 for each 100				
Group I Occupancies	Prisons, Jails	100	1/ea. cell; 1/ea. exercise room		1 in each cell; 1 ea. exercise rm	1 for each 100	1 at each cell block floor	—	1 per floor
	Hospitals, Nursing Homes	100	1/ea. 8 patients; 1/ea. waiting room		1 for ea. 10 patients	1 for each 100	1 for each 20 Other; 1 for each 10		1 per floor
			Other: 1/ea. 25 men; 1/ea. 20 women	1/ea. 50	Other: 1 for each 10				
Group H Occupancies			Fact. Occ. / Wrhse. Fixt.	Fact. Occ. / Wrhse. Fixt.	Fact. Occ. / Wrhse. Fixt.	Factories Warehouses			
Group B Occupancies	Aircraft Hangars	500	1-10 / 1	(3)	for each				
	Factories	200	11-25 / 2		1-100 / 1-10(4)				
	Municipal Buildings	80	26-50 / 3		Over 100 / 1-15(5)	1 for each 75			
	Office Buildings	200	51-75 / 4						
	Sales	200	76-100 / 5						
	Service Stations	200	Over 100 / 1 addt'nl for 30		Sales, Offices: Occ. / Fixt.	Sales, Offices			1 per floor
	Storage Garages	500			1-15 / 1				
	Warehouses	500	Sales, Office, etc.: Occ. / Fixt.	Sales, Office (3)	16-35 / 2	1 for each 150			
			1-15 / 1		36-60 / 3				
Group B-4 Occupancies			16-35 / 2		61-90 / 4				
	Factories	200	36-55 / 3		91-125 / 5				
	Sales	200	56-80 / 4		Over 125 / 1 to 45				
	Warehouses	500	81-110 / 5						
			111-150 / 6						
Group R-1 Occupancies	Dwelling Units, Apt.	—	1	—	1	—	1	1	1 laundry tray for each 10 dwelling units or guest rooms
	Motel, Hotel Units	—	1 for each 10		1 for each 10		1 for each 10		
	Rooming Houses	200	1 for each 10		1 for each 10		1 for each 10		
	Dormitories	200	1 for each 10		1 for each 10		1 for each 10		
Group R-3 and R-4 Occupancies	1 and 2 Family	—	1	—	1	—	1	1	—
Group M Occupancies	—	—	—	—	—	—	—	—	—
TEMPORARY FACILITIES			1 for each 30	1 for each 30		1 for each 100			

*A—Area of building occupancy classification served
S.F.—per Occ.—from Column 3 of this table

Footnotes:

(1) Occupant load is computed using the equation: $\frac{A^*}{\text{S.F. per Occ.}}$ = Occupant Load

(2) Square feet per occupant is only for computing the occupant load to determine the plumbing fixtures required.

(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.

(4) 1 fixture for each 10 occupants.

(5) 1 fixture for each 15 occupants.

(6) For watercloseets, and lavatories, these numbers are *minimum* & equal number for each sex is required.

Section 1807(h) of the UBC is amended to read as follows:

UBC Sec. 1807(h) Elevators. Elevators and elevator lobbies shall comply with the provisions of 2MCAR Sections 1.18801 - 1.18806 and the following:

NOTE: A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all those elevators which respond to a single call button constitute a bank of elevators. There is no limit on the number of cars which may be in a bank or group but there may be not more than four cars within a common hoistway.

1. Except for the main entrance level, all elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building as is required for corridor construction in Section 3304 (g) and (h).

Exception: When a complete and approved automatic fire extinguishing system is installed in a Group B, Division 2, occupancy, the separation of elevator or elevator lobbies shall not be required on any floor when such floor is provided with an exit corridor conforming to the provision of Section 3304(g).

2. Each elevator lobby shall be provided with an approved smoke detector located on the lobby ceiling. When the detector is activated, elevator doors shall not open and all cars serving that lobby are to return to the main floor and be under manual control only. If the main floor detector or a transfer floor detector is activated, all cars serving the main floor or transfer floor shall return to a location approved by the fire department and building official and be under manual control only. The smoke detector is to operate before the optical density reaches 0.03 per foot. The detector may serve to close the lobby doors.

3. A permanent sign shall be installed in each elevator cab adjacent to the floor status indicator and at each elevator call station on each floor reading "IN FIRE EMERGENCY, DO NOT USE ELEVATOR - USE EXIT STAIRS," or similar verbage approved by the building offical.

4. Elevator hoistways shall not be vented through and elevator machine room. Cable slots entering the machine room shall be sleeved beneath the machine room floor and extend to not less than 12 inches below the shaft vent to inhibit the passage of smoke into the machine room.

5. For car size requirements see 2MCAR Sec. 1.18806(b)(4).

Section 2303(a) of the UBC shall be amended to read as follows:

UBC Sec. 2303. (a) General. All buildings and portions thereof shall be designed and constructed to sustain, within the stress limitations specified in this code, all dead loads and all other loads specified in this chapter or elsewhere in this code. Impact loads shall be considered in the design of any structure where impact loads occur.

EXCEPTION: Unless otherwise required by the building offical buildings or portions thereof, other than earth sheltered structures, which are constructed in accordance with the conventional framing requirements specified in Chapter 25 of this code shall be deemed to meet the requirements of this section.

Section 2305(d) of the UBC is amended to read as follows:

UBC Sec. 2305(d) Snow Loads. Snow loads full or unbalanced shall be considered in place of loads set forth in Table No. 23-C, where such loading will result in larger members or connections.

A basic snow load of 40 pounds per square foot of horizontal projection is required in the following counties: Anoka, Carlton, Carver, Chisago, Cook, Dakota, Hennepin, Isanti, Lake, Pine, Ramsey, St. Louis, Scott and Washington. A basic snow load of 30 pounds per square foot of horizontal projection is required for all other counties..

Potential accumulation of snow at valleys, parapets, roof structures and offsets in roofs of uneven configuration shall be considered. Where snow loads occur, the snow loads shall be determined by the building official in accordance with Appendix "B".

EXCEPTIONS:

1. The requirements of Appendix "B" shall not apply to Group R Division 3, Group R Division 4 and M Occupancies.

2. A basic snow load of 30 pounds per square foot of horizontal projection shall be acceptable for detached Group M, Division 1 Occupancies in all counties.

Snow loads in excess of 20 pounds per square foot may be reduced for each degree of pitch over 20 degrees. See Appendix B, Section A.

Section 2311(g) of the U[redacted] is amended to read:

UBC Sec. 2311(g) Open Frame Towers. Radio towers and other towers of trussed construction shall be designed and constructed to withstand wind pressures specified in this Section, multiplied by the shape factors set forth in Table No. 23-H.

Wind pressures shall be applied to the total normal projected area of all the elements of one face (excluding ladders, conduits, lights, elevators, etc., which shall be accounted for separately by using the indicated factor for these individual members).

The effect of one-half inch of radial ice shall be included in the design of open frame towers including all supporting guys. This effect shall include the weight of the ice and the increased profile of each such tower component so coated.

Section 2312(a) of the UBC is amended to read as follows:

UBC Sec. 2312(a) General. For the purpose of the Code this State shall be considered to be in Zone "0", No Damage Area. Every building or structure and every portion thereof shall be designed and constructed to resist stresses produced by lateral forces as provided in this Section. Stresses shall be calculated as the effect of a force applied horizontally at each floor or roof level above the base. The Force shall be assumed to come from any horizontal direction.

Structural concepts other than set forth in this section may be approved by the Building Official when evidence is submitted showing the equivalent ductility and energy absorption are provided.

Where prescribed wind loads produce higher stresses, such loads shall be used in lieu of the loads resulting from earthquake forces.

Section 2403(e) is amended to read as follows:

UBC Sec. 2403(e) Concrete Masonry Units. Concrete masonry units shall be of a quality at least equal to the requirements set forth in U.B.C. Standard No. 24-4 or No. 24-5 when used for bearing walls or piers or when in contact with ground or exposed to the weather; or equal to the requirements set forth in U.B.C. Standard No. 24-6 when used for nonbearing purposes and not exposed to the weather. Solid units subject to the action of weather or soil shall be Grade A. Concrete masonry units shall be tested as set forth in U.B.C. Standard No. 24-7.

Concrete masonry units used for walls below grade or for other uses as determined by the designer shall not be subject to the moisture control provisions of Table 24-4-A of UBC Standard 24-4.

Section 2417 is amended by the addition of paragraph (n):

UBC Sec. 2417(n) Alternate Design Method. The specification for the Design and Construction of Load-Bearing Concrete Masonry 8th Printing May, 1978, published by the National Concrete Masonry Association may be used as an alternate design method providing the following conditions are satisfied.

1. The permit applicant must inform the building official, in writing, that the masonry design is based on the requirements of this subsection prior to granting of a building permit.

2. An outline of testing and field inspection schedules and design calculations signed by the responsible design professional shall be submitted to the building official prior to granting of a building permit.

3. Prior to occupancy, the permit applicant shall submit to the building official written evidence from a registered professional engineer certifying compliance with all requirements of this subsection.

Section 2501(a) of the UBC is amended to read:

UBC Sec. 2501(a) Quality and Design. The quality and design of wood members and their fastenings shall conform to the provisions of this chapter, and to the applicable standards listed in Chapter 60 as amended herein.

Section 2510(h) of the UBC is amended to read as follows:

UBC 2510(h) Metal Plate Connectors. Metal plate connectors employed as joint connectors in light wood trusses, and the design and testing of such trusses, shall conform to the Design Specification for Metal Plate Connected Wood Trusses, 1978 Edition published by the Truss Plate Institute Inc., TPI-78 and the following amendments, thereto.

Sec. 102(c) 5 of TPI-78 shall be amended to read as follows: Concentrated loads, and their points and method of application.

Section 310 of TPI-78 shall be added and reads: 310 Cross Grain Stress. Where design loads or their method of application induce cross-grain tension or bending stress, such cross-grain stress shall be considered in the design.

Snow loads shall be determined in accordance with the requirements of 2MCAR Sec. 1.10111 UBC Sec. 2305(d). Wind loads shall be determined in accordance with the requirements of UBC Sec. 2311.

Other loads shall be determined in accordance with the design requirements of UBC Chapter 23.

Each truss manufacturer shall retain an approved agency having no financial interest in the plant being inspected to make nonscheduled inspections of truss fabrication and delivery and operations.

The inspection shall cover all phases of truss operation, including lumber storage, handling, cutting, fixtures, presses or rollers, fabrication, bundling and banding, handling and delivery.

Section 2907(a) of the UBC is amended to read as follows:

UBC Sec. 2907(a) General. Footings and foundation, unless otherwise specifically provided, shall be constructed of masonry, concrete or treated wood in conformance with U.B.C. Standard No. 29-3 and in all cases shall extend below the frost line. Footings of concrete and masonry shall be of solid material. Foundations supporting wood shall extend at least 6 inches above the adjacent finish grade. Footings shall have a minimum depth below finished grade for the Zone as established below unless another depth is recommended by a foundation investigation.

1. In the absence of a determination by an engineer competent in soil mechanics, the minimum allowable footing depth in feet due to freezing shall be five feet in Zone 1 and three and one-half feet in Zone II.

Zone I-Shall include the counties of: Aitkin, Becker, Beltrami, Carlton, Cass, Clay, Clearwater, Cook, Crow Wing, Douglas, Grand, Hubbard, Itasca, Kanabec, Kittson, Koochiching, Lake, Lake of the Woods, Mahnomen, Marshall, Mille Lacs, Morrison, Norman, Otter Tail, Pennington, Pine, Polk, Red Lake, Roseau, St. Louis, Todd, Traverse, Wadena, Wilkin.

Zone II-Shall include the counties of: Anoka, Benton, Big Stone, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac Qui Parle, Le Sueur, Lincoln, Lyon, McLeod, Martin, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Pope, Ramsey, Redwood, Renville, Rice,

Rock, Scott, Sibley, Sherburne, Stearns, Steele, Stevens, Swift, Wabasha, Waseca, Washington, Watonwa[redacted] Winona, Wright, Yellow Medici[redacted] Less depths may be permitted when supporting evidence is presented by an engineer competent in soil mechanics.

2. Soil Under Slab on Grade Construction for Buildings. When soil, natural or fill, is sant or pit run sand and gravel, and of depth in accordance with minimum footings depth requirements for each zone, slab on grade construction which supports roof and wall loads shall be permitted. Slab on grade construction for detached buildings Group M, Division 1 Occupancies may be placed on any soil except peat or muck.

UBC Sec. 3203(d) 3 is amended to read as follows:

UBC Sec. 3203(d) 3. Shingle; shake and tile roofs. A General. Installation shall be in accordance with Table No. 32-B. Underlayment, when required, shall be lapped horizontally and vertically so as to shed water.

In areas subject to roof ice build-up, underlayment consisting of two layers of Type 15 felt applied shingle fashion shall be installed and solid mopped together with approved cementing material between the plies extending from the eave up the roof to a point 24 inches inside the exterior wall line of the building.

The entire State of Minnesota shall be deemed an area subject to roof ice build-up.

EXCEPTIONS: 1. For wood shingle or wood shake roofs the underlayment shall extend 36 inches inside the exterior wall line of the building.

2. When interlocking tiles are used, the underlayment may consist of one layer of Type 40 or heavier asphalt-coated base sheet extending from the eave to a point 24 inches inside the exterior wall line of the building. When this method is used, all horizontal and vertical seams of the base sheet shall be lapped 6 inches and be continuously sealed with approved cementing material and shall be applied only over solid sheathing.

Section 3205(c) is amended to read as follows:

UBC Sec. 3205(c) Ventilation. Where determined necessary by the building official due to atmospheric or climatic conditions, enclosed attics and enclosed rafter spaces formed where ceilings are applied direct to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. The net free ventilating area shall be not less than 1/150 of the area of the space ventilated, except that the area may be 1/300, provided at least 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.

Section 3207(c) of the UBC is amended to read as follows:

UBC Sec. 3207(c). Where roof drains are required, overflow drains having the same size as roof drains shall be installed with the inlet flow line located 2 inches above the low point of the roof, or overflow scuppers having three times the size of the roof drains may be installed in adjacent parapet walls with the inlet flow line located 2 inches above the low point of the adjacent roof and having a minimum opening height of 4 inches. Overflow drains shall be connected to drain lines independent from the roof drains, and shall discharge above grade.

UBC Section 3303(a) is amended to read as follows:

UBC Section 3303. (a) General. This section shall apply to every exit door serving an area having an occupant load of more than 10, or serving hazardous rooms or areas, except that Subsections (c), (i) and (j) shall apply to all exit doors regardless of occupant load. Buildings or structures used for human occupancy and each dwelling unit or guest room leased for gain shall have at least one exit door that meets the requirements of Subsection (e).

UBC Section 3304(h) is amended by adding an exception 2 to read as follows:

EXCEPTION:

2. In Type I and II-F.R. buildings housing Group B-2 Occupancies, corridor walls may be of approved wired glass set in metal frames. The glass height shall not exceed 2/3 of the width of the corridor. A draft curtain of at least one hour fire-resistive construction and not less than 24 inches in height shall be provided to protect the corridor from the Group B-2 Occupancy area (tenant space). The draft curtain shall be located above the glass and extend a minimum of 24 inches below any finished ceilings in the tenant space. If the finished ceiling is not a

fire-rated assembly, the draft curtain shall extend from the wire glass to a rated ceiling or floor assembly. When the B-2 Occupancy area (tenant space) is protected by an approved automatic fire-extinguishing system for a distance of twelve (12) feet in depth adjoining the corridor, and the corridor is not less than twelve (12) feet in width, glass other than wired glass may be approved. Open grille type gates and similar enclosing or security devices may be used in corridor walls of corridors not less than twelve feet in width, when the entire story is protected by an approved fire-extinguishing system.

In buildings of other than Type I or Type II-F.R. construction, this exception shall not be allowed, unless the entire building is provided with an approved automatic fire-extinguishing system.

UBC Section 3305(j) exception 2 is amended to read as follows:

Exception 2 - Private Stairway 30 inches or less in height may have handrails on one side only. Handrails are not required on private stairways with less than 3 risers.

UBC Sec. 3319(b) is amended to read as follows:

(b) Minimum size of Exits. Every exit opening through which patients are transported on stretchers or beds shall be of sufficient width to permit the ready passage of such equipment but shall have a clear width of not less than 44 inches, except as hereinafter provided. Exit openings in Division 2 occupancies shall have a clear width of not less than 34 inches. There shall be no projections within such clear widths.

UBC Sec. 3319(c) is amended to read as follows:

Corridors. The minimum clear width of a corridor shall be 44 inches except as follows:

Corridors serving any area Group I, Division 1 Occupancies shall be not less than eight feet in width; corridors serving any Group I, Division 2 Occupancies shall be not less than six feet in width.

There shall be no change of elevation in a corridor serving non-ambulatory persons unless ramps are used.

In Group I, Division 3 Occupancies such as jails, prisons, reformatories and similar buildings with open barred cells forming corridor walls, the corridor and cell doors need not be fire resistive.

UBC Table 33A is amended as follows:

Delete the right hand column entitled "Egress by means of a ramp or elevator must be provided for the physically handicapped as indicated."

Also delete footnotes 2, 3, 4, 5, 6 and 8.

UBC Section 3802 is amended by adding a section (e) as follows:

UBC Sec. 3802(e) Special Automatic Fire Extinguishing Systems. In all occupancies having commerical cooking equipment (see NFPA No. 96-1976), automatic fire extinguishing systems complying with UBC Standard 38-1 or 38-2 shall be installed for protection of duct systems, grease removal devices, hoods and over commerical cooking equipment which may be a source of ignition (such as fat fryers, ranges, griddles, and boilers). Systems installed in accordance with the following standards are also permitted.

1. Standards for foam-water sprinkler systems and foam-spray systems, NFPA No. 16-1974.

2. Standard for dry-chemical extinguishing system, NFPA No. 17-1975.

EXCEPTION: These requirements shall not apply to Group R-3 and Group R-4 occupancies.

Section 3803(a) of the UBC is amended as follows:

UBC Sec. 3803(a) General. Standpipes shall comply with the requirements of this section and in accordance with UBC Standard 38-3, amended as follows:

UBC Standard 38-3 Sec. 38.306(a) Assured Source Required. Class I, Class II and Class III standpipe systems shall be provided with an approved source of water supply. With prior approval of the Fire Chief, Class I standpipes systems may be supplied only through a fire department connection

UBC Table 38A is amended as follows:

Section 2, occupancy column, shall read: Occupancies 3 stories or more but less than 150 feet in height, except Group R, Division 3 or 4. Class II standpipes are not required in Group E or Group R-1 occupancies.

UBC Section 4701(a) is amended to read as follows:

UBC Section 4701(a) General. The installation of lath, plaster and gypsum board shall be done in a manner and with materials as specified in this Chapter, or as set forth in ANSI A42.2, 1971 Specifications for Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and Interior and ANSI A42.3, 1971 Specifications for Lathing and Furring for Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and Interior; and, when required for fire-resistive construction, also shall conform with the provisions of UBC Chapter 43.

Other approved wall or ceiling coverings may be installed in accordance with the recommendations of the manufacturer and the conditions of approval.

UBC Sections 5001 through 5006 are amended to read as follows:

UBC Sections 5001 through 5006 are deleted and replaced by 2MCAR Sections 1.10301 - 1.10336.

UBC Sections 5101 through 5104 are amended to read as follows:

UBC Sections 5101, 5102, 5103 and 5104, Elevators, Dumbwaiters, Escalators, Manlifts, Moving Walks, Hoists and Lifts are deleted. Refer to 2MCAR Section 1.18801 - 1.18806.

Section 6001 of the UBC is amended as follows:

UBC Sec. 6001. The UBC Standards which are referred to in various parts of this code shall be the Uniform Building Code Standards, 1979 Edition, and are hereby declared to be a part of this code with the following amendment.

UBC Section 6001, Chapter 25, 25-17 is amended to read as follows:

Chapter 25, 25-17, 2510(a), 2510(b), 2510(c), 2510(d), 2510(e), 2510(h), 2514(b)1, 2514(b)2, Tables Nos. 25-F, 25-G, 25-H and 47-H Timber Connector Joints, Bolted Joints, Drift Bolts and Wood Screws, Lag Screws. National Design Specification for Wood Construction (1977), National Forest Products Association. Metal Plate Connected Wood Trusses TPI-78, Truss Plate Institute. Nails and Staples, Federal Specification No. FF-N-105B (March 17, 1971).

Section 1.10112 Validity Clause. If any section, subsection, sentence, clause, or phrase of this Code, is for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this Code.

It is hereby declared that the Department of Administration would have adopted this Code and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

1.10303 Definitions. Unless otherwise expressly stated, the following terms shall, for the purpose of this Code, have the meaning indicated in this section. The definitions promulgated by the Model Code Standardization Council shall apply to terms included within this Code but which are not herein defined.

A. APPROVED is approved by the State Building Inspector.

B. CODE is the Minnesota State Building Code.

C. COMMISSIONER is the Commissioner of Administration.

D. CLOSED CONSTRUCTION is any building component, assembly or system manufactured in such a manner that all portions cannot be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

E. OPEN CONSTRUCTION is any building, component, assembly or system manufactured in such a manner that all portions can be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

F. MANUFACTURED BUILDING means any building which is of closed construction and which is made or assembled in manufacturing facilities, on or off the building site, for installation, or assembly and installation, on the building site. Manufactured building may also mean, at the option of the manufacturer, any building of open construction, made or assembled in manufacturing facilities away from the building site, for installation, or assembly and installation, on the building site.

G. BUILDING COMPONENT is any sub-system, sub-assembly, or other system designed for use in, or as a part of, a structure, including but not limited to: structural, electrical, mechanical, fire protection, and plumbing systems, and other systems affecting health and safety.

H. BUILDING SYSTEM is plans, specifications and documentation for a system of manufactured building or for a type or a system of building components, including but not limited to, structural, electrical, mechanical, fire protection and plumbing systems, and including such variations thereof as are specifically permitted by regulation, and which variations are submitted as part of the building system or amendment thereof.

I. CODE COMPLIANCE CERTIFICATE is the certificate provided by the manufacturer to the State Building Inspector which warrants that the manufactured building or building component complies with the Code.

J. Compliance Assurance Program means the system documentation and methods of assuring that manufactured buildings and building components, including their manufacture, storage, transportation, assembly, handling and installation, conform with these rules and regulations.

K. EVALUATION AGENCY is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to investigate, evaluate and approve manufactured buildings or building components, building systems, or compliance assurance programs.

L. INDEPENDENCE OF JUDGMENT means not being affiliated with or influenced or controlled by building manufacturers or producers, suppliers, or vendors of products or equipment used in manufactured buildings and building components in any manner which is likely to affect their capacity to render reports and findings objectively and without bias.

M. INSPECTION AGENCY is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to conduct or supervise compliance assurance programs relating to the manufacture, handling, storage, and transportation of manufactured buildings or building components, and attach labels evidencing compliance with the Code.

N. INSTALLATION is the process of affixing or assembling and affixing, manufactured buildings or building components on the building site, or to an existing building.

O. LABEL is an approved device affixed to a manufactured building or building component, by an approved agency, evidencing code compliance.

P. LOCAL ENFORCEMENT AGENCY is an agency of a municipality which enforces the Code.

Q. QUALITY CONTROL PROGRAM as used herein shall be synonymous with compliance assurance program.

R. SEAL is a device or insignia issued to the Manufacturer by the State Building Inspector evidencing compliance with the Code.

Section 1.10310 Inspection. GENERAL. The State Building Inspector shall make, or cause to be made, such inspections of the entire process of manufacturing, certifying, handling, storing and transporting of manufactured buildings and building components produced pursuant to approved building systems as he deems necessary.

A. MANUFACTURING FACILITIES. As part of the approval process of evaluating building systems and compliance assurance programs, the State Building Inspector or an evaluation agency shall inspect the manufacturing facilities in which the buildings or building components are to be manufactured.

B. PRODUCTION PROCESS. The State Building Inspector or an inspection agency, shall make such inspections as may be required by an approved compliance assurance program, or as may be deemed necessary by the State Building Inspector.

C. DAMAGED BUILDINGS OR COMPONENTS. Prior to the issuance of a building permit, the State Building Inspector or an inspection agency shall inspect, or cause to be inspected, certified manufactured buildings or building components which it determines to have been sufficiently damaged after certification to warrant such inspection and take such action with regard to such buildings or building components as is authorized under MCAR 1.10319, or as is otherwise necessary to eliminate dangerous conditions.

The State Building Inspector shall require manufactured buildings or building components which are so damaged as no longer to comply with the Act and these rules and regulations to be brought into compliance promptly. If such buildings or building components are not brought into compliance with the Act and these rules and regulations within a reasonable time, or if they are so damaged that they cannot be brought into compliance, the State Building Inspector shall order that the labels be removed from such buildings or building components. Irreparably damaged buildings or building components shall be disposed of in accordance with applicable law.

D. INSPECTION AGENCY REVIEW. The State Building Inspector shall have the right to examine each approved inspection agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency and of its monitoring of each compliance assurance program. Each such examination shall investigate the adequacy of all procedures used by the agency in monitoring compliance assurance programs including inspection, tests, production methods, process controls, operator performance, materials receipt, storage and handling, workmanship standards, records and all other activities which implement the compliance assurance program in the manufacturing facility, during transport, on-site, and at critical subcontractors' facilities. The results of such examinations shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the inspection agency. Inspection agencies shall be specifically notified of any deficiencies and of the manner in and time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, an agency's approval may be suspended or revoked as provided in 2 MCAR 1.10334. Such inspections shall take place at the manufacturing facility, and may also take place at the inspection agencies office, or at the site of installation.

E. EVALUATION AGENCY REVIEW The State Building Inspector shall have the right to examine each approved evaluation agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency. Each such examination shall investigate the adequacy of all evaluative procedures including engineering evaluation of plans, specifications and test results, testing, and analysis of compliance assurance programs. The results of such examination shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the evaluation agency. Agencies shall be specifically notified of any deficiencies and of the manner in time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, approval of an evaluation agency may be suspended or revoked as provided in 2 MCAR 1.10334.

Section 1.10312 Local zoning. Local land use zone requirements, building setback, side and rear yard requirements, site development and property line requirements are specifically and entirely reserved to local municipalities.

2MCAR Sec. 1.10320 shall be revised to read as follows:

Sec. 1.10320 Seals. A. R-3 and R-4 Occupancies. Each manufactured building manufactured pursuant to the Code shall have permanently attached thereto in a location shown on the approved plans, a state seal evidencing the State Building Inspector's approval of such building. When a manufactured building consists of one or more sections, that may be transported or stored individually each section must be marked or labeled to indicate that the section is a part of a manufactured structure and shall bear the number of the State of Minnesota Seal assigned to the building.

The marking or label shall also indicate the name of the manufacturer, the address of the manufacturing facility and the manufacturers serial number or other designator assigned to the building. All labels shall be visible from the exterior, shall be legible and shall remain on the structure until the building is complete.

B. All other occupancies. One seal is required per transportable unit.

2MCAR Section 1.10321 is amended to read as follows:

Section 1.10321 Issuance. A seal shall be issued by the State Building Inspector to the manufacturer upon application and after plan approval has been issued, and shall be issued in accordance with the following:

A. If the State Building Inspector delegates the issuance of seals to an evaluation or inspection agency, the agency shall be required to obtain approval from the State Building Inspector for the manner in which they are handled;

B. Seals must be serially numbered;

C. A manufacturer's compliance assurance program, submitted in accordance with 2 MCAR 1.10332A shall include requirements for issuance, possession of, attachment of and accounting for all seals to assure that seals are attached only to buildings or building components manufactured pursuant to an approved building system and inspected pursuant to an approved compliance assurance program;

D. If the State Building Inspector or an inspection agency determines that the manufacturer's record of compliance is such that the State Building Inspector or inspection agency need not maintain an inspector in a given plant at all times, the State Building Inspector or inspection agency may entrust seals to the custody of one or more employees of the manufacturer, who shall be charged with controlling the use of such seals. Such employees shall not be given custody of more seals than are necessary to accommodate the manufacturer's anticipated production for one month. If the conditions of custody are violated, the State Building Inspector or an inspection agency shall immediately regain posession of all seals that have not applied to the manufactured buildings or building components and shall take such further action with respect to buildings or components already sealed, and with respect to future seals, as it may deem necessary to assure compliance with the Act and these rules and regulations.

1.10325 Manufacturer's data plate. The data plate form furnished by the State Building Inspector shall contain but not be limited to the following information, and shall be placed by the manufacturer in the vicinity of the electrical distribution panel or in some other approved designated location that is readily accessible for inspection:

A. Manufacturer's name and address.

B. Serial number of the unit.

C. Model designation and name of manufacturer of major factory-installed appliances.

D. Where applicable, identification of permissible type of gas for appliances and directions for water and drain connections.

E. Name and date of standards complied with.

F. Seal serial number.

G. Design loads

H. Special conditions or limitations of the unit.

I. Date of manufacture

J. Electrical ratings-instructions and warnings on voltage, phase, size and connections of units and grounding requirements.

1.10334 Approval of inspection and evaluation agencies.

A. Requirements For Submission.

An inspection or evaluation agency seeking approval shall submit an application to the State Building Inspector which shall include the items listed in this Section.

1. The original Articles of Incorporation of the agency and all subsequent amendments thereto, as filed in the State of incorporation.

2. The bylaws of the organization, if any.

3. The names, addresses and business affiliations of all members of the Board of Directors and of top management personnel.

4. Stock owned in amounts over $5,000 reflecting the financial interests of the agency's Board of Directors and top management personnel.

5. Certification by the agency that:

a. Its board of directors, as a body, and its technical personnel, as individuals, can exercise independence of judgment; and,

b. Its activities pursuant hereto will result in no financial benefit to the agency via stock ownership, or other financial interests in any producer, supplier or vendor of products involved, other than through standard published fees for services

6. Names, years of experience, State in which professionally registered and other qualifications of the directors of inspection or evaluation programs.

7. Names and years of experience of employees practicing in the following disciplines: architecture, structural engineering, mechanical engineering, electrical engineering, fire protection and other branches of engineering; the States in which each is registered and the services each performs.

8. An organization chart showing management and supervisory persons including the number of graduate engineers and architects, and the names of all consulting engineers or architects, designating which are full-time and which are part-time engineers.

9. Number and location of factory inspectors, supervisors, and other technicians, including evaluators of factory inspectors and the qualifications of each specialized group, including records of work experience, licenses held and other pertinent qualifications; descriptions of the type of work each group and each technician is expected to perform, and the qualifications of each group and each technician to perform the work assigned.

10. An outline of the training program, if any, of the agency to assure that all inspectors, evaluators and other technicians are properly trained to do each job assigned to them.

11. An outline of the general procedures for supervision of inspectors and evaluators, including checking and evaluation of their work.

12. All engineers, technicians and other personnel who will perform services for the organization but who are not employees of the organization, and the supervisory and other relationships which each will have to the agency.

13. Type of products, components, equipment, structures and other items which the organization has evaluated, tested, or inspected, and the number of years of experience the organization has had with each, and the type of codes, standards, specifications and requirements with respect to which the organization has had experience in providing evaluation, inspection or testing services, and the number of years of experience with each.

14. Description of the record-keeping system the agency proposes to use with particular regard to availability of records to the State Building Inspector and the capacity to render reports to the State Building Inspector.

15. Description of the frequency with which the agency is capable of performing inspections or evaluations.

16. List of States in which the agency is now approved to inspect or evaluate manufactured buildings or building components, and a further listing of those States in which the agency intends to seek such approval within the next two (2) years.

17. Certification that the agency is able to evaluate building systems for compliance with the codes, standards, specifications and requirements adopted herein, or manufactured buildings or building components for compliance with approved building systems.

18. Fee as required by 2 MCAR 1.10335

B. PROCEDURES FOR APPROVING AND DELEGATING

1. The State Building Inspector shall approve inspection or evaluation agencies which meet the requirements of Section 1 of this Part and which the State Building Inspector finds otherwise qualified to perform the functions proposed to be delegated to them.

2. Prior to a full evaluation of an application for approval, the State Building Inspector shall determine whether such application is complete and in accordance with Sec. 1.10334. In the event the application is found to be unsuitable for processing, the applicant shall be notified in writing of such unsuitability and the basis thereof within thirty (30) days of the date the application is received by the State Building Inspector. In such event, all but $25.00 of the fee will be returned, and the findings of unsuitability shall be without prejudice. Any subsequent submission shall be treated as a new application.

3. In the event an inspection or evaluation agency is not approved, the State Building Inspector shall return one complete application to the applicant with a written explanation of the reasons for such disapproval attached thereto.

4. Approval of inspection or evaluation agencies shall be evidenced by a letter to the applicant indicating such approval and stating specifically the functions which the applicant has been approved to perform. Such approval shall not constitute the actual delegation of such functions.

C. SUSPENSION AND REVOCATION

1. Grounds. The State Building Inspector may suspend or revoke its approval of any evaluation agency or inspection agency if the approval was issued in error, was issued on the basis of incorrect information, or was issued in violation of the Act or these rules and regulations, or if the agency violates the Act or these rules and regulations, if examination pursuant to MCAR 1.10310 4 (D) and (E) disclose that the agency has failed to perform properly, or for such other cause as may be deemed sufficient by the State Building Inspector to warrant such action. Appeals from suspensions or revocations shall receive timely review.

2. Procedures in Event of Revocation

a. General. If the State Building Inspector suspends or revokes the approval of an evaluation or inspection agency, the evaluation or inspection agency shall be given notice in writing of the suspension or revocation with the reasons therefor set forth therein. Manufacturers being evaluated or inspected by such agencies, and all local enforcement agencies within this State shall also be notified in writing of such suspensions or revocations. Such notices shall contain instructions to the local enforcement agencies as to manufactured buildings or building components previously certified by an agency whose approval has been suspended or revoked.

b. Records. An evaluation or inspection agency whose approval has been suspended or revoked shall within ninety (90) days of the suspension or revocation deliver to the custody of the State Building Inspector the originals of all records required by these rules and regulations to be made of, or in the course of, the agency's operations pursuant to the Act and these rules and regulations.

c. Seals. An evaluation or inspection agency for which approval has been suspended or revoked shall, within ninety (90) days of the suspension or revocation, deliver to the custody of the State Building Inspector all seals in the agency's possession, under its control, or for which it is responsible pursuant to these rules and regulations.

1.10335 Fees. General. All fees shall be:

A. In the form of checks or money orders.

B. Payable to: Minnesota State Treasurer.

C. Addressed to: State of Minnesota
Department of Administration
Building Code Division
No. 408 Metro Square Building
7th and Robert Streets
St. Paul, Minnesota 55101

D. Seal Fee, twenty dollars($20.00) per Seal. Replacement seal fee for damaged or lost seals, five dollars($5.00) per Seal.

E. For all other work performed by the Building Code Division such as, but not limited to: the review of plans, specifications, and independent agency reports, inspection and quality control evaluation, a fee of Twenty dollars ($20.00) per man hour shall be charged.

F. Travel expense shall be charged at the rates established for state employees by the Commissioner of Administration.

G. Inspection and/or evaluation agencies.

1. Initial fee of $150.00 shall be submitted with the application for agency approval. The initial fee shall be submitted prior to January 1, 1981 by all currently approved agencies and shall include any additional data necessary to show compliance with 2MCAR 1.10310, 1.10321, 1.10334.

2. A registration fee of $75.00 is required annually, due January 1 of each year, to maintain State approval.

NEC Table 220-2(b) is amended as follows:

Unit load per sq. ft. (Watts) for Banks and Office Buildings shall be reduced from 5 to 3.

Table 220-2(b). General Lighting Loads by Occupancies

Type of Occupancy	Unit Load per Sq. Ft. (Watts)
Armories and Auditoriums	1
Banks	3
Barber Shops and Beauty Parlors	3
Churches	1
Clubs	2
Court Rooms	2
*Dwelling Units	3
Garages – Commercial (storage)	½
Hospitals	2
*Hotels and Motels, including apartment houses without provisions for cooking by tenants	2
Industrial Commercial (Loft) Buildings	2
Lodge Rooms	1½
Office Buildings	3
Restaurants	2
Schools	3
Stores	3
Warehouses (storage)	¼
In any of the above occupancies except one-family dwellings and individual dwelling units of multifamily dwellings:	
Assembly Halls and Auditoriums	1
Halls, Corridors, Closets	½
Storage Spaces	¼

* All receptacle outlets of 20-ampere or less rating in one-family and multifamily dwellings and in guest rooms of hotels and motels [except those connected to the receptacle circuits specified in Section 220-3(b)] shall be considered as outlets for general illumination, and no additional load calculations shall be required for such outlets.

NEC 300-22(b) is amended by adding an exception as follows:

Exception: In Group B, Division 2, occupancies, communications circuits such as those set out in Section 800-1 may be installed in return air handling plenums located above ceilings without being installed in metallic tubing, metal conduit, or other types of metallic raceways when the building housing such Group B Division 2, occupancies is provided with an approved, fully automatic sprinkler system or the main return and exhaust air plenum is provided with approved smoke detectors which, when activated, shall place into operation all equipment necessary to prevent the recirulation of smoke. All such communication wiring, when abandoned, shall be removed upon order from the building official.

Sec. 1.18701 Plumbing. All plumbing in buildings and structures as defined in the Minnesota Building Code shall comply with the provisions of the Minnesota Plumbing Code 1979, which code is adopted by reference and made a part of the code.

Sec. 1.18801 Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts. General. Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property.

Sec. 1.18802 Definitions. For the purpose of this chapter, the terms or words listed below shall have the meaning indicated:

EXISTING INSTALLATION. Shall mean an installation on which the construction or installation was begun prior to the effective date of this Code.

NEW INSTALLATION. Shall mean an installation on which the construction or installation was begun subsequent to the effective date of this Code.

Sec. 1.18803 Existing installations is amended to read as follows:

A. All existing installations may be continued in service as long as they are properly maintained and are, in the opinion of the administrative authority, installed and maintained in a safe condition. The Administrative Authority may order the installation of car gates, car tops, and the car walls extended to the car top on all existing installations. The Administrative Authority shall have the authority to shut down any piece of equipment covered by this chapter, which in his opinion is dangerous to life, limb, and adjoining property, and such equipment shall not be put back into operation until such unsafe condition has been corrected and approved by the Administrative Authority.

B. Any installation which is materially changed subsequent to the date of enactment of this Code shall comply with all of the requirements covering a new installation.

A material change shall be defined as any change which moves the location, increases or decreases the length of travel, changes the type of operation, increases the speed or carrying capacity or changes the types of power supply of an existing installation.

Any installation, whether new or existing, which shall become damaged, defective or worn by fire or other causes including ordinary wear to such an extent that in the opinion of the administrative authority it becomes dangerous to life, limb and adjoining property, such installations shall be repaired or rebuilt in conformity with the provisions of this chapter for new installations. Such equipment shall, if in the opinion of the administrative authority, it is found necessary to protect life, limb and property, be taken out of service until such unsafe condition has been removed.

C. Unsafe conditions. When an inspection reveals an unsafe condition, the inspector shall immediately file with the owner and the Administrative Authority a full and true report of such inspection and such unsafe condition. If the Administrative Authority finds that the unsafe condition endangers human life, he shall cause to be placed on such elevator, escalator or moving walk in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the Administrative Authority. The Administrative Authority shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance which are necessary to render it safe, and may order the operation thereof discontinued until the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only by the Administrative Authority when he is satisfied that the unsafe conditions have been corrected.

Sec. 1.18804 Inspection, te[redacted] and approval is amended to re[redacted] as follows:

A. Approval of plans. Any person, firm or corporation desiring to install, relocate, alter materially or extend any installation covered by this chapter shall be required to obtain approval for so doing from the administrative authority. Two sets of drawings and specifications showing such installations, relocation, alteration or extension shall be submitted for approval.

B. Inspections and tests. It shall be unlawful for any person, firm or corporation to put into service any installation covered by this chapter whether such installation is newly installed, relocated or altered materially without such installation being inspected and approved by the administrative authority. The installer of any equipment included in this chapter shall notify the administrative authority seven days prior to completion of the installation for such inspection. The administrative authority shall have the authority to require such tests as provided in ANSI A17.1-1978 Edition and Supplement as he may deem necessary to prove the safe operation of any installation.

C. Approval. A certificate or letter of approval shall be issued by the administrative authority for such installation when the entire installation is completed in conformity with this chapter. The entire installation shall include all enclosures or shafts, gates, doors, machinery safety and control devices and all other appurtenances necessary.

D. Limited use of an elevator. When a building or structure is to be equipped with one or more elevators, as least one of such elevators may be approved for limited use prior to the completion of the building or structure.

The use of such elevators may be permitted by the administrative authority under the authority of a limited permit issued by him for each class of service. Such limited permit shall specify the class of service. Such limited permit shall specify the class of service permitted and it shall not be issued until the elevator has been tested with rated load and the car safety and terminal stopping equipment have been tested to determine the safety of the equipment and until permanent or temporary guards or enclosures are placed on the car and around the hoistway and at the landing entrance on each floor. Landing entrance guards shall be provided with locks that can be released from the hoistway side only. Automatic and continuous pressure elevators shall not be placed in temporary operation from the landing push buttons unless door locking devices and/or interlocks are installed and operative.

Sec. 1.18805 Accidents.

A. To be reported. The owner or person in control of an elevator or other installation covered by this chapter shall promptly notify the administrative authority of any accident to a person or apparatus, on, about, or in connection with such elevator or other installation, and shall afford the administrative authority every facility for investigating such accident and the damage resulting therefrom. Notification may be given to the administrative authority by telephone or verbally, but such notification shall be confirmed in writing.

B. Investigation. The administrative authority shall make or cause to be made an investigation of the accident and the report of such investigation shall be placed on file in his office. Such report shall give in detail the cause or causes, so far as they can determine, and such report shall be open to public inspection.

C. Operation discontinued. When an accident involves the failure or destruction of a part of the installation or the operating mechanism, the elevator or other installation shall be taken out of service and shall not be used again until it has been made safe and such re-use approved by the administrative authority.

The administrative authority may, if deemed necessary, order the discontinuance of operation of any such elevator or installation until a new certificate of approval has been issued.

D. Removal of parts restricted. No part of the damaged installation, construction or operating mechanism shall be removed from the premises until permission is granted by the administrative authority.

Sec. 1.18806 Elevators, dumbwaiters, escalators and moving walks is amended to read as follows:

A. The ninth edition of the American National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks - ANSI A17.1-1978 including supplement ANSI A17.1a-1979, are hereby incorporated by reference and made a part of this Code. All references in ANSI A17.1 - 1978 and supplements, to the National Electrical Code shall be changed to read: "National Electrical Code" ANSI C1 1978 (NFPA 70-1978).

B. Exceptions to ANSI A17.1.

1. Winding drum machine. Winding drum machines shall not be permitted on new elevators installations nor replacements on existing installation.

2. Swing doors. Horizontal swing doors, either single section or center opening two section, shall not be permitted on new elevator installations nor as replacements on existing installations, except the administrative authority may approve such installation if the conditions are such as to make it impossible to install other than swing doors.

3. Side exits. Side emergency exits on elevator cars shall not be permitted.

4. In each elevator lobby served by elevators complying with ANSI rule 211.3 of the Elevator Code identified as ANSI A17.1-1978, all automatic -operation elevators serving three or more stories above or below the main floor or having a travel of twenty five (25) feet or more above or below the main floor, at least one elevator car serving all floors in a building shall have a platform size that is standard for the elevator supplier, and capable of accommodating an ambulance stretcher in its horizontal position. The opening to the elevator car shall be capable of passageway for such ambulance stretcher.

5. Exterior elevator call buttons shall be placed not higher than 60 inches above the floor. No emergency stop switch, door opening and door closing buttons, or elevator floor buttons shall be placed higher than 60 inches above the floor.

6. Standby power. In every building over one story and more than 75 feet in height, emergency power shall be provided for at least one passenger elevator in each bank. This emergency power shall be transferable to any other elevator in the bank and shall be capable of operating the elevator with a full load at contract speed or not less than 150 feet per minute. Emergency power shall be provided by an approved self-contained generator set to operate whenever there is a loss of power in the normal power supply. The generator shall be in a separate room having at least a one-hour fire resistive occupancy separation from the remainder of the building and shall have an on site fuel supply adequate to operate the equipment for two hours. See UBC Standards 18-1.

7. Operating devices. All operating devices shall be of the enclosed electric type. Rope or rod operated devices activated by hand, or rope operating devices activated by wheels, levers or cranks, shall be removed. EXCEPTION: This shall not be considered a material change.

C. Amendments to ANSI A.17.1 - 1978

ANSI A17.1 - Rule 100.4a is amended to read as follows:

100.4a - Vents Required.

Hoistways of elevators serving more than three (3) floors shall be provided with means for venting smoke and hot gases to the outer air in case of fire. Vents may be manually openable or remote control automatic vents. Location of operating devices are subject to approval of the Fire Chief.

EXCEPTIONS Hoistways not extending into the top floor of the building, in buildings other than hotels, apartment houses, hospitals and similar buildings with overnight sleeping quarters, where the hoistways are equipped with approved automatic spinklers connected to the building water-supply system or to an approved automatic sprinkler system (See NFPA No. 13-1976 Sprinkler Systems). Such systems shall be responsive to an accumulation of smoke as well as heat at the top of the hoistway.

ANSI A17.1 - Rule 100.4b is amended to read as follows:

100.4b Location of Vents.

Vents shall be located:

1. In the side of the hoistway enclosure directly below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air; or

2. In the wall or roof of the penthouse or overhead machinery space above the roof, provided that openings have a total area not less than the minimum specified in Rule 100.4c. Vents passing through machine rooms must be in noncombustible ducts. When a vent is installed in the roof of the hoistway, a protective grill shall be provided to prevent persons from falling into hoistway.

ANSI A17.1 - Rule 101.5a is amended to read as follows:

101.5a Lighting.

Permanent electric lighting shall be provided in all machine rooms and machinery spaces.

The illumination shall be not less than ten (10) foot-candles at the floor level. The lighting control switch shall be located within easy reach of the access to such rooms or spaces. Where practicable, the light control switch shall be located on the lock-jamb side of the access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the machine room. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1 - Rule 106.1e is amended to read as follows:

106.1e Illumination of Pits.

A permanent lighting fixture shall be provided in all pits, which shall provide an illumination of not less than five (5) foot-candles at the pit floor. A light switch shall be provided and shall be so located as to be accessible from the pit access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the pit. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1 - Rule 110.2a is amended to read as follows:

ANSI A17.1 - Rule 110.2a - For Passenger Elevators and Freight Elevators Authorized to Carry Employees.

Entrances shall be one of the following types:

1. Horizontal side, single or multisection.
2. Swing, single-section.
3. Combination horizontal slide and swing.

4. Power-operated, vertical slide biparting counterbalanced or vertical slide counterweighted which slide down to open, where located at entrances used by passenger (See RUle 207.4).

5. Hand or power-operated vertical slide which slide up to open.

EXCEPTION: At landing openings used exclusively for freight, any type of entrance permitted by Rule 110.2b.

6. Elevator doors shall provide a clear opening of at least 32 inches.

ANSI A17.1 - Rule 111.9b is amended to read as follows:

111.9b - Location and Design of Hoistway Access Switches.

Hoistway access switches shall conform to the following:

1. Hoistway access switches shall be provided at top and bottom landings. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.

2. The switch shall be installed adjacent to hoistway entrance at the access landing with which it is identified.

3. The switch shall be of the continuous-pressure spring-return type, and shall be operated by a cylinder-type lock having not less than a five (5) pin or five (5) disc combination with the key removable only when the switch is in the "OFF" position. The lock shall not be operable by any key which will operate locks or devices used for other purposes in the building. The key shall be available to and used only by inspectors, maintenance men, and repairmen.

ANSI A17.1 - Rule 111.9e is amended to read as follows:

111.9e - Location and Design of Hoistway Door Unlocking Devices.

Hoistway door unlocking devices shall conform to the following:

1. The device shall unlock and permit the opening of the hoistway door from the lowest landing irrespective of the position of the car.
2. The device shall be installed only at the lowest landings.

   EXCEPTION: For Emergency use see Rule 111.10.

3. The device shall be designed to prevent unlocking the door with common tools.
4. The operating means for unlocking the door shall be provided with a special key not easily, duplicated and said key shall be available only to elevator mechanics and inspectors. The interlocks shall be designed and adjusted as to prevent movement of the car until after the door is closed and in the locking position.
5. The unlocking - device keyway shall be located at a height not greater than six (6) feet eleven (11) inches above the floor.

   NOTE: For diagrammatic representation See Appendix C.

ANSI - A17.1 Rule 112.5 is amended to read as follows:

ANSI A17.1 - Rule 112.5 - Reopening Device for Power-Operated Car Doors or Gates.

Where required by Rule 112.3d or Rule 112.4, a power-operated car door or gate shall be provided with a reopening device which will function to stop and reopen a car door or gate and the adjacent hoistway door in the event that the car door or gate is obstructed while closing. If the closing kinetic energy is reduced to two and one-half (2 1/2) foot pounds or less, the reopening device may be rendered inoperative (See Rule 112.4-a).

For center-opening doors, the reopening device shall be so designed and installed that the obstruction of either door panel when closing will cause the reopening device to function.

Hoistway door protection in passenger elevators. Hoistway doors on all passenger elevators shall not be solely dependent upon the door edge reopening device for protection from the doors closing on an obstruction, but shall also be provided with an approved light beam or electronic door protection device.

ANSI A17.1 - Rule 204.2a is amended to read as follows:

204.2a - Material for Enclosures and Enclosure Linings.

Car enclosures and car-enclosure linings shall conform to the following:

1. Material for enclosures shall be:
    a. Metal; or
    b. Fire-retardant-treated wood; or
    c. Other equally fire retardant approved material.

EXCEPTION: Non-fire-retardant treated wood or materials of equivalent combustible characteristics may be used if all exterior surfaces of the enclosure are covered with sheet metal not less than No. 27 U.S. gauge or other equally fire-retardant material or are protected by painting with an approved fire-retardant paint having a flame spread rating of not over 50, applied in accordance with the instructions of the manufacturer. Such ratings shall be based on the test procedure specified in ANSI/ASTM E84.

2. Slow buring combustible materials for insulating, sound deadening or decorative purposes may be used for lining enclosures if firmly bonded flat to the enclosure. Such materials shall not be padded. Materials must have a Class 1 Flame Spread Rating.

EXCEPTION: Padded protective linings used temporarily in passenger cars during the handling of freight, provided the pads are made of fire-retardant material or treated with an acceptable fire retardant. The fire retardant-treatment shall be renewed as needed. The protective linings shall clear the floor of the car by not less than four (4) inches.

ANSI A17.1 - Rule 206.4c is amended to read as follows:

206.4c - Type of Speed-Governor Overspeed Switches, Speed-Reducing Switches, and Car-Safety-Mechanism Switches Required.

Switches used to perform the function specified shall be positively opened. Overspeed and speed-reducing switches permitted by the exception to Rule 206.4b and operated by the speed governor shall remain in the open position until manually reset. Switches operated by the car safety mechanism shall be the manually reset type.

ANSI A17.1 - Rule 211.1 is amended to read as follows:

Rule 211.1

Emergency communications. Every elevator car shall be provided with a two-way communication systems connected to an approved emergency service which operates 24 hours every day.

ANSI A17.1 - Rule 211.3a is amended to read as follows:

211.3a - Automatic-Operation Elevators.

All automatic-operation elevators serving three or more landings or having a travel of twenty-five (25) feet or more, shall conform to the following:

1. A three position (on, off, and by-pass) key-operated switch shall be provided at the main floor for each single elevator or for each group of elevators. The key shall be removable only in the "on" and "off" positions. When the switch is in the "on" position, all elevators controlled by this switch and which are on automatic service shall return nonstop to the main floor, and the doors shall open and remain open.

a. An elevator traveling away from the main floor shall reverse at the next available floor without opening its doors.

b. Elevators equipped with automatic power-operated doors and standing at a floor other than the main floor, with doors open, shall close the doors without delay, and proceed to the main floor.

c. Door reopening devices for power-operated doors which are sensitive to smoke, heat or flame shall be rendered inoperative.

d. All car and corridor call buttons shall be rendered inoperative and all call registered lights and direction lanterns shall be extinguished and remain inoperative.

e. A car stopped at a landing shall have its "Emergency Stop Switch" rendered inoperative as soon as the doors are closed and it starts toward the main floor. A moving car, traveling to or away from the main floor, shall have its "Emergency Stop Switch" rendered inoperative immediately.

f. A sensor in each elevator lobby, which when activated prevents cars from stopping at that floor, shall not be substituted for the above requirements.

2. Sensing Devices.

In addition to the key-operated switch required in 1 above, heat and smoke or products of combustion sensing devices shall be installed in accordance with NFPA No. 72D 1975 in each elevator lobby at each floor, except the main floor. The activation of a sensing device in any elevator lobby shall cause all cars in all groups that serve that lobby to return nonstop to the main floor. The operation shall conform to the requirements of 211.3a-1-a to 211.3a-1-e. The key-operated switch required by 211.3a-1, when moved to the "by-pass" position, shall restore normal service independent of the sensing devices.

EXCEPTIONS:

(1) Elevators in buildings which are completely protected by an automatic sprinkler system (See NFPA No. 13 1976 Sprinkler Systems).

(2) Freight elevators located in or at openings into manufacturing areas.

(3) Elevator lobbies at unenclosed landings.

3. Elevators without a terminal landing at grade level shall be returned to that landing closest to grade level or other approved level and shall conform to the requirements of 211.3a-1,- 2,- 3,-4,-5,-6.

4. One (1) car in each bank of automatic-operation elevators serving five (5) or more floors above or below the main floor or having a travel of fifty (50) feet or more above or below the main floor shall be provided with the following operation:

A two position (off and on) key-operated switch shall be provided in or adjacent to an operating panel in each car and it shall be effective only when the main floor key-operated switch (211.3a-1) is in the "on" position or a sensing device has been activated and the car has returned to the main floor or other approved level. The key shall be removable only in the "off" position and when in the "on" position, it shall place the elevator on emergency operation.

The operation of elevators on emergency service shall be as follows:

a. An elevator shall be operable only by a person in the car.

b. Elevators shall not respond to elevator corridor calls.

c. The opening of power-operated doors shall be controlled only by continuous pressure "open" buttons of switches. If the switch or button is released prior to the doors reaching the fully open position, the doors shall automatically reclose. Open doors shall be closed by either the registration of a car call or by pressure on "door close" switch or button.

d. Elevator shall be removed from emergency service by moving the emergency service key-operated switch in the car to the "off" position with the car at the main floor.

5. Multi-deck elevators sh[redacted] conform to the requirements o[redacted] 211.3a-1,-2,-3,-4,-6, and to additional requirements as follows:

a. The key-operated switch required by 211.3a-1 may be located at either main lobby.

b. The key-operated switch in the car required by 211.3a-4 for emergency service operation shall be located in the top deck. The elevators shall be provided with means for placing the lower deck out of service including closing of car and hoistway doors. The lower deck shall be out of service before the emergency service operation from the top deck becomes effective. The means for placing the lower deck out of service shall be located in that deck or adjacent to the entrance in the corridor.

6. The switches required by 211.3a-1 and 211.3a-4 shall be operated by the same key but which is not a part of a building master key system. There shall be a key for the main floor switch and for each elevator in the group and these keys shall be kept on the premises by persons responsible for maintenance and operation of the elevators, in a location readily accessible to authorized persons, but not where they are available to the public.

7. The switches required by 211.3a-4 shall conform to the following:

Emergency elevators. All keyed switches installed to operate elevators on emergency service shall be required to be keyed alike to a pattern approved by the Administrative Authority. In lieu of the above, keys for emergency elevator service may be in a metal box placed in a location approved by the Administrative Authority, provided said box is locked with a 5 pin tumbler core lock or equivalent which is keyed to the same pattern.

ANSI A17.1 - Rule 602.1 is amended to read as follows:

Rule 602.1 - Car Safeties

Elevators having a travel of more than fifteen (15) feet shall be provided with a car safety, attached to the underside of the car frame, capable of stopping and sustaining the car and rated load.

The car safety device is not required to be operated by a speed governor, and may be of the instantaneous type operated as a result of the breaking or slackening of the suspension members.

Where the travel exceeds forty (40) feet, driving machines having hand-operated brakes shall also be equipped with an automatic speed retarder.

All handpowered elevators shall be equipped with a broken rope safety device.

ANSI A17.1 - Rule 703.1 is amended to read as follows:

Rule 703.1 - Where Required

Car and counterweight safeties shall not be required except for protection of spaces below hoistways for all dumbwaiter cars and counterweights having a rated load over twenty-five (25) pounds. Where required, the car and counterweight safeties may be operated as a result of breaking the suspension means and may be of the inertia type without governors. Car safeties may be located in the car crosshead.

All dumbwaiters shall be equipped with a broken rope safety device.

Sec. 1.18807 Stage and orchestra lifts. Stage and orchestra lifts shall be designed, installed, constructed and maintained so as to be reasonably safe to life, limb and adjoining property and shall be approved by the administrative authority prior to installation or construction.

Sec. 1.18808 Manlifts. Mainlifts shall be designed, installed, constructed, and maintained so as to be reasonably safe to life, limb, and adjoining property shall conform to the standards specified in the American National Safety Code for manlifts, ANSI A90.1 - 1969 and Regulations of the Department of Labor and Industry. 8MCAR 1.7120 - 1.7129.

Sec. 1.18809 Temporary interior and exterior hoists. Temporary interior and exterior hoists shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, shall conform to Safety Requirements for Workman's Hoists, ANSI 10.4 - 1963, Safety Requirements for material hoists, ANSI 10.5 - 1969 and Regulations of the Department of Labor and Industry.

Sec. 1.18810 Mechanical parking garage equipment. Mechanized parking garage equipment shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, and shall conform to the standards specified in the American Standard Safety Code for Mechanized Parking Garage Equipment ANSI A113.1 (R-1971).

STANDARDS FOR WHEELCHAIR

ELEVATING DEVICES

Add new Sections 2MCAR Sec. 1.18811 through 1.18813 to read as follows:

Sec. 1.18811 Standards for wheelchair elevating devices.

A. Applicability

1. These rules apply to electric powered vertically traveling elevating devices used to raise or lower physically handicapped persons from one level to another in existing buildings, hereinafter in these rules referred to as a device.

2. The device shall conform to all applicable sections of ANSI A17.1-1978 National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks, which are directly referred to in these rules.

Sec. 1.18812 Hoistways, hoistway enclosures.

A. Hoistway walls shall be provided on all sides of the device not used for entrance or exits. Walls shall be fully enclosed and of non-combustible material. Walls shall extend to a height of at least the top terminal landing level. When terminated at top landing level or any level below 42" above top terminal landing a guard rail conforming to UBC Section 1716 shall be provided.

B. Strength of enclosure. See Rule 100.1e

C. Construction at top of hoistway.

A ceiling at the top of the hoistway is not required unless a hazard exists from falling objects from overhead. When a ceiling is provided it must be noncombustible material and must reject a ball 1" in diameter. Minimum clear headroom 7'-0".

D. Construction at bottom of hoistway.

A pit is not required, but when provided it shall be designed as to prevent entry of ground water. The floor at the bottom level shall be designed to accept the loads imposed upon it. (U.B.C. Chapter 23).

E. All ramp surfaces leading to or from the device shall be of the nonskid type. Ramps slope shall not exceed a ratio of 1 vertical to 12 horizontal.

F. Devices shall not be exposed to the outside elements.

G. Projections recesses and setbacks in hoistway enclosures, see Rule 100.6 and Rule 110.10A (Omit Item 1 only).

H. Means shall be provided to prevent movements of platform when loading or unloading.

I. For electrical wiring, pipes and ducts in hoistways and machine rooms, see Rule 102.

J. Location of device.

The device may be installed in a stair enclosure or exit system provided it does not reduce or obstruct exit widths as required in UBC Chapter 33.

K. All exposed equipment on a device shall be guarded to protect against accidental contact which could cause bodily injury.

L. A movable barrier (or gate) at the upper terminal landing shall be installed to prevent a wheelchair from rolling off end of landing while waiting for the device. All movable barriers are to be self closing when the platform leaves the floor level. Means shall be provided so barrier can not be opened unless platform is in the top landing zone. When the movable barriers to the device are power operated they must meet all requirements of Section 1 Rule 112.

M. The terminal landings shall be permanently fastened, and constructed so as to safely carry the imposed loads.

N. Upper terminal ramp or landing shall be provided with guard rails on open sides.

O. Lighting shall conform to Rule 204.7(a).

P. The device shall be permanently anchored and maintained in a level position.

Q. Guardrails shall be provided to protect against access to the area of the bottom terminal landing when skirt is utilized as a loading ramp.

R. The running clearance from front or rear to the permanent hoistway enclosure shall not be more than 1" nor less than 1/2".

Sec. 1.18813 Machinery and equipment for the devices.

A. The frame and platform shall be of steel or approved non combustible material. The platform shall not be larger than 42" wide by 60" long and not less than 36" wide x 48" long (inside dimensions).

B. The rated capacity shall be not less than 400 lbs. nor less than 33 and 1/3 pounds per square foot.

C. The device shall be designed to insure a safety factor of 5.

D. Welding on the device shall conform to rule 203.7.

E. Means shall be provided on vertical traveling devices to prevent access below the platform when it is in the raised position.

F. When a skirt is provided, they must be solid (not perforated or grilled), and may be hinged or collapsible type. If of hinged or collapsible type they shall have a switch to cut off the power to the driving machine in case of accidental contact with any object while device is moving downward. The required pressure on the skirt to make the switch function shall not exceed 4 lbs.

G. Means shall be provided to prevent wheelchair from rolling off platform when in operation.

H. The speed of the device shall not exceed 15 feet per minute in either direction under full load conditions.

I. The total travel of the device shall not exceed 54".

J. 1. Operating means shall be provided by the use of a universal key or magnetic card available and restricted to key personnel and physically handicapped persons.

2. Operation shall be by continuous pressure, key operated switches. Switches shall be arranged so that they will not remain in the run position unless held in position and will automatically return to the "off" position if released. Key switches shall be so located as to permit an unobstructed view of the entire length of the travel of the device.

3. A slack cable or chain switch shall be provided where applicable.

4. An upper and lower terminal stopping switch shall be provided to stop the device at the terminal landings.

5. The device shall conform to Rule 501.11c for control and operating circuit requirements.

K. A mechanical stop shall be provided at the top and bottom. Overtravel and undertravel shall not be more than 1" until the mechanical stop is reached. Stops shall be designed to stop the car at full load, full speed in both directions and have a safety factor of not less than 5.

L. A data plate shall be installed under the platform which shall contain: car weight, capacity, total load, and speed plus total load, and speed plus total weight of device.

M. A full load speed safety test shall be performed on an annual basis.

N. Covers to mechanism shall be removable, for inspection purposes.

O. A sign shall be placed inside the device indicating, "for use by physically handicapped persons only". Letters shall not be less than 2" high.

P. Maintenance shall be provided on the device and shall conform to applicable rules of Part 10.

Q. If the device is of the hydraulic type, the engineering shall conform to Rule 1302.

R. An alarm bell shall be installed in accordance with Rule 211.1 and shall be connected to a push button on car operating panel marked "alarm".

Sec. 1.18901 Adoption of "Flood Proofing Regulations." Sections 100 through 1406 of the 1972 Edition of "Flood Proofing Regulations" (FPR) as promulgated by the Office of the Chief Engineers, U.S. Army, Washington, D.C. is incorporated by reference and hereby made a part of the State Building Code subject to the following amendments:

(FPR Sections 201.2 through 208.2 are placed in the appendix of this Code.)

FPR Section 200.2 is amended to read as follows:

Official Flood Plain Zoning Map: The Official Plain Zoning Map showing the extent and boundaries of the Primary and Secondary Flood Hazard Areas is hereby declared and established as part of these Regulations. Hereinafter reference to term Primary Flood Hazard Areas in these regulations shall be synonymous with the term "flood plain areas" as used in the Minnesota Regulations NR 85-93.

FPR Section 200.3 is amended to read as follows:

Regulatory

Flood Datum: For the purpose of these regulations, the Regulatory Flood Datum, or as hereinafter referred to as the "RFD", is hereby declared and established for use as the reference datum for determining the elevation above mean sea level to which flood-proofing protection shall be provided. Hereinafter reference to the term "Regulatory Flood Datum" in these regulations shall be synonymous with the term "flood protection elevation" as used in Minnesota Regulations NR 85-93.

FPR Section 201.1 is amended to read as follows:

Application: These regulations shall apply to the construction, alteration, and repair of any building or parts of a building or structure in the Flood Hazard Area(s) of the municipalities. Additions, alterations, repairs and changes of use occupancy shall comply with all provisions for new buildings and structures as otherwise required in the Building Code, except as specifically provided in these Regulations.

FPR Section 201.2 is amended to read as follows:

This section shall apply unless equivalent provisions are incorporated in the city or county Flood Plain Zoning Ordinance.

Nonconforming Use: A structure or the use of a structure or premises which was lawful before the passage or amendment of the ordinance but which is not in conformity with the provisions of these Regulations may be continued subject to the following conditions:

1. No such use shall be expanded, changed, enlarged or altered in a way which increases its nonconformity.

2. No structural alteration, addition, or repair to any conforming structure over the life of the structure shall exceed 50 percent of its value at the time of its becoming a nonconforming use, unless the structure is permanently changed to a conforming use.

3. If such use is discontinued for 12 consecutive months, any future use of the building premises shall conform to these Regulations. The assessor shall notify the zoning administrator in writing of instances of non-conforming uses which have been discontinued for a period of 12 months.

4. If any nonconforming use or structure is destroyed by any means, including floods, to an extent of 50 percent or more of its assessed value, it shall not be reconstructed except in conformance with the provisions of these Regulations; provided, the Board of Appeals may permit reconstruction if the use or structure is located outside the floodway and is adequately and safely flood-proofed, elevated, or otherwise protected in conformance with these Regulations.

5. Uses or adjuncts thereof which are or become nuisances shall not be entitled to continue as nonconforming uses.

6. Any alteration, addition, or repair to any nonconforming structure which would result in substantially increasing its flood damage or flood hazard potential shall be protected as required by these Regulations.

7. The Building Official shall maintain a list of nonconforming uses including the date of becoming nonconforming, accessed value at the time of its becoming a nonconforming use, and the nature and extent of nonconformity. This list shall be brought up-to-date annually.

8. The Building Official shall prepare a list of those nonconforming uses which have been flood-proofed or otherwise protected in conformance with these regulations. He shall present such list to the Board of Appeals which may issue a certificate to the owner stating that such uses, as a result of these corrective measures, are inconformance with these Regulations.

FPR Section 203.3 is amended to read as follows:

Records. Copies of such tests, reports, certifications, or the results of such tests shall be kept on file in the office of the Building Official for a period of not less than two (2) years after the approval and acceptance of the completed structure for beneficial occupancy.

FPR Section 204.6 is amended to read as follows:

Board of Appeals: See 2 MCAR Sec. 1.10111 UBC Sec. 204.

FPR Section 204.7 is amended to read as follows"

Validity: It shall be unlawful for any person, firm or corporation or agency (state or local) to erect, construct, enlarge, alter, repair, move, improve, remove, convert, or demolish, any building or structure in the Flood Hazard Area(s), or cause the same to be done, contrary to or in violation of any of the provisions of these Regulations and/or "The Building Code".

FPR Section 205.1 is amended to read as follows:

Statement of Intention to Improve: The Owner or any registered architect or licensed professional engineer authorized to represent the Owner shall, before preparing final plans for any improvement in the Flood Hazard Area(s), file with the Building Official a Statement of Intention to Improve, including a brief description of the type of improvement being considered and giving its precise location, on a form provided by the Building Official. The Building Official shall note on two copies the elevation of the RFD at the location of the proposed improvement. One copy of the Statement of Intention to Improve shall be retained by the Building Official until a permit copy for improvement on the site is approved or one year has elapsed; a second copy shall be returned to the Owner for his use in final siting and design of his improvement. Assignments of the RFD elevations at all locations shall be made from profiles and/or cross sections provided by the Army Corps of Engineers, SCS, USGS. This information shall be open to public examination at all reasonable times.

FPR Section 205.2 is amended to read as follows:

Permits Required: No person, form or corporation shall erect, construct, alter, repair, move, remove convert, or demolish any building or structure or any part thereof, or make any other improvement within the structure or any part thereof, or make any other improvement within the Flood Hazard Area(s), or cause same to be done, without first obtaining a separate building flood proofing permit for any such improvement from the Building Official. Ordinary minor repairs may be made with the approval of the Building Official without a permit, provided that such repairs shall not violate any provisions of these Regulations or of "The Building Code".

FPR Section 205.3 No. 2 is amended to read as follows:

Two (2) sets of complete plans and specifications, in addition to plans and specifications required by "The Building Code", except that plans and specifications for any and all proposed improvement in the primary Flood Hazard Area(s) shall be prepared by an engineer or architect licensed by the State to practice as such. All drawings and specifications shall bear the name of the author thereof in his true name, followed by such title as he may be lawfully authorized to use. All plans and sections shall be noted with the proposed flood-proofing class of each space below the RFD including detail drawings of walls and wall openings.

Exception: Plans for Group M Division 1 Occupancies need not be prepared by a licensed architect or engineer.

FPR Section 205.3 No. 3 is amended to read as follows:

Two (2) copies of the Owner's Contingency Plan, which shall describe in detail all procedures for temporary placement and removal or contingent protection proposed items in spaces affected by these Regulations including:

(a) Plans and schedules for items to be removed and locations of places above the RFD to which they will be removed if these contents violate restrictions associated with the flood-proofing class of the space in which they are placed temporarily, including specific organizational responsiblities.

(b) Procedures, materials and equipment for protecting items required to have protection by their flood-proofing class, but for which this protection is proposed to be provided contingently, including specific organizational responsibilities for accomplishing this protection.

Waivers of restrictions implicitly requested by submission of the Owner's Contingency Plan may be granted by the Building Official as provided by 1101.2.

FPR Section 209.1 is amended to read as follows:

New Building and Structures: Every building or structure hereafter erected, that is located in the primary Flood Hazard Area(s) where the ground surface is two (2) feet or more below the RFD, or where flood water velocities may exceed five (5) feet per second, shall be provided with an enclosed refuge space above the RFD, of sufficient area to provide for the occupany load with a minimum of 12 square feet per person. It shall be provided with one or more exits through the exterior walls above the RFD to an exterior platform and stairway not less than three (3) feet wide.

FPR Section 209.3 is amended to read as follows:

Use of Space Below the Regulatory Flood Datum: No floor level or portion of the building or structure that is below the RFD regardless of structure or space classification shall be used as habitable space, or for storage of any property, materials, or equipment that might constitute a safety hazard when contacted by flood waters.

FPR Section 210.7 is amended to read as follows:

Placard Types: Placards shall be white rigid plastic or other non-water susceptible materials eight (8) inches long and twelve (12) inches wide, and shall have printed thereon in black letters the information shown in Figure 2.

FPR Section 300.0 is amended by adding a subsection to read as follows:

FPR Section 300.2 Interpretation: For the purpose of these regulations, where definition of terms as set forth in this Chapter conflict in meaning with those as set forth in Minn. Regs. NP 85(c), the latter shall take precedence.

FPR Section 301.2.9 is amended to read as follows:

Habitable space (Room) is space in a structure for living, sleeping, eating or cooking. Bathrooms, toilet compartments, closets, halls, storage rooms, laundry or utility space, and similar areas, are not considered habitable space.

FPR Section 301.4.1 is amended to read as follows:

Building Code: The State Building Code setting forth standards for the construction, addition and modification and repair of buildings and other structures for the purpose of protecting health, safety, and general welfare of the public.

FPR Section 402.1 (Table 2) is amended to read as follows:

General: Table 2 indicates the various degrees of protection required to permit use of spaces for each flood-proofing; the chart in itself shall not be construed as being exhaustive with respect to all requirements imposed by these Regulations. In any disputes arising over the interpretation of this chart, the written provisions of these Regulations shall be considered as definitive.

Table 2
SPACE CLASSIFICATION CHART

FLOOD-PROOFING CLASSIFICATION OF SPACES
MINIMUM REQUIREMENTS

Flood-Proofing Classes	Water-Proofing	Structural Loads	Closure of Openings	Internal Flooding & Draining	Flooring	Walls and Ceilings	Contacts	Electrical	Mechanical
W1 Completely Dry	Type A	Class 1	Type 1		Class 1	Class 1	Class 1		
W2 Essentially Dry	Type B	Class 1	Type 2		Class 2	Class 2	Class 2		
W3 Flooded with Potable Water	Type A	Class 2	Type 3	See Chapter 8	Class 3	Class 3	Class 3	See Chapter 12	See Chapter 13
W4 Flooded with Flood Water	Type C	Class 3	Type 4		Class 4	Class 4	Class 4		
W5 Non-Flood-Proofing	-	-	Type 5		Class 5	Class 5	Class 5		

FPR Section 612.2.1 is amended to read as follows:

Natural Terrain: In addition to the requirements of "The Building Code", the building shall be located not less than fifteen (15) feet back from the line of incidence of the RFD on the ground, foundation design shall take into consideration the effects of soil saturation on the performance of the foundations, the effects of flood waters on slope stability shall be investigated, normal access to the building shall be by direct connections with areas above the RFD and all utility service lines shall be designated and constructed as required to protect the building and/or its components from damage or failure during a flooding event to the RFD.

FPR Section 612.2.2 is amended to read as follows:

Building on Fill: The building and all parts thereof may be constructed above the RFD on an earth fill. Prior to placement of any fill or embankment materials the area upon which fill is to be placed, including a five-foot strip measured horizontally beyond and contiguous to the toe line of the fill, shall be cleared of standing trees and snags, stumps, brush, down timber, logs and other growth, and all objects including structures on or above the ground surface or partially burned. The area shall be stripped of topsoil and all other material which is considered unsuitable by the Building Official as foundation material. All combustible and noncombustible materials and debris from the clearing, grubbing and stripping operations shall be removed from the proposed fill area and disposed of at locations above the RFD and/or in the manner approved by the Building Official. Fill material shall be of a selected type, preferable granular and free-draining placed in compacted layers. Fill selection and placement shall recognize the effects of saturation from flood waters on slope stability, uniform and differential settlement, and scour potential.

The minimum elevation of the top slope for the fill section shall be no more than one foot below the RFD. Minimum distance from any point of the building perimeter to the top of the fill slope shall be either fifteen (15) feet or twice the depth of fill at that point, whichever is the greater distance. This requirement does not apply to roadways, driveways, playgrounds and other related features which are not integral and functional parts of the building proper. Fill slopes for granular materials shall be not steeper than one vertical on one and one-half horizontal, unless substantiating data justifying steeper slopes are submitted to the Building Official and approved. For slopes exposed to flood velocities of less than five (5) feet per second, grass or vine cover, weeds, bushes and similar vegetation undergrowth will be considered to provide adequate scour protection.

FPR Section 802.1 is amended to read as follows:

Applicability: Spaces to be intentionally flooded with flood water (W4) shall be provided with the necessary equipment, devices, piping, controls, etc. necessary for automatic flooding during the flood event and drainage system (s) shall utilize approved piping materials and have sufficient capacity for raising or lowering the internal water level at a rate comparable to the anticipated rate of rise and fall of a flood that would reach the RFD. These pipe systems shall be directly connected to the external flood waters to maintain a balanced internal and external water pressure condition. Provisions shall be made for filling the lower portions of the structure first and for interconnections through or around all floors and partitions to prevent unbalanced filling of chambers or parts within the structures. All spaces below the RFD, shall be provided with air vents extending to at least three (3) feet above the elevation of the RFD to prevent the trapping of air by the rising water surface. All openings to the filling and draingage systems shall be protected by screens for grills to prevent the entry or nesting of rodents or birds in the systems.

FPR Section 1101.3.2 is amended by changing the "Content Class" of Food Products from X to 1.

FPR Section 1301.2.1 is amended to read as follows:

Heating systems utilizing gas or oil fired furnaces shall have a float operated automatic control valve installed in the fuel supply line which shall be set to operate when flood waters reach an elevation equal to the floor level of the space where furnace equipment is installed. A manually operated gate valve that can be operated from a loction above the RFD shall be provided in the fuel supply line to serve as a supplementary safety provision for fuel cutoff. The heating equipment and fuel storage tanks shall be mounted on and securely anchored to a foundation pad or pads of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. As an alternate means of protection, elevation of heating equipment and fuel storage tanks above the RFD on platforms or by suspension from overhead structural systems will be permitted. All unfired pressure vessels will be accorded similar treatment. Fuel lines shall be attached to furnaces by means of flexible or swing type couplings. All heating equipment and fuel storage tanks shall be vented to an elevation of at least three (3) feet above the RFD. Air supply for combustion shall be furnished if required for systems installed in W1 or W2 spaces and piping or duct work for each purposes shall be terminated at least three (3) feet above the RFD.

FPR Section 1302.2.2. is amended to read as follows:

Where the state of dryness of a space is dependent on a sump pump system, or where the stability of a structure during a flood event depends on the relief of up-lift pressures on building components, all interior storm water drainage or seepage, appliance drainage, and underslab drain tile systems shall be directly connected to a sump (pump) and discharged at an elevation at least three (3) feet above the RFD.

FPR Section 1302.2.3.1 is amended to read as follows:

All vents shall extend to an elevation of at least three (3) feet above the RFD.

FPR Section 1302.3 is amended to read as follows:

Sewage Disposal/Treatment. Individual sewage disposal and/or treatment facilities will be permitted in a Flood Hazard Area but only at locations where connection with a public sewer systems is not permissible or feasible. Such facilities shall conform to applicable standards, criteria, rules and regulations of the Minnesota Department of Health and Pollution Control Agency in terms of size, construction, use and maintenance and with standards and criteria of the Minnesota Department of Natural Resources regarding setbacks from normal high water mark of a water-course in accordance with the public water classification.

FPR Section 1302.3.1 regarding cesspools/sewage disposals has been amended by deleting this section in its entirety.

FPR Section 1302.3.2 regarding seepage pits has been amended by deleting this section in its entirety.

FPR Section 1302.4.1 is amended to read as follows:

Water supply wells, tanks, filters, softeners, heaters, and all appliances located below the RFD shall be protected against contamination by covers, walls, copings, or castings. All vents shall be extended to a minimum elevation of three (3) feet above the RFD.

1. Amend MHD 122(g) by adding (4) as follows:

"(4) Connection to Public or Private Sewer. Every building shall have its own independent connection with a public or private sewer, except that a group of buildings may be connected to one or more manholes which are constructed on the premises, and connected to a public or private sewer."

2. Amend MHD Table 123(c) (3) VI. Water Service as follows:

"Water Service - Minimum working pressure rating shall be at least 150 psi for municipal water service and 100 psi for other service."

3. Amend MHD 123(d) (2) as follows:

"(dd) Copper tube 3E or 3G and 3D fittings 3D or 3N.

(ee) Lead pipe 4B with heavy duty bronze unions or wiped joints with the provision that each joint must be supported by a durable support without abrasive or cutting edge.

(ff) Asbestos cement pipe 5A and fittings with the provision that this material be supported continuously and laid in granular soil and only in yard areas. Further that it not be used to convey extremely soft water, and shall pass through the floor within 3 feet of the outside wall.

(gg) Concrete pipe 5N.

(hh) Plastic pipe 6D, 6E, 6F and 6G may be used for water service pipe only up to the water meter or pressure tank and provided there is no more than 2 feet of such piping exposed within the building. These materials shall be installed in accordance with ASTM D.2774-72. Particular care shall be taken to avoid sharp edges in contact with the pipe and to provide for expansion and contraction."

4. Amend MHD 124(a) (2) (11-4) as follows:

"(11-4) Mechanical Joints in Hubless Cast Iron Soil Pipe. Mechanical joints for hubless cast iron soil pipe and fittings may be made --by using a neoprene sleeve and stainless steel retaining band as specified in CISPI standard 301, --by using a transition fitting made of elastomeric material (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts, or using a two part coupling whose housing is fabricated of grey-cast iron (ASTM A 48), with a coupling gasket made of neoprene rubber (ASTM C 564), and coupling bolts and nuts made of 18-8 stainless steel.

5. Amend MHD 124(a) (4) by adding a new part (ff) as follows:

"(ff) Transition Couplings. A transition coupling is one which is to be used when pipes made of different materials are to be joined. A transition coupling may be made of elastomeric materials (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts. Any transition coupling joining plastic to plastic, copper to copper, or galvanized to galvanized, must be approved by the Administrative Authority.

6. Amend MHD 125(b) (3) as follows:

(3) Cleanout Materials. The bodies of cleanout ferrules shall be made to standard pipe sizes, conform in thickness to that required for pipes and fittings of the same material and extend not less than 1/4 inch above the hub. The cleanout cover or plug shall be of brass, cast-iron or approved plastic and be provided with a raised nut or recessed socket for removal.

Neoprene or nordel rubber with a plastic disc and a single stainless steel (300 series) band may be used for a cleanout cover provided that it is exposed and readily accessible. Cleanout covers shall conform to specifications and details as shown in Figure 125 (b) (3), Appendix B."

7. Amend MHD 130(b) (2) (aa) as follows:

"(aa4) Where the provisions of subsections (aa1) and (aa2) cannot be met, the sewer pipe shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) and the water pipe of copper, or cast iron, or plastic 6D, 6E, 6F or 6G (MHD Table 123(C) (3) VI.).

(aa5) Where the water service pipe must cross the building sewer, the bottom of the water service pipe located within 10 feet of the point of crossing shall be at least 12 inches above the top of the sewer, except where this is not feasible, the sewer shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) (MHD Table 123(C) (3) VI.) for at least 10 feet on either side of the crossing."

8. Amend MHD 130(e) (9) (gg) (ggl) as follows:

"(ggl) Connections Not Subject to Back Pressure: Where a water connection is not subject to back pressure an atmospheric type vacuum breaker shall be installed on the discharge side of the last valve on the line serving the fixture or equipment. Where a valve is installed on the discharge side of a vacuum breaker, that vacuum breaker must be a pressure-type vacuum breaker which complies with MHD 130(e) (9) (dd). A list of some conditions requiring protective devices of this kind is given in Table 130(e) (9) (ggl) Cross Connections Where Protective Devices Are Required and Critical Level (C-L) Settings for Backflow Preventers."

9. Amend MHD 130(f) by adding (6) as follows:

"Every water heater installation shall be readily accessible for inspection, repair or replacement. The appliance space shall be provided with an opening or doorway of sufficient size to provide such access."

10. Amend MHD Table 131(a) (2) (A) by changing the second heading as follows:

"Building Sewer *****, Building Drain and Building Drain Branches - from Stacks ****" and by adding a footnote to the Table as follows:

"***** No building sewer shall be less than 4 inches in diameter."

11. Amend MHD 131(b) (5) by adding (aa-5) as follows:

"(aa5) In single family dwellings the minimum capacity of a sump shall be 18 gallons."

Amend Table 123(C) (3) VI PLASTIC PIPE AND FITTINGS DRAIN, WASTE AND VENT BUILDING SEWER by adding 6C(3) as follows:

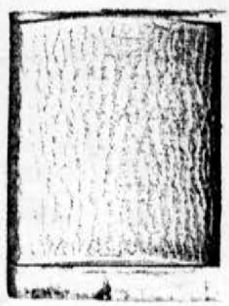
"6C(3) Acrylonitrile-Butadiene-Styrene(ABS) ASTM D 2751"

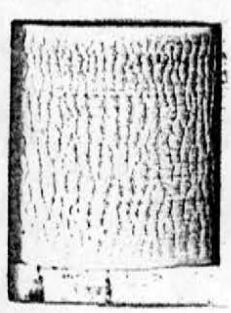
Amend MHD 123(d) (4) (gg) as follows:

"(gg) Plastic 6A, 6B, 6C(1), 6C(2) and 6C(3) with corresponding fittings laid on a continuous granular bed."

Amend MHD 130(e) (5) as follows:

"Potable water connections to boiler feed water systems, cooling systems, or other liquid systems, in which water conditioning chemicals may be introduced shall be made through an air gap or provided with an approved backflow preventer located in the potable water line before the point where such chemicals may be introduced. Where a system is filled with an anti-freeze or toxic solution a permanent tag will be placed in plain view stating "Caution, this system contains anti-freeze/toxic solution." There shall be no permanent direct connection between this system and the potable water supply to the building."





APPROVED AS TO FORM AND LEGALITY

July 31 1980

WARREN SPANNAUS, ATTORNEY GENERAL

BY H. Theodore Grindal

SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
JUL 31 1980
Joan Anderson Growe
Secretary of State
1:05 PM

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

In the Matter of the Proposed Adoption of Amendments to the State Building Code

SUPPLEMENTARY FINDING AND ORDER OF THE COMMISSIONER

Having reviewed for form and legality the rules adopted by me on June 10, 1980, the Office of the Attorney General has by memorandum on July 14, 1980 specified certain changes.

Accordingly my Findings of Fact and Order Adopting Rules are amended by adding a finding 13.

13. In response to the issues raised in the memorandum of the Attorney General dated July 14, 1980:

1. The rules proposed by the Energy Agency beginning with 2MCAR Section 1.16005 are deleted.

2. The word "may" in 2MCAR Section 1.10334 B.1. has been changed to "shall" which coincides with our intent.

3. The provisions of 2MCAR Section 1.10334 A have been referenced in 2MCAR 1.10334 B.2 to clarify the rule.

The rules have been revised to correct typographical errors enumerated except as follows:

Item 1. 1979 Uniform Building Code Appendix Chapter 11 (Agricultural Buildings) is not listed because Minn. Stats. 16.851 subd. 1 does not permit regulation of agricultural buildings. There is no Appendix Chapter 15 in the 1979 Uniform Building Code.

Item 12. The section referenced should be 2MCAR Section 1.18806 B.4.

NOW THEREFORE IT IS ORDERED that the rules adopted by me on June 10, 1980 are readopted with the changes required by the Office of the Attorney General and with the changes indicated in my finding 13.

DATED JULY 18, 1980

STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION

James J. Hiniker, Jr.
Commissioner

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

In the Matter of the Proposed Adoption of Amendments to the State Building Code

ORDER ADOPTING RULES

The above-entitled matter came on for hearing before Peter Erickson, Hearing Examiner on the 9th and 10th days of October 1979 and on the 22nd day of February 1980, after proper notice required by Minn. Stat. 15.0412 (1978) and Minn. Stat. 16.86 subd. 6 (1978), was served upon all persons, associations, municipalities and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all of the testimony, having considered all the evidence adduced and upon the records, files and proceedings herein, and having confirmed the need for the above captioned rules,

NOW THEREFORE IT IS ORDERED that these rules identified as Amendments to the State Building Code are adopted this 10th day of June, 1980 pursuant to authority vested in me by Minn. Stat. 16.86, subd. 3 (1978).

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

6-10-80
DATE

JAMES J. HINIKER JR.
COMMISSIONER

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

COMMISSIONER OF HEALTH

In the Matter of Proposed Amendments to the Minnesota Plumbing Code for Incorporation into the Minnesota Building Code

FINDINGS, CONCLUSIONS AND ORDER FOR ADOPTION

The above-entitled matter came on for hearing before Hearing Examiner, Peter C. Erickson, on October 9 and 10, 1979, in Room 83 of the State Office Building, St. Paul, Minnesota, after proper notice as required by Minn. Stat. § 15.0412 subd.4 (1978) had been served upon all persons registered with the Secretary of State for that purpose.

The Plumbing Code amendments were submitted by the Commissioner of Health for incorporation by the Commissioner of Administration into the Minnesota Building Code pursuant to Minn. Stats. § 16.861 (1978)

After affording interested persons an opportunity to present written and oral data, statements and arguments, having received all of the testimony, having considered all of the relevant evidence in the records, files and proceedings herein, and applicable standards and criteria, and having confirmed the need for the plumbing code portion of the above-captioned amendments, the Commissioner hereby adopts as his own the pertinent Findings and Conclusions of the Hearing Examiner.

Pursuant to authority contained in Minn. Stats. § 326.37 (1978),

IT IS HEREBY ORDERED, that the amendments to the Minnesota Plumbing Code, (MHD 122(g)(4); MHD Table 123(C)(3)(VI); MHD 123(d)(2); MHD 124(a)(2)(11-4); MHD 124(a)(4); MHD 125(b)(3); MHD 130(b)(2)(aa); MHD 130(e)(9)(gg 1); MHD 130(f); MHD Table 131 (a)(2)(A); MHD 131(b)(5); MHD Table 123(C)(3)VI; MHD 123(d)(4)(gg) and MHD 130(e)(5)), a copy of which is attached hereto and made

a part hereof which were proposed to the Commissioner of Administration for incorporation into the State Building Code are HEREBY ADOPTED this 30th day of May, 1980.

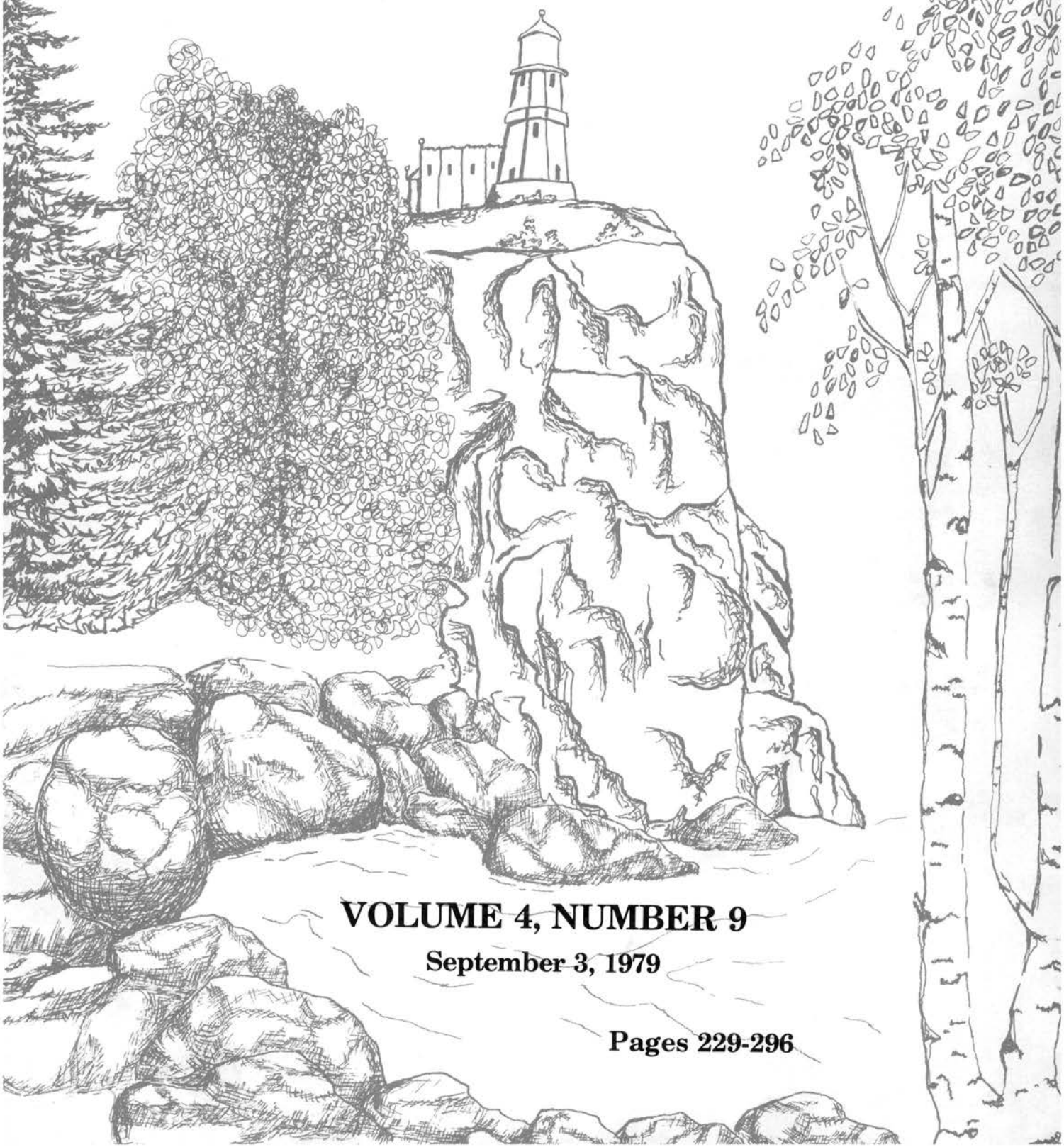
STATE OF MINNESOTA

George R. Pettersen, M.D.
Commissioner of Health

SIVERT

STATE REGISTER

STATE OF MINNESOTA



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September 3, 1979

Pages 229-296

STATE REGISTER

Volume 4 Printing Schedule for Agencies

Issue Number	*Submission deadline for Executive Orders, Adopted Rules and **Proposed Rules	*Submission deadline for State Contract Notices and other **Official Notices.	Issue Date
	SCHEDULE FOR VOLUME 4		
10	Monday Aug 27	Tuesday Sept 4	Monday Sept 10
11	Tuesday Sept 4	Monday Sept 10	Monday Sept 17
12	Monday Sept 10	Monday Sept 17	Monday Sept 24
13	Monday Sept 17	Monday Sept 24	Monday Oct 1

*Deadline extensions may be possible at the editor's discretion; however, none will be made beyond the second Wednesday (12 calendar days) preceding the issue date for rules, proposed rules and executive orders, or beyond the Wednesday (5 calendar days) preceding the issue date for official notices. Requests for deadline extensions should be made only in valid emergency situations.

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Governor

James J. Hiniker, Jr.
Commissioner
Department of Administration

Stephen A. Ordahl
Manager
Office of the State Register

Carol Anderson Porter
Editor

Paul Hoffman, Robin PanLener
Editorial Staff

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MCAR AMENDMENTS AND ADDITIONS

The following is a cumulative listing of all proposed and adopted rules published in Volume 4 of the *State Register*. The listing is arranged in the same order as the table of contents of the *Minnesota Code of Agency Rules* (MCAR). All adopted rules published in the *State Register* and listed below amend the rules contained in the MCAR set. Both proposed temporary and adopted temporary rules are listed here although they are not printed in the MCAR due to the short term nature of their legal effectiveness. During the term of their legal effectiveness, however, adopted temporary rules do amend the MCAR.

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Part 1 Administration Department—Telecommunications

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2 MCAR §§ 2.009-2.010, 2.018-2.019, 2.024, 2.029, 2.031, 2.039, 2.045-2.046, 2.061, 2.065, 2.067, 2.086-2.087, 2.091, 2.097, 2.099, 2.108-2.110, 2.118-2.119, 2.131, 2.133-2.136, 2.138, 2.141, 2.181-2.182, 2.201-2.203, 2.226, 2.240-2.241, 2.244 (proposed) 117

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3 MCAR §§ 1.1331-1.1334 (adopted) 213

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TITLE 5 EDUCATION

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12 MCAR §§ 3.150-3.157 (temporary) 47

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12 MCAR § 2.020 (proposed) 140

12 MCAR § 2.049 (adopted) 163

12 MCAR §§ 2.493, 2.503-2.504, 2.581, 2.586, 2.588, 2.592-2.593, 2.621-2.626, 2.640, 2.646, 2.654, 2.840 (proposed) 178

12 MCAR § 2.047 E.2.t. (proposed temporary) 218

PROPOSED RULES

Pursuant to Minn. Stat. § 15.0412, subd. 4, agencies must hold public hearings on proposed new rules and/or proposed amendment of existing rules. Notice of intent to hold a hearing must be published in the *State Register* at least 30 days prior to the date set for the hearing, along with the full text of the proposed new rule or amendment. The agency shall make at least one free copy of a proposed rule available to any person requesting it.

Pursuant to Minn. Stat. § 15.0412, subd. 5, when a statute, federal law or court order to adopt, suspend or repeal a rule does not allow time for the usual rulemaking process, temporary rules may be proposed. Proposed temporary rules are published in the *State Register*, and for at least 20 days thereafter, interested persons may submit data and views in writing to the proposing agency.

Public Hearings on Agency Rules September 10-14, 1979

Date	Agency & Rule Matter	Time & Place
Sept 10 & 12	Pollution Control Agency Standards of Performance for Coal Handling Facilities & Fugitive Emissions within Designated Areas Hearing Examiner: Howard Kaibel	9:00 a.m., Bd. Rm., PCA, 1935 W. Co. Rd. B2, Roseville, MN
Sept. 13	Same as above	1:00 p.m., St. Louis Co. Commissioners Bd. Rm., St. Louis Co. Courthouse, Duluth, MN
Sept. 12	Dept. of Personnel Personnel Administration Rules Hearing Examiner: Peter Erickson	8:30 a.m., Rm. 83, State Office Bldg., St. Paul, MN 55155

Department of Administration Building Code Division

Proposed Amendments to the State Building Code

Notice of Hearing

Notice is hereby given that a public hearing in the above-entitled matter will be held in Room 83, State Office Building, St. Paul, Minnesota on October 9 and 10, 1979 commencing at 9:30 a.m., and continuing until all persons have had an opportunity to be heard.

All interested or affected persons will have an opportunity to participate. Statements may be made orally and written materials may be submitted at the hearing. In addition, written materials may be submitted by mail to Mr. Peter Erickson, Office of Hearing Examiners, Room 300, 1745 University Avenue, St. Paul, Minnesota 55104, either before the hearing or within 5 working days after the close of the hearing. The Hearing Examiner may extend the time for receipt of written comments for a period not to exceed twenty (20) calendar days from the date of the hearing.

The proposed rules will provide for: amendments to the State Building Code, including adoption of the 1979 Uniform Building Code with certain amendments, amendments to the provisions for accessibility and usability of buildings by physically handicapped persons, adoption of the 1978 ANSI A17.1 Elevator Code and A17.1a 1979 Supplement with amendments including provisions for wheelchair lifts for existing buildings, amendments to the 1978 National Electrical Code, amendments to the Flood Proofing Regulations, amendments to the Minnesota Plumbing Code, amendments to the Manufactured Building Code and several amendments proposed by others than the Commissioner of Administration which include amendments to the National Electrical Code Section 300-22, Uniform Building Code Section 405, Section 420, Table 5-A, Section 1201, Section 1807(m), Section 1807(h) and five amendments to ASHRAE 90-75. Amendments to the State Building Code including adoption of the 1979 Uniform Building Code and amendments to the provisions for accessibility and usability of buildings by physically handicapped persons will be heard on the first day or until all persons have been heard. The balance of the proposed amendments will be scheduled for the second day of the hearing.

The proposed rules are subject to change as a result of the rules hearing process. The agency therefore strongly urges those who are potentially affected in any manner by the substance of the proposed rules to participate in the rules hearing process.

Copies of the proposed rules will be available at the door on the date of the hearing and one free copy can now be obtained by writing to the Building Code Division, 408 Metro Square Building, 7th and Robert Streets, St. Paul, Minnesota 55101.

The agency's authority to promulgate the proposed rules is contained in Minn. Stat. §§ 16.83, 16.85, 16.86 (1978).

Notice is hereby given that 25 days prior to the hearing, a Statement of Need and Reasonableness will be available for review at the agency and at the Office of Hearing Examiners.

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

This Statement of Need and Reasonableness will include a summary of all the evidence which will be presented by the agency at the hearing justifying both the need for and the reasonableness of the proposed rules. Copies of the Statement of Need and Reasonableness may be obtained from the Office of Hearing Examiners at a minimal charge.

Any person may request notification of the date on which the Hearing Examiner's Report will be available, after which date the agency may not take any final action on the rules for a period of five working days. Any persons may request final notification of the date on which the hearing record has been submitted (or resubmitted) to the Attorney General by the agency. If you desire to be so notified, you may so indicate at the hearing. After the hearing, you may request notification by sending a written request to the Hearing Examiner (in the case of the Hearing Examiner's Report), or to the agency (in the case of the agency's submission or resubmission to the Attorney General).

Please be advised that pursuant to Minn. Stat. § 10A.01, subd. 11 (1978) any individual: (a) Engaged for pay or other consideration, or authorized by another individual or association to spend money, who spends more than five hours in any month or more than $250, not including *his own* travel expenses and membership dues, in any year, for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials; or (b) Who spends more than $250, not including *his own* traveling expenses and membership dues, in any year for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials must register with the State Ethical Practices Board as a lobbyist within five days of the commencement of such activity by the individual. The statute provides certain exceptions. Questions should be directed to the State Ethical Practices Board, 41 State Office Building, St. Paul, Minnesota 55155, phone (612) 296-5615.

Adoption of the proposed rules by the agency will not require the expenditure of additional public monies by local public bodies.

August 8, 1979

James J. Hiniker, Jr.
Commissioner

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Section IV pp. 98-128 — Proposed Amendments to the Elevator Code including provisions for Wheelchair Lifts for Existing Buildings

Section V p. 129 — Proposed Amendment to the National Electrical Code

Section VI pp. 130-144 — Proposed Amendments to the Flood Proofing Regulations

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Section I

Proposed Amendments to State Building Code Including Adoption of 1979 Uniform Building Code

The Composition and Use of the Minnesota State Building Code

The State Building Code, to be known as the "Code," includes several documents or codes pertaining to buildings. They are as follows:

1. State Building Code rules will be known and identified by 2 MCAR §§ 1.0101-1.18901.

2. The State Building Code adopts by reference the following codes:

(a) ~~1976~~1979 Edition of the Uniform Building Code, identified as "UBC;"

(b) 1978 National Electrical Code, identified as "NEC;"

(c) ~~1971~~ 1978 American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks, identified as ANSI A17.1-~~1971,~~ 1978, and Supplements ANSI A17.1a-~~1972,~~ 1979, ~~ANSI A17.1b-1973, ANSI A17.1c-1974, ANSI A17.1d-1975, ANSI A17.1e-1975, ANSI A17.1f-1975 and ANSI A17.1g-1976.~~

(d) ~~1976~~ 1979 Minnesota Plumbing Code, identified as MHD 120 through MHD 135;

(e) "Flood Proofing Regulations" (FPR), Office of the Chief Engineers, U.S. Army.

3. Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code, identified as SBC 7101 through SBC 8505.

4. "Design and Evaluation Criteria for Energy Conservation in New Buildings, Additions and Remodeled Elements of Buildings and Standards for Certain Existing Public Buildings," identified as 2 MCAR §§ 1.16001 through 1.16006. (2 MCAR §§ 1.16007 through 1.16013 reserved for future use.)

5. Standards of Performance for Solar Energy Systems and

Subsystems Applied to Energy Needs of Buildings, 1977 Edition, identified as 2 MCAR §§ 1.16101 through ~~1.16108~~ 1.16107.

6. State of Minnesota Mobile Home Installation Standards 1977, identified as 2 MCAR § 1.90450 and related definitions in 2 MCAR § 1.90103.

7. Certain appendices which contain the listing of various National Standards referred to in the body of the code; technical requirements for fallout shelters; and various chapters of those codes adopted by reference which chapters may be adopted by municipalities and administered and enforced by such municipalities. The Code is to be used in its entirety by the municipalities in administering and enforcing the Code as well as by designers and builders in their designs and construction of structures. It is necessary to use the entire Code to ensure uniformity in compliance with the Code as well as uniformity in its administration and enforcement.

The above referenced Minnesota State Building Code and Minnesota Plumbing Code are available from the Department of Administration, Documents Section, 140 Centennial Office Building, St. Paul, Minnesota 55155.

Other codes are available from the publishers of the codes.

(a) Uniform Building Code:
International Conference of Building Officials
5360 South Workman Mill Road
Whittier, California 90601

(b) National Electrical Code:
National Fire Protection Association
470 Atlantic Avenue
Boston, Massachusetts 02110

(c) American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks:
American Society of Mechanical Engineers
United Engineering Center
345 East 47th Street
New York, New York 10017

(d) ASHRAE Standard 90-75
American Society of Heating, Refrigeration, and Air-Conditioning Engineers Inc.
345 East 47th Street
New York, New York 10017

(e) One and Two Family Dwelling Code
International Conference of Building Officials
5360 South Workman Mill Road
Whittier, California 90601

Amendments as Proposed

2 MCAR § 1.10101 Title, rules and regulations. The rules and regulations contained in this Code and rules and standards adopted by reference therein shall be collectively known as the Minnesota State Building Code, and may be cited as such and will be referred to herein as "this Code." The administrative chapters of the UBC (Chapters 1, 2 and 3), as amended herein, shall govern the application of the Code.

2 MCAR § 1.10102 Purpose and application. The purpose of this Code is to provide uniform standards to safeguard life or limb, health, property and public welfare by regulating and controlling design, construction, quality of materials, use and occupancy of all buildings and structures.

The State Building Code shall apply state wide and supersede the building code of any municipality. The State Building Code shall not apply to agricultural buildings except with respect to state inspections required or rulemaking authorized.

2 MCAR § 1.10103 Definitions. Wherever the term "Administrative Authority" appears in this Code the words "Building Official" shall be substituted therefore.

Wherever the terms "Mayor" or "City Council" appear in this Code the words "Governing Body" shall be substituted therefore.

A. "City" means a home rule charter or statutory city.

B. "Code" means the State Building Code or any amendments thereof.

C. "Municipality" means any city, county, or town.

D. "Town" shall be defined as a town meeting the requirements of Minn. Stat. § 368.01.

~~**2 MCAR § 1.10103 General.** Building or structures to which additions, alterations, or repairs are made shall comply with all the requirements for new building or structures except as specifically provided in this Code. Note: For the requirements of energy conservation in remodeled buildings see 2 MCAR §§ 1.16001-1.16006.~~

~~A. Applications to existing buildings: additions, alterations, and repairs. More than 50 per cent. When additions, alterations, or repairs within any 12 month period exceeds 50 percent of the value of an existing building or structure, such building or structure shall be made to conform to the requirements for new buildings or structures.~~

~~B. Additions, alterations, and repairs: 25 to 50 per cent. Additions, alterations, and repairs exceeding 25 per cent but not exceeding 50 per cent of the value of an existing building or structure and complying with the requirements for new buildings or structures may be made to such buildings or structure within any 12 month period without making the entire building or structure comply. The new construction shall conform to the requirements of this Code for a new~~

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~~building of a like area, height, and occupany. Such building or structure, including new additions, shall not exceed the areas and heights specified in this Code.~~

~~C. Additions, alterations, repairs: 25 per cent or less. Structural additions, alterations, and repairs to any portion of an existing building or structure, within any 12 month period, not exceeding 25 per cent of the value of the building or structure shall comply with all the requirements for new buildings or structures, except that minor structural additions, alterations, or repairs, when approved by the building official, may be made with the same material of which the building or structure is constructed. Such building or structure, including new additions, shall not exceed the areas and heights specified in this Code.~~

~~D. Nonstructural alterations and repairs: 25 per cent or less. Alterations or repairs not exceeding 25 per cent of the value of an existing building or structure, which are nonstructural and do not affect any member or part of the building or structure having required fire resistance, may be made with the same materials of which the building or structure is constructed.~~

~~EXCEPTION: The installation or replacement of glass in hazardous locations, as specified in UBC, Section 5406, shall be as required for new installation.~~

~~E. Existing occupancy. Buildings in existence at the time of the passage of this Code may have their existing use or occupancy continued, if such use or occupancy was legal at the time of passage of this Code, provided such continued use is not dangerous to life or property.~~

~~Any change in the use of occupancy of any existing building or structure shall comply with the provisions of UBC, Section 306 and Section 502.~~

~~F. Moved buildings. Buildings or structures moved from one location to another location shall comply with the provisions of this Code for New Buildings.~~

~~G. Alternate materials and methods of construction. The provisions of this Code are not intended to prevent the use of any material or method of construction not specifically prescribed by this Code, provided any such alternate has been approved.~~

~~The Building Official may approve any such alternate provided he finds that the proposed design is satisfactory and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in this Code, in quality, strength, effectiveness, fire resistance, durability, and safety.~~

~~The Building Official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use.~~

~~H. Maintenance. All buildings or structures both existing and new, and all parts thereof, shall be maintained in a safe and sanitary condition. All devices or safeguards which are required by this Code in a building or structure when erected, altered, or repaired, shall be maintained in good working order. The owner or his designated agent shall be responsible for the maintenance of buildings or structures.~~

~~I. Unsafe building appendages. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members which are supported by, attached to, or a part of a building and which are in a deteriorated condition or are otherwise unable to sustain the design loads which are specified in this Code, are hereby designated as unsafe building appendages. All such unsafe buildings appendages are public nuisances and shall be abated in accordance with UBC, Section 203, of this Code.~~

2 MCAR 1.10104 Scope. The provisions of this Code shall apply to the construction, alteration, moving, demolition, repair and use of any building or structure within the municipality, except work located primarily in a public way, public utility towers and poles, mechanical equipment not specifically regulated in this Code, and hydraulic flood control structures.

Additions, alterations, repairs and changes of use or occupancy in all buildings and structures shall comply with the provisions for new buildings and structures except as otherwise provided in UBC Sections 104, ~~306~~ 307, and 502 of this Code. Where, in any specific case, different sections of this Code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

Wherever in this Code reference is made to the Appendix, the provisions in the Appendix shall not apply unless specifically adopted.

The provisions of this Code relating to fallout shelters shall apply only to state-owned buildings.

2 MCAR § 1.10105 Fallout shelters. Whenever it has been determined by the Department of Public Safety, Division of Civil Defense and the State Architectural Engineer that fallout protection is needed for a particular location the "Technical Requirements for Fallout Shelters" as contained in Appendix "A" shall be complied with.

2 MCAR § 1.10106 State-owned buildings. State-owned buildings shall mean all buildings and structures financed in whole or in part by state funds and which are under the exclusive jurisdiction and custodial control of one or more state department or agencies.

2 MCAR § 1.10107 State plan checking fees. Plan checking of buildings or structures conducted by the Division shall have a fee based on valuation in accordance with Table No. 107-A. "Valuation" means total cost of construction exclusive of site work not related to the construction.

Exception: When the Plan Review is limited to nonstructural aspects, the fee shall be 75% of those listed in Table 107-A.

There shall be no additional fee charge for consultation with designers, or for re-checking provided no substantial change

in the design has been made. When~~, in the opinion of the Division,~~ a determination is made by the Division that a substantial change has been made in the design, the re-checking fee shall be ~~based on a rate of~~ $15.00 per hour or fraction thereof. No fee shall be charged for state-owned buildings.

Table No. 107-A

Valuation	Plan Fee Check
$ 3,000.00 or less	No Charge
3,001.00 to 5,000.00	$ 21.00
5,001.00 to 10,000.00	34.00
10,001.00 to 15,000.00	47.00
15,001.00 to 20,000.00	60.00
20,001.00 to 25,000.00	72.00
25,001.00 to 30,000.00	83.00
30,001.00 to 35,000.00	93.00
35,001.00 to 40,000.00	102.00
40,001.00 to 45,000.00	112.00
45,001.00 to 50,000.00	122.00
50,001.00 to 55,000.00	129.00
55,001.00 to 60,000.00	135.00
60,001.00 to 65,000.00	142.00
65,001.00 to 70,000.00	148.00
70,001.00 to 75,000.00	155.00
75,001.00 to 80,000.00	161.00
80,001.00 to 85,000.00	168.00
85,001.00 to 90,000.00	174.00
90,001.00 to 95,000.00	181.00
95,001.00 to 100,000.00	187.00
100,001.00 to 500,000.00	187.00 for the first $100,000.00 plus $1.00 for each additional $1,000.00 or fraction thereof.
500,001.00 and up	577.00 for the first $500,000.00 plus $.65 for each additional $1,000.00 or fraction thereof.

2 MCAR § 1.10108 Disclaimer clause. The inclusion of specific requirements relative to the manner of installation of any plant or equipment in any one or more parts of said Code shall not limit this procedure to any particular type of installer nor provide a basis upon which determination of the right to perform such procedures shall be made. The authority for such determination will be found in the various licensing statutes or ordinances for each type of installer who performs the work.

2 MCAR § 1.10109 Appendices.

A. The following appendices, annexes and supplemental material listed in this Code shall be mandatory to enforce by any municipality.

1. ~~2 MCAR Sec. 1.10111~~ Minnesota State Building Code Appendix "A," Technical Requirements for Fallout Shelter.

2. ~~2 MCAR Sec. 1.10111~~ Minnesota State Building Code Appendix "B," Variation in Snow Loads.

3. ~~1976~~ 1979 UBC Appendix, Chapters 23, 35.

4. Minnesota Plumbing Code Appendix B.

B. The following appendices, annexes and supplemental material listed in this Code shall not be mandatory but may be adopted without change at the discretion of any municipality, except UBC Appendix Chapter 70 may be adopted with revised fee and bond requirements.

1. ~~2 MCAR Sec. 1.10111~~ Minnesota State Building Code Appendix "C," abbreviations and addresses of technical organizations.

2. ~~1976~~ 1979 UBC Appendix, Chapters ~~13~~, 15, 12, 38, 48, 49, ~~51~~, ~~57~~ and 70.

3. Minnesota Plumbing Code Appendices ~~A,~~ C, ~~D, E~~ and ~~F,~~ D.

~~4. Flood Proofing Regulations, Sections 201.2 through 208.2.~~

4.~~5.2~~ ~~MCAR Sec. 1.10111~~ Minnesota State Building Code Appendix "D," Building Security Sections 4101-4110.

Note change in format for 2 MCAR § 1.10111. Deletions and underlined portions are designated changes to UBC 1979 Edition.

2 MCAR § 1.10111 is deleted in its entirety and is replaced by the following:

2 MCAR § 1.10111 Adoption of the Uniform Building Code by reference. Chapters 1 through 60 and appendices of the 1979 Edition of the Uniform Building Code, hereinafter "UBC," as promulgated by the International Conference of Building Officials, are incorporated by reference and hereby made part of the State Building Code (SBC) except as qualified by 2 MCAR § 1.10109. Said UBC shall be subject to the following alterations and amendments:

UBC §§ 101, 102 and 103 are deleted in their entirety.

UBC § 104 (a) is amended by changing the last sentence to read: See § 1210 for provisions requiring installation of smoke detectors in existing Group R, Division 3 or 4 Occupancies.

UBC § 104 (f) is amended by adding an additional item number 4 as follows:

4. All approvals must be based on the applicants submission of complete architectural and engineering plans and specifications.

UBC § 203 is amended to read as follows:

UBC § 203. All buildings or structures regulated by this code which are structurally unsafe or not provided with adequate egress, or which constitute a fire hazard, or are otherwise dangerous to human life are, for the purpose of this

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section, unsafe. Any use of buildings or structures constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment are, for the purpose of this section, unsafe uses. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members which are supported by, attached to, or part of a building and which are in deteriorated condition or otherwise unable to sustain the design loads which are specified in the Building Code are hereby designated as unsafe building appendages.

All such unsafe buildings, structures or appendages are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in ~~the Dangerous Building Code or such alternate procedures as may have been or may be adopted by this jurisdiction.~~ Minn. Stat. ch. 463, §§ 15 through 26. ~~As an alternative, the building official, or other employee or official of this jurisdiction as designated by the governing body, may institute any other appropriate action to prevent, restrain, correct or abate the violation.~~

UBC § 204 is amended by amending the last sentence as follows: The Board shall adopt reasonable rules and regulations for conducting its investigations and shall render all decisions and findings in writing to the Building Official with a duplicate copy to the appellant and to the State Building Inspector within fifteen (15) days of such decision.

UBC § 205 is amended by adding a sentence as follows: Any violation of provisions of this code is a misdemeanor (Minn. Stat. § 16.865)

UBC § 301 (a) is amended by the addition of item 12 as follows:

12. Agricultural buildings as defined in Minn. Stat. § 16.84, subd. 6.

§ 304 (a) of the UBC is amended to read as follows:

UBC § 304. (a) Permit fees. The fee for each permit shall be as set forth in Table 3-A. Each municipality shall adopt its own schedule of permit fees. The fee schedule of Table 3-A is hereby made optional for use by the local authority and is a recommended schedule. In areas outside of the enforcement authority of a city, the fee charged for the issuance of permits and inspections for single family dwellings may not exceed the greater of $100 or .005 times the value of the structure, addition or alteration. (Minn. Stat. § 16.851).

The determination of value or valuation under any of the provisions of this code shall be made by the building official. The value to be used in computing the building permit and building plan review fees shall be the total value of all construction work for which the permit is issued as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire-extinguishing systems and any other permanent equipment.

§ 305 (e) of the UBC is amended to read as follows:

UBC § 305 (e) Required inspections. Reinforcing steel or structural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the building official.

The building official, upon notification from the permit holder or his agent, shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his agent wherein the same fails to comply with this code:

1. Foundation inspection. To be made after trenches are excavated and forms erected and when all materials for the foundation are delivered on the job. Where concrete from a central mixing plant (commonly termed "transit mixed") is to be used, materials need not be on the job.

2. Concrete slab or under-floor inspection. To be made after all in-slab or under-floor building service equipment, conduit, piping accessories and other ancillary equipment items are in place but before any concrete is poured or floor sheathing installed, including the subfloor.

3. Frame inspection. To be made after the roof, all framing, fire blocking and bracing are in place and all pipes, chimneys and vents are complete and the rough electrical, plumbing and heating wires, pipes and ducts are approved.

4. Insulation inspection. To be made after all required insulation is in place but before any covering material is in place.

5. ~~4.~~ Lath and/or gypsum board inspection. To be made after all lathing and gypsum board, interior and exterior, used as a structural element or a part of a fire resistive assembly, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

6. ~~5.~~ Final inspection. To be made after finish grading and the building is completed and ready for occupancy.

7. Installation of mobile homes. To be made after the installation of the support system and all utility service connections. This shall include the inspection of the anchoring system where installed.

§ 307 (a) of the UBC is amended to read as follows:

Certificate of occupancy.

§ 307 (a) Use or occupancy. No building or structure of Groups A, E, I, H, B or R, Division 1 Occupancy, shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building Official has issued a Certificate of Occupancy therefore as provided herein. A municipality may require certificates of occupancy for Group R3, R4 and Group M Occupancies.

§ 406 of the UBC is amended by the addition of the following definition:

Earth sheltered structure is a building constructed so that more than 50 percent of the exterior surface area of the

building, excluding garages or other accessory buildings, is covered with earth. Partially completed buildings shall not be considered to be earth sheltered. (See Minn. Stat. § 116H.02 subd. 3.)

§ 407of the UBC is amended as follows:

UBC § 407. Fire Code is the Minnesota Uniform Fire Code, ~~1979 Edition~~ authorized by Minn. Stat. § 299F.011.

§ 420 of the UBC is amended by adding the following definition.

UBC § 420 Definitions.

Supervised Living Facilities.

Class A Supervised Living Facilities shall include homes providing boarding and lodging for ambulatory and mobile disabled persons who are capable of semi-independent living with minimum supervision and who are mentally and physically capable of self-preservation under emergency conditions. Physically handicapped persons shall be housed at street level. See UBC 1201 as amended.

Class B Supervised Living Facilities shall include homes providing boarding and lodging for:

1. Mobile disabled persons who are capable of semi-independent living with minimum supervision, but who are not physically capable of self-preservation;

2. Persons with diverse dependencies who require various degrees of supervised guidance and assistance, and who are not mentally or physically capable of self-preservation under emergency conditions. See UBC 1001 as amended.

UBC Table 5-A Group I and R1 are amended to read as follows:

UBC § 501 Table 5-A

I.1—Nurseries for full-time care of children under the age of six (each accommodating more than ~~five~~ four persons). Hospitals, sanitariums, nursing homes with nonambulatory patients and similar buildings (each accommodating more than ~~five~~ four persons).

I.2—Nursing homes for ambulatory patients, boarding care homes, detoxification centers, homes for children six years of age or over, supervised living facilities Class B as defined in UBC 420 (each accommodating more than ~~five~~ four persons).

R.1—Hotels and apartment houses, convents and monasteries (each accommodating more than 10 persons). Supervised living facilities Class A as defined in UBC 420 (accommodating more than four persons).

§ 503(d) exception 4 of the UBC is amended to read as follows:

Exception 4. In the one-hour occupancy separation between a Group R, Division 3 and M occupancy, the separation may be limited to the installation of one half inch thick gypsum board, or equivalent, ~~materials approved for one-hour fire-resistive construction~~ on the garage side and a self-closing, tight-fitting solid wood door 1⅜ inches in thickness will be permitted in lieu of a one-hour fire assembly. Fire dampers shall not be required in ducts piercing this separation for ducts constructed of not less than No. 26 gauge galvanized steel.

Chapter 5 of the UBC is amended by adding a new section to read as follows:

UBC § 512 Roof access. Unless specifically exempted by the Building Official due to space limitation, roof height above grade or other special considerations, buildings on which any heating, air conditioning, or refrigeration equipment is hereafter installed on the roof and which equipment will require periodic inspection, service and maintenance in accordance with the mechanical code SBC 7101-8810 shall meet the following requirements:

A stairway complying with UBC Chapter 33 or a stair leading to a scuttle or bulkhead in the roof having such equipment shall be provided to make such equipment safely accessible. Said stair leading to the scuttle or bulkhead shall be placed at an angle of not more than 60 degrees measured from the horizontal with flat treads not less than six inches in width and a minimum length of 24 inches at the tread. No riser shall be more than nine inches and handrails shall be provided on both sides of the access stairs. The minimum opening of the scuttle or bulkhead shall be not less than nine square feet in area with the minimum dimension being not less than two feet. In no case shall this required access be located in or pass through the elevator shaft or elevator machine room.

Equipment should be located with at least six feet of clearance from the edge of the roof or similar hazards. If the clearance is less than six feet, a suitable rail or guard not less than forty-two inches in height shall be provided.

Each unit of equipment shall have an accessible disconnect switch. A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed on or adjacent to the unit or equipment. The circuit for this convenience outlet shall be approved ground-fault protection and shall not be connected to the equipment circuit.

§ 605 of the UBC is amended to read as follows:

UBC § 605. All enclosed portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with natural light by means of exterior glazed openings with an area not less than one-tenth of the total floor area, and natural ventilation by means of openable

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exterior openings with an area of not less than one-twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating systems shall supply a minimum of 5 cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building and such system shall be kept continuously in operation during such time as the building is occupied. If the velocity of the air at the register exceeds 10 feet per second, the register shall be placed more than 8 feet above the floor directly beneath.

Exit lighting in portions of buildings other than the stage shall be on a separate circuit from that of the stage. Such exit lighting shall be controlled from the box office or other approved central control center located in a portion of the building other than the stage. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and shall be operated by fusible links located on both sides of the proscenium wall and both inside of and outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.

For other requirements on water closets, see § 1711 as amended herein.

For additional sanitation facilities requirements, See UBC § 1711(h) as specified herein.

§ 705 of the UBC is amended to read as follows:

UBC § 705. All portions of Group B Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of total floor area, or shall be provided with artificial light and mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all enclosed parking garages used for storing or handling of automobiles operating under their own power and on all loading platforms in bus terminals, ventilation shall be provided capable of exhausting a minimum of ~~1.5~~ ¾ cfm per square foot of gross floor area. The building official may approve an alternate ventilation system designed to exhaust a minimum of 14,000 cfm for each operating vehicle. Such system shall be based upon the anticipated instantaneous movement rate of vehicles but not less than 2.5 percent (or one vehicle) of the garage capacity. Automatic CO sensing devices may be employed to modulate the ventilation system to maintain a maximum average concentration of CO of 50 ppm during any eight-hour period, with a maximum concentration not greater than 200 ppm for a period not exceeding one hour. Connecting offices, waiting rooms, ticket booths, etc., shall be supplied with conditioned air under positive pressure.

Exception: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding in area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored or serviced shall be a nonabsorbent interior finish as specified in § 1711, shall have hand-washing facilities therein or adjacent thereto, and shall be separated from food preparation or storage rooms as specified in § 510.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see § 1711 as amended herein.

For additional sanitation facilities requirements, see UBC § 1711(h) as amended specified.

UBC § 709(e) Area and height increases. The area and height of structures with cross ventilation throughout may be increased in accordance with provisions of this subsection. In structures with sides open (as defined in Subsection (b)) three-fourths of the building perimeter may be increased 25 percent in area and one tier in height. Structures with sides open (as defined in Subsection (b) around the entire building perimeter may be increased 50 percent in area and one tier in height. Structures of Type II -FR Type, II-1 hr, or Type II-N construction, with sides open (as defined in subsection (b) around the entire building, may be unlimited in area when the height does not exceed 8 tiers.

Open parking garages constructed to heights less than the maximums established by Table No. 7-A may have individual

tier areas exceeding those otherwise permitted, provided the gross tier area of the structure does not exceed that permitted for the higher structure. At least three sides of each such larger tier shall have continuous horizontal openings not less than 30 inches in clear height extending for at least 80 percent of the length of the sides and no part of such larger tier shall be more than 200 feet horizontally from such an opening. In addition, each storage opening shall face a street or yard accessible to a street with a width of at least 30 feet for the full length of the opening and standpipes shall be provided in each tier.

§ 709 of the UBC is amended by adding a new paragraph (m):

UBC § 709(m) Every parking ramp or other parking facility shall include spaces for the parking of motor vehicles having a capacity of seven (7) to sixteen (16) persons. Such vehicles shall be classified as commuter vehicles for the transportation of employees to and from their place of employment or to or from a transit stop authorized by a local transit authority. The number of required spaces shall be determined by 2% of the gross designed parking area with a minimum of two spaces. Such spaces to accommodate commuter vehicles shall be at least 10 feet in width, 20 feet in length and a height clearance of 10'-6" in the entry level and shall not apply to other levels of a ramp.

§ 802(c) of the UBC is amended to read as follows:

UBC § 802(c) Special provisions. Rooms in Division 1 and 2 Occupancies used for day-care purposes, kindergarten ~~first or second grade~~ pupils and Division 3 Occupancies shall not be located above the first story, nor shall they be located in a basement unless there is provided at least one exit door directly on grade from the occupied space.

Storage and janitor closets shall be of one-hour fire-resistive construction. Stages and enclosed platforms shall be constructed in accordance with Chapter 39. For attic space partitions and draft stops, see section 3205.

§ 805 of the UBC is amended to read as follows:

UBC § 805. All portions of Group E Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in Section 605.

~~Water closets shall be provided on the basis of the following ratio of water closets to the number of students:~~

	~~Boys~~	~~Girls~~
~~Elementary Schools~~	~~1:100~~	~~1:35~~
~~Secondary Schools~~	~~1:100~~	~~1:45~~

~~In addition, urinals shall be provided for boys on the basis of 1:30 in elementary and secondary schools.~~

~~There shall be provided at least one lavatory for each two water closets or urinals, and at least one drinking fountain on each floor for elementary and secondary schools.~~

For other requirements on water closets, see § 1711 as amended herein.

For additional sanitation facilities requirements, see UBC § 1711 (h) as specified herein.

§ 809 of the UBC is amended to read as follows:

UBC § 809. Approved fire alarms shall be provided for all Group E Occupancies with an occupant load of more than 50 persons, and in Group E Division 3 Occupancies with an occupant load of more than 29 persons. In every Group E Occupancy with an automatic sprinkler or detection system, the operation of such system shall automatically activate the school fire alarm system. ~~Which shall include an alarm mounted on the exterior of the building.~~

The fire alarm system shall be installed in compliance with NFPA Standard 72-A-75, "Local Protective Signaling System."

An approved fire alarm is a fire alarm and detection system consisting of the following:

1. A complete non-coded continuously sounding until manually reset, electronically supervised type.

2. Shall have sounding stations on 100 foot to 150 foot spacing; (a) in corridors, (b) in areas of high noise levels, such as band rooms, shops, boiler rooms, (c) a weatherproof station on exterior of building facing residential areas.

3. Shall have automatic sending stations (detectors) in boiler rooms, kitchens, shops, painting areas, lounges, laundries, janitor's closets, storerooms, etc., or unsupervised and unoccupied spaces; namely, critical or hazardous areas.

4. Manual sending stations shall be provided in the natural path of escape from fire, near each exit from an area, on each floor, and shall be readily accessible, unobstructed and at visible locations.

§ 905 of the UBC is amended to read as follows:

UBC § 905. All portions of Group H Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in § 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to

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produce four complete air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all buildings used for the repair or handling of automobiles operating under their own power, ventilation shall be provided capable of exhausting a minimum of ~~1~~ ¾ cfm per square foot. Additionally, each engine repair stall shall be equipped with an exhaust pipe extension duct, extending to the outside of the building, which, if over 10 feet in length, shall mechanically exhaust 300 cubic feet per minute. Connecting offices and waiting rooms shall be supplied with conditioned air under positive pressure.

Exception: In public repair garages and aircraft hangars not exceeding an area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed.

Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see § 1711 as amended herein.

For additional sanitation facilities requirements, see UBC § 1711(h), as specified herein.

§ 1001 of the UBC is amended to read as follows:

UBC § 1001. Group I Occupancies shall be:

Division 1. Nurseries for the full-time care of children under the age of six (each accommodating more than ~~five~~ four persons). Hospitals, sanitariums, nursing homes with nonambulatory patients and similar buildings (each accommodating more than ~~five~~ four persons).

Division 2. Nursing homes for ambulatory patients, boarding care homes, detoxification centers, homes for children six years of age or over, supervised living facilities. Class B as defined, for the mentally retarded, mentally ill, chemically dependent and the physically handicapped (each accommodating more than ~~five~~ four persons.)

Division 3. Mental hospitals, mental sanitariums, jails, prisons, reformatories and buildings where personal liberties of inmates are similarly restrained.

For occupancy separations, see Table No. 5-B.

For occupant load, see Section 3301.

Exception: Group I Occupancies shall not include buildings used only for private residential purposes for a family group.

§ 1002(b) of the UBC is amended to read as follows:

UBC § 1002(b) Special provisions. Division 3 Occupancies shall be housed in buildings of Type I or Type II-F.R. construction.

~~Exception: One story buildings of Type II One-hour, Type III One hour, or V One-hour construction may be permitted, provided the floor area does not exceed 3900 square feet between separation walls of two-hour fire-resistive construction with openings protected by fire assemblies having one and one-half hour fire protection rating. See § 3319(g) for limitation on locking devices.~~

Every story of a Group I, Division 1 Occupancy accommodating more than five nonambulatory persons, unless provided with a horizontal exit, shall be divided into not less than two compartments accommodating approximately the same number of nonambulatory persons in each compartment by a smoke-stop partition meeting the requirements of one-hour occupancy separation so as to provide an area of refuge within the building. Corridor openings in the smoke-stop partition shall be protected with doors as required in § 3304(h). Other openings shall be limited to ducts which have fire dampers in the plane of the wall activated by detectors of products of combustion other than heat conforming to § 4306(b) 2.

Rooms occupied by inmates or patients whose personal liberties are restrained shall have noncombustible floor surfaces.

§ 1005 of the UBC is amended to read as follows:

UBC § 1005. All portions of Group I Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the mechanical code.

For other requirements on water closets, see § 1711 as amended herein.

For additional sanitation facilities requirements see UBC § 1711(h) as specified herein.

§ 1009 of the UBC is amended to read as follows:

UBC § 1009. An approved fire alarm system shall be provided for all Group I Occupancies. Audible alarm devices shall be used in all nonpatient areas. Visible alarm devices may be used in lieu of audible devices in patient-occupied

areas. An approved alarm system shall comply with UBC § 809 as amended herein. Operation of any fire alarm activating device shall automatically, without delay, accomplish general alarm indication and control functions. Zoned, coded systems shall be permitted to be used. Exception: Alarm systems may be installed in accordance with NFPA 101, 1977 Edition, 10-3.3.3.

§ 1201 of the UBC is amended by adding a new Division to read as follows:

UBC § 1201 Group R, Division 4 Occupancies: This use group shall include all one and two family dwellings built exlusively by the standards as established in the 1975 One and Two Family Dwelling Code as promulgated by the national model code organizations and 2 MCAR §§ 1.16001 through 1.16006. Use and installation of foam plastics shall comply with § 1717 of the U.B.C. as amended herein.

Exception: The plumbing requirements found in Part V (Chapters 20 through 25) and the references portions of Part VII (2-26.2001-S-26.2103) are deleted in their entirety. The requirements of the Minnesota Plumbing Code for plumbing shall apply to this occupancy group.

UBC § 1201 Group R Division 1 occupancy definition is changed to read as follows:

Division 1. Hotels and apartment houses. Convents and monasteries (each accommodating more than 10 persons) Supervised living facilities, Class A as defined, for the mentally retarded, mentally ill, chemically dependent, and the physically handicapped (each accommodating more than four persons.)

UBC § 1201 Group R, Division 3 is amended to read as follows:

UBC § 1201, Division 3. Dwellings and lodging houses.

For occupancy separations, see Table No. 5-B. For purposes of occupancy separation, mobile homes shall be considered as Group R, Division 3 occupancies. For occupant load, see Section 3301.

UBC § 414 Definition of Mechanical Code is amended as follows:

UBC § 414 Mechanical Code is the Uniform Mechanical Code, 1979 Edition Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code.

Section R-202 of the One and Two Family Dwelling Code is amended to read as follows:

Section R-202. Buildings shall be constructed in accordance with the provisions of this Code using the design criteria set forth in Table No. 2-A. These criteria shall be established by the jurisdiction based solely or in part on the climatic and geographic conditions set forth in Appendix A. Roof snow loads shall be in accordance with 2 MCAR § 1.10111—UBC § 2305(d). Frost line depth shall be in accordance with 2 MCAR § 1.10111—UBC § 2907(a) Wind velocity shall be in accordance with the conditions set forth in Appendix A of the One and Two Family Dwelling Code.

Section R-204 of the One and Two Family Dwelling Code is amended to read as follows:

Section R-204. All habitable rooms shall be provided with aggregate glazing area of not less than ~~10~~ 8 square feet nor ~~1/10~~ 8 percent of the floor area of such rooms. One-half of the required area of glazing shall be openable.

Exception: The glazed areas need not be openable where an approved mechanical ventilation system is provided capable of producing a change of air every 30 minutes and the opening is not required by Sec. R-211.

Bathrooms, water-closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable.

Exception: The glazed areas are not required where artificial light and an approved mechanical ventilation system is provided capable of producing a change of air every 12 minutes.

Required glazed openings shall open directly onto a street or public alley, or a yard or court located on the same lot as the building.

Exception: Required glazed openings may face into a roofed porch where the porch abuts a street, yard or court and the longer side of the porch is at least 65 per cent open and unobstructed and the ceiling height is not less than 7 feet.

Section R-211 of the One and Two Family Dwelling Code is amended to read as follows:

Section R-211 Exits. No less than one exit conforming to this Chapter shall be provided from each dwelling unit.

Every sleeping room shall have at least one operable window or exterior door approved for emergency egress of rescue. The units must be operable from the inside to a full clear opening without the use of separate tools. Where windows are provided as a means of egress or rescue they shall have a sill height of not more than ~~44~~ 48 inches above the floor.

All egress or rescue windows from sleeping rooms must have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches.

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§ 1204 of the UBC is amended to read as follows:

UBC § 1204. Stairs, exits and smokeproof enclosures shall be as specified in Chapter 33.

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency egress or rescue.

The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are provided as a means of egress or rescue they shall have finished sill height not more than ~~44~~ 48 inches above the floor.

§ 1205 of the UBC is amended to read as follows:

UBC § 1205. (a) Light and ventilation. All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural light by means of exterior glazed openings with an area not less than ~~one tenth~~ 8 per cent of the floor area of such rooms with a minimum of ~~10~~ 8 square feet. All bathrooms, water closet compartments, laundry rooms and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than one-twentieth of the floor area of such rooms with a minimum of 1½ square feet.

All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural ventilation by means of openable exterior openings with an area of not less than ~~one-twentieth~~ 4 per cent of the floor area of such rooms with a minimum of ~~5~~ 4 square feet.

In lieu of required exterior openings for natural ventilation, a mechanical ventilating system may be provided. Such system shall be capable of providing two air changes per hour in all guest rooms, dormitories, habitable rooms and in public corridors. One-fifth of the air supply shall be taken from the outside. In bathrooms, water closet compartments, laundry rooms and similar rooms a mechanical ventilation system connected directly to the outside, capable of providing five air changes per hour, shall be provided.

For the purpose of determing light and ventilation requirements, any room may be considered as a portion of an adjoining room when one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet, whichever is greater.

Required exterior openings for natural light and ventilation shall open directly onto a street or public alley or a yard or court located on the same lot as the building.

Exception: Required windows may open into a roofed porch where the porch:

1. Abuts a street, yard, or court; and
2. Has a ceiling height of not less than 7 feet; and
3. Has the longer side at least 65 percent open and unobstructed.

(b) Sanitation. Every building shall be provided with at least one water closet. Every hotel or subdivision thereof where both sexes are accommodated shall contain at least two separate toilet facilities which are conspicuously identified for male or female use, each which contains at least one water closet.

Additional water closets shall be provided on each floor for each sex at the rate of one for every additional 10 guests, or fractional part thereof, in excess of 10.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with a bathroom equipped with facilities consisting of a water closet, lavatory and either a bathtub or shower. Each sink, lavatory and bathtub or shower shall be equipped with hot and cold running water necessary for its normal operation.

For other requirements on water closets, see §§ 510 and 1711 as amended herein.

For additional sanitation facilities requirements, see UBC § 1711(h), as specified herein.

§ 1210(a) of the UBC is amended to read as follows:

UBC § 1210. (a) Fire-warning systems. Every dwelling unit and every guest room in a hotel or lodging house used for sleeping purposes shall be provided with smoke detectors conforming to UBC Standard No. 43-6. In dwelling units, detectors shall be mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to rooms used for sleeping purposes. In an efficiency dwelling unit, hotel sleeping room and in hotel suites, the detector shall be centrally located on the ceiling of the main room or hotel sleeping room. Where sleeping rooms are on an upper level, the detector shall be placed at the center of the ceiling directly above the stairway. All detectors shall be located in accordance with approved manufacturer's instructions. When actuated, the detector shall provide an alarm in the dwelling unit or guest room.

When alterations, repairs or additions requiring a permit and having a valuation in excess of $1000 occur, or when one or more sleeping rooms are added or created in existing Group R, Division 3 or 4 Occupancies, the entire building shall be provided with smoke detectors located as required for new Group R, Division 3 or 4 Occupancies.

In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Smoke detectors may be battery operated when installed in existing buildings, or in buildings without commercial power, or in buildings which undergo alterations, repairs or additions regulated by the second paragraph of this section.

§ 1213 of the UBC is deleted in its entirety.

§ 1213. ~~Buildings containing more than 20 dwelling units or 20 guest rooms shall be accessible to the physically handicapped by a level entry, ramp or elevator. The number of dwelling units or guest rooms accessible to the physically handicapped shall be not less than the following:~~

~~21 through 99~~	~~one unit~~
~~100 and over~~	~~one, plus one for each additional 100 units or fraction thereof~~

~~To determine the total number of accessible units, more than one structure on a building site shall be considered as one building.~~

Toilet facilities in accessible units shall comply with § 1711.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC § 1216 For Group R Division 1 Occupancies sound transmission control shall be provided to meet the standards defined in UBC Appendix Chapter 35.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC § 1217 Deadbolt locks required. All doors leading to public or shared areas from all apartment dwelling units and hotel units shall be provided with deadbolt locks, at least one of which must be capable of being locked from the exterior of said unit. For the purpose of this section a "deadbolt lock" is a locking bolt, which, when in the locked position, can only be moved positively by turning a knob, key, or sliding bolt.

Deadbolt locks having a bolt moved by turning a key shall be of the five-pin tumbler type or an approved equivalent. Lock throw shall be not less than three-quarters inch (3/4"). Locks shall meet requirements of UBC Section 3303(c).

§ 1706(d) of the UBC is deleted in its entirety.

~~UBC Sec. 1706(d) Elevator Shafts. Shafts housing elevators and extending through more than two stories shall be vented to the outside. The area of vents shall be not less than 3½ percent of the area of the elevator shaft, with a minimum of 3 square feet per elevator.~~

§ 1711(b) of the UBC is amended to read as follows:

UBC § 1711(b) Toilet facilities. Each water closet stool shall be located in a clear space not less than 30 inches in width and have a clear space in front of the water closet of not less than 24 inches.

~~Where toilet facilities are provided on any floor where access by the physically handicapped is required by Table No. 33-A, at least one such facility for each sex shall comply with the requirement of this section. Except in dwelling units and guest rooms, such facilities must be available to all occupants. All doorways leading to such toilet rooms shall have a clear and unobstructed width of not less than 30 inches.~~

~~Each such toilet room shall have the following:~~

~~1. A clear space of not less than 44 inches on each side of doors providing access to toilet rooms. This distance shall be measured at right angles to the face of the door when in the closed position. Not more than one door may encroach into the 44-inch space.~~

~~2. Except in dwelling units and guest rooms, a clear space within the toilet room of sufficient size to inscribe a circle with a diameter not less than 60 inches. Doors in any position may encroach into this space by not more than 12 inches.~~

~~3. A clear space not less than 42 inches wide and 48 inches long in front of at least one water closet stool for the use of the handicapped. When such water closet stool is within a compartment, entry to the compartment shall have a clear width of 30 inches when located at the end and a clear width of 34 inches when located at the side. A door, if provided, shall not encroach into the required space in front of the water closet. Except for door swing, a clear unobstructed access not less than 44 inches in width shall be provided to toilet compartments designed for use by the handicapped.~~

~~4. Grab bars near each side or one side and the back of the toilet stool securely attached 32 inches to 34 inches above and parallel to the floor. Grab bars at the side shall be 42 inches long with the front end positioned 24 inches in front of the water closet stool. Grab bars at the back shall be not less than 30 inches long. Grab bars shall have an outside diameter of not less than 1¼ inches nor more than 1½ inches and shall provide a clearance of 1½ inches between the grab bar and adjacent surface. Grab bars need not be provided in Group R, Division 1 apartment houses.~~

~~5. When it can be established that the facilities are usable by a person in a wheelchair, dimensions other than those above shall be acceptable.~~

For provisions for the physically handicapped see 2 MCAR §§ 1.15501-1.15508.

§ 1711(c) of the UBC is deleted in its entirety.

~~(c) Toilet Room Facilities. In other than Group R, Division 3, Group M, Group R, Division 1 apartment houses and Group B, Divisions 2 and 4 storage occupancies, toilet room facilities shall be as follows:~~

~~1. Except for the projection of bowls and waste piping, a clear unobstructed space 26 inches in width, 27 inches in height and 12 inches in depth shall be provided under at least one lavatory.~~

~~2. Where mirrors are provided, at least one shall be in-~~

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~~stalled so that the bottom of the mirror is within 40 inches of the floor.~~

~~3. Where towel and disposal fixtures are provided, they shall be accessible to the physically handicapped and at least one shall be within 40 inches of the floor.~~

§ 1711 of the UBC is amended by adding a new subsection (h) that reads as follows:

UBC § 1711(h) Sanitation facilities. Sanitation facilities shall be provided for each Occupancy in accordance with Table 17-B and UBC Sec. 605, 705, 805, 905, 1005 and 1205 as amended herein. Fixtures shall be provided for each sex in accordance with the percentage of occupants of each sex. When the percentage of each sex is not known, one-half for each sex shall be assumed. For sanitation facilities for the handicapped see 2MCAR § 1.15503.

Types of building occupancy not shown, or when the provisions of Table 17-B are excessive due to a specific use or occupant load, facilities may be considered individually by the Administrative Authority.

§ 1716 of the UBC is amended to read as follows:

UBC § 1716. All unenclosed floor and roof openings, open and glazed sides of landings and ramps, balconies or porches which are more than 30 inches above grade or floor below, and roofs used for other than service of the building shall be protected by a guardrail. Guardrails shall be not less than 42 inches in height. Open guardrail and stair railings shall have intermediate rails or an ornamental pattern such that a sphere 9 inches in diameter cannot pass through. The height of stair railings on open sides may be as specified in Section 3305 (j) in lieu of providing a guardrail. Ramps shall, in addition, have handrails when required by Section 3306.

On all earth sheltered structures a means shall be provided to restrict access to the roof area unless guardrails are provided and the roof is designed for vehicular loads.

Exceptions: 1. Guardrails need not be provided on the loading side of loading docks.

2. Guardrails for Group R, Division 3 and Group M, Division 1 Occupancies may be 36 inches in height.

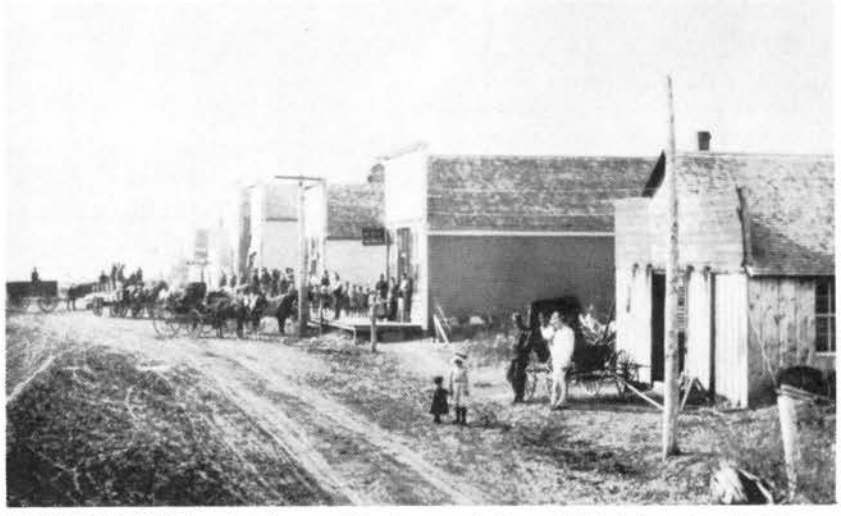
3. Interior guardrails within individual dwelling units or guest rooms of Group R, Division 1 Occupancies may be 36 inches in height.

4. The open space between the intermediate rails or ornamental pattern of guardrails in areas of commercial and industrial type occupancies which are not accessible to the public may be increased such that a 12-inch-diameter sphere cannot pass through.

5. Guardrails on a balcony immediately in front of the first row of fixed seats and which are not at the end of an aisle may be 26 inches in height.

§ 1717(b)(1)(B) of the UBC is amended to read as follows:

UBC § 1717(b)(1)(B). On the room side surface of conforming walls or ceiling or other surfaces referred to in the first sentence of § 1717(b), provided the foam plastic is fully protected from the interior of the building by a thermal barrier of ½ inch gypsum wallboard ~~having a finish rating of not less than 15 minutes~~ or other approved material having an equivalent finish rating as determined by UBC Standard No. 43-1. Thermal barriers shall be installed in a manner that they will remain in place for a minimum of 15 minutes under the same test conditions.



PIONEER FARMERS made infrequent trips to a nearby town with their horses and buggies or wagons to sell their wheat, have it ground into flour, and purchase a few groceries and supplies. Shown here is the main street of the small town of Kenneth in Rock County about 1900. (Courtesy of the Minnesota Historical Society)

TABLE NO. 17-B REQUIRED SANITATION FIXTURES BASED ON OCCUPANCY LOAD (1) (2)

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS	LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	KITCHEN SINKS	SERVICE SINKS
Group A Occupancies	Auditoriums Bowling alleys Churches Conference Rooms Dance Floors Dining, Drinking Exhibit Rooms Gymnasiums Libraries Lodge Rooms Lounges Rinks Stadiums, Grandstands Theaters Waiting Rooms	30 30 60 80 30 30 80 30 100 80 80 30 80 30 80	Churches 1 for each 300 Men 1 for each 300 women Other Occupants Fixtures 1-100 1 101-200 2 201-400 3 Over 400 1 addt'nl each 500	Churches (3) (3)	Churches 1 for each 300 Other Occupants Fixtures 1-200 1 201-400 2 401-750 3 Over 750 1 addt'nl for each 500	1 for each 300	—	—	1
Group E Occupancies (6)	Elementary Secondary	85 130	Boys Girls 1/ea. 100 1/ea. 30 1/ea. 100 1/ea. 25	1/ea. 30	1 for each 100 1 for each 100	1 for each 75	—	—	1 per floor
Group I Occupancies	Prisons, Jails Hospitals, Nursing Homes	100 100	1/ea. cell 1/ea. exercise room 1/ea. 8 patients 1/ea. waiting room Other 1/ea. 25 men 1/ea. 20 women	 1/ea. 50	1 in each cell 1 ea. exercise rm 1 for ea. 10 patients Other 1 for each 10	1 for each 100 1 for each 100	1 at each cell block floor 1 for each 20 Other 1 for each 10	— 	1 per floor 1 per floor
Group H Occupancies			Fact. Occ. Wrhse. Fixt.	Fact. Occ. Wrhse. Fixt.	Fact. Occ. Wrhse. Fixt.	Factories Warehouses			
Group B Occupancies	Aircraft Hangars Factories Municipal Buildings Office Buildings Sales Service Stations Storage Garages Warehouses	500 200 80 200 200 200 500 500	1-10 1 11-25 2 26-50 3 51-75 4 76-100 5 Over 100 1 addt'nl for 30 Sales, Office, etc. Occ. Fixt.	(3) Sales, Office (3)	for each 1-100 1-10(4) Over 100 1-15(5) Sales, Offices Occ. Fixt. 1-15 1 16-35 2 36-60 3 61-90 4 91-125 5 Over 125 1 to 45	1 for each 75 Sales, Offices 1 for each 150			1 per floor
Group B-4 Occupancies	Factories Sales Warehouses	200 200 500	1-15 1 16-35 2 36-55 3 56-80 4 81-110 5 111-150 6						
Group R-1 Occupancies	Dwelling Units, Apt. Motel, Hotel Units Rooming Houses Dormitories	— — 200 200	1 1 for each 10 1 for each 10 1 for each 10	—	1 1 for each 10 1 for each 10 1 for each 10	—	1 1 for each 10 1 for each 10 1 for each 10	1	1 laundry tray for each 10 dwelling units or guest rooms
Group R-3 and R-4 Occupancies	1 and 2 Family	—	1	—	1	—	1	1	—.
Group M Occupancies	—	—	—	—	—	—	—	—	—
TEMPORARY FACILITIES			1 for each 30	1 for each 30		1 for each 100			

*A—Area of building occupancy classification served
S.F.—per Occ.—from Column 3 of this table

Footnotes:

(1) Occupant load is computed using the equation: $\frac{A^*}{\text{S.F. per Occ.}}$ = Occupant Load

(2) Square feet per occupant is only for computing the occupant load to determine the plumbing fixtures required.

(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.

(4) 1 fixture for each 10 occupants.

(5) 1 fixture for each 15 occupants.

(6) For watercloset, and lavatories, these numbers are *minimum* & equal number for each sex is required.

See 1711(h)

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§ 1807(h) of the UBC is amended to read as follows:

UBC § 1807(h) Elevators. Elevators and elevator lobbies shall comply with the provisions of Chapter 51, 2 MCAR §§ 1.18801-1.18806 and the following:

Note: A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all those elevators which respond to a single call button constitute a bank of elevators. There is no limit on the number of cars which may be in a bank or group but there may be not more than four cars within a common hoistway.

1. Except for the main entrance level, all elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building as is required for corridor construction in § 3304 (g) and (h).

2. Each elevator lobby shall be provided with an approved smoke detector located on the lobby ceiling. When the detector is activated, elevator doors shall not open and all cars serving that lobby are to return to the main floor and be under manual control only. If the main floor detector or a transfer floor detector is activated, all cars serving the main floor or transfer floor shall return to a location approved by the fire department and building official and be under manual control only. The smoke detector is to operate before the optical density reaches 0.03 per foot. The detector may serve to close the lobby doors.

3. A permanent sign shall be installed in each elevator cab adjacent to the floor status indicator and at each elevator call station on each floor reading "IN FIRE EMERGENCY, DO NOT USE ELEVATOR — USE EXIT STAIRS," or similar verbiage approved by the building official.

4. Elevator hoistways shall not be vented through an elevator machine room. Cable slots entering the machine room shall be sleeved beneath the machine room floor and extend to not less than 12 inches below the shaft vent to inhibit the passage of smoke into the machine room.

~~5. At least one elevator car serving all floors shall have a minimum inside car platform of 4 feet 3 inches deep 6 feet 8 inches wide with a minimum clear opening width of 42 inches, unless otherwise designed and approved to provide equivalent utility to accommodate an ambulance stretcher having minimum size of 22 inches by 78 inches in its horizontal position. This elevator shall be identified.~~ For car size requirements see 2 MCAR § 1.18806 B.4.

§ 2303(a) of the UBC shall be amended to read as follows:

UBC § 2303. (a) General. All buildings and portions thereof shall be designed and constructed to sustain, within the stress limitations specified in this code, all dead loads and all other loads specified in this chapter or elsewhere in this code. Impact loads shall be considered in the design of any structure where impact loads occur.

Exception: Unless otherwise required by the building official buildings or portions thereof, other than earth sheltered structures, which are constructed in accordance with the conventional framing requirements specified in Chapter 25 of this code shall be deemed to meet the requirements of this section.

§ 2305(d) of the UBC is amended to read as follows:

UBC § 2305(d) Snow loads. Snow loads full or unbalanced shall be considered in place of loads set forth in Table No. 23-C, where such loading will result in larger members or connections.

A basic snow load of 40 pounds per square foot of horizontal projection is required in the following counties: Anoka, Carlton, Carver, Chisago, Cook, Dakota, Hennepin, Isanti, Lake, Pine, Ramsey, St. Louis, Scott and Washington. A basic snow load of 30 pounds per square foot of horizontal projection is required for all other counties.

Potential accumulation of snow at valleys, parapets, roof structures and offsets in roofs of uneven configuration shall be considered. Where snow loads occur, the snow loads shall be determined by the building official in accordance with Appendix "B".

Exceptions:

1. The requirements of Appendix "B" shall not apply to Group R Division 3, Group R Division 4 and M Occupancies.

2. A basic snow load of 30 pounds per square foot of horizontal projection shall be acceptable for detached Group M, Division 1 Occupancies in all counties.

Snow loads in excess of 20 pounds per square foot may be reduced for each degree of pitch over 20 degrees. ~~by R, as determined by the following formula:~~ See Appendix B, Section A.

$$R = \frac{S - 1}{40\ 2}$$

~~Where:~~

~~R = Snow load reduction in pounds per square foot per degree of pitch over 20 degrees.~~

~~S = Total snow load in pounds per square foot.~~

§ 2311(g) of the UBC is amended to read:

UBC § 2311(g) Open frame towers. Radio towers and other towers of trussed construction shall be designed and constructed to withstand wind pressures specified in this Section, multiplied by the shape factors set forth in Table No. 23-H.

Wind pressures shall be applied to the total normal projected area of all the elements of one face (excluding ladders, conduits, lights, elevators, etc., which shall be accounted for separately by using the indicated factor for these individual members).

The effect of one-half inch of radial ice shall be included in the design of open frame towers including all supporting guys. This effect shall include the weight of the ice and the increased profile of each such tower component so coated.

§ 2312(a) of the UBC is amended to read as follows:

UBC § 2312(a) General. For the purpose of the Code this State shall be considered to be in Zone "O," No Damage Area. Every building or structure and every portion thereof shall be designed and constructed to resist stresses produced by lateral forces as provided in this Section. Stresses shall be calculated as the effect of a force applied horizontally at each floor or roof level above the base. The Force shall be assumed to come from any horizontal direction.

Structural concepts other than set forth in this section may be approved by the Building Official when evidence is submitted showing the equivalent ductility and energy absorption are provided.

Where prescribed wind loads produce higher stresses, such loads shall be used in lieu of the loads resulting from earthquake forces.

§ 2403(e) is amended to read as follows:

UBC § 2403(e) Concrete masonry units. Concrete masonry units shall be of a quality at least equal to the requirements set forth in U.B.C. Standard No. 24-4 or No. 24-5 when used for bearing walls or piers or when in contact with ground or exposed to the weather; or equal to the requirements set forth in U.B.C. Standard No. 24-6 when used for nonbearing purposes and not exposed to the weather. Solid units subject to the action of weather or soil shall be Grade A. Concrete masonry units shall be tested as set forth in U.B.C. Standard No. 24-7.

Concrete masonry units used for walls below grade or for other uses as determined by the designer shall not be subject to the moisture control provisions of Table 24-4-A of UBC Standard 24-4.

§ 2417 is amended by the addition of paragraph (n):

UBC § 2417(n) Alternate design method. The Specification for the Design and Construction of Load-Bearing Concrete Masonry 8th Printing May, 1978, published by the National Concrete Masonry Association may be used as an alternate design method providing the following conditions are satisfied:

1. The permit applicant must inform the building official, in writing, that the masonry design is based on the requirements of this subsection prior to granting of a building permit.

2. An outline of testing and field inspection schedules and design calculations signed by the responsible design professional shall be submitted to the building official prior to granting of a building permit.

3. Prior to occupancy, the permit applicant shall submit to the building official written evidence from a registered professional engineer certifying compliance with all requirements of this subsection.

§ 2501(a) of the UBC is amended to read:

UBC § 2501(a) Quality and design. The quality and design of wood members and their fastenings shall conform to the provisions of this chapter, and to the applicable standards listed in Chapter 60 as amended herein.

§ 2510(h) of the UBC is amended to read as follows:

UBC 2510(h) Metal plate connectors. ~~The material and workmanship during fabrication and the design of metal place connectors employed as joint connectors for light wood trusses shall conform with the requirements of U.B.C. Standard No. 25-17.~~ Metal plate connectors employed as joint connectors in light wood trusses, and the design and testing of such trusses, shall conform to the Design Specification for Metal Plate Connected Wood Trusses, 1978 Edition published by the Truss Plate Institute, Inc. (TP178) and the following amendments, thereto.

§ 102(c) 5 of TPI(78) shall be amended to read as follows: Concentrated loads, ~~and~~ their points and method of application.

§ 310 shall be added and reads: 310 Cross Grain Stress. Where design loads or their method of application induce cross-grain tension or bending stress, such cross-grain stress shall be considered in the design.

Snow loads shall be determined in accordance with the requirements of 2 MCAR § 1.10111 UBC § 2305(d). Wind loads shall be determined in accordance with the requirements of UBC § 2311.

Other loads shall be determined in accordance with the design requirements of UBC Chapter 23.

Each truss manufacturer shall retain an approved agency having no financial interest in the plant being inspected to make nonscheduled inspections of truss fabrication and delivery and operations.

The inspection shall cover all phases of truss operation, including lumber storage, handling, cutting, fixtures, presses or rollers, fabrication, bundling and banding, handling and delivery.

§ 2907(a) of the UBC is amended to read as follows:

UBC § 2907(a) General. Footings and foundation, unless otherwise specifically provided, shall be constructed of masonry, concrete or treated wood in conformance with U.B.C. Standard No. 29-3 and in all cases shall extend below the frost line. Footings of concrete and masonry shall be of solid material. Foundations supporting wood shall extend at least 6

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inches above the adjacent finish grade. Footings shall have a minimum depth below finished grade ~~as indicated in Table No. 29A~~ for the Zone as established below unless another depth is recommended by a foundation investigation.

1. In the absence of a determination by an engineer competent in soil mechanics, the minimum allowable footing depth in feet due to freezing shall be five feet in Zone I and three and one-half feet in Zone II.

Zone I shall include the counties of: Aitkin, Becker, Beltrami, Carlton, Cass, Clay, Clearwater, Cook, Crow Wing, Douglas, Grand, Hubbard, Itasca, Kanabec, Kittson, Koochiching, Lake, Lake of the Woods, Mahnomen, Marshall, Mille Lacs, Morrison, Norman, Otter Tail, Pennington, Pine, Polk, Red Lake, Roseau, St. Louis, Todd, Traverse, Wadena, Wilkin.

Zone II shall include the counties of: Anoka, Benton, Big Stone, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac Qui Parle, Le Sueur, Lincoln, Lyon, McLeod, Martin, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Pope, Ramsey, Redwood, Renville, Rice, Rock, Scott, Sibley, Sherburne, Stearns, Steele, Stevens, Swift, Wabasha, Waseca, Washington, Watonwan, Winona, Wright, Yellow Medicine. Less depths may be permitted when supporting evidence is presented by an engineer competent in soil mechanics.

2. Soil under slab on grade construction for buildings. When soil, natural or fill, is sand or pit run sand and gravel, and of depth in accordance with minimum footings depth requirements for each zone, slab on grade construction which supports roof and wall loads shall be permitted. Slab on grade construction for detached buildings Group M, Division 1 Occupancies may be placed on any soil except peat or muck.

UBC § 3203(d) 3 is amended to read as follows:

UBC § 3203(d) 3. Shingle; shake and tile roofs. A General. Installation shall be in accordance with Table No. 32-B. Underlayment, when required, shall be lapped horizontally and vertically so as to shed water.

In areas subject to roof ice build-up, underlayment consisting of two layers of Type 15 felt applied shingle fashion shall be installed and solid mopped together with approved cementing material between the plies extending from the eave up the roof to a point 24 inches inside the exterior wall line of the building.

The entire State of Minnesota shall be deemed an area subject to roof ice build-up.

Exceptions: 1. For wood shingle or wood shake roofs the underlayment shall extend 36 inches inside the exterior wall line of the building.

2. When interlocking tiles are used, the underlayment may consist of one layer of Type 40 or heavier asphalt-coated base sheet extending from the eave to a point 24 inches inside the exterior wall line of the building. When this method is used, all horizontal and vertical seams of the base sheet shall be lapped 6 inches and be continuously sealed with approved cementing material and shall be applied only over solid sheathing.

§ 3205(c) is amended to read as follows:

UBC § 3205(c) Ventilation. Where determined necessary by the building official due to atmospheric or climatic conditions, enclosed attics and enclosed rafter spaces formed where ceilings are applied direct to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. The net free ventilating area shall be not less than 1/150 of the area of the space ventilated, except that the area may be 1/300, provided at least 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.

~~Where eave or cornice vents are used to provide the ventilation of combustible attic spaces, vent openings shall not be located within 3 feet measured laterally above window or door openings in the wall of the story immediately below.~~

~~Exception: Group M and Group R, Division 3 Occupancies.~~

§ 3207(c) of the UBC is amended to read as follows:

UBC § 3207(c). Where roof drains are required, overflow drains having the same size as roof drains shall be installed with the inlet flow line located 2 inches above the low point of the roof, or overflow scuppers having three times the size of the roof drains may be installed in adjacent parapet walls with the inlet flow line located 2 inches above the low point of the adjacent roof and having a minimum opening height of 4 inches. Overflow drains shall be connected to drain lines independent from the roof drains, and shall discharge above grade.

UBC § 3303(a) is amended to read as follows:

UBC § 3303. (a) General. This section shall apply to every exit door serving an area having an occupant load of more than 10, or serving hazardous rooms or areas, except that Subsections (c), (i) and (j) shall apply to all exit doors regardless of occupant load. Buildings or structures used for human occupancy and each dwelling unit or guest room leased for gain shall have at least one exit door that meets the requirements of Subsection (e).

UBC § 3305(j) exception 2 is amended to read as follows:

Exception 2 — Private Stairway 30 inches or less in height may have handrails on one side only. Handrails are not required on private stairways with less than 3 risers.

UBC Table 33A is amended as follows:

Delete the right hand column entitled "Egress by means of a ramp or elevator must be provided for the physically handicapped as indicated."

Also delete footnotes 2, 3, 4, 5, 6 and 8.

UBC Table 38A is amended as follows:

Section 2, occupancy column, shall read: Occupancies 4 3 stories or more but less than 150 feet in height, except Group R, Division 3 or 4. Class II standpipes are not required in Group E or Group R-1 occupancies.

UBC § 4701(a) is amended to read as follows:

UBC § 4701(a) General. The installation of lath, plaster and gypsum board shall be done in a manner and with materials as specified in this Chapter, or as set forth in ANSI A42.2, 1971 Specifications for Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and Interior and ANSI A42.3, 1971 Specifications for Lathing and Furring for Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and Interior; and, when required for fire-resistive construction, also shall conform with the provisions of UBC Chapter 43.

Other approved wall or ceiling coverings may be installed in accordance with the recommendations of the manufacturer and the conditions of approval.

UBC §§ 5001-5006 are amended to read as follows:

UBC §§ 5001-5006 are deleted and replaced by 2 MCAR §§ 1.10301-1.10337.

UBC §§ 5101-5104 are amended to read as follows:

UBC §§ 5101, 5102, 5103 and 5104, Elevators, Dumbwaiters, Escalators, Manlifts, Moving Walks, Hoists and Lifts are deleted. Refer to 2 MCAR §§ 1.18801-1.18806.

§ 6001 of the UBC is amended as follows:

UBC § 6001. The UBC Standards which are referred to in various parts of this code shall be the Uniform Building Code Standards, 1979 Edition, and are hereby declared to be a part of this code with the following amendment.

UBC § 6001, Chapter 25, 25-17 is amended to read as follows:

Chapter 25, 25-17, 2510(a), 2510(b), 2510(c), 2510(d), 2510(e), 2510(h), 2514(b)1, 2514(b)2, Tables Nos. 25-F, 25-G, 25-H and 47-H Timber Connector Joints, Bolted Joints, Drift Bolts and Wood Screws, Lag Screws, National Design Specification for Stress-grade Lumber and its Fastenings (1971), National Forest Products Association. Light Metal Plate Connected Wood Trusses TPI 68 78, Truss Plate Institute, Nails and Staples, Federal Specification No. FF-N-105B (March 17, 1971).

End of Substitution — Note Change in Format.

2 MCAR § 1.18701 is amended to read as follows:

2 MCAR § 1.18701 Plumbing. All plumbing in buildings and structures as defined in the Minnesota ~~Plumbing~~ Building Code shall comply with the provisions of the Minnesota Plumbing Code ~~1976~~ 1979, which code is adopted by reference and made a part of the Code.

Section II

Validity Clause

2 MCAR § 1.10112 Validity clause. If any sections, subsection, sentence, clause, or phrase of this Code, are for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this Code.

It is hereby declared that the Department of Administration would have adopted this Code and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section III

Proposed Amendments to the Provisions for Accessibility and Usability of Building by Physically Handicapped Persons

~~**STATE BUILDING CODE CHAPTER 55 FACILITIES FOR THE HANDICAPPED**~~

Accessibility and Usability Features for Handicapped Persons

2 MCAR § 1.15501 Where required.

A. General. ~~In addition to other provisions in this code, facilities for the handicapped~~ Accessibility and usability features shall be provided in accordance with ~~this chapter~~ these rules, ~~See UBC Chapter 17~~ for additional requirements See Chapter 17 of the Uniform Building Code as amended by the State Building Code, Chapter 33 of the Uniform Building Code, and 2 MCAR §§ 1.18801-1.18806, and 1.18811-1.18813.

B. Scope. Accessibility provisions of this Chapter shall apply to all buildings, occupancies and skyways except the following:

1. Group R Division 3, Group R Division 4 and Group M occupancies.

2. Temporary Building, except group E and I (as amended by the S.B.C.) occupancies.

~~3. Building not exceeding 150 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in 2 MCAR § 1.15503.~~

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~~4. One story buildings, other than service stations, not exceeding 2000 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in 2 MCAR § 1.15503 when approved by the Building Official.~~

~~5. Floors of buildings not used by the general public and on which handicapped persons can not be employed because of the nature of the work.~~

~~6. Group R-1 occupancies in which dwelling units are individually owned, sanitation facilities for the handicapped specified in 2 MCAR § 1.15503 and other facilities for the handicapped specified in 2 MCAR § 1.15504 need not be provided.~~

2 MCAR § 1.15502 Definitions. ~~Building Accessibility.~~

A. General. These definitions are applicable to 2 MCAR §§ 1.15501-1.15517.

~~1. Ramp is a sloped walking surface within a building or attached to a building connecting levels of the building and may be part of an exit in accordance with U.B.C. § 3306.~~

~~2. Walk is a continuous, permanently defined pathway at grade between public ways and buildings, parking areas and buildings, or between buildings.~~

~~3. Slip resistant is any surfacing of a floor, ramp, or walk which has an anti-slip coefficient of not less than 0.04 as defined in Research Paper No. R.P. 1879 of the National Bureau of Standards.~~

1. Accessible. Accessible shall mean readily approached, entered and used by handicapped persons without additional assistance.

2. Ancillary areas. Ancillary areas shall mean areas of common auxiliary use and include, but are not limited to, exterior site improvements and laundry, recreation, community and other common tenant spaces.

3. Curb ramp. Curb ramp shall mean a short inclined walking surface used to by-pass abrupt changes in level of less than nine (9) inches with a maximum slope ratio of one to ten (1:10). Such ramps shall have an aggregate finish in compliance with the State Department of Transportation specifications and shall contrast in color and texture with adjacent surfaces.

4. Floor. Floor shall mean occupied horizontal space within the exterior walls of a building. All raised or depressed levels of said floor available to the public and/or employees shall be accessible. Landings in stairways are not included.

5. Grip strength. Grip strength shall mean the compressive pressure a person can exert by closing his hand around an object.

6. Handicapped person. Handicapped person shall mean any person who has a physical or mental impairment which substantially limits one or more major life activities.

7. Hazardous area. Hazardous area shall mean an area in which obstacles exist or in which a risk or peril exists which could jeopardize the health, safety, or life of a human being including, but not limited to, areas housing HVAC equipment, electrical transformers or panels, equipment with hot or moving parts, tunnels, pits, and loading platforms.

8. Public way. Public way shall mean any street, alley or similar parcel of land, public or private, unobstructed, which is deeded, dedicated, or otherwise permanently appropriated to the public for public use and having an unobstructed width of not less than 10 feet.

9. Ramp. Ramp shall mean an enclosed sloped walking surface within a building, or within an enclosure attached to a building, connecting floors and levels of floors of a building and may be part of an exit when constructed according to U.B.C. § 3306 except for slope as required by 2 MCAR § 1.15505 A.2. of these rules.

10. SBC. SBC shall mean the Minnesota State Building Code.

11. Skyways. Skyway shall mean an enclosed pedestrian passageway, elevated above street level, used to connect structures. Skyways shall not be considered as required exits from structures.

12. Slip resistant. Slip resistant shall mean a surface that is firm, flat, continuous which retards the sliding action of heels and shall have anti-slip co-efficient of not less than 0.40 as defined in Research Paper No. RP-1879 of the National Bureau of Standards.

13. Temporary buildings. Temporary building shall mean any building(s) or structure(s) authorized by the local authority for use for a determined period of time. Such building or structure shall be completely removed upon expiration of the time limit stated in such permit.

14. UBC. UBC shall mean the Uniform Building Code

15. Walk. Walk shall mean a permanently defined exterior pathway between a public way and buildings, parking areas and buildings, or between buildings and shall include public ways on private property.

~~B. Site Approaches~~

2 MCAR § 1.15503 Site approach.

Access to a defined accessible building entrances shall be by ~~walks~~ a walk.

Exception: access to temporary buildings and remodeled buildings may be by ramp or other approved means.

Such walks shall be of concrete, asphaltic paving or other ~~similar~~ permanent materials, with a slip resistant surface, and shall be not less than forty eight (48) inches wide with a slope not to exceed a ratio of one vertical to 20 twenty horizontal (1:20).

Exception: Existing buildings or facilities may use other approved materials. Walks shall not have any abrupt change in level. When walks are more than six (6) inches above the

adjacent ground level, guardrails or curb 6" high shall be provided. When walks are thirty inches (30") or more above the adjacent ground level, guardrails shall be provided. Cross slope of walks shall not exceed a ratio of 1 to 48.

2 MCAR § 1.15504 Building entrances. ~~C.~~ At least two ~~one~~ required exits of the building shall be accessible for use as ingress for the handicapped. Primary entrances (required exit) to each building where required shall be accessible and shall be identified for such use. Such building entrances shall be at the main lobby or corridor, or shall be accessible thereto by ramp or elevator.

Clarification: It is preferable that all or most entrances (required exits) should be accessible to, and usable by, individuals in wheelchairs and individuals with other forms of physical disability. Signage or directional aids giving direction to the main lobby or corridor in compliance with § 1.15516 of this chapter shall be provided.

2 MCAR § 1.15505 ~~D.~~ Access to other stories floors and levels:

~~Access for the handicapped to other stories or levels of the building used by the general public and/or employees shall be by elevator or ramp, except the following:~~

~~1. Group R-1 occupancies not exceeding three stories in height.~~

A. Access to all floors and levels of a building used by the general public and/or employees shall be by elevator or ramp

Exception: In Group R-1 occupancies not exceeding three (3) stories in height, at least one floor shall be accessible.

~~1. Other occupancies not exceeding two (2) stories in height, and where the total occupant load is less than 100 on all floors other than the main floor. Such~~ Ramps shall have a slip-resistant surface. ~~It~~ Ramps shall have a slope not to exceed a ratio of one (1) ~~foot~~ vertical to twelve (12) ~~feet~~ horizontal (1:12). ~~and~~ Ramps shall have a landing at the top and the bottom, and ~~where the rise exceeds three feet vertically, it~~ shall have an intermediate landing ~~located not to exceed~~ for each two feet six inches ~~vertically~~ of vertical rise. The bottom landing shall have a minimum dimension of six feet (6'0") measured in the direction of the adjacent ramp run(s). ~~and~~ The top landing and intermediate landing(s) shall have a minimum dimension of five feet (5'0") measured in the direction of the adjacent ramp run(s). Width of ramp, handrails, and guardrails shall be provided as required for stairs (UBC Chapters 33 and 17).

2 MCAR § 1.15506 ~~E. Automobile parking areas~~ Vehicle Offstreet Parking: ~~Where automobile parking spaces are provided at least one space per 50 spaces or fraction thereof, shall be provided for the use of the handicapped, and shall be identified for such use. Such parking spaces shall be not less than 12 feet in width, and located as near as practicable to the building entrance specified in 2 MCAR 1.15502(c).~~

When vehicle offstreet parking is provided, the number of offstreet parking spaces required for vehicles transporting handicapped persons shall be in the ratio required by Table 55-C. The spaces provided shall be immediately adjacent to an accessible entrance or immediately adjacent to an accessible path of travel, using the most direct route, to an accessible entrance. The spaces provided shall be identified by means of a permanent upright sign designating such spaces only for vehicles transporting handicapped persons. The center of the sign shall be forty eight (48) inches above the surface or ground, located so as to prevent the sign or sign post from being damaged by vehicles. Spaces provided shall have minimum dimensions of twelve (12) feet in width and twenty (20) feet in length.

2 MCAR § 1.15507 ~~F.~~ Doors and doorways:

~~Doors and doorways serving buildings or portions thereof regulated by this chapter shall comply with the following:~~

A. This section applicable to Accessible Building entrance doors, entry doors to individual non residential tenant spaces, conferences rooms, accessible sanitation facilities and all doors in dwelling units required to be provided per table 55 A.

1. Doorways or doors in an open position shall ~~have a clear opening width of not less than 31 inches.~~ provide not less than thirty-two inches (32") of clear opening which shall be measured at all points up to thirty inches (30") above the floor.

2. Doors shall be operable by a single effort with one hand. All door hardware shall be operable by persons with no grip strength and shall be positioned not more than three feet six inches (3'6") above the floor. Nothing herein shall be construed to preclude the use of keyed locks.

3. In doorways consisting of two or more door leafs, at least one door leaf shall comply with the provisions of this section. See UBC § 3303(d) for minimum exit door width.

4. Where access regulated by this chapter is through two (2) or more sets of doors, ~~as~~ in ~~a~~ the same entry, foyer, vestibule, or lobby the ~~space separating the doorways shall be not less than seven feet.~~ distance between the sets of door shall be a minimum of forty-eight inches (48") plus the width of the door that swings into the space between doors or there shall be an area in the space between doors at least five feet (5'0") in diameter exclusive of door swing.

5. The floor or landing at doorways required for accessibility shall be level with, ~~or not more than~~ or shall not exceed one half inch (½") ~~lower than the threshold~~ of elevation change from the threshold exclusive of compressible

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gaskets. Thresholds shall be flush or beveled. Where the door swings over a floor or a landing such floor or landing shall extend eighteen inches (18") ~~not less than one foot~~ or more beyond the door to any obstruction on the latch side of the door in the closed position. Exterior landings shall not exceed a slope of one to forty eight (1 to 48).

~~6. In dwelling units specified in 2 MCAR § 1.15503 A.1. entrances specified in 2 MCAR § 1.15502 C., and toilet rooms or compartments specified in 2 MCAR § 1.15503 C.1., door opening latch hardware shall have lever handles, and shall be not more than three feet six inches above the floor.~~

6. Doors with automatic closers shall have a maximum opening resistance pressure of eight point five (8.5) pounds and shall be so maintained.

7. Doors serving toilet rooms or stalls shall be ~~unlocked from either side.~~ locked from the inside and unlocked from either side. Stall doors shall have handles on both sides to pull the door open or closed.

~~(C) Stair tread nosing.~~

~~Riser shall be slanted to meet the tread nosing edge, or where the tread extends beyond vertical risers, nosing shall be rounded and not project beyond the riser more than one inch.~~

2 MCAR § 1.15508 Maneuvering space.

Floor space shall be unobstructed by walls, cabinets, fixtures, appliances, door swing, or other obstructions so as to provide a space at least five feet (5') in diameter in all habitable rooms and ancillary areas of buildings, including toilet rooms and all rooms of dwelling units or guest rooms required to be accessible. Where cabinets, appliances, fixtures, and similar features have a base toe space not less than ten inches (10") or more in height above the floor surface, the clear floor space may be measured up to six inches (6") insides such toe space.

2 MCAR § 1.15509 ~~Aisles and lanes~~ Interior circulation:

A. ~~Where Pedestrian aisles or lanes~~ All interior circulation systems which are defined with directional barriers, rails, benches, merchandise, tables, seats, or fences, ~~at least one~~ shall have not less than ~~31 inches~~ thirty two inches (32") of clear width. ~~for use of the handicapped and shall be identified for such use.~~

B. Where turnstiles or checkout lanes are used in internal circulation at least one (1) alternate means of circulation, thirty-two (32") inches of clear width shall be provided and shall be identified as accessible.

C. Corridors and aisles which serve doors or doorways and accessible sanitation fixtures and accessories shall be in compliance with Table 55-D.

D. Corridors, aisles, exit passageways, and foyers shall be clear of all hard objects suspended from the ceiling for a distance of eighty-four inches (84") above the floor. Below eighty-four inches (84") hard objects shall extend no more than four inches (4") from the sidewall. In all occupancies regulated by this chapter, public corridors less than five feet (5') in width shall have at each end and at intervals no greater than seventy five feet (75') an area large enough to permit a wheelchair to be turned around. An area having a minimum dimension of five feet (5') shall meet this requirement.

E. Stairways shall have risers which slant to meet the tread nosing edge or where the treads extend beyond the risers the nosing edge shall be beveled at an angle of 60 degrees from the horizontal surface and shall not project more than one inch beyond the riser.

F. Ancillary Areas: At least one of each type of ancillary improvements, building, space or room shall be served by at least one accessible path of travel from the required accessible principal entrance(s) and regulated accessible dwelling units or guest rooms.

2 MCAR § 1.15510 Refuge areas: In all structures used for educational purposes for grades K through 12 in occupancy groups A-2.1, A-3, E-1, E-2, and E-3 a safe area of refuge shall be provided at all floors served exclusively by stairways or elevators. This area shall be clearly identified. The refuge area shall be of sufficient space to accommodate five percent (5%) of the total occupant load of each such level as determined by Table 33-A of the U.B.C. The minimum area per handicapped individual shall be twenty (20) square feet. The refuge area shall be of not less than two (2) hour non combustible fire resistive construction with interior openings protected with a fire-assembly having a 1½ hour fire protection rating. An exterior egress or rescue window openable by persons without special knowledge or grip strength and providing a clear openable area of not less than twenty (20) inches in width, twenty-four (24) inches in height and not less than five point seven (5.7) square feet in area with the bottom of the openable area not more than forty-eight (48) inches above the floor shall be provided for each refuge area. This window shall have interior identification for the building occupants and exterior identification for the fire department. Such openings shall be maintained readily accessible to the fire department and shall not be obstructed in a manner that rescue cannot be accomplished from the exterior. The maximum distance of travel from any point on a floor or level to a refuge area shall not exceed one hundred fifty (150) feet. In non emergency situations the refuge area may be occupied space other than storage.

2 MCAR 1.15511 Sanitation facilities.

A. General. Sanitation facilities ~~may~~ shall include ~~toilets~~ water closet, urinals, lavatories, bathtubs, showers, sinks, and other similar plumbing fixtures. For number and type of sanitation fixtures required in each occupancy, see SBC Table 17-B and the amendments to UBC § 1711(h).

~~A.~~ B. Where required:

1. In group R-1 occupancies having ~~eight~~ four (4) or more dwelling units or guest rooms, accessible sanitation facilities shall be provided in dwelling units and guest rooms

in accordance with Table 55-A. At least one dwelling unit or guest room shall have a shower as prescribed in H.7. of this section. In a multiple building development, the dwelling units or guest rooms containing sanitation facilities shall not be located solely in one building and shall be located in at least 25% of the buildings when more than three accessible units or guest rooms are required.

2. Sanitation facilities shall be provided in all other occupancies regulated by this Code except the following:

a. Group R-3, R-4, and M occupancies.

b. Temporary buildings other than group E and I occupancies.

c. One story buildings, other than service stations, not exceeding 2000 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in this Section when approved by the Building Official.

d. Group R-1 occupancies in which dwelling units are owner-occupied.

3. Coin actuated access to toilet rooms and compartments required in this section shall be prohibited.

~~2. In other buildings regulated by this chapter, at least one required toilet room for each sex shall have not less than one toilet and lavatory complying with this section, and where urinals are provided, not less than one urinal complying with this section. In buildings having more than one toilet room for each sex shall comply with this section. Toilet rooms having plumbing fixtures required by this section shall be identified for use by the handicapped. Buildings having a posted room directory shall list the location of such toilet rooms in the directory.~~

C. Patient care areas of health care facilities shall comply with the requirements of the Minnesota Department of Health.

D. When toilet rooms are provided in all other occupancies regulated by these rules and in ancillary areas of group R-1 occupancies, at least one toilet room for each sex shall have not less than one (1) water closet and lavatory complying with this section, and where urinals are provided in such toilet rooms, not less than one (1) urinal complying with this section shall be provided. In toilet rooms having more than one (1) water closet, at least one (1) water closet and one (1) lavatory shall be in compliance with this section. Toilet rooms having plumbing fixtures in compliance with this section shall be identified as accessible by use of the State Symbol of Accessibility. Buildings having a posted room directory shall list the location(s) of accessible sanitation facilities in the directory.

E. Transportation terminals, theaters, museums, and shopping malls shall, in addition to other requirements for accessible sanitation facilities, provide at least one (1) toilet room which houses only one water closet and one lavatory. This toilet room shall be in compliance with all other requirements of this section. Such facilities will be open to the public regardless of sex, and will have a sign indicating when in use that automatically displays when the door is locked from the inside.

F. In existing buildings, without sanitation facilities for the handicapped, and where it is desired or required to provide sanitation facilities for the handicapped and where because of existing physical limitations it is impossible to convert existing toilet rooms for use of the handicapped, a toilet room complying with the requirements of this section shall be provided.

~~B.~~ G. Locations:

~~Other than group R-1 apartment occupancies. In buildings with an elevator or ramp, the sanitation facilities may be located at any level served by elevator or ramp.~~ Where sanitation facilities are required in buildings without an elevator or ramp, the accessible sanitation facilities shall be conveniently located ~~at the required entrance level,~~ on the accessible floor and shall be usable without leaving or re-entering the building.

~~C.~~ H. Fixtures sizes and clearance:

1. Toilets. Water closet location and dimensions. Toilet rooms or water closet compartments shall have not less than thirty-six inches (36″) clear space at the front of the ~~toilet~~ water closet and not less than ~~36 inches~~ fifty-four inches (54″) clear width between walls free of door swing and other obstructions. The center line of the water closet shall be eighteen inches (18″) from one of the side walls of the room or compartment. In renovation work the center line may be fifteen (15) inches. Clear floor space for the water closet shall be free of all obstructions such as lavatories, door swings, heat registers etc. ~~Toilet seats shall be not less than 17 inches nor more than 20 inches above the floor.~~

2. Height. The top of the water closet seat shall be seventeen (17) inches to eighteen inches (18″) above the floor, except that group R-1 (multi dwellings) may use standard height water closets.

3. Accessory fixtures. The toilet paper dispenser shall be mounted on the nearer side wall of the room or compartment beneath the horizontal leg of the grab bar described herein and not less than six inches (6″) nor more than ten inches (10″) beyond the front of the water closet.

4. Grab bars.

a. Grab bars shall be provided at ~~both sides or one side and rear of the toilet~~ the nearer side wall and the rear wall of the water closet compartment. Such grab bars shall be

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securely fastened to support a load of not less than two-hundred-fifty (250) pounds. They shall have an outside diameter not to exceed one and one-half inches (1½") nor less than one and one-quarter inches (1¼") and shall have precisely one and one-half inches (1½") clearance from walls ~~and~~ or partitions.

b. Group E, I-1 and I-2 occupancies housing children below the age of ten (10) shall have grab bars one inch (1") in diameter, plus or minus one-eighth inch (⅛") and with precisely one inch (1") clearance from walls or partitions when other standard facilities are provided for persons 10 years and older.

~~A. A horizontal grab bar shall be mounted so that the lowest point is ten inches above the toilet seat, and extends not less than six inches in front of the toilet bowl. Grab bar shall be not less than 12 inches long.~~

c. The grab bar on the nearer side wall shall be "L" shaped with the vertical leg at least sixteen inches (16") long and the horizontal leg at least thirty-two inches (32") long. The shorter leg shall be mounted vertically twelve inches (12") in front of the seat of the water closet and shall extend upward from the horizontal leg. The center line of the horizontal leg shall be twelve inches (12") above the height of the seat of the water closet and six inches (6") for group E occupancies housing children under the age of ten (10). This does not exclude 2 bars from forming the "L" shape configuration.

~~b. A vertical grab bar shall be mounted 12 inches from the front of the toilet bowl extending from 12 inches above the height of the toilet seat to 30 inches above the toilet seat.~~

d. The grab bar at the rear shall be a straight bar at least thirty inches (30") long mounted horizontally twelve inches (12") above the height of the water closet seat or two inches (2") above the water closet flush tank and shall extend six to nine inches (6 to 9") beyond the center line of the water closet towards the nearest wall.

e. The requirements listed in § 1.15511 H.1. and in § 1.15511 H.4B. may be altered for Group E and I-1 and 2 occupancies housing handicapped children when approved by the Building Official.

f. Also see 7 and 8 of this section.

~~2.~~ 5. Urinals: When provided ~~urinals~~ at least one urinal shall be centered in and have a clear access width of not less than ~~31~~ thirty-two inches (32"). When other than floor mounted urinals are used the front lip of the bowl ~~of wall mounted urinals~~ shall be not more than ~~18~~ fourteen inches (14") above the floor.

~~3.~~ 6. Lavatories: Lavatories shall be centered in and have a clear access width of not less than ~~31~~ thirty-two inches (32"), clear height of not less than ~~29~~ twenty-nine inches (29") to the bottom of the fixture apron, clear height of not more than ~~34~~ thirty-four inches (34") to the rim of the fixture, and a clear depth of not less than ~~12~~ twelve inches (12") under the fixture, exclusive of bowl or piping. The water control valves shall ~~have lever handles~~ be operable by persons with no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. The waste pipe and hot water supply shall be shielded or insulated.

~~4. Bathtubs: When provided, and shower is not furnished, the bathtub shall be equipped with a flexible base hand shower not less than six feet in length, and a vertical height adjustment bar for the shower head of not less than four feet in length. The bathtub shall have a seat, either folding, retractable, or fixed, not less than 17 inches nor more than 20 inches above the tub floor and not less than 15 inches deep, and of water resistive material. Grab bars shall be provided at one side of the bathtub. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of one and one half inches and shall have one and one half inches clearance from wall and partitions.~~

~~a. A horizontal grab bar shall be mounted not less than four inches nor more than six inches above the rim of the bathtub. Grab bar shall be not less than 36 inches long.~~

~~b. A vertical grab bar shall be mounted 30 inches from the end of the tub extending from a height of nine inches to a height of three feet six inches above the rim of the tub. Water valves shall be a single lever control, and shall be accessible from the seat.~~

7. Shower stalls: Shower stalls when provided in required accessible dwelling units/guest rooms and in ancillary areas of other occupancies, such as schools, gynmasiums, swimming pools, etc. shall have at least one (1) in compliance with this section. The accessible shower stall shall be a minimum size of three feet by three feet (3' x 3'), have no more than a one-half inch (½") lip or curb at the entry, and shall be equipped with a flexible hand held shower head with not less than six feet (6') of hose and water control valves shall be mounted thirty-six (36) to forty-two (42) inches above the floor and shall be operable by persons with no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. The shower head shall have a vertical height adjustment bar of not less than four feet (4'). A siphon break device shall be installed at the piping/hose connection.

A grab bar at least one and one fourth (1¼) inches and not more than one and one half (1½) inches in diameter with precisely one and one half (1½) inches clearance from the wall shall be mounted horizontally to provide continuous support along three walls of the shower stall. This does not exclude three (3) bars from forming the continuous configuration. A grab bar with identical specifications at least twenty-four (24) inches long shall be mounted vertically within six (6) inches of the shower head vertical height adjustment bar extending upwards from between two (2) inches and four (4) inches above the horizontal grab bar.

~~5. Showers: When provided, the shower stall shall be~~

~~accessible for the handicapped with a lip or curb at entry no higher than one half inch above the floor of room or stall. The shower stall shall have a seat, either folding, retractable or fixed, not less than 17 inches nor more than 20 inches above the shower floor, and not less than 15 inches deep, and of water resistive material. Grab bars shall be provided at two sides of the shower compartment. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of one and one half inches and shall have one and one half inches clearance from walls and partitions.~~

~~a. A vertical grab bar shall be mounted on the wall opposite the seat extending from a height of three feet to a height of five feet above the floor of the shower.~~

~~b. A horizontal grab bar shall be mounted on the wall adjacent to the seat ten inches above the seat. Grab bar shall be not less than 18 inches long.~~

~~Water valves shall be single lever control and shall be accessible from the seat.~~

8. Bathtubs: Bathtubs when provided in required accessible dwelling units/guest rooms and in ancillary areas of other occupancies, such as schools, gymnasiums, swimming pools etc. shall have at least one (1) in compliance with this section.

The accessible bathtub shall have a seat either fixed or folding, eighteen inches (18″) above the tub room floor, not less than fifteen inches (15″) deep and of water-resistive non-slip material. Clear floor space thirty-two (32) inches wide beside the tub shall be provided at the seat end. The tub shall be equipped with a flexible hose hand held shower head with not less than six feet (6′) of hose and a vertical height adjustment bar not less than four feet (4′) long extending upwards from ten inches (10″) above the tub rim. The vertical height adjustment bar shall be mounted on the long wall of the tub enclosure and centered six inches (6″) from the vertical grab bar described below on the side opposite the seat. Water control valves, shall be centered six inches (6″) from the vertical grab bar on the seat side and operable with persons of no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. A siphon break device shall be installed at the piping/hose connection. There shall be no raised tracks mounted on the tub edge.

Grab bars shall be mounted on the long wall adjacent to the tub seat and shall be at least one and one-fourth inches (1¼″) and not more than one and one-half inches (1½″) in diameter with precisely one and one half inches (1½″) clearance from the wall and shall be capable of supporting not less than two hundred and fifty (250) pounds.

a. A straight bar not less than thirty-six inches (36″) long shall be mounted horizontally not less than four inches (4″) nor more than six inches (6″) above the tub rim. The horizontal bar shall extend six inches (6″) behind the leading edge of the seat in its unfolded position.

b. A straight bar not less than thirty-six inches (36″) long shall be mounted extending upwards from nine inches (9″) above the tub rim. The vertical bar shall be mounted twelve inches (12″) in front of the leading edge of the seat in its unfolded position.

9. Kitchen sinks: ~~When provided kitchen sinks shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe. The water control valve shall have lever handles.~~ Kitchen sinks in accessible dwelling units with sanitation facilities for the handicapped and when provided in other than residential kitchens, shall comply with this section. At least one (1) sink shall have a fixture bowl depth of not more than five and one-half inches (5½″) and have, or be adaptable, to provide a clear knee space width of not less than thirty-two inches (32″), a clear height to the bottom of the apron of not less than twenty-nine inches (29″), a clear height to the rim of not more than thirty-four inches (34″) and, a clear depth of not less than eighteen inches (18″) under the fixture exclusive of the piping. The water control valves shall be operable by persons with no grip strength. Lever action controls when provided shall have blades a minimum of three (3) inches in length. The waste pipe and hot water supply shall be insulated or shielded.

~~B. Toilet room accessories.~~

10. Accessory equipment. Mirrors and/or shelves: Where mirrors ~~and/or shelves~~ are provided, at least one shall be mounted so that the bottom is no higher than ~~40 inches above~~ thirty-eight inches (38″) from the floor. (When shelves are provided they shall be no higher than thirty eight inches (38″) from the floor.)

~~2. Towel racks, dispensers, disposal units.~~

11. ~~Where~~ When provided wall mounted towel racks, dispensers, waste disposal containers, soap holders or dispensers or similar ~~appliances are provided~~ accessory equipment at least one of each shall be mounted so that working ~~height is not higher than 40 inches~~ all operable parts are not more than forty inches (40″) above the floor and shall be free of interference by grab bars, or other appliances or fixtures. Such devices shall be operable by persons with no grip strength.

2 MCAR § 1.15512 Kitchen ~~Other~~ facilities.

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~~A. Kitchen Facilities: In dwelling units in which sanitation facilities for the handicapped are required, kitchen facilities shall be provided as follows:~~

A. General. Kitchen facilities in compliance with this section shall be provided in Group R Division 1 dwelling units equipped with accessible sanitation facilities as designated in Table 55-A.

~~1. Space. Clear space of not less than five feet measured between walls, cabinets, appliances, or other obstructions shall be provided. Where cabinets have a base toe space of not less than deep and eight and three fourths inches high. The clear space may be measured from toe space.~~

1. Work surface. A work surface of not less than four (4) square feet shall be provided with a clear access width of thirty-two inches (32″), a clear height to the bottom of not less than twenty-nine inches (29″), a clear height of not more than ~~t~~hirty-three inches (33″) to the top, and a clear depth of not less than eighteen inches (18″) under the work surface. The work surface shall have a minimum dimension of twenty-four inches (24″) and be located in the normal working area without obstructing space requirements of this section and may be fixed, folding or retractable.

~~2. Range: Controls. When a range is provided, range control handles shall be located at the front or side of the range.~~

2. Appliances. When appliances including but not limited to ranges, cooktops, ovens, freezers, refrigerators, etc. are provided, they shall be equipped with controls within functional reach of handicapped and operable by persons with no grip strength.

~~3. Work Space: Work space shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom, clear height of not more than 34 inches to the top, and clear depth of not less than 12 inches under the work space. The work space shall have not less than four square feet of area with a minimum dimension of 24 inches. It may be fixed, folding or retractable.~~

3. Counters: Kitchen counters shall not exceed twenty-four inches (24″) in depth unless accessible from opposite sides. (Also see § 1.15502 G.)

2 MCAR § 1.15513 Laboratory facilities.

A. General. Laboratory facilities in compliance with this section in E and educational portions of I occupancies.

B. Where required. Rooms and areas used for home economics, art studios, shops, model offices, science, occupational training, and similar instructional rooms having work stations composed of but not limited to sinks, counters, benches, testing equipment, preparation appliances, utility connections, and special task lighting shall have at least one such station accessible.

C. Work surfaces. A work surface of not less than four (4) square feet shall be provided with a clear access width of thirty-two inches (32″), a clear height to the bottom of not less than twenty-nine inches (29″), a clear height of not more than thirty-three inches (33″) to the top, and a clear depth of not less than eighteen inches (18″) under the work surface. The work surface shall have a minimum dimension of twenty-four inches (24″) and be located in the normal working area without obstructing space requirements of this section and may be fixed, folding or retractable.

D. Items of equipment in B. of this section shall be equipped with controls within functional reach and shall be operable by persons with no grip strength.

E. Counters. Laboratory counters required in B. of this section shall not exceed twenty-four inches (24″) in depth unless accessible from opposite sides. (Also see § 1.15502 G.)

2 MCAR § 1.15514 Viewing positions in assembly occupancies areas.

A. General. In assembly occupancies performance viewing positions in compliance with this section shall be provided on the main floor in accordance with Table 55-B. There shall be a minimum of two (2) viewing positions adjacent to each other in any given area. ~~Accessibility: Viewing positions required in this section shall be accessible for the handicapped by walk, ramp, or elevator or combination thereof through a principal entrance(s).~~

B. Level floor space at least thirty-two (32) inches wide by forty-eight (48) inches long with a thirty-two (32) inch dimension approximately perpendicular to the sight line to the stage or performance area, and which does not block the access to adjacent seating shall be provided by either clear floor space; or readily removable fixed or portable seating. ~~Number: Performance viewing positions in assembly occupancies with fixed seating shall be provided in accordance with Table 55-B.~~

C. Viewing positions required by this section shall be accessible by walks, ramps, elevators, or combination thereof through required accessible principal entrance(s). ~~Location: Viewing positions shall be located at the main floor.~~

~~C. Space Requirements: One of the following shall be provided:~~

~~1. Clear space free of fixed or portable seats, or with removable fixed seats.~~

~~2. Spaces with readily removable portable seats~~

~~E. Floor Surface: Viewing positions shall have level floor surfaces.~~

2 MCAR § 1.15515 Controls and electrical ~~switches~~ devices.

A. Height. The top of controls for ~~elevator control, thermostats, manual fire alarm, and similar equipment in all buildings regulated by this chapter and electrical switches and receptacles in dwelling units regulated by this chapter shall be no higher than five feet above the floor.~~ thermostats, electrical switches, manual fire alarms, or other emergency signal controls and similar equipment in buildings or portions thereof regulated by these rules, and also all electric panels,

controls, required receptacles, and controls for heating, ventilating, air conditioning, and other equipment which require regular or periodic adjustment in accessible dwelling units and guest rooms, shall not be more than forth-eight (48) inches nor less than twenty-four inches (24") above the floor. Access to such controls shall be unobstructed. (See elevator code for controlled dimensions.)

B. Emergency and security signals. Emergency alarms shall provide and other signaling devices when provided shall be adaptable to provide, both audio and visual cues. Visual alarms shall either blink the lights, not faster than one (1) hz, or the visual component of the signal should raise or lower the ambient light level of the space ten percent (10%) once per second for the duration of the alarm sequence.

2 MCAR § 1.15516 Tactile identification.

A. Where required. Spaces normally used by the general public and all doors leading to stairways shall have tactile identification such as raised or recessed letters, labels, or plaques of colors contrasting sharply with their background. The center of the tactile identification shall ~~not be less than~~ be located four feet six inches (4'6") ~~nor more than five feet six inches~~ above the floor, mounted on the wall adjacent to the door of the space identified, on the strike jamb side ~~nearest the door handle~~ of the door.

B. Floor numbers at elevators ~~Floor numbers~~ shall be tactily identified for the visually handicapped by raised or recessed numbers ~~attached to the elevator door jamb at each floor, not less than three feet six inches nor more than~~ of colors contrasting sharply with their background, attached to either the strike jamb or both elevator door jambs at each floor. The center of the tactile identification shall be located four feet six inches (4'6") in height above the floor.

C. Elevator controls. Elevator controls shall have tactile identification by raised or recessed letters, numbers, labels, or plaques of colors contrasting sharply with their background.

~~D. Door handles: Doors to stairs other than exit stairs, loading platforms, boiler rooms, stage, and doors serving other hazardous locations shall have knurled or similarly marked door handles.~~

D. Doors. Doors that are not intended for normal use, and that might prove dangerous if a blind person were to exit or enter by them, should be made quickly identifiable to the touch by knurling the door handle or knob. Knurling may also be accomplished by the use of acceptable plastic, abrasive coating. Example: such doors might lead to loading platforms, boiler rooms, stages, fire escapes, etc.

~~2 MCAR § 1.15508~~ ~~Figures 55-1 through 55-18 of this chapter are illustrative only. See appropriate chapter sections for specific provisions.~~

2 MCAR § 1.15517 In all E occupancies having swimming pools and in all publicly financed swimming pools accessibility shall be provided into the pool. Accessibility shall be by means of a ramp complying with § 1.15505 A. of these rules or other similar approved means equal in functional accessibility.

~~Table 55A~~
~~Sanitation Facilities for the Handicapped~~

~~Number of Dwelling Units/ Guest Rooms in Building~~	~~Number of Dwelling Units/Guest Rooms requiring Sanitation Facilities~~
~~0- 7~~	~~0~~
~~8- 39~~	~~1~~
~~40- 59~~	~~2~~
~~60- 79~~	~~3~~
~~80- 99~~	~~4~~
~~100-119~~	~~5~~
~~120-139~~	~~6~~
~~140-159~~	~~7~~
~~160-179~~	~~8~~
~~180-199~~	~~9~~
~~200~~	~~10 plus 1 per each 50 units exceeding 200~~

~~Table 55B~~
~~Viewing Positions~~

~~Occupant Load~~	~~Minimum Viewing Positions~~
~~Motion Picture Auditoriums~~	
~~500 and Less~~	~~4~~
~~Over 500~~	~~8~~
~~Other Assembly Occupancies~~	
~~500 and Less~~	~~4~~
~~501-1000~~	~~12~~
~~1001-1500~~	~~16~~
~~Over 1500~~	~~16 plus 1 per 500 additional~~

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

Table 55-A
Ratio of Units to Have Facilities for the Handicapped

Column I Number of Dwelling Units/Guest Rooms in Development	Column 2 Number Required to have facilities
0-3	0
4-19	1
20-39	2
40-59	3
60-79	4
80-99	5
100-119	6
120-139	7
140-159	8
160-179	9
180-199	10
200 and over	10 plus 1 for each additional 50 units or fraction thereof

Table 55-B
Required Accessible Seating

Occupant Load of Seating Area	Minimum Number of Accessible Seats
Less than 500	4
500-999	12
1000-1499	16
1500 and over	16 plus 1 for each additional 500 seats or fraction thereof

Table 55-C
Ratio of Off Street Parking Spaces for Vehicles Transporting Handicapped Persons

Total Number of Parking Spaces Provided	Number of Spaces Required for Handicapped Usage	Number Required for Handicapped Usage (I-1) Occupancies
5 or less	Optional	1
6-25	1	2
26-50	2	4
51-250	2 plus 1 additional per 50 parking spaces over 50	4 plus 1 additional per 25
251-1000	6 plus 1 additional per 100 parking spaces over 250	4 plus 1 additional per 25

NUMBER OF SPACES REQUIRED FOR HANDICAPPED USAGE FOR R-1 OCCUPANCIES (See Table 55A)
1 per accessible dwelling unit

Table 55-D
Corridors, Hallways and Aisles Which Have Doors or Doorways

Hallway Width or Other Nearest Obstruction	Clear Usable Opening of Doorway Required
36 inches	38 inches
38 inches	34 inches
42 inches	32 inches

This table shall apply wherever it is necessary to turn a wheelchair from an aisle, hallway or corridor into a doorway or from a doorway into an aisle and hallway or corridor.

Section IV

Proposed Amendments to the Elevator Code Including Provisions for Wheelchair Lifts for Existing Buildings

2 MCAR § 1.18801 Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts. General. Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property.

2 MCAR § 1.18802 Definitions. For the purpose of this chapter, the terms or words listed below shall have the meaning indicated:

Existing installation. Shall mean an installation on which the construction or installation was begun prior to the effective date of this Code.

New installation. Shall mean an installation on which the construction or installation was begun subsequent to the effective date of this Code.

2 MCAR § 1.18803 Existing installations. is amended to read as follows:

A. All existing installations may be continued in service as long as they are properly maintained and are, in the opinion of the administrative authority, installed and maintained in a safe condition. The Administrative Authority may order the installation of car gates, car tops, and the car walls extended to the car top on all existing installations. The administrative authority shall have the authority to shut down any piece of equipment covered by this chapter, which in his opinion is dangerous to life, limb, and adjoining property, and such equipment shall not be put back into operation until such unsafe condition has been corrected and approved by the Administrative Authority.

B. Any installation which is materially changed subsequent to the date of enactment of this Code shall comply with all of the requirements covering a new installation.

A material change shall be defined as any change which moves the location, increases or decreases the length of travel, changes the type of operation, increases the speed or carrying capacity or changes the types of power supply of an existing installation.

Any installation, whether new or existing, which shall become damaged, defective or worn by fire or other causes including ordinary wear to such an extent that in the opinion of the administrative authority it becomes dangerous to life, limb and adjoining property, such installations shall be repaired or rebuilt in conformity with the provisions of this chapter for new installations. Such equipment shall, if in the opinion of the administrative authority, it is found necessary to protect life, limb and property, be taken out of service until such unsafe condition has been removed.

Following section relocated from 2 MCAR § 1.18806 B.14.

C. Unsafe conditions. When an inspection reveals an unsafe condition, the inspector shall immediately file with the owner and the Administrative Authority a full and true report of such inspection and such unsafe condition. If the Administrative Authority finds that the unsafe condition endangers human life, he shall cause to be placed on such elevator, escalator or moving walk in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the Administrative Authority. The Administrative Authority shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance which are necessary to render it safe, and may order the operation thereof discontinued until the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only by the Administrative Authority when he is satisfied that the unsafe conditions have been corrected.

2 MCAR § 1.18804 Inspection, tests and approval. is amended to read as follows:

A. Approval of plans. Any person, firm or corporation desiring to install, relocate, alter materially or extend any installation covered by this chapter shall be required to obtain approval for so doing from the administrative authority. Two sets of drawings and specifications showing such installations, relocation, alteration or extension shall be submitted for approval.

B. Inspections and tests. It shall be unlawful for any person, firm or corporation to put into service any installation covered by this chapter whether such installation is newly installed, relocated or altered materially without such installation being inspected and approved by the administrative authority. The installer of any equipment included in this chapter shall notify the administrative authority seven days prior to completion of the installation for such inspection. The administrative authority shall have the authority to require such tests as provided in ANSI A17.1-~~1971~~ 1978 Edition and Supplement as he may deem necessary to prove the safe operation of any installation.

C. Approval. A certificate or letter of approval shall be issued by the administrative authority for such installation when the entire installation is completed in conformity with this chapter. The entire installation shall include all enclosures or shafts, gates, doors, machinery safety and control devices and all other appurtenances necessary.

Following Section Relocated from 2 MCAR § 1.18806 C.

D. Limited use of an elevator. When a building or structure is to be equipped with one or more elevators, at least one of such elevators may be approved for limited use prior to the completion of the building or structure. The use of such elevators may be permitted by the administrative authority under the authority of a limited permit issued by him for each class of service. Such limited permit shall specify the class of service. Such limited permit shall specify the class of service permitted and it shall not be issued until the elevator has been tested with rated load and the car safety and terminal stopping equipment have been tested to determine the safety of the equipment and until permanent or temporary guards or enclosures are placed on the car and around the hoistway and at the landing entrance on each floor. Landing entrance guards shall be provided with locks that can be released from the hoistway side only. Automatic and continuous pressure elevators shall not be placed in temporary operation from the landing push buttons unless door locking devices and/or interlocks are installed and operative.

2 MCAR § 1.18805 Accidents.

A. To be reported. The owner or person in control of an elevator or other installation covered by this chapter shall promptly notify the administrative authority of any accident to a person or apparatus, on, about, or in connection with such elevator or other installation, and shall afford the administrative authority every facility for investigating such accident and the damage resulting therefrom. Notification may be given to the administrative authority by telephone or verbally, but such notification shall be confirmed in writing.

B. Investigation. The administrative authority shall make or cause to be made an investigation of the accident and the report of such investigation shall be placed on file in his office. Such report shall give in detail the cause or causes, so far as they can determine, and such report shall be open to public inspection.

C. Operation discontinued. When an accident involves the failure or destruction of a part of the installation or the operating mechanism, the elevator or other installation shall be taken out of service and shall not be used again until it has been made safe and such re-use approved by the administrative authority.

The administrative authority may, if deemed necessary, order the discontinuance of operation of any such elevator or installation until a new certificate of approval has been issued.

D. Removal of parts restricted. No part of the damaged installation, construction or operating mechanism shall be removed from the premises until permission is granted by the administrative authority.

2 MCAR § 1.18806 Elevators, dumbwaiters, escalators and moving walks. is amended to read as follows:

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

A. The ~~eighth~~ ninth edition of the American National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks — ANSI A17.1-~~1971~~, 1978 including supplements ANSI A17.1a-~~1972~~, 1979, ~~A17.1b-1973,~~ ~~as amended herein. ANSI A17.1e-1974,~~ ANSI ~~A17.1d-1975, ANSI A17.1e-1975, ANSI A17.1f-1975 and ANSI A17.1g-1976~~ is hereby incorporated by reference and made a part of this Code. All references in ANSI A17.1-~~1971~~, 1978 and supplements, to the National Electrical Code ~~ANSI C1-1968 and ANSI C1-1971~~ shall be changed to read: "National Electrical Code" ANSI C1 1978 (NFPA 70-1978).

B. Exceptions ~~and Amendments~~ to ANSI A17.1.

1. Winding drum machine. Winding drum machines shall not be permitted on new elevators installations nor replacements on existing installation.

2. Swing doors. Horizontal swing doors, either single section or center opening two section, shall not be permitted on new elevator installations nor as replacements on existing installations, except the administrative authority may approve such installation if the conditions are such as to make it impossible to install other than swing doors.

3. Side exits. Side emergency exits on elevator cars shall not be permitted.

~~4. Solid bumpers. Solid bumpers shall be not permitted on new installations nor as a replacement on existing installations.~~

~~5. Clearances. The minimum pit depth shall be not less than three (3) feet. Overhead clearance shall be not less than two (2) feet with piston in stop ring and in no case less than three (3) feet when car is leveled at top landing.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 111.9e).

~~6. Door unlocking devices hoistway door unlocking devices shall not be permitted except at the bottom landings.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 111.9b).

~~a. Top and bottom landings shall be provided with hoistway access switches conforming to Rule 111.9b and 111.9e of ANSI A17.1-1978. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 111.9e).

~~b. The door at the lowest landing shall be provided with a special key not easily duplicated and said key shall be available only to elevator mechanics and inspectors. The interlocks shall be designed and adjusted as to prevent movement of the car until after the door is closed and in the locking position.~~

~~c. Access to hoistways for emergency purposes.~~

~~(1) The elevator shall have hoistway doors which are unlocked when closed with the car at floor, or locked but openable from landing by means effective only when car is in landing zone.~~

~~(2) The operating means for unlocking the doors shall be kept on the premises by the person responsible for the maintenance and operation of the elevators in a location readily accessible to qualified persons in case of an emergency but where they are not accessible to the general public.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 110.2a).

~~7. Elevator doors shall provide a clear opening of at least 32 inches.~~

~~8. Automatic closing doors shall have a closing interval of not less than three (3) seconds except center opening horizontal sliding doors.~~

4. ~~9.~~ In each elevator lobby served by elevators complying with ANSI rule 211.3 of ~~the supplement to~~ the Elevator Code identified as ANSI A17.1-~~1973~~ 1978, all automatic-operation elevators serving three or more stories above or below the main floor or having a travel of twenty-five (25) feet or more above or below the main floor, at least one elevator car serving all floors in a building shall have a platform size that is standard for the elevator supplier, and capable of accommodating an ambulance stretcher in its horizontal position. The opening to the elevator car shall be capable of passageway for such ambulance stretcher.

5. ~~10.~~ Exterior elevator call buttons shall be placed not higher than 60 inches above the floor. No emergency stop switch, door opening and door closing buttons, or elevator floor buttons shall be placed higher than 60 inches above the floor.

6. ~~11.~~ Standby power. In every building over one story and more than 75 feet in height, emergency power shall be provided for at least one passenger elevator in each bank. This emergency power shall be transferable to any other elevator in the bank and shall be capable of operating the elevator with a full load at contract speed or not less than 150 feet per minute. Emergency power shall be provided by an approved self-contained generator set to operate whenever there is a loss of power in the normal power supply. The generator shall be in a separate room having at least a one-hour fire resistive occupancy separation from the remainder of the building and shall have an on site fuel supply adequate to operate the equipment for two hours. See UBC Standards 18-1.

This section relocated to 2 MCAR § 1.18806 C. (Rule 211.a).

~~12. Emergency communications. Every elevator car shall be provided with a two way communication system connected to an approved emergency service which operates 24 hours every day.~~

7. ~~13.~~ Operating devices. All operating devices shall be of the enclosed electric type. Rope or rod operated devices

activated by hand, or rope operating devices activated by wheels, levers or cranks, shall be removed. EXCEPTION: This shall not be considered a material change.

This section relocated to 2 MCAR § 1.18803 C.

~~14. Unsafe conditions. When an inspection reveals an unsafe condition the inspector shall immediately file with the owner and the Administrative Authority a full and true report of such inspection and such unsafe condition. If the Administrative Authority finds that the unsafe condition endangers human life, he shall cause to be placed on such elevator, escalator or moving walk in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the Administrative Authority. The Administrative Authority shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance which are necessary to render it safe, and may order the operation thereof discontinued until the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only by the Administrative Authority when he is satisfied that the unsafe conditions have been corrected.~~

~~15. A guard light and convenience outlet shall be provided on the top and underside of each elevator car.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 100.4a).

~~16. a. ANSI 100.4a Vents required. Hoistways of elevators serving more than three (3) floors shall be provided with means of venting smoke and hot gases to the outer air in case of fire. Vents may be manually openable or remote control automatic vents.~~

Exceptions: Hoistways not extending into the top floor of the building, in buildings other than hotels, apartment houses, hospitals and similar buildings with overnight sleeping quarters, where the hoistways are equipped with approved automatic sprinklers connected to the building water-supply system or to an approved automatic sprinkler system (See NFPA No. 13-1976 Sprinkler System.)

~~Such systems shall be responsive to an accumulation of smoke as well as heat the top of the hoistway.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 100.4b).

~~b. ANSI 100.4b Location of vents.~~

~~(1) In the side or top of the hoistway enclosure or directly below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air; or~~

~~(2) In the wall or roof of the pent-house or overhead machinery space above the roof, provided that openings have a total area not less than the minimum specified in ANSI Rule 100.4e and vents passing through machine rooms must be in noncumbustible ducts. When a vent is installed in the roof of the hoistway, a protective grill shall be provided to prevent persons from falling into hoistway.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 204.2.2.).

~~17. ANSI 204.2a 2. Slow burning combustible materials for insulating, sound deadening or decorative purposes may be used for lining enclosures if firmly bonded flat to the enclosure. Such materials shall not be padded. Materials used must have a Class I flame spread rating.~~

This section relocated to 2 MCAR § 1.18804 D.

~~C. Limited use of an elevator. When a building or structure is to be equipped with one or more elevators, at least one of such elevators may be approved for limited use prior to the completion of the building or structure.~~

~~The use of such elevators may be permitted by the administrative authority under the authority of a limited permit issued by him for each class of service. Such limited permit shall specify the class of service.~~

~~Such limited permit shall specify the class of service permitted and it shall not be issued until the elevator has been tested with rated load and the car safety and terminal stopping equipment have been tested to determine the safety of the equipment and until permanent or temporary guards of enclosures are placed on the car and around the hoistway and at the landing entrance on each floor. Landing entrance guards shall be provided with locks that can be released from the hoistway side only. Automatic and continuous pressure elevators shall not be placed in temporary operation from the landing push buttons unless door locking devices and/or interlocks are installed and operative.~~

~~D. Access to elevator pits. A pit ladder shall be provided for each elevator in all pits where access is from the bottom landing. Access to elevators pits which extend more than eighteen (18) inches below the sill of the pit access door shall have a pit ladder as required.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 602.1 and 703.1).

~~E. Dumbwaiters and handpowered elevators. All dumbwaiters and handpowered elevators shall be equipped with a broken rope safety device.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 206.4C).

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

~~F. Car safety mechanism switch. Car safety mechanism switches shall be of the manually reset type.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 112.5).

~~G. Hoistway door protection in passenger elevators. Hoistway doors on all passenger elevators shall not be solely dependent upon the door edge reopening device for protection from the doors closing on an obstruction, but shall also be provided with an approval light beam or electronic door protection device.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 211.3a).

~~H. Emergency elevators. All keyed switches installed to operate elevators on emergency service will be required to be keyed alike to a pattern approved by the Administrative Authority. In lieu of the above, keys for emergency elevator service may be in a metal box placed in a location approved by the Administrative Authority, provided said box is locked with a 5 pin tumbler core lock or equivalent which is keyed to the same pattern.~~

This section relocated to 2 MCAR § 1.18806 C. (Rule 211.3a).

~~I. One (1) car in each bank of automatic operation elevators serving five (5) or more floors above or below the main floor shall be provided with emergency service controls as specified in ANSI Rule 211.3a of this supplement. ANSI Rule 211.3a-4. A two position (off and on) key operated switch shall be provided in or adjacent to an operating panel in each car and it shall be effective when the main floor key operated switch (see 211.3a-1) is in the "on" position or a sensor has been activated and the car has returned to the main floor or other approved level. The key shall be removable only in the "off" position and when in the "on" position, it shall place the elevator on emergency operation.~~

C. Amendments to ANSI A 17.1-1978.

ANSI A17.1-Rule 100.4a is amended to read as follows:

100.4a-Vents required. Hoistways of elevators serving more than three (3) floors shall be provided with means for venting smoke and hot gases to the outer air in case of fire. Vents may be manually openable or remote control automatic vents. Location of operating devices are subject to approval of the Fire Chief.

Exceptions. Hoistways not extending into the top floor of the building, in buildings other than hotels, apartment houses, hospitals and similar buildings with overnight sleeping quarters, where the hoistways are equipped with approved automatic sprinklers connected to the building water-supply system or to an approved automatic sprinkler system (See NFPA No. 13-1976 Sprinkler Systems). Such systems shall be responsive to an accumulation of smoke as well as heat at the top of the hoistway.

ANSI A17.1-Rule 100.4b is amended to read as follows:

100.4b Location of vents. Vents shall be located:

1. In the side of the hoistway enclosure directly below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air; or

2. In the wall or roof of the penthouse or overhead machinery space above the roof, provided that openings have a total area not less than the minimum specified in Rule 100.4c. Vents passing through machine rooms must be in noncombustible ducts. When a vent is installed in the roof of the hoistway, a protective grill shall be provided to prevent persons from falling into hoistway.

ANSI A17.1-Rule 101.5a is amended to read as follows:

101.5a Lighting. Permanent electric lighting shall be provided in all machine rooms and machinery spaces.

The illumination shall be not less than ten (10) foot-candles at the floor level. The lighting control switch shall be located within easy reach of the access to such rooms or spaces. Where practicable, the light control switch shall be located on the lock-jamb side of the access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the machine room. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1-Rule 106.1e is amended to read as follows:

106.1e Illumination of pits. A permanent lighting fixture shall be provided in all pits, which shall provide an illumination of not less than five (5) foot-candles at the pit floor. A light switch shall be provided and shall be so located as to be accessible from the pit access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the pit. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1-Rule 110.2a is amended to read as follows:

ANSI A17.1-Rule 110.2a-For Passenger Elevators and Freight Elevators Authorized to Carry Employees.

Entrances shall be one of the following types:

1. Horizontal side, single or multisection.

2. Swing, single-section.

3. Combination horizontal slide and swing.

4. Power-operated, vertical slide biparting counterbalanced, or vertical slide counterweighted which slide down to open, where located at entrances used by passenger (See Rule 207.4).

5. Hand or power-operated vertical slide which slide up to open.

Exception: At landing openings used exclusively for freight, any type of entrance permitted by Rule 110.2b.

6. Elevator doors shall provide a clear opening of at least 32 inches.

ANSI A17.1-Rule 111.9b is amended to read as follows:

111.9b-Location and Design of Hoistway Access Switches.

Hoistway access switches shall conform to the following:

1. ~~The switch shall be installed only at the access landings.~~ Hoistway access switches shall be provided at top and bottom landings. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.

2. The switch shall be installed adjacent to hoistway entrance at the access landing with which it is identified.

3. The switch shall be of the continuous-pressure spring-return type, and shall be operated by a cylinder-type lock having not less than a five (5) pin or five (5) disc combination with the key removable only when the switch is in the "OFF" position. The lock shall not be operable by any key which will operate locks or devices used for other purposes in the building. The key shall be available to and used only by inspectors, maintenance men, and repairmen.

ANSI A17.1-Rule 111.9e is amended to read as follows:

111.9e-Location and design of hoistway door unlocking devices. Hoistway door unlocking devices shall conform to the following:

1. The device shall unlock and permit the opening of the hoistway door from the ~~access~~ lowest landing irrespective of the position of the car.

2. The device shall be installed only at the ~~access~~ lowest landings. Exception: For Emergency use see Rule 111.10.

3. The device shall be designed to prevent unlocking the door with common tools.

4. The operating means for unlocking the door shall be ~~available to and used only by inspectors, maintenance men, and repairmen.~~ provided with a special key not easily duplicated, and said key shall be available only to elevator mechanics and inspectors. The interlocks shall be designed and adjusted as to prevent movement of the car until after the door is closed and in the locking position.

5. The unlocking-device keyway shall be located at a height not greater than six (6) feet eleven (11) inches above the floor.

Note: For diagrammatic representation See Appendix C.

ANSI-A17.1 Rule 112.5 is amended to read as follows:

ANSI A17.1-Rule 112.5-Reopening device for power-operated car doors or gates. Where required by Rule 112.3d or Rule 112.4, a power-operated car door or gate shall be provided with a reopening device which will function to stop and reopen a car door or gate and the adjacent hoistway door in the event that the car door or gate is obstructed while closing. If the closing kinetic energy is reduced to two and one-half (2½) foot pounds or less, the reopening device may be rendered inoperative (See Rule 112.4-a).

For center-opening doors, the reopening device shall be so designed and installed that the obstruction of either door panel when closing will cause the reopening device to function.

Hoistway door protection in passenger elevators. Hoistway doors on all passenger elevators shall not be solely dependent upon the door edge reopening device for protection from the doors closing on an obstruction, but shall also be provided with an approved light beam or electronic door protection device.

ANSI A17.1-Rule 204.2a is amended to read as follows:

204.2a-Material for Enclosures and Enclosure Linings.

Car enclosures and car-enclosure linings shall conform to the following:

1. Material for enclosures shall be:

   a. Metal; or

   b. Fire-retardant-treated wood; or

   c. Other equally fire retardant approved material.

Exception: Non-fire-retardant treated wood or materials of equivalent combustible characteristics may be used if all exterior surfaces of the enclosure are covered with sheet metal not less than No. 27 U.S. gage or other equally fire-retardant material or are protected by painting with an approved fire-retardant paint having a flame spread rating of not over 50, applied in accordance with the instructions of the manufacturer. Such ratings shall be based on the test procedure specified in ANSI/ASTM E84.

2. Slow burning combustible materials for insulating, sound deadening or decorative purposes may be used for lining enclosures if firmly bonded flat to the enclosure. Such materials shall not be padded ~~or tuffed.~~ Materials must have a Class 1 Flame Spread Rating.

Exception: Padded protective linings used temporarily in passenger cars during the handling of freight, provided the pads are made of fire-retardant material or treated with an acceptable fire retardant. The fire retardant-treatment shall be renewed as needed. The protective linings shall clear the floor of the car by not less than four (4) inches.

ANSI A17.1-Rule 206.4c is amended to read as follows:

206.4c-Type of speed-governor overspeed switches, speed-reducing switches, and car-safety-mechanism switches required. Switches used to perform the function specified shall

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be positively opened. Overspeed and speed-reducing switches permitted by the exception to Rule 206.4b and operated by the speed governor shall remain in the open position until manually reset. Switches operated by the car safety mechanism shall be ~~of a type which will not reset unless the car safety mechanism has been returned to the off position.~~ the manually reset type.

ANSI A17.1-Rule 211.1 is amended to read as follows:

~~Rule 211.1 Car Emergency Signals for Elevators Operated Without a Designated Operator in the Car.~~

~~Elevators which are operated at any time without a designated operator in the car shall be provided with the following signal devices:~~

~~a. In all buildings, the elevators shall be provided with the following system:~~

~~1. An audible signaling device operable from the car, located inside the building and audible outside the hoistway. One device may be used for a group of elevators.~~

~~2. Means of two-way conversation between each elevator and a readily accessible point outside the hoistway. (Telephone, intercom, etc.).~~

~~3. If the audible signaling device, or the means of two-way conversation, or both, are normally connected to the building power supply, they shall automatically transfer to a source of emergency power within ten (10) seconds after the normal power supply fails. The power source shall be capable of providing for the operation of the audible signaling device for at least one (1) hour and the means of two-way conversation for at least four (4) hours.~~

~~b. In buildings in which an attendant or watchman is not continuously available to take action when the required emergency signal is operated, the elevators shall be provided with one of the following additional emergency signal devices:~~

~~1. A telephone connected to a central telephone exchange system.~~

~~2. A weatherproof audible signalling device with a minimum rating of eighty (80) decibels operable from inside the car and identified "ELEVATOR EMERGENCY CALL POLICE", in letters not less than two (2) inches high. The device shall be mounted on the outside of the building near the main entrance and located so that the sign can be read from the entrance sidewalk. Only one (1) outside signal is required if operable from all cars of all elevators of the type specified in the building.~~

~~An emergency power system shall be provided conforming to the requirements of Rule 211.1-a-3.~~

~~3. Means within the car for communicating with or signaling to an approved emergency service which operates twenty-four (24) hours each day.~~

~~c. The systems required by Rule 211.1a and b shall be inspected and tested during the inspections specified by Rules 1000.1 and 1001.1.~~

Rule 211.1 Emergency communications. Every elevator car shall be provided with a two-way communication system connected to an approved emergency service which operates 24 hours every day.

ANSI A17.1-Rule 211.3a is amended to read as follows:

211.3a-Automatic-Operation elevators. All automatic-operation elevators serving three or more landings or having a travel of twenty-five (25) feet or more, shall conform to the following:

1. A three position (on, off, and by-pass) key-operated switch shall be provided at the main floor for each single elevator or for each group of elevators. The key shall be removable only in the "on" and "off" positions. When the switch is in the "on" position, all elevators controlled by this switch and which are on automatic service shall return nonstop to the main floor, and the doors shall open and remain open.

a. An elevator traveling away from the main floor shall reverse at the next available floor without opening its doors.

b. Elevators equipped with automatic power-operated doors and standing at a floor other than the main floor, with doors open, shall close the doors without delay, and proceed to the main floor.

c. Door reopening devices for power-operated doors which are sensitive to smoke, heat or flame shall be rendered inoperative.

d. All car and corridor call buttons shall be rendered inoperative and all call registered lights and direction lanterns shall be extinguished and remain inoperative.

e. A car stopped at a landing shall have its "Emergency Stop Switch" rendered inoperative as soon as the doors are closed and it starts toward the main floor. A moving car, traveling to or away from the main floor, shall have its "Emergency Stop Switch" rendered inoperative immediately.

f. A sensor in each elevator lobby, which when activated prevents cars from stopping at that floor, shall not be substituted for the above requirements.

2. Sensing devices. In addition to the key-operated switch required in 1 above, heat and smoke or products of combustion sensing devices shall be installed in accordance with NFPA No. 72D 1975 in each elevator lobby at each floor, except the main floor. The activation of a sensing device in any elevator lobby shall cause all cars in all groups that serve that lobby to return nonstop to the main floor. The operation shall conform to the requirements of 211.3a-1-a to 211.3a-1-e. The key-operated switch required by 211.3a-1, when moved to the "by-pass" position, shall restore normal service independent of the sensing devices.

Exceptions:

(1) Elevators in buildings which are completely protected

by an automatic sprinkler system (See NFPA No. 13 1976 Sprinkler Systems).

(2) Freight elevators located in or at openings into manufacturing areas.

(3) Elevator lobbies at unenclosed landings.

3. Elevators without a terminal landing at grade level shall be returned to that landing closest to grade level or other approved level and shall conform to the requirements of 211.3a-1, -2, -3, -4, -5, -6.

4. One (1) car in each bank of automatic-operation elevators serving five (5) or more floors above or below the main floor or having a travel of fifty (50) feet or more above or below the main floor ~~All elevators having a travel of seventy (70) feet or more and elevators having a terminal landing seventy (70) feet or more above the lowest grade elevation surrounding the building~~ shall be provided with the following operation:

A two position (off and on) key-operated switch shall be provided in or adjacent to an operating panel in each car and it shall be effective only when the main floor key-operated switch (211.3a-1) is in the "on" position or a sensing device has been activated and the car has returned to the main floor or other approved level. The key shall be removable only in the "off" position and when in the "on" position, it shall place the elevator on emergency operation.

The operation of elevators on emergency service shall be as follows:

a. An elevator shall be operable only by a person in the car.

b. Elevators shall not respond to elevator corridor calls.

c. The opening of power-operated doors shall be controlled only by continuous pressure "open" buttons of switches. If the switch or button is released prior to the doors reaching the fully open position, the doors shall automatically reclose. Open doors shall be closed by either the registration of a car call or by pressure on "door close" switch or button.

d. Elevator shall be removed from emergency service by moving the emergency service key-operated switch in the car to the "off" position with the car at the main floor.

5. Multi-deck elevators shall conform to the requirements of 211.3a-1, -2, -3, -4, -6, and to additional requirements as follows:

a. The key-operated switch required by 211.3a-1 may be located at either main lobby.

b. The key-operated switch in the car required by 211.3a-4 for emergency service operation shall be located in the top deck. The elevators shall be provided with means for placing the lower deck out of service including closing of car and hoistway doors. The lower deck shall be out of service before the emergency service operation from the top deck becomes effective. The means for placing the lower deck out of service shall be located in that deck or adjacent to the entrance in the corridor.

6. The switches required by 211.3a-1 ~~and 211.3a-4~~ shall be operated by the same key but which is not a part of a building master key system. There shall be a key for the main floor switch and for each elevator in the group and these keys shall be kept on the premises by persons responsible for maintenance and operation of the elevators, in a location readily accessible to authorized persons, but not where they are available to the public.

7. The switches required by 211.3a-4 shall conform to the following:

Emergency elevators. All keyed switches installed to operate elevators on emergency service shall be required to be keyed alike to a pattern approved by the Administrative Authority. In lieu of the above, keys for emergency elevator service may be in a metal box placed in a location approved by the Administrative Authority, provided said box is locked with a 5 pin tumbler core lock or equivalent which is keyed to the same pattern.

ANSI A17.1-Rule 602.1 is amended to read as follows:

Rule 602.1-Car safeties. Elevators having a travel of more than fifteen (15) feet shall be provided with a car safety, attached to the underside of the car frame, capable of stopping and sustaining the car and rated load.

The car safety device is not required to be operated by a speed governor, and may be of the instantaneous type operated as a result of the breaking or slackening of the suspension members.

Where the travel exceeds forty (40) feet, driving machines having hand-operated brakes shall also be equipped with an automatic speed retarder.

All handpowered elevators shall be equipped with a broken rope safety device.

ANSI A17.1-Rule 703.1 is amended to read as follows:

Rule 703.1-Where required. Car and counterweight safeties shall not be required except for protection of spaces below hoistways for all dumbwaiter cars and counterweights having a rated load over twenty-five (25) pounds. Where required, the car and counterweight safeties may be operated as a result of breaking the suspension means and may be of the inertia type without governors. Car safeties may be located in the car crosshead.

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All dumbwaiters shall be equipped with a broken rope safety device.

2 MCAR § 1.18807 Stage and orchestra lifts. Stage and orchestra lifts shall be designed, installed, constructed and maintained so as to be reasonably safe to life, limb and adjoining property and shall be approved by the administrative authority prior to installation or construction.

2 MCAR § 1.18808 Manlifts. Manlifts shall be designed, installed, constructed, and maintained so as to be reasonably safe to life, limb, and adjoining property and shall conform to the standards specified in the American National Safety Code for manlifts, ANSI A90.1-1969 and Regulations of the Department of Labor and Industry. 8 MCAR 1.7120-1.7129.

2 MCAR § 1.18809 Temporary interior and exterior hoists. Temporary interior and exterior hoists shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, shall conform to Safety Requirements for Workman's Hoists, ANSI 10.4-1963, Safety Requirements for material hoists, ANSI 10.5-1969 and Regulations of the Department of Labor and Industry.

2 MCAR § 1.18810 Mechanical parking garage equipment. Mechanized parking garage equipment shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, shall conform to the standards specified in the American Standard Safety Code for Mechanized Parking Garage Equipment ANSI A113.1 (R-1971).

~~See. 1.18901 Special provisions for handicapped persons is deleted in its entirety. (2 MCAR 1.18901 is reserved for future use).~~

Standards for Wheelchair Elevating Devices

Add new Sections 2 MCAR §§ 1.18811-1.18813 to read as follows:

2 MCAR § 1.18811 Standards for wheelchair elevating devices.

A. Applicability.

1. These rules apply to electric powered vertically traveling elevating devices used to raise or lower physically handicapped persons from one level to another in existing buildings, hereinafter in these rules referred to as a device.

2. The device shall conform to all applicable sections of ANSI A17.1-1978 National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks, which are directly referred to in these rules.

2 MCAR § 1.18812 Hoistways, hoistway enclosures.

A. Hoistway walls shall be provided on all sides of the device not used for entrance or exits. Walls shall be fully enclosed and of non-combustible material. Walls shall extend to a height of at least the top terminal landing level. When terminated at top landing level or any level below 42" above top terminal landing a guard rail conforming to UBC § 1716 shall be provided.

B. Strength of enclosure. See Rule 100.1e.

C. Construction at top of hoistway. A ceiling at the top of the hoistway is not required unless a hazard exists from falling objects from overhead. When a ceiling is provided it must be noncombustible material and must reject a ball 1" in diameter. Minimum clear headroom 7'-0".

D. Construction at bottom of hoistway. A pit is not required, but when provided it shall be designed as to prevent entry of ground water. The floor at the bottom level shall be designed to accept the loads imposed upon it. (UBC Chapter 23).

E. All ramp surfaces leading to or from the device shall be of the nonskid type. Ramps slope shall not exceed a ratio of 1 vertical to 12 horizontal.

F. Devices shall not be exposed to the outside elements.

G. Projections recesses and setbacks in hoistway enclosures, see Rule 100.6 and Rule 110.10A (Omit Item 1 only).

H. Means shall be provided to prevent movements of platform when loading or unloading.

I. For electrical wiring, pipes and ducts in hoistways and machine rooms, see Rule 102.

J. Location of device. The device may be installed in a stair enclosure or exit system provided it does not reduce or obstruct exit widths as required in UBC Chapter 33.

K. All exposed equipment on a device shall be guarded to protect against accidental contact which could cause bodily injury.

L. A movable barrier (or gate) at the upper terminal landing shall be installed to prevent a wheelchair from rolling off end of landing while waiting for the device. All movable barriers are to be self closing when the platform leaves the floor level. Means shall be provided so barrier can not be opened unless platform is in the top landing zone. When the movable barriers to the device are power operated they must meet all requirements of § 1, Rule 112.

M. The terminal landings shall be permanently fastened, and constructed so as to safely carry the imposed loads.

N. Upper terminal ramp or landing shall be provided with guard rails on open sides.

O. Lighting shall conform to Rule 204.7(a).

P. The device shall be permanently anchored and maintained in a level position.

Q. Guardrails shall be provided to protect against access to the area of the bottom terminal landing when skirt is utilized as a loading ramp.

R. The running clearance from front or rear to the permanent hoistway enclosure shall not be more than 1" nor less than ½".

2 MCAR § 1.18813 Machinery and equipment for the devices.

A. The frame and platform shall be of steel or approved non combustible material. The platform shall not be larger than 42" wide by 60" long and not less than 36" wide x 48" long (inside dimensions).

B. The rated capacity shall be not less than 420 lbs. nor less than 35# per square foot.

C. The device shall be designed to insure a safety factor of 5.

D. Welding on the device shall conform to rule 203.7.

E. Means shall be provided on vertical traveling devices to prevent access below the platform when it is in the raised position.

F. When a skirt is provided, they must be solid (not perforated or grilled), and may be hinged or collapsible type. If of hinged or collapsible type they shall have a switch to cut off the power to the driving machine in case of accidental contact with any object while device is moving downward. The required pressure on the skirt to make the switch function shall not exceed 4 lbs.

G. Means shall be provided to prevent wheelchair from rolling off platform when in operation.

H. The speed of the device shall not exceed 15 feet per minute in either direction under full load conditions.

I. The total travel of the device shall not exceed 54".

J. 1. Operating means shall be provided by the use of a universal key or magnetic card available and restricted to key personnel and physically handicapped persons.

2. Operation shall be by continuous pressure, key operated switches. Switches shall be arranged so that they will not remain in the run position unless held in position and will automatically return to the "off" position if released. Key switches shall be so located as to permit an unobstructed view of the entire length of the travel of the device.

3. A slack cable or chain switch shall be provided where applicable.

4. An upper and lower terminal stopping switch shall be provided to stop the device at the terminal landings.

5. The device shall conform to Rule 501.11b for emergency stop switch in car and Rule 501.11c for control and operating circuit requirements.

K. A mechanical stop shall be provided at the top and bottom. Overtravel and undertravel shall not be more than 1" until the mechanical stop is reached. Stops shall be designed to stop the car at full load, full speed in both directions and have a safety factor of not less than 5.

L. A data plate shall be installed under the platform which shall contain: car weight, capacity, total load, and speed plus total load, and speed plus total weight of device.

M. A full load speed safety test shall be performed on an annual basis.

N. Covers to mechanism shall be removable, for inspection purposes.

O. A sign shall be placed inside the device indicating, "for use by physically handicapped persons only." Letters shall not be less than 2" high.

P. Maintenance shall be provided on the device and shall conform to applicable rules of Part 10.

Q. If the device is of the hydraulic type, the engineering shall conform to Rule 1302.

R. An alarm bell shall be installed in accordance with Rule 211.1 and shall be connected to a push button on car operating panel marked "alarm."

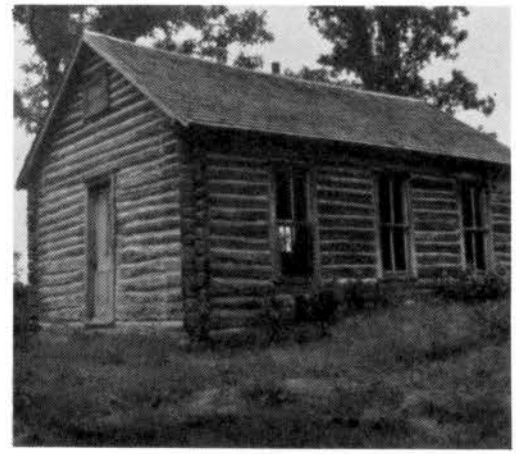
Section V

Proposed Amendment to the National Electrical Code

2 MCAR § 1.18601 Electrical.

NEC Table 220-2(b) is amended as follows:

Unit load per sq. ft. (Watts) for Banks and Office Buildings shall be reduced from 5 to 3.



THE SAUM SCHOOL, a log structure built in 1903, cost about one hundred dollars. The school and its furnishings have been preserved by the Beltrami County Historical Society. (Courtesy of Beltrami County Historical Society)

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Table 220-2(b). General Lighting Loads by Occupancies

Type of Occupancy	Unit Load per Sq. Ft. (Watts)
Armories and Auditoriums	1
Banks	~~5~~ 3
Barber Shops and Beauty Parlors	3
Churches	1
Clubs	2
Court Rooms	2
*Dwelling Units	3
Garages — Commercial (storage)	½
Hospitals	2
*Hotels and Motels, including apartment houses without provisions for cooking by tenants	2
Industrial Commercial (Loft) Buildings	2
Lodge Rooms	1½
Office Buildings	~~5~~ 3
Restaurants	2
Schools	3
Stores	3
Warehouses (storage)	¼
In any of the above occupancies except one-family dwellings and individual dwelling units of multifamily dwellings:	
Assembly Halls and Auditoriums	1
Halls, Corridors, Closets	½
Storage Spaces	¼

*All receptacle outlets of 20-ampere or less rating in one-family and multifamily dwellings and in guest rooms of hotels and motels [except those connected to the receptacle circuits specified in Section 220-3(b)] shall be considered as outlets for general illumination, and no additional load calculations shall be required for such outlets.

Section VI

Proposed Amendments to the Flood Proofing Regulations

2 MCAR ~~§ 1.10110~~ § 1.18901 Adoption of "Flood Proofing Regulations." Sections 100 through 1406 of the 1972 Edition of "Flood Proofing Regulations" (FPR) as promulgated by the Office of the Chief Engineers, U.S. Army, Washington, D.C. is incorporated by reference and hereby made a part of the State Building Code subject to the following amendments:

~~(FPR Sections 201.2 through 208.2 are placed in the appendix of this Code.)~~

FPR Section 200.2 is amended to read as follows:

Official Flood Plain Zoning Map: The Official Plain Zoning Map showiing the extent and boundaries of the Primary and Secondary Flood Hazard Areas is hereby declared and established as part of these Regulations. Hereinafter reference to term Primary Flood Hazard Areas in these regulations shall be synonymous with the term "flood plain areas" as used in the Minnesota Regulations NR 85-93.

FPR Section 200.3 is amended to read as follows:

Regulatory

Flood Datum: For the purpose of these regulations, the Regulatory Flood Datum, or as hereinafter referred to as the "RFD", is hereby declared and established for use as the reference datum for determining the elevation above mean sea level to which flood-proofing protection shall be provided. Hereinafter reference to the term "Regulatory Flood Datum" in these regulations shall be synonymous with the term "flood protection elevation" as used in Minnesota Regulations NR 85-93.

FPR Section 201.1 is amended to read as follows:

Application: These regulations shall apply to the construction, alteration, and repair of any building or parts of a building or structure in the Flood Hazard Area(s) of the municipalities. Additions, alterations, repairs and changes of use occupancy shall comply with all provisions for new buildings and structures as otherwise required in the Building Code, except as specifically provided in these Regulations.

FPR Section 201.2 is amended to read as follows:

This section shall apply unless equivalent provisions are incorporated in the Flood Plain Zoning Ordinance.

Nonconforming Use: A structure ~~of~~ or the use of a structure or premises which was lawful before the passage or amendment of the ordinance but which is not in conformity with the provisions of these Regulations may be continued subject to the following conditions:

1. No such use shall be expanded, changed, enlarged or altered in a way which increases its nonconformity.

2. No structural alteration, addition, or repair to any conforming structure over the life of the structure shall exceed 50 percent of its value at the time of its becoming a nonconforming use, unless the structure is permanently changed to a conforming use.

3. If such use is discontinued for 12 consecutive months, any future use of the building premises shall conform to these Regulations. The assessor shall notify the zoning administrator in writing of instances of non-conforming uses which have been discontinued for a period of 12 months.

4. If any nonconforming use or structure is destroyed by any means, including floods, to an extent of 50 percent or more of its assessed value, it shall not be reconstructed except in conformance with the provisions of these Regulations; provided, the Board of Appeals may permit reconstruction if the use or structure is located outside the floodway and is

adequately and safely flood-proofed, elevated, or otherwise protected in conformance with these Regulations.

5. Uses or adjuncts thereof which are or become nuisances shall not be entitled to continue as nonconforming uses.

~~6. Except as provided in "The Building Code," any use which has been permitted as a special exception shall not be deemed a nonconforming use but shall be considered a conforming use.~~

~~7.~~ 6. Any alteration, addition, or repair to any nonconforming structure which would result in substantially increasing its flood damage or flood hazard potential shall be protected as required by these Regulations.

~~8.~~ 7. The Building Official shall maintain a list of nonconforming uses including the date of becoming nonconforming, accessed value at the time of its becoming a nonconforming use, and the nature and extent of nonconformity. This list shall be brought up-to-date annually.

~~9.~~ 8. The Building Official shall prepare a list of those nonconforming uses which have been flood-proofed or otherwise protected in conformance with these regulations. He shall present such list to the Board of Appeals which may issue a certificate to the owner stating that such uses, as a result of these corrective measures, are in conformance with these Regulations.

FPR Section 203.3 is amended to read as follows:

Records. Copies of such tests, reports, certifications, or the results of such tests shall be kept on file in the office of the Building Official for a period of not less than two (2) years after the approval and acceptance of the completed structure for beneficial occupancy.

FPR Section 204.6 is amended to read as follows:

Board of Appeals: ~~In order to determine the suitability of alternate materials and methods of construction and to provide reasonable interpretations of the provisions herein, there shall be and is hereby created a Board of Appeals of five (5) members. Each member of the Board shall be a licensed professional architect or engineer, or builder or superintendent of building construction, with at least ten years experience, for five years of which he shall have been in responsible charge of work. At no time shall there be more than two members from the same profession. At least one of the members shall be licensed structural or civil engineer with architectural engineering experience. The Board shall adopt reasonable rules for its investigations and shall render written decisions to the Building Official.~~

See 2 MCAR § 1.10111, UBC § 204.

FPR Section 204.7 is amended to read as follows"

Validity: It shall be unlawful for any person, firm or corporation or agency (state or local) to erect, construct, enlarge, alter, repair, move, improve, remove, convert, or demolish, any building or structure in the Flood Hazard Area(s), or cause the same to be done, contrary to or in violation of any of the provisions of these Regulations and/or "The Building Code."

FPR Section 205.1 is amended to read as follows:

Statement of intention to improve. The Owner or any registered architect or licensed professional engineer authorized to represent the Owner shall, before preparing final plans for any improvement in the Flood Hazard Area(s), file with the Building Official a Statement of Intention to Improve, including a brief description of the type of improvement being considered and giving its precise location, on a form provided by the Building Official. The Building Official shall note on two copies the elevation of the RFD at the location of the proposed improvement. One copy of the Statement of Intention to Improve shall be retained by the Building Official until a permit copy for improvement on the site is approved or one year has elapsed; a second copy shall be returned to the Owner for his use in final siting and design of his improvement. Assignments of the RFD elevations at all locations shall be made from profiles and/or cross sections provided by the Army Corps of Engineers, SCS, USGS. This information shall be open to public examination at all reasonable times.

FPR Section 205.2 is amended to read as follows:

Permits required. No person, form or corporation shall erect, construct, alter, repair, move, remove, convert, or demolish any building or structure or any part thereof, or make any other improvement within the structure or any part thereof, or make any other improvement within the Flood Hazard Area(s), or cause same to be done, without first obtaining a separate building flood proofing permit for any such improvement from the Building Official. Ordinary minor repairs may be made with the approval of the Building Official without a permit, provided that such repairs shall not violate any provisions of these Regulations or of "The Building Code."

FPR Section 205.3 No. 2 is amended to read as follows:

Two (2) sets of complete plans and specifications, in addition to plans and specifications required by "The Building Code," except that plans and specifications for any and all proposed improvement in the primary Flood Hazard Area(s) shall be prepared by an engineer or architect licensed by the State to practice as such. All drawings and specifications shall bear the name of the author thereof in his true name, followed by such title as he may be lawfully authorized to use. All plans and sections shall be noted with the proposed flood-proofing class of each space below the RFD including detail drawings of walls and wall openings.

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Exception: Plans for Group R Division 3 & 4 Occupancies need not be prepared by a licensed architect or engineer.

FPR Section 205.3 No. 3 is amended to read as follows:

Two (2) copies of the Owner's Contingency Plan, which shall describe in detail all procedures for temporary placement and removal or contingent protection proposed items in spaces affected by these Regulations including:

~~1.~~ (a) Plans and schedules for items to be removed and locations of places above the RFD to which they will be removed if these contents violate restrictions associated with the flood-proofing class of the space in which they are placed temporarily, including specific organizational responsibilities.

~~2.~~ (b) Procedures, materials and equipment for protecting items required to have protection by their flood-proofing class, but for which this protection is proposed to be provided contingently, including specific organizational responsibilities for accomplishing this protection.

Waivers of restrictions implicitly requested by submission of the Owner's Contingency Plan may be granted by the Building Official as provided by 1101.2

FPR Section 209.1 is amended to read as follows:

New Building and Structures: Every building or structure hereafter erected, that is located in the primary Flood Hazard Area(s) where the ground surface is two (2) feet or more below the RFD, or where flood water velocities may exceed five (5) feet per second, shall be provided with an enclosed refuge space above the RFD, of sufficient area to provide for the occupancy load with a minimum of 12 square feet per person. It shall be provided with one or more exits through the exterior walls above the RFD to an exterior platform and stairway not less than three (3) feet wide.

FPR Section 209.3 is amended to read as follows:

Use of Space Below the Regulatory Flood Datum: No floor level or portion of the building or structure that is below the RFD regardless of structure or space classification shall be used ~~for human occupancy~~ as habitable space, or for storage of any property, materials, or equipment that might constitute a safety hazard when contacted by flood waters.

FPR Section 210.7 is amended to read as follows:

Placard Types: Placards shall be white rigid plastic or other non-water susceptible materials eight (8) inches long and twelve (12) inches wide, and shall have printed theron in black letters the information shown in Figure 2.

FPR Section 300.0 is amended by adding a subsection to read as follows:

FPR Section 300.2 Interpretation: For the purpose of these regulations, where definition of terms as set forth in this Chapter conflict in meaning with those as set forth in Minn. Regs. NP 85(c), the latter shall take precedence.

FPR Section 301.2.9 is amended to read as follows:

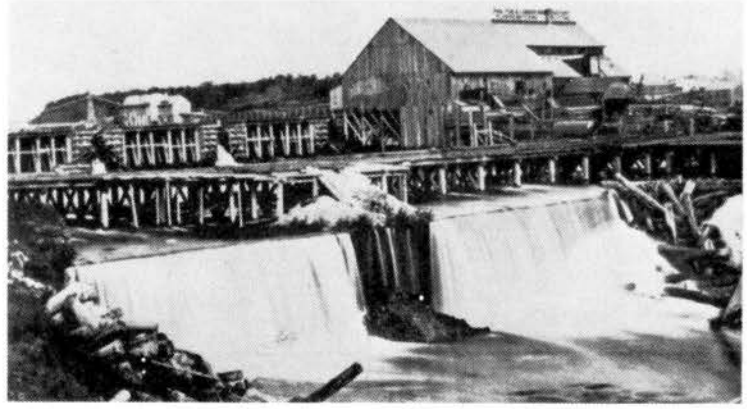
Habitable space (Room) A is space ~~used~~ in a structure for living, sleeping, eating or cooking. ~~or combination thereof, but not including bathrooms.~~ Bathrooms, toilet compartments, closets, halls, storage rooms, laundry and or utility ~~rooms~~ space, ~~cellars and similar spaces~~ and similar areas, are not considered habitable space.

FPR Section 301.4.1 is amended to read as follows:

Building Code: The State Building Code setting forth standards for the construction, addition and modification and repair of buildings and other structures for the purpose of protecting health, safety, and general welfare of the public.

FPR Section 402.1 (Table 2) is amended to read as follows:

General: Table 2 indicates the various degrees of protection required to permit use of spaces for each flood-proofing, the chart in itself shall not be construed as being exhaustive with respect to all requirements imposed by these Regulations. Any disputes arising over the interpretation of this chart, the written provisions of these Regulations shall be considered as definitive.



THIS MILL at the Falls of St. Anthony sawed logs into the lumber needed to build homes, churches, schools, and stores on the frontier. Located in what is now Minneapolis, it was one of many powered by the Falls of St. Anthony in the 1860s and 1870s. (Courtesy of the Minnesota Historical Society)

Table 2
Space Classification Chart
Flood-proofing Classification of Spaces
Minimum Requirements

Flood-Proofing Classes	Water-Proofing	Structural Loads	Closure of Openings	Internal Flooding & Draining	Flooring	Walls and Ceilings	Contacts	Electrical	Mechanical
W1 Completely Dry	Type A	Class 1	Type 1		Class 1	Class 1	Class 1		
W2 Essentially Dry	Type B	Class 1	Type 2	See Chapter 8	Class 2	Class 2	Class 2	See Chapter 12	See Chapter 13
W3 Flooded with Potable Water	Type A	Class 2	Type 3		Class 3	Class 3	Class 3		
W4 Flooded with Flood Water	Type C	Class 3	Type 4		Class 4	Class 4	Class 4		
W5 Non-Flood-Proofing	–	–	Type 5		Class 5	Class 5	Class 5		

FPR Section 612.2.1 is amended to read as follows:

Natural Terrain: In addition to the requirements of "The Building Code," the building shall be located not less than fifteen (15) feet back from the line of incidence of the RFD on the ground, foundation design shall take into consideration the effects of soil saturation on the performance of the foundations, the effects of flood waters on slope stability shall be investigated, normal access to the building shall be by direct connections with areas above the RFD and all utility service lines shall be designated and constructed as required to protect the building and/or its components from damage or failure during a flooding event to the RFD.

FPR Section 612.2.2 is amended to read as follows:

Building on Fill: The building and all parts thereof may be constructed above the RFD on the earth fill. Prior to placement of any fill or embankment materials the area upon which fill is to be placed, including a five-foot strip measured horizontally beyond and contiguous to the toe line of the fill, shall be cleared of standing trees and snags, stumps, brush, down timber, logs and other growth, and all objects including structures on above the ground surface or partially burned. The area shall be stripped of topsoil and all other material which is considered unsuitable by the Building Ofnicial as foundation material. All combustible and noncombustible materials and debris from the clearing, grubbing and stripping operations shall be removed from the proposed fill area and disposed of at locations above the RFD and/or in the manner approved by the Building Official. Fill material shall be of a selected type, preferably granular and free-draining placed in compacted layers. Fill selection and placement shall recognize the effects of saturation from flood waters on slope stability, uniform and differential settlement, and scour potential.

The minimum elevation of the top slope for the fill section shall be no more than one foot below the RFD. Minimum distance from any point of the building perimeter to the top of the fill slope shall be either fifteen (15) feet or twice the depth of fill at that point, whichever is the greater distance. This requirement does not apply to roadways, driveways, playgrounds and other related features which are not integral and functional parts of the building proper. Fill slopes for granular materials shall be not steeper than one vertical on one and one-half horizontal, unless substantiating data justifying steeper slopes are permitted to the Building Official and approved. For slopes exposed to flood velocities of less than five (5) feet per second, grass or vine cover, weeds, bushes and similar vegetation undergrowth will be considered to provide adequate scour protection.

FPR Section 802.1 is amended to read as follows:

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

Applicability: Spaces to be intentionally flooded with flood water (W4) shall be provided with the necessary equipment, devices, piping, controls, etc. necessary for automatic flooding during the flood event and drainage system (s) shall utilize approved piping materials and have sufficient capacity for raising or lowering the internal water level at a rate comparable to the anticipated rate of rise and fall of a flood that would reach the RFD. These pipe systems shall be directly connected to the external flood waters to maintain a balanced internal and external water pressure condition. Provisions shall be made for filling the lower portions of the structure first and for interconnections through or around all floors and partitions to prevent unbalanced filling of chambers or parts within the structures. All spaces below the RFD, shall be provided with air vents extending to at least three (3) feet above the elevation of the RFD to prevent the trapping of air by the rising water surface. All openings to the filling and drainage systems shall be protected by screens for grills to prevent the entry or nesting of rodents or birds in the systems.

FPR Section 1101.3.2 is amended by changing the "Contents Class" of Food Products from X to 1.

FPR Section 1301.2.1 is amended to read as follows:

Heating systems utilizing gas or oil fired furnaces shall have a float operated automatic control valve installed in the fuel supply line which shall be set to operate when flood waters reach an elevation equal to the floor level of the space where furnace equipment is installed. A manually operated gate valve that can be operated from a location above the RFD shall be provided in the fuel supply line to serve as a supplementary safety provision for fuel cutoff. The heating equipment and fuel storage tanks shall be mounted on and securely anchored to a foundation pad or pads of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. As an alternate means of protection, elevation of heating equipment and fuel storage tanks above the RFD on platforms or by suspension from overhead structural systems will be permitted. All unfired pressure vessels will be accorded similar treatment. Fuel lines shall be attached to furnaces by means of flexible or swing type couplings. All heating equipment and fuel storage tanks shall be vented to an elevation of at least three (3) feet above the RFD. Air supply for combustion shall be furnished if required for systems installed in W1 or W2 spaces and piping or duct work for each purpose shall be terminated at least three (3) feet above the RFD.

FPR Section 1302.2.2 is amended to read as follows:

Where the state of dryness of a space is dependent on a sump pump system, or where the stability of a structure during a flood event depends on the relief of up-lift pressures on building components, all interior storm water drainage or seepage, appliance drainage, and underslab drain tile systems shall be directly connected to a sump (pump) and discharged at an elevation at least three (3) feet above the RFD.

FPR Section 1302.2.3.1 is amended to read as follows:

All vents shall extend to an elevation of at least three (3) feet above the RFD.

FPR Section 1302.3 is amended to read as follows:

Sewage Disposal/Treatment. Individual sewage disposal and/or treatment facilities will be permitted in a Flood Hazard Area but only at locations where connection with a public sewer system is not permissible or feasible. Such facilities shall conform to applicable standards, criteria, rules and regulations of the Minnesota Department of Health and Pollution Control Agency in terms of size, construction, use and maintenance and with standards and criteria of the Minnesota Department of Natural Resources regarding setbacks from normal high water mark of a water-course in accordance with the public water classification. ~~Installations in low swampy areas or areas where the highest known ground water table is within four feet of the bottom of the soil absorption systems or which may be subject to recurrent flooding will not be permitted.~~

FPR Section 1302.3.1 regarding cesspools/sewage disposals has been amended by deleting this section in its entirety.

FPR Section 1302.3.2 regarding seepage pits has been amended by deleting this section in its entirety.

FPR Section 1302.4.1 is amended to read as follows:

Water supply wells, tanks, filters, softeners, heaters, and all appliances located below the RFD shall be protected against contamination by covers, walls, copings, or castings. All vents shall be extended to a minimum elevation of three (3) feet above the RFD.

Section VII
Proposed Amendments to the Minnesota Plumbing Code

Amend MHD 122(g) by adding (4) as follows:

"(4) Connection to Public or Private Sewer. Every building shall have its own independent connection with a public or private sewer, except that a group of buildings may be connected to one or more manholes which are constructed on the premises, and connected to a public or private sewer."

Amend MHD Table 123(c) (3) VI. Water Service as follows:

"Water Service—Minimum working pressure rating shall be at least ~~160~~ 150 psi for municipal water service and ~~120~~ 100 psi for other service."

Amend MHD 123(d) (2) as follows:

"(dd) Copper tube 3E or 3G and 3D fittings 3D or 3N.

(ee) ~~Copper tube 3C and 3D fittings with the provision that this pipe be used only in yard areas.~~

(ff) Lead pipe 4B with heavy duty bronze unions or wiped joints with the provision that each

joint must be supported by a durable support without abrasive or cutting edge.

(gg) ~~(ff)~~ Asbestos cement pipe 5A and fittings with the provision that this material be supported continuously and laid in granular soil and only in yard areas. Further that it not be used to convey extremely soft water, and shall pass through the floor within 3 feet of the outside wall.

(hh) ~~(gg)~~ Concrete pipe 5N.

(ii) ~~(hh)~~ Plastic pipe 6D, 6E, 6F and 6G ~~provided that these materials be used only in yard areas~~, may be used for water service pipe only up to the water meter or pressure tank and provided there is no more than 2 feet of such piping exposed within the building. These materials shall be installed in accordance with ASTM D.2774-72. Particular care ~~should~~ shall be taken to avoid sharp edges in contact with the pipe and to provide for expansion and contraction."

Amend MHD 124(a) (2) (11-4) as follows:

"(11-4) Mechanical Joints in Hubless Cast Iron Soil Pipe. Mechanical joints for hubless cast iron soil pipe and fittings may be made—by using a neoprene sleeve and stainless steel retaining band as specified in CISPI standard 301,

—by using a transition fitting made of elastomeric material (ASTM C 425 and ASTIM C 564) and 300 series stainless steel bands and bolts, or ~~mechanical joints for hubless cast iron soil pipe and fittings may be made~~ by using a two part coupling ~~consisting of the~~ whose housing is fabricated ~~in two parts~~ of grey-cast iron ~~casting in accordance with~~ (ASTM A 48), with a ~~The~~ coupling gasket ~~shall be molded~~ made of neoprene rubber ~~per~~ (ASTM C 564), ~~Coupling,~~ and coupling bolts and nuts ~~shall be~~ made of 18-8 stainless steel."

Amend MHD 124(a) (4) by adding a new part (ff) as follows:

"(ff) Transition Couplings. A transition coupling is one which is to be used when pipes made of different materials are to be joined. A transition coupling may be made of elastomeric materials (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts. Any transition coupling joining plastic to plastic, copper to copper, or galvanized to galvanized, must be approved by the Administrative Authority.

Amend MHD 125(b) (3) as follows:

(3) Cleanout Materials. The bodies of cleanout ferrules shall be made to standard pipe sizes, conform in thickness to that required for pipes and fittings of the same material and extend not less than ¼ inch above the hub. The cleanout cover or plug shall be of brass, cast-iron or approved plastic and be provided with a raised nut or recessed socket for removal.

Neoprene or nordel rubber with a plastic disc and a single stainless steel (300 series) band may be used for a cleanout cover provided that it is exposed and readily accessible. ~~Cleanouts for cast iron soil pipe shall have~~ Cleanout covers ~~made of brass and~~ shall conform to specifications and details as shown in Figure 125 (b) (3), Appendix B."

Amend MHD 130(b) (2) (aa) as follows:

"(aa4) Where the provisions of subsections (aa1) and (aa2) cannot be met, the sewer pipe shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) and the water pipe of copper, or cast iron, or plastic 6D, 6E, 6F or 6G (MHD Table 123(C) (3) VI.).

(aa5) Where the water service pipe must cross the building sewer, the bottom of the water service pipe located within 10 feet of the point of crossing shall be at least 12 inches above the top of the sewer, except where this is not feasible, the sewer shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) (MHD Table 123(C) (3) VI.) for at least 10 feet on either side of the crossing."

Amend MHD 130(e) 9(gg) (gg1) as follows:

"(gg1) Connections Not Subject to Back Pressure: Where a water connection is not subject to back pressure ~~a nonpressure~~ an atmospheric type vacuum breaker shall be installed on the discharge side of the last valve on the line serving the fixture or equipment. Where a valve is installed on the discharge side of a vacuum breaker, that vacuum breaker must be a pressure-type vacuum breaker which complies with MHD 130(e) (9) (dd). A list of some conditions requiring protective devices of this kind is given in Table 130(e) (9) (gg1) Cross Connections Where Protective Devices Are Required and Critical Level (C-L) Settings for Backflow Preventers."

Amend MHD 130(f) by adding (6) as follows:

"Every water heater installation shall be readily accessible for inspection, repair or replacement. The appliance space shall be provided with an opening or doorway of sufficient size to provide such access."

Amend MHD Table 131(a) (2) (A) by changing the second heading as follows:

"Building Sewer *****, Building Drain and Building Drain Branches—from Stacks ****" and by adding a footnote to the Table as follows:

"***** No building sewer shall be less than 4 inches in diameter."

Amend MHD 131(b) (5) by adding (aa-5) as follows:

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"(aa5) In single family dwellings the minimum capacity of a sump shall be 18 gallons."

Amend Table 123(C) (3) VI PLASTIC PIPE AND FITTINGS DRAIN, WASTE AND VENT BUILDING SEWER by adding 6C(3) as follows:

"6C(3) Acrylonitrile-Butadiene-Styrene (ABS) ASTM D 2751"

Amend MHD 123(d) (4) (gg) as follows:

"(gg) Plastic 6A, 6B, 6C(1), ~~and~~ 6C(2) and 6C(3) laid on a continuous granular bed."

Amend MHD 130(e) (5) as follows:

"Potable water connections to boiler feed water systems ~~or~~, cooling systems, or other liquid systems, in which water conditioning chemicals ~~are~~ may be introduced shall be made through an air gap or provided with an approved backflow preventer located in the potable water line before the point where such chemicals ~~are~~ may be introduced. ~~When water conditioning chemicals will not be introduced, an approved check valve shall be installed in the water supply line to the boiler or cooling device.~~ Where a system is filled with an anti-freeze or toxic solution a permanent tag will be placed in plain view stating "Caution, this system contains anti-freeze/toxic solution." There shall be no permanent direct connection between this system and the potable water supply to the building."

Section VIII

Proposed Amendments to the Manufactured Building Code

2 MCAR § 1.10303 is amended to read as follows:

2 MCAR § 1.10303 Definitions. Unless otherwise expressly stated, the following terms shall, for the purpose of this Code, have the meaning indicated in this section. The definitions promulgated by the Model Code Standardization Council shall apply to terms included within this Code but which are not herein defined.

A. "Approved" is approved by the State Building Inspector.

B. "Code" is the Minnesota State Building Code ~~including such revisions adopted by the Commissioner of Administration.~~

C. "Commissioner" is the Commissioner of Administration.

D. "Closed Construction" is any building component, assembly or system manufactured in such a manner that all portions cannot be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

E. "Open construction" is any building, component, assembly or system manufactured in such a manner that all portions can be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

F. "Manufactured building" means any building which is of closed construction and which is made or assembled in manufacturing facilities, on or off the building site, for installation, or assembly and installation, on the building site. Manufactured building may also mean, at the option of the manufacturer, any building of open construction, made or assembled in manufacturing facilities away from the building site, for installation, or assembly and installation, on the building site.

G. "Building component" is any sub-system, sub-assembly, or other system designed for use in, or as a part of, a structure, including but not limited to: structural, electrical, mechanical, fire protection, and plumbing systems, and other systems affecting health and safety.

H. "Building System" is plans, specifications and documentation for a system of manufactured building or for a type or a system of building components, including but not limited to, structural, electrical, mechanical, fire protection and plumbing systems, and including such variations thereof as are specifically permitted by regulation, and which variations are submitted as part of the building system or amendment thereof.

I. "Code Compliance Certificate" is the certificate provided by the manufacturer to the State Building Inspector which warrants that the manufactured building or building component complies with the Code.

J. "Compliance Assurance Program" means the system documentation and methods of assuring that manufactured buildings and building components, including their manufacture, storage, transportation, assembly, handling and installation, conform with these rules and regulations.

K. ~~J.~~ "Evaluation agency" is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to investigate, evaluate and approve manufactured buildings or building components, building systems, or compliance assurance programs.

L. ~~K.~~ "Independence of judgment" means not being affiliated with or influenced or controlled by building manufacturers or producers, suppliers, or vendors of products or equipment used in manufactured buildings and building components in any manner which is likely to affect their capacity to render reports and findings objectively and without bias.

M. ~~L.~~ "Inspection agency" is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to conduct or supervise compliance assurance programs relating to the manufacture, handling, storage, and transportation of manufactured buildings or building components, and attach labels evidencing compliance with the Code.

N. ~~M.~~ "Installation" is the process of affixing or assembling and affixing, manufactured buildings or building components on the building site, or to an existing building.

O. ~~N.~~ "Label" is an approved device affixed to a manufactured building or building component, by an approved agency, evidencing code compliance.

P. ~~O.~~ "Local enforcement agency" is an agency of a municipality which enforces the Code.

Q. "Quality control program" as used herein shall be synonymous with compliance assurance program.

R. ~~P.~~ "Seal" is a device or insignia issued to the Manufacturer by the State Building Inspector evidencing compliance with the Code.

2 MCAR § 1.10310 is amended to read as follows:

2 MCAR § 1.10310 Inspection. ~~The State Building Inspector, his approved inspection agency, or his approved local enforcement agency shall inspect, as required, at the manufacturing facility, manufactured buildings or components for which applications for a state seal have been made. The manufacturer shall consent to such inspections at all reasonable hours.~~

General. The State Building Inspector shall make, or cause to be made, such inspections of the entire process of manufacturing, certifying, handling, storing and transporting of manufactured buildings and building components produced pursuant to approved building systems as he deems necessary.

A. Manufacturing facilities. As part of the approval process of evaluating building systems and compliance assurance programs, the State Building Inspector or an evaluation agency shall inspect the manufacturing facilities in which the buildings or building components are to be manufactured.

B. Production process. The State Building Inspector or an inspection agency, shall make such inspections as may be required by an approved compliance assurance program, or as may be deemed necessary by the State Building Inspector.

C. Damaged buildings or components. Prior to the issuance of a building permit, the State Building Inspector or an inspection agency shall inspect, or cause to be inspected, certified manufactured buildings or building components which it determines to have been sufficiently damaged after certification to warrant such inspection and take such action with regard to such buildings or building components as is authorized under 2 MCAR § 1.10319, or as is otherwise necessary to eliminate dangerous conditions. The State Building Inspector shall require manufactured buildings or building components which are so damaged as no longer to comply with the Act and these rules and regulations to be brought into compliance promptly. If such buildings or building components are not brought into compliance with the Act and these rules and regulations within a reasonable time, or if they are so damaged that they cannot be brought into compliance, the State Building Inspector shall order that the labels be removed from such buildings or building components. Irreparably damaged buildings or building components shall be disposed of in accordance with applicable law.

D. Inspection agency review. The State Building Inspector shall have the right to examine each approved inspection agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency and of its monitoring of each compliance assurance program. Each such examination shall investigate the adequacy of all procedures used by the agency in monitoring compliance assurance programs including inspection, tests, production methods, process controls, operator performance, materials receipt, storage and handling, workmanship standards, records and all other activities which implement the compliance assurance program in the manufacturing facility during transport, on-site, and at critical subcontractors' facilities. The results of such examinations shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the inspection agency. Inspection agencies shall be specifically notified of any deficiencies and of the manner in and time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, an agency's approval may be suspended or revoked as provided in 2 MCAR § 1.10334. Such inspections shall take place at the manufacturing facility, and may also take place at the inspection agencies office, or at the site of installation.

E. Evaluation agency review. The State Building Inspector shall have the right to examine each approved evaluation agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency. Each such examination shall investigate the adequacy of all evaluative procedures including engineering evaluation of plans, specifications and test results, testing, and analysis of compliance assurance programs. The results of such examination shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the evaluation agency. Agencies shall be specifically notified of any deficiencies and of the manner in time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, approval of an evaluation agency may be suspended or revoked as provided in 2 MCAR § 1.10334.

2 MCAR § 1.10312 is amended to read as follows:

2 MCAR § 1.10312 Local zoning. Local use zone requirements, ~~fire zone requirements based on performance,~~ building setback, side and rear yard requirements, site

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development and property line requirements are specifically and entirely reserved to local municipalities.

2 MCAR § 1.10320 shall be revised to read as follows:

2 MCAR § 1.10320 Seals. A. R-3 and R-4 Occupancies. Each manufactured building ~~or system~~ manufactured pursuant to the Code shall have permanently attached thereto in a ~~visible~~ location ~~as~~ shown on the approved plans, a state seal evidencing the State Building Inspector's approval of such building, — ~~component or system.~~ When a manufactured building consists of one or more sections, that may be transported or stored individually each section must be marked or labeled to indicate that the section is a part of a manufactured structure and shall bear the number of the State of Minnesota Seal assigned to the building.

The marking or label shall also indicate the name of the manufacturer, the address of the manufacturing facility and the manufacturers serial number or other designator assigned to the building. All labels shall be visible from the exterior, shall be legible and shall remain on the structure until the building is complete.

B. All other occupanices. One seal is required per transportable unit.

2 MCAR § 1.10321 is amended to read as follows:

2 MCAR § 1.10321 Issuance. A seal shall be issued by the State Building Inspector to the manufacturer upon application and after plan approval has been issued, and shall be issued in accordance with the following:

A. If the State Building Inspector delegates the issuance of seals to an inspection agency, the agency shall be required to obtain approval from the State Building Inspector for the manner in which they are handled;

B. Seals must be serially numbered;

C. A manufacturer's compliance assurance program, submitted in accordance with 2 MCAR § 1.10332 A. shall include requirements for issuance, possession of, attachment of and accounting for all seals to assure that seals are attached only to buildings or building components manufactured pursuant to an approved building system and inspected pursuant to an approved compliance assurance program;

D. If the State Building Inspector or an inspection agency determines that the manufacturer's record of compliance is such that the State Building Inspector or inspection agency need not maintain an inspector in a given plant at all times, the State Building Inspector or inspection agency may entrust seals to the custody of one or more employees of the manufacturer, who shall be charged with controlling the use of such seals. Such employees shall not be given custody of more seals than are necessary to accommodate the manufacturer's anticipated production for one month. If the conditions of custody are violated, the State Building Inspector or an inspection agency shall immediately regain possession of all seals that have not applied to the manufactured buildings or building components and shall take such further action with respect to buildings or components already sealed, and with respect to future seals, as it may deem necessary to assure compliance with the Act and these rules and regulations.

2 MCAR § 1.10325 Manufacturer's data plate. The data plate form furnished by the State Building Inspector shall contain but not be limited to the following information, and shall be placed by the manufacturer ~~directly or by reference on one or more permanent manufacturer's data plates~~ in the vicinity of the electrical distribution panel or in some other approved designated location that is readily accessible for inspection:

A. Manufacturer's name and address.

B. Serial number of the unit.

C. Model designation and name of manufacturer of major factory-installed appliances.

D. Where applicable, identification of permissible type of gas for appliances and direction for water and drain connections.

E. Name and date of standards complied with.

F. Seal serial number.

G. Design loads

H. Special conditions or limitations of the unit.

I. Date of manufacture.

J. Electrical ratings-instructions and warnings on voltage, phase, size and connections of units and grounding requirements.

2 MCAR § 1.10334 is amended to read as follows:

2 MCAR § 1.10334 ~~Requirements for inspection agency.~~ Approval of inspection and evaluation agencies

~~A. The inspection agency shall provide acceptable evidence and certify to the State Building Inspector and the evaluation agency that it is totally independent of the manufacturer, and maintains independence of judgment.~~

~~B. The inspection agency shall establish that it has the capabilities to inspect the type of construction proposed by the manufacturer and inspect for compliance with the approved plans and specifications and approved quality control manual.~~

~~C. When the quality control program involves sampling and testing of materials or components, the inspection agency must substantiate that it has experienced personnel and adequate equipment to witness and verify testing in accordance with the approved quality control manual.~~

~~D. The inspection agency shall employ a professional engineer or architect to be in responsible charge of all undertakings of the agency in connection with these rules and regulations and the Code.~~

~~E. When requested by the State Building Inspector, the inspection agency shall, independently of any reporting by~~

~~the manufacturer, send directly to the State Building Inspector or the evaluation agency a full and complete report as to the results of all tests, inspections, recommendations, actions, analyses, evaluations and dispositions during any specified period.~~

~~F. The inspection agency shall prepare and submit for approval by the State Building Inspector and/or the evaluation agency a detailed inspection manual for use by their inspectors.~~

A. Requirements For submission. An inspection or evaluation agency seeking approval shall submit an application to the State Building Inspector which shall include the items listed in this Section.

1. The original Articles of Incorporation of the agency and all subsequent amendments thereto, as filed in the State of incorporation.

2. The bylaws of the organization, if any.

3. The names, addresses and business affiliations of all members of the Board of Directors and of top management personnel.

4. Stock owned in amounts over $5,000 reflecting the financial interests of the agency's Board of Directors and top management personnel.

5. Certification by the agency that:

a. Its board of directors, as a body, and its technical personnel, as individuals, can exercise independence of judgment; and,

b. Its activities pursuant hereto will result in no financial benefit to the agency via stock ownership, or other financial interests in any producer, supplier or vendor of products involved, other than through standard published fees for services rendered.

c. Names, years of experience, State in which professionally registered and other qualifications of the directors of inspection or evaluation programs.

d. Names and years of experience of employees practicing in the following disciplines: architecture, structural engineering, mechanical engineering, electrical engineering, fire protection and other branches of engineering; the States in which each is registered and the services each performs.

E. An organization chart showing management and supervisory persons including the number of graduate engineers and architects, and the names of all consulting engineers or architects, designating which are full-time and which are part-time engineers.

6. Number and location of factory inspectors, supervisors, and other technicians, including evaluators of factory inspectors and the qualifications of each specialized group, including records of work experience, licenses held and other pertinent qualifications; descriptions of the type of work each group and each technician is expected to perform, and the qualifications of each group and each technician to perform the work assigned.

7. An outline of the training program, if any, of the agency to assure that all inspectors, evaluators and other technicians are properly trained to do each job assigned to them.

8. An outline of the general procedures for supervision of inspectors and evaluators, including checking and evaluation of their work.

9. All engineers, technicians and other personnel who will perform services for the organization but who are not employees of the organization, and the supervisory and other relationships which each will have to the agency.

10. Type of products, components, equipment, structures and other items which the organization has evaluated, tested, or inspected, and the number of years of experience the organization has had with each, and the type of codes, standards, specifications and requirements with respect to which the organization has had experience in providing evaluation, inspection or testing services, and the number of years of experience with each.

11. Description of the record-keeping system the agency proposes to use with particular regard to availability of records to the State Building Inspector and the capacity to render reports to the State Building Inspector.

12. Description of the frequency with which the agency is capable of performing inspections or evaluations.

13. List of States in which the agency is now approved to inspect or evaluate manufactured buildings or building components, and a further listing of those States in which the agency intends to seek such approval within the next two (2) years.

14. Certification that the agency is able to evaluate building systems for compliance with the codes, standards, specifications and requirements adopted herein, or manufactured buildings or building components for compliance with approved building systems.

15. Fee as required by 2 MCAR § 1.10335

B. Procedures for approving and delegating.

1. The State Building Inspector may approve inspection or evaluation agencies which meet the requirements of Section 1 of this Part and which the State Building Inspector finds otherwise qualified to perform the functions proposed to be delegated to them.

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

2. Prior to a full evaluation of an application for approval, the State Building Inspector shall determine whether such application is complete and suitable for processing. In the event the application is found to be unsuitable for processing, the applicant shall be notified in writing of such unsuitability and the basis thereof within thirty (30) days of the date the application is received by the State Building Inspector. In such event, all but $25.00 of the fee will be returned, and the findings of unsuitability shall be without prejudice. Any subsequent submission shall be treated as a new application.

3. In the event the inspection or evaluation agency is not approved, the State Building Inspector shall return one complete application to the applicant with a written explanation of the reasons for such disapproval attached thereto.

4. Approval of inspection or evaluation agencies shall be evidenced by a letter to the applicant indicating such approval and stating specifically the functions which the applicant has been approved to perform. Such approval shall not constitute the actual delegation of such functions.

C. Suspension and revocation.

1. Grounds. The State Building Inspector may suspend or revoke its approval of any evaluation agency or inspection agency if the approval was issued in error, was issued on the basis of incorrect information, or was issued in violation of the Act or these rules and regulations, or if the agency violates the Act or these rules and regulations, if examination pursuant to 2 MCAR § 1.10310 4 D. and E. disclose that the agency has failed to perform properly, or for such other cause as may be deemed sufficient by the State Building Inspector to warrant such action. Appeals from suspensions or revocations shall receive timely review.

2. Procedures in event or revocation.

a. General. If the State Building Inspector suspends or revokes the approval of an evaluation or inspection agency, the evaluation or inspection agency shall be given notice in writing of the suspension or revocation with the reasons therefor set forth therein. Manufacturers being evaluated or inspected by such agencies, and all local enforcement agencies within this State shall also be notifed in writing of such suspensions or revocations.

Such notices shall contain instructions to the local enforcement agencies as to manufactured buildings or building components previously certified by an agency whose approval has been suspended or revoked.

b. Records. An evaluation or inspection agency whose approval has been suspended or revoked shall within (90) days of the suspension or revocation deliver to the custody of the State Building Inspector the originals of all records required by these rules and regulations to be made of, or in the course of, the agency's operations pursuant to the Act and these rules and regulations.

C. Seals. An evaluation or inspection agency for which approval has been suspended or revoked shall, within ten (10) days of the suspension or revocation, deliver to the custody of the State Building Inspector all seals in the agency's possession, under its control, or for which it is responsible pursuant to these rules and regulations.

2 MCAR § 1.10335 Fees. General. All fees shall be:

A. In the form of checks or money orders.

B. Payable to: Minnesota State Treasurer.

C. Addressed to: State of Minnesota
Department of Administration
Building Code Division
408 Metro Square Building
7th and Robert Streets
St. Paul, Minnesota 55101

D. Seal Fee, twenty dollars ($20.00) per Seal. Replacement seal fee for damaged seals, five dollars ($5.00) per Seal.

E. For all other work performed by the Building Code Division such as, but not limited to: the review of plans, specifications, and independent agency reports, inspection and quality control evaluation, a fee of ~~fifteen~~ twenty dollars ~~($15.00)~~ ($20.00) per man hour shall be charged.

F. Travel expense shall be charged at the rates established for state employees by the Commissioner of Administration.

G. Inspection and/or evaluation agencies.

1. Initial fee of $150.00 shall be submitted with the application for agency approval. The initial fee shall be submitted prior to September 1, 1979 by all currently approved agencies and shall include any additional data necessary to show compliance with MCAR §§ 1.10310, 1.10321, 1.10334.

2. A registration fee of $75.00 is required annually, due January 1 of each year, to maintain State approval.

~~2 MCAR § 1.10336 Provisional authority.~~ ~~A manufacturer who files an application in proper form for quality control approval shall have temporary authority to acquire seals commencing twenty days after the date of filing of the application, unless within such period the Commissioner, by written notice mailed to the manufacturer at the address shown on his application or served upon him personally, shall deny temporary authority and state his reasons for doing so. Such temporary authority shall continue until final determination of the manufacturer's application for quality control approval, or revocation pursuant to 2 MCAR Section 1.10319, whichever shall first occur, and shall empower the manufacturer to affix seals to all models whose plans have been approved and which comply with Code. A manufacturer operating under temporary authority is subject to all verification inspections and other requirements imposed upon a manufacturer who has obtained quality control approval.~~

Section IX

Amendments Proposed by Other Than the Building Code Division

Proponent — Minneapolis Association of Building Owners & Managers Inc., Arthur Olofson, Executive Vice President

2 MCAR § 1.18601 — N.E.C. Section 300-22(b) is amended to read as follows:

(b) Ducts or Plenums Used for Environmental Air. Only wiring methods consisting of mineral-insulated metal-sheathered cable, Type MC cable employing a smooth or corrugated impervious metal sheath, electrical metallic tubing, flexible metallic tubing, intermediate metal conduit, or rigid metal conduit shall be installed in ducts or plenums used for environmental air. Flexible metal conduit, flexible metallic tubing and liquidtight flexible metal conduit shall be permitted, in lengths not to exceed 4 feet, to connect physically adjustable equipment and devices permitted to be in these ducts and plenum chambers. The connectors used with flexible metal conduit shall effectively close any openings in the connection. Equipment and devices shall be permitted within such ducts or plenum chambers only if necessary for their direct action upon, or sensing of, the contained air. Where equipment or devices are installed and illumination is necessary to facilitate maintenance and repair, enclosed gasketed-type fixtures shall be permitted.

Exception: Circuits and equipment as set out in Section 800-1 when installed in return air handling plenums located above ceilings in new and existing buildings housing Group B2 occupancies, are not required to be installed in metallic tubing, metal conduit, or any other type of metallic raceway. All such communication wiring shall be grouped and shall be independently supported from the structure. All such communication wiring, when abandoned, shall be removed.

Proponent — Minneapolis Association of Building Owners & Managers, Inc., Arthur W. Olofson, Executive Vice President

UBC § 1807 (h) (1) is amended as follows:

UBC § 1807 (h)1. Except for the main entrance level, all elevators on all floors shall open into elevator lobbies, which are separated from the remainder of the building as is required for corridor construction in Section 3304 (g) and (h).

Exception: When a complete and approved automatic fire extinguishing system is installed in Group B Division 2 Office Buildings, separation of elevator lobbies is not required on any floor.

Proponent — Minneapolis Association of Building Owners & Managers Inc., Arthur Olofson, Executive Vice President.

UBC § 1807 (m) (1)(2) is amended as follows: Delete the following paragraph 1. in its entirety.

UBC § 1807 (m) ~~1. The fire resistive time periods set forth in Table No. 17 A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. Vertical shafts other than stairway enclosures and elevator shafts may be reduced to one hour when sprinklers are installed within the shafts at alternate floors.~~

Substitute with the following paragraph 1.:

1. The fire-resistive time periods set forth in Table 17-A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. All office building partitions required to be of one-hour fire-resistive construction by Table No. 17-A and Section 3304(g) may be of noncombustible construction without a fire-resistive time period. Openings in corridor walls shall be protected by tight-fitting, self-closing doors that need not have a fire-resistive time period. In Group R, Division 1 Occupancies, corridor and dwelling unit or guest room separation may be reduced to one-half hour.

Delete the following paragraph 2:

UBC § 1807 (m)2. ~~Except for corridors in Group B, Division 2 and Group R, Division 1 Occupanices and partitions separating dwelling units or guest rooms all interior nonbearing partiitons required to be one-hour fire-resistive construction by Table No. 17-A may be of noncombustible construction without a fire resistive time period.~~

Proponent — Minnesota Energy Agency — Robert Gish

2 MCAR § 1.16005 — ASHRAE 90-75 § 4.2.2 is amended to read as follows:

§ 4.2.2 The gross area of exterior walls consists of all opaque wall areas (including foundation walls, between-floor spandrels, peripheral edges of floors, etc.), window areas (including sash), and door areas, where such surfaces are exposed to outdoor air or are within frostline depth of outdoor air, and enclose a heated and/or mechanically cooled space (including intersticial areas between two such spaces).

Proponent — Minnesota Energy Agency — Robert Gish

2 MCAR § 1.16005 — ASHRAE 90-75 Figure 1 page 13 is deleted and replaced with the new figure 1 as follows:

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

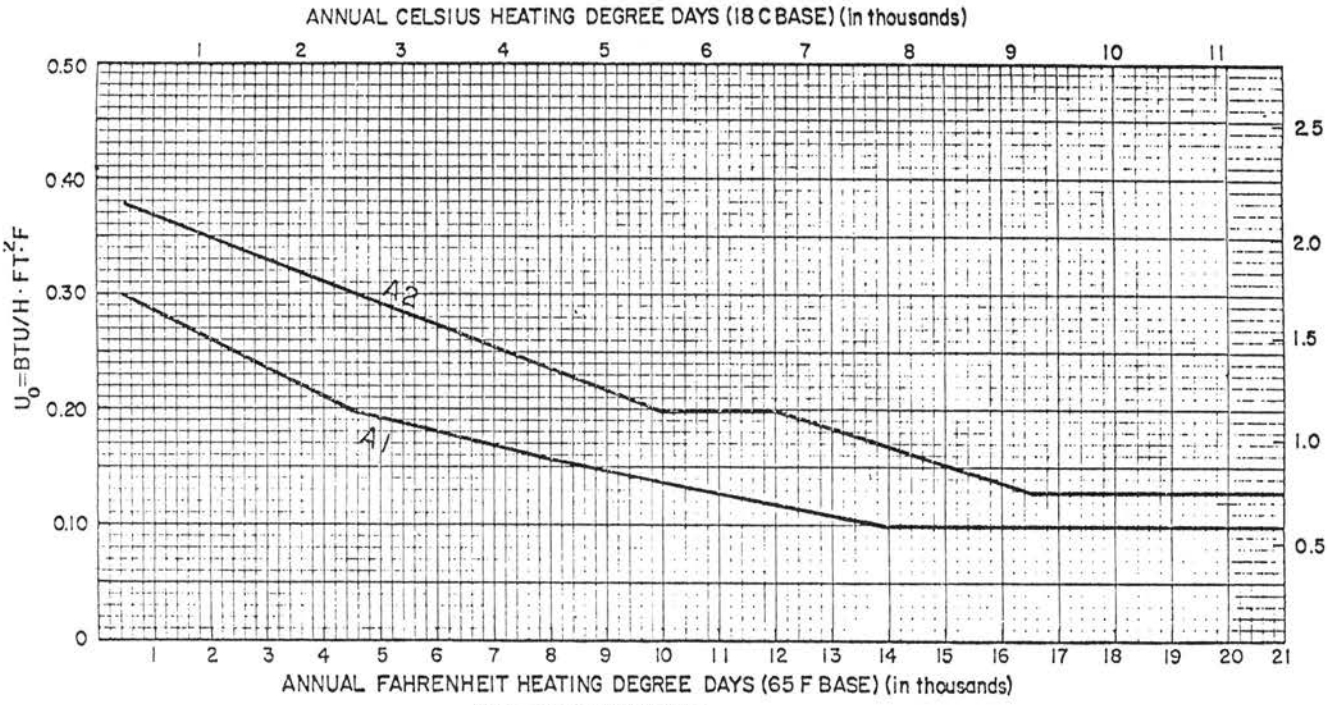


Fig. 1 U_0 Type "A" Buildings
Type "A" Buildings Shall Include: A_1 Detached One- and Two-Family Dwellings
A_2 All other Buildings; Three Stories or Less
Including but not Limited to—Multi-family Dwellings
Hotel and Motels

Proponent — Minnesota Energy Agency — Robert Gish

2 MCAR § 1.16005 — ASHRAE 90-75 § 4.3.2.2 is amended to read as follows:

§ 4.3.2.2 Roof/ceiling. Any building that is heated and/or mechanically cooled shall have a combined thermal transmittance value (Uo value) for roof/ceilings not to exceed ~~0.05 Btu/h ft. 2 — F (0.28 W/m2K) for area with 8000 fahrenheit Heating Degree Days (4444 Celsius Heating Degree Days) or less and not to exceed 0.04 Btu/h-Ft. 2 — F (0.23 W/m2K) for areas with more than 8000 Fahrenheit Heating Degree Days (4444 Celsious Heating Degree Days).~~ 0.027 Btu/h-ft2-F (o.154 W/m2K).

2 MCAR § 1.16005 — ASHRAE 90-75 Section 4.4.2.3 is amended to read as follows:

§ 4.4.2.3 Floors over unheated spaces. For floors of heated spaces over unheated areas, the Uo value shall not exceed the values shown in Fig. 5. For floors over outdoor air (example: overhangs) the Uo value for heating shall meet the same requirements as for roofs shown in Fig. 4.

Proponent — Minnesota Energy Agency — Robert Gish

2 MCAR § 1.16005 — ASHREA 90-75 § 4.4.3.2 is amended to read as follows:

§ 4.4.3.2 Roof/ceiling. Any building that is mechanically cooled shall have a combined Thermal Transmittance valve (Uo Valve) for roof/ceilings not to exceed that which would be determined by the heating criteria above (see § 4.4.2.2.) an Overall Thermal Transfer Value, OTTVr, for the gross area of a roof assembly not exceeding 8.5 Btu/h-ft. 2 (26.8 W/M2)

§ 4.4.3.2.2 Eq 4 shall be used to determine acceptable combinations to meet the requirements of § 4.4.3.2.1.

Equation 4 — Roof/ceiling

$$8.5 = \frac{Ur\ Ar\ TDeqr + 138\ As\ SCs + Us\ As\ {}^{\Delta}T}{Ao}$$

where

Ur	=the thermal transmittance of all elements of the opaque roof area, Btu/H-ft. 2 F (w/M2K)
Ar	=opaque roof area, ft2 (M2)
TDeqr	=Value given in Fig. 8
As	=skylight area, ft2 (M2)
SCs	=shading coefficient of the skylight
Us	=the thermal transmittance of the skylight, btu/H-ft2F (W/m2K)
${}^{\Delta}T$	=temperature difference between exterior and interior design conditions, F, (see 4.2.5)

Note: Where more than one type of roof and/or skylight is used, the respective term or terms shall be expanded:

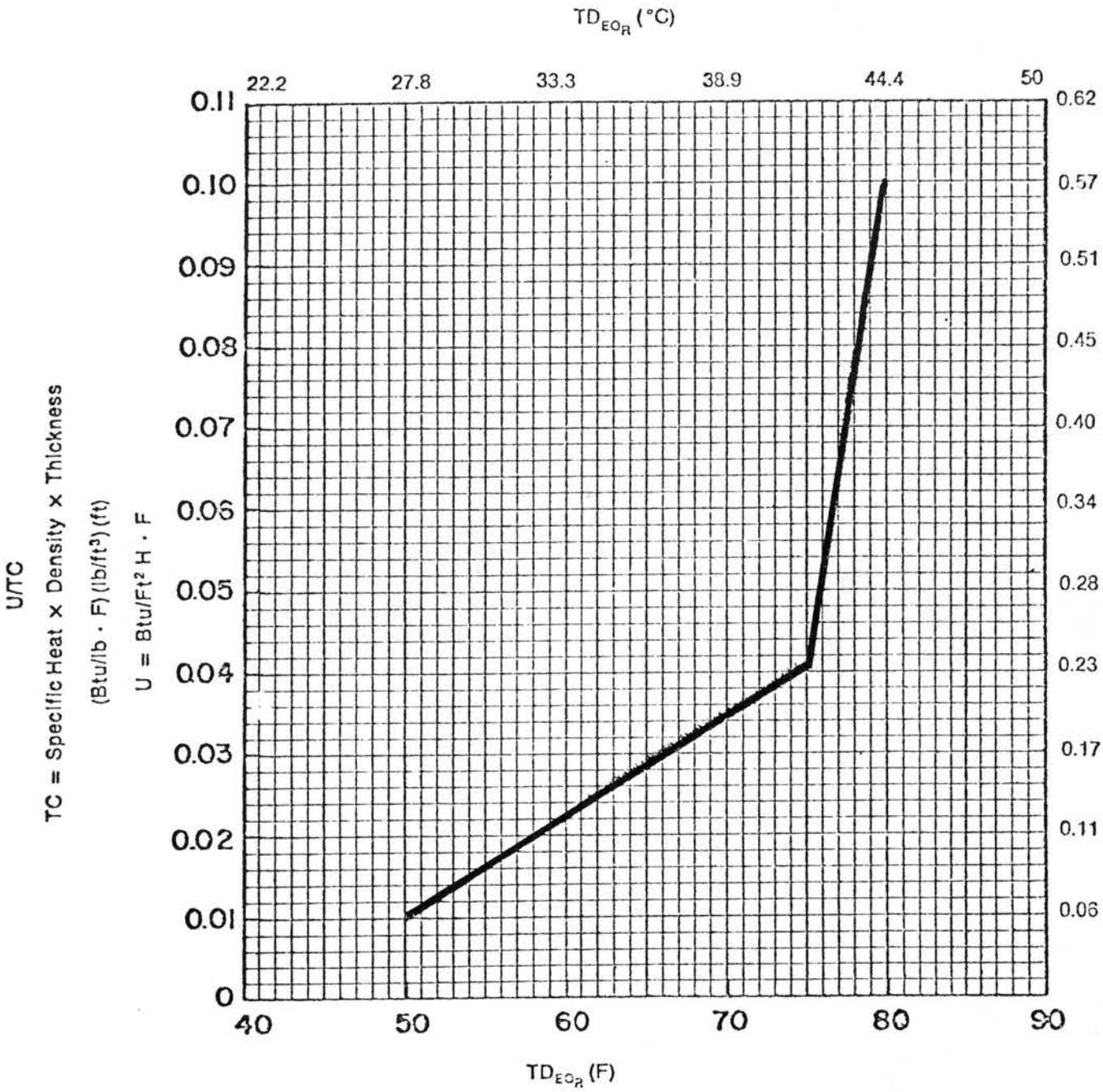
(Url Arl TDfqrl)+(Ur2 Ar2 TDfqr2), + ... , etc.

(Add fig. 8, TDeq Values for use in EQ. 4

Proponent — Minnesota Energy Agency — Robert Gish

2 MCAR § 1.16005 — ASHREA 90-75 is amended by adding new figure 8 as follows:

FIG 8
TD_{EO_R} VALUES FOR USE IN EQ. 4



KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

Proponent — Legal Advocacy for the Developmentally Disabled of Minnesota Stephen E. Scott, Attorney

Proposed Amendments

The following sections of the Uniform Building Code should be amended as shown.

§ 405 of the UBC shall be amended to read:

Dwelling is any building . . . for living purposes and shall include Class A-1 Supervised Living Facilities as defined in this Code.

§ 420 of the UBC shall be amended by adding:

Class A-1 supervised living facilities shall include homes providing boarding and lodging for 6 or fewer ambulatory or mobile disabled persons . . . at street level.

and by adding:

Class A-2 supervised living facilities shall include homes providing boarding and lodging for more than 6 ambulatory or mobile disabled persons . . . at street level.

UBC Table 5-A is amended to read as follows:

R-1 — Hotels and apartments houses. Convents, monasteries (each accommodating more than ten persons). Supervised living facilities Class A-2 (each accommodating more than six persons).

R-3 — Dwellings and lodging houses. Supervised living facilities Class A-1 (each accommodate six or fewer persons).

§ 1201 of the UBC shall be amended by changing Supervised living facility Class A to Supervised living facility Class A-2.

§ 1201 of the UBC shall be amended by adding:

Supervised living facility Class A-1 as defined in § 420 of this Code (each accommodating six or fewer persons).



Office Building — Northwestern National Life Insurance Co.
Minneapolis, Minnesota
Minoru Yamasaki & Associates

JULY 1980 is the scheduled completion date for the new Northwestern National Life Insurance Company tower in downtown Minneapolis. Facing southward to Washington Avenue, it will be connected to the NWNL home office by a tunnel beneath Marquette Avenue. The exterior of the building is to be faced with white marble-chip aggregate, and its glass-encased lobby will boast verde antique marble from Vermont.

Special emphasis on energy conservation calls for mechanical systems which capture heat and cooling from exhausted air. Separate heating and air conditioning systems have been devised for each floor to permit shutdown of service to unoccupied space. Energy-saving lighting, insulated glass, and maximum thermo insulation on exposed surfaces also contribute to the energy efficiency and cost effectiveness of the structure. The 20-story tower will cost approximately $35 million to construct.

SUPREME COURT

Decisions Filed Friday, August 24, 1979

Compiled by John McCarthy, Clerk

49165/208 Northwest Mechanical, Inc., petitioner, Appellant, vs. The Public Utilities Commission of the City of Virginia, Minnesota. St. Louis County.

An arbitrationn award must be set aside if there exist undisclosed business dealings between an arbitrator and a party.

Reversed. Sheran, C. J. Took no part, Todd, J.

47688/259 State of Minnesota vs. Richard Carpenter, Appellant. Hennepin County.

Evidence is sufficient to support trial court's finding of guilty, which rejected defense of insanity.

It was not a denial of due process of law that defendant bore the burden of proving insanity by a preponderance of the evidence.

Commitment of defendant to St. Peter State Security Hospital and subsequent transfer to Stillwater State Prison did not deny defendant due process or law or equal protection of the law.

Issue of credit to defendant for time spent at St. Peter and the Hennepin County Jail will not be considered on this direct appeal.

Affirmed. Sheran, C. J.

49868/300 Minnesota Education Association and Minnesota Community College Faculty Association vs. State of Minnesota, et al, Appellants. Ramsey County.

Minn. St. 179.74, subd. 5, reserves the right to legislative review and modification of arbitration awards involving state employees, and such reservation is not a denial of equal protection.

Judgment reversed by order of this court of May 1, 1979. Sheran, C. J.

49608/269 General Drivers Union Local 346, for Itself and on Behalf of Its Members, Employees of Independent School District No. 704, vs. Independent School District No. 704, Proctor School Board, et al, Appellants. St. Louis County.

The language of the collective bargaining agreement between Independent School District No. 704 and General Drivers Union Local No. 346 did not entitle the school board to contract out busing services, which is a mandatory subject of negotiation as a term and condition of employment under the Public Employees Labor Relations Act, without submitting the subject to negotiation.

The union did not waive any claim of an unfair labor practice by failing to demand negotiation where it was not given sufficient notice of the decision to contract out.

Affirmed. Otis, J. Took no part, Todd, J.

49317/277 State of Minnesota vs. Clayton A. Terrell, Appellant. Blue Earth County.

A criminal suspect is not entitled to a suppression hearing before the grand jury meets to hear evidence against him, but may challenge the evidentiary basis for an indictment after it has been issued.

Under Rule 18.06, subd. 2, Rules of Criminal Procedure, reception of inadmissible evidence at grand jury was not ground for dismissal of indictment because there was sufficient admissible evidence to support the indictment.

Omnibus court, in determining suppression issue, did not rely on evidence admitted in violation of defendant's right of confrontation.

"Emergency exception" to warrant requirement justified warrantless entry of cabin to investigate shooting of victim who, for all police knew, may still have been alive.

Evidence held sufficient on issue of intent to kill.

Affirmed. Otis, J. Took no part, Sheran, C. J.

48997/264 Denise G. Lemke, et al, Appellants, vs. Bernadine J. Schwarz. St. Louis County.

Where an insured has clearly and unambiguously demonstrated an intent to change the beneficiary on a life insurance policy, this intent should be given effect, despite failure to fully comply with policy requirements, unless prejudice to the insurer would result.

Reversed. Kelly, J. Took no part, Otis, J.

48403 49521/204 (1978) David Joseph Fritz, petitioner, 48403 vs. State of Minnesota, Appellant, and David J. Fritz, petitioner, Appellant, 49521 vs. State of Minnesota and the Commissioner of Public Welfare, State of Minnesota. Anoka County.

Because commitment to the Department of Public Welfare under the Minnesota Sex Offender Act is a sentencing alternative and is limited in duration to the length of a criminal sentence for the offense, due process and equal protection do not require application of civil commitment procedures.

The constitutionality of provisions in the Minnesota Sex Offender Act which authorize transfer of an offender from the mental hospital to prison will not be considered on appeal when the offender is not subject to a transfer.

The constitutionality of procedures in the Minnesota Sex Offender Act for release from commitment will not be considered on appeal when the offender has not claimed that he has sought or been denied any specific release procedures.

It is permissible, but not mandatory, to impose a "dual

sentence'' under the Minnesota Sex Offender Act whereby the trial court commits the offender to the Department of Public Welfare and stays a penal sentence to the commissioner of corrections.

Affirmed in part; reversed in part; and remanded. Todd, J.

49357/247 William James Vezina, petitioner, Appellant, vs. State of Minnesota and the Minnesota Corrections Board. Ramsey County.

The Postconviction Remedy Act does not encompass challenges concerning the decision of the corrections board to transfer a person from youthful offender status to adult status.

Appellant waived his right to a hearing on the transfer from youthful offender status to adult status because he did not request a hearing within 30 days after receiving notice of the transfer.

When probation is revoked and a penal sentence is executed, the time spent in a county workhouse as a condition of probation is not credited against the target date for release on parole.

Affirmed. Todd, J. Concurring in part, dissenting in part, Wahl, J. Dissenting in part, Otis, J.

49310/248 Frank Patrick Rongitsch, petitioner, Appellant, vs. State of Minnesota. Ramsey County.

The Postconviction Remedy Act Does not encompass challenges concerning the decision of the Youth Conservation Commission to transfer a person from youthful offender status to adult status.

Minn. St. 1971, § 242.265, does not authorize the transfer of a person from youthful offender status to adult status if, at the time he commits the felony while on parole from the Youth Conservation Commission, he is under 21 years of age.

Affirmed in part; reversed in part. Todd, J. Concurring in part, dissenting in part, Wahl, J.

49208/263 Floyd A. Kruse, Appellant, vs. Harvey J. Planer. Wright County.

Where the only material facts relied upon by the trial court in reaching its decision are not in dispute and the record clearly reveals the factual basis for the trial court's ruling, the absence of separate findings of fact and conclusions of law is not reversible error.

It is well settled that, absent the clear showing of language authorizing prepayment by the vendor, a purchaser may not accelerate the time of payment contrary to that delineated in the contract.

Affirmed. Scott, J. Took no part, Todd, J.

48037 48042/146 (1978) In the Matter of the Village of Burnsville Assessments for Improvement No. 70TS-8 for Sanitary Sewer. Edward Kraemer & Sons, Inc., vs. Village of Burnsville (now City of Burnsville), Appellant. Dakota County.

Where a special assessment is challenged as an unconstitutional taking the trial court must determine whether the improvement confers a special benefit on the property in an amount at least equal to the assessment, based on an independent consideration of all the evidence.

Where the trial court found that no special benefits were conferred and vacated special assessment in its entirety, trial court impliedly set permissible assessment ceiling at zero and a remand to the city for reassessment pursuant to Minn. St. 429.081 would have been pointless.

Trial court has discretion to award costs and disbursements to a successful challenger of a special assessment against a municipality under Minn. St. 429.081.

Affirmed. Kelly, J.

48334/401 Culligan Soft Water Service of Inglewood, Inc., et al, vs. Culligan International Company, a corporation, formerly known as Culligan, Inc., Appellant. Hennepin County.

Where an actual controversy existed as to whether franchisor unreasonably withheld consent to franchisee's assignment of the franchise, a justifiable controversy appropriate to resolution in an action for declaratory judgment was presented, and the trial court was empowered to grant suitable relief.

A right of first refusal given to a third party by the franchisee does not violate a franchise provision prohibiting assignment, transfer, sharing, or division of the franchise since it does not confer any property right on the third party, and the franchisor may prevent the acquisition of such right by reasonably withholding consent to the transfer.

The trial court's findings that the proposed assignee of the franchise was qualified to assume the franchise and that franchisor's consent to the assignment was unreasonably withheld are not clearly erroneous.

Affirmed. Kelly, J. Took no part, Otis, J.

49607/177C Kenneth R. Olson, Jr., and Ann B. Olson, Appellants, vs. Robert J. Lindberg and Marjorie A. Lindberg. St. Louis County.

Where an existing structure encroached upon portion of plaintiffs' land trial court properly ordered plaintiffs to convey that parcel to defendants in exchange for payment of reasonable value of land and expert appraisal fees by defendants.

Affirmed. Kelly, J.

48399/145 G.G.C. Co., et al, vs. The First National Bank of St. Paul, and Charles Cox, et al, additional defendants on the counterclaim, Melvin C. Gittleman, intervenor, Appellant. Dakota County.

An assignment-of-rents clause is enforceable during the redemption period following a mortgage foreclosure sale to secure any deficiency resulting from the sale and for the purpose of paying taxes, assessments, insurance, interest and principal payments on the first mortgage, and necessary repairs.

An escrow arrangement with safeguards such as periodic accountings to the court is a proper and efficient method of enforcing an assignment-of-rents clause.

A mortgagor is not held personally liable for any postforeclosure sale taxes, assessments, interest, and other necessary expenses if the rental income from the property is insufficient to meet such necessary expenses.

A foreclosure sale free from fraud or irregularity will not be held invalid for inadequacy of price, since the mortgagor may redeem from the foreclosure.

Disregard of the corporate entity theories are equitable in nature, and generally are not available absent fraud. Where a mortgagee looked to the three principals in a corporation as guarantors on the mortgage note, and the mortgagee settled its claim with them, the corporate veil will not be pierced to hold liable on that note a partner of the partnership which dominated the corporation since the mortgagee did not rely on the partner in executing the note.

Affirmed in part and remanded for a modification of the judgment in accordance with this opinion. Kelly, J. Took no part, Otis, J.

Decision Filed Friday, August 17, 1979

50177/394 State of Minnesota, Appellant, vs. Tony Luris Stangel. Cass County.

Common-law rule that a person reaches his next year in age at the first moment of the day preceding his birthday does not govern in computing a person's age for purpose of determining juvenile court jurisdiction.

Affirmed. Sheran, C. J.

OFFICIAL NOTICES

Pursuant to the provisions of Minn. Stat. § 15.0412, subd. 6, an agency, in preparing proposed rules, may seek information or opinion from sources outside the agency. Notices of intent to solicit outside opinion must be published in the *State Register* and all interested persons afforded the opportunity to submit data or views on the subject, either orally or in writing.

The *State Register* also publishes other official notices of state agencies, notices of meetings, and matters of public interest.

Department of Agriculture Shade Tree Program

Announcement of Continuing Availability of Grant-in-aid Funds for Experimental Programs and Wood Utilization and Disposal

The Minnesota Department of Agriculture's Shade Tree Program announces the continuing availability of grants-in-aid for experimental programs and wood utilization and disposal. The criteria and procedures for application are described below.

Experimental Programs

Objective: To establish and evaluate the effectiveness of various types of shade tree disease control and reforestation methods and treatment programs.

Eligible Applicants: All Minnesota municipalities, counties, state and federal agencies, and the University of Minnesota.

Application Procedures: Interested applicants must submit a description of the proposed experimental program to the Shade Tree Program. The description should clearly state the objective of the experiment, the methodology to be used, the background and experience of the personnel who will conduct the experiment, evaluation techniques, and cost of the experiment.

Criteria: All proposals will be evaluated by a Department review panel and grants awarded by the Commissioner of Agriculture based upon the following criteria:

(1) General applicability—proposed sanitation and treatment programs should not be limited in their application to a single community or county, but should be applicable in other parts of the state;

(2) Contribution to the overall State Shade Tree Program—proposed programs will be considered for their ability to enhance those shade tree disease control programs already established.

(3) Cost—effectiveness—proposed programs will be evaluated for their potential effectiveness given the cost of implementing the program:

(4) Ability of the "proposer" to provide the necessary evaluation—the capability of the "proposer" to reliably interpret and evaluate the results of the experiment will be considered.

(5) The proposed program must lend itself to experimental design and evaluation;

(6) Use of existing staff—proposed programs should operate with a minimum number of additional staff required for the project and,

(7) Limited purchase of equipment—program proposals should involve limited equipment purchases.

Amount of Grant: May be up to 100% of program costs as allowed by the Commissioner.

Total Amount Available for Grants: $400,000.

Deadline: All applications must be received by March 1, 1981.

Wood Utilization And Disposal

Objective: To assist interested parties in Minnesota in identifying potential uses of elm and oak wood and to financially assist eligible units of government in the acquisition or implementation of wood utilization or disposal programs.

Eligible Applicants: Any Minnesota municipality, county, special purpose park and recreation board organized under a charter of a city of the first class, or non-profit corporation serving a city of the first class having an approved shade tree disease control program.

Application Procedures: Interested applicants should contact the Shade Tree Program office to obtain the application form. On this form, the applicant describes how the system will be operated, what equipment will be purchased, where the site will be located and when it will become operational.

Criteria: All proposals will be evaluated and grants awarded by the Commissioner based upon the following criteria:

(1) The proposed system will aid in the control of shade tree diseases;

(2) The proposed system will aid in the recovery of material or energy from wood;

(3) The proposed system will be located to accomplish the above with maximum efficiency and use of available facilities;

(4) The proposed system will be available to all parties, public and private;

(5) The proposed system will be able to render wood pest-risk free within five (5) days of delivery to the site unless an extension of time has been granted by the Commissioner based on existing circumstances of the disposal/utilization site.

(6) The proposed system includes adequate manpower to operate and service equipment; and,

(7) The proposed system will provide for proper handling and the timely removal of processed wood from the site.

In addition, the Commissioner, as appropriate, may consider other specific criteria including the following in evaluating grant payment requests:

Sites for Wood Disposal Systems

(1) Shall be selected on the basis of anticipated volumes of wood and/or the need for a wood disposal system;

(2) Shall be accessible by roadways that permit year-round truck traffic;

(3) Shall have adequate storage areas for both processed wood and equipment;

(4) Shall have protective enclosures, adequate control, and supervision to prevent entry of unwanted materials and unauthorized persons;

(5) Shall be in compliance with all applicable Federal and State statutes, rules, and regulations; and,

(6) Shall be in conformance with regional solid waste management plans and requirements.

Equipment for Wood Disposal Systems

(1) Shall, where feasible, be portable so that it can be used for servicing more than one site;

(2) Shall be stationary only when the anticipated volume over a five-year period will fully utilize the facility;

(3) Shall be capable of processing large-diameter logs; and,

(4) Shall include auxiliary units and equipment necessary to the operation of the system.

Eligible Costs: Equipment and site acquisition costs; operations costs are not eligible.

Amount of Grant: Up to 50% of the eligible costs:

Total Amount Available for Grants: $550,000.

Deadline: All applications must be received by March 1, 1981.

All inquiries should be addressed to Minnesota Shade Tree Program, 600 Bremer Building, St. Paul, MN 55101, Phone: 612-296-8580.

Department of Commerce Banking Division

Bulletin No. 2117: Maximum Lawful Rate of Interest for Mortgages for September 1979

Notice is hereby given that the Banking Division, Department of Commerce, State of Minnesota, pursuant to House File No. 564, Chapter 279, 1979 Session Laws, as it amended Minn. Stat. § 47.20, subd. 4, effective May 31, 1979, hereby determines that the maximum lawful rate of interest for home mortgages for the month of September, 1979, is eleven and three-quarters (11.75) percent.

August 23, 1979

Michael J. Pint
Commissioner of Banks

Department of Commerce Board of Barber Examiners

Notice and Order for Hearing in the Matter of the Application of Arthur Brooks for a Change of Location of Brooks School of Barbering and Hairstyling

TO: All Interested Parties

Adam J. Mikrot, Executive Secretary of the Minnesota Board of Barber Examiners, issues this Order pursuant to the authority vested in the Board of Barber Examiners by Minn. Stat. § 154.07 (1978) and 4 MCAR §§ 8.056-8.066.

It is hereby ordered that Arthur Brooks ("Applicant") shall appear at a hearing to be held at 9:30 a.m. on the 26th day of September, 1979, at 500 Metro Square Building (Large Hearing Room) before Hearing Examiner Howard Kaibel, 1745 University Avenue, St. Paul, Minnesota, telephone (612) 296-8107, duly appointed as Hearing Examiner in this matter by the Chief Hearing Examiner of the State Office of Hearing Examiners.

The hearing in this matter will be held for the purpose of determining whether the Board of Barber Examiners should approve the change of location of Brooks Barber School from 481 Rice Street, St. Paul, Minnesota, to 262 University Avenue, St. Paul, Minnesota, based on the criteria set forth in Minn. Stat. § 154.07 (1978) and 4 MCAR §§ 8.056-8.066 and based on the application for a Certificate of Approval submitted to the Board of Barber Examiners by the Applicant.

The hearing will be conducted pursuant to the contested case procedures set forth in Minn. Stat. §§ 15.0411-15.0422 (1978) as amended, and pursuant to the rules of contested case procedures adopted by the State Office of Hearing Examiners, 9 MCAR §§ 2.201-2.222.

Applicant may be represented by legal counsel, by a person of his choice, or by himself if not otherwise prohibited as the unauthorized practice of law, throughout the proceedings in this matter. Questions concerning issues, concerning informal disposition of these proceedings, or discovery should be directed to Special Assistant Attorney General Robert J. Clayton, 500 Metro Square Building, St. Paul, Minnesota 55101, telephone (612) 296-9412, or Adam J. Mikrot, Executive Secretary of the Board of Barber Examiners, 500 Metro Square Building, St. Paul, Minnesota 55101, telephone (612) 296-2364.

Department of Commerce Insurance Division

Notice of Intent to Solicit Outside Information on Proposed Rules Governing the Automatic Adjustment of a Schedule of Rates for Workers' Compensation Insurance

Notice is hereby given that the Department of Commerce, Insurance Division, is considering the promulgation of proposed rules governing the automatic adjustment of Workers' Compensation Insurance Rates. Workers' Compensation Insurance Rates may be adjusted by two means: (1) A schedule of rates adjusted by a contested case hearing pursuant to chapter 79, and (2) a change in the schedule of rates to reflect changes in the average weekly wage which is adjusted annually by the Department of Labor and Industry. Workers' Compensation Insurance benefits are paid to injured workers based upon the average weekly wage. Since this moves the benefits up annually, premiums must be collected for the new benefits that are required to be paid by insurance carriers under the Workers' Compensation law. These rules are authorized by Special Session 1979, Senate File 1, Section 6, which will be codified as 79075.

In order to adequately determine the nature and utility of the rules, the Commerce Department and Insurance Division hereby request information and comment from all interested individuals or groups concerning the subject matter of the proposed rules. All interested or affected persons and/or groups are requested to participate. Statements of information and comment may be made orally or in writing. Written statements of information and comment may be addressed to Berton W. Heaton, Insurance Analyst, Insurance Division, Department of Commerce, Fifth Floor, Metro Square Building, Saint Paul, MN 55101. Oral statements and information

and comment will be received during regular business hours over the telephone at (612) 296-8592, or in person at the above-referenced address.

The proposed permanent rules, if adopted, would allow insurance companies writing Workers' Compensation to adjust their rate by a predetermined formula based upon changes in the average weekly wage which would require them to pay additional benefits. The formula will take into consideration the proper loading for losses, profits, contingencies, loss adjustment expense, and other loss and expense factors and will be reviewed at the next subsequent rate hearing following a change in the adjustment of schedule of rates by this automatic adjustment formula. Under present law, these rates are not changed except after a rate hearing. The Legislature, however, by amending Minn. Stat. § ch. 79, has requested that the Insurance Division come up with a formula which would automatically adjust insurance rates by operation of rule after certain stated events are fulfilled.

Therefore, pursuant to the requirements of this legislation, the Insurance Division is seeking information and comment prior to the promulgation of permanent rules. These rules will set the formula so that increases in Workers' Compensation rates may be made without a hearing for automatic adjustment in rates.

Department of Commerce Insurance Division

Notice of Meeting

Finance Committee

Minnesota Comprehensive Health Association
Monday, September 10, 1979
12:00 noon
North American Life and Casualty Company
1750 Hennepin Avenue
Minneapolis, Minnesota

Department of Commerce Insurance Division

Notice of Meeting

Board of Directors

Minnesota Comprehensive Health Association
Tuesday, September 18, 1979
9:00 a.m.
Federated Mutual Insurance Company
129 East Broadway
Owatonna, Minnesota

Minnesota Teachers Retirement Association

Notice of Meeting

The Board of Trustees, Minnesota Teachers Retirement Association, will hold a meeting on Wednesday, September 19, 1979, at 9 a.m. in the office of the Association, 302 Capitol Square Building, 550 Cedar Street, St. Paul, Minnesota, to consider matters which may properly come before the Board.

STATE CONTRACTS

Pursuant to the provisions of Minn. Stat. § 16.098, subd. 3, an agency must make reasonable effort to publicize the availability of any consultant services contract or professional and technical services contract which has an estimated cost of over $2,000.

Department of Administration procedures require that notice of any consultant services contract or professional and technical services contract which has an estimated cost of over $10,000 be printed in the *State Register*. These procedures also require that the following information be included in the notice: name of contract person, agency name and address, description of project and tasks, cost estimate, and final submission date of completed contract proposal.

Department of Education School Management Services Division

Notice of Request for Proposals for Auditing Sponsors for the Child Care Food Program (CCFP)

Notice is hereby given that the Department of Education intends to engage the services of one or two certified public accounting firms to examine and report upon the fiscal integrity of financial transactions and accuracy of CCFP sponsors' claims for reimbursement. The CCFP sponsors are located throughout the state, but the majority of the sponsors to be audited will be in the Minneapolis/St. Paul metropolitan area. Audits must comply with generally accepted auditing standards and the U.S. Department of Agriculture Audit Guide for Auditing Sponsors of the Child Care Food Program.

The initial amount of funds available for the audit program is $36,154.00, and there is the possibility of an additional $35,000.00 being made available for the audit program. As many as possible CCFP sponsors will be audited until total funds available for this program have been exhausted. It is estimated that each audit can be completed in two to ten working days with the majority of the audits taking about three days. The audit contract will have to be agreed upon by no later than September 30, 1979, and the audits must be completed by no later than March 31, 1980. The auditing firm or firms selected will be required to have at least one audit team member to attend a one day orientation course for the CCFP at the Department of Education, Capitol Square Building, St. Paul, Minnesota.

Those interested in submitting proposals should request a copy of the CCFP Audit Guide and a listing of the first six CCFP sponsors to be audited. The proposal should list the charge per hour for auditors conducting the audit. Reimbursement for travel and subsistence expenses will not exceed State reimbursement rates. The request for Audit Guide, list of sponsors and proposals should be sent to:

Mr. Charles L. Matthew, Director
Minnesota Department of Education
Child Nutrition Section
Room 509, Capitol Square Building
550 Cedar Street
St. Paul, MN 55101

The deadline for the submission of completed proposals will be the close of the working day, September 25, 1979.

Office of the Legislative Auditor

Notice of Request for Proposals for Computer Operations Evaluation

The Program Evaluation Division of the Office of the Legislative Auditor is conducting an evaluation of the Information Systems Division (ISD) of the Department of Administration. In connection with this study, a consultant is sought to perform a review of ISD operations. The Program Evaluation Division has prepared an RFP which describes a brief study to be performed within two months. The cost of this study shall not exceed ten thousand dollars. For a copy of the RFP, please contact:

Elliot Long
Program Evaluation Division
Office of the Legislative Auditor
122 Veterans Service Building
St. Paul, Minnesota 55155
(612) 296-1226

Department of Public Safety
Office of Public Information

Notice of Availability of a Child Safety Information Campaign Contract

The Department of Public Safety is seeking proposals for executing an existing plan for the first year of a major campaign to increase knowledge and usage of infant and child safety restraints. Details of the campaign plan, which includes media and community planning, are contained in a Request for Proposal. Copies of the Request for Proposal may be obtained at the Department of Public Safety Office of Public Information, 318 Transportation Building, St. Paul, MN 55155.

The terms of the contract are for October 1, 1979, until September 30, 1980, with the amount of the contract not to exceed $45,000.

Final submission date for proposals is September 14, 1979.

Department of Public Welfare
Chemical Dependency Program Division

Notice of Request for Proposals for Statewide Services Program Monitor

The Chemical Dependency Program Division is accepting proposals for up to $50,000 in order to procure technical services related to monitoring and oversight of treatment and rehabilitation programs for drug abusers and narcotic addicts. Project tasks include use of a monitoring protocol for evaluating services of contractors and clinics, and making recommendations to the State. Applications are due in the offices of the Chemical Dependency Program Division, Centennial Office Building, St. Paul, MN 55155 by the close of business, 4:30 p.m., Friday, September 20, 1979. Information regarding the procurement can be directed to Mr. Paul Jarcho, (612) 296-3504, or at the above address.

STATE OF MINNESOTA
OFFICE OF THE STATE REGISTER

Suite 415, Hamm Building
408 St. Peter Street
St. Paul, Minnesota 55102
(612) 296-8239

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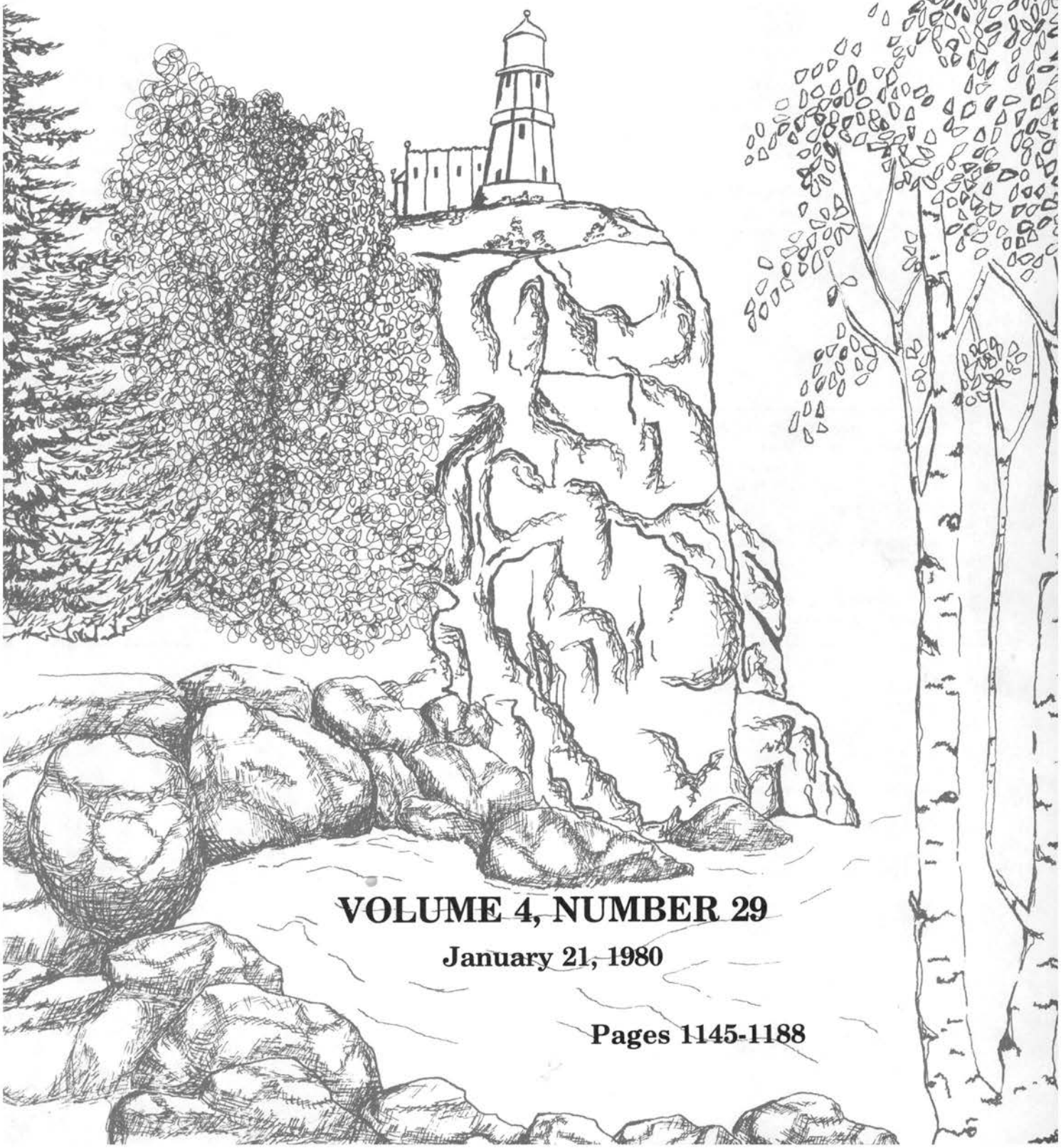
STATE OF MINNESOTA



VOLUME 4, NUMBER 29

January 21, 1980

Pages 1145-1188

STATE REGISTER

Volume 4 Printing Schedule for Agencies

Issue Number	*Submission deadline for Executive Orders, Adopted Rules and **Proposed Rules	*Submission deadline for State Contract Notices and other **Official Notices	Issue Date
	SCHEDULE FOR VOLUME 4		
30	Monday Jan 14	Monday Jan 21	Monday Jan 28
31	Monday Jan 21	Monday Jan 28	Monday Feb 4
32	Monday Jan 28	Monday Feb 4	Monday Feb 11
33	Monday Feb 4	Monday Feb 11	Monday Feb 18

*Deadline extensions may be possible at the editor's discretion; however, none will be made beyond the second Wednesday (12 calendar days) preceding the issue date for rules, proposed rules and executive orders, or beyond the Wednesday (5 calendar days) preceding the issue date for official notices. Requests for deadline extensions should be made only in valid emergency situations.

**Notices of Public Hearings on proposed rules are published in the Proposed Rules section and must be submitted two weeks prior to the issue date.

Instructions for submission of documents may be obtained from the Office of the State Register, Suite 415, Hamm Building, 408 St. Peter Street, St. Paul, Minnesota 55102.

The *State Register* is published by the State of Minnesota, Office of the State Register, Suite 415, Hamm Building, 408 St. Peter Street, St. Paul, Minnesota 55102, pursuant to Minn. Stat. § 15.0411. Publication is weekly, on Mondays, with an index issue in August. In accordance with expressed legislative intent that the *State Register* be self-supporting, the subscription rate has been established at $110 per year, and $85 per year for additional subscriptions, postpaid to points in the United States. Second class postage paid at St. Paul, Minnesota, Publication Number 326630. (ISSN 0146-7751) No refunds will be made in the event of subscription cancellation. Single issues may be obtained at $2.25 per copy.

Subscribers who do not receive a copy of an issue should notify the *State Register* Circulation Manager immediately at (612) 296-0931. Copies of back issues may not be available more than two weeks after publication.

The *State Register* is the official publication of the State of Minnesota, containing executive orders of the governor, proposed and adopted rules of state agencies, and official notices to the public. Judicial notice shall be taken of material published in the *State Register*.

Albert H. Quie
Governor

James J. Hiniker, Jr.
Commissioner
Department of Administration

Stephen A. Ordahl
Manager
Office of the State Register

Carol Anderson Porter
Editor

Paul Hoffman, Robin PanLener, Jean M. Walburg
Editorial Staff

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How to Follow State Agency Rulemaking Action in the *State Register*

State agencies must publish notice of their rulemaking action in the *State Register*. If an agency seeks outside opinion before promulgating new rules or rule amendments, it must publish a **NOTICE OF INTENT TO SOLICIT OUTSIDE OPINION.** Such notices are published in the **OFFICIAL NOTICES** section. Proposed rules and adopted rules are published in separate sections of the magazine.

The PROPOSED RULES section contains:

- Proposed new rules (including Notice of Hearing).
- Proposed amendments to rules already in existence in the Minnesota Code of Agency Rules (MCAR).
- Proposed temporary rules.

The ADOPTED RULES section contains:

- Notice of adoption of new rules and rule amendments (those which were adopted without change from the proposed version previously published).
- Adopted amendments to new rules or rule amendments (changes made since the proposed version was published).
- Notice of adoption of temporary rules.
- Adopted amendments to temporary rules (changes made since the proposed version was published).

All ADOPTED RULES and ADOPTED AMENDMENTS TO EXISTING RULES published in the *State Register* will be published in the Minnesota Code of Agency Rules (MCAR). Proposed and adopted TEMPORARY RULES appear in the *State Register* but are not published in the MCAR due to the short-term nature of their legal effectiveness.

The *State Register* publishes partial and cumulative listings of rule action in the MCAR AMENDMENTS AND ADDITIONS list on the following schedule:

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Issues 14-25, inclusive
Issue 26, cumulative for 1-26
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PROPOSED RULES

Pursuant to Minn. Stat. § 15.0412, subd. 4, agencies must hold public hearings on proposed new rules and/or proposed amendment of existing rules. Notice of intent to hold a hearing must be published in the *State Register* at least 30 days prior to the date set for the hearing, along with the full text of the proposed new rule or amendment. The agency shall make at least one free copy of a proposed rule available to any person requesting it.

Pursuant to Minn. Stat. § 15.0412, subd. 5, when a statute, federal law or court order to adopt, suspend or repeal a rule does not allow time for the usual rulemaking process, temporary rules may be proposed. Proposed temporary rules are published in the *State Register*, and for at least 20 days thereafter, interested persons may submit data and views in writing to the proposing agency.

Public Hearings on Agency Rules January 23-31, 1980

Date	Agency and Rule Matter	Time & Place
Jan. 23	Public Welfare Dept. Use of Aversive & Deprivation Procedures Hearing Examiner: Natalie Gaull	9:30 a.m., Rm. D, Veterans Service Bldg. 20 W. 12th St. & Columbus Ave., St. Paul, MN
Jan. 28	Public Welfare Dept. Day Care for Children, and Allocation of Title XX Funds Hearing Examiner: Harry Seymour Crump	9:00 a.m., Weyerhaeuser Rm., MN Historical Society Bldg., 690 Cedar St., St. Paul, MN
Jan. 31	Health Dept. Life Support Transportation Services	9:30 a.m., Health Dept. Bldg., 717 Delaware St. S.E., Minneapolis, MN

Department of Administration Building Code Division

Proposed Amendments to the State Building Code

Notice of Reconvened Hearing

Notice is hereby given that the public hearing of October 9-10, 1979 in the above entitled matter will be reconvened at 408 Metro Square Building, St. Paul, Minnesota on February 22, 1980 commencing at 9:30 a.m. and continuing until all persons have had an opportunity to be heard. The hearing will concern amendments to the State Building Code, specifically the deletion of the 1976 Edition of the Uniform Building Code, as amended, and the adoption by reference of the 1979 Edition of the Uniform Building Code, with amendments. The Uniform Building Code and amendments concern numerous aspects of the design and construction of buildings including, but not limited to, the administration and enforcement of the Code; classifications and types of occupancies; fire-safety requirements; sanitation provisions; engineering provisions and others.

A hearing was previously held on this matter on October 9, 10, 1979. The proposed rules to be considered are published at 4 S.R. 234-251, § 1 (September 3, 1979). The purpose of the reconvened hearing is to comply with the December 14, 1979 Report of the Hearing Examiner concerning the October 9, 10, 1979 public hearing. Specifically, paragraph 9 of the Findings of Fact notes that deletion of 2 MCAR § 1.10111 (the 1976 Uniform Building Code and amendments) was published without showing the deleted language reprinted with strike-outs.

At the February 22 hearing, in addition to introducing the record concerning the 1976 and 1979 Uniform Building Codes and amendments created in connection with the October 9, 10th hearings, including all comments, oral and written, the agency intends to add a new section to the 1979 Uniform Building Code (§ 3802(e)) concerning special automatic fire-extinguishing systems:

UBC § 3802(e) Special Automatic Fire-Extinguishing Systems. In all occupancies having commercial cooking equipment (see NFPA No. 96-1976), automatic fire extinguishing systems complying with UBC Standard 38-1 or 38-2 shall be installed for protection of duct systems, grease removal devices, hoods and over commercial cooking equipment which may be a source of ignition (such as fat fryers, ranges, griddles and boilers). Systems installed in accordance with the following standards are also permitted.

1. Standards for foam-water sprinkler systems and foam-spray systems, NFPA No. 16-1974.

2. Standard for dry-chemical extinguishing system, NFPA No. 17-1975.

EXCEPTION: These requirements shall not apply to Group R-3 and Group R-4 occupancies.

All interested or affected persons will have an opportunity to participate. Statements may be made orally and written materials may be submitted at the hearing. In addition, written materials may be submitted by mail to Mr. Peter Erickson,

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION —** Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

Office of Hearing Examiners, Room 300, 1745 University Avenue, St. Paul, Minnesota 55104, either before the hearing or within 5 working days after the close of the hearing. The Hearing Examiner may extend the time for receipt of written comments for a period not to exceed twenty (20) calender days from the date of the hearing.

The proposed rules are subject to change as a result of the rules hearing process. The agency therefore strongly urges those who are potentially affected in any manner by the substance of the proposed rules to participate in the rules hearing process.

Copies of the proposed rules will be available at the door on the date of the hearing and one free copy can now be obtained by writing to the Building Code Division, 408 Metro Square Building, 7th and Robert Streets, St. Paul, Minnesota 55101.

The agency's authority to promulgate the proposed rules is contained in Minn. Stat. §§ 16.83, 16.85, 16.86 (1978).

Notice is hereby given that 25 days prior to the hearing a Statement of Need and Reasonableness will be available for review at the agency and at the Office of Hearing Examiners. This Statement of Need and Reasonableness will include a summary of all the evidence which will be presented by the agency at the hearing justifying both the need for and the reasonableness of the proposed rules. Copies of the Statement of Need and Reasonableness may be obtained from the Office of Hearing Examiners at a minimal charge.

Any person may request notification of the date on which the Hearing Examiner's Report will be available, after which date the agency may not take any final action on the rules for a period of five working days. Any persons may request final notification of the date on which the hearing record has been submitted (or resubmitted) to the Attorney General by the agency. If you desire to be so notified, you may so indicate at the hearing. After the hearing, you may request notification by sending a written request to the Hearing Examiner (in the case of the Hearing Examiner's Report), or to the agency (in the case of the agency's submission or resubmission to the Attorney General).

Please be advised that pursuant to Minn. Stat. ch. 10A.01, subd. 11 (1978) any individual: (a) Engaged for pay or other consideration, or authorized by another individual or association to spend money, who spends more than five hours in any month or more than $250, not including *his own* travel expenses and membership dues, in any year, for the purpose of attempting to; influence legislative or administrative action by communicating or urging others to communicate with public officials; or (b) who spends more than $250, not including *his own* traveling expenses and membership dues, in any year for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials must register with the State Ethical Practices Board as a lobbyist within five days of the commencement of such activity by the individual. The statute provides certain exceptions. Questions should be directed to the Ethical Practices Board, 41 State Office Building, St. Paul, Minnesota 55155, phone (612) 296-5615.

Adoption of the proposed rules by the agency will not require the expenditure of additional public monies by local public bodies.

January 4, 1980

James J. Hiniker, Jr.
Commissioner

Amendments as Proposed

~~**2 MCAR § 1.10111**~~

~~**SBC 111 Adoption of the Uniform Building Code by** reference. Chapters 1 through 60 and the appendix of the 1976 Edition of the Uniform Building Code, hereinafter "UBC," as promulgated by the International Conference of Building Officials, is incorporated by reference and is hereby made part of the State Building Code (SBC) except as qualified by SBC 109. Said UBC shall be subject to the following alterations and amendments:~~

~~**UBC 101, 102 and 103 are deleted in their entirety.**~~

~~**UBC 104(j)** is amended by adding an additional item number 5 as follows:~~

~~5. All approvals must be based on the applicants submission of complete architectural and engineering plans and specifications.~~

~~**UBC 204** is amended by amending the last sentence as follows: The Board shall adopt reasonable rules and regulations for conducting its investigations and shall render all decisions and findings in writing to the Building Official with a duplicate to the applicant and to the State Building Inspector within fifteen (15) days of such decision.~~

~~**UBC 303(a)** is amended by adding an additional sentence to the first paragraph as follows: The fee schedule of Table 3-A is hereby made optional for use by the local authority and is a recommended schedule. Each municipality must adopt its own schedule of permit fees.~~

~~**Section 420** of the UBC is amended to read as follows:~~

~~**UBC 420 Definitions:**~~

~~Supervised living facilities. Class A supervised living facilities shall include homes providing boarding and lodging for ambulatory and mobile disabled persons who are capable of semi-independent living with minimum supervision and who are mentally and physically capable of self-preservation under emergency conditions. Physically handicapped persons shall be housed at street level. See UBC 1301 as amended.~~

~~Class B supervised living facilities shall include homes providing boarding and lodging for:~~

~~1. Mobile disabled persons who are capable of semi-independent living with minimum supervision, but who are not physically capable of self-preservation;~~

~~2. Persons with diverse dependencies who require various degrees of supervised guidance and assistance, and who are~~

not mentally or physically capable of self preservation under emergency conditions. See UBC 901 as amended.

UBC Table 5-A is amended to read as follows:

UBC 501 Table 5-A

I.1. Nurseries for full time care of children under kindergarten age. Hospitals, sanitariums, nursing homes, and similar buildings (each accommodating five or more persons).

I.2. Boarding care homes, detoxification center, homes for children of kindergarten age or over, supervised living facilities Class B as defined in UBC 420 (each accommodating five or more persons).

R-1 Hotels and apartment houses. Convents, monasteries (each accommodating more than ten persons). Supervised living facilities Class A as defined in UBC 420 (accommodating five or more persons).

Chapter 5 of the UBC is amended by adding a new section to read as follows:

UBC 512 Roof access. Unless specifically exempted by the Building Official due to space limitation, roof height above grade or other special considerations, buildings on which any heating, air conditioning, or refrigeration equipment is hereafter installed on the roof and which equipment will require periodic inspection, service and maintenance in accordance with the mechanical code SBC 7101 through SBC 8810 shall meet the following requirements:

A stairway complying with Chapter 33 or a stair leading to a scuttle or bulkhead in the roof having such equipment shall be provided to make such equipment safely accessible. Said stair leading to the scuttle or bulkhead shall be placed at an angle of not more than 60 degrees measured from the horizontal with flat treads not less than six inches in width and a minimum length of 24 inches at the tread. No riser shall be more than nine inches and handrails shall be provided on both sides of the access stairs. The minimum opening of the scuttle or bulkhead shall be not less than two feet. In no case shall this required access be located in or pass through the elevator shaft or elevator machine room.

Equipment should be located with at least six feet of clearance from the edge of the roof or similar hazards. If the clearance is less than six feet, a suitable rail or guard not less than forty-two inches in height shall be provided.

Each unit of equipment shall have an accessible switch. A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed on the roof adjacent to the unit or equipment. The circuit for this convenience outlet shall have approved ground-fault protection and shall not be connected to the equipment circuit.

UBC 605 Light, ventilation and sanitation. All enclosed portions of Group A, Division 1 Occupancies customarily used by human beings and all dressing rooms shall be provided with natural light by means of exterior glazed openings with an area not less than one tenth of the total floor area, and natural ventilation by means of openable exterior openings with an area of not less than one-twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating system shall supply a minimum of five (5) cubic feet per minute of outside air with a total circulated of not less than 15 (fifteen) cubic feet per occupant in all portions of the building and such system shall be kept continuously in operation during such times as the building is occupied. If the velocity of the air at the register exceeds 10 (ten) feet per second, the register shall be placed more than eight (8) feet above the floor directly beneath.

Lights in all parts of the building customarily used by human beings shall be on a separate circuit from that of the stage and shall be controlled from the box office. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and both inside and/or outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two (2) water closets for each sex, and at least one (1) drinking fountain for each floor level.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

Section 802(c) of the UBC is amended to read as follows:

UBC 802(c) Special provisions. Rooms in Division 1 and 2 Occupancies used for day care purposes, kindergarten pupils and Division 3 Occupancies shall not be located above the first story. Storage and janitor closets shall be of one-hour fire-resistive construction. Stage and enclosed platforms shall be constructed in accordance with Chapter 39. For attic partitions and draft stops see Section 3205.

Section 805 of the UBC is amended to read as follows:

UBC 805 Light, ventilation and sanitation. All portions of Group E Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in UBC 605.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

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Section 809 of the UBC is amended to read as follows:

UBC 809 Approved fire alarms shall be provided for all Group E Division 1 and 2 Occupancies with an occupant load of more than 50 persons in Group E Division 3 Occupancies with an occupant load of more than 29 persons. In every Group E Occupancy provided with an automatic fire extinguishing or detection system, the operation of such system shall automatically activate the school alarm system.

The fire alarm system shall be installed in compliance with NFPA Standard 72 A 75, ''Local Protective Signaling Systems.''

An approved fire alarm is a fire alarm and detection system consisting of the following:

1. A complete noncoded continuously sounding until manually reset, electronically supervised type.

2. Shall have sounding stations on 100 foot to 150 foot spacing; (a) in corridors, (b) in areas of high noise levels, such as band rooms, shops, boiler rooms, (c) a weatherproof station on exterior of building facing residential areas.

3. Shall have automatic sending stations (detectors) in boiler rooms, kitchens, shops, painting areas, lounges, laundries, janitor's closets, storerooms, etc., or unsupervised and unoccupied spaces; namely, critical or hazardous areas.

4. Manual sending stations shall be provided in the natural path of escape from fire, near each exit from an area, on each floor, and shall be readily accessible, unobstructed and at visible locations.

Section 901 of the UBC is amended to read as follows:

UBC 901 Division 1. Nurseries for full time care of children under kindergarten age. Hospitals, sanitariums, nursing homes, and similar buildings (each accommodating five or more persons).

Division 2. Boarding care homes, detoxification centers, homes for children of kindergarten age or over, supervised living facilities. Class B as defined, for the mentally retarded, mentally ill, chemically dependent and the physically handicapped (each accommodating five or more persons).

Section 902(b) Special provisions. Division 3 Occupancies shall be housed in buildings of Type I or II-F.R. construction.

Every story of a Group I, Division 1 Occupancy accommodating five (5) or more nonambulatory persons, unless provided with a horizontal exit, shall be divided into not less than two compartments accommodating approximately the same number of nonambulatory persons in each compartment by smokestop partition meeting the requirements of a one-hour occupancy separation so as to provide an area of refuge within the building.

Corridor openings in the smokestop partition shall be protected with doors as required in Section 3304(h). Other openings shall be limited to ducts which have fire dampers in the plane of the wall activated by detectors of products of combustion other than heat conforming to Section 4306(b)2.

Rooms occupied by inmates or patients whose personal liberties are restrained, shall have noncombustible floor surfaces.

Section 905 of the UBC is amended to read as follows:

UBC 905 All portions of Group I Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the mechanical code.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

Section 909 of the UBC is amended to read as follows:

UBC 909 An approved fire alarm system shall be provided for all Group I Occupancies.

Audible alarm devices shall be used in all nonpatient areas. Visible alarm devices may be used in lieu of audible devices in patient occupied areas. An approved alarm system shall comply with UBC 809. Operation of any fire alarm activating device shall automatically, without delay, accomplish general alarm indication and control functions. Zoned, coded systems shall be permitted to be used. Exception: Alarm systems may be installed in accordance with NFPA 101, 1977 Edition, § 10-3.3.3.

Section 1005 of the UBC is amended to read as follows:

UBC 1005 All portions of Group H Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four complete air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all buildings used for the repair or handling of automobiles operating under their own power, ventilation shall be provided capable of exhausting a minimum of 3/4 cfm per square foot. Additionally, each engine repair stall shall be equipped with an exhaust pipe extension duct, extending to the outside of the building, which, if over 10 feet in length, shall mechanically exhaust 300 cubic feet per minute. Connecting offices and waiting rooms shall be supplied with conditioned air under positive pressure.

EXCEPTION: In public repair garages and aircraft hangars not exceeding an area of 5,000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

~~Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four (4) and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.~~

~~All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches in area for the first toilet facility; or a mechanically operated exhaust system which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.~~

~~For other requirements on water closets, see UBC 1711.~~

~~For additional sanitation facilities requirements, see UBC 1711(h).~~

Section 1105 ~~of the UBC is amended to read as follows:~~

UBC 1105 ~~All portions of Group B, Divisions 1, 2 and 3 Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and applicable sections of the mechanical code.~~

~~In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided, sufficient to produce four air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.~~

~~In all enclosed parking garages used for storing or handling of automobiles operating under their own power and on all loading platforms in bus terminals, ventilation shall be provided capable of exhausting a minimum of 3/4 cfm per square foot of gross floor area. The Building Official may approve an alternate ventilation system designed to exhaust a minimum of 14,000 cfm for each operating vehicle. Such system shall be based upon the anticipated instantaneous movement rate of vehicles but not less than 2.5 percent (or one vehicle) of the garage capacity. Automatic CO sensing devices may be employed to modulate the ventilation system to maintain a maximum average concentration of CO of 50 ppm during any 8 hour period, with a maximum concentration not greater than 200 ppm for a period not exceeding one hour. Connecting offices, waiting rooms, ticket booths, etc., shall be supplied with conditioned air under positive pressure.~~

~~EXCEPTION: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding an area of 5,000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.~~

~~Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.~~

~~Such water closet rooms in connection with food establishments where food is prepared, stored, or served shall have a nonabsorbent interior finish on floors, walls and ceilings and shall have hand washing facilities therein or adjacent thereto.~~

~~All water closet rooms shall be provided with an exterior window at least three square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least five feet from any openable window.~~

~~For other requirements on water closets, see UBC 510 and UBC 1711.~~

~~For additional sanitation facilities requirements, see UBC 1711(h).~~

Section 1109 ~~of the UBC is amended by adding a new paragraph (m):~~

~~(m) Every parking ramp or other parking facility shall include spaces for the parking of motor vehicles having a capacity of seven (7) to sixteen (16) persons. Such vehicles shall be classified as commuter vehicles for the transportation of employees to and from their place of employment or to or from transit stop authorized by a local transit authority. The number of required spaces shall be determined by 2% of the gross designed parking area with a minimum of two spaces. Such spaces to accommodate commuter vehicles shall be at least 10 feet in width, 20 feet in length and a height clearance of 10′-6″ on the entry level and shall not apply to other levels of a ramp.~~

Section 1205 ~~of the UBC is amended to read as follows:~~

UBC 1205 Light, ventilation, and sanitation. ~~All portions of Group B Division 4 Occupancies customarily used by human beings shall be provided with light and ventilation as specified in UBC 1105.~~

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Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

Section 1301 of the UBC is amended to read as follows:

UBC 1301 Group R Division 1 Occupancies shall be: hotels and apartment houses, convents and monasteries (each accommodating more than ten persons). Supervised living facilities, Class A as defined, for the mentally retarded, mentally ill, chemically dependent, and the physically handicapped (each accommodating five or more persons).

Section 1304 of the UBC is amended to read as follows:

Exit Facilities

Sec. 1304. Stairs, exits, and smokeproof enclosures shall be as specified in Chapter 33.

All stairs and exits in Group R, Division 1 Occupancies shall open directly upon a street or alley or upon a yard or court not less than 4 feet in width directly connected to a street or alley by means of a passageway not less in width than the stairway opening into such passageway and not less than 7 feet in height.

Buildings more than one story in height shall have no transoms or ventilating openings from guest rooms to public corridors.

Door openings from guest rooms to public corridors shall be protected as specified in Section 3304.

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency egress or rescue. The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are provided as a means of egress or rescue they shall have a finished sill height not more than 48 inches above the floor.

Section 1305(b) of the UBC is amended to read as follows:

UBC 1305(b) Sanitation. Every building shall be provided with at least one water closet. Every hotel and each subdivision thereof where both sexes are accommodated shall be provided with at least two water closets located in such building, which shall be conspicuously marked one for each sex.

Additional water closet shall be provided on each floor for each sex at a rate of one for every additional ten guests, or fractional part thereof, in excess of ten.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Each plumbing fixture shall be equipped with running water necessary for its normal operation.

For other requirements on water closets, see UBC 510 and UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1314 Sound transmission control. Sound transmission control shall be provided to meet the standards defined in UBC Appendix Chapter 35.

Exception: Sound transmission requirements will not be required in Class A Supervised Living Facilities.

Chapter 13 of the UBC is amended by adding a new section to read as follows:

UBC 1315 Deadbolt locks required. All exit doors leading to public or shared areas from all dwelling units and hotel units shall be provided with deadbolt locks, at least one of which must be capable of being locked from the exterior of said unit. For the purpose of this section, a ''deadbolt lock'' is a locking bolt, which, when in the locked position, can only be moved positively by turning a knob, key, or sliding bolt.

Deadbolt locks having a bolt moved by turning a key shall be of the five-pin tumbler type or an approved equivalent. Lock throw shall be not less than three-quarters inch (¾″). Locks shall meet requirements of UBC 3303(c).

Section 1401 of the Uniform Building Code is amended by adding a new section to read as follows:

Section 1401(b) Group R, Division 4 Occupancies: This use group shall include all one and two family dwellings built exclusively by the standards as established in the 1975 One and Two Family Dwelling Code as promulgated by the national model code organizations and 2 MCAR § 1.16001 through 2 MCAR § 1.16006.

Exception: The plumbing requirements found in Part V (Chapters 20 through 25) and the referenced portions of Part VII (2.26.2001 - S.26.2103) are deleted in their entirety. The plumbing requirements of the Minnesota Health Department for plumbing shall apply to this occupancy group.

Section R-211 of the One and Two Family Dwelling Code is amended to read as follows:

Section R-211 Exists. Not less than one exit conforming to this Chapter shall be provided from each dwelling unit.

Every sleeping room shall have at least one operable window or exterior door approved for emergency egress or rescue. The units must be operable from the inside to a full clear opening without the use of separate tools. Where windows are provided as a means of egress or rescue they shall have a sill height of not more than 48 inches above the floor.

All egress or rescue windows from sleeping rooms must have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches.

Section 1404 of the UBC is amended to read as follows:

Exit facilities

Section 1404. Stairs and exits shall be provided as specified in Chapter 33.

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency egress or rescue. The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are provided as a means of egress or rescue they shall have a finished sill height not more than 48 inches above the floor.

UBC 1405(b) Sanitation. Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Plumbing fixtures shall be provided with running water necessary for their operation.

For other requirements on water closets, see UBC 510 and 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1711(b) of the UBC is amended to read as follows:

UBC 1711(b) Toilet facilities. Each water closet stool shall be located in a clear space not less than 30 inches in width and have a clear space in front of the water closet stool of not less than 24 inches.

For provisions of the physically handicapped see SBC 5501 through 5508.

Chapter 17 of the UBC is amended by adding a new section to read as follows:

UBC 1711(h) Sanitation facilities. Sanitation facilities shall be provided for each Occupancy in accordance with Table 17-B and UBC Sections 605, 705, 805, 905, 1005, 1205, 1305 and 1405. Fixtures shall be provided for each sex in accordance with the percentage of occupants of each sex. When the percentage of each sex is not known, one-half for each sex shall be assumed.

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS
Group A Occupancies	Auditoriums	30	Churches	Churches
	Bowling Alleys	30		
	Churches—Conference Rooms	60	1 for each 300 Men	(3)
	Dance Floors	80	1 for each 300 Women	
	Dining, Drinking	30		
	Exhibit Rooms	30	Other Occupants: Fixtures	
	Gymnasiums	80	1-100: 1	
	Libraries	30	101-200: 2	
	Lodge Rooms	100	201-400: 3	
	Lounges	80	Over 400: 1 addt'nl/each 500	
	Rinks	80		(3)
	Stadiums, Grandstands	30		
	Theaters	80		
	Waiting Rooms	80		
Group E Occupancies (6)	Elementary	85	Boys: 1/ea. 100; Girls: 1/ea. 30	1 for each 30
	Secondary	130	1/ea. 100; 1/ea. 25	
Group I Occupancies	Prisons, Jails	100	1 for each cell; 1 for ea. exercise room	
	Hospitals, Nursing Homes	100	1 for each 8 patients; 1 for each waiting rm.	

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			Other 1 for each 25 men 1 for each 20 women	Other 1 for each 50
Group H Occupancies			Factories, Warehouses Occupants' Fixtures	Factories, Warehouses Occupants' Fixtures
Group B Occupancies	Aircraft Hangars Factories Municipal Buildings Office Buildings Sales Service Stations Storage Garages Warehouses	500 200 80 200 200 500 500 500	1-10 1 11-25 2 36-50 3 51-75 4 76-100 5 Over 100 1 addt'nl for 30	(3)
Group B-4 Occupancies			Sales, Office, etc. Occupants Fixtures	Sales, Offices
	Factories Sales Warehouses	200 200 500	1-15 1 16-35 2 36-55 3 56-80 4 81-110 5 111-150 6	(3)
Group R-1 Occupancies	Dwelling Units, Apt. Motel, Hotel Units Rooming Houses Dormitories	— — 200 200	1 1 for each 10 1 for each 10 1 for each 10	
Group R-3 and R-4 Occupancies	1 and 2 Family	—	1	—
Group M Occupancies	—	—	—	—
TEMPORARY FACILITIES	—	—	1 for each 30	1 for each 30

LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	KITCHEN SINKS	SERVICE SINKS
Churches 1 for each 300				
Other Occupants Fixtures 1-200 1 201-400 2 401-750 3 Over 750 1 addt'nl for each 500	1 for each 300			
1 for each 100 1 for each 100	1 for each 75	—	—	1 per floor
1 in each cell 1 ea. exercise rm.	1 for each 100	1 at each cell floor	—	1 per floor
1 for ea. 10 patients		1 for each 20		
Other 1 for each 10		Other 1 for each 10		
Factories, Warehouses Occupants Fixtures for each 1-100 1-10 Over 100 1-15	Factories Warehouses 1 for each 75			

~~Sales, Offices~~ ~~Occupants Fixtures~~ ~~1-15 +~~ ~~16-35 2~~ ~~36-60 3~~ ~~61-90 4~~ ~~91-125 5~~ ~~Over 125 1 to 45~~	~~Sales, Offices~~ ~~1 for each 150~~			~~1 per floor~~
~~+~~ ~~1 for each 10~~ ~~1 for each 10~~ ~~1 for each 10~~	—	~~+~~ ~~1 for each 10~~ ~~1 for each 10~~ ~~1 for each 10~~	~~+~~ —	~~1 laundry tray for each 10 dwelling units or guest rooms~~
~~+~~	—	~~+~~	~~+~~	—
—	—	—	—	—
—	~~1 for each 100~~	—	—	—

~~Footnotes:~~
~~(1) Occupant load is computed using the equation: S.F. per Occ. = Occupant Load~~
~~(2) Square feet per occupant is only for computing the occupant load to determine the plumbing fixtures required.~~
~~(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.~~
~~(4) 1 fisture for each 10 occupants.~~
~~(5) 1 fisture for each 15 occupants.~~

~~For waterclosets, and lavatories, these numbers are minimum & equal number fo ea. sex is required.~~

~~S.F. — per Occ. — from Column 3 of this table~~
~~A-Area of building occupancy classification served~~

~~Sec. 1807.(a)~~ ~~is amended to read as follows:~~

~~Special Provisions for Group B, Division 2 Office Buildings and Group R, Division 1 Occupancies.~~

~~Sec. 1807.(a) Scope.~~ ~~This Section shall apply to all Group B, Division 2 office buildings and Group R, Division 1 Occupancies each having floors used for human occupancy located more than 75 feet above the lowest level of Fire Department vehicle access. Such buildings shall be provided with either an approved automatic fire extinguishing system in accordance with Section 1807(c), or safe areas of refuge (compartmentation) in accordance with Section 1807(1).~~

~~(b) Certificate of occupancy. All mechanical and electrical equipment and other required life safety systems shall be approved and installed in accordance with approved plans and specifications pursuant to this Section and shall be tested and proved to be in proper working condition to the satisfaction of the building official before issuance of the Certificate of Occupancy.~~

~~(c) Automatic fire extinguishing system. When provided as required in Section 1807(a), the automatic fire extinguishing system shall be provided throughout the building. The sprinkler system shall be designed using the parameters set forth in UBC Standard No. 38-1 and the following:~~

~~1. Shutoff valves and a water flow device shall be provided for each floor. The sprinkler riser may be combined with the standpipe riser.~~

~~2. In Seismic Zones No. 2, No. 3, and No. 4, in addition to the main water supply a secondary on-site supply of water equal to the hydraulically calculated sprinkler design demand plus 100 gallons per minute additional for the total standpipe system shall be provided. This supply shall be automatically available if the principal supply fails and shall have a duration of 30 minutes.~~

~~(d) Smoke detection systems. At least one approved smoke detector suitable for the intended use shall be installed in:~~

~~1. Every mechanical equipment, electrical, transformer, telephone equipment, elevator machine or similar room.~~

~~2. In the main return and exhaust air plenum of each air conditioning system and located in a serviceable area downstream of the last duct inlet.~~

~~3. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air conditioning system. In Group R, Division 1 Occupancies, an approved smoke detector may be used in each return air riser carrying not more than 5000 cfm and serving not more than 10 air inlet openings.~~

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The actuation of any detector required by this Section shall operate the voice alarm system and shall place into operation all equipment necessary to prevent the recirculation of smoke.

(e) Alarm and Communication Systems. The alarm and communication systems shall be so designed and installed that damage to any terminal unit or speaker will not affect the operation of the remainder.

The voice alarm and public address system may be a combined system. When approved, the Fire Department communications system may be combined with the voice alarm system and the public address system.

Three communication systems which may be combined as set forth above shall be provided as follows:

1. Voice alarm system. The operation of any smoke detector, sprinkler, water flow device or manual fire alarm station shall automatically sound an alert signal to the desired areas followed by voice instructions giving appropriate information and direction to the occupants.

The central control station shall contain controls for the voice alarm system so that a selective or general voice alarm may be manually initiated.

The system shall be supervised to cause the activation of an audible trouble signal in the central control station upon interruption or failure of the audiopath including amplifiers, speaker wiring, switches and electrical contracts and shall detect opens, shorts and grounds which might impair the function of the system.

The alarm shall be designed to be heard clearly by all occupants within the building or designated portions thereof as is required for the public address system.

2. Public address system. A public address communication system designed to be clearly heard by all occupants of the building shall operate from the central control station. It shall be established on a selective or general basis to the following terminal areas:

A. Elevators

B. Elevator lobbies

C. Corridors

D. Exit stairways

E. Rooms and tenant spaces exceeding 1000 square feet in area.

F. Dwelling units in apartment houses

G. Hotel guest rooms or suites

3. Fire Department communication system. A two-way Fire Department communication system shall be provided for Fire Department use. It shall operate between the central control Station and every elevator, elevator lobby and entry to every enclosed exit stairway.

(f) Central control station. A central control station for Fire Department operations shall be provided in a location approved by the Fire Department. It shall contain:

1. The voice alarm and public address system panels.

2. The Fire Department communications panel.

3. Fire detection and alarm system annunciator panels.

4. Status indicator and controls for elevators.

5. Status indicators and controls for air handling systems.

6. Controls for unlocking all stairway doors simultaneously.

7. Sprinkler valve and water flow detector display panels.

8. Standby power controls and status indicators.

9. A telephone for Fire Department use with controlled access to the public telephone system.

(g) Smoke control. Natural or mechanical ventilation for the removal of products of combustion shall be provided in every story and shall consist of one of the following:

1. Panels or windows in the exterior walls which can be opened remotely from an approved location other than the fire floor. Such venting facilities shall be provided at the rate of 20 square feet per 50 lineal feet of exterior wall in each story and shall be distributed around the perimeter at not more than 50-foot intervals. Such windows or panels and their controls shall be clearly identified.

EXCEPTION: When a complete automatic fire-extinguishing system is installed, windows or panels manually openable from within the fire floor or approved fixed tempered glass may be used in lieu of the remotely operated openable panels and windows. Such windows shall be clearly identified and shall be of the size and spacing called for in Section 1807(g)1.

2. When a complete and approved automatic fire-extinguishing system is installed, the mechanical air-handling equipment may be designed to accomplish smoke removal. Under fire conditions, the return and exhaust air shall be moved directly to the outside without recirculation to other sections of the building. The air-handling system shall provide a minimum of one exhaust air change each 10 minutes for the area involved.

3. Any other approved design which will produce equivalent results.

(h) Elevators. Elevators and elevator lobbies shall comply with the provisions of Chapter 51 and the following:

NOTE: A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all those elevators which respond to a single call button constitute a bank of elevators. There is no limit on the number of cars which may be in a bank or group but there may be not more than four cars within a common hoistway.

1. Except for the main entrance level, all elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building as is required for corridor construction in Section 3304(g) and (h).

2. Each elevator lobby shall be provided with an approved smoke detector located on the lobby ceiling. When the detector is activated, elevator doors shall not open and all cars serving that lobby are to return to the main floor and be under manual control only. If the main floor detector or a transfer floor detector is activated, all cars serving the main floor or transfer floor shall return to a location approved by the Fire Department and building official and be under manual control only. The smoke detector is to operate before the optical density reaches 0.03 per foot. The detector may serve to close the lobby doors.

3. A permanent sign shall be installed in each elevator cab adjacent to the floor status indicator and at each elevator call station on each floor reading "IN FIRE EMERGENCY, DO NOT USE ELEVATOR — USE EXIT STAIRS," or similar verbiage approved by the building official.

4. Elevator hoistways shall not be vented into an elevator machine room. Cable slots entering the machine room shall be sleeved beneath the machine room floor and extend to not less than 12 inches below the shaft vent to inhibit the passage of smoke into the machine room.

5. At least one elevator car serving all floors shall have a minimum inside care platform of 4 feet 3 inches deep by 6 feet 8 inches wide with a minimum clear opening width of 42 inches, unless otherwise designed and approved to provide equivalent utility to accommodate an ambulance stretcher having a minimum size of 22 inches by 78 inches in its horizontal position. This elevator shall be identified.

(i) Standby power, light and emergency systems. Standby power, light and emergency systems shall comply with the following:

1. Standby power. A permanently installed on-site power generation system conforming to U.B.C. Standard No. 18-1 shall be provided. All power, lighting, signal and communication facilities provided under the requirements of this Section, including an independent ventilating system for the standby power generator room, shall be transferable to the standby power source.

The electrical power requirements for sizing the standby power generation system shall include but not be limited to the following:

A. Fire protection equipment, including fire pumps.

B. Mechanical ventilation equipment required by this Section including power-operated windows.

C. Elevators designated for Fire Department use and as required by Chapter 51.

D. Standby lighting

E. The normal loads of all facilities classed as emergency. The regular light and power circuits supplying such facilities are classified as standby systems and shall be automatically transferable to the standby power generation system.

2. Standby lighting. Standby lighting shall include but not be limited to the following:

A. Separate lighting circuits and facilities sufficient to provide light with an intensity not less than one footcandle measured at floor level in all exit corridors, stairways, smokeproof enclosures, elevators, elevator lobbies, and other areas which are clearly part of the escape route.

B. All circuits supplying lighting for the central control station, the standby power generator rooms, and other rooms housing control equipment for mechanical systems required by this Section shall be transferable to the standby power system.

3. Emergency systems. All electrical systems and facilities required by this Section and classified as emergency shall be installed in conformance with U.B.C. Standard 18-1. The following systems and lighting loads are classified as emergency facilities and shall operate within 10 seconds of primary power failure:

A. Exit sign and exit illumination as required by Section 3312.

B. Fire alarm and sprinkler alarm systems.

C. Fire detection systems

D. Elevator car lighting

E. Stairway door control systems

F. Voice communication systems

G. Electrical facilities classified as emergency by any other applicable code or ordinance.

(j) Exits. Exits shall comply with other requirements of this Code and the following:

1. All stairway doors which are to be locked from the stairway side shall have the capability of being unlocked simultaneously without unlatching upon a signal from the central control station.

2. A telephone or other two-way communications systems connected to an approved emergency service which operates continuously shall be provided at not less than every fifth floor in each required stairway where other provisions of this Code permit the doors to be locked.

3. Smokeproof enclosures may be eliminated if all enclosed stairways are pressurized, as provided for mechanically operated smokeproof enclosures, to a minimum of 0.15 and a maximum of 0.50 inch of water column in fully sprinklered buildings.

(k) Seismic Considerations. In Seismic Zones No. 2, No. 3 and No. 4, the anchorage of the following

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mechanical and electrical equipment shall be designed in accordance with Section 2312.

(1) Areas of refuge (compartmentation) alternate. Areas of refuge conforming to the following may be provided as an alternate to the automatic fire extinguishing system:

1. Every story shall be divided into two or more areas of approximately the same size with no single area exceeding 15,000 square feet. The wall and door shall be constructed as required for a horizontal exit in Section 3307.

2. Each area of refuge (compartmentation) shall contain one elevator to the main floor and a minimum of one enclosed exit stairway.

3. Openings in exterior walls, where such openings are within 5 feet of each other horizontally on vertically adjacent floors shall be protected by approved flame barriers either extending 30 inches beyond the exterior wall in the plane of the floor or by approved vertical panels not less than 3 feet in height above the floor.

4. Horizontal exit walls used for compartmenting a building shall have a fire resistance rating of not less than two hours. Duct penetrations of this wall shall not be permitted. Ferrous or copper piping and conduit may penetrate or pass through the wall only if the openings are caulked with impervious noncombustible materials sufficiently tight to prevent the transfer of smoke or combustion gases from one side of the wall to the other and are so maintained. The fire door serving as the horizontal exit between compartments shall be so installed, fitted and gasketed that it will provide a substantial barrier to the passage of smoke.

5. The fire resistive floor or the floor ceiling construction shall extend to and be tight against the exterior wall so that the fire resistive integrity between stories is maintained. No penetrations or other installations which will impair the fire resistive integrity of the floor or floor ceiling assembly shall be permitted.

6. A manual fire alarm system (pull boxes) shall be provided.

(m) Automatic Fire Extinguishing System Alternatives. When a complete approved automatic fire extinguishing system complying with this Section is installed in a building, the following modifications of Code requirements are permitted:

1. The fire resistive time periods set forth in Table No. 17-A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. Vertical shafts other than stairway enclosures and elevator shafts may be reduced to one hour when sprinklers are installed within the shafts at alternate floors.

2. Except for corridors in Group B, Division 2 and Group R, Division 1 Occupancies and partitions separating dwelling units or guest rooms, all interior nonbearing partitions required to be one hour fire resistive construction by Table No. 17-A may be of noncombustible construction without a fire resistive time period.

3. Fixed tempered glass may be used in lieu of openable panels for smoke control purposes.

4. Travel distance from the most remote point in the floor area to a horizontal exit or to an enclosed stairway may be 300 feet.

5. The manually operated fire alarm system required in the compartmented building is not required.

6. Smokeproof enclosures are not required but all required stairways shall be pressurized to a minimum of 0.15 inch of water column.

7. Spandrel walls, eyebrows and compartmentation are not required; however, the fire resistance of the floors and juncture of exterior walls with each floor must be maintained.

8. Fire dampers, other than those needed to protect floor-ceiling assemblies to maintain the fire resistance of the assembly, are not required except for those which may be necessary to by-pass smoke to the outside, those provided to convert from recirculated air to 100 percent outside air, and those which may be required to protect the fresh air supply intake against smoke which may be outside the building.

9. Emergency windows required by Section 1304 are not required.

Section 1907 of the UBC is amended to read as follows:

Section 1907. Type II F.R. buildings shall comply with the special provisions on high rise buildings in Section 1807.

EXCEPTION: The reduction provisions for roofs see Sec. 1807(m) Item 1.

Section 2305(d) of the UBC is amended to read as follows:

UBC 2305(d) Snow loads. Snow loads full or unbalanced shall be considered where such loading will result in larger members of connections. A basic snow load of 40 pounds per square foot of horizontal projection is required in the following counties: Anoka, Carlton, Carver, Chisago, Cook, Dakota, Hennepin, Isanti, Lake, Pine, Ramsey, St. Louis, Scott and Washington. A basic snow load of 30 pounds per square foot of horizontal projection is required for all other counties not mentioned above. Potential accumulation of snow at valleys, parapets, roof structures, and offsets in roofs of uneven configuration shall be considered. Where snow loads occur, the snow loads shall be determined by the Building Official in accordance with Appendix ''B''.

EXCEPTIONS:

1. The requirements of Appendix ''B'' shall not apply to Group R Division 3, Group R Division 4 and M Occupancies.

2. A basic snow load of 30 pounds per square foot of horizontal projection shall be acceptable for detached Group M, Division 1 Occupancies in all counties.

Snow loads in excess of 20 pounds per square foot may be reduced for each degree of pitch over 20 degrees by R as determined by the following formula:

$$R_s = \frac{S}{40} - \frac{1}{2}$$

Where:

R_s = Snow load reduction in pounds per square foot per degree of pitch over 20 degrees.

S = Total snow load in pounds per square foot.

Section 2312(a) of the UBC is amended to read as follows:

UBC 2312(a) General. For the purpose of the Code this state shall be considered to be in Zone "O", No Damage Area. Every building or structure and every portion thereof shall be designed and constructed to resist stresses produced by lateral forces as provided in this Section. Stresses shall be calculated as the effect of a force applied horizontally at each floor or roof level above the foundation. The force shall be assumed to come from any horizontal direction.

Structural concepts other than set forth in this section may be approved by the Building Official when evidence is submitted showing that equivalent ductility and energy absorption are provided.

Where prescribed wind loads produce higher stresses, such loads shall be used in lieu of the loads resulting from earthquake forces.

Section 2907(a) of the UBC is amended to read as follows:

UBC 2907(a) General. Footings and foundations, unless otherwise specifically provided, shall be constructed of masonry or concrete and in all cases extend below the frost line. Footings shall be constructed of solid masonry or concrete. Foundations supporting wood shall extend at least six inches above the adjacent finish grade. Footings shall have a minimum depth below finished grade as indicated in Table 29-A unless another depth is recommended by a foundation investigation.

1. In the absence of a determination by an engineer competent in soil mechanics, the minimum allowable footing depth in feet due to freezing shall be five feet in Zone I and three and one-half feet in Zone II.

Zone I — Shall include the counties of: Aitkin, Becker, Beltrami, Carlton, Cass, Clay, Clearwater, Cook, Crow Wing, Douglas, Grant, Hubbard, Itasca, Kanabec, Kittson, Koochiching, Lake, Lake of the Woods, Mahnomen, Marshall, Mille Lacs, Morrison, Norman, Otter Tail, Pennington, Pine, Polk, Red Lake, Roseau, St. Louis, Todd, Traverse, Wadena, Wilkin.

Zone II — Shall include the counties of: Anoka, Benton, Big Stone, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac Qui Parle, Le Sueur, Lincoln, Lyon, McLeod, Martin, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Pope, Ramsey, Redwood, Renville, Rice, Rock, Scott, Sibley, Sherburne, Stearns, Steele, Stevens, Swift, Wabasha, Waseca, Washington, Watonwan, Winona, Wright, Yellow Medicine. Lesser depths may be permitted when supporting evidence is presented by an engineer competent in soil mechanics.

2. Soil Under Slab on Grade Construction for Buildings. When soil, natural or fill, is sand or pit run sand and gravel, and of depth in accordance with minimum footings depth requirements for each zone, slab on grade construction which supports roof and wall loads shall be permitted. Slab on grade construction for detached buildings Group M, Division 1 Occupancies may be placed on any soil except peat or muck.

UBC 3203(d)3 is amended to read as follows:

UBC 3203(d)3. Shingle; shake and tile roofs.

A. General. Installation shall be in accordance with Table No. 32-B. Underlayment, when required, shall be lapped horizontally and vertically so as to shed water.

In areas subject to roof ice build-up, underlayment consisting of two layers of Type 15 felt applied shingle fashion shall be installed and solid mopped together with approved cementing material between the plies extending from the eave up the roof to a point 24 inches inside the exterior wall line of the building.

The entire State of Minnesota shall be deemed an area subject to roof ice build-up.

Exception: For wood shingle or wood shake roofs the underlayment shall extend 36 inches inside the exterior wall line of the building.

UBC 3205(c) is amended to read as follows:

UBC 3205(c) Ventilation. Where determined necessary by the Building Official due to atmospheric or climatic conditions, enclosed attics and enclosed rafter spaces formed where ceilings are applied direct to the underside of roof rafters, shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. The net free ventilating area shall be not less than 1/150 of the area of the space ventilated, except that the area may be 1/300 provided at least 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.

Amend UBC Section 3207(c) as follows:

Where roof drains are required, overflow drains having the

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same size as the roof drains shall be installed with the inlet flow line located 2 inches above the low point of the roof, or overflow scuppers having three times the size of the roof drains may be installed in adjacent parapet walls with the inlet flow line located 2 inches above the low point of the adjacent roof and having a minimum opening height of 4 inches. Overflow drains shall be connected to drain lines independent from the roof drains, and shall discharge above grade.

UBC 3303(a) second paragraph is amended to read as follows:

Buildings as structures used for human occupancy and each dwelling unit or guest room leased for gain shall have at least one door which meets the requirements of subsection (d).

Section 3304(h) of the UBC is amended to read as follows:

UBC 3304(h) Openings. Where corridor walls are required to be of one-hour fire resistive construction by subsection (g) above, every door opening shall be protected by a tight fitting smoke and draft control door assembly having a fire protection rating of not less than 20 minutes when tested in accordance with UBC Standard No. 43-2 without the hose stream test. The door and frame shall bear an approved label or other identification showing the rating thereof, the name of the manufacturer, and the identification of the service conducting the inspection of materials and workmanship at the factory during fabrication and assembly. Doors shall be maintained self closing or shall be automatic closing in accordance with Section 4306(b)2. Other interior openings shall be fixed and protected by approved 1/4 inch thick wired glass installed in steel frames. The total area of all openings, other than doors, in any portion of an interior corridor shall not exceed 25 percent of the area of the corridor wall of the room which it is separating from the corridor. For duct openings, see UBC 4306.

EXCEPTIONS:

1. Protection of openings in the interior walls of exterior exit balconies is not required.

2. In Type I and II F.R. buildings housing Group B-2 Occupancies, corridor walls may be of approved wired glass set in metal frames. The glass height shall not exceed 2/3 of the width of the corridor. A draft curtain of at least one hour fire-resistive construction and not less than 24 inches in height shall be provided to protect the corridor from the Group B-2 Occupancy area (tenant space). The draft curtain shall be located above the glass and extend a minimum of 24 inches below any finished ceiling in the tenant space. If the finished ceiling is not a fire-rated assembly, the draft curtain shall extend from the wire glass to a rated ceiling or floor assembly. When the B-2 Occupancy area (tenant space) is protected by an approved automatic fire-extinguishing system for a distance of twelve (12) feet in depth adjoining the corridor, and the corridor is not less than twelve (12) feet in width, glass other than wired glass may be approved. Open grille type gates and similar enclosing or security devices may be used in corridor walls of corridors not less than twelve feet in width, when the entire story is protected by an approved fire-extinguishing system.

In buildings of other than Type I or Type II F.R. construction, this exception shall not be allowed, unless the entire building is provided with an approved automatic fire-extinguishing system.

3. In Group I Occupancies in which an approved complete standard automatic fire extinguishing system is installed, corridor doors serving sleeping rooms need not be maintained self-closing or be automatic closing. In buildings of type I, II fire-resistive, and II one-hour construction, the automatic fire-extinguishing system may be omitted from operating, delivery, cardiac, x-ray, and intensive care rooms when each such room is provided with smoke detectors connected to a continuously attended station or location within the building.

Table 33A is amended to read as follows:

Delete the right hand column entitled ''Egress by means of a ramp or an elevator must be provided for the physically handicapped as indicated.''

Also delete footnotes 2, 3, 4, 5 and 6.

Section 3318(c) of the UBC is amended to read as follows:

UBC 3318(c) Corridors. The minimum clear width of a corridor shall be 44 inches, except that corridors serving any area housing one or more non-ambulatory persons shall be not less than eight feet in width. There shall be no change of elevation in a corridor serving non-ambulatory persons unless ramps are used.

In Group I, Division 1 Occupancies such as jails, prisons, reformatories and similar buildings with open barred cells forming corridor walls, the corridors and cell doors need not be fire resistive.

In Group I, Division 1 Occupancies such as jails, prisons, reformatories and similar buildings, doors to corridors used by the inmates need not be maintained self-closing or be automatic closing, may project into the required width of the corridor, but when fully opened shall not reduce the required width by more than seven inches.

Section 3801(c) of the UBC is amended by adding a new definition after the definition of Fire Department Hose Connection and before the definition of Wet Standpipe:

FIRE DEPARTMENT STANDPIPE is a fire line system with a constant water supply and pressure and equipped with Fire Department inlet and outlet connections and installed exclusively for the use of the Fire Department.

Section 3802(b)5 of the UBC is amended to read as follows:

3802(b) In all Group I Occupancies except jails, prisons and reformatories, however, the respective increases for area and height specified in UBC 506(c) and UBC 507 shall be permitted.

EXCEPTIONS:

1. In hospitals of Types I and II F.R. construction, the automatic fire extinguishing system may be omitted from operating rooms, X-ray rooms, delivery rooms, cardiac and intensive care rooms and patient sleeping rooms not exceeding 600

square feet in area when each such room is provided with detectors of products of combustion other than heat, complying with UBC Standard No. 43-6.

2. In hospitals of Type II-1 hour construction, the automatic fire extinguishing system may be omitted from operating rooms, X-ray rooms, delivery rooms, cardiac and intensive care rooms when each such room is provided with detectors of products of combustion other than heat, complying with UBC Standard No. 43-6.

Add new Section 3802(d) of the UBC to read as follows:

3802(d) Special automatic fire-extinguishing systems. In all Occupancies having commercial cooking equipment (see NFPA no. 96A, 1975), automatic fire extinguishing systems complying with UBC Standard 38-1 or 38-2 shall be installed for protection of duct systems, grease removal devices, hoods and over commercial cooking equipment which may be a source of ignition (such as fat fryers, ranges, griddles and boilers). Systems installed in accordance with the following standards are also permitted.

1. Standards for foam-water sprinkler systems and foam-spray systems, NFPA No. 16-1974.

2. Standard for dry chemical extinguishing system, NFPA No. 17-1975.

EXCEPTION: These requirements shall not apply to Group R-3 and Group R-4 Occupancies.

Section 3803(a) of the UBC is amended to read as follows:

3803(a) General. Fire Department Standpipes shall comply with the requirements of this section and NFPA 14-1976 for Class I standpipes.

UBC 3803(b) Where required. All buildings three or more stories in height, shall be equipped with one or more Fire Department Standpipes.

Exception: In buildings that are fully protected with an approved automatic fire extinguishing system the standpipes may be incorporated with the risers for such system.

UBC 3802(c) Location. There shall be one Fire Department Standpipe outlet connection located at every floor level landing above the first floor of every required enclosed stairway or smokeproof enclosure. Outlets at enclosed stairways shall be located within the enclosure. No point within a building requiring Fire Department Standpipes shall be more than 130 feet travel distance from a Fire Department Standpipe outlet connection.

Portions of Fire Department Standpipe systems not located within an enclosed stairway or smokeproof enclosure shall be protected by a degree of fire resistance equal to that required for vertical enclosures in the building in which they are located.

UBC 3803(d) Detailed requirements.

1. Construction. Fittings and connections shall be of sufficient strength to withstand 300 pounds per square inch of water pressure when ready for service. All Fire Department Standpipes shall be tested hydrostatically to withstand not less than 200 pounds per square inch of pressure for two hours, but in no case shall the pressure be less than 50 pounds per square inch above the maximum working pressure.

2. Size. The size of the standpipe shall conform to Chapter 2 of NFPA No. 14-1976 Edition.

Exception: The size of the standpipe may be reduced to 2-1/2″ in a building not exceeding 75′ to the topmost outlet of the standpipe riser and the building is fully protected with an approved automatic fire extinguishing system. Such reduction in standpipe size shall be based on the requirements of a hydraulically calculated system as outlined in Chapter 7 of NFPA 13-1976.

3. Fire Department connections. All Fire Department Standpipes shall be equipped with a two-way siamese fire department connection. Fire Department connections shall be interconnected in the system and shall be located on a street front, not less than 18 inches nor more than 4 feet above grade and shall be equipped with an approved straightway check valve and substantial plugs or caps. All Fire Department connections shall be protected against mechanical injury and shall be visible and accessible. More than one fire department connection may be required.

4. Outlets. Each standpipe shall be equipped with an approved 2-1/2 inch outlet not less than 2 feet nor more than 4 feet above the floor level of each story. All Fire Department Standpipes shall be equipped with a two-way, 2-1/2 inch outlet above the roof line of the building when the roof has a pitch of less than 4 inches in 12 inches and installed in a stairway or heated location. All outlets shall be installed so that a 12 inch long wrench may be used in connecting the hose with clearance for the wrench on all sides of the outlet. Standpipes located in smokeproof enclosures shall have outlets located in the vestibule or on the balcony. Standpipe outlets in stairway enclosures or smoke towers shall be so located that the exit doors do not interfere with the use of the outlet. All outlets shall be equipped with an approved valve, cap and chains.

5. Water Supply. The standpipe system shall deliver a water supply as required by Chapter 5, Water Supplies, NFPA No. 14-1976.

Section 3803 has been amended to add a new subsection as follows:

Section 3803(e) Dry Standpipes, when approved by the Fire Chief, may be installed in lieu of Fire Department Standpipes and shall conform to Section 3803 unamended of the UBC 1976 Edition.

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~~**Section 3804(b)** of the UBC is amended to read as follows:~~

~~**3804(b) Where required.** Wet standpipes extending from the cellar or basement into the topmost story shall be provided in Group A Division 1, 2 and 2.1 Occupancies with an occupant load exceeding 1,000: in Groups I, H, B and B-4 Occupancies three or more stories in height; and in Groups H and B Occupancies having a floor area exceeding 20,000 square feet per floor.~~

~~EXCEPTIONS:~~

~~1. Wet standpipes are not required in buildings equipped throughout with an automatic fire extinguishing system.~~

~~2. Wet standpipes are not required in basements or cellars equipped with a complete automatic fire extinguishing system.~~

~~3. Wet standpipes shall not be required in assembly areas used solely for worship.~~

~~**Section 4701(a)** of the UBC is amended to read as follows:~~

~~**UBC 4701(a) General.** The installation of lath, plaster and gypsum wallboard shall be done in a manner and with materials as specified in this Chapter, or as set forth in ASNI A42.2, 1971 Specifications for Portland Cement and Portland Cement Lime Plastering, Exterior (Stucco) and Interior and ANSI A42.3, 1971 Specifications for Lathing and Furring for Portland Cement and Portland Cement Lime Plastering Exterior (Stucco) and Interior, and when required for fire resistive construction, also shall comply with the provisions of Chapter 43.~~

~~Other approved wall or ceiling coverings may be installed in accordance with the recommendations of the manufacturer and the conditions of approval.~~

~~**Sections 5001 through 5006** of the UBC are amended to read as follows:~~

~~**Sections 5001 through 5006** of the UBC are deleted and replaced by **SBC 301 through 337.**~~

~~**Sections 5101 through 5104** of the UBC are amended to read as follows:~~

~~**Section 5101, 5102, 5103 and 5104** of the UBC Elevators, Dumbwaiters, Escalators, Manlifts, Moving Walks, Hoists and Lifts are deleted. **Refer to SBC 8801.**~~

~~**UBC Chapter 60**~~

~~**Section 6001** is deleted in its entirety.~~

~~**Section 6002** of the UBC is amended to read as follows:~~

~~**Section 6002 Uniform Building Code Standards.** The UBC Standards which are referred to in various parts of this Code shall be the Uniform Building Code Standards, 1976 Edition, and are hereby declared to be a part of this Code.~~

2 MCAR § 1.10111

Add new Section 3802(e) of the UBC to read as follows:

UBC Section 3802(e) Special Automatic Fire-Extinguishing Systems. In all occupancies having commercial cooking equipment (see NFPA No. 96-1976), automatic fire extinguishing systems complying with UBC Standard 38-1 or 38-1 shall be installed for protection of duct systems, grease removal devices, hoods and over commercial cooking equipment which may be a source of ignition (such as fat fryers, ranges, griddles and boilers). Systems installed in accordance with the following standards are also permitted.

1. Standards for foam-water sprinkler systems and foam-spray systems, NFPA No. 16-1974.

2. Standard for dry-chemical extinguishing system, NFPA No. 17-1975.

EXCEPTION: These requirements shall not apply to Group R-3 and Group R-4 occupancies.

Department of Public Welfare
Social Services Bureau

Proposed Temporary Rule Governing Subsidized Adoptions

Request for Public Comment

Notice is hereby given that the Department of Public Welfare has proposed the following temporary rule for the purpose of implementing the provisions of Chapter 256, 1979 Session Laws amending Minn. Stat. § 259 and repealing § 393.07, subd. 1a.

All interested persons are hereby afforded the opportunity to submit their comments on the proposed rule for 20 days immediately following publication of this material in the *State Register* by writing to Ruth Weidell, Adoptions Unit supervisor, Department of Public Welfare, 4th Floor, Centennial Office Building, St. Paul, Minnesota 55155. The temporary rule may be revised on the basis of comments received. Any written material received shall become part of the record in the final adoption of the temporary rule.

Temporary Rule as Proposed

12 MCAR § 2.200 A. Introduction.

2. Definitions.

j. Placing agency: The licensed child placing agency which has guardianship of a child or the local social service agency which has financial responsibility for a ward of the commissioner. The placing agency retains planning responsibility for the child even though another agency is supervising.

k.~~j.~~ Post-placement services: Social services provided to the child and the adoptive parents from the time of placement until legal adoption.

l. ~~k.~~ Post-adoption services: Social services provided after legal adoption to the adoptive parents, genetic parents or adopted individuals.

m. ~~l.~~ Relative: An individual who is related to a child within the third degree according to the Civil Table of Consanguinity by blood, marriage or adoption as a parent, stepparent, brother, sister, grandparent, great grandparent, aunt, uncle, niece or nephew.

n. ~~m.~~ State Adoption Exchange: The central adoptive home and child registration service operated by the Minnesota Department of Public Welfare's adoption unit for use by authorized child-placing agencies.

o. ~~n.~~ State agency: The Commissioner of Public Welfare or the Minnesota Department of Public Welfare.

~~o. Subsidized adoption: An adoptive placement in which a contract provides that financial reimbursement will be made to the adoptive parents with financial needs for a child who has special needs.~~

p. Subsidized adoption: An adoption in which an agreement provides that financial payments shall be made to the adoptive parent(s) because of special needs of the child.

q. ~~p.~~ Suitability study: The pre-adoptive counseling and subsequent evaluation made by the authorized child-placing agency to determine whether or not the proposed adoptive home can adequately parent and meet the social, educational and health needs of a particular child.

C. Services for children freed for adoption.

1. State Adoption Exchange. To ensure each child's placement in an adoptive home preferably away from his area of prior residence, the State Adoption Exchange shall be used by all local social service agencies in accordance with prevailing procedures established by the commissioner. This provision shall not apply to the licensed child placing agencies, Hennepin, Ramsey, or St. Louis Counties, whose use of the Exchange is optional.

a. The local social service agency shall, without undue delay, seek an adoptive home which will meet the child's special needs. Special needs include sibling ties, racial or religious heritages, and health, social, and educational needs.

b. The local social service agency shall make reasonable efforts to provide and preserve the child's heritage by placing the child:

(1) In an adoptive home of similar background; or

(2) In an adoptive home which is knowledgeable and appreciative of the child's heritage.

2. The child's foster home. The local social service agency may consider the foster home in which the child is currently living as a potential adoptive resource for the child.

a. In such cases, at least one of the following criteria shall apply:

(1) The child has special needs (physical and mental health, education or social) which the foster family will be able to adequately meet.

(2) The child is older than an infant, has lived at least twelve consecutive months in the foster home, and is an integrated member of the foster family.

(3) The foster family will be able to accept the child and his background and help the child understand his adoption.

(4) The foster family is either the best adoptive resources for the child or is at least comparable to available resources.

b. Except in Hennepin, Ramsey and St. Louis Counties, a joint decision between the state agency's adoption unit and the local social service agency as to whether the foster home would be a suitable adoptive home for the child shall be made. The decision shall be based upon:

(1) The local social service agency's written statement and recommendation to the state agency identifying applicable criteria; and

(2) The state agency's written response either approving or disapproving the recommendation.

c. Where a licensed child-placing agency, which is supervising a child under state guardianship, wishes to consider the foster home as the adoptive resource for the child, it shall obtain approval from the local social service agency which has financial responsibility.

3. Child placement. The following policies shall govern the local social service agency's child-placing activities:

a. Preplacement activities:

(1) The social worker assigned to the adoptive home shall, prior to the child being placed in the adoptive home, visit the child in his foster home. This preplacement visit may only be waived if the child is under six months of age and is without special needs.

(2) The child's social worker shall provide the adoptive parents with a written genetic and health history of the child in which all identifying information on the child's relatives has been omitted. The history is to be written in a manner which is understandable and meaningful to the adoptive family.

(3) An adoptive family shall spend at least two days in the child's community becoming acquainted with the

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child prior to the transfer of physical custody from the agency to them. This provision may be waived, in the discretion of the agency, where extraordinary circumstances dictate prompt placement.

~~4. Subsidized adoptions. Subsidized adoption is available through the local social service agency for a child under state guardianship who is not readily adoptable because of special needs (due to age, race, physical, mental, or emotional conditions, his membership in a sibling group) and whose prospective family is unable to adopt him due to financial limitations.~~

~~a. The amount of the maintenance subsidy paid by the local social service agency shall not exceed the county welfare or human service board's schedule of regular or special rate payments for a child in foster care.~~

~~b. The amount of a health subsidy shall include the estimated cost for medical and health care, treatment and/or therapy.~~

~~c. A subsidized adoption contract shall be reduced to writing on the local social service agency's official stationery, signed by all relevant parties and approved by the Commissioner prior to legal adoption.~~

~~(1) Once fully executed and approved, all parties shall be given copies of the contract.~~

~~(2) A copy of the contract is to be filed with the proper court prior to the time the adoption matter is heard.~~

~~(3) The contract shall remain in effect even though the family moves out of the State of Minnesota.~~

~~(4) The contract shall be reviewed annually by the subsidizing county welfare or human service board to determine whether significant changes have occurred in the needs of the child or the financial resources of the parents which require amendment of the contract.~~

~~(5) The adoptive parents have the right to appeal to the Commissioner pursuant to Minn. Stat., ch. 15, when the county welfare or human service board denies, discontinues or modifies the contract.~~

~~d. The local social service agency is entitled to seek reimbursement of its subsidy expense from the State's Child Welfare Fund up to the legislatively authorized percentage.~~

~~e. The following procedures shall be implemented when initiating an adoption subsidy:~~

~~(1) When considering the child's need for subsidy:~~

~~(a) Review the child's eligibility for alternative financial and/or medical resources;~~

~~(b) Process through the State Adoption Exchange for a review of suitable homes; and~~

~~(c) Utilize the public media to recruit adoptive resources.~~

~~(2) When attempting to establish the amount of subsidy:~~

~~(a) Determine the amount of the child's financial and medical benefits, if any;~~

~~(b) Determine the family's financial and medical resources for meeting the child's special needs; and~~

~~(c) Obtain preliminary approval from the county welfare or human service board for a medical and/or maintenance subsidy.~~

~~(3) Each subsidized adoption contract shall include:~~

~~(a) A statement of the purpose of the agreement: maintenance, medical and/or special needs of the child;~~

~~(b) The arrangements for payment and receipt of the subsidy.~~

4. Subsidized adoptions: This section provides standards for determining a child's eligibility for subsidy and the criteria for establishing the terms of the subsidy agreement. Subsidized adoption is based upon the needs of the child who is certified as eligible for subsidy and is available through the Commissioner of Public Welfare for a child under legal guardianship of the commissioner or licensed child placing agency. The commissioner may review and verify the facts upon which the child's eligibility is based.

a. The placing agency shall document in the child's case record all facts upon which the agency certifies the child as eligible for subsidy.

b. The placing agency may determine that subsidy is needed for children placed as sibling groups, children who are entitled to placement with a family of similar ethnic background (i.e., American Indian, Black, Hispanic, Asian), and children with special needs, for whom adoptive homes are not readily available.

c. The placing agency shall certify the child as eligible for subsidy when the following criteria are met:

(1) The child is a Minnesota resident and a ward of the commissioner or licensed child placing agency.

(2) The placing agency has made reasonable efforts without success to place the child without subsidy.

(a) The agency shall register the child on the State Adoption Exchange to obtain adoptive home referrals.

(b) The agency shall contact Hennepin, Ramsey, St. Louis Counties and Minnesota-based licensed child placing agencies to seek potential adoptive homes.

(c) The agency may use photo listing services, adoption exchange services, newsletters or other special efforts to secure a home.

(d) The agency shall make an early determination on the availability of a home without subsidy, preferably within two months of the child becoming legally available for adoption.

(3) A child shall be eligible for subsidized adoption by his/her foster parents if the following criteria are met and documented:

(a) The child's foster parents desire to adopt the child, and

(b) The agency determines the adoption is in the best interest of the child, according to the criteria established in C.2. of this rule, and

(c) The child's circumstances or characteristics make it difficult for the agency to provide the child a home without a subsidy.

(4) When the child is placed into a prospective adoptive home without a subsidy but the need for subsidy becomes evident prior to legal adoption, the placing agency shall apply the criteria in C.4.c.(1) and (3) to determine the child's eligibility for subsidy.

(5) The placing agency shall certify to the commissioner, in writing under its director's or designee's signature, the child's eligibility for subsidy. The statement shall include the conditions or circumstances upon which the child's eligibility is based.

d. When determining the amount of subsidy, the placing agency shall consider the financial resources, social security and veterans benefits health insurance coverage, medical assistance programs, and other resources available or which may be available to the child.

(1) Maintenance payments may be provided when it is necessary to ensure the adoption of a child. The placing agency shall refer to 12 MCAR § 2.044 to determine the amount of a child's monthly maintenance needs for food, shelter and clothing. The total monthly maintenance needs may be less than, equal to or more than the basic rate. Amounts greater than the basic rate shall be set according to the difficulty of care standards and the need for the greater amount shall be documented.

(2) The placing agency shall determine the medical, dental, surgical, psychiatric, and psychological expenses, and other costs necessary for the child's care and well-being. In determining the costs the placing agency shall identify the child's circumstances or conditions that require subsidy. The placing agency shall:

(a) Document the kind and amount of health insurance or other financial resources available to meet the needs of the child.

(b) Document the actual or estimated expenses for medical, dental, surgical, psychiatric, psychological or other needs of the child which are not covered by health insurance and/or other alternative financial or medical resources.

(3) The agency record and the subsidy agreement shall include all relevant facts upon which subsidy payments are based, the amount and frequency of payments. If the amount and frequency of payments are unknown, estimates and the basis for them shall be included.

e. The placing agency shall prepare in writing the Subsidized Adoption Agreement clearly setting forth the responsibilities of all the parties and the terms and duration of the agreement.

(1) The agreement shall state the responsibilities of the parties as follows:

(a) The adoptive parent(s), or in the event of death or inability to function as parent(s), the subsequent guardian or conservator, shall agree to:

(i) Submit to the commissioner a notarized affidavit each year on the anniversary date of the approved agreement to certify whether the child remains under their care and the need for subsidy continues to exist.

(ii) Notify the commissioner within thirty (30) days in the event of change in status and its effect on the expenses covered by the subsidy:

(aa) Marriage of child or parent.

(bb) The child's absence from the home by court action or for any reason for a period of more than thirty (30) days.

(cc) Death of a child or parent.

(dd) Legal emancipation of the child.

(iii) Notify the commissioner within thirty (30) days of any change which may affect the duration or amount of the subsidy needed.

(iv) Notify the commissioner within thirty (30) days of a change in address to ensure proper mailing of payments.

(v) Participate in and use health insurance and financial programs available for the child.

(vi) Notify the commissioner of anticipated large or unusual expenses to obtain prior authorization.

(vii) Submit expense statements to the commissioner to receive subsidy payments for incurred costs over and above agreed upon monthly payments, but within the parameters of the agreement.

(b) The placing agency shall agree to:

(i) Specify in the agreement:

(aa) The terms and duration of the subsidy as defined in C.4.d.

(bb) The effective date of the

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agreement which shall be the date of legal adoption. When the child's needs cannot be met by other state and federal programs prior to legal adoption, the commissioner may establish an earlier effective date between the child's placement in the home and legal adoption.

(ii) Assist the parent(s), subsequent guardian or conservator in the review or modification of the agreement.

(iii) Assist the commissioner in the review or modification of the agreement.

(c) The commissioner shall agree to make financial payments to the adoptive parent(s), subsequent guardian or conservator, as follows:

(i) Payments regardless of the domicile or residence of the adopting parent(s) at the time of application for adoptive placement, legal decree of adoption, or thereafter.

(ii) Monthly payments for maintenance (food, shelter and clothing) and other regular costs as specified in the agreement.

(iii) Payments based upon the expense statements received from the adoptive parent(s) for the child's medical or special expenses which are within the parameters of the agreement.

(iv) Payments may be terminated at the request of the adoptive parents, subsequent guardian or conservator.

(2) When the terms and duration of the subsidy are agreed upon by the parties, the placing agency shall:

(a) Prepare six written copies of the agreement.

(b) Insure that all copies are signed by the adoptive parent(s) and the placing agency director or designee.

(c) Submit all copies to the State Adoption Unit for the commissioner's approval.

(3) The subsidy agreement shall continue in accordance with its terms as long as the need for subsidy continues and the child remains the legal dependent of the adoptive parent(s), subsequent guardian or conservator.

(4) The adoptive parents have the right to appeal to the commissioner pursuant to Minn. Stat. § 256.045, when the commissioner denies, discontinues, or modifies the agreement.

(a) The terms of the agreement shall be reviewed by the parent(s) or the commissioner when changes in the child's status make it appropriate.

(b) The parent(s) may request modification or termination of agreement at any time by contacting the placing agency or the commissioner.

(c) In the event the parent(s), subsequent guardian or conservator are unable to agree upon the amendments proposed by either party, the parent(s), subsequent guardian or conservator may appeal. The appeal shall be initiated by a written request to the commissioner within thirty (30) days after receiving written notice of the action or decision from the commissioner or within ninety (90) days if the parent(s) show good cause why the request was not submitted within the thirty (30) day time limit.

f. Subsidy payments received according to the terms of the agreement, shall not affect eligibility for any other financial payments (i.e., social security, veterans, or other benefits) to which a person may otherwise be entitled.

g. The placing agency shall receive a reimbursement from the commissioner equal to 100% of the reasonable and appropriate cost of providing or purchasing adoption services for a child certified as eligible for a subsidy, including adoptive family recruitment, counseling, and special training when needed.

(1) The child meets the certification requirements of C.4.c.

(2) The placing agency has determined that either partial or full cost of providing or purchasing the adoption services is not reimbursable under other state and federal financial programs.

(3) The placing agency shall submit purchase of service agreements to the commissioner for review of anticipated expenses.

(4) The placing agency shall notify the State Adoption Unit in writing when the agency anticipates that its expenses may exceed $3,000 for adoption services on a child certified as eligible for subsidy.

(5) The placing agency shall submit an itemized statement of expenses to the State Adoption Unit for reimbursement prior to June 30 of each fiscal year.

(a) The itemized expenses shall not exceed the prevailing costs for similar services to children under agency care.

(b) The commissioner shall reimburse the placing agency for 100% of the expenses that are not reimbursable under other state and federal programs.

h. The commissioner shall work with American Indian child adoption organizations able to be licensed as child placing agencies. American Indian children, who are protected under the Federal Indian Child Welfare Act of 1978 and who are certified as eligible for subsidy shall, whenever possible, be served by the tribal governing body, tribal courts or a licensed Indian child placing agency.

Department of Revenue Property Equalization Division

Proposed Temporary Rules Governing the Valuation and Assessment of Railroads

Request for Public Comment

Notice is hereby given pursuant to Minn. Stat. § 15.0412, subd. 5 (1978), that the Minnesota Department of Revenue has proposed the following temporary rules governing the valuation and assessment of railroads for *ad valorem* tax purposes pursuant to Laws of 1979, ch. 303, art. VII.

All interested may submit written comment or data on these rules to:

Gerald Garski, Manager
State Assessed Property
Property Equalization Division
Department of Revenue
Centennial Office Building
St. Paul, Minnesota 55145

Written statements submitted for consideration must be received by February 12, 1980. The proposed temporary rules may be modified if the modifications are supported by the data and views received by the department. The department shall submit to the Attorney General the proposed temporary rules as published, with any proposed modifications for review as to form and legality. The temporary rules shall take effect upon approval of the Attorney General.

The Department will publish at *State Register* the Attorney General's decision and the adopted temporary rules upon receipt of the Attorney General's decision.

Clyde E. Allen, Jr.
Commissioner

Temporary Rules as Proposed

Chapter Two: Valuation and Assessment of Railroads

13 MCAR § 1.0021 General procedures. The 1979 Minnesota Legislature included in its Omnibus Tax Bill a Section, Article VII, dealing with the taxation of railroads. The article provides for an *ad valorem* tax on railroads in place of the gross earnings tax. The Article also charges the Commissioner of Revenue with the responsibility of developing rules and regulations, both temporary and permanent, which will implement the provisions of the law dealing with the *ad valorem* method of taxing railroads.

The first valuation of railroad operating property will be made for the assessment year 1979. No apportionment of value to the local taxing districts will be made until 1981 for *ad valorem* taxes payable in 1982.

The methods, procedures, indicators of value, capitalization rates, weighting percents, allocation factors and apportionment standards will be used as described in this chapter for 1979 and subsequent years, or until in the opinion of the Commissioner of Revenue; circumstances or changes in condition justify a change.

13 MCAR § 1.0022 Definitions. As used in this chapter, the following words, terms and phrases shall have the meanings given to them by this regulation, except when the content clearly indicates a different meaning. Some of the words, terms and phrases listed below are defined by statute but are included here for completeness.

A. Allocation—the process of dividing the unit value of a railroad company among the states in which the railroad operates.

B. Apportionment—the process of distributing that portion of the railroad's unit value which has been allocated to Minnesota after deducting exempt and non-operating property to the various taxing districts in which the railroad company operates.

C. Book depreciation—the depreciation shown by a railroad company on its corporate books, and allowed the company by the Interstate Commerce Commission.

D. Capitalization rate—an anticipated rate of return from an investment; a rate at which income is processed (capitalized) to indicate the probable capital value. This rate is usually expressed as a percentage.

E. Exempt property—property which is non-taxable for *ad valorem* tax purposes by statutes. Examples of such property are approved pollution control equipment for which an exemption has been granted, and personal property such as office furniture and licensed vehicles.

F. Non-operating property—all property owned by a railroad company which does not fall under the definition of operating property. Nonoperating property shall include real property which is leased or rented or available for lease or rent to any person which is not a railroad company. Vacant land shall be presumed to be available for lease or rent if it has not been used as operating property for a period of one year preceding the valuation date. It shall also include land which is not necessary and integral to the performance of railroad transportation services and which is not used on a regular and continual basis in the performance of these services. This property shall be valued

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by the local or county assessor rather than by the Commissioner of Revenue.

G. Operating property—all property owned or used on a regular basis by a railroad company in the performance of railroad transportation services, including without limitation franchises, rights-of-way, bridge trestles, shops, docks, wharves, buildings and structures.

H. Original cost—the amount paid for an asset as recorded on the railroad's books in accordance with ICC accounting rules and regulations.

I. Railroad company—any company which as a common carrier operates a railroad or a line or lines of railway situated within or partly within Minnesota.

J. System—the total tangible property, real and personal, of a company which is used in its railroad operations in all states in which it operates.

K. Unit value—the value of the system of a railroad company taken as a whole without any regard to the value of its component parts.

L. Weighting—the confidence or reliability given to a factor or indicator. It is usually expressed as a portion of 100%.

13 MCAR § 1.0023 Reports required.

A. Much of the data used in the valuation, allocation and apportionment processes will be drawn from reports submitted to the Department of Revenue by the railroad companies. These reports are to be filed with the commissioner on or before April 30 of each year and shall include:

1. The Minnesota Department of Revenue Annual Railroad Report.

2. Annual Report to the Interstate Commerce Commission (ICC).

3. Annual Report to the Minnesota Public Service Commission (P.S.C.)

4. Annual Stockholders Report.

B. Periodic examination of the supporting data for these reports will be made by the Department of Revenue. The commissioner may, upon written application from the railroad, extend the filing date 30 days.

C. In the event any railroad company shall fail to file the required reports, the commissioner shall make a valuation according to his best judgment based on available information.

13 MCAR §1.0024 Valuation.

A. General. The Minnesota Legislature has specified that railroads must be valued using the unit basis of estimating value. The approaches to value which will be used in determining the estimated unit value of railroad operating property are cost, capitalized income, and stock and debt except as provided for in 13 MCAR § 1.0024 D. and F. It is the decision of the Commissioner of Revenue that for 1979 and subsequent years, until economic or technological factors dictate a change, the value of railroad property will be determined using these three approaches to value, where applicable, in the manner provided for in this section.

B. Cost approach to valuation. The cost factor that will be considered in the railroad valuation method is the original cost of the railroad system, plus the original cost of construction work in progress on the assessment date. The railroad system shall be considered to be made up of the following I.C.C. accounts: all road and equipment accounts, all general expenditures and other elements of investment accounts, and railroad property owned but leased to others. As required by statute, no depreciation or obsolescence shall be allowed as a deduction from the original cost of the railroad's assets enumerated above.

The following is an example of how the cost indicator of value is to be computed:

XYZ Railroad

Account	Amount
Road	$13,000,000
Equipment	9,000,000
Construction Work in Progress	1,000,000
Leased Property	500,000
General Expenditures	1,500,000
Cost Indicator of Value	$25,000,000

This cost indicator of value computed in accordance with this regulation will bear a weighting of 25 percent of the total unit value estimate of the railroad's property, except in the case of bankrupt railroads, or railroads with no income to be capitalized as provided for in 13 MCAR § 1.0024 F.

C. Income approach to valuation. The income indicator of value will be calculated by averaging the Net Railway Operating Income (as defined by the I.C.C.) of the railroad for the most recent five years preceding the assessment. This average income shall be capitalized by applying to it a capitalization rate which will be computed by using the Bank of Investment Method. This method will consider:

1. The capital structure of railroads.

2. The cost of debt or interest rate paying particular attention to imbedded debt of railroads.

3. The yield on preferred stock of railroads.

4. The yield on common stock of railroads.

For 1979 and subsequent years this capitalization rate will be 11%. This rate will be effective until in the opinion of the Commissioner economic conditions such as rates of return, interest rates, and risk factors change in such a manner as to affect the above mentioned capitalization rate. At such time the commissioner will institute the proper rule making procedures necessary to effect a change in the capitalization rate.

An example of a computation of the capitalized income approach to value is as follows:

XYZ Railroad

Net Railway Operating Income

1974	$1,5000,000
1975	2,000,000
1976	2,600,000
1977	3,001,000
1978	2,600,250
Total	$11,701,250
Average	$ 2,340,250

Five year average Net Railway Operating Income Capitalized at 11% (2,340,250 ÷ 11%) equals $21,275,000.

The income indicator of value computed in accordance with this regulation will be weighted 50 percent of the total estimated unit value of the railroad's property except in the case of bankrupt railroads or railroads have no net operating income as provided for in 13 MCAR § 1.0024 E.; and railroads not meeting the requirements for the use of the stock and debt indicator of value. Where no stock and debt indicator of value is used the income indicator will be weighted 75%.

D. "Stock and debt" approach to valuation. The "stock and debt" approach to value is the third method which will be used to estimate the unit value of the railroad operating property. This approach to value is based on the accounting principle: Assets = Liabilities + Equity. Therefore, when the value of a company's liabilities (debt) is found and this added to the worth of its stock, a value can be established for its assets (property).

The use of this approach to value will be limited to only those railroads meeting certain qualifications listed below:

1. The stock of the railroad must be traded on a recognized stock exchange.

2. The bonds of the railroad must be traded or have a rating by a recognized financial rating service.

3. If the railroad is part of a diversified company the value of the railroad portion of the total stock prices must be able to be separated on an earnings basis.

For example, if a railroad is part of a conglomerate whose stock sells at $100 per share and 50% of the net earnings of the conglomerate are from railroad operations then the value of the railroad's portion of the stock is $50 per share.

If a railroad has no net earnings, making it impossible to separate the stock value into its parts, then the stock and debt indicator of value will not be used.

The value of the stock used in the stock and debt method shall be an average of the month ending stock prices for the twelve months immediately preceding the assessment date. The value of the bonds, equipment obligations and conditional sales contracts and other long term debts shall also be an average of the cost of money quotes for the twelve months immediately preceding the assessment date. The source for these stock and bond prices shall be Standard and Poor's Stockguide, or other applicable financial service.

An illustration of a computation of the "stock and debt" approach to value is as follows:

XYZ Railroad Company

Shares of Common Stock issued × Average price for preceding year	
1,000,000 × $12 =	$12,000,000
Shares of Preferred Stock × Average price for preceding year	
100,000 × $15 =	$ 1,500,000
Rate and face value of bonds × Average price for class of bonds for preceding year	
A rated 8% bonds $10,000,000 × 99% of par =	$ 9,900,000
Stock and Debt Indicator of Value	$23,400,000

After the gross "stock and debt" indicator of value has been computed an allowance will be made for the effect, if any, of revenue from other than railway operations included in this indicator of value. This allowance shall be based on the ratio of a five year average of Net Revenue from Railway Operations, as defined by the I.C.C., to a similar five year average of Income Available for Fixed Charges as defined by the I.C.C. The five year average will be the most recent five years preceding the assessment date.

An example of this computation is as follows:

XYZ Railroad Company

	Net Revenue from Railway Operations	Income Available for Fixed Charges
1974	$ 3,000,000	$ 3,500,000
1975	4,000,000	4,300,000
1976	5,200,000	5,700,000
1977	6,000,000	6,800,000
1978	5,200,000	5,400,000
	$23,400,000	$25,700,000
Average	$ 4,680,000	$ 5,140,000

Ratio $4,680,000 ÷ $5,140,000 = 91%

Gross Stock and Debt Indicator of Value	$23,400,000
Ratio of Operating to Non-Carrier Earnings	91%
Net Stock and Debt Indicator of Value	$21,300,900

The "stock and debt" indicator of value computed in accordance with this regulation will bear a weighting of 25 percent of the total unit value of the railroad's property, except in the case of bankrupt railroads, or railroads with no income to be capitalized as provided for in 13 MCAR § 1.0024 F.

E. Unit value computation. The estimated unit value of the railroad property will be the total of the three weighted indicators of value.

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The following is an example of the computation of the unit value.

XYZ Railroad

Valuation Approach	Value		Weighting	
Cost indicator of value	$25,000,000		25%	6,250,000
Income indicator of value	21,275,000	×	50%	16,637,500
Stock and debt indicator of value	21,300,000		25%	5,325,000
			Unit Value	$22,212,500

The weighting shown above may vary from railroad to railroad, as provided for in 13 MCAR § 1.0024 B., C. and D., depending on the conditions and circumstances involved in each valuation. For example a railroad with no outstanding stock would not have a computation for a stock and debt indicator of value, and therefore the income indicator of value would be weighted 75%.

F. Railroads operating at a loss and bankrupt railroads. Railroads which are involved in bankruptcy proceedings, or railroads having no net railway operating income will be valued using whatever indicators of value are workable. If the stock or bonds of such railroads are not traded, or do not meet the other requirements for use of the stock and debt indicator of value then these railroads will be valued using the cost approach to value only.

13 MCAR § 1.0025 Allocation.

A. General. After the estimated unit value of the railroad property has been determined, the portion of value which is attributable to Minnesota must be established. This is accomplished through the use of certain allocation factors. Each of the factors in the allocation method shows a relationship between the railroad system operations in all states and its Minnesota operations. These relationships are expressed in a percentage figure. These percentages are then added and an average is computed. The resulting average of the factors, multiplied by the unit value, yields the Minnesota portion of the railroad property which will, after the adjustments described in 13 MCAR § 1.0025, be subject to *ad valorem* tax in the State of Minnesota.

B. Allocation factors. The factors to be considered in making allocations of unit values to Minnesota for railroad companies are:

1. Miles of railroad track operated in Minnesota divided by miles of railroad track operated in all states.

2. Ton miles of revenue freight transported in Minnesota divided by ton miles of revenue freight transported in all states.

3. Gross revenues from transportation operations within Minnesota divided by gross revenues from transportation operations in all states.

4. Original cost of road property in Minnesota divided by the original cost of road property in all states.

The following example illustrates the allocation method to be applied to the unit value of railroad property.

XYZ Railroad

Minnesota miles of track / Total miles of track	100 / 500	=	20%
Minnesota ton miles of revenue freight / Total ton miles of revenue freight	2,200,000 / 9,000,000	=	24%
Minnesota gross transportation revenue / Total gross transportation revenues	$10,000,000 / $40,000,000	=	25%
Minnesota Cost of Road Property / Total Cost of Road Property	2,990,000 / 13,000,000	=	23%
	Total		92%
	Minnesota Percent of Unit Value		23%
Total Unit Value ($22,212,500) × Minnesota Percent (23%) = Minnesota Portion of Unit Value			$5,108,875

13 MCAR § 1.0026 Adjustments for non-formula assessed property or exempt property. After the Minnesota portion of the unit value of the railroad company is determined property which is either exempt from taxation, such as pollution control equipment and personal property, or classified as non-operating will be deducted from the Minnesota portion of the unit value to the extent that it has been included in the computation of this value.

Property which has been included in the computation of the unit value but has been defined as non-operating property will be valued by the local assessor. The Minnesota portion of the unit value will be reduced by the original cost of this property. Only non-operating property located within the State of Minnesota will be eligible for this exclusion.

The railroad company shall have the responsibility to submit to the Commissioner of Revenue, in the form required by the commissioner, such schedules of non-operating property as he may require.

In addition to non-operating property which will be valued and assessed locally a deduction from the Minnesota portion of the unit value will be made for personal property. The unit value method presupposes that the value of any one portion of the unit is interdependent upon all other elements of the unit; therefore, it is extremely difficult to make a separation of this value into real and personal property.

A percentage of the Minnesota portion of the unit value after deducting non-operating and exempt property will be excluded as personal property. This percentage will be computed in the following way:

The following I.C.C. accounts for property within Minnesota will be totaled:

That portion of coal and ore wharves determined to be personal property less applicable depreciation;

Communication equipment less applicable depreciation;

Roadway machines less applicable depreciation;

Shop machinery less applicable depreciation;

Power plant machines less applicable depreciation;

Equipment, allocated to Minnesota on the basis of car and locomotive miles in Minnesota compared to total system car and locomotive miles, less applicable depreciation.

The total of these accounts will then be divided by the total of the Minnesota road, equipment, leased property, general expenditures, construction work in progress, and other elements of investment accounts; all less applicable depreciation. The resulting percentage will be used to determine the personal property amount of the Minnesota portion of the unit value. This portion will not be taxable for *ad valorem* purposes.

The following is an illustration of the computation for the personal property exclusion.

XYZ Railway

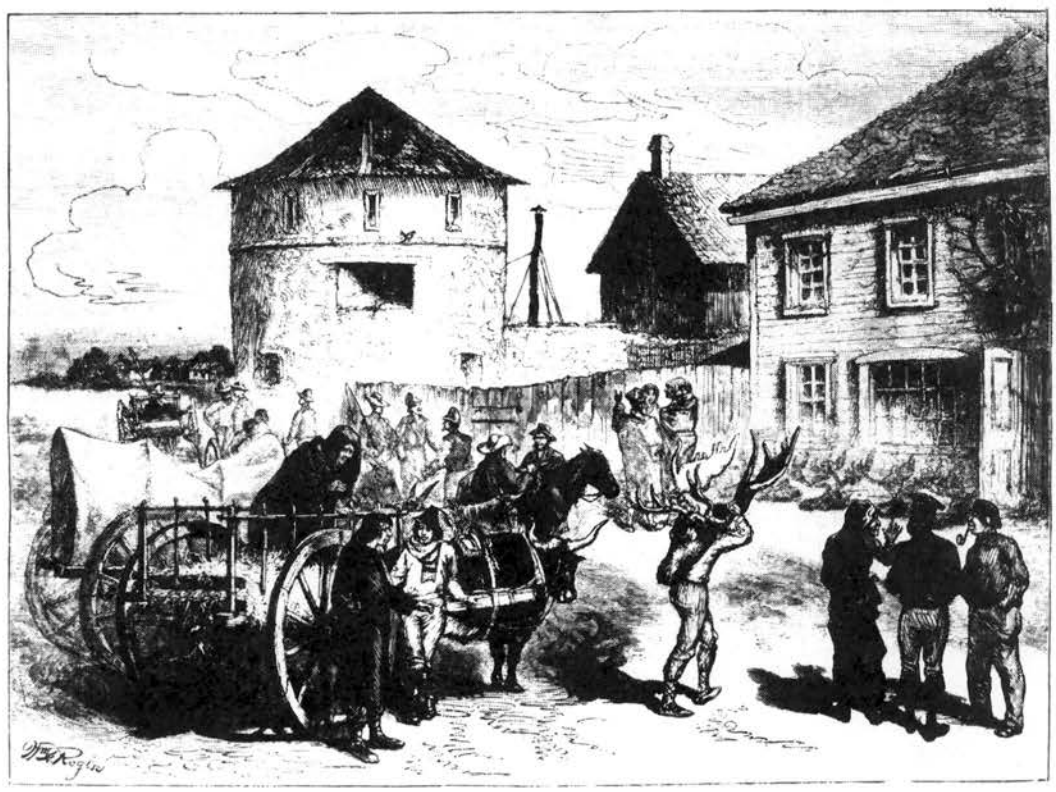
Personal Property Account	Amount in Minnesota	Depreciation	Net Amount in Minnesota
Coal & Ore Wharves	$ 500,000	$ 250,000	$ 250,000
Communication Equip.	100,000	50,000	50,000
Roadway Machines	200,000	100,000	100,000
Shop Machinery	100,000	50,000	50,000
Power Plant Machinery	500,000	203,000	297,000
Equipment*	2,250,000	1,250,000	1,000,000
			1,747,000

*Total Equipment Account	$9,000,000
Car and Locomotive Miles in Minnesota	1,000,000
Total Car and Locomotive Miles	4,000,000
Ratio of Minnesota to Total	25%
Minnesota Allocated Equipment Account	$2,250,000

Cost Account	Amount in Minnesota	Depreciation	Net Amount in Minnesota
Road	$2,990,000	$1,400,000	$1,590,000
Equipment	2,250,000	1,250,000	1,000,000
C.W.I.P.	800,000	—	800,000
General Expenditures	500,000	250,000	250,000
			$3,640,000

Minnesota Depreciated Personal Property Accounts		$1,747,000
Minnesota Depreciated Cost		$3,640,000
Ratio of Personal Property to Cost		48%
Minnesota portion of unit vaue	5,108,875	
Personal Property exclusion at 48%	2,452,260	
Taxable Minnesota Portion of Unit Value	$2,656,615	

TRADERS often traveled by oxcart to peddle their wares. This drawing by W. A. Rogers, which appeared in *Harper's Weekly* in 1879, depicts a typical traders' caravan arriving at Fort Garry in Manitoba. (Courtesy of Minnesota Historical Society)



KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. **PROPOSED RULES SECTION —** Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

ADOPTED RULES

The adoption of a rule becomes effective after the requirements of Minn. Stat. § 15.0412, subd. 4, have been met and five working days after the rule is published in the *State Register*, unless a later date is required by statutes or specified in the rule.

If an adopted rule is identical to its proposed form as previously published, a notice of adoption and a citation to its previous *State Register* publication will be printed.

If an adopted rule differs from its proposed form, language which has been deleted will be printed with strike outs and new language will be underlined, and the rule's previous *State Register* publication will be cited.

A temporary rule becomes effective upon the approval of the Attorney General as specified in Minn. Stat. § 15.0412, subd. 5. Notice of his decision will be published as soon as practicable, and the adopted temporary rule will be published in the manner provided for adopted rules under subd. 4.

Department of Public Welfare
Mental Illness Program Division

Adopted Temporary Rule Governing Grants for Community Support Services for Chronically Mentally Ill Persons

The proposed temporary rule (12 MCAR § 2.014) published at *State Register*, Volume 4, Number 20, pp. 802-805, November 19, 1979 (4 S.R. 802) was approved by the Office of the Attorney General on December 27, 1979, and adopted with the following amendments:

Amendments as Adopted

12 MCAR § 2.014 Grants for community support services for chronically mentally ill persons.

D. Applicability.

2. The county board of commissioners may request funds under this rule for programs and services for chronically mentally ill people to be carried out by the county or by any public or ~~nonprofit~~ private organization, or by any combination of these organizations with which the county contracts.

E. Definitions.

16. Residential facility: A ~~non-acute hospital~~ facility other than a hospital offering administratively organized and programmatically structured 24 hours a day room, board, and relevant services to foster the independence of chronically mentally ill people.

G. Content of applications.

1. Applications must contain at least the following information, following the Problem, Objectives, Method, Evaluation (POME) format.

c. Methods: the modalities of treatment and rehabilitation to be used; a description of how individual program plans will be used in carrying out the service; a description of how case management will be used in carrying out the service; a description of how the proposed service will fit into the local continuum of care and service; and a description of the proposed site(s) and providers to be used. If the providers and sites have not been finally determined at the time of application, the Department will consider the application if it contains indications of potential providers and sites.

3. ~~A resolution of support signed by the applicant county board(s) shall be attached to the application indicating the amount of county funds committed to the proposed project as the required local match.~~ If the service is proposed by and for more than one county, the chairman of participating county boards of commissioners shall sign the application.

H. Use of project funds.

2. Allowable expenses~~, which shall be budgeted in the form specified in Section C.5. of this rule,~~ include:

a. salaries and related expenses of personnel providing services directly to clients in the project;

b. local travel costs of personnel working in the project;

c. consummable supplies used by the project;

d. administrative overhead, as defined and limited by this rule.

3. If an applicant can show that an expenditure other than for a direct service is 1) relatively minor, 2) essential for the project to operate, and 3) cannot be paid for from local funds, such an expenditure ~~may~~ shall be paid for from funds available under this rule, with the approval of the commissioner. ~~The commissioner shall use the above enumerated criteria in approving such expenditures.~~

SUPREME COURT

Decisions Filed Friday, January 11, 1980

49901/Sp. George Ruzynski, Relator, vs. Bemis Packaging Plant of Bemis Company, Inc., et al. Workers' Compensation Court of Appeals.

Under the circumstances of this case the finding that employee was not disabled at the time the employer-insurer discontinued payment of compensation must be set aside for lack of evidentiary support. The evidence and the reasonable inferences permissible therefrom require the conclusion that employee was temporarily partially disabled at that time.

Reversed and remanded. Sheran, C. J. Took no part, Todd, J.

48134/121 Allied Aviation Fueling Company of Minnesota, Appellant, vs. Dover Corporation, Leslie Miller Construction Company, and Dover Corporation, Defendant and Third Party Plaintiff, vs. Tulsa Screw Products, Inc., and Standard Pressed Company, Third Party Defendants. Dakota County.

A supplier of a valve incorporated in a fueling system is not liable for economic loss sustained by a skilled and knowledgeable user when the failure of the component supplied by defendant resulted from an application of force during use and the accident occurred at least two years after the user had certain knowledge of this susceptibility of the supplied component.

Affirmed. Sheran, C. J.

49732/403 Cooperative Power Association, (by the Board of Directors thereof), Appellant, United Power Association (by the Board of Directors thereof), Appellant, vs. Jevon Aasand, et al, Harold E. Larsen and Inez I. Larsen, State of Minnesota, Intervenor. Hennepin County.

Condemnors, utilizing the power of eminent domain to take easements for the purpose of erecting high voltage transmission lines, must acquire fee interests in commercially viable parcels designated by the fee owner and situated contiguously to such right-of-ways. Held, Minn. Stat. § 116C.63, subd. 4 (1978), as applied does not impose an unreasonable burden violative of this constitutional guarantees of due process.

Affirmed. Sheran, C. J. Took no part, Peterson, J.

49816/495 Anthony DeGidio, petitioner, Appellant, vs. State of Minnesota. Hennepin County.

Record of trial and postconviction hearing fails to reveal that defendant was incompetent to stand trial and therefore postconviction court did not err in denying petition for new trial on this ground.

Burglary, although a unique kind of attempt, is a substantive offense which is sufficient to provide a foundation for attempt liability; stated differently, one may validly be convicted of the crime of attempted burglary.

Affirmed. Rogosheske, J.

48904/484 State of Minnesota vs. Steven Allen Volstad, Appellant. Hennepin County.

Evidence of defendant's guilt of the crime of criminal sexual conduct in the first degree was not legally insufficient.

Trial court did not commit prejudicial error in admitting other-crime evidence or in its instructions to jury on the use of this evidence.

Trial court did not err in denying untimely motion for pretrial continuance.

Affirmed. Peterson, J.

49196/488 State of Minnesota vs. Tony Olisa, Appellant. Hennepin County.

Evidence of guilt of attempted theft by trick held sufficient.

Trial court did not err in denying motion to suppress confessions.

Trial court did not err in admitting evidence pursuant to R. 804(b)(5), R. Evid.

Defendant, by failing to object to interrogation of defendant by trial court—see R. 614, R. Evid.—forfeited his right to have this court consider the allegation that the trial court erred in doing so.

Affirmed. Kelly, J.

49058/350 State of Minnesota vs. Dean Peter Alexander, Appellant. Hennepin County.

The double jeopardy clause does not prohibit the imposition of multiple sentences for separate crimes arising out of the same incident.

Where there is no possibility of vindictiveness, the amendment of a complaint after mistrial, adding new and distinct counts to an original charge, does not constitute a denial of due process of law.

Based on the state's concession that the aggravated assaults were lesser included offenses of the aggravated robbery in this case, the aggravated assault convictions are vacated.

Minn. Stat. § 609.035 (1978) does not prohibit the addition of a burglary charge to an original complaint after mistrial, nor does it prohibit the imposition of two consecutive sentences for burglary and aggravated assault convictions.

Based on the state's concession that an unauthorized use of a motor vehicle was a part of the same behavioral incident as an aggravated robbery, the unauthorized use conviction is vacated.

Affirmed in part; reversed in part. Todd, J. Concurring in part, dissenting in part, Wahl, J., Otis, J.

49094/351 Michael Dean Giddings, petitioner, Appellant, vs. State of Minnesota. St. Louis County.

Sufficient evidence was produced at trial to support the jury's verdict of guilty to the charge of aggravated assault.

Interrogation of a defendant in the absence of his appointed attorney is a violation of his sixth amendment right to counsel unless the state can show a knowing and intelligent waiver.

An officer's testimony concerning evidence obtained from a defendant in violation of a defendant's constitutional rights should not be admitted into evidence.

If there is a reasonable possibility that erroneously admitted evidence might have contributed to a defendant's conviction, the error is prejudicial and the defendant is entitled to a new trial.

Reversed and remanded. Todd, J.

49345/423 Susan Marquette, a minor, by John Marquette, her father and natural guardian and John Marquette, individually, Appellants, vs. William Alan Prochazka. Anoka County.

The record does not support the contention that the issue of contributory negligence was presented to the jury.

It is within the trial court's discretion whether to instruct the jury on the plaintiff's nonnegligence as a matter of law where the issue of contributory negligence is not presented to the jury.

Affirmed. Todd, J. Concurring specially, Peterson, J. Dissenting, Yetka, J.

49905/425 City of Bloomington vs. Local 2828 of the American Federation of State, County and Municipal Employees, et al, Appellants. Hennepin County.

The proper role of judicial review in arbitration cases is solely to determine whether specific language in the agreement or submission precludes the arbitrator from deciding the case as he did.

The power to fashion a remedy is a necessary part of the arbitrator's jurisdiction unless withdrawn from him by specific contractual language between the parties or by a written submission of issues which precludes the fashioning of a remedy.

Reversed and remanded with instructions to reinstate the award of the arbitrator. Todd, J.

49791/492 State of Minnesota vs. Richard Anthony Wybierala, Appellant. Ramsey County.

Trial court did not err in admitting evidence on issue of value, evidence of value was sufficient to sustain the verdict, and defendant forfeited right to raise on appeal the issue of nonsubmission of lesser offence.

Affirmed. Todd, J.

50373/Sp. Roger L. Roraff vs. State of Minnesota, Department of Transportation (self-insured), Relator. Workers' Compensation Court of Appeals.

When an employer fails to provide required medical services, reasonable attorneys' fees may be awarded to a successful claimant as an expense incident to obtaining payment for such services under Minn. Stat. § 176.135 (1978).

Affirmed. Yetka, J.

49983, 50741/443 William J. Conde, Brian T. Conde, Minors, by Elaine M. Conde, their mother and natural guardian and Elaine M. Conde, individually, vs. The City of Spring Lake Park, Minnesota, defendant and third party plaintiff, Appellant (49983)-Respondent (50741) Kraus-Hartig Post No. 6587, Veterans of Foreign Wars, defendant and third party plaintiff, Respondent (49983)-Appellant (50741) vs. John M. Conde, third party defendant. Anoka County.

A liquor vendor who is a defendant in an action brought under the Civil Damage Act will not be allowed to seek contribution from the allegedly intoxicated person, our decision being dictated by our holding in *Ascheman v. Village of Hancock*, 254 N.W.2d 382 (Minn. 1977).

Affirmed. Yetka, J.

49889/449 LeAnne Carufel, Appellant, vs. Raymond Steven. Hennepin County.

Under the unique facts of this case, a jury award of $25,000 general damages is inconsistent and irreconcilable with a finding of no permanent injury; therefore, a new trial must be granted.

Reversed and remanded. Yetka, J.

48786/451 State of Minnesota vs. Michael James Bauer, Sr., Appellant. Ramsey County.

There was more than sufficient evidence to support the verdict of guilty of criminal sexual conduct in the first degree.

The trial court correctly applied the Sex Offenders Act, Minn. Stat. § 246.43 (1976), in sentencing the appellant to prison despite a presentencing report recommending treatment.

Affirmed. Yetka, J.

49744, 49807/319 Lawrence R. Holman and Denise L. Holman, husband and wife, Appellants (49744), vs. All Nation Insurance Company, defendant and third party plaintiff, Appellant (49807), vs. Insurance Shoppe, 620 University Avenue, St. Paul, Minnesota, and Kenneth McIntosh, third party defendants. Ramsey County.

The insurer, not the insured, has the burden of proving that the offer of optional supplemental insurance coverages, required by Minn. Stat. § 65B.49, subd. 6 (1978), was made.

Proof of the mandatory offer of optional coverages and its rejection need not be made in writing.

On this record, the insurer has failed to establish that the mandatory offer of optional coverages was made, and the coverages will be read into the insurance contract by operation of law.

The rule of *Lick v. Dairyland Insurance Co.*, 258 N.W.2d 791 (1977), limiting the recovery of underinsured motorist benefits to the amount by which such coverage exceeds the liability insurance of tortfeasor, is not applicable to accidents after the effective date of the No Fault Act, Minn. Stat. §§ 65B.41 to 65B.71 (1978) (January 1, 1975).

"Stacking" of "no-fault" benefits is permitted, even where more than one vehicle is listed on a single insurance policy.

First-party optional coverages imposed by operation of law may be "stacked."

An insurance agent will not be liable to indemnify an insurer for failure to make mandatory offers of supplemental insurance coverage, where the insurer gave the agent no instructions to make the offers.

Affirmed in part, reversed in part. Wahl, J.

49365/323 Shirley Mitchell, Relator, vs. White Castle Systems, Inc., et al. Workers' Compensation Court of Appeals.

Work-related psychological injury is compensable as a case of "permanent disability not enumerated in this schedule" under Minn. Stat. § 176.101, subd. 3(46) (1971).

Post-injury wages create a presumption of earning capacity, but that presumption may be rebutted by evidence that post-injury wages are not a reliable indication of earning capacity. Where, as in this case, evidence of earning capacity is unclear, remand is required.

Under pre-1974 amendment caselaw, an employee can receive benefits for both temporary total and permanent partial disability, but the permanent partial payments must await the termination of the payments for temporary total disability.

Affirmed in part, reversed in part, and remanded. Wahl, J.

49276/329 Ivar E. Johnson, Appellant, vs. AID Insurance Company of Des Moines, Iowa, d.b.a. AID Insurance Services. Carver County.

An insured contractor's willful and knowing violations of contract specifications and expected standards of workmanship do not constitute an "occurrence" under standard liability insurance policy language.

Affirmed. Wahl, J.

49453, 49519/354 In the Matter of the Welfare of K. P. H. Hennepin County.

The juvenile court's order certifying a juvenile for prosecution as an adult is a final order, and therefore appealable, even though the order was stayed by the juvenile court.

The state may not appeal from an adverse evidentiary ruling at a juvenile reference hearing where the state's motion for certification as an adult was granted.

A juvenile may not be certified for adult prosecution solely because of the nature of his offense.

A stay of adult certification of a juvenile is inappropriate where the juvenile court is able to determine whether the juvenile is amenable to treatment or a threat to public safety.

Reversed and remanded. Wahl, J.

49254/250 Minnesota Education Association, Appellant, vs. Independent School District No. 404, Lake Benton, Minnesota, et al. Lincoln County.

Appellant lacked standing both as an "aggrieved" organization under Minn. Stat. § 179.68, subd. 1 (1978), and as an organization asserting injuries to its members' interests, to continue this unfair labor practice action.

Affirmed. Maxwell, J.

50475/400 In the Matter of the Request of Warren Henry Johnson to Resign as an Attorney at Law from the Bar of the State of Minnesota and In the Matter of the Application for the Disbarment of Warren Henry Johnson, an Attorney at Law of the State of Minnesota. Supreme Court.

An attorney who is subject to disciplinary proceedings will not be permitted to resign from the Bar if his conduct would warrant disbarment or suspension. In this case, the record at this time does not indicate the need for disbarment or suspension; therefore, the attorney will be permitted to resign if in compliance with conditions imposed by this court.

Request provisionally granted. Per Curiam.

SUPREME COURT

Decisions Filed Friday, January 4, 1980

50713/118 State of Minnesota, Appellant, vs. Herbert Andrew Viergutz. Sibley County.

When a complaint in a criminal prosecution is dismissed for failure to establish probable cause and the defect is correctable at that time—as where the prosecutor can correct the defect by filing an amended complaint which refers to the evidence establishing probable cause and need not wait for the discovery of evidence establishing probable cause—the prosecutor, under R. 17.06, subd. 4(3), R. Crim. P., must either file the amended complaint within the 7-day period following the dismissal or within the period of any continuance obtained by the prosecutor by filing for a continuance within the 7-day period; failure to file a timely amended complaint in this situation will normally bar further prosecution.

Reversed and remanded for further proceedings. Sheran, C. J.

STATE CONTRACTS

Pursuant to the provisions of Minn. Stat. § 16.098, subd. 3, an agency must make reasonable effort to publicize the availability of any consultant services contract or professional and technical services contract which has an estimated cost of over $2,000.

Department of Administration procedures require that notice of any consultant services contract or professional and technical services contract which has an estimated cost of over $10,000 be printed in the *State Register*. These procedures also require that the following information be included in the notice: name of contact person, agency name and address, description of project and tasks, cost estimate, and final submission date of completed contract proposal.

Department of Economic Security

Business and Financial Services

Notice of Request for Proposal for Consultant Services to Develop and Conduct Staff Training on Selected Agency-wide Procedures

Project Description:

Project involves reviewing the three existing policies and procedures for two activities: reimbursement of travel expenses and authority for local purchase; developing common policy and procedures by working with agency staff; and arranging for and conducting training for agency staff on the policy and procedures.

Contact:

Department of Economic Security
Business & Financial Services
Room 125
390 North Robert St.
St. Paul, MN 55101

Attention: Ms. Mary Ellen Hennen
(612) 296-6055

It is estimated the project will cost approximately $9,500.

Final proposals are due on February 11, 1980.

Department of Natural Resources

Bureau of Engineering

Notice of Request for Proposals for Water Resource Study of the Flandrau Dam

Notice is hereby given that the Department of Natural Resources is requesting proposals for a Water Resource Study of the Flandrau Dam.

The consultant will provide technical assistance to the Parks Planning staff including but not limited to determining the feasibility and associated costs of the following items:

1. Removing the existing dam.

2. Restoring Cottonwood Lake by either modifying the existing dam or building a new dam.

The department has estimated that the cost of this project should not exceed $15,000.00 for professional services and expenses.

Proposals must be submitted by 3:00 p.m., February 12, 1980, to Keith C. Englesby, Acting Administrator of the Bureau of Engineering, Department of Natural Resources, 4th Floor Space Center Building, 444 Lafayette Road, St. Paul, Minnesota 55101. Mr. Englesby may be contacted at (612) 296-2119.

Department of Transportation Technical Services Division

Notice of Availability of Contract for Power Factor Study, I94 Tunnel, Minneapolis

The electrical loads in the subject tunnel present to Northern States Power Company power factors in the area of 0.3 to 0.5 over the span of a calendar year. This power factor must be at least 0.9 in order to eliminate the penalty charges that have been running an average of $18,000 a year. It has also come to our attention that a large demand charge is also being assessed. It is recommended that the consultant study this problem also and give us recommendations for its reduction. Specifically, the following tasks are recommended:

(1) Consultant to study Power Factor and Demand problems.

(2) Consultant to write report on findings and to orally present solutions to the state.

(3) Consultant to present cost estimate, including consultant fees, to the state.

(4) Upon approval of (2) and (3) above the consultant will prepare complete drawings and specifications for the state. The state will take bids and select the contractor.

(5) The consultant will act as advisor and chief inspector to the state's project manager during the construction period.

The estimated cost for this project is $15,000.

Firms desiring consideration should submit their brochure and/or experience resume such as the federal forms 254 and 255 before January 28, 1980. This is not a request for proposal.

For information relating to the technical aspects of the project please contact:

Mr. Jack W. Tweedale
Assistant Traffic Engineer, Electrical
Room 309
Transportation Building
St. Paul, Minnesota 55155
Telephone: (612) 296-6164

Please direct your response to:

B. E. McCarthy
Consultant Services Engineer
Room 612-B
Transportation Building
St. Paul, Minnesota 55155
Telephone: (612) 296-3051

OFFICIAL NOTICES

Pursuant to the provisions of Minn. Stat. § 15.0412, subd. 6, an agency, in preparing proposed rules, may seek information or opinion from sources outside the agency. Notices of intent to solicit outside opinion must be published in the *State Register* and all interested persons afforded the opportunity to submit data or views on the subject, either orally or in writing.

The *State Register* also publishes other official notices of state agencies, notices of meetings, and matters of public interest.

Department of Agriculture Agronomy Services Division

Notice of Intent to Solicit Outside Opinion Concerning Proposed Amendments to Rules Governing Labeling and Distribution of Soil Conditioners; Labeling and Additional Minerals Permitted of Trace Minerals in Commercial and Specialty Fertilizer; and Storage, Handling and Distribution of Anhydrous Ammonia

Notice is hereby given that the Minnesota Department of Agriculture is considering amending the above-mentioned rules. The department is seeking information or opinions from sources outside the department in regard to the nature and utility of amendments to the rules governing soil conditioners and trace minerals (Agr 319-323). In addition, notice is also given that the Department is continuing consideration of amendments to the rules governing the storage, handling and distribution of anhydrous ammonia (Agr 324). A prior notice to this effect appeared in the July 18, 1977 *State Register* (1 S.R. 109). This notice is a continuation of that solicitation; however, persons or agencies that submitted oral or written comments at that time are asked to resubmit such comments or material.

The rules and amendments to the rules are authorized by Minn. Stat. § 17.725, subd. 1, which allows the commissioner to adopt rules and regulations regarding the manufacture, sale, distribution, labeling, etc. of commercial fertilizers, soil conditioners and soil additives or amendments. The proposed amend-

ments, if adopted, would set standards and requirements for labeling, storage, composition, handling and distribution of the above-mentioned fertilizers.

All interested or affected persons or groups are requested to submit information on this subject. Written or oral information, statements or comments should be addressed to:

Gary Braun (612) 296-8379
Agronomy Services Division
Minnesota Department of Agriculture
90 West Plato Boulevard
Saint Paul, Minnesota 55107

All statements of information and comment must be received by May 1, 1980. Any written material received by this date shall become part of the record of any rules hearing held on this subject.

January 21, 1980

William Bulger, Director
Agronomy Services Division

Notice of Intent to Solicit Outside Opinion Regarding Proposed Rules Governing the Storage, Handling and Distribution of Liquid Fertilizer, Dry Fertilizer and Aqueous Solutions of Nitrogen

Notice is hereby given that the Minnesota Department of Agriculture is considering adoption of rules which would govern the storage, handling and distribution of liquid fertilizer, dry fertilizer and aqueous solutions of nitrogen.

The proposed rules are authorized by Minn. Stat. § 17.725, subd. 1. The rules, if adopted, would set standards for the storage, handling and distribution, including all modes of transport, of liquid fertilizer, dry fertilizer and aqueous solutions of nitrogen.

All interested or affected persons or groups are requested to submit information on this subject. Written or oral information, statements or comments should be addressed to:

Gary Braun (612) 296-8379
Agronomy Services Division
Minnesota Department of Agriculture
90 West Plato Boulevard
Saint Paul, Minnesota 55107

All statements of information and comment must be received by May 1, 1980. Any written material received by this date shall become part of the record on any rules hearing held on this subject.

January 21, 1980

William Bulger, Director
Agronomy Services Division

Environmental Quality Board
Power Plant Siting

Notice of Acceptance of Application Amendment to Prairie Island-Eau Claire 345,000 Volt Construction Permit Application to Include Transmission Alternatives from Substation at Allen S. King Generating Plant on St. Croix River to Eau Claire

Note: This notice contains information about the acceptance by the Minnesota Environmental Quality Board (MEQB) of an amendment proposal by Northern States Power Company (NSP) to expand the study area for NSP's Prairie Island-Eau Claire 345 kilovolt (kV) construction permit application. The amended application includes the Minnesota portion of a proposed transmission line extending from the substation at the Allen S. King generating plant to Eau Claire, Wisconsin. This notice also serves to provide notification of public information meetings which will be held to describe the project and public participation procedures used in the transmission line routing process as prescribed by Minnesota law.

On December 20, 1979, the Minnesota Environmental Quality Board (MEQB) formally accepted NSP's proposed amendment to the Prairie Island-Eau Claire construction permit application which had been accepted by the MEQB on September 21, 1978. The Prairie Island-Eau Claire application is for a single circuit 345 kV transmission line route from the substation at the Prairie Island generating plant across the Mississippi River to Eau Claire, Wisconsin. Because the Wisconsin Public Service Commission (WPSC) is considering routing alternatives from Eau Claire to the Allen S. King Plant in Oak Park Heights, Minnesota, NSP proposed that the MEQB review the Minnesota portion of the King-Eau Claire alternatives. MEQB acceptance of NSP's application amendment allows the MEQB to study routing alternatives in Minnesota that would cross the St. Croix River to Wisconsin.

NSP in their amendment application proposed one additional route in Minnesota for this line (see Figure I). A route can be a strip of land up to a mile and a quarter wide in which the right of way of the transmission line could be located; a right of way is the specific area needed for an easement within which the line will be constructed. For the route from the Allen S. King plant, NSP has proposed an alignment immediately adjacent to an existing 115/69 kV double circuit transmission line crossing the St. Croix River.

Figure II illustrates the routes proposed for a crossing of the Mississippi River out of the substation at Prairie Island. These routes were proposed by NSP, a citizens route evaluation committee (CREC) and the power plant siting (PPS) staff for MEQB consideration at public hearings and in the environmental impact statement review process. The routes illustrated in Figure II will be considered as routing alternatives in addition to NSP's proposed route across the St. Croix and other route proposals made pursuant to 6 MCAR § 3.073 F. A transmission line route to Wisconsin will be designated by the MEQB at the end of the routing process, from either the Prairie Island substation or the Allen S. King substation. The WPSC will be designating a route in Wisconsin from the state boundary to Eau Claire.

Under the Minnesota Power Plant Siting Act, the MEQB is the official state body authorized to determine the location of this transmission line and to issue a permit for line construction. The MEQB must designate a route and issue a permit within one year.

The process the MEQB will follow in designating this route is spelled out in the MEQB Rules "Routing High Voltage Transmission Lines and Siting Large Electric Power Generating Plants" (6 MCAR §§ 3.071-3.082, effective June 12, 1978). This process is outlined below. *In addition, public information meetings will be held in Washington, Dakota and Goodhue Counties*, to describe the project and the MEQB process in detail.

Background Information

Copies of the amended application, rules governing the process and the Power Plant Siting Act will be available at the public libraries in Afton, Bayport, Stillwater, Hudson, Red Wing, and Hastings. As other information about this project becomes available, it will also be placed there.

Public Advisor

A public advisor has been appointed to assist and advise interested persons in how to take part in this process. Her name is Jane Anderson. She can be contacted at 550 Cedar Street, Room 15A, St. Paul, Minnesota 55101, telephone (612) 296-9923.

Information Meetings

Power Plant Siting staff will explain the power line project, the state routing process and answer questions. Representatives of NSP will also be present. The meeting dates and locations are as follows:

January 24 (Thursday), 7:30 p.m., Bayport Elementary School Gym, Rt. 95, Bayport, Minnesota

January 29 (Tuesday), 7:30 p.m., Basement Hall, Dakota County Library, 830 Vermillion, Hastings, Minnesota

January 30 (Wednesday) 7:30 p.m., Foot Room, Red Wing Public Library, 225 Broadway, Red Wing, Minnesota.

Route Evaluation Committee

A committee of local residents from the expanded study area will be appointed by the MEQB. The committee will study routes for this line and recommend one to the MEQB. The committee may also suggest additional routes. Its meetings are open to the public and anyone interested in the line route is encouraged to attend.

Public Hearings

Formal public hearings on the route proposals will be held at a later date which will be announced in local newspapers at least 10 days in advance but no earlier than 45 days prior to such hearings. Persons who wish to receive a notice of these hearings should contact Robert Cupit at the address below.

Additional Route Proposals

Persons who wish to suggest additional routes for this line may do so. Route proposals should be submitted to Robert Cupit, Environmental Quality Board, (address below) telephone (612) 296-2096. The suggested route or route segment proposal must be specifically located on the appropriate general county highway map (available from the Minnesota Department of Transportation) or on the appropriate United States Geological Survey Topographical maps. Certain additional information about the route or route segment must also be included.

More specific information regarding procedures for proposing additional routes are detailed in 6 MCAR § 3.073 F. (1978). This rule must be followed when such proposals are offered. Anyone who wishes to propose an additional route should immediately contact the MEQB regarding requirements and time limits for route proposals.

Minnesota Environmental Quality Board
550 Cedar Street, Room 15
St. Paul, Minnesota 55101
Telephone: (612) 296-2096

January 10, 1980

Arthur E. Sidner, Chairman
Environmental Quality Board

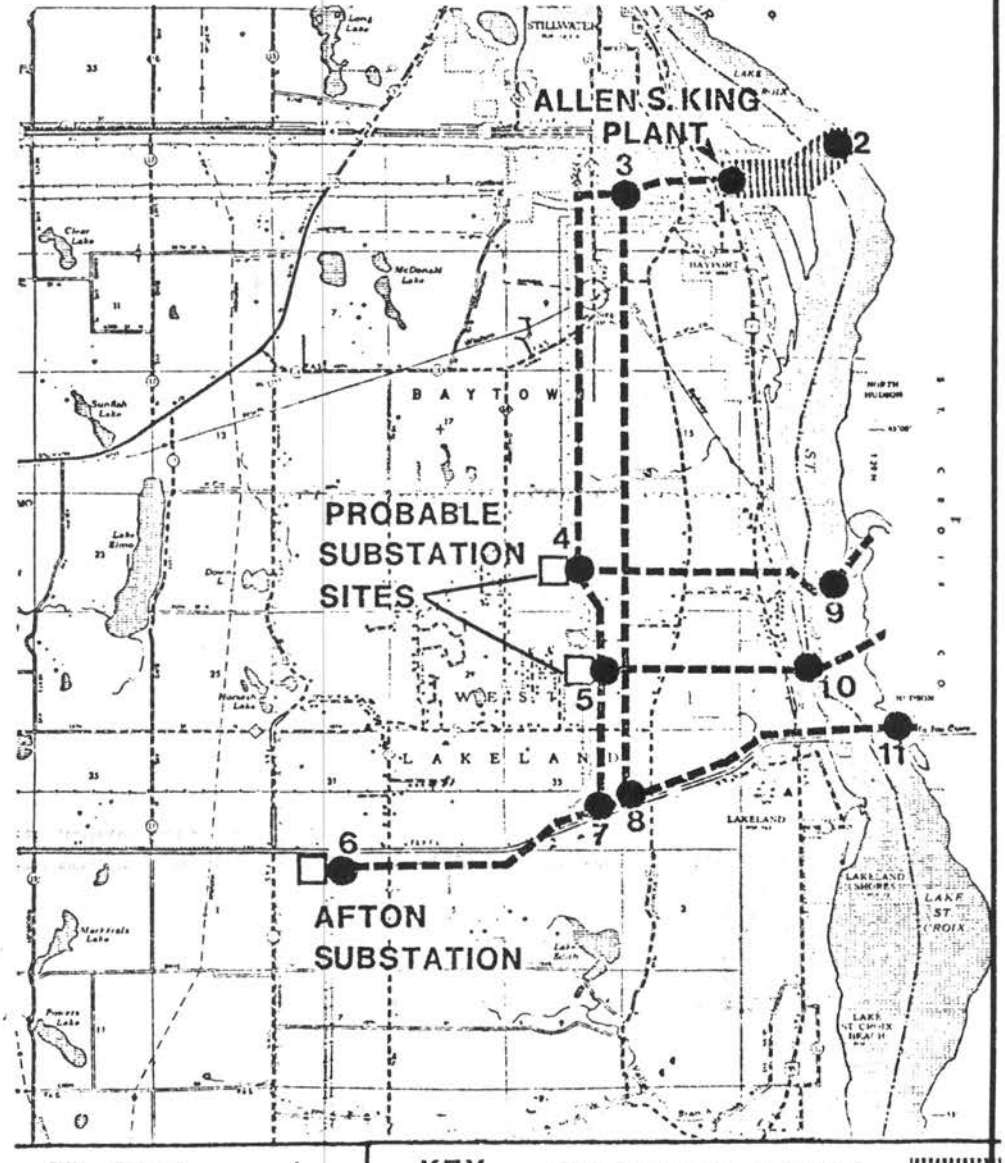
[See Figures I and II.]

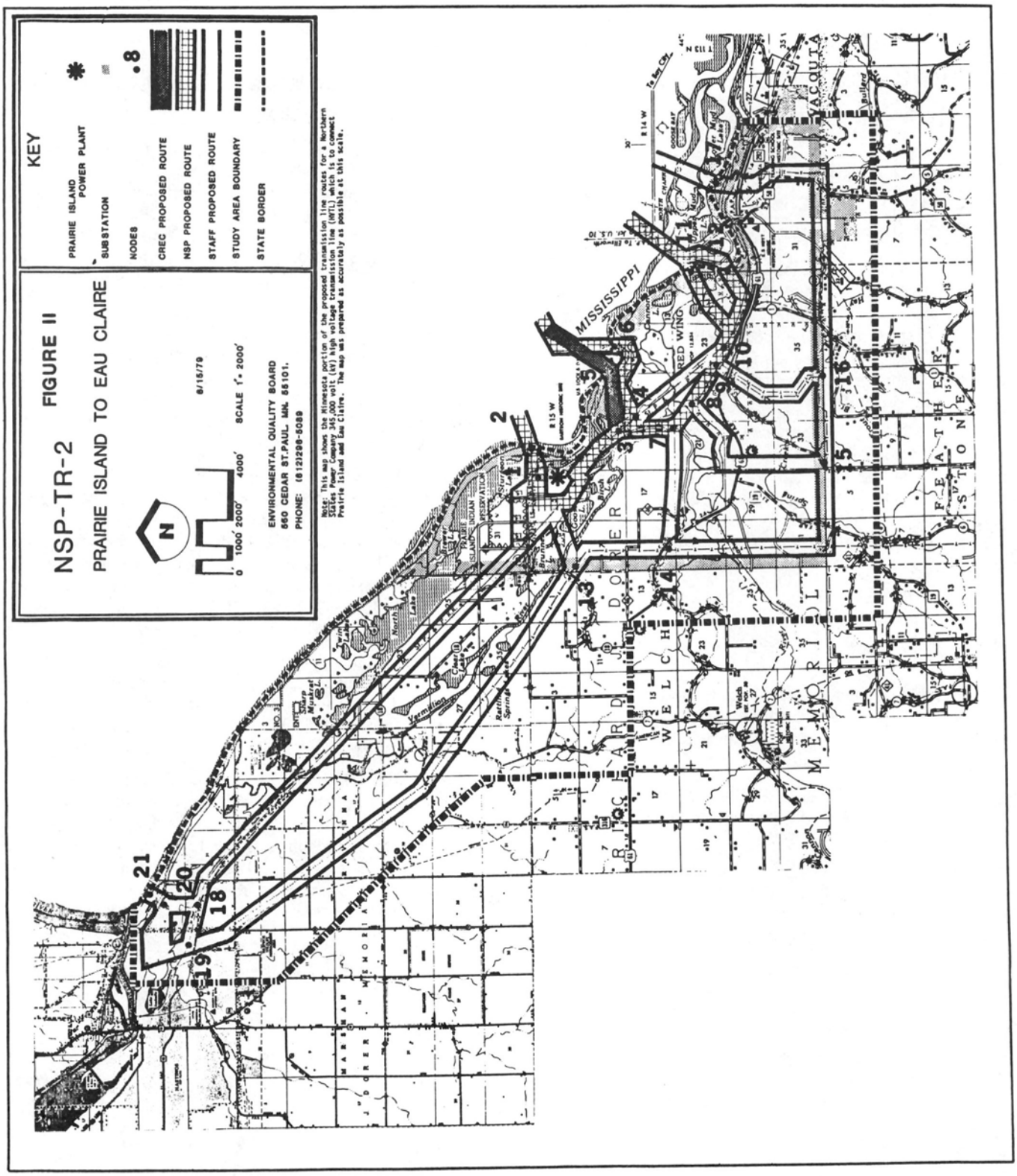
NSP-TR-2 AMENDED Figure I

Prairie Island-King-Eau Clair 1/9/80

NOTE: This map shows the Minnesota portion of the proposed transmission line routes for a Northern States Power Co. 345,000 volt transmission line which would connect the King substation and Eau Claire. The map was prepared as accurately as possible at this scale.

Environmental Quality Board
550 Cedar St. Paul Mn. 55101
Phone # (612)296-5089




KEY
PRAIRIE ISLAND POWER PLANT
SUBSTATION
NODES .8
CREC PROPOSED ROUTE
NSP PROPOSED ROUTE
STAFF PROPOSED ROUTE
STUDY AREA BOUNDARY
STATE BORDER
NSP-TR-2 FIGURE II
PRAIRIE ISLAND TO EAU CLAIRE
8/15/79
0 1000 2000 4000' SCALE 1"= 2000'
ENVIRONMENTAL QUALITY BOARD
660 CEDAR ST.PAUL MN. 55101.
PHONE: (612)296-5089
Note: This map shows the Minnesota portion of the proposed transmission line routes for a Northern States Power Company 345,000 volt (kV) high voltage transmission line (HTL) which is to connect Prairie Island and Eau Claire. The map was prepared as accurately as possible at this scale.
MISSISSIPPI
RED WING
MACQUA
MEMORIAL
FEATHERSTONE

Department of Public Welfare
Chemical Dependency Division

Notice of Intent to Solicit Outside Opinion Concerning Residential Chemical Dependency Programs

Notice is hereby given that the Minnesota Department of Public Welfare is considering draft amendments to 12 MCAR § 2.032, Department of Public Welfare rule for the licensing and operation of sub-acute receiving centers for intoxicated persons, and 12 MCAR § 2.035, Department of Public Welfare rule for the licensing and operation of all residential programs for inebriate and drug dependent persons.

Rule 12 MCAR § 2.032 governs the licensing and operation of all sub-acute receiving centers providing programs for five or more inebriate and drug dependent persons, and establishes such rules, regulations, and guidelines necessary to carry out the purpose of the statute. Authority for this rule is established for the Commissioner of Public Welfare by Minn. Stat. §§ 245.78 through 245.82.

Rule 12 MCAR § 2.035 governs the licensing of all residential facilities providing programs for five or more inebriate and drug dependent persons and establishes such rules, regulations and guidelines necessary to carry out the purpose of the statute.

The proposed changes may include any of the standards affecting the care and delivery of services to inebriate and drug dependent persons. All interested or affected persons or any groups are requested to participate.

Statement of information and comment may be made orally or in writing. Written statements of information and comment may be addressed to:

Minnesota Department of Public Welfare
Chemical Dependency Programs Division
(Rule 35 Revision Committee)
4th Floor, Centennial Office Building
658 Cedar
St. Paul, MN 55155

Oral statements of information and comment will be received during regular business hours over the telephone by Mr. Wayne Raske at (612) 296-2174 (Rule 32) and Mr. Larry Burzinski (612) 296-4608 or Mr. Carlus Espejo (612) 296-8574 (Rule 35).

All statements of information and comment must be received by April 1, 1980. Any written material received by the department shall become part of the hearing record.

Office of the Secretary of State

Notice of Vacancies in Multi-member State Agencies

Notice is hereby given to the public that vacancies have occurred in multi-member state agencies, pursuant to Minn. Stat. § 15.0597, subd. 4. Application forms may be obtained at the Office of the Secretary of State, 180 State Office Building, St. Paul 55155; (612) 296-2805. **Application deadline is Tuesday, February 5, 1980.**

Board of Examiners in Watchmaking: One vacancy open immediately|for\a watchmaker\with at least five years experience in the state. The board examines and licenses watchmakers. The appointing authority is the governor. Meetings are held twice yearly in St. Paul. Members receive $35 per diem, and must file with the Ethical Practices Board. For further information, contact Helen Boyer, 5th Floor, Metro Square Building, St. Paul 55101; (612) 296-2197.

Higher Education Facilities Authority: One vacancy open immediately for a public member. The authority issues revenue bonds for capital improvements at non-profit private post-secondary educational institutions. Members are appointed by the governor and confirmed by the senate. Meetings are held monthly. Members receive $35 per diem. For further information, contact Joseph LaBelle, 278 Metro Square Building, St. Paul 55101; (612) 296-4690.

Judicial Council: Three vacancies open immediately for attorneys. The council studies the procedure and organization of the state judicial system. The appointing authority is the governor. For further information, contact Laurence Harmon, 230 State Capitol, St. Paul 55155; (612) 296-2474.

Metropolitan Transit Commission: One vacancy open immediately for a public member. The commission owns and operates metropolitan mass transit services. The appointing authority is the Metropolitan Council. Meetings are held twice monthly. Members receive $50 per diem, and must file with the Ethical Practices Board. For further information, contact Rosemarie Johnson, 300 Metro Square Building, St. Paul 55101; (612) 291-6461.

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THE COMPOSITION AND USE OF THE MINNESOTA STATE BUILDING CODE

The State Building Code, to be known as the "Code", includes several documents or codes pertaining to buildings. They are as follows:

1. State Building Code rules will be known and identified by 2 MCAR Sec. 1.0101 through 2 MCAR Sec. 1.18901.

2. The State Building Code adopts by reference the following codes:

(a) 1979 Edition of the Uniform Building Code, identified as "UBC";

(b) 1978 National Electrical Code, identified as "NEC";

(c) 1978 American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks, identified as ANSI A17.1-1978, and Supplements ANSI A17.1a-1979.

(d) 1979 Minnesota Plumbing Code, identified as MHD 120 through MHD 135;

(e) "Flood Proofing Regulations" (FPR), Office of the Chief Engineers, U.S. Army.

(f) One and Two Family Dwelling Code, 1975 Edition.

see HE P10

3. Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code, identified as SBC 7101 through SBC 8505.

4. "Design and Evaluation Criteria for Energy Conservation in New Buildings, Additions and Remodeled Elements of Buildings and Standards for Certain Existing Public Buildings," identified as 2 MCAR Sec. 1.16001 through 2 MCAR Sec. 1.16006. (2 MCAR Sec. 1.16007 through 2 MCAR Sec. 1.16013 reserved for future use.)

5. Standards of Performance for Solar Energy Systems and Subsystems Applied to Energy Needs of Buildings, 1977 Edition, identified as 2 MCAR Sec. 1.16101 through 2 MCAR Sec. 1.16107.

6. State of Minnesota Mobile Home Installation Standards 1977, identified as 2 MCAR Sec. 1.90450 and related definitions in 2 MCAR Sec. 1.90103.

7. Certain appendices which contain the listing of various National Standards referred to in the body of the code; technical requirements for fallout shelters; and various chapters of those codes adopted by reference which chapters may be adopted by municipalities and administered and enforced by such municipalities. The Code is to be used in its entirety by the municipalities in administering and enforcing the Code as well as by designers and builders in their designs and construction of structures. It is necessary to use the entire Code to ensure uniformity in compliance with the Code as well as uniformity in its administration and enforcement.

The above referenced Minnesota State Building Code and Minnesota Plumbing Code are available from the Department of Administration, Documents Section, 117 University Avenue, St. Paul, Minnesota 55155.

Other codes are available from the publishers of the codes.

(a) Uniform Building Code:

International Conference of Building Officials

5360 South Workman Mill Road

Whittier, California 90601

(b) National Electrical Code:

National Fire Protection Association

470 Atlantic Avenue

Boston, Massachusetts 02110

(c) American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks:

American Society of Mechanical Engineers

United Engineering Center

345 East 47th Street

New York, New York 10017

(d) ASHRAE Standard 90-75

American Society of Heating, Refrigeration, and Air-Conditioning Engineers Inc.

345 East 47th Street

New York, New York 10017

(e) One and Two Family Dwelling Code

International Conference of Building Officials

5360 South Workman Mill Road

Whittier, California 90601

Sec. 1.10101 Title, rules and regulations. The rules and regulations contained in this Code and rules and standards adopted by reference therein shall be collectively known as the Minnesota State Building Code, and may be cited as such and will be referred to herein as "this Code". The administrative chapters of the UBC (Chapter 1, 2 and 3), as amended herein, shall govern the application of the Code.

Sec. 1.10102 Purpose and application. The purpose of this Code is to provide uniform standards to safeguard life or limb, health, property and public welfare by regulating and controlling design, construction, quality of materials, use and occupancy of all buildings and structures.

The State Building Code shall apply state wide and supersede the building code of any municipality. The State Building Code Shall not apply to agricultural buildings except with respect to state inspections required or rulemaking authorized.

Sec. 1.10103 Definitions. Wherever the term "Administrative Authority" appears in this Code the words "Building Official" shall be substituted therefore.

Wherever the terms "Mayor" or "City Council" appear in this Code the words "Governing Body" shall be substituted therefore.

A. "City" means a home rule charter or statutory city.

B. "Code" means the State Building Code or any amendments thereof.

C. "Municipality" means any city, county, or town.

D. "Town" shall be defined as a town meeting the requirements of Minnesota Statutes 368.01.

Sec. 1.10104 Scope. The provisions of this Code shall apply to the construction, alteration, moving, demolition, repair and use of any building or structure within the municipality, except work located primarily in a public way, public utility towers and poles, mechanical equipment not specifically regulated in this Code, and hydraulic flood control structures.

Additions, alterations, repairs and changes of use or occupancy in all buildings and structures shall comply with the provisions for new buildings and structures except as otherwise provided in UBC Sections 104, 306, 307, and 502 of this Code. Where, in any specific case, different sections of this Code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

Wherever in this Code reference is made to the Appendix, the provisions in the Appendix shall not apply unless specifically adopted.

The provisions of this Code relating to fallout shelters shall apply only to state-owned buildings.

Sec. 1.10105 Fallout shelters. Whenever it has been determined by the Department of Public Safety, Division of Civil Defense and the State Architectural Engineer that fall-out protection is needed for a particular location the "Technical Requirements for Fallout Shelters" as contained in Appendix "A" shall be complied with.

Sec. 1.10106 State-owned buildings. State owned buildings shall mean all buildings and structures financed in whole or in part by state funds and which are under the exclusive jurisdiction and custodial control of one or more state department or agencies.

Sec. 1.10107 State plan checking fees. Plan checking of buildings or structures conducted by the Division shall have a fee based on valuation in accordance with Table No. 107-A. "Valuation" means total cost of construction exclusive of site work not related to the construction.

EXCEPTION: When the Plan Review is limited to non-structural aspects, the fee shall be 75% of those listed in Table 107-A.

There shall be no additional fee charge for consultation with designers, or for re-checking provided no substantial change in the design has been made. When a determination is made by the Division that a substantial change has been made in the design, the re-checking fee shall be $15.00 per hour or fraction thereof. No fee shall be charged for state-owned buildings.

TABLE NO. 107-A

Valuation	Plan Fee Check
$ 3,000.00 or less	No Charge
3,001.00 to 5,000.00	$ 21.00
5,001.00 to 10,000.00	34.00
10,001.00 to 15,000.00	47.00
15,001.00 to 20,000.00	60.00
20,001.00 to 25,000.00	72.00
25,001.00 to 30,000.00	83.00
30,001.00 to 35,000.00	93.00
35,001.00 to 40,000.00	102.00
40,001.00 to 45,000.00	112.00
45,001.00 to 50,000.00	122.00
50,001.00 to 55,000.00	129.00
55,001.00 to 60,000.00	135.00
60,001.00 to 65,000.00	142.00
65,001.00 to 70,000.00	148.00
70,001.00 to 75,000.00	155.00
75,001.00 to 80,000.00	161.00
80,001.00 to 85,000.00	168.00
85,001.00 to 90,000.00	174.00
90,001.00 to 95,000.00	181.00
95,001.00 to 100,000.00	187.00
100,001.00 to 500,000.00	187.00 for the first $100,000.00 plus $1.00 for each additional $1,000.00 or fraction thereof.
500,001.00 and up	577.00 for the first $500,000.00 plus $ .65 for each additional $1,000.00 or fraction thereof.

Sec. 1.10108 Disclaimer Clause. The inclusion of specific requirements relative to the manner of installation of any plant or equipment in any one or more parts of said Code shall not limit this procedure to any particular type of installer nor provide a basis upon which determination of the right to perform such procedures shall be made. The authority for such determination will be found in the various licensing statutes or ordinances for each type of installer who performs the work.

Sec. 1.10109 Appendices.

A. The following appendices, annexes and supplemental material listed in this Code shall be mandatory to enforce by any municipality.

1. Minnesota State Building Code Appendix "A", Technical Requirements for Fallout Shelter.

2. Minnesota State Building Code Appendix "B", Variation in Snow Loads.

3. 1979 UBC Appendix, Chapter 35.

4. Minnesota Plumbing Code Appendix B.

B. The following appendices, annexes and supplemental material listed in this Code shall not be mandatory but may be adopted without change at the discretion of any municipality, except UBC Appendix Chapter 70 may be adopted with revised fee and bond requirements.

1. Minnesota State Building Code. Appendix "C" abbreviations and addresses of technical Organizations.

2. 1979 UBC Appendix, Chapters 12 , 38, 48, 49, 55, and 70. UBC appendices not listed as mandatory or optional are not incorporated in the State Building Code.

inserted, HE ¶10

3. Minnesota Plumbing Code Appendices C and D.

4. Flood Proofing Regulations, Sections 201.2 through 208.2.

See HEB ¶14 & F. of F #11

5. Minnesota State Building Code Appendix "D", Building Security Sections 4101-4110.

Sec. 1.10111 Adoption of the Uniform Building Code by reference. Chapters 1 through 60 and appendices of the 1979 Edition of the Uniform Building Code, hereinafter "UBC", as promulgated by the International Conference of Building Officials, are incorporated by reference and hereby made part of the State Building Code (SBC) except as qualifed by 2 MCAR Sec. 1.10109. Said UBC shall be subject to the following alterations and amendments:

UBC Sections 101, 102 and 103 are deleted in their entirety.

UBC Sec. 104 (a) is amended by changing the last sentance and adding a sentance to read: See Section 1210 for provisions requiring installation of smoke detectors in existing Group R, Division 3 or 4 Occupancies. Unsafe conditions as defined in Section 203 shall be abated.

See HE #11 + F.of F. 2.

UBC Sec. 104(f) is amended by adding an additional item number 4 as follows:

4. All approvals must be based on the applicants submission of complete architectural and engineering plans and specifications.

UBC Section 203 is amended to read as follows:

UBC Sec. 203. All buildings or structures regulated by this code which are structurally unsafe or not provided with adequate egress, or which constitute a fire hazard, or are otherwise dangerous to human life are, for the purpose of this section, unsafe. Any use of buildings or structures constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment are, for the purpose of this section, unsafe uses. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members which are supported by, attached to, or part of a building and which are in deteriorated condition or otherwise unable to sustain the design loads which are specified in the Building Code are hereby designated as unsafe building appendages.

All such unsafe buildings, structures or appendages are hereby declared to be public nuisances and shall by abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in Minnesota Statutes, Chapter 463 Sections 15 through 26.

UBC Sec. 204 is amended by amending the last sentence as follows: The Board shall adopt reasonable rules and regulations for conducting its investigations and shall render all decisions and findings in writing to the Building Official with a duplicate copy to the appellant and to the State Building Inspector within fifteen (15) days of such decision.

UBC Sec. 205 is amended by adding a sentence as follows: Any violation of provisions of this code is a misdemeanor (Minn. Stat. 16.865)

UBC Sec. 301(b) is amended by the addition of item 12 as follows:

12. Agricultural buildings as defined in Minn. Stat. 16.84 subd. 6.

Section 304(a) of the UBC is amended to read as follows:

UBC Sec. 304. (a) Permit Fees. The fee for each permit shall be as set forth in Table 3-A. Each municipality shall adopt its own schedule of permit fees. The fee schedule of Table 3-A is hereby made optional for use by the local authority and is a recommended schedule. In areas outside of the enforcement authority of a city, the fee charged for the issuance of permits and inspections for single family dwellings may not exceed the greater of $100 or .005 times the value of the structure, addition or alteration. (Minn. Stat. 16.851).

The determination of value or valuation under any of the provisions of this code shall be made by the building official. The value to be used in computing the building permit and building plan review fees shall be the total value of all construction work for which the permit is issued as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire-extinguishing systems and any other permanent equipment.

Section 305(e) of the UBC is amended to read as follows:

UBC Sec. 305(e) Required Inspections. Reinforcing steel or strucural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the building official.

The building official, upon notification from the permit holder or his agent, shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his agent wherein the same fails to comply with this code:

1. FOUNDATION INSPECTION: To be made after trenches are excavated and forms erected and when all materials for the foundation are delivered on the job. Where concrete from a central mixing plant (commonly termed "transit mixed") is to be used, materials need not be on the job.

2. CONCRETE SLAB OR UNDER-FLOOR INSPECTION: To be made after all in-slab or under-floor building service equipemnt, conduit, piping accessories and other ancillary equipment items are in place but before any concrete is poured or floor sheathing installed, including the subfloor.

3. FRAME INSPECTION: To be made after the roof, all framing, fire blocking and bracing are in place and all pipes, chimneys and vents are complete and the rough electrical, plumbing and heating wires, pipes and ducts are approved.

4. INSULATION INSPECTION: To be made after all required insulation is in place but before any covering material is in place.

5. LATH AND/OR GYPSUM BOARD INSPECTION: To be made after all lathing and gypsum board, interior and exterior, used as a structural element or a part of a fire resistive assembly, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

6. FINAL INSPECTION: To be made after finish grading and the building is completed and ready for occupancy.

7. INSTALLATION OF MOBILE HOMES: To be made after the installation of the suuport system and all utility service connections. This shall include the inspection of the anchoring system where installed.

Section 307(a) of the UBC is amended to read as follows:

Certificate of Occupancy

Sec. 307(a) Use or Occupancy. No building or structure of Groups A,E,I,H,B or R, Division 1 Occupancy, shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the Building Official has issued a Certificate of Occupancy therefore as provided herein. A municipality may require certificates of occupancy for Group R3, R4 and Group M Occupancies.

Section 405 of the UBC, Definition of Dwelling shall be amended to read:

see p. 179 R. as p. + F. of F #8

DWELLING is any building or any portion thereof which is not an "Apartment House", "Lodging House" or a "Hotel" as defined in this code, which contains one or two "Dwelling Units" or "Guest Rooms", used, intended or designed to be built, used, rented, leased, let or hired out to be occupied, or which are occupied for living purposes and shall include Class A-1 Supervised Living Facilities as defined in Section 420.

Section 406 of the UBC is amended by the addition of the following definition:

EARTH SHELTERED STRUCTURE is a building constructed so that more than 50 percent of the exterior surface area of the building, excluding garages or other accessory buildings, is covered with earth. Partially completed buildings shall not be considered to be earth sheltered. (See MN Stat. 116H.02 Subd. 3.)

Section 407 of the UBC Definition of Fire Code is amended as follows:

UBC Sec. 407. FIRE CODE is the Minnesota Uniform Fire Code, authorized by Minn. Stat. 299F.011.

UBC Sec. 414 Definition of Mechanical Code is amended as follows:

UBC Sec. 414 MECHANICAL CODE is the Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code.

See R. as P page 32 for slightly different wording

Section 420 of the UBC is amended by adding the following definitions.

Supervised Living Facility" means a facility in which there is provided supervision, lodging, meals, and, in accordance with the provisions of rules of the Department of Public Welfare, counseling and developmental habilitative or rehabilititative services to five or more persons who are mentally retarded, chemically dependent, adult mentally ill or physically handicapped.

"Class A Supervised Living Facility" means a Supervised Living Facility for ambulatory and mobile persons who are capable of taking appropriate action for self-preservation under emergency conditions as determined by program licensure provisions.

?

Class A-1 supervised living facilties shall include homes providing boarding and lodging for 6 or fewer ambulatory or mobile disabled persons.

Class A-2 supervised living facilities shall include homes providing boarding and lodging for more than 6 ambulatory or mobile disabled persons.

"Class B Supervised Living Facility" means a Supervised Living Facility for ambulatory, non-ambulatory, mobile or non-mobile persons who are not mentally or physically capable of taking appropriate action for self-preservation under emergency conditions as determined by program licensure provisions.

UBC Table 5-A, Group I-1, I-2, R1 and R3 are amended to read as follows:

UBC Sec. 501 Table 5-A

I.1 - Nurseries for full-time care of children under the age of six (each accommodating more than four persons). Hospitals, sanitariums, nursing homes and similar buildings (each accommodating more than four persons).

I.2 - Detoxification centers, homes for children six years of age or over, supervised living facilities Class B as defined for the mentally retarded, mentally ill or the physically handicapped (each accommodating more than four persons).

R.1 - Hotels and apartment houses, convents and monasteries (each accommodating more than 10 persons). Supervised living facilities Class A2 as defined in UBC 420 (accommodating more than six persons).

R-3 - Dwellings and lodging houses. Supervised living facilities Class A-1 as defined in UBC 420 (each accommodating six or fewer persons).

see page 179, 186 R. on P.

Section 503(d) Exception 4 is amended to read as follows:

EXCEPTION 4. In the one-hour occupancy separation between a Group R, Division 3 and M occupancy, the separation may be limited to the installation of one half inch thick gypsum board, or equivalent, on the garage side and a tight-fitting solid wood door 1 3/8 inches in thickness will be permitted in lieu of a one-hour fire assembly. Fire dampers shall not be required in ducts piercing this separation for ducts constructed of not less than No. 26 gauge galvanized steel.

Chapter 5 of the UBC is amended by adding a new section to read as follows:

UBC Sec 512 Roof Access. Unless specifically exempted by the Building Official due to space limitation, roof height above grade or other special considerations, buildings on which any heating, air conditioning, or refrigeration equipment is hereafter installed on the roof and which equipment will require periodic inspection, service and maintenance in accordance with the mechanical code SBC 7101-8810 shall meet the following requirements:

A stairway complying with UBC Chapter 33 or a stair leading to a scuttle or bulkhead in the roof having such equipment shall be provided to make such equipment safely accessible. Said stair leading to the scuttle or bulkhead shall be placed at an angle of not more than 60 degrees measured from the horizontal with flat treads not less than six inches in width and a minimum length of 24 inches at the tread. No riser shall be more than nine inches and handrails shall be provided on both sides of the access stairs. The minimum opening of the scuttle or bulkhead shall be not less than nine square feet in area with the minimum dimension being not less than two feet. In no case shall this required access be located in or pass through the elevator shaft or elevator machine room.

Equipment should be located with at least six feet of clearance from the edge of the roof or similar hazards. If the clearance is less than six feet, a suitable rail or guard not less than forty-two inches in height shall be provided.

Each unit of equipment shall have an accessible disconnect switch. A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed on or adjacent to the unit or equipment. The circuit for this convenience outlet shall be approved ground-fault protection and shall not be connected to the equipment circuit.

Section 605 of the UBC is amended to read as follows:

UBC 605. All enclosed portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with natural light by means of exterior glazed openings with an area not less than one-tenth of the total floor area, and natural ventilation by means of openable exterior openings with an area of not less than one-twentieth of the total floor area or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating systems shall supply a minimum of 5 cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building and such system shall be kept continuously in operation during such time as the building is occupied. If the velocity of the air at the register exceeds 10 feet per second, the register shall be placed more than 8 feet above the floor directly beneath.

Exit lighting in portions of buildings other than the stage shall be on a separate circuit from that of the stage. Such exit lighting shall be controlled from the box office or other approved central control center located in a portion of the building other than the stage. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and shall be operated by fusible links located on both sides of the proscenium wall and both inside of and outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, See UBC Sec. 1711(h) as specified herein.

Section 705 of the UBC is amended to read as follows:

UBC Sec. 705. All portions of Group B Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of total floor area, or shall be provided with artifical light and mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all enclosed parking garages used for storing or handling of automobiles operating under their own power and on all loading platforms in bus terminals, ventilation shall be provided capable of exhausting a minimum of 3/4 cfm per square foot of gross floor area. The building official may approve an alternate ventilation system designed to exhaust a minimum of 14,000 cfm for each operating vehicle. Such system shall be based upon the anticipated instantaneous movement rate of vehicles but not less than 2.5 percent (or one vehicle) of the garage capacity. Automatic CO sensing devices may be employed to modulate the ventilation system to maintain a maximum average concentration of CO of 50 ppm during any eight-hour period, with a maximum concentration not greater than 200 ppm for a period not exceeding one hour. Connecting offices, waiting rooms, ticket booths, etc., shall be supplied with conditioned air under positive pressure.

EXCEPTION: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding in area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilites shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored or servced shall be a nonabsorbent interior finish as specifed in Section 1711, shall have hand-washing facilities therein or adjacent thereto, and shall be separated from food preparation or storage rooms as specified in Section 510.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h) as specified herein.

Section 709(e) of the UBC is amended to read as follows:

UBC Sec. 709(e) Area and Height Increases. The area and height of structures with cross ventilation throughout may be increased in accordance with provisions of this subsection. In structures with sides open (as defined in Subsection (b)) three-fourths of the building perimeter may be increased 25 percent in area and one tier in height. Structures with sides open (as defined in Subsection (b) around the entire building perimeter may be increased 50 percent in area and one tier in height. Structures of Type II -FR, Type II-1 hr, or Type II-N construction, with sides open (as defined in subsection(b) around the entire building, may be unlimited in area when the

Open parking garages constructed to heights less than the maximums established by Table No. 7-A may have individual tier areas exceeding those otherwise permitted, provided the gross tier area of the structure does not exceed that permitted for the higher structure. At least three sides of each such larger tier shall have continuous horizontal openings not less than 30 inches in clear height extending for at least 80 percent of the length of the sides and no part of such larger tier shall be more than 200 feet horizontally from such an opening. In addition, each storage opening shall face a street or yard accessible to a street with a width of at least 30 feet for the full length of the opening and standpipes shall be provided in each tier.

Section 709 of the UBC is amended by adding a new paragraph (m):

UBC Sec. 709(m) Every parking ramp or other parking facility shall include spaces for the parking of motor vehicles having a capacity of seven (7) to sixteen (16) persons. The number of required speces shall be determined by 2% of the gross designed parking area with a minimum of two spaces. Such spaces to accommodate commuter vehicles, shall be at least 10 feet in width, 20 feet in length and a height clearance of 10'-6" in the entry level and shall not apply to other levels of a ramp.

Section 802(c) of the UBC is amended to read as follows:

UBC Sec. 802(c) Special Provisions. Rooms in Divisions 1 and 2 Occupancies used for day-care purposes, kindergarten pupils and Division 3 Occupancies shall not be located above the first story, nor shall they be located in a basement unless there is provided at least one exit without intervening stairs directly on grade from the occupied space.

Storage and janitor closets shall be of one-hour fire-resistive construction. Stages and enclosed platforms shall be constructed in accordance with Chapter 39. For attic space partitions and draft stops, see section 3205.

Section 805 of the UBC is amended to read as follows:

UBC Sec. 805. All portions of Group E Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in Section 605.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h) as specified herein.

Section 809 of the UBC is amended to read as follows:

UBC 809. Approved fire alarms shall be provided for all Group E Occupancies with an occupant load of more than 50 persons, and in Group E Division 3 Occupancies with an occupant load of more than 29 persons. In every Group E Occupancy with an automatic sprinkler or detection system, the operation of such system shall automatically activate the school fire alarm system.

The fire alarm system shall be installed in compliance with NFPA Standard 72-A-75, "Local Protective Signaling Systems."

An approved fire alarm is a fire alarm and detection system consisting of the following:

1. A complete non-coded continuously sounding until manually reset, electronically supervised type.

2. Shall have sounding stations on 100 foot to 150 foot spacing; (a) in corridors, (b) in areas of high noise levels, such as band rooms, shops, boiler rooms, (c) a weatherproof station on exterior of building facing residential areas.

3. Shall have automatic sending stations (detectors) in boiler rooms, kitchens, shops, painting areas, lounges, laundries, janitor's closets, storerooms, etc., or unsupervised and unoccupied spaces; namely, critical or hazardous areas.

4. Manual sending stations shall be provided in the natural path of escape from fire, near each exit from an area, on each floor, and shall be readily accessible, unobstructed and at visible locations.

Section 905 of the UBC is amended to read as follows:

UBC Sec. 905. All portions of Group H Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the applicable sections of the mechanical code.

In all buildings or portions thereof where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce four complete air changes per hour. Such exhaust ventilation shall be taken from a point at or near the floor level.

In all buildings used for the repair or handling of automobiles operating under their own power, ventilation shall be provided capable of exhausting a minimum of 3/4 cfm per square foot. Additionally, each engine repair stall shall be equipped with an exhaust pipe extension duct, extending to the outside of the building, which, if over 10 feet in length, shall mechanically exhaust 300 cubic feet per minute. Connecting offices and waiting rooms shall be supplied with conditioned air under positive pressure.

EXCEPTION: In public repair garages and aircraft hangars not exceeding an area of 5000 square feet, the building official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed.

Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility, with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h), as specified herein.

Section 1001 of the UBC is amended to read as follows:

UBC Sec. 1001. Group I Occupancies shall be:

Division 1. Nurseries for the full-time care of children under the age of six (each accommodating more than four persons). Hospitals, sanitariums nursing homes and similar buildings (each accommodating more than four persons).

Division 2. Detoxification centers, homes for children six years of age or over, supervised living facilities Class B as defined for the mentally retarded, mentally ill or the physically handicapped (each accommodating more than four persons).

Division 3. Mental hospitals, mental sanitariums, jails, prisons, reformatories and buildings where personal liberties of inmates are similarly restrained.

For occupancy separations, see Table No. 5-B.

For occupant load, see Section 3301.

EXCEPTION: Group I Occupancies shall not include buildings used only for private residential purposes for a family group.

Section 1002(b) of the UBC is amended to read as follows:

UBC Sec. 1002(b) Special Provisions. Division 3 Occupancies shall be housed in buildings of Type I or Type II-F.R. construction.

Every story of a Group I, Division 1 Occupancy accommodating more than five nonambulatory persons, unless provided with a horizontal exit, shall be divided into not less than two compartments accommodating approximately the same number of nonambulatory persons in each compartment by a smoke-stop partition meeting the requirements of one-hour occupancy separation so as to provide an area of refuge within the building. Corridor openings in the smoke-stop partition shall be protected with doors as required in Section 3304(h). Other openings shall be limited to ducts which have fire dampers in the plane of the wall activated by detectors of products of combustion other than heat conforming to Section 4306(b) 2.

Rooms occupied by inmates or patients whose personal liberties are restrained shall have noncombustible floor surfaces.

Section 1005 of the UBC is amended to read as follows:

UBC Sec. 1005. All portions of Group 1 Occupancies shall be provided with natural light by means of exterior glazed openings with an area equal to one-tenth of the total floor area, and natural ventilation by means of exterior openings with an area not less than one-twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and the mechancial code.

For other requirements on water closets, see Section 1711 as amended herein.

For additional sanitation facilities requirements see UBC Sec. 1711(h) as specified herein.

Section 1009 of the UBC is amended to read as follows:

UBC Sec. 1009. An approved fire alarm system shall be provided for all Group I Occupancies. Audible alarm devices shall be used in all nonpatient areas. Visible alarm devices may be used in lieu of audible devices in patient-occupied areas. An approved alarm system shall comply with UBC Sec. 809 as amended herein. Operation of any fire alarm activating device shall automatically, without delay, accomplish general alarm indication and control functions. Zoned, coded systems shall be permitted to be used. Exception: Alarm systems may be installed in accordance with NFPA 101, 1977 Edition, 10-3.3.3.

UBC Sec. 1101 Group M, 6th line is amended to read as follows:

For occupancy separations, see Table No. 5-B. For purposes of occupancy separation, mobile homes shall be considered as Group R, Division 3.

Section 1201 of the UBC is amended by adding a new Division to read as follows:

UBC Sec. 1201 Group R, Division 4 Occupancies: This use group shall include all one and two family dwellings built exclusively by the standards as established in the 1975 One and Two Family Dwelling Code as promulgated by the national model code organizations and 2MCAR Section 1.15001 through 1.16006. Use and installation of foam plastics shall comply with Section 1717 of the UBC as amended herein.

Exception: The plumbing requirements found in Part V (Chapters 20 through 25) and the references portions of Part VII (2-26.2001 - S-26.2103) are deleted in their entirety. The requirements of the Minnesota Plumbing Code for plumbing shall apply to this occupancy group.

UBC Section 1201 Group R Division 1 occupancy definition is changed to read as follows:

Division 1. Hotels and apartment houses. Convents and monastaries (each accommodating more than 10 persons), Supervised living facilities Class A-2 as defined in Section 420 for the mentally retarded, mentally ill, chemically dependent, and the physically handicapped (each accommodating more than four persons.) Physically handicapped persons shall be housed at street level.

U.B.C. Section 1201 Group R, Division 3 is amended to read as follows:

U.B.C. Section 1201, Division 3. Dwellings and lodging houses, supervised living facilities Class A-1 as defined in Section 420. For occupancy separations see Table No. 5-B.

Section R-202 of the One and Two Family Dwelling Code is amended to read as follows:

Sec. R-202. Buildings shall be constructed in accordance with the provisions of this Code using the design criteria set forth in Table No. 2-A. These criteria shall be established by the jurisdiction based solely or in part on the climatic and geographic conditions set forth in Appendix A. Roof snow loads shall be in accordance with 2MCAR Sec. 1.10111 - UBC Sec. 2305(d). Frost line depth shall be in accordance with 2MCAR Sec. 1.10111 - UBC Sec. 2907(a) Wind velocity shall be in accordance with the conditions set forth in Appendix A of the One and Two Family Dwelling Code.

Section R-204 of the One and Two Family Dwelling Code is amended to read as follows:

Sec. R-204. All habitable rooms shall be provided with aggregate glazing area of not less than 8 square feet nor 8 percent of the floor area of such rooms. One-half of the required area of glazing shall be openable.

Exception: The glazed areas need not be openable where an approved mechanical ventilation system is provided capable of producing a change of air every 30 minutes and the opening is not required by Sec. R-211.

Bathrooms, water-closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable.

Exception: The glazed areas are not required where artificial light and an approved mechanical ventilation system is provided capable of producing a change of air every 12 minutes.

Required glazed openings shall open directly onto a street or public alley, or a yard or court located on the same lot as the building.

Exception: Required glazed openings may face into a roofed porch where the porch abuts a street, yard or court and the longer side of the porch is at least 65 per cent open and unobstructed and the ceiling height is not less than 7 feet.

Section R-211 of the One and Two Family Dwelling Code is amended to read as follows:

Section R-211 Exits. No less than one exit conforming to this Chapter shall be provided from each dwelling unit.

Every sleeping rooms shall have at least one operable window or exterior door approved for emergency egress of rescue. The units must be operable from the inside to a full clear opening without the use of separate tools. Where windows are provided as a means of egress or rescue they shall have a sill height of not more than 48 inches above the floor.

All egress or rescue windows from sleeping rooms must have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches.

Section 1204 of the UBC is amended to read as follows:

UBC Sec. 1204. Stairs, exits and smokeproof enclosures shall be as specified in Chapter 33.

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency egress or rescue.

The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are provided as a means of egress or rescue they shall have finished sill height not more than 48 inches above the floor.

Section 1205 of the UBC is amended to read as follows:

UBC Sec. 1205. (a) Light and Ventilation. All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural light by means of exterior glazed openings with an area not less than 8 per cent of the floor area of such rooms with a minimum of 8 square feet. All bathrooms, water closet compartments, laundry rooms and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than one-twentieth of the floor area of such rooms with a minimum of 1 1/2 square feet.

All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural ventilation by means of openable exterior openings with an area of not less than 4 per cent of the floor area of such rooms with a minimum of 4 square feet.

In lieu of required exterior openings for natural ventilation, a mechanical ventilating system may be provided. Such system shall be capable of providing two air changes per hour in all guest rooms, dormitories, habitable rooms and in public corridors. One-fifth of the air supply shall be taken from the outside. In bathrooms, water closet compartments, laundry rooms and similar rooms a mechanical ventilation system connected directly to the outside, capable of providing five air changes per hour, shall be provided.

For the purpose of determing light and ventilation requirements, any room may be considered as a portion of an adjoining room when one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet, whichever is greater.

Required exterior openings for natural light and ventilation shall open directly onto a street or public alley or a yard or court located on the same lot as the building.

EXCEPTION: Required windows may open into a roofed porch where the porch:

1. Abuts a street, yard, or court; and
2. Has a ceiling height of not less than 7 feet; and
3. Has the longer side at least 65 percent open and unobstructed.

(b) Sanitation. Every building shall be provided with at least one water closet. Every hotel or subdivision thereof where both sexes are accommodated shall contain at least two separate toilet facilities which are conspicuously identified for male or female use, each which contains at least one water closet.

Additional water closets shall be provided on each floor for each sex at the rate of one for every additional 10 guests, or fractional part thereof, in excess of 10.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with a bathroom equipped with facilities consisting of a water closet, lavatory and either a bathtub or shower. Each sink, lavatory and bathtub or shower shall be equipped with hot and cold running water necessary for its normal operation.

For other requirements on water closets, see Sections 510 and 1711 as amended herein.

For additional sanitation facilities requirements, see UBC Sec. 1711(h), as specified herein.

Section 1210(a) of the UBC is amended to read as follows:

UBC Sec. 1210. (a) Fire-warning Systems. Every dwelling unit and every guest room in a hotel or lodging house used for sleeping purposes shall be provided with smoke detectors conforming to U.B.C. Standard No. 43-6. In dwelling units, detectors shall be mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to rooms used for sleeping purposes. In an efficiency dwelling unit, hotel sleeping room and in hotel suites, the detector shall be centrally located on the ceiling of the main room or hotel sleeping room. Where sleeping rooms are on an upper level, the detector shall be placed at the center of the ceiling directly above the stairway. All detectors shall be located in accordance with approved manufacturer's instructions. When actuated, the detector shall provide an alarm in the dwelling unit or guest room.

When alterations, repairs or additions requiring a permit and having a valuation in excess of $1000 occur, or when one or more sleeping rooms are added or created in existing Group R, Division 3 or 4 Occupancies, the entire building shall be provided with smoke detectors located as required for new Group R, Divison 3 or 4 Occupancies.

In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Smoke detectors may be battery operated when installed in existing buildings, or in buildings without commercial power, or in buildings which undergo alterations, repairs or additions regulated by the second paragraph of this section.

Section 1213 of the UBC is deleted in its entirety.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC Sec. 1216 For Group R Division 1 Occupancies sound transmission control shall be provided to meet the standards defined in UBC Appendix Chapter 35.

Chapter 12 of the UBC is amended by adding a new section to read as follows:

UBC Section 1217 Deadbolt Locks Required. All doors leading to public or shared areas from all apartment dwelling units and hotel units shall be provided with deadbolt locks, at least one of which must be capable of being locked from the exterior of said unit. For the purpose of this section a "deadbolt lock" is a locking bolt, which, when in the locked position, can only be moved positively by turning a knob, key, or sliding bolt.

Deadbolt locks having a bolt moved by turning a key shall be of the five-pin tumbler type or an approved equivalent. Lock throw shall be not less than three-quarters inch (3/4"). Locks shall meet requirements of UBC Section 3303(c).

Section 1706(d) of the UBC is deleted in its entirety. See Section 2MCAR 1.8806 C.

Section 1711(b) of the UBC is amended to read as follows:

UBC Sec. 1711(b) Toilet Facilities. Each water closet stool shall be located in a clear space not less than 30 inches in width and have a clear space in front of the water closet of not less than 24 inches.

For provisions for the physically handicapped see 2 MCAR Sec. 1.15501 - 1.15508.

Section 1711(c) of the UBC is deleted in its entirety.

Section 1711 of the UBC is amended by adding a new subsection (h) that reads as follows:

UBC Sec. 1711(h) Sanitation Facilities. Sanitation facilities shall be provided for each Occupancy in accordance with Table 17-B and UBC Sections 605, 705, 805, 905, 1005 or 1205 as amended herein. Fixtures shall be provided for each sex in accordance with the percentage of occupants of each sex. When the percentage of each sex is not known, one-half for each sex shall be assumed. For sanitation facilities for the handicapped see 2MCAR Sec. 1.15503.

Types of building occupancy not shown, or when the provisions of Table 17-B are excessive due to a specific use or occupant load, facilities may be considered individually by the Administrative Authority.

Section 1716 of the UBC is amended to read as follows:

UBC Sec. 1716. All unenclosed floor and roof openings, open and glazed sides of landings and ramps, balconies or porches which are more than 30 inches above grade or floor below, and roofs used for other than service of the building shall be protected by a guardrail. Guardrails shall be not less than 42 inches in height. Open guardrail and stair railings shall have intermediate rails or an ornamental pattern such that a sphere 9 inches in diameter cannot pass through. The height of stair railings on open sides may be as specified in Section 3305 (j) in lieu of providing a guardrail. Ramps shall, in addition, have handrails when required by Section 3306.

On all earth sheltered structures a means shall be provided to restrict access to the roof area unless guardrails are provided and the roof is designed for vehicular loads.

EXCEPTIONS: 1. Guardrails need not be provided on the loading side of loading docks.

2. Guardrails for Group R, Division 3 and Group M, Division 1 Occupancies may be 36 inches in height.

3. Interior guardrails within individual dwelling units or guest rooms of Group R, Division 1 Occupancies may be 36 inches in height.

4. The open space between the intermediate rails or ornamental pattern of guardrails in areas of commercial and industrial type occupancies which are not accessible to the public may be increased such that a 12-inch-diameter sphere cannot pass through.

5. Guardrails on a balcony immediately in front of the first row of fixed seats and which are not at the end of an aisle may be 26 inches in height.

Section 1717(b) (1) (B) of the UBC is amended to read as follows:

UBC Sec. 1717(b)(1) (B). On the room side surface of conforming walls or ceiling or other surfaces referred to in the first sentence of Section 1717(b), provided the foam plastic is fully protected from the interior of the building by a thermal barrier of 1/2 inch gypsum wallboard or other approved material having an equivalent finish rating as determined by U.B.C. Standard No. 43-1. Thermal barriers shall be installed in a manner that they will remain in place for a minimum of 15 minutes under the same test conditions.

TABLE NO. 17-B REQUIRED SANITATION FIXTURES BASED ON OCCUPANCY LOAD (1) (2)

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS	LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	KITCHEN SINKS	SERVICE SINKS
Group A Occupancies	Auditoriums	30	Churches	Churches	Churches	1 for each 300	—	—	1
	Bowling alleys	30							
	Churches	60	1 for each 300 Men 1 for each 300 women	(3)					
	Conference Rooms	80			1 for each 300				
	Dance Floors	30							
	Dining, Drinking	30							
	Exhibit Rooms	80							
	Gymnasiums	30	Other		Other				
	Libraries	100	Occupants / Fixtures		Occupants / Fixtures				
	Lodge Rooms	80	1-100 / 1		1-200 / 1				
	Lounges	80	101-200 / 2		201-400 / 2				
	Rinks	30	201-400 / 3		401-750 / 3				
	Stadiums, Grandstands	80	Over 400 / 1 addt'nl each 500	(3)	Over 750 / 1 addt'nl for each 500				
	Theaters	30							
	Waiting Rooms	80							
Group E Occupancies (6)	Elementary	85	Boys / Girls 1/ea. 100 / 1/ea. 30	1/ea. 30	1 for each 100 1 for each 100	1 for each 75	—	—	1 per floor
	Secondary	130	1/ea. 100 / 1/ea. 25						
Group I Occupancies	Prisons, Jails	100	1/ea. cell 1/ea. exercise room		1 in each cell 1 ea. exercise rm	1 for each 100	1 at each cell block floor	—	1 per floor
	Hospitals, Nursing Homes	100	1/ea. 8 patients 1/ea. waiting room		1 for ea. 10 patients	1 for each 100	1 for each 20 Other 1 for each 10		1 per floor
			Other 1/ea. 25 men 1/ea. 20 women	1/ea. 50	Other 1 for each 10				
Group H Occupancies	Aircraft Hangars	500	Fact. Occ. / Whse. Fixt. 1-10 / 1	Fact. Occ. / Whse. Fixt. (3)	Fact. Occ. / Whse. Fixt. 1-100 / for each 1-10(4) Over 100 / 1-15(5)	Factories Warehouses 1 for each 75			1 per floor
	Factories	200	11-25 / 2						
Group B Occupancies	Municipal Buildings	80	26-50 / 3						
	Office Buildings	200	51-75 / 4						
	Sales	200	76-100 / 5						
	Service Stations	200	Over 100 / 1 addt'nl for 30		Sales, Occ. / Offices Fixt. 1-15 / 1 16-35 / 2 36-60 / 3 61-90 / 4 91-125 / 5 Over 125 / 1 to 45	Sales, Offices 1 for each 150			
	Storage Garages	500							
	Warehouses	500	Sales, Office, etc. Occ. / Fixt. 1-15 / 1 16-35 / 2 36-55 / 3 56-80 / 4 81-110 / 5 111-150 / 6	Sales, Office (3)					
Group B-4 Occupancies	Factories	200							
	Sales	200							
	Warehouses	500							
Group R-1 Occupancies	Dwelling Units, Apt.	—	1	—	1	—	1	1	1 laundry tray for each 10 dwelling units or guest rooms
	Motel, Hotel Units	—	1 for each 10		1 for each 10		1 for each 10		
	Rooming Houses	200	1 for each 10		1 for each 10		1 for each 10		
	Dormitories	200	1 for each 10		1 for each 10				
Group R-3 and R-4 Occupancies	1 and 2 Family	—	1	—	1	—	1	1	—
Group M Occupancies	—	—	—	—	—	—	—	—	—
TEMPORARY FACILITIES			1 for each 30	1 for each 30		1 for each 100			

*A—Area of building occupancy classification served
S.F.—per Occ.—from Column 3 of this table

Footnotes:
(1) Occupant load is computed using the equation: $\frac{A^*}{\text{S.F. per Occ.}}$ = Occupant Load
(2) Square feet per occupant is only for computing the occupant load to determine the plumbing fixtures required.
(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.
(4) 1 fixture for each 10 occupants.
(5) 1 fixture for each 15 occupants.
(6) For waterclosets, and lavatories, these numbers are *minimum* & equal number for each sex is required.

KEY: RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language. PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material."

Section 1807(h) of the UBC is amended to read as follows:

UBC Sec. 1807(h) Elevators. Elevators and elevator lobbies shall comply with the provisions of 2MCAR Sections 1.18801 - 1.18806 and the following:

NOTE: A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all those elevators which respond to a single call button constitute a bank of elevators. There is no limit on the number of cars which may be in a bank or group but there may be not more than four cars within a common hoistway.

1. Except for the main entrance level, all elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building as is required for corridor construction in Section 3304 (g) and (h).

Exception: When a complete and approved automatic fire extinguishing system is installed in a Group B, Division 2, occupancy, the separation of elevator or elevator lobbies shall not be required on any floor when such floor is provided with an exit corridor conforming to the provision of Section 3304(g).

2. Each elevator lobby shall be provided with an approved smoke detector located on the lobby ceiling. When the detector is activated, elevator doors shall not open and all cars serving that lobby are to return to the main floor and be under manual control only. If the main floor detector or a transfer floor detector is activated, all cars serving the main floor or transfer floor shall return to a location approved by the fire department and building official and be under manual control only. The smoke detector is to operate before the optical density reaches 0.03 per foot. The detector may serve to close the lobby doors.

3. A permanent sign shall be installed in each elevator cab adjacent to the floor status indicator and at each elevator call station on each floor reading "IN FIRE EMERGENCY, DO NOT USE ELEVATOR - USE EXIT STAIRS," or similar verbage approved by the building offical.

4. Elevator hoistways shall not be vented through and elevator machine room. Cable slots entering the machine room shall be sleeved beneath the machine room floor and extend to not less than 12 inches below the shaft vent to inhibit the passage of smoke into the machine room.

5. For car size requirements see 2MCAR Sec. 1.18806(b)(4).

Section 2303(a) of the UBC shall be amended to read as follows:

UBC Sec. 2303. (a) General. All buildings and portions thereof shall be designed and constructed to sustain, within the stress limitations specified in this code, all dead loads and all other loads specified in this chapter or elsewhere in this code. Impact loads shall be considered in the design of any structure where impact loads occur.

EXCEPTION: Unless otherwise required by the building offical buildings or portions thereof, other than earth sheltered structures, which are constructed in accordance with the conventional framing requirements specified in Chapter 25 of this code shall be deemed to meet the requirements of this section.

Section 2305(d) of the UBC is amended to read as follows:

UBC Sec. 2305(d) Snow Loads. Snow loads full or unbalanced shall be considered in place of loads set forth in Table No. 23-C, where such loading will result in larger members or connections.

A basic snow load of 40 pounds per square foot of horizontal projection is required in the following counties: Anoka, Carlton, Carver, Chisago, Cook, Dakota, Hennepin, Isanti, Lake, Pine, Ramsey, St. Louis, Scott and Washington. A basic snow load of 30 pounds per square foot of horizontal projection is required for all other counties..

Potential accumulation of snow at valleys, parapets, roof structures and offsets in roofs of uneven configuration shall be considered. Where snow loads occur, the snow loads shall be determined by the building official in accordance with Appendix "B".

EXCEPTIONS:

1. The requirements of Appendix "B" shall not apply to Group R Division 3, Group R Division 4 and M Occupancies.

2. A basic snow load of 30 pounds per square foot of horizontal projection shall be acceptable for detached Group M, Division 1 Occupancies in all counties.

Snow loads in excess of 20 pounds per square foot may be reduced for each degree of pitch over 20 degrees. See Appendix B, Section A.

Section 2311(g) of the UBC is amended to read:

UBC Sec. 2311(g) Open Frame Towers. Radio towers and other towers of trussed construction shall be designed and constructed to withstand wind pressures specified in this Section, multiplied by the shape factors set forth in Table No. 23-H.

Wind pressures shall be applied to the total normal projected area of all the elements of one face (excluding ladders, conduits, lights, elevators, etc., which shall be accounted for separately by using the indicated factor for these individual members).

The effect of one-half inch of radial ice shall be included in the design of open frame towers including all supporting guys. This effect shall include the weight of the ice and the increased profile of each such tower component so coated.

Section 2312(a) of the UBC is amended to read as follows:

UBC Sec. 2312(a) General. For the purpose of the Code this State shall be considered to be in Zone "0", No Damage Area. Every building or structure and every portion thereof shall be designed and constructed to resist stresses produced by lateral forces as provided in this Section. Stresses shall be calculated as the effect of a force applied horizontally at each floor or roof level above the base. The Force shall be assumed to come from any horizontal direction.

Structural concepts other than set forth in this section may be approved by the Building Official when evidence is submitted showing the equivalent ductility and energy absorption are provided.

Where prescribed wind loads produce higher stresses, such loads shall be used in lieu of the loads resulting from earthquake forces.

Section 2403(e) is amended to read as follows:

UBC Sec. 2403(e) Concrete Masonry Units. Concrete masonry units shall be of a quality at least equal to the requirements set forth in U.B.C. Standard No. 24-4 or No. 24-5 when used for bearing walls or piers or when in contact with ground or exposed to the weather; or equal to the requirements set forth in U.B.C. Standard No. 24-6 when used for nonbearing purposes and not exposed to the weather. Solid units subject to the action of weather or soil shall be Grade A. Concrete masonry units shall be tested as set forth in U.B.C. Standard No. 24-7.

Concrete masonry units used for walls below grade or for other uses as determined by the designer shall not be subject to the moisture control provisions of Table 24-4-A of UBC Standard 24-4.

Section 2417 is amended by the addition of paragraph (n):

UBC Sec. 2417(n) Alternate Design Method. The specification for the Design and Construction of Load-Bearing Concrete Masonry 8th Printing May, 1978, published by the National Concrete Masonry Association may be used as an alternate design method providing the following conditions are satisfied.

1. The permit applicant must inform the building official, in writing, that the masonry design is based on the requirements of this subsection prior to granting of a building permit.

2. An outline of testing and field inspection schedules and design calculations signed by the responsible design professional shall be submitted to the building official prior to granting of a building permit.

3. Prior to occupancy, the permit applicant shall submit to the building official written evidence from a registered professional engineer certifying compliance with all requirements of this subsection.

Section 2501(a) of the UBC is amended to read:

UBC Sec. 2501(a) Quality and Design. The quality and design of wood members and their fastenings shall conform to the provisions of this chapter, and to the applicable standards listed in Chapter 60 as amended herein.

Section 2510(h) of the UBC is amended to read as follows:

UBC 2510(h) Metal Plate Connectors. Metal plate connectors employed as joint connectors in light wood trusses, and the design and testing of such trusses, shall conform to the Design Specification for Metal Plate Connected Wood Trusses, 1978 Edition published by the Truss Plate Institute, Inc. (TPI78) and the following amendments, thereto.

Sec. 102(c) 5 of TPI(78) shall be amended to read as follows: Concentrated loads, and their points and method of application.

Section 310 shall be added and reads: 310 Cross Grain Stress. Where design loads or their method of application induce cross-grain tension or bending stress, such cross-grain stress shall be considered in the design.

Snow loads shall be determined in accordance with the requirements of 2MCAR Sec. 1.10111 UBC Sec. 2305(d). Wind loads shall be determined in accordance with the requirements of UBC Sec. 2311.

Other loads shall be determined in accordance with the design requirements of UBC Chapter 23.

Each truss manufacturer shall retain an approved agency having no financial interest in the plant being inspected to make nonscheduled inspections of truss fabrication and delivery and operations.

The inspection shall cover all phases of truss operation, including lumber storage, handling, cutting, fixtures, presses or rollers, fabrication, bundling and banding, handling and delivery.

Section 2907(a) of the UBC is amended to read as follows:

UBC Sec. 2907(a) General. Footings and foundation, unless otherwise specifically provided, shall be constructed of masonry, concrete or treated wood in conformance with U.B.C. Standard No. 29-3 and in all cases shall extend below the frost line. Footings of concrete and masonry shall be of solid material. Foundations supporting wood shall extend at least 6 inches above the adjacent finish grade. Footings shall have a minimum depth below finished grade for the Zone as established below unless another depth is recommended by a foundation investigation.

1. In the absence of a determination by an engineer competent in soil mechanics, the minimum allowable footing depth in feet due to freezing shall be five feet in Zone 1 and three and one-half feet in Zone II.

Zone I-Shall include the counties of: Aitkin, Becker, Beltrami, Carlton, Cass, Clay, Clearwater, Cook, Crow Wing, Douglas, Grand, Hubbard, Itasca, Kanabec, Kittson, Koochiching, Lake, Lake of the Woods, Mahnomen, Marshall, Mille Lacs, Morrison, Norman, Otter Tail, Pennington, Pine, Polk, Red Lake, Roseau, St. Louis, Todd, Traverse, Wadena, Wilkin.

Zone II-Shall include the counties of: Anoka, Benton, Big Stone, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac Qui Parle, Le Sueur, Lincoln, Lyon, McLeod, Martin, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Pope, Ramsey, Redwood, Renville, Rice, Rock, Scott, Sibley, Sherburne, Stearns, Steele, Stevens, Swift, Wabasha, Waseca, Washington, Watonwan, Winona, Wright, Yellow Medicine. Less depths may be permitted when supporting evidence is presented by an engineer competent in soil mechanics.

2. Soil Under Slab on Grade Construction for Buildings. When soil, natural or fill, is sand or pit run sand and gravel, and of depth in accordance with minimum footings depth requirements for each zone, slab on grade construction which supports roof and wall loads shall be permitted. Slab on grade construction for detached buildings Group M, Division 1 Occupancies may be placed on any soil except peat or muck.

UBC Sec. 3203(d) 3 is amended to read as follows:

UBC Sec. 3203(d) 3. Shingle; shake and tile roofs. A General. Installation shall be in accordance with Table No. 32-B. Underlayment, when required, shall be lapped horizontally and vertically so as to shed water.

In areas subject to roof ice build-up, underlayment consiting of two layers of Type 15 felt applied shingle fashion shall be installed solid mopped together with approved cementing material between the plies extending from the eave up the roof to a point 24 inches inside the exterior wall line of the building.

The entire State of Minnesota shall be deemed an area subject to roof ice build-up.

EXCEPTIONS: 1. For wood shingle or wood shake roofs the underlayment shall extend 36 inches inside the exterior wall line of the building.

2. When interlocking tiles are used, the underlayment may consist of one layer of Type 40 or heavier asphalt-coated base sheet extending from the eave to a point 24 inches inside the exterior wall line of the building. When this method is used, all horizontal and vertical seams of the base sheet shall be lapped 6 inches and be continuously sealed with approved cementing material and shall be applied only over solid sheathing.

Section 3205(c) is amended to read as follows:

UBC Sec. 3205(c) Ventilation. Where determined necessary by the building official due to atmospheric or climatic conditions, enclosed attics and enclosed rafter spaces formed where ceilings are applied direct to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. The net free ventilating area shall be not less than 1/150 of the area of the space ventilated, except that the area may be 1/300, provided at least 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.

Section 3207(c) of the UBC is amended to read as follows:

UBC Sec. 3207(c). Where roof drains are required, overflow drains having the same size as roof drains shall be installed with the inlet flow line located 2 inches above the low point of the roof, or overflow scuppers having three times the size of the roof drains may be installed in adjacent parapet walls with the inlet flow line located 2 inches above the low point of the adjacent roof and having a minimum opening height of 4 inches. Overflow drains shall be connected to drain lines independent from the roof drains, and shall discharge above grade.

UBC Section 3303(a) is amended to read as follows:

UBC Section 3303. (a) General. This section shall apply to every exit door serving an area having an occupant load of more than 10, or serving hazardous rooms or areas, except that Subsections (c), (i) and (j) shall apply to all exit doors regardless of occupant load. Buildings or structures used for human occupancy and each dwelling unit or guest room leased for gain shall have at least one exit door that meets the requirements of Subsection (e).

UBC Section 3304(h) is amended by adding an exception 2 to read as follows:

EXCEPTION:

2. In Type I and II-F.R. buildings housing Group B-2 Occupancies, corridor walls may be of approved wired glass set in metal frames. The glass height shall not exceed 2/3 of the width of the corridor. A draft curtain of at least one hour fire-resistive construction and not less than 24 inches in height shall be provided to protect the corridor from the Group B-2 Occupancy area (tenant space). The draft curtain shall be located above the glass and extend a minimum of 24 inches below any finished ceilings in the tenant space. If the finished ceiling is not a fire-rated assembly, the draft curtain shall extend from the wire glass to a rated ceiling or floor assembly. When the B-2 Occuapncy area (tenant space) is protected by an approved automatic fire-extinguishing system for a distance of twelve (12) feet in depth adjoining the corridor, and the corridor is not less than twelve (12) feet in width, glass other than wired glass may be approved. Open grille type gates and similar enclosing or security devices may be used in corridor walls of corridors not less than twelve feet in width, when the entire story is protected by an approved fire-extinguishing system.

In buildings of other than Type I or Type II-F.R. construction, this exception shall not be allowed, unless the entire building is provided with an approved automatic fire-extinguishing system.

UBC Section 3305(j) exception 2 is amended to read as follows:

Exception 2 - Private Stairway 30 inches or less in height may have handrails on one side only. Handrails are not required on private stairways with less than 3 risers.

UBC Sec. 3319(b) is amended to read as follows:

(b) Minimum size of Exits. Every exit opening through which patients are transported on stretchers or beds shall be of sufficient width to permit the ready passage of such equipment but shall have a clear width of not less than 44 inches, except as hereinafter provided. Exit openings in Division 2 occupancies shall have a clear width of not less than 34 inches. There shall be no projections within such clear widths.

UBC Sec. 3319(c) is amended to read as follows:

Corridors. The minimum clear width of a corridor shall be 44 inches except as follows:

Corridors serving any area Group I, Division 1 Occupancies shall be not less than eight feet in width; corridors serving any Group I, Division 2 Occupancies shall be not less than six feet in width.

There shall be no change of elevation in a corridor serving non-ambulatory persons unless ramps are used.

In Group I, Division 3 Occupancies such as jails, prisons, reformatories and similar buildings with open barred cells forming corridor walls, the corridor and cell doors need not be fire resistive.

UBC Table 33A is amended as follows:

Delete the right hand column entitled "Egress by means of a ramp or elevator must be provided for the physically handicapped as indicated."

Also delete footnotes 2, 3, 4, 5, 6 and 8.

UBC Section 3802 is amended by adding a section (e) as follows:

UBC Sec. 3802(e) Special Automatic Fire Extinguishing Systems. In all occupancies having commerical cooking equipment (see NFPA No. 96-1976), automatic fire extinguishing systems complying with UBC Standard 38-1 or 38-2 shall be installed for protection of duct systems, grease removal devices, hoods and over commerical cooking equipment which may be a source of ignition (such as fat fryers, ranges, griddles, and boilers). Systems installed in accordance with the following standards are also permitted.

1. Standards for foam-water sprinkler systems and foam-spray systems, NFPA No. 16-1974.

2. Standard for dry-chemical extinguishing system, NFPA No. 17-1975.

EXCEPTION: These requirements shall not apply to Group R-3 and Group R-4 occupancies.

Section 3803(a) of the UBC is amended as follows:

UBC Sec. 3803(a) General. Standpipes shall comply with the requirements of this section and in accordance with UBC Standard 38-3, amended as follows:

UBC Standard 38-3 Sec. 38.306(a) Assured Source Required. Class I, Class II and Class III standpipe systems shall be provided with an approved source of water supply. With prior approval of the Fire Chief, Class I standpipes systems may be supplied only through a fire department connection

UBC Table 38A is amended as follows:

Section 2, occupancy column, shall read: Occupancies 3 stories or more but less than 150 feet in height, except Group R, Division 3 or 4. Class II standpipes are not required in Group E or Group R-1 occupancies.

UBC Section 4701(a) is amended to read as follows:

UBC Section 4701(a) General. The installation of lath, plaster and gypsum board shall be done in a manner and with materials as specified in this Chapter, or as set forth in ANSI A42.2, 1971 Specifications for Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and Interior and ANSI A42.3, 1971 Specifications for Lathing and Furring for Porland Cement and Porland Cement-Lime Plastering, Exterior (Stucco) and Interior; and, when required for fire-resistive construction, also shall conform with the provisions of UBC Chapter 43.

Other approved wall or ceiling coverings may be installed in accordance with the recommendations of the manufacturer and the conditions of approval.

UBC Sections 5001 through 5006 are amended to read as follows:

UBC Sections 5001 through 5006 are deleted and replaced by 2MCAR Sections 1.10301 - 1.10336.

UBC Sections 5101 through 5104 are amended to read as follows:

UBC Sections 5101, 5102, 5103 and 5104, Elevators, Dumbwaiters, Escalators, Manlifts, Moving Walks, Hoists and Lifts are deleted. Refer to 2MCAR Section 1.18801 - 1.18806.

Section 6001 of the UBC is amended as follows:

UBC Sec. 6001. The UBC Standards which are referred to in various parts of this code shall be the Uniform Building Code Standards, 1979 Edition, and are hereby declared to be a part of this code with the following amendment.

UBC Section 6001, Chapter 25, 25-17 is amended to read as follows:

Chapter 25, 25-17, 2510(a), 2510(b), 2510(c), 2510(d), 2510(e), 2510(h), 2514(b)1, 2514(b)2, Tables Nos. 25-F, 25-G, 25-H and 47-H Timber Connector Joints, Bolted Joints, Drift Bolts and Wood Screws, Lag Screws. National Design Specification for Wood Construction (1977), National Forest Products Association. Metal Plate Connected Wood Trusses TPI-78, Truss Plate Institute. Nails and Staples, Federal Specification No. FF-N-105B (March 17, 1971).

Section 1.10112 Validity Clause. If any sections, subsection, sentence, clause, or phrase of this Code, is for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this Code.

It is hereby declared that the Department of Administration would have adopted this Code and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

See p. 150, Rules as Proposed

1.10303 Definitions. Unless otherwise expressly stated, the following terms shall, for the purpose of this Code, have the meaning indicated in this section. The definitions promulgated by the Model Code Standardization Council shall apply to terms included within this Code but which are not herein defined.

A. APPROVED is approved by the State Building Inspector.

B. CODE is the Minnesota State Building Code.

C. COMMISSIONER is the Commissioner of Administration.

D. CLOSED CONSTRUCTION is any building component, assembly or system manufactured in such a manner that all portions cannot be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

E. OPEN CONSTRUCTION is any building, component, assembly or system manufactured in such a manner that all portions can be readily inspected at the installation site without disassembly, damage to, or destruction thereof.

F. MANUFACTURED BUILDING means any building which is of closed construction and which is made or assembled in manufacturing facilities, on or off the building site, for installation, or assembly and installation, on the building site. Manufactured building may also mean, at the option of the manufacturer, any building of open construction, made or assembled in manufacturing facilities away from the building site, for installation, or assembly and installation, on the building site.

G. BUILDING COMPONENT is any sub-system, sub-assembly, or other system designed for use in, or as a part of, a structure, including but not limited to: structural, electrical, mechanical, fire protection, and plumbing systems, and other systems affecting health and safety.

H. BUILDING SYSTEM is plans, specifications and documentation for a system of manufactured building or for a type or a system of building components, including but not limited to, structural, electrical, mechanical, fire protection and plumbing systems, and including such variations thereof as are specifically permitted by regulation, and which variations are submitted as part of the building system or amendment thereof.

I. CODE COMPLIANCE CERTIFICATE is the certificate provided by the manufacturer to the State Building Inspector which warrants that the manufactured building or building component complies with the Code.

J. Compliance Assurance Program means the system documentation and methods of assuring that manufactured buildings and building components, including their manufacture, storage, transportation, assembly, handling and installation, conform with these rules and regulations.

K. EVALUATION AGENCY is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to investigate, evaluate and approve manufactured buildings or building components, building systems, or compliance assurance programs.

L. INDEPENDENCE OF JUDGMENT means not being affiliated with or influenced or controlled by building manufacturers or producers, suppliers, or vendors of products or equipment used in manufactured buildings and building components in any manner which is likely to affect their capacity to render reports and findings objectively and without bias.

M. INSPECTION AGENCY is an approved person or organization, private or public, determined by the State Building Inspector to be qualified by reason of facilities, personnel, experience and demonstrated reliability and independence of judgment, to conduct or supervise compliance assurance programs relating to the manufacture, handling, storage, and transportation of manufactured buildings or building components, and attach labels evidencing compliance with the Code.

N. INSTALLATION is the process of affixing or assembling and affixing, manufactured buildings or building components on the building site, or to an existing building.

O. LABEL is an approved device affixed to a manufactured building or building component, by an approved agency, evidencing code compliance.

P. LOCAL ENFORCEMENT AGENCY is an agency of a municipality which enforces the Code.

Q. QUALITY CONTROL PROGRAM as used herein shall be synonymous with compliance assurance program.

R. SEAL is a device or insignia issued to the Manufacturer by the State Building Inspector evidencing compliance with the Code.

Section 1.10310 Inspection. GENERAL. The State Building Inspector shall make, or cause to be made, such inspections of the entire process of manufacturing, certifying, handling, storing and transporting of manufactured buildings and building components produced pursuant to approved building systems as he deems necessary.

A. MANUFACTURING FACILITIES. As part of the approval process of evaluating building systems and compliance assurance programs, the State Building Inspector or an evaluation agency shall inspect the manufacturing facilities in which the buildings or building components are to be manufactured.

B. PRODUCTION PROCESS. The State Building Inspector or an inspection agency, shall make such inspections as may be required by an approved compliance assurance program, or as may be deemed necessary by the State Building Inspector.

C. DAMAGED BUILDINGS OR COMPONENTS. Prior to the issuance of a building permit, the State Building Inspector or an inspection agency shall inspect, or cause to be inspected, certified manufactured buildings or building components which it determines to have been sufficiently damaged after certification to warrant such inspection and take such action with regard to such buildings or building components as is authorized under MCAR 1.10319, or as is otherwise necessary to eliminate dangerous conditions.

The State Building Inspector shall require manufactured buildings or building components which are so damaged as no longer to comply with the Act and these rules and regulations to be brought into compliance promptly. If such buildngs or building components are not brought into compliance with the Act and these rules and regulations within a reasonable time, or if they are so damaged that they cannot be brought into compliance, the State Building Inspector shall order that the labels be removed from such buildings or building components. Irreparably damaged buildings or building components shall be disposed of in accordance with applicable law.

D. INSPECTION AGENCY REVIEW. The State Building Inspector shall have the right to examine each approved inspection agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency and of its monitoring of each compliance assurance program. Each such examination shall investigate the adequacy of all procedures used by the agency in monitoring compliance assurance programs including inspection, tests, production methods, process controls, operator performance, materials receipt, storage and handling, workmanship standards, records and all other activities which implement the compliance assurance program in the manufacturing facility, during transport, on-site, and at critical subcontractors' facilities. The results of such examinations shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the inspection agency. Inspection agencies shall be specifically notified of any deficiencies and of the manner in and time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, an agency's approval may be suspended or revoked as provided in 2 MCAR 1.10334. Such inspections shall take place at the manufacturing facility, and may also take place at the inspection agencies office, or at the site of installation.

E. EVALUATION AGENCY REVIEW The State Building Inspector shall have the right to examine each approved evaluation agency, at any reasonable time, and without prior announcement, in order to monitor the reliability of each agency. Each such examination shall investigate the adequacy of all evaluative procedures including engineering evaluation of plans, specifications and test results, testing, and analysis of compliance assurance programs. The results of such examination shall be kept on file at the offices of the State Building Inspector. Copies of such reports shall be sent to the evaluation agency. Agencies shall be specifically notified of any deficiencies and of the manner in time by which such deficiencies must be eliminated. If deemed necessary by the State Building Inspector, approval of an evaluation agency may be suspended or revoked as provided in 2 MCAR 1.10334.

Section 1.10312 Local zoning. Local land use zone requirements, building setback, side and rear yard requirements, site development and property line requirements are specifically and entirely reserved to local municipalities.

2MCAR Sec. 1.10320 shall be revised to read as follows:

Sec. 1.10320 Seals. A. R-3 and R-4 Occupancies. Each manufactured building manufactured pursuant to the Code shall have permanently attached thereto in a location shown on the approved plans, a state seal evidencing the State Building Inspector's approval of such building. When a manufactured building consists of one or more sections, that may be transported or stored individually each section must be marked or labeled to indicate that the section is a part of a manufactured structure and shall bear the number of the State of Minnesota Seal assigned to the building.

The marking or label shall also indicate the name of the manufacturer, the address of the manufacturing facility and the manufacturers serial number or other designator assigned to the building. All labels shall be visible from the exterior, shall be legible and shall remain on the structure until the building is complete.

B. All other occupancies. One seal is required per transportable unit.

2MCAR Section 1.10321 is amended to read as follows:

Section 1.10321 Issuance. A seal shall be issued by the State Building Inspector to the manufacturer upon application and after plan approval has been issued, and shall be issued in accordance with the following:

A. If the State Building Inspector delegates the issuance of seals to an evaluation or inspection agency, the agency shall be required to obtain approval from the State Building Inspector for the manner in which they are handled;

B. Seals must be serially numbered;

C. A manufacturer's compliance assurance program, submitted in accordance with 2 MCAR 1.10332A shall include requirements for issuance, possession of, attachment of and accounting for all seals to assure that seals are attached only to buildings or building components manufactured pursuant to an approved building system and inspected pursuant to an approved compliance assurance program;

D. If the State Building Inspector or an inspection agency determines that the manufacturer's record of compliance is such that the State Building Inspector or inspection agency need not maintain an inspector in a given plant at all times, the State Building Inspector or inspection agency may entrust seals to the custody of one or more employees of the manufacturer, who shall be charged with controlling the use of such seals. Such employees shall not be given custody of more seals than are necessary to accommodate the manufacturer's anticipated production for one month. If the conditions of custody are violated, the State Building Inspector or an inspecton agency shall immediately regain posession of all seals that have not applied to the manufactured buildings or building components and shall take such further action with respect to buildings or components already sealed, and with respect to future seals, as it may deem necessary to assure compliance with the Act and these rules and regulations.

1.10325 Manufacturer's data plate. The data plate form furnished by the State Building Inspector shall contain but not be limited to the following information, and shall be placed by the manufacturer in the vicinity of the electrical distribution panel or in some other approved designated location that is readily accessible for inspection:

A. Manufacturer's name and address.

B. Serial number of the unit.

C. Model designation and name of manufacturer of major factory-installed appliances.

D. Where applicable, identification of permissible type of gas for appliances and directions for water and drain connections.

E. Name and date of standards complied with.

F. Seal serial number.

G. Design loads

H. Special conditions or limitations of the unit.

I. Date of manufacture

J. Electrical ratings-instructions and warnings on voltage, phase, size and connections of units and grounding requirements.

1.10334 Approval of inspection and evaluation agencies

A. Requirements For Submission.

An inspection or evaluation agency seeking approval shall submit an application to the State Building Inspector which shall include the items listed in this Section.

1. The original Articles of Incorporation of the agency and all subsequent amendments thereto, as filed in the State of incorporation.

2. The bylaws of the organization, if any.

3. The names, addresses and business affiliations of all members of the Board of Directors and of top management personnel.

4. Stock owned in amounts over $5,000 reflecting the financial interests of the agency's Board of Directors and top management personnel.

5. Certification by the agency that:

a. Its board of directors, as a body, and its technical personnel, as individuals, can exercise independence of judgment; and,

b. Its activities pursuant hereto will result in no financial benefit to the agency via stock ownership, or other financial interests in any producer, supplier or vendor of products involved, other than through standard published fees for services rendered.

6. Names, years of experience, State in which professionally registered and other qualifications of the directors of inspection or evaluation programs.

7. Names and years of experience of employees practicing in the following disciplines: architecture, structural engineering, mechanical engineering, electrical engineering, fire protection and other branches of engineering; the States in which each is registered and the services each performs.

8. An organization chart showing management and supervisory persons including the number of graduate engineers and architects, and the names of all consulting engineers or architects, designating which are full-time and which are part-time engineers.

9. Number and location of factory inspectors, supervisors, and other technicians, including evaluators of factory inspectors and the qualifications of each specialized group, including records of work experience, licenses held and other pertinent qualifications; descriptions of the type of work each group and each technician is expected to perform, and the qualifications of each group and each technician to perform the work assigned.

10. An outline of the training program, if any, of the agency to assure that all inspectors, evaluators and other technicians are properly trained to do each job assigned to them.

11. An outline of the general procedures for supervision of inspectors and evaluators, including checking and evaluation of their work.

12. All engineers, technicians and other personnel who will perform services for the organization but who are not employees of the organization, and the supervisory and other relationships which each will have to the agency.

13. Type of products, components, equipment, structures and other items which the organization has evaluated, tested, or inspected, and the number of years of experience the organization has had with each, and the type of codes, standards, specifications and requirements with respect to which the organization has had experience in providing evaluation, inspection or testing services, and the number of years of experience with each.

14. Description of the record-keeping system the agency proposes to use with particular regard to availability of records to the State Building Inspector and the capacity to render reports to the State Building Inspector.

15. Description of the frequency with which the agency is capable of performing inspections or evaluations.

16. List of States in which the agency is now approved to inspect or evaluate manufactured buildings or building components, and a further listing of those States in which the agency intends to seek such approval within the next two (2) years.

17. Certification that the agency is able to evaluate building systems for compliance with the codes, standards, specifications and requirements adopted herein, or manufactured buildings or building components for compliance with approved building systems.

18. Fee as required by 2 MCAR 1.10335

B. PROCEDURES FOR APPROVING AND DELEGATING

1. The State Building Inspector may approve inspection or evaluation agencies which meet the requirements of Section 1 of this Part and which the State Building Inspector finds otherwise qualified to perform the functions proposed to be delegated to them.

2. Prior to a full evaluation of an application for approval, the State Building Inspector shall determine whether such application is suitable for processing. In the event the application is found to be unsuitable for processing, the applicant shall be notified in writing of such unsuitability and the basis thereof within thirty (30) days of the date the application is received by the State Building Inspector. In such event, all but $25.00 of the fee will be returned, and the findings of unsuitability shall be without prejudice. Any subsequent submission shall be treated as a new application.

3. In the event the an inspection or evaluation agency is not approved, the State Building Inspector shall return one complete application to the applicant with a written explanation of the reasons for such disapproval attached

4. Approval of inspection or evaluation agencies shall be evidenced by a letter to the applicant indicating such approval and stating specifically the functions which the applicant has been approved to perform. Such approval shall not constitute the actual delegation of such functions.

C. SUSPENSION AND REVOCATION

1. Grounds. The State Building Inspector may suspend or revoke its approval of any evaluation agency or inspection agency if the approval was issued in error, was issued on the basis of incorrect information, or was issued in violation of the Act or these rules and regulations, or if the agency violates the Act or these rules and regulations, if examination pursuant to MCAR 1.10310 (D) and (E) disclose that the agency has failed to perform properly, or for such other cause as may be deemed sufficient by the State Building Inspector to warrant such action. Appeals from suspensions or revocations shall receive timely review.

2. Procedures in Event or Revocation

a. General. If the State Building Inspector suspends or revokes the approval of an evaluation or inspection agency, the evaluation or inspection agency shall be given notice in writing of the suspension or revocation with the reasons therefor set forth therein. Manufacturers being evaluated or inspected by such agencies, and all local enforcement agencies within this State shall also be notified in writing of such suspensions or revocations. Such notices shall contain instructions to the local enforcement agencies as to manufactured buildings or building components previously certified by an agency whose approval has been suspended or revoked.

b. Records. An evaluation or inspection agency whose approval has been suspended or revoked shall within (90) days of the suspension or revocation deliver to the custody of the State Building Inspector the originals of all records required by these rules and regulations to be made of, or in the course of, the agency's operations pursuant to the Act and these rules and regulations.

c. Seals. An evaluation or inspection agency for which approval has been suspended or revoked shall, within ninety (90) days of the suspension or revocation, deliver to the custody of the State Building Inspector all seals in the agency's possession, under its control, or for which it is responsible pursuant to these rules and regulations.

1.10559 Fees. General. All fees shall be:

A. In the form of checks or money orders.

B. Payable to: Minnesota State Treasurer.

C. Addressed to: State of Minnesota
Department of Administration
Building Code Division
No. 408 Metro Square Building
7th and Robert Streets
St. Paul, Minnesota 55101

D. Seal Fee, twenty dollars($20.00) per Seal. Replacement seal fee for damaged or lost seals, five dollars($5.00) per Seal.

E. For all other work performed by the Building Code Division such as, but not limited to: the review of plans, specifications, and independent agency reports, inspection and quality control evaluation, a fee of Twenty dollars ($20.00) per man hour shall be charged.

F. Travel expense shall be charged at the rates established for state employees by the Commissioner of Administration.

G. Inspection and/or evaluation agencies.

1. Initial fee of $150.00 shall be submitted with the application for agency approval. The initial fee shall be submitted prior to January 1, 1981 by all currently approved agencies and shall include any additional data necessary to show compliance with 2MCAR 1.10310, 1.10321, 1.10334.

2. A registration fee of $75.00 is required annually, due January 1 of each year, to maintain State approval.

See page 129, Rule As Proposed

2 MCAR 1.18601 - Electrical

NEC Table 220-2(b) is amended as follows:

Unit load per sq. ft. (Watts) for Banks and Office Buildings shall be reduced from 5 to 3.

Table 220-2(b). General Lighting Loads by Occupancies

Type of Occupancy	Unit Load per Sq. Ft. (Watts)
Armories and Auditoriums	1
Banks	3
Barber Shops and Beauty Parlors	3
Churches	1
Clubs	2
Court Rooms	2
*Dwelling Units	3
Garages -- Commercial (storage)	½
Hospitals	2
*Hotels and Motels, including apartment houses without provisions for cooking by tenants	2
Industrial Commercial (Loft) Buildings	2
Lodge Rooms	1½
Office Buildings	3
Restaurants	2
Schools	3
Stores	3
Warehouses (storage)	¼
In any of the above occupancies except one-family dwellings and individual dwelling units of multifamily dwellings:	
Assembly Halls and Auditoriums	1
Halls, Corridors, Closets	½
Storage Spaces	¼

* All receptacle outlets of 20-ampere or less rating in one-family and multifamily dwellings and in guest rooms of hotels and motels [except those connected to the receptacle circuits specified in Section 220-3(b)] shall be considered as outlets for general illumination, and no additional load calculations shall be required for such outlets.

See page 168, R. as P.

NEC 300-22(b) is amended by adding an exception as follows:

Exception: In Group B, Division 2, occupancies, communications circuits such as those set out in Section 800-1 may be installed in return air handling plenums located above ceilings without being installed in metallic tubing, metal conduit, or other types of metallic raceways when the building housing such Group B Division 2, occupancies is provided with an approved, fully automatic sprinkler system or the main return and exhuast air plenum is provided with approved smoke detectors which, when activated, shall place into operation all equipment necessary to prevent the recirulation of smoke. All such communication wiring, when abaonded, shall be removed upon order from the building official.

see F. of F. #5. HE P 53-56

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Sec. 1.18701 Plumbing. All plumbing in buildings and structures as defined in the Minnesota Building Code shall comply with the provisions of the Minnesota Plumbing Code 1979, which code is adopted by reference and made a part of the code.

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Sec. 1.18801 Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts. General. Elevators, dumbwaiters, escalators, manlifts, moving walks, hoists and lifts shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property.

Sec. 1.18802 Definitions. For the purpose of this chapter, the terms or words listed below shall have the meaning indicated:

EXISTING INSTALLATION. Shall mean an installation on which the construction or installation was begun prior to the effective date of this Code.

NEW INSTALLATION. Shall mean an installation on which the construction or installation was begun subsequent to the effective date of this Code.

Sec. 1.18803 Existing installations is amended to read as follows:

A. All existing installations may be continued in service as long as they are properly maintained and are, in the opinion of the administrative authority, installed and maintained in a safe condition. The Administrative Authority may order the installation of car gates, car tops, and the car walls extended to the car top on all existing installations. The administrative authority shall have the authority to shut down any piece of equipment covered by this chapter, which in his opinion is dangerous to life, limb, and adjoining property, and such equipment shall not be put back into operation until such unsafe condition has been corrected and approved by the Administrative Authority.

B. Any installation which is materially changed subsequent to the date of enactment of this Code shall comply with all of the requirements covering a new installation.

A material change shall be defined as any change which moves the location, increases or decreases the length of travel, changes the type of operation, increases the speed or carrying capacity or changes the types of power supply of an existing installation.

Any installation, whether new or existing, which shall become damaged, defective or worn by fire or other causes including ordinary wear to such an extent that in the opinion of the administrative authority it becomes dangerous to life, limb and adjoining property, such installations shall be repaired or rebuilt in conformity with the provisions of this chapter for new installations. Such equipment shall, if in the opinion of the administrative authority, it is found necessary to protect life, limb and property, be taken out of service until such unsafe condition has been removed.

C. Unsafe conditions. When an inspection reveals an unsafe condition, the inspector shall immediately file with the owner and the Administrative Authority a full and true report of such inspection and such unsafe condition. If the Administrative Authority finds that the unsafe condition endangers human life, he shall cause to be placed on such elevator, escalator or moving walk in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the Administrative Authority. The Administrative Authority shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance which are necessary to render it safe, and may order the operation thereof discontinued until the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only by the Administrative Authority when he is satisfied that the unsafe conditions have been corrected.

Sec. 1.18804 Inspection, tests and approval is amended to read as follows:

A. Approval of plans. Any person, firm or corporation desiring to install, relocate, alter materially or extend any installation covered by this chapter shall be required to obtain approval for so doing from the administrative authority. Two sets of drawings and specifications showing such installations, relocation, alteration or extension shall be submitted for approval.

B. Inspections and tests. It shall be unlawful for any person, firm or corporation to put into service any installation covered by this chapter whether such installation is newly installed, relocated or altered materially without such installation being inspected and approved by the administrative authority. The installer of any equipment included in this chapter shall notify the administrative authority seven days prior to completion of the installation for such inspection. The administrative authority shall have the authority to require such tests as provided in ANSI A17.1-1978 Edition and Supplement as he may deem necessary to prove the safe operation of any installation.

C. Approval. A certificate or letter of approval shall be issued by the administrative authority for such installation when the entire installation is completed in conformity with this chapter. The entire installation shall include all enclosures or shafts, gates, doors, machinery safety and control devices and all other appurtenances necessary.

D. Limited use of an elevator. When a building or structure is to be equipped with one or more elevators, as least one of such elevators may be approved for limited use prior to the completion of the building or structure.

The use of such elevators may be permitted by the administrative authority under the authority of a limited permit issued by him for each class of service. Such limited permit shall specify the class of service. Such limited permit shall specify the class of service permitted and it shall not be issued until the elevator has been tested with rated load and the car safety and terminal stopping equipment have been tested to determine the safety of the equipment and until permanent or temporary guards or enclosres are placed on the car and around the hoistway and at the landing entrance on each floor. Landing entrance guards shall be provided with locks that can be released from the hoistway side only. Automatic and continuous pressure elevators shall not be placed in temporary operation from the landing push buttons unless door locking devices and/or interlocks are installed and operative.

Sec. 1.18805 Accidents.

A. To be reported. The owner or person in control of an elevator or other installation covered by this chapter shall promptly notify the administrative authority of any accident to a person or apparatus, on, about, or in connection with such elevator or other installation, and shall afford the administrative authority every facility for investigating such accident and the damage resulting therefrom. Notification may be given to the administrative authority by telephone or verbally, but such notification shall be confirmed in writing.

B. Investigation. The administrative authority shall make or cause to be made an investigation of the accident and the report of such investigation shall be placed on file in his office. Such report shall give in detail the cause or causes, so far as they can determine, and such report shall be open to public inspection.

C. Operation discontinued. When an accident involves the failure or destruction of a part of the installation or the operating mechanism, the elevator or other installation shall be taken out of service and shall not be used again until it has been made safe and such re-use approved by the administrative authority.

The administrative authority may, if deemed necessary, order the discontinuance of operation of any such elevator or installation until a new certificate of approval has been issued.

D. Removal of parts restricted. No part of the damaged installation, construction or operating mechanism shall be removed from the premises until permission is granted by the administrative authority.

Sec. 1.18806 Elevators, dumbwaiters, escalators and moving walks is amended to read as follows:

A. The ninth edition of the American National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks - ANSI A17.1-1978 including supplement ANSI A17.1a-1979, are hereby incorporated by reference and made a part of this Code. All references in ANSI A17.1 - 1978 and supplement, to the National Electrical Code shall be changed to read: "National Electrical Code" ANSI C1 1978 (NFPA 70-1978).

B. Exceptions to ANSI A17.1.

1. Winding drum machine. Winding drum machines shall not be permitted on new elevators installations nor replacements on existing installation.

2. Swing doors. Horizontal swing doors, either single section or center opening two section, shall not be permitted on new elevator installations nor as replacements on existing installations, except the administrative authority may approve such installation if the conditions are such as to make it impossible to install other than swing doors.

3. Side exits. Side emergency exits on elevator cars shall not be permitted.

4. In each elevator lobby served by elevators complying with ANSI rule 211.3 of to the Elevator Code identified as ANSI A17.1-1978, all automatic -operation elevators serving three or more stories above or below the main floor or having a travel of twenty five (25) feet or more above or below the main floor, at least one elevator car serving

(contd. next page)

all floors in a building shall have a platform size that is standard for the elevator supplier, and capable of accommodating an ambulance stretcher in its horizontal position. The opening to the elevator car shall be capable of passageway for such ambulance stretcher.

5. Exterior elevator call buttons shall be placed not higher than 60 inches above the floor. No emergency stop switch, door opening and door closing buttons, or elevator floor buttons shall be placed higher than 60 inches above the floor.

6. Standby power. In every building over one story and more than 75 feet in height, emergency power shall be provided for at least one passenger elevator in each bank. This emergency power shall be transferable to any other elevator in the bank and shall be capable of operating the elevator with a full load at contract speed or not less than 150 feet per minute. Emergency power shall be provided by an approved self-contained generator set to operate whenever there is a loss of power in the normal power supply. The generator shall be in a separate room having at least a one-hour fire resistive occupancy separation from the remainder of the building and shall have an on site fuel supply adequate to operate the equipment for two hours. See UBC Standards 18-1.

7. Operating devices. All operating devices shall be of the enclosed electric type. Rope or rod operated devices activated by hand, or rope operating devices activated by wheels, levers or cranks, shall be removed. EXCEPTION: This shall not be considered a material change.

See p. 109
Rec P

C. Amendments to ANSI A.17.1 - 1978

ANSI A17.1 - Rule 100.4a is amended to read as follows:

100.4a - Vents Required.

Hoistways of elevators serving more than three (3) floors shall be provided with means for venting smoke and hot gases to the outer air in case of fire. Vents may be manually openable or remote control automatic vents. Location of operating devices are subject to approval of the Fire Chief.

EXCEPTIONS Hoistways not extending into the top floor of the building, in buildings other than hotels, apartment houses, hospitals and similar buildings with overnight sleeping quarters, where the hoistways are equipped with approved automatic spinklers connected to the building water-supply system or to an approved automatic sprinkler system (See NFPA No. 13-1976 Sprinkler Systems). Such systems shall be responsive to an accumulation of smoke as well as heat at the top of the hoistway.

ANSI A17.1 - Rule 100.4b is amended to read as follows:

100.4b Location of Vents.

Vents shall be located:

1. In the side of the hoistway enclosure directly below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air; or

2. In the wall or roof of the penthouse or overhead machinery space above the roof, provided that openings have a total area not less than the minimum specified in Rule 100.4c. Vents passing through machine rooms must be in noncombustible ducts. When a vent is installed in the roof of the hoistway, a protective grill shall be provided to prevent persons from falling into hoistway.

ANSI A17.1 - Rule 101.5a is amended to read as follows:

101.5a Lighting.

Permanent electric lighting shall be provided in all machine rooms and machinery spaces.

The illumination shall be not less than ten (10) foot-candles at the floor level. The lighting control switch shall be located within easy reach of the access to such rooms or spaces. Where practicable, the light control switch shall be located on the lock-jamb side of the access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the machine room. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1 - Rule 106.1e is amended to read as follows:

106.1e Illumination of Pits.

A permanent lighting fixture shall be provided in all pits which shall provide an illumination of not less than five (5) foot-candles at the pit floor. A light switch shall be provided and shall be so located as to be accessible from the pit access door.

A 20 ampere 110-120 volt AC ground type convenience outlet shall be installed in the pit. The circuit for this convenience outlet shall not be connected to the equipment circuits.

ANSI A17.1 - Rule 110.2a is amended to read as follows:

ANSI A17.1 - Rule 110.2a - For Passenger Elevators and Freight Elevators Authorized to Carry Employees.

Entrances shall be one of the following types:

1. Horizontal side, single or multisection.
2. Swing, single-section.
3. Combination horizontal slide and swing.

4. Power-operated, vertical slide biparting counterbalanced, or vertical slide counterweighted which slide down to open, where located at entrances used by passenger (See RUle 207.4).
5. Hand or power-operated vertical slide which slide up to open.

EXCEPTION: At landing openings used exclusively for freight, any type of entrance permitted by Rule 110.2b.

6. Elevator doors shall provide a clear opening of at least 32 inches.

ANSI A17.1 - Rule 111.9b is amended to read as follows:

111.9b - Location and Design of Hoistway Access Switches.

Hoistway access switches shall conform to the following:

1. Hoistway access switches shall be provided at top and bottom landings. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.

2. The switch shall be installed adjacent to hoistway entrance at the access landing with which it is identified.

3. The switch shall be of the continuous-pressure spring-return type, and shall be operated by a cylinder-type lock having not less than a five (5) pin or five (5) disc combination with the key removable only when the switch is in the "OFF" position. The lock shall not be operable by any key which will operate locks or devices used for other purposes in the building. The key shall be available to and used only by inspectors, maintenance men, and repairmen.

ANSI A17.1 - Rule 111.9e is amended to read as follows:

111.9e - Location and Design of Hoistway Door Unlocking Devices.

Hoistway door unlocking devices shall conform to the following:

1. The device shall unlock and permit the opening of the hoistway door from the lowest landing irrespective of the position of the car.

2. The device shall be installed only at the lowest landings.

   EXCEPTION: For Emergency use see Rule 111.10.

3. The device shall be designed to prevent unlocking the door with common tools.

4. The operating means for unlocking the door shall be provided with a special key not easily duplicated and said key shall be available only to elevator mechanics and inspectors. The interlocks shall be designed and adjusted as to prevent movement of the car until after the door is closed and in the locking position.

5. The unlocking - device keyway shall be located at a height not greater than six (6) feet eleven (11) inches above the floor.

NOTE: For diagrammatic representation See Appendix C.

ANSI - A17.1 Rule 112.5 is amended to read as follows:

ANSI A17.1 - Rule 112.5 - Reopening Device for Power-Operated Car Doors or Gates.

Where required by Rule 112.3d or Rule 112.4, a power-operated car door or gate shall be provided with a reopening device which will function to stop and reopen a car door or gate and the adjacent hoistway door in the event that the car door or gate is obstructed while closing. If the closing kinetic energy is reduced to two and one-half (2 1/2) foot pounds or less, the reopening device may be rendered inoperative (See Rule 112.4-a).

For center-opening doors, the reopening device shall be so designed and installed that the obstruction of either door panel when closing will cause the reopening device to function.

Hoistway door protection in passenger elevators. Hoistway doors on all passenger elevators shall not be solely dependent upon the door edge reopening device for protection from the doors closing on an obstruction, but shall also be provided with an approved light beam or electronic door protection device.

ANSI A17.1 - Rule 204.2a is amended to read as follows:

204.2a - Material for Enclosures and Enclosure Linings.

Car enclosures and car-enclosure linings shall conform to the following:

1. Material for enclosures shall be:
    a. Metal; or
    b. Fire-retardant-treated wood; or
    c. Other equally fire retardant approved material.

EXCEPTION: Non-fire-retardant treated wood or materials of equivalent combustible characteristics may be used if all exterior surfaces of the enclosure are covered with sheet metal not less than No. 27 U.S. gage or other equally fire-retardant material or are protected by painting with an approved fire-retardant paint having a flame spread rating of not over 50, applied in accordance with the instructions of the manufacturer. Such ratings shall be based on the test procedure specified in ANSI/ASTM E84.

2. Slow burning combustible materials for insulating, sound deadening or decorative purposes may be used for lining enclosures if firmly bonded flat to the enclosure. Such materials shall not be padded. Materials must have a Class I Flame Spread Rating.

EXCEPTION: Padded protective linings used temporarily in passenger cars during the handling of freight, provided the pads are made of fire-retardant material or treated with an acceptable fire retardant. The fire retardant-treatment shall be renewed as needed. The protective linings shall clear the floor of the car by not less than four (4) inches.

ANSI A17.1 - Rule 206.4c amended to read as follows:

206.4c - Type of Speed-Governor Overspeed Switches, Speed-Reducing Switches, and Car-Safety-Mechanism Switches Required.

Switches used to perform the function specified shall be positively opened. Overspeed and speed-reducing switches permitted by the exception to Rule 206.4b and operated by the speed governor shall remain in the open position until manually reset. Switches operated by the car safety mechanism shall be the manually reset type.

ANSI A17.1 - Rule 211.1 is amended to read as follows:

Rule 211.1

Emergency communications. Every elevator car shall be provided with a two-way communication systems connected to an approved emergency service which operates 24 hours every day.

ANSI A17.1 - Rule 211.3a is amended to read as follows:

211.3a - Automatic-Operation Elevators.

All automatic-operation elevators serving three or more landings or having a travel of twenty-five (25) feet or more, shall conform to the following:
1. A three position (on, off, and by-pass) key-operated switch shall be provided at the main floor for each single elevator or for each group of elevators. The key shall be removable only in the "on" and "off" positions. When the switch is in the "on" position, all elevators controlled by this switch and which are on automatic service shall return nonstop to the main floor, and the doors shall open and remain open.

a. An elevator traveling away from the main floor shall reverse at the next available floor without opening its doors.

b. Elevators equipped with automatic power-operated doors and standing at a floor other than the main floor, with doors open, shall close the doors without delay, and proceed to the main floor.

c. Door reopening devices for power-operated doors which are sensitive to smoke, heat or flame shall be rendered inoperative.

d. All car and corridor call buttons shall be rendered inoperative and all call registered lights and direction lanterns shall be extinguished and remain inoperative.

e. A car stopped at a landing shall have its "Emergency Stop Switch" rendered inoperative as soon as the doors are closed and it starts toward the main floor. A moving car, traveling to or away from the main floor, shall have its "Emergency Stop Switch" rendered inoperative immediately.

f. A sensor in each elevator lobby, which when activated prevents cars from stopping at that floor, shall not be substituted for the above requirements.

2. Sensing Devices.

In addition to the key-operated switch required in 1 above, heat and smoke or products of combustion sensing devices shall be installed in accordance with NFPA No. 72D 1975 in each elevator lobby at each floor, except the main floor. The activation of a sensing device in any elevator lobby shall cause all cars in all groups that serve that lobby to return nonstop to the main floor. The operation shall conform to the requirements of 211.3a-1-a to 211.3a-1-e. The key-operated switch required by 211.3a-1, when moved to the "by-pass" position, shall restore normal service independent of the sensing devices.

EXCEPTIONS:

(1) Elevators in buildings which are completely protected by an automatic sprinkler system (See NFPA No. 13 1976 Sprinkler Systems).

(2) Freight elevators located in or at openings into manufacturing areas.

(3) Elevator lobbies at unenclosed landings.

3.. Elevators without a terminal landing at grade level shall be returned to that landing closest to grade level or other approved level and shall conform to the requirements of 211.3a-1,- 2,- 3,-4,-5,-6.

4. One (1) car in each bank of automatic-operation elevators serving five (5) or more floors above or below the main floor or having a travel of fifty (50) feet or more above or below the main floor shall be provided with the following operation:

A two position (off and on) key-operated switch shall be provided in or adjacent to an operating panel in each car and it shall be effective only when the main floor key-operated switch (211.3a-1) is in the "on" position or a sensing device has been activated and the car has returned to the main floor or other approved level. The key shall be removable only in the "off" position and when in the "on" position, it shall place the elevator on emergency operation.

The operation of elevators on emergency service shall be as follows:

a. An elevator shall be operable only by a person in the car.

b. Elevators shall not respond to elevator corridor calls.

c. The opening of power-operated doors shall be controlled only by continuous pressure "open" buttons of switches. If the switch or button is released prior to the doors reaching the fully open position, the doors shall automatically reclose. Open doors shall be closed by either the registration of a car call or by pressure on "door close" switch or button.

d. Elevator shall be removed from emergency service by moving the emergency service key-operated switch in the car to the "off" position with the car at the main floor.

5. Multi-deck elevators shall conform to the requirements of 211.3a-1,-2,-3,-4,-6, and to additional requirements as follows:

a. The key-operated switch required by 211.3a-1 may be located at either main lobby.

b. The key-operated switch in the car required by 211.3a-4 for emergency service operation shall be located in the top deck. The elevators shall be provided with means for placing the lower deck out of service including closing of car and hoistway doors. The lower deck shall be out of service before the emergency service operation from the top deck becomes effective. The means for placing the lower deck out of service shall be located in that deck or adjacent to the entrance in the corridor.

6. The switches required by 211.3a-1 shall be operated by the same key but which is not a part of a building master key system. There shall be a key for the main floor switch and for each elevator in the group and these keys shall be kept on the premises by persons responsible for maintenance and operation of the elevators, in a location readily accessible to authorized persons, but not where they are available to the public.

7. The switches required by 211.3a-4 shall conform to the following:
Emergency elevators. All keyed switches installed to operate elevators on emergency service shall be required to be keyed alike to a pattern approved by the Administrative Authority. In lieu of the above, keys for emergency elevator service may be in a metal box placed in a location approved by the Administrative Authority, provided said box is locked with a 5 pin tumbler core lock or equivalent which is keyed to the same pattern.

ANSI A17.1 - Rule 602.1 is amended to read as follows:

Rule 602.1 - Car Safeties

Elevators having a travel of more than fifteen (15) feet shall be provided with a car safety, attached to the underside of the car frame, capable of stopping and sustaining the car and rated load.

The car safety device is not required to be operated by a speed governor, and may be of the instantaneous type operated as a result of the breaking or slackening of the suspension members.

Where the travel exceeds forty (40) feet, driving machines having hand-operated brakes shall also be equipped with an automatic speed retarder.

All handpowered elevators shall be equipped with a broken rope safety device.

ANSI A17.1 - Rule 703.1 is amended to read as follows:

Rule 703.1 - Where Required

Car and counterweight safeties shall not be required except for protection of spaces below hoistways for all dumbwaiter cars and counterweights having a rated load over twenty-five (25) pounds. Where required, the car and counterweight safeties may be operated as a result of breaking the suspension means and may be of the inertia type without grovernors. Car safeties may be located in the car crosshead.

All dumbwaiters shall be equipped with a broken rope safety device.

Sec. 1.18807 Stage and orchestra lifts. Stage and orchestra lifts shall be designed, installed, constructed and maintained so as to be reasonably safe to life, limb and adjoining property and shall be approved by the administrative authority prior to installation or construction.

Sec. 1.18808 Manlifts. Mainlifts shall be designed, installed, constructed, and maintained so as to be reasonably safe to life, limb, and adjoining property shall conform to the standards specified in the American National Safety Code for manlifts, ANSI A90.1 - 1969 and Regulations of the Department of Labor and Industry. 8MCAR 1.7120 - 1.7129.

Sec. 1.18809 Temporary interior and exterior hoists. Temporary interior and exterior hoists shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, shall conform to Safety Requirements for Workman's Hoists, ANSI 10.4 - 1963, Safety Requirements for material hoists, ANSI 10.5 - 1969 and Regulations of the Department of Labor and Industry.

Sec. 1.18810 Mechanical parking garage equipment. Mechanized parking garage equipment shall be designed, constructed, installed and maintained so as to be reasonably safe to life, limb and adjoining property, shall conform to the standards specified in the American Standard Safety Code for Mechanized Parking Garage Equipment ANSI A113.1 (R-1971).

STANDARDS FOR WHEELCHAIR

ELEVATING DEVICES

Add new Sections 2MCAR Sec. 1.18811 through 1.18813 to read as follows:

Sec. 1.18811 Standards for wheelchair elevating devices.

A. Applicability

1. These rules apply to electric powered vertically traveling elevating devices used to raise or lower physically handicapped persons from one level to another in existing buildings, hereinafter in these rules referred to as a device.

2. The device shall conform to all applicable sections of ANSI A17.1-1978 National Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks, which are directly referred to in these rules.

Sec. 1.18812 Hoistways, hoistway enclosures.

A. Hoistway walls shall be provided on all sides of the device not used for entrance or exits. Walls shall be fully enclosed and of non-combustible material. Walls shall extend to a height of at least the top terminal landing level. When terminated at top landing level or any level below 42" above top terminal landing a guard rail conforming to UBC Section 1716 shall be provided.

B. Strength of enclosure. See Rule 100.1e

C. Construction at top of hoistway.

A ceiling at the top of the hoistway is not required unless a hazard exists from falling objects from overhead. When a ceiling is provided it must be noncombustible material and must reject a ball 1" in diameter. Minimum clear headroom 7'-0".

D. Construction at bottom of hoistway.

A pit is not required, but when provided it shall be designed as to prevent entry of ground water. The floor at the bottom level shall be designed to accept the loads imposed upon it. (U.B.C. Chapter 23).

E. All ramp surfaces leading to or from the device shall be of the nonskid type. Ramps slope shall not to exceed a ratio of 1 vertical to 12 horizontal.

F. Devices shall not be exposed to the outside elements.

G. Projections recesses and setbacks in hoistway enclosures, see Rule 100.6 and Rule 110.10A (Omit Item 1 only).

H. Means shall be provided to prevent movements of platform when loading or unloading.

I. For electrical wiring, pipes and ducts in hoistways and machine rooms, see Rule 102.

J. Location of device.

The device may be installed in a stair enclosure or exit system provided it does not reduce or obstruct exit widths as required in UBC Chapter 33.

K. All exposed equipment on a device shall be guarded to protect against accidental contact which could cause bodily injury.

L. A movable barrier (or gate) at the upper terminal landing shall be installed to prevent a wheelchair from rolling off end of landing while waiting for the device. All movable barriers are to be self closing when the platform leaves the floor level. Means shall be provided so barrier can not be opened unless platform is in the top landing zone. When the movable barriers to the device are power operated they must meet all requirements of Section 1 Rule 112.

M. The terminal landings shall be permanently fastened, and constructed so as to safely carry the imposed loads.

N. Upper terminal ramp or landing shall be provided with guard rails on open sides.

O. Lighting shall conform to Rule 204.7(a).

P. The device shall be permanently anchored and maintained in a level position.

Q. Guardrails shall be provided to protect against access to the area of the bottom terminal landing when skirt is utilized as a loading ramp.

R. The running clearance from front or rear to the permanent hoistway enclosure shall not be more than 1" nor less than 1/2".

Sec. 1.18813 Machinery and equipment for the devices.

A. The frame and platform shall be of steel or approved non combustible material. The platform shall not be larger than 42" wide by 60" long and not less than 36" wide x 48" long (inside dimensions).

B. The rated capacity shall be not less than 400 lbs. nor less than 33 and 1/3 pounds per square foot.

see HE P47 + F. of F. #4

C. The device shall be designed to insure a safety factor of 5.

D. Welding on the device shall conform to rule 203.7.

E. Means shall be provided on vertical traveling devices to prevent access below the platform when it is in the raised position.

F. When a skirt is provided, they must be solid (not perforated or grilled), and may be hinged or collapsible type. If of hinged or collapsible type they shall have a switch to cut off the power to the driving machine in case of accidental contact with any object while device is moving downward. The required pressure on the skirt to make the switch function shall not exceed 4 lbs.

G. Means shall be provided to prevent wheelchair from rolling off platform when in operation.

H. The speed of the device shall not exceed 15 feet per minute in either direction under full load conditions.

I. The total travel of the device shall not exceed 54".

J. 1. Operating means shall be provided by the use of a universal key or magnetic card available and restricted to key personnel and physically handicapped persons.

2. Operation shall be by continuous pressure, key operated switches. Switches shall be arranged so that they will not remain in the run position unless held in position and will automatically return to the "off" position if released. Key switches shall be so located as to permit an unobstructed view of the entire length of the travel of the device.

3. A slack cable or chain switch shall be provided where applicable.

4. An upper and lower terminal stopping switch shall be provided to stop the device at the terminal landings.

5. The device shall conform to Rule 501.11c for control and operating circuit requirements.

K. A mechanical stop shall be provided at the top and bottom. Overtravel and undertravel shall not be more than 1" until the mechanical stop is reached. Stops shall be designed to stop the car at full load, full speed in both directions and have a safety factor of not less than 5.

L. A data plate shall be installed under the platform which shall contain: car weight, capacity, total load, and speed plus total load, and speed plus total weight of device.

M. A full load speed safety test shall be performed on an annual basis.

N. Covers to mechanism shall be removable, for inspection purposes.

O. A sign shall be placed inside the device indicating, "for use by physically handicapped persons only". Letters shall not be less than 2" high.

P. Maintenance shall be provided on the device and shall conform to applicable rules of Part 10.

Q. If the device is of the hydraulic type, the engineering shall conform to Rule 1302.

R. An alarm bell shall be installed in accordance with Rule 211.1 and shall be connected to a push button on car operating panel marked "alarm".

See page 13c
R. as P.

Sec. 1.18901 Adoption of "Flood Proofing Regulations." Sections 100 through 1406 of the 1972 Edition of "Flood Proofing Regulations" (FPR) as promulgated by the Office of the Chief Engineers, U.S. Army, Washington, D.C. is incorporated by reference and hereby made a part of the State Building Code subject to the following amendments:

(FPR Sections 201.2 through 208.2 are placed in the appendix of this Code.)

FPR Section 200.2 is amended to read as follows:

Official Flood Plain Zoning Map: The Official Plain Zoning Map showing the extent and boundaries ofthe Primary and Secondary Flood Hazard Areas is hereby declared and established as part of these Regulations. Hereinafter reference to term Primary Flood Hazard Areas in these regulations shall by synonymous with the term "flood plain areas" as used in the Minnesota Regulations NR 85-93.

FPR Section 200.3 is amended to read as follows:

Regulatory

Flood Datum: For the purpose of these regulations, the Regulatory Flood Datum, or as hereinafter referred to as the "RFD", is hereby declared and established for use as the reference datum for determining the elevation above mean sea level to which flood-proofing protection shall be provided. Hereinafter reference to the term "Regulatory Flood Datum" in these regulations shall be synoymous with the term "flood protection elevation" as used in Minnesota Regulations NR 85-93.

FPR Section 201.1 is amended to read as follows:

Application: These regulations shall apply to the construction, alteration, and repair of any building or parts of a building or structure in the Flood Hazard Area(s) of the municipalities. Additions, alterations, repairs and changes of use occupancy shall comply with all provisions for new buildings and structures as otherwise required in the Building Code, except as specifically provided in these Regulations.

FPR Section 201.2 is added to read as follows:

This section shall apply unless equivalent provisions are incorporated in the city or county Flood Plain Zoning Ordinance.

Nonconforming Use: A structure or the use of a structure or premises which was lawful before the passage or amendment of the ordinance but which is not in conformity with the provisions of these Regulations may be continued subject to the following conditions:

1. No such use shall be expanded, changed, enlarged or altered in a way which increases its nonconformity.

2. No structural alteration, addition, or repair to any conforming structure over the life of the structure shall exceed 50 percent of its value at the time of its becoming a nonconforming use, unless the structure is permanently changed to a conforming use.

3. If such use is discontinued for 12 consecutive months, any future use of the building premises shall conform to these Regulations. The assessor shall notify the zoning administrator in writing of instances of non-conforming uses which have been discontinued for a period of 12 months.

4. If any nonconforming use or structure is destroyed by any means, including floods, to an extent of 50 percent or more of its assessed value, it shall not be reconstructed except in conformance with the provisions of these Regulations; provided, the Board of Appeals may permit reconstruction if the use or structure is located outside the floodway and is adequately and safely flood-proofed, elevated, or otherwise protected in conformance with these Regulations.

5. Uses or adjuncts thereof which are or become nuisances shall not be entitled to continue as nonconforming uses.

6. Any alteration, addition, or repair to any nonconforming structure which would result in substantially increasing its flood damage or flood hazard potential shall be protected as required by these Regulations.

7. The Building Official shall maintain a list of nonconforming uses including the date of becoming nonconforming, accessed value at the time of its becoming a nonconforming use, and the nature and extent of nonconformity. This list shall be brought up-to-date annually.

8. The Building Official shall prepare a list of those nonconforming uses which have been flood-proofed or otherwise protected in conformance with these regulations. He shall present such list to the Board of Appeals which may issue a certificate to the owner stating that such uses, as a result of these corrective measures, are inconformance with these Regulations.

FPR Section 203.3 is amended to read as follows:

Records. Copies of such tests, reports, certifications, or the results of such tests shall be kept on file in the office of the Building Official for a period of not less than two (2) years after the approval and acceptance of the completed structure for beneficial occupancy.

FPR Section 204.6 is amended to read as follows:

Board of Appeals: See 2 MCAR Sec. 1.10111 UBC Sec. 204.

FPR Section 204.7 is amended to read as follows"

Validity: It shall be unlawful for any person, firm or corporation or agency (state or local) to erect, construct, enlarge, alter, repair, move, improve, remove, convert, or demolish, any building or structure in the Flood Hazard Area(s), or cause the same to be done, contrary to or in violation of any of the provisions of these Regulations and/or "The Building Code".

FPR Section 205.1 is amended to read as follows:

Statement of Intention to Improve: The Owner or any registered architect or licensed professional engineer authorized to represent the Owner shall, before preparing final plans for any improvement in the Flood Hazard Area(s), file with the Building Official a Statement of Intention to Improve, including a brief description of the type of improvement being considered and giving its precise location, on a form provided by the Building Official. The Building Official shall note on two copies the elevation of the RFD at the location of the proposed improvement. One copy of the Statement of Intention to Improve shall be retained by the Building Official until a permit copy for improvement on the site is approved or one year has elapsed; a second copy shall be returned to the Owner for his use in final siting and design of his improvement. Assignments of the RFD elevations at all locations shall be made from profiles and/or cross sections provided by the Army Corps of Engineers, SCS, USGS. This information shall be open to public examination at all reasonable times.

FPR Section 205.2 is amended to read as follows:

Permits Required: No person, form or corporation shall erect, construct, alter, repair, move, remove convert, or demolish any building or structure or any part thereof, or make any other improvement within the structure or any part thereof, or make any other improvement within the Flood Hazard Area(s), or cause same to be done, without first obtaining a separate building flood proofing permit for any such improvement from the Building Official. Ordinary minor repairs may be made with the approval of the Building Official without a permit, provided that such repairs shall not violate any provisions of these Regulations or of "The Building Code".

FPR Section 205.3 No. 2 is amended to read as follows:

Two (2) sets of complete plans and specifications, in addition to plans and specifications required by "The Building Code", except that plans and specifications for any and all proposed improvement in the primary Flood Hazard Area(s) shall be prepared by an engineer or architect licensed by the State to practice as such. All drawings and specifications shall bear the name of the author thereof in his true name, followed by such title as he may be lawfully authorized to use. All plans and sections shall be noted with the proposed flood-proofing class of each space below the RFD including detail drawings of walls and wall openings.

Exception: Plans for Group M Division 1 Occupancies need not be prepared by a licensed architect or engineer.

FPR Section 205.3 No. 3 is amended to read as follows:

Two (2) copies of the Owner's Contingency Plan, which shall describe in detail all procedures for temporary placement and removal or contingent protection proposed items in spaces affected by these Regulations including:

(a) Plans and schedules for items to be removed and locations of places above the RFD to which they will be removed if these contents violate restrictions associated with the flood-proofing class of the space in which they are placed temporarily, including specific organizational responsiblities.

(b) Procedures, materials and equipment for protecting items required to have protection by their flood-proofing class, but for which this protection is proposed to be provided contingently, including specific organizational responsibilities for accomplishing this protection.

Waivers of restrictions implicitly requested by submission of the Owner's Contingency Play may be granted by the Building Official as provided by 1101.2.

FPR Section 209.1 is amended to read as follows:

New Building and Structures: Every building or structure hereafter erected, that is located in the primary Flood Hazard Area(s) where the ground surface is two (2) feet or more below the RFD, or where flood water velocities may exceed five (5) feet per second, shall be provided with an enclosed refuge space above the RFD, of sufficient area to provide for the occupany load with a minimum of 12 square feet per person. It shall be provided with one or more exits through the exterior walls above the RFD to an exterior platform and stairway not less than three (3) feet wide.

FPR Section 209.3 is amended to read as follows:

Use of Space Below the Regulatory Flood Datum: No floor level or portion of the building or structure that is below the RFD regardless of structure or space classification shall be used as habitable space, or for storage of any property, materials, or equipment that might constitute a safety hazard when contacted by flood waters.

FPR Section 210.7 is amended to read as follows:

Placard Types: Placards shall be white rigid plastic or other non-water susceptible materials eight (8) inches long and twelve (12) inches wide, and shall have printed thereon in black letters the information shown in Figure 2.

FPR Section 300.0 is amended by adding a subsection to read as follows:

FPR Section 300.2 Interpretation: For the purpose of these regulations, where definition of terms as set forth in this Chapter conflict in meaning with those as set forth in Minn. Regs. NP 85(c), the latter shall take precedence.

FPR Section 301.2.9 is amended to read as follows:

Habitable space (Room) is space in a structure for living, sleeping, eating or cooking. Bathrooms, toilet compartments, closets, halls, storage rooms, laundry or utility space, and similar areas, are not considered habitable space.

FPR Section 301.4.1 is amended to read as follows:

Building Code: The State Building Code setting forth standards for the construction, addition and modification and repair of buildings and other structures for the purpose of protecting health, safety, and general welfare of the public.

FPR Section 402.1 (Table 2) is amended to read as follows:

General: Table 2 indicates the various degrees of protection required to permit use of spaces for each flood-proofing, the chart in itself shall not be construed as being exhaustive with respect to all requirements imposed by these Regulations. Any disputes arising over the interpretation of this chart, the written provisions of these Regulations shall be considered as definitive.

Table 2
SPACE CLASSIFICATION CHART

FLOOD-PROOFING CLASSIFICATION OF SPACES
MINIMUM REQUIREMENTS

Flood-Proofing Classes	Water-Proofing	Structural Loads	Closure of Openings	Internal Flooding & Draining	Flooring	Walls and Ceilings	Contacts	Electrical	Mechanical
W1 Completely Dry	Type A	Class 1	Type 1		Class 1	Class 1	Class 1		
W2 Essentially Dry	Type B	Class 1	Type 2		Class 2	Class 2	Class 2		
W3 Flooded with Potable Water	Type A	Class 2	Type 3	See Chapter 8	Class 3	Class 3	Class 3	See Chapter 12	See Chapter 13
W4 Flooded with Flood Water	Type C	Class 3	Type 4		Class 4	Class 4	Class 4		
W5 Non-Flood-Proofing	-	-	Type 5		Class 5	Class 5	Class 5		

FPR Section 612.2.1 is amended to read as follows:

Natural Terrain: In addition to the requirements of "The Building Code", the building shall be located not less than fifteen (15) feet back from the line of incidence of the RFD on the ground, foundation design shall take into consideration the effects of soil saturation on the performance of the foundations, the effects of flood waters on slope stability shall be investigated, normal access to the building shall be by direct connections with areas above the RFD and all utility service lines shall be designated and constructed as required to protect the building and/or its components from damage or failure during a flooding event to the RFD.

FPR Section 612.2.2 is amended to read as follows:

Building on Fill: The building and all parts thereof may be constructed above the RFD on an earth fill. Prior to placement of any fill or embankment materials the area upon which fill is to be placed, including a five-foot strip measured horizontally beyond and contiguous to the toe line of the fill, shall be cleared of standing trees and snags, stumps, brush, down timber, logs and other growth, and all objects including structures on above the ground surface or partially burned. The area shall be stripped of topsoil and all other material which is considered unsuitable by the Building Official as foundation material. All combustible and noncombustible materials and debris from the clearing, grubbing and stripping operations shall be removed from the proposed fill area and disposed of at locations above the RFD and/or in the manner approved by the Building Official. Fill material shall be of a selected type, preferable granular and free-draining placed in compacted layers. Fill selection and placement shall recognize the effects of saturation from flood waters on slope stability, uniform and differential settlement, and scour potential.

The minimum elevation of the top slope for the fill section shall be no more than one foot below the RFD. Minimum distance from any point of the building perimeter to the top of the fill slope shall be either fifteen (15) feet or twice the depth of fill at that point, whichever is the greater distance. This requirement does not apply to roadways, driveways, playgrounds and other related features which are not integral and functional parts of the building proper. Fill slopes for granular materials shall be not steeper than one vertical on one and one-half horizontal, unless substantiating data justifying steeper slopes are permitted to the Building Official and approved. For slopes exposed to flood velocities of less than five (5) feet per second, grass or vine cover, weeds, bushes and similar vegetation undergrowth will be considered to provide adequate scour protection.

FPR Section 802.1 is amended to read as follows:

Applicability: Spaces to be intentionally flooded with flood water (W4) shall be provided with the necessary equipment, devices, piping, controls, etc. necessary for automatic flooding during the flood event and drainage system (s) shall utilize approved piping materials and have sufficient capacity for raising or lowering the internal water level at a rate comparable to the anticipated rate of rise and fall of a flood that would reach the RFD. These pipe systems shall be directly connected to the external flood waters to maintain a balanced internal and external water pressure condition. Provisions shall be made for filling the lower portions of the structure first and for interconnections through or around all floors and partitions to prevent unbalanced filling of chambers or parts within the structures. All spaces below the RFD, shall be provided with air vents extending to at least three (3) feet above the elevation of the RFD to prevent the trapping of air by the rising water surface. All openings to the filling and draingage systems shall be protected by screens for grills to prevent the entry or nesting of rodents or birds in the systems.

FPR Section 1101.3.2 is amended by changing the "Content Class" of Food Products from X to 1.

FPR Section 1301.2.1 is amended to read as follows:

Heating systems utilizing gas or oil fired furnaces shall have a float operated automatic control valve installed in the fuel supply line which shall be set to operate when flood waters reach an elevation equal to the floor level of the space where furnace equipment is installed. A manually operated gate valve that can be operated from a loction above the RFD shall be provided in the fuel supply line to serve as a supplementary safety provision for fuel cutoff. The heating equipment and fuel storage tanks shall be mounted on and securely anchored to a foundation pad or pads of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. As an alternate means of protection, elevation of heating equipment and fuel storage tanks above the RFD on platforms or by suspension from overhead structural systems will be permitted. All unfired pressure vessels will be accorded similar treatment. Fuel lines shall be attached to furnances by means of flexible or swing type couplings. All heating equipment and fuel storage tanks shall be vented to an elevation of at least three (3) feet above the RFD. Air supply for combustion shall be furnished if required for systems installed in W1 or W2 spaces and piping or duct work for each purposes shall be terminated at least three (3) feet above the RFD.

FPR Section 1302.2.2. is amended to read as follows:

Where the state of dryness of a space is dependent on a sump pump system, or where the stability of a structure during a flood event depends on the relief of up-lift pressures on building components, all interior storm water drainage or seepage, appliance drainage, and underslab drain tile systems shall be directly connected to a sump (pump) and discharged at an elevation at least three (3) feet above the RFD.

FPR Section 1302.2.3.1 is amended to read as follows:

All vents shall extend to an elevation of at least three (3) feet above the RFD.

FPR Section 1302.3 is amended to read as follows:

Sewage Disposal/Treatment. Individual sewage disposal and/or treatment facilities will be permitted in a Flood Hazard Area but only at locations where connection with a public sewer systems is not permissible or feasible. Such facilities shall conform to applicable standards, criteria, rules and regulations of the Minnesota Department of Health and Pollution Control Agency in terms of size, construction, use and maintenance and with standards and criteria of the Minnesota Department of Natural Resources regarding setbacks from normal high water mark of a water-course in accordance with the public water classification.

FPR Section 1302.3.1 regarding cesspools/sewage disposals has been amended by deleting this section in its entirety.

FPR Section 1302.3.2 regarding seepage pits has been amended by deleting this section in its entirety.

FPR Section 1302.4.1 is amended to read as follows:

Water supply wells, tanks, filters, softeners, heaters, and all appliances located below the RFD shall be protected against contamination by covers, walls, copings, or castings. All vents shall be extended to a minimum elevation of three (3) feet above the RFD.

1. Amend MHD 122(g) by adding (4) as follows:

"(4) Connection to Public or Private Sewer. Every building shall have its own independent connection with a public or private sewer, except that a group of buildings may be connected to one or more manholes which are constructed on the premises, and connected to a public or private sewer."

2. Amend MHD Table 123(c) (3) VI. Water Service as follows:

"Water Service - Minimum working pressure rating shall be at least 150 psi for municipal water service and 100 psi for other service."

3. Amend MHD 123(d) (2) as follows:

"(dd) Copper tube 3E or 3G and 3D fittings 3D or 3N.

(ee) Lead pipe 4B with heavy duty bronze unions or wiped joints with the provision that each joint must be supported by a durable support without abrasive or cutting edge.

(ff) Asbestos cement pipe 5A and fittings with the provision that this material be supported continuously and laid in granular soil and only in yard areas. Further that it not be used to convey extremely soft water, and shall pass through the floor within 3 feet of the outside wall.

(gg) Concrete pipe 5N.

(hh) Plastic pipe 6D, 6E, 6F and 6G may be used for water service pipe only up to the water meter or pressure tank and provided there is no more than 2 feet of such piping exposed within the building. These materials shall be installed in accordance with ASTM D.2774-72. Particular care shall be taken to avoid sharp edges in contact with the pipe and to provide for expansion and contraction."

4. Amend MHD 124(a) (2) (11-4) as follows:

"(11-4) Mechanical Joints in Hubless Cast Iron Soil Pipe. Mechanical joints for hubless cast iron soil pipe and fittings may be made --by using a neoprene sleeve and stainless steel retaining band as specified in CISPI standard 301, --by using a transition fitting made of elastomeric material (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts, or using a two part coupling whose housing is fabricated of grey-cast iron (ASTM A 48), with a coupling gasket made of neoprene rubber (ASTM C 564), and coupling bolts and nuts made of 18-8 stainless steel.

5. Amend MHD 124(a) (4) by adding a new part (ff) as follows:

"(ff) Transition Couplings. A transition coupling is one which is to be used when pipes made of different materials are to be joined. A transition coupling may be made of elastomeric materials (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts. Any transition coupling joining plastic to plastic, copper to copper, or galvanized to galvanized, must be approved by the Administrative Authority.

6. Amend MHD 125(b) (3) as follows:

(3) Cleanout Materials. The bodies of cleanout ferrules shall be made to standard pipe sizes, conform in thickness to that required for pipes and fittings of the same material and extend not less than 1/4 inch above the hub. The cleanout cover or plug shall be of brass, cast-iron or approved plastic and be provided with a raised nut or recessed socket for removal.

Neoprene or nordel rubber with a plastic disc and a single stainless steel (300 series) band may be used for a cleanout cover provided that it is exposed and readily accessible. Cleanout covers shall conform to specifications and details as shown in Figure 125 (b) (3), Appendix B."

7. Amend MHD 130(b) (2) (aa) as follows:

"(aa4) Where the provisions of subsections (aa1) and (aa2) cannot be met, the sewer pipe shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) and the water pipe of copper, or cast iron, or plastic 6D, 6E, 6F or 6G (MHD Table 123(C) (3) VI.).

(aa5) Where the water service pipe must cross the building sewer, the bottom of the water service pipe located within 10 feet of the point of crossing shall be at least 12 inches above the top of the sewer, except where this is not feasible, the sewer shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) (MHD Table 123(C) (3) VI.) for at least 10 feet on either side of the crossing."

8. Amend MHD 130(e) (9) (gg) (gg1) as follows:

"(gg1) Connections Not Subject to Back Pressure: Where a water connection is not subject to back pressure an atmospheric type vacuum breaker shall be installed on the discharge side of the last valve on the line serving the fixture or equipment. Where a valve is installed on the discharge side of a vacuum breaker, that vacuum breaker must be a pressure-type vacuum breaker which complies with MHD 130(e) (9) (dd). A list of some conditions requiring protective devices of this kind is given in Table 130(e) (9) (gg1) Cross Connections Where Protective Devices Are Required and Critical Level (C-L) Settings for Backflow Preventers."

9. Amend MHD 130(f) by adding (6) as follows:

"Every water heater installation shall be readily accessible for inspection, repair or replacement. The appliance space shall be provided with an opening or doorway of sufficient size to provide such access."

10. Amend MHD Table 131(a) (2) (A) by changing the second heading as follows:

"Building Sewer *****, Building Drain and Building Drain Branches - from Stacks ****" and by adding a footnote to the Table as follows:

"***** No building sewer shall be less than 4 inches in diameter."

11. Amend MHD 131(b) (5) by adding (aa-5) as follows:

"(aa5) In single family dwellings the minimum capacity of a sump shall be 18 gallons."

Amend Table 123(C) (3) PLASTIC PIPE AND FITTINGS DRAIN WASTE AND VENT BUILDING SEWER by adding 6C(3) as follows:

"6C(3) Acrylonitrile-Butadiene-Styrene(ABS) ASTM D 2751"

Amend MHD 123(d) (4) (gg) as follows:

"(gg) Plastic 6A, 6B, 6C(1), 6C(2) and 6C(3) with corresponding fittings laid on a continuous granular bed."

Amend MHD 130(e) (5) as follows:

"Potable water connections to boiler feed water systems, cooling systems, or other liquid systems, in which water conditioning chemicals may be introduced shall be made through an air gap or provided with an approved backflow preventer located in the potable water line before the point where such chemicals may be introduced. Where a system is filled with an anti-freeze or toxic solution a permanent tag will be placed in plain view stating "Caution, this system contains anti-freeze/toxic solution." There shall be no permanent direct connection between this system and the potable water supply to the building."

2MCAR 1.16005

ASHRAE 90-75 Figure 1 pa[redacted]13 is deleted and replaced wi[redacted]the new figure 1 as follows:

See p. 173

Rec'd.

+ HE 59

+ F. of F #7

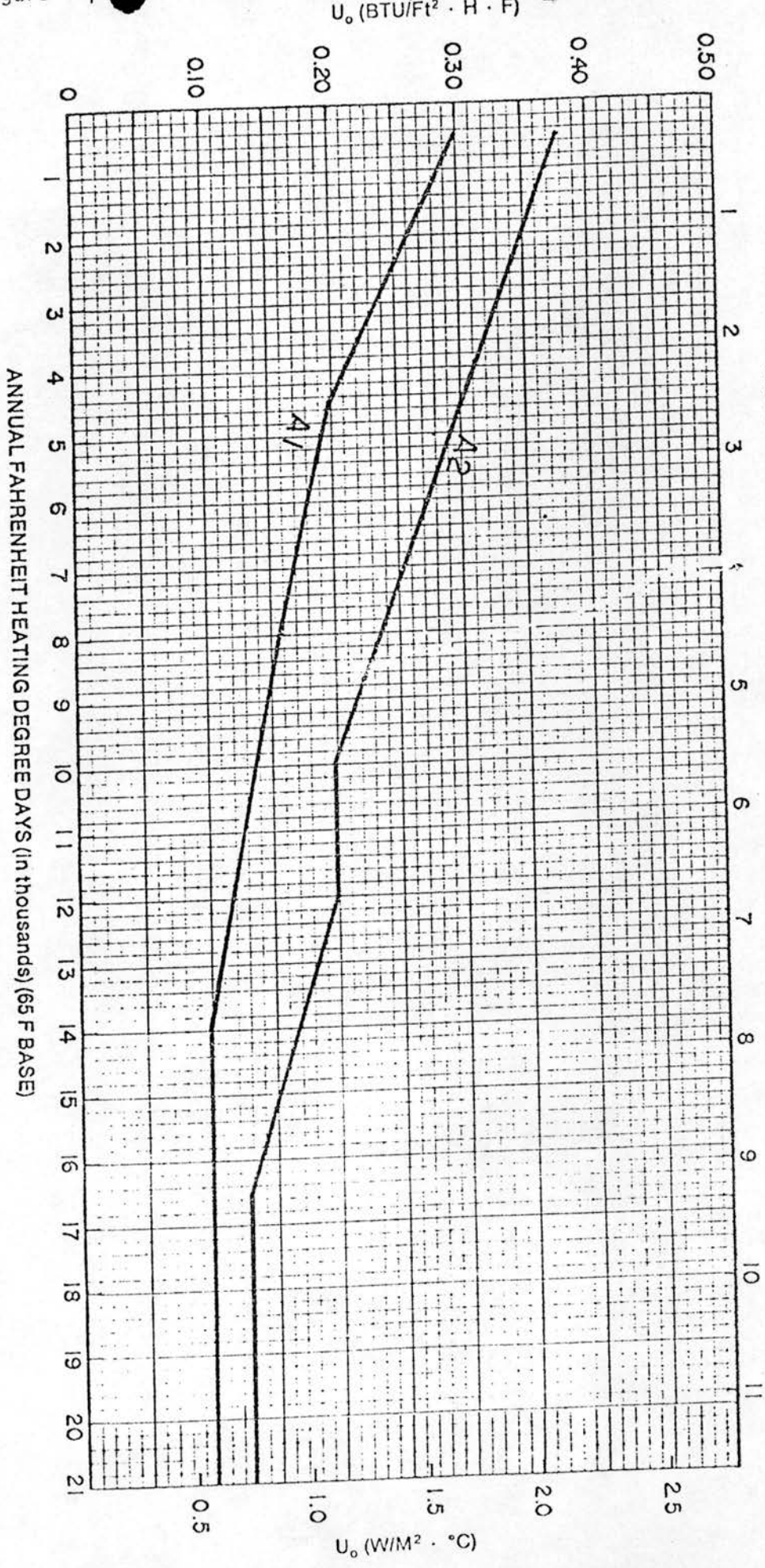


FIG. 1
U_o WALLS—TYPE "A" BUILDINGS—HEATING

2MCAR 1.16005

ASHRAE 90-75 Section 4.3.2.2 is amended to read as follows:

4.3.2.2 Roof/Ceiling. Any building that is heated and/or mechanically cooled shall have a combined thermal transmittance value (Uo value) for roof/ceilings not to exceed 0.027 Btu/h-ft2-F (o.154 W/mn2K).

EXCEPTION. Roof/ceiling assemblies in which the finished interior surface is essentially the under side of the roof deck, such as a wooden catherdral ceiling, may have a Uo value not to exceed 0.08 Btu/hft^{2}F (0.45W/m^{2}K) for any Heating Degree Day area.

2MCAR 1.16005

ASHRAE 90-75 Section 4.4.2.3 is amendmed to read as follow:

4.4.2.3. Floors Over Unheated Spaces. For floors of heated spaces over unheated areas, the Uo value shall not exceed the values shown in Fig. 5. For floors over outdoor air (example: overhangs) the Uo value for heating shall meet the same requirements as for roofs shown in Fig. 4.

ASHRAE 90-75 Section 4.4.3.2 is amended to read as follows:

4.4.3.2 Roof/Ceiling. Any building that is mechanically cooled shall have combined Thermal Transmittance Value (Uo value) for roof/ceilings not to exceed that which would be determined by the heating criteria above (see 4.4.2.2)

4.4.3.2.1 Roof/Ceiling. Any building that is mechanically cooled shall have an Overall Thermal Transfer Value, OTTV, for the gross area of a roof assembly not exceeding 8.5 Btu/h-ft^2 (26.8W/m^2).

4.4.3.2.2 Eq 4 shall be used to determine acceptable combinations to meet the requirements of 4.4.3.2.1.

Equation 4 - Roof/Ceiling

OTTVr

$$8.5 = \frac{Ur\ Ar\ TDeqr + 138\ As\ SCs + Us\ As\ T}{Ao}$$

where

Ur = the thermal transmittance of all elements of the opaque roof area, Btu/H-ft. 2 F (w/M2K)

Ar = opaque roof area, ft2 (M2)

TDeqr = Value given in Fig. 8

As = skylight area, ft2 (M2)

SCs = shading coefficient of the skylight

Us = the thermal transmittance of the skylight, Btu/H-ft2F (W/m2K)

T = temperature difference between exterior and interior design conditions, F, (see 4.2.5)

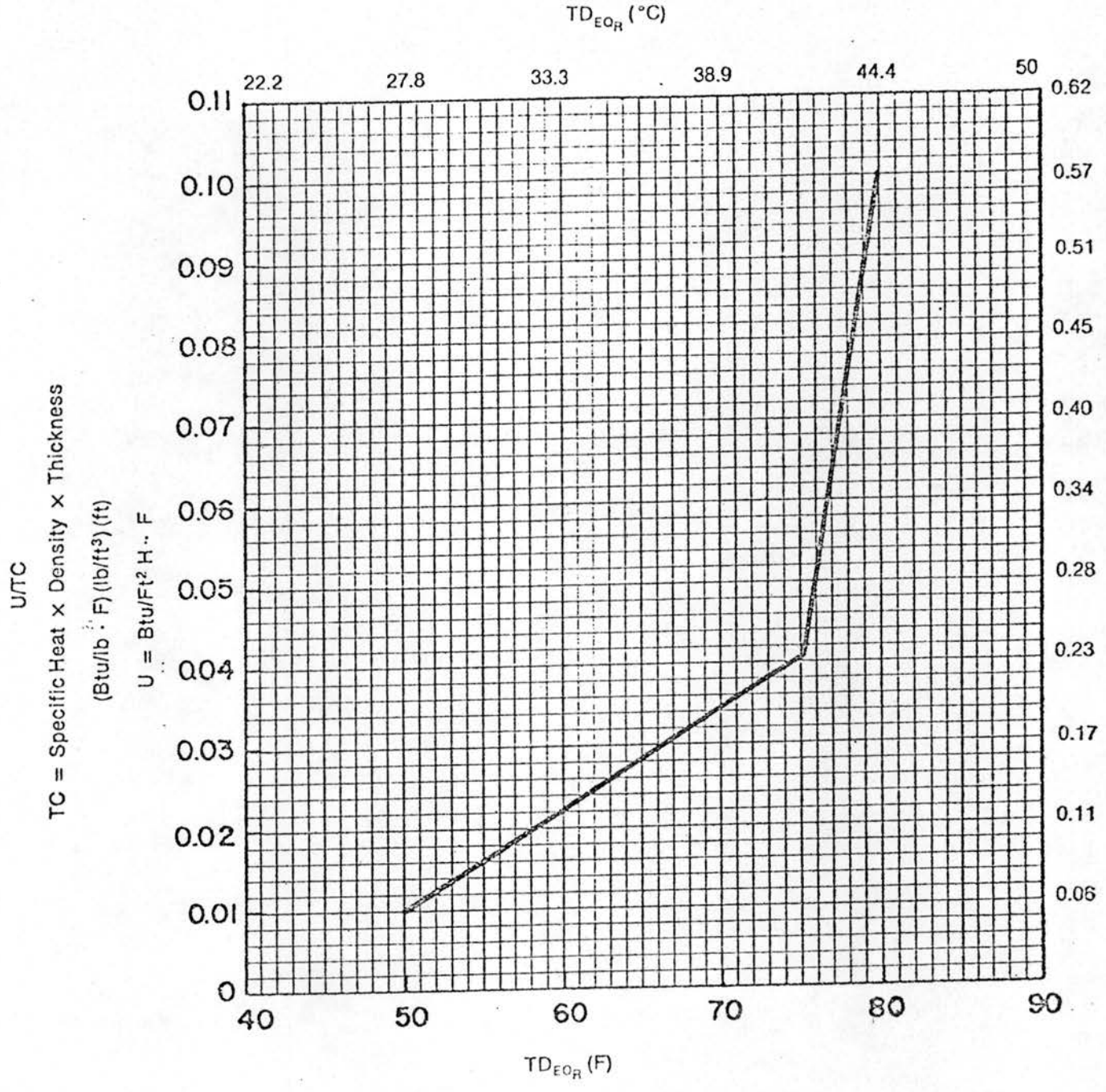
Note: Where more than one type of roof and/or skylight is used, the respective term or terms shall be expanded:

(Ur1 Ar1 TDfqr1) + (Ur2 Ar2 TDfqr2), + ..., etc.

ASHRAE 90-75 is amended by adding new figure 8 as follows:

FIG 8

TD_{EQ_R} VALUES FOR USE IN EQ. 4



STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

ORDER FOR HEARING (A)

IT IS HEREBY ORDERED that a public hearing on the above-captioned rules be held in Room 83, State Office Building, St. Paul, Minnesota on October 9 and 10, 1979, commencing at 9:30 a.m. and continuing until all persons have had an opportunity to be heard.

IT IS FURTHER ORDERED that a Notice of Hearing be mailed to all persons or representatives of associations or other interested groups who have registered their names with the secretary of state for that purpose.

IT IS FURTHER ORDERED that the Notice of Hearing and applicable proposed rules be published in the State Register.

STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION

James J. Hiniker, Jr.
Commissioner

Date: 8-8-79

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

IN THE MATTER OF THE PROPOSED
ADOPTION OF AMENDMENTS TO
THE STATE BUILDING CODE

NOTICE OF HEARING (A)

NOTICE IS HEREBY GIVEN that a public hearing in the above-entitled matter will be held in Room 83, State Office Building, St. Paul, Minnesota on October 9 and 10, 1979 commencing at 9:30 a.m., and continuing until all persons have had an opportunity to be heard.

All interested or affected persons will have an opportunity to participate. Statements may be made orally and written materials may be submitted at the hearing. In addition, written materials may be submitted by mail to Mr. Peter Erickson, Office of Hearing Examiners, Room 300, 1745 University Avenue, St. Paul, Minnesota 55104, either before the hearing or within 5 working days after the close of the hearing. The Hearing Examiner may extend the time for receipt of written comments for a period not to exceed twenty (20) calendar days from the date of the hearing.

The proposed rules will provide for: amendments to the State Building Code, including adoption of the 1979 Uniform Building Code with certain amendments, amendments to the provisions for accessibility and useability of buildings by physically handicapped persons, adoption of the 1978 ANSI A17.1 Elevator Code and A17.1a 1979 Supplement with amendments including provisions for wheelchair lifts for existing buildings, amendments to the 1978 National Electrical Code, amendments to the Flood Proofing Regulations, amendments to the Minnesota Plumbing Code, amendments to the Manufactured Building Code and several amendments proposed by others than the Commissioner of Administration which include amendments to the National Electrical Code Section 300-22, Uniform Building Code Section 405, Section 420, Table 5-A, Section 1201, Section 1807(m), Section 1807(h) and five amendments to ASHRAE 90-75. Amendments to the State Building Code including adoption of the 1979 Uniform Building Code and amendments to the provisions for accessiblilty and useability of buildings by physically handicapped persons will be heard on the first day or until all persons have been heard. The balance of the proposed amendments will be scheduled for the second day of the hearing.

The proposed rules are subject to change as a result of the rules hearing process. The agency therefore strongly urges those who are potentially affected in any manner by the substance of the proposed rules to participate in the rules hearing process.

Copies of the proposed rules will be available at the door on the date of the hearing and one free copy can now be obtained by writing to the Building Code Division, 408 Metro Square Building, 7th and Robert Streets, St. Paul, Minnesota 55101.

The agency's authority to promulgate the proposed rules is contained in Minn. Stat. Sections 16.83, 16.85, 16.86 (1978).

Notice is hereby given that 25 days prior to the hearing, a Statement of Need and Reasonableness will be available for review at the agency and at the Office of Hearing Examiners. This Statement of Need and Reasonableness will include a summary of all the evidence which will be presented by the agency at the hearing justifying both the need for and the reasonableness of the proposed rules. Copies of the Statement of Need and Reasonableness may be obtained from the Office of Hearing Examiners at a minimal charge. 9

Any person may request notification of the date on which the Hearing Examiner's Report will be available, after which date the agency may not take any final action on the rules for a period of five working days. Any persons may request final notification of the date on which the hearing record has been submitted (or resubmitted) to the Attorney General by the agency. If you desire to be so notified, you may so indicate at the hearing. After the hearing, you may request notification by sending a written request to the Hearing Examiner (in the case of the Hearing Examiner's Report), or to the agency (in the case of the agency's submission or resubmission to the Attorney General). 8

Please be advised that pursuant to Minn. Stat. 10A.01, Subd. 11 (1978) any individual: (a) Engaged for pay or other consideration, or authorized by another individual or association to spend money, who spends more than five hours in any month or more than $250, not including his own travel expenses and membership dues, in any year, for the purpose of attempting to ;influence legislative or administrative action by communicating or urging others to communicate with public officials; or (b) Who spends more than $250, not including his own traveling expenses and membership dues, in any year for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials must register with the State Ethical Practices Board as a lobbyist within five days of the commencement of such activity by the individual. The statute provides certain exceptions. Questions should be directed to the State Ethical Practices Board, 41 State Office Building, St. Paul, Minnesota 55155, phone (612) 296-5615. 6

Adoption of the proposed rules by the agency will not require the expenditure of additional public monies by local public bodies. 10

STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION

James J. Hiniker, Jr.
Commissioner

Date: 8-8-79

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

AFFIDAVIT OF RECEIPT

Cynthia Jackson, being duly sworn on oath, deposes and says:

1. That she is an employee of the Building Code Division, Department of Administration, State of Minnesota;

2. That on the 23rd day of August, 1979, she went to the Secretary of State's Office of the State of Minnesota and requested a current list of all representatives and associations or other interested groups or persons who had registered their names with the Secretary of State for the purpose of obtaining notices of public hearing relating to the promulgation of rules pursuant to Minn. Stat. 15.0412;

3. That on the 23rd day of August, 1979, in response to the above request, the Secretary of State provided her with such a list.

Further affiant sayeth not.

Cynthia Jackson

Cynthia Jackson
Building Code Division

Subscribed and sworn to before
me this 23rd day of August, 1979

Cynthia L. Claason

CYNTHIA L. CLAASON
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My Commission Expires Feb. 23, 1982

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

CERTIFICATE OF DELIVERY
OF THE SECRETARY
OF STATE LIST

I hereby certify that the attached 326 labels and 10 sheets constitute the complete list of persons, associations, and other interested groups who as of 9:00 o'clock AM, this 23rd day of August, 1979, have requested pursuant to Minn. Stats. 1974, Section 15.0412 that their names be placed on file with the Secretary of State for the purpose of receiving notice of public hearing on proposed rules on the subject captioned above.

SECRETARY OF STATE

Joan Anderson Growe

BY: Deanna Scott

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

AFFIDAVIT OF MAILING

Cynthia JoAnne Jackson, being first duly sworn, and deposes and says:

That on the 27th day of August, 1979 at the City of St. Paul, County of Ramsey, State of Minnesota, she served the attached Notice of Hearing by depositing in the United States mail at said City of St. Paul, a true and correct copy thereof, properly enveloped, with postage prepaid, to all persons and associations at the addresses listed on the attached Certificate of the Secretary of State as well as to the governing bodies of all municipalities in the State of Minnesota.

Cynthia J. Jackson

Cynthia JoAnne Jackson
Building Code Division

Subscribed and sworn to before
me this 27th day of August, 1979

Cynthia L. Claason

CYNTHIA L. CLAASON
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My Commission Expires Feb. 23, 1982

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

ORDER FOR RECONVENED HEARING (B)

IT IS HEREBY ORDERED that a public hearing on the above-captioned rules be held in Room 408, Metro Square Building, St. Paul, Minnesota on February 22, 1980, commencing at 9:30 a.m. and continuing until all persons have had an opportunity to be heard.

IT IS FURTHER ORDERED that a Notice of Hearing by mailed to all persons or representatives of associations or other interested groups who have registered their names with the secretary of state for that purpose.

IT IS FURTHER ORDERED that the Notice of Hearing and applicable proposed rules be published in the State Register.

STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION

James J. Hiniker, Jr.
Commissioner

DATE: 1-4-80

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

IN THE MATTER OF THE PROPOSED
ADOPTION OF AMENDMENTS TO
THE STATE BUILDING CODE

NOTICE OF RECONVENED HEARING

NOTICE IS HEREBY GIVEN that the public hearing of October 9 - 10, 1979 in the above entitled matter will be reconvened at 408 Metro Square Building, St. Paul, Minnesota on February 22, 1980 commencing at 9:30 a.m. and continuing until all persons have had an opportunity to be heard. The hearing will concern amendments to the State Building Code, specifically the deletion of the 1976 Edition of the Uniform Building Code, as amended, and the adoption by reference of the 1979 Edition of the Uniform Building Code, with amendments. The Uniform Building Code and amendments concern numerous aspects of the design and construction of buildings including, but not limited to, the administration and enforcement of the Code; classifications and types of occupancies; fire-safety requirements; sanitation provisions; engineering provisions and others.

A hearing was previously held on this matter on October 9, 10, 1979. The proposed rules are published in 4 State Register 233-284 (September 3, 1979). The purpose of the reconvened hearing is to comply with the December 14, 1979 Report of the Hearing Examiner concerning the October 9, 10, 1979 public hearing. Specifically, paragraph 9 of the Findings of Fact note that deletion of 2 MCAR Section 1.10111 (the 1976 Uniform Building Code and amendments) was published without showing the deleted language reprinted with strike-outs.

At the February 19 hearing, in addition to introducing the record concerning the 1976 and 1979 Uniform Building Codes and amendments created in connection with the October 9, 10th hearings, including all comments, oral and written, the Agency intends to add a new section to the 1979 Uniform Building Code (Section 3802(e)) concerning special automatic fire-extinguishing systems:

UBC Section 3802(e) Special Automatic Fire-Extinguishing Systems. In all occupancies having commerical cooking equipment (see NFPA No. 96-1976), automatic fire extinguishing systems complying with UBC Standard 38-1 or 38-2 shall be installed for protection of duct systems, grease removal devices, hoods and over commercial cooking equipment which may be a source of ignition (such as fat fryers, ranges, griddles and boilers). Systems installed in accordance with the following standards are also permitted.

1. Standards for foam-water sprinkler systems and foam-spray systems, NFPA No. 16-1974.

2. Standard for dry-chemical extinguishing system, NFPA No. 17-1975.

EXCEPTION: These requirements shall not apply to Group R-3 and Group R-4 occupancies.

All interested or affected persons will have an opportunity to participate. Statements may be made orally and written materials may be submitted at the hearing. In addition, written materials may be submitted by mail to Mr. Peter Erickson, Office of Hearing Examiners, Room 300, 1745 University Avenue, St. Paul, Minnesota 55104, either before the hearing or within 5 working days after the close of the hearing. The Hearing Examiner may extend the time for receipt of written comments for a period not to exceed twenty (20) calender days from the date of the hearing.

The proposed rules are subject to change as a result of the rules hearing process. The agency therefore strongly urges those who are potentially affected in any manner by the substance of the proposed rules to participate in the rules hearing process.

Copies of the proposed rules will be available at the door on the date of the hearing and one free copy can now be obtained by writing to the Building Code Division, 408 Metro Square Building, 7th and Robert Streets, St. Paul, Minnesota 55101.

The agency's authority to promulgate the proposed rules is contained in Minn. Stat. Sections 16.83, 16.85, 16.86 (1978).

Notice is hereby given that 25 days prior to the hearing a Statement of Need and Reasonableness will be available for review at the agency and at the Office of Hearing Examiners. This Statement of Need and Reasonableness will include a summary of all the evidence which will be presented by the agency at the hearing justifying both the need for and the reasonableness of the propsed rules. Copies of the Statement of Need and Reasonableness may be obtained form the Office of Hearing Examiners at a minimal charge.

Any person may request notification of the date on which the Hearing Examiner's Report will be available, after which date the agency may not take any final action on the rules for a period of five working days. Any persons may request final notification of the date on which the hearing record has been submitted (or resubmitted) to the Attorney General by the agency. If you desire to be so notified, you may so indicate at the hearing. After the hearing, you may request notification by sending a written request to the Hearing Examiner (in the case of the Hearing Examiner's Report), or to the agency (in the case of the agency's submission or resubmission to the Attorney General).

Please be advised that pursuant to Minn. Stat. 10A.01, subd. 11 (1978) any individual: (a) Engaged for pay or other consideration, or authorized by another individual or association to spend money, who spends more than five hours in any month or more than $250, not including his own travel expenses and membership dues, in any year, for the purpose of attempting to; influence legislative or administrative action by communicating or urging others to communicate with public officials; or (b) Who spends more than $250, not including his own traveling expenses and membership dues, in any year for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials must register with the State Ethical Practices Board as a lobbyist within five days of the commencement of such activity by the individual. The Statute provides

certain exceptions. Questions should be directed to the State Ethical Practices Board, 41 State Office Building, St. Paul, Minnesota 55155, phone (612) 296-5615.

Adoption of the proposed rules by the agency will not require the expenditure of additional public monies by local public bodies.

STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION

James J. Hiniker, Jr.
Commissioner

Date: 1-4-80

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

AFFIDAVIT OF MAILING

Janice Johnson, being first duly sworn, and deposes says:

That on the 15th day of January, 1980 at the City of St. Paul, County of Ramsey, State of Minnesota, she served the attached Notice of Hearing by deposting in the United States Mail at said City of St. Paul, a true and correct copy thereof, properly enveloped, with postage prepaid, to all persons and associations at the addresses listed on the attached Certificate of the Secretary of State as well as to the governing bodies of all municipalities in the State of Minnesota.

Janice Johnson

Janice Johnson
Building Code Division

Subscribed and sworn to before
me this 15th day of January, 1980

Cynthia L. Claason

CYNTHIA L. CLAAS
NOTARY PUBLIC - MI
RAMSEY COU
My Commission Expires

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

AFFIDAVIT OF RECEIPT

Janice Johnson, being duly sworn on oath, deposes and says:

1. That she is an employee of the Building Code Division, Department of Administration, State of Minnesota;

2. That on the 14th day of January, 1980, she went to the Secretary of State's Office of the State of Minnesota and requested a current list of all representatives and associations or other interested groups or persons who had registered their names with the Secretary of State for the purpose of obtaining notice of public hearing relating to the promulgation of rules pursuant to Minn. Stat. 15.0412;

3. That on the day of January 14, 1980, in response to the above request, the Secretary of State provided her with such a list.

Further affiant sayeth not.

Janice Johnson

Janice Johnson
Building Code Division

Subscribed and sworn to before
me this 14th day of January, 1980

Cynthia L. Claason

CYNTHIA L. CLAASON
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My Commission Expires Feb. 23, 1982

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

In the Matter of the Proposed
Adoption of Amendments to
the State Building Code

CERTIFICATE OF DELIVERY
OF THE SECRETARY
OF STATE LIST

(B)

I hereby certify that the attached 337 labels and 10 sheets constitute the complete list of persons, associations, and other interested groups who as of 9:20 o'clock AM, this 14th day of January, 1980 have requested pursuant to Minn. Stats. 1974, Section 15.0412 that their names be placed on file with the Secretary of State for the purpose of receiving notice of public hearing on proposed rules on the subject captioned above.

SECRETARY OF STATE

Joan Anderson Growe

BY: Donna Scott

M. S. Alexander, W. H. Covin,
D. M. Dale, J. A. Fjelstad,
S. P. Fredrickson, R. J. McNulty,
K. D. Siegfried, and O. E. Thorbeck,

Plaintiffs,

vs.

Minnesota Jewish Group Homes, Inc.,

Defendant.

FILE NO. 746834

O R D E R

The above-entitled matter came on for hearing before the undersigned, Judge of the District Court, sitting at a Special Term thereof on July 10, 1978, upon cross-motions for summary judgment.

Lawrence J. Skoglund, Esq., appeared on behalf of the plaintiffs. Stephen E. Scott, Esq., appeared on behalf of the defendants.

The Court being fully advised in the premises, and based upon all files, records and proceedings herein, makes its Order as follows:

IT IS HEREBY ORDERED that summary judgment be and hereby is granted in favor of the defendant, Minnesota Jewish Group Homes, Inc., and that the plaintiffs' complaint be and hereby is dismissed.

LET JUDGMENT BE ENTERED ACCORDINGLY.

BY THE COURT:

Douglas K. Amdahl
Judge of District Court

Dated this 26th day of July, 1978.

Attachment "A"

The salient facts presented herein are basically undisputed. Minnesota Jewish Group Homes, Inc. (hereinafter "The Home") presently owns and operates a group home for mentally retarded adults located at 8101 Westwood Hills Drive in St. Louis Park. This facility is located within the residential devlopment known as Westwood Hills Grove.

This Home is licensed by and funded through the Minnesota Department of Public Welfare. Since January of 1978, six retarded adults together with two professionally trained house-parents have resided at the residence described above.

The affidavits on file indicate that the Home functions as a single housekeeping unit and that the residents live as a family in every respect. In this setting, the residents are aided in developing skills which allow them to interact in society while striving to overcome their handicaps and disabilities.

Plaintiffs commenced the instant action seeking an Order permanently restraining the defendant from using or occupying the premises as a group home for six unrelated individuals. Plaintiffs also claim that the current use and operation of the Home violates the protective and restrictive covenants contained in Doc. No. 2673154, Register of Deeds, Hennepin County, Minnesota which provides in pertinent part that homes in Westwood Hills Grove shall not be used for any purpose other than a single family dwelling for residential purpose. Both plaintiffs and the defendant have argued and submitted Motions for Summary Judgment together with supporting affidavits.

The ultimate issue before the Court at this time is whether the defendant's operation of the group home at the above address breaches the covenants concerning residential purpose and requiring a single family dwelling in Westwood Hills Grove.

vides as follo

> No lot shall be used except for residential purposes. No buildings shall be erected, altered, placed, or permitted to remain on any lot other than one single family dwelling....

Plaintiffs contend that the operation of the group home for six unrelated adults violates that portion of the restrictive covenant which limits usage to residential purposes in a single family dwelling situation. Plaintiffs contend that the thrust of the Home is to provide treatment and therefore it does not serve a residential purpose. It is their position that the nature of the Home is inherently temporary and transient and a threat to the stability of the neighborhood. This characterization of the Home as a treatment clinic is directly contrary to that set forth in the affidavits on file as well as the deposition testimony of Dr.Travis Thompson.

The "treatment" which is administered in the Group Home does not appear to be at all different from that which any parent would attempt to nurture and instill in his or her child. The Home seeks to aid and assist the residents in becoming useful and productive members of the community at large. This includes the teaching and supervising of work, social, recreational and educational activities and exercises while providing emotional and psychological support.

Contrary to the plaintiffs' position, the record reflects that the current residents of the Home will reside there on a long-term basis. (See Affidavits of Eileen Harris and Thomas Shaw.) Under this arrangement, the residents share duties and responsibilities in the ongoing maintenance of the Home.

Plaintiffs argue that the possibility of funding deficiencies or other contingencies could undermine or threaten the continued existence of the Home. However, speculation of this sort cannot serve as a foundation to characterize the home as temporary or transient in nature. The record is barren of

routine presently existing is imminent.

The logical and reasonable interpretation of the facts at hand clearly point to the conclusion that the home does serve a residential purpose. Any characterization which suggests that it is temporary in nature or treatment-oriented in the clinical sense is purely the result of speculation and conjecture. In City of White Plains v. Ferraioli, 34 N.Y. 2d 300, 357 N.Y.S. 2d 449, 313 N.E. 2d 756 (1974), the New York Court of Appeals dealt with issues similar to those presented in the instant case. In reversing a lower court's ruling which enjoined the defendants from operating a group home, the court held:

> The group home is a permanent arrangement and may be akin to a traditional family....
>
> Moreover, in no sense is the group home an institutional arrangement, which would be another matter. Indeed, the purpose of the group home is to be quite the contrary of an institution and to be a home like other homes.

City of White Plains v. Ferraioli, 313 N.E. 2d at 758.

While Ferraioli was concerned primarily with a zoning ordinance, a particularly well-taken point was made by the court and is relevant herein. With reference to the stability of the residence within the community, the court made the following notation:

> So long as the group home bears the generic character of a family unit as a relatively permanent household, and is not a framweork for transients or transient living, it conforms with the purpose of the ordinance.

City of White Plains v. Ferraioli, Id. Based upon the foregoing discussion, it is clear that the Group Home is residential in character and not violative of the restrictive covenants concerned herein.

The covenant also raises the issue of the single family dwelling. However, the covenant is silent as to the exact definition of this term and whether or not it is intended to pertain solely to those sharing a blood relationship.

nant, it is well settled that restrictions of this nature are strictly construed against the limitations placed upon the free use of property. Mission Covenant Church v. Nelson, 253 Minn. 230, 91 N.W. 2d 440 (1958). In that case, the Minnesota Supreme Court indicated a strong preference for the unrestricted use of property, holding that:

> . . . restrictions will not be aided or extended by implication or enlarged by construction and doubt will be resolved in favor of the unrestricted use of property.

Mission Covenant Church v. Nelson, 91 N.W. 2d at 442.

Based upon the rule set forth by the court in Mission Covenant Church together with the lack of specificity in the covenant, the covenant cannot be construed to restrict occupants of homes in Westwood Hills Grove to blood relatives. The crucial term which requires definition is "family."

The facts reflect that the residents, including the house-parents, function in a family environment as a single housekeeping unit. The parties involved share housekeeping duties and participate in decision making processes which affect the Home. The record reflects that these individuals reside as a family within the traditional sense of the word in every respect.

The Minnesota Supreme Court has recognized that the term "family" has various common meanings and legal definitions. In LeRoux v. Edmundson, 276 Minn. 120, 148 N.W. 2d 812 (1976), the Court made the following observations relative to the term "family" and said:

> . . . the meaning necessarily depends upon the field of law in which it is used, the purpose intended to be accomplished by its use and the facts and circumstances of each case.

LeRoux v. Edmundson, 148 N.W. 2d at 814.

In determining the definition of a particular term such as family, as used or implied in a zoning regulation or restrictive covenant, the declared definition in a zoning regulation will control. 71 ALR 3d 703; Oliver v. Zoning Commission of Chester, 31 Conn. Supp. 197, 326 A. 2d 841 (1974).

the one present herein shall be construed as ". . . a permitted single family residential use of property for the purposes of zoning." Inasmuch as the restrictive covenant is silent as to an express meaning of the term single family dwelling, this Court is compelled to look to the above-named statute for guidance. Based upon the foregoing discussion, it is the considered opinion of this Court that the Group Home in question does represent a single family dwelling and is not violative of the restrictive covenant at issue.

All parties concerned readily admit that there is no factual dispute presented herein. The fundamental issues presented are legal in nature and subject to judicial interpretation. Based upon the lack of any genuine issue of material fact, defendant is entitled to summary judgment as a matter of law. The present use of the premises located at 8101 Westwood Hills Drive does not violate any of the provisions of the restrictive covenant as interpreted by this Court.

The Home serves a residential purpose and is being used as a single family dwelling. The residents therein interact and exist as a family in every respect while sharing mutual obligations and responsibilities. The "treatment" to which plaintiffs refer is of the same quality as all parents would seek to bestow upon their natural children in preparing them for life's everyday challenges. Accordingly, defendant Minnesota Jewish Group Homes, Inc., is entitled to summary judgment as a matter of law and plaintiffs' cause of action shall be and hereby is dismissed.

LET THIS MEMORANDUM BECOME A PART OF THE ATTACHED ORDER.

D.K.A.

APPENDIX TO STATEMENT OF NEED AND REASONABLENESS

October 9 and 10, 1979 Public Hearing

UBC Section 709(e)

Supporting data submitted to the Structural Advisory Subcommittee is attached:

Automobile Burnout Test in Open Parking Structure, Scranton, PA

Excerpt from Fire Journal - July, 1973

Excerpt from Basic Building Code, 1978

Excerpts from National Building Code, 1976

Excerpts from NFPA No. 88 - 1973

Excerpts from Standard Building Code, 1977

Excerpts from National Building Code of Canada, 1975

Excerpts from Wisconsin Administrative Code, 1977

MRA Survey of Fire Experience in Automobile Parking Structures in the United States and Canada, January, 1972

gage-babcock & associates, inc.
CHICAGO SAN FRANCISCO LOS ANGELES NEW YORK

Report No. 7328
January 1973

AUTOMOBILE BURN-OUT TEST
IN AN OPEN-AIR PARKING STRUCTURE

Scranton, Pennsylvania
October 15, 1972

Final Report

Testing Conducted by
Scranton Fire Bureau and Underwriters' Laboratories, Inc.

Under the Sponsorship of
AMERICAN IRON AND STEEL INSTITUTE
New York, New York 10017

Report Prepared by
GAGE-BABCOCK & ASSOCIATES, INC.
Fire Protection Engineers
Westchester, Illinois 60153

ABSTRACT

A full-scale fire test was conducted in a modern, operating, multi-story open-air parking structure in order to study the effects of an uncontrolled fire in an automobile on the integrity of the exposed steel frame. Three automobiles were parked adjacent to each other. A fire was set in the center vehicle and allowed to burn unrestricted for a period of 48 minutes. All three cars were modern, American made, full-size sedans and contained 10 gallons of gasoline in each gas tank. Windows in all cars were left partially open to aid combustion and fire spread.

Maximum temperatures and deflection of the structural steel remained far below critical levels during the entire time of the test. None of the structural steel was damaged. On the basis of this and other tests which have been conducted, it is concluded that open-air parking structures represent an extremely low fire hazard and that exposed steel framing provides an adequate degree of safety against structural collapse.

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Report 7328
January 1973

AUTOMOBILE BURN-OUT TEST IN AN OPEN-AIR PARKING STRUCTURE

INTRODUCTION

This report on a full-scale fire test in an open-air automobile parking structure in Scranton, Pennsylvania, on October 15, 1972, was prepared by the Gage-Babcock staff from data gathered during the test and from the observations of eye witnesses. C. J. Winquist, P.E. and Bert M. Cohn, P.E. witnessed the test for Gage-Babcock and recorded their visual observations on tape for later transcription. Gage-Babcock & Associates are solely responsible for the preparation of this report and the conclusions presented herein.

The test was developed by members of the AISI staff and the Fire Technology Subcommittee of the AISI Committee on Construction Codes and Standards. The Scranton Fire Bureau assisted in the arrangements and supervised the burning. Full cooperation in allowing the use of the facility for the test was given by Scranton Parking Authority, owner of the structure.

Close cooperation and coordination by all parties permitted full use of most of the parking structure by the public before, during and immediately following the test. It was conducted on a Sunday so as to minimize interference with normal activities in downtown Scranton.

Underwriters' Laboratories, Inc. personnel instrumented the test area and collected temperature data on two multi-point temperature, continuous chart recorders. Deflection data for the main girder were obtained during and after the test.

PURPOSE AND SCOPE

Prior burn-out tests in automobiles in simulated, open-air parking structures have been conducted within the past few years in England, Japan, and Switzerland.* All of these tests appeared to indicate that open-air parking structures represent a very low occupancy fire load. According to British measurements, the combustibles in a large sedan, including a full tank of gasoline, represent less than 17% of its total weight. The calorific value of all combustibles was computed to be 71,625 Btu/sq.ft. (194,660 kcal/m^2) of area on which the car stands. With this magnitude of 8.6 lbs.sq.ft. (41.9 kg/m^2) equivalent weight of wood, the recorded temperatures were low, no explosions occurred, and the fires did not spread. Using the conventional approach to fire load calculations for a building, the combustibles in the automobiles represent only about 2 lbs./sq.ft. of total floor area.

The significance of the apparent low fire hazard was underscored by the results of a survey of the fire experience in parking structures in the U.S. and Canada. Nevertheless, some doubts were expressed as to the applicability of the foreign tests when applied to the generally larger American automobiles, despite the favorable results of the fire experience survey.

In summing up the need for this fire test, it can be stated that its objectives were to demonstrate:

a. that fire involving passenger automobiles does not burn with an intensity resulting in fire spread, either through ignition of the interiors of adjacent cars by flames or by a gasoline spill fire resulting from an exploding or rupturing fuel tank.

b. that the resulting heat and smoke does not build up to the point where the building is untenable, hampering escape or access for control and extinguishment by the fire department.

---

* See References, page 15

c. that the resulting fire, when left to burn uncontrolled, will not result in a dangerous exposure to exposed structural steel framing, causing floor overload or damage requiring replacement.

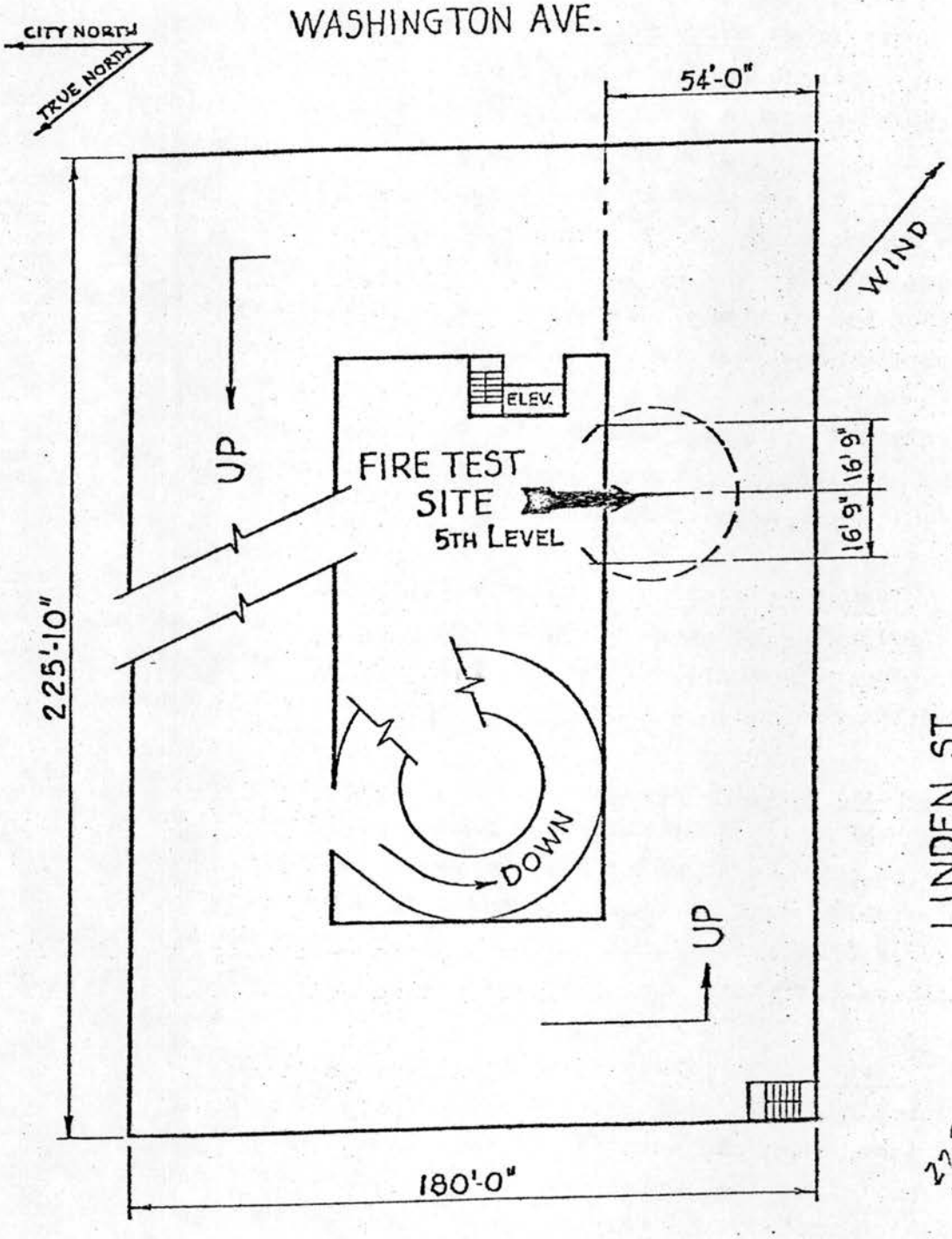
To achieve these objectives, three late-model American sedans were parked on the next to the top parking level. The middle car was set on fire and left to burn uncontrolled until practically all of the combustibles therein had been consumed by the fire.

DESCRIPTION OF BUILDING

Completed in 1970, the modern, operating, multi-story, open-air parking structure owned by Scranton Parking Authority is located in downtown Scranton, at the northeast corner of Washington Avenue and Linden Street. Part of the ground floor level is occupied by retail stores; the remainder of the ground floor and five levels above that are used for automobile parking, including the roof.

Construction of the building is a structural steel frame and post-tensioned concrete decks. All structural steel in the parking decks is exposed. The overall dimensions of the building are about 226 ft. by 180 ft. (see Fig. 1).

Designed with a 3% upward slope, the five supported parking levels provide parking space for 554 cars. The 54 ft. width of decks allows angle parking on each side of the center aisle. Cars follow the parking ramps up and exit along a spiral ramp in the core of the building. This arrangement is illustrated in Fig. 1. Steel columns at the periphery of the decks support girders which span the 54 ft. width at each level. Cover-plated W24 x 76, A572 steel girders, supporting the top deck, are designed to act compositely with the post-tensioned 5 in. thick concrete slabs. Each bay measures about 16 ft. 9 in. by 54 ft. The dimension from top of one deck to the top of the next is 10 ft., leaving a clear height below the girders of about 7 ft. 7 in.



FLOOR PLAN OF STRUCTURE

SCALE: 1" = 40'

FIGURE 1.

Concrete Protection. Lessons learned from August 24, 1972, test fires at Scranton Fire Bureau Training Ground dictated that the post-tensioned concrete slabs be protected against spalling. The three cars were to be positioned in two bays under the top (roof) deck, and the underside of the deck above was protected with 2½ in. of thermal insulation supported by 28 ga. corrugated sheet steel. This protection extended out from the wall to about midway along the 54 ft. dimension of each of the two bays. Exposed, W12 x 14 beams were used as a means of supporting the sheet steel and insulation in place across the 16 ft. 9 in. width of each bay. Below the cars, a 2 in. layer of sand topped with a sheet of 24 ga. steel and a sheet of 5/8 in. gypsum board for an area of 30 ft. x 30 ft. protected the concrete deck on which the cars were parked. This protection is shown in Fig. 3.

Smoke Protection. It was anticipated that most of the clean-up work following the test would be to remove smoke deposits. To minimize the need for post-fire cleaning, polyethylene sheets were suspended under the roof deck in the bays adjoining the test bays.

Structural Loading. To impose realistic loading on the structure during the test, four cars were parked on the deck above the test bays so as to provide normal live load on the girder spanning the test bays. Two -- a Plymouth stationwagon and a Chevrolet 4-door sedan -- were placed on the street side, and two others -- a Dodge 4-door sedan and an Ambassador stationwagon -- were parked against the inside wall.

Test Area. Three automobiles were positioned, front first, into adjacent parking stalls, delineated by painted stripes on the floor, and parked as would normally be expected under actual conditions. In this position, the center car was located under the exposed girder, with the front of the car in one bay and the rear end in another. The other two cars extended partially into bays beyond the two which had been prepared for the fire test.

The center car -- the one to be ignited -- was a 1964 Pontiac Catalina 4-door sedan having overall dimensions of 17 ft. 4 in. by 6 ft.

4 in. by 4 ft. 9 in. high. On the left was a Pontiac Star Chief, 17 ft. 10 in. long by 6 ft. 5 in. wide by 4 ft. 7 in. high. The third car, on the right, was a Ford Galaxie 500, which measured 17 ft. 1 in. by 6 ft. 4 in. by 4 ft. 10 in. high. The cars were parked with the front bumper nearly touching the parapet wall; the rear ends extended about 17½ ft. out from the wall, or about 1/3 of the width of the bay. The center Pontiac and the Ford were standing essentially parallel to each other and 2 ft. 0 in. apart. The Pontiac on the left was parked slightly askew, so that it was only 1 ft. 7 in. from the center car, measured at the front bumper, but 2 ft. 3½ in. when measured from the rear bumper of the center car. The top of the Pontiac Catalina was only 2 ft. 6½ in. below the exposed steel girder.

Fuel Load. To the normal fuel load of the automobiles (upholstery, lining, padding, carpeting, wiring, tires, oil and grease, etc.) were added crumpled-up newspapers and 10 gal. of gasoline in each fuel tank. (Half-full tanks were chosen as representing the worst condition. Tanks completely full represent less of an explosion hazard, and nearly empty tanks represent less of a spill hazard. In addition, a half-full tank more nearly represents actual conditions in a parking structure.) The trunks contained a spare tire and other combustibles.

Crumpled-up newspapers were placed under and in front of both the front and the rear seat of the center car and in front of both seats in the other two cars, in all instances so that the space in front of the rear seats was fairly well filled with newspapers, to the level of the seat. Kerosine-soaked rags were added to the newspapers in the rear seat of the center car.

Ventilation. Natural draft through the fire area was obtained from the open sided structure. Because prior experience had shown that fire development in a closed-in automobile is extremely slow, if not impossible, windows were opened partially in all three automobiles. For the Pontiac on the left, the windows facing the burn car on the east were opened about 1 in. front and back. On the burn car, all windows were opened; those on the east side about 1 in. and those on the west side about 2 in. On the Ford on the right, the front and rear windows facing the burn car were opened 2 in. and 1½ in., respectively.

Weather. The National Weather Bureau at Wilkes-Barre/Scranton Airport reported that the temperature was 41° at the time of the test and that the wind was from the northwest at 15 to 20 mph. These readings seemed to coincide with the temperature and wind velocity experienced at the test site. The relative humidity was 60%.

INSTRUMENTATION

Temperatures in the test area during the course of the fire test were obtained from 40 thermocouples and recorded on charts on one 16-point and one 24-point temperature recorder. Placement of thermocouples and recording of temperatures were accomplished by personnel from Underwriters' Laboratories, Inc.

Thermocouples were placed as follows:

Suspended over the automobiles (bare couples measuring air temperatures) - 12
On the underside of the girder spanning the test site - 12
Near the top of the web of the girder - 5
On the bottom flange of the spandrel at the north wall - 3
On the column in front of the burning car - 4
In the insulation over the test area - 2
In the sand below the burning car - 1
Roving probe - 1

The exact locations of all of the thermocouples are shown on the accompanying diagrams, Fig. 2 and 3.

Deflection of the steel girder spanning across the test site was measured by means of a surveyor's level set up on the roof of the structure. Horizontal expansion of the girder was measured by means of a plumb bob suspended from the column and girder connection, reaching to a scale at the floor below.

NARRATIVE ACCOUNT OF TEST

Time	
0:00	Ignition is by inserting a burning rolled-up newspaper into the back seat of the center car (hereafter referred to as "burn" car), lighting the crumpled-up newspaper.
0:01	Fire is building up rapidly. Flames are issuing from windows on the east side of the car.*
0:01½	Flames are visible on the front and back seats. Some flames are beginning to issue out of the open windows on the car's west side, curling up over the top.
0:04	The inside of the car is heavily charged with smoke. A few deep orange flames are visible. The wind is pushing the smoke straight out from the side of the car, towards the southeast.
0:05 3/4	The back window blows out and heavy flaming is starting, with some flames impinging on the girder directly over the car.
0:07	The left rear window has broken, and there is very active flaming throughout the interior of the car.
0:09	Not much change in conditions. Additional glass has broken out. There is now a heavy layer of smoke in the building, extending down about 3 ft. from the roof deck but blowing out the open sides.
0:10	The plastic laminate in the windshield is burning. All the windows now are broken.
0:13	Flames are extending out of the area of the windshield, impinging on the exposed girder above.

* All directions are given in relation to the city grid, which places the structure's walls on Washington Ave. in the north-south and on Linden St. in the east-west direction. The wind was blowing almost directly from true north -- see Fig. 1.

Time	
0:13½	Flames are visible underneath the car. Flames issuing from the windows are rolling down along the outside of the car doors. The building in the bays to the east of the test area is heavily charged with smoke. There is some "steaming" from the Pontiac on the left of the burn car.
0:14	Some flaming material has dropped to the ground. Paint on the right-hand doors is burning downward.
0:17	The right rear tire is burning. Heavy smoke is issuing from underneath the trunk.
0:17½	The left rear tire is burning. Smoke is now issuing from the hood area, but the interior fire seems to be dying down, and it is now possible to easily see into it.
0:18	Most active burning is in the area of the right rear tire. The smoke has the typical smell of burning rubber.
0:20	The right rear tire went flat. Visible active burning continues at both rear tires and at the dashboard. The engine compartment is now on fire and flames are starting to issue out from under the hood.
0:21	The left rear tire went flat.
0:23	There is flaming at the right front tire and very heavy smoke between the burn car and the Ford to the east. Visible flaming is mostly from the tires, and these flames are not even extending to the top of the car. There has been no flame impingement against the roof structure now for some time.
0:26	The transmission or differential broke with a loud bang. Another tire has burst and the car has settled down somewhat.
0:26½	Burning brands are dropping to the floor and there is flaming under the burn car. Both flames and smoke are now very heavy and impinging on the exposed cars on both sides. Gasoline

Time

vapors have ignited, burning at the fill pipe, left rear fender.

0:27 The smoke has cleared sufficiently to tell that there has been no damage to the Pontiac on the west. The Ford is still surrounded with smoke, and it is not possible to ascertain if it has been damaged.

0:29 Flaming continues actively around the back of the car. Flames are issuing out from around the trunk lid. The fire on the interior of the burn car is almost completely out.

0:30 A sudden increase in the flaming is the result of gasoline which is now adding fuel to the fire. Flames are extending 10 ft. out from the burn car, pushed to the southeast by the wind.

0:30½ Very active flaming is continuing. The gas tank has settled to the floor. Flames are now visible throughout the back quarter of the car.

0:31 The gasoline burning is at increasing intensity. Gasoline is burning on the floor underneath the car.

0:37 The plastic tail light assembly on the Ford is burning.

0:37½ Intense flaming and smoking are continuing. Some smoke seems to be coming from the Pontiac to the west, but there is definitely no ignition, and in fact, not even the paint seems to be blistered, even though some flames seem to impinge on it at times.

0:42 The tail light assembly on the Ford has stopped burning, and the fire does not appear to have extended further on the Ford. Flaming around the center car has now died down somewhat; small bits of flaming debris are scattered around. Active flaming continues in the area of the right front tire, and gasoline continues to burn under the car.

Time	
0:43	For a few seconds, flames are visible on the west car, along a strip a few inches long at what appears to be the juncture of the front and rear doors.
0:44	The right front tire on the west car went flat, but there is no burning. Due to a shift in the wind, there is now heavy flame impingement from the burn car onto the west car, and there seems to be some burning on the door of the exposed car.*
0:45	Sporadic flame impingement from the center Pontiac to the one on the left continues, and occasional flaming is seen from the west car. The inside is charged with smoke, some of which is issuing from the windows.
0:46	The flames are dying down, but heavy smoking continues.
0:46½	The burn car is nearly burned out. One of the firemen has opened one of the doors on the west Pontiac; smoke is fairly light in the interior and no flames are visible at this time.
0:48	Firemen bring up a 1½ in. hoseline and start extinguishment with Light Water.
0:50	Fire extinguished in burn car.
0:53	No extinguishing efforts have been directed to the west car, but there is no active flaming even though there seems to be some smoldering inside the right front door.
0:54	Some active flaming is now visible on the inside of the west car, aided by good ventilation as the right front window was accidentally knocked out by firemen. Extinguishment is being delayed so pictures can be taken.
0:55	Fires completely extinguished.

* Close examination after the fire revealed that the door had a fiber-glass patch, which apparently is what ignited.

During post-fire examinations of the three cars, it was noted that the center car was completely gutted, from front to back. The Ford to the east, except for the burning of the plastic tail light, showed little fire damage. The paint was scorched on the side facing the burn car, but both tires and glass are still intact. None of the newspaper on the inside ignited.

Ignition of the west car occurred inside the door assembly, and in the 12 min. between the time flames were first noticed and extinguishment, some fire extended into the passenger compartment. Some scorching had occurred on the dashboard and in the overhead lining next to the right front door, and some of the newspaper laid against the door had ignited. Nevertheless, there was no general involvement. Except for some discoloration to the paint on the outside of the door where flame impingement occurred, the side facing the burn car was undamaged.

CONCLUSIONS

During 48 min. of uncontrolled burning, fire completely gutted the test car. From front to back essentially all combustible materials has been consumed; nevertheless, about two quarts of gasoline, out of ten gallons at the start of the test, remained in the gas tank. There was no leakage at the seams of the gas tank, and later examination of the tank did not reveal any rupture. The soldered joint at the fill-pipe connection to the gas tank melted, allowing the fill-pipe to separate from the tank.

The fire developed much more rapidly than would be expected under normal conditions. To assure rapid ignition, accelerants in the form of crumbled-up newspapers and kerosine-soaked rags had been placed in the passenger compartment, and windows on both sides were left open to assure adequate combustion air.

A 15 - 20 mph wind, blowing across the test site, fanned the blaze. Undoubtedly, the wind increased the intensity of the flaming, caused more direct flame impingement on the exposed cars, and increased

the radiant heat exposure. Yet, despite localized ignitions, the two cars, not more than 2 ft. from the burn car, received only minor fire and heat damage.

There was no structural damage. The only maintenance following the test, besides steam cleaning to remove soot deposits, was the application of one gallon of paint to the exposed steel girder in the test area.

The girder directly over the test car received more fire exposure than any other structural element. The maximum temperature recorded on the bottom flange was over the gas tank and reached 440°F at 41 min. for a period of about 5 min., just before the fire burned itself out. Briefly, for about 2 min., a temperature of 420°F was attained on the bottom flange over the windshield area about 17 min. after the test started, when flames first flared out of the passenger compartment. For the most part, temperatures on the beam remained well below 350°F. (Limiting temperatures for such structural elements are 1100°F average and 1300°F at any one point, as set by American Society for Testing & Materials (ASTM) Standard E119, "Fire Tests of Building Construction and Materials.")

The deck over the test area had been loaded with automobiles, and the vertical deflection was measured. Briefly, at 42 min. into the fire, as gasoline under the test car was burning vigorously, the deflection at the center of the 54 ft. long steel girder reached 1-5/8 in., and its horizontal expansion measured 1/8 in. These readings resulted from thermal expansion of the bottom flange. After cooling, the structural element returned to its pre-test conditions; both deflection and elongation were recorded as zero.

Air temperatures, measured by bare thermocouples suspended 24 in. below the slab, reached brief peaks when the fire flared up, then rapidly subsided. One reached 780°F momentarily at 9 min. after the start of the test; another peaked at 810°F at 11 min. over the windshield. For the most part, air temperatures were well below 400°F.

This full-scale test fire confirmed the results of similar tests which have been conducted in England, Japan and Switzerland. The overall fire load in an open-air parking structure is very low, and the concentrated fire load, representing a single, fueled automobile, will cause an intense fire in and around the car in which the fire starts if left to burn until the entire car is consumed of combustibles. Yet, even with wind causing flame impingement on the adjacent car only 2 ft. away, fire was confined to the car of origin for 37 min., when non-sustained ignition of the plastic on the taillight occurred.

Fire exposure to the exposed steel structural members was never a critical factor during the test. Maximum temperatures and deflection of the girder directly over the fire remained well below significant levels. There was no damage to the exposed steel.

On the basis of this and other tests which have been conducted, it is concluded that open-air parking structures represent an extremely low fire hazard and that exposed steel framing provides an adequate degree of safety against structural collapse.



Bert M. Cohn

Bert M. Cohn, P.E., SFPE
Vice President

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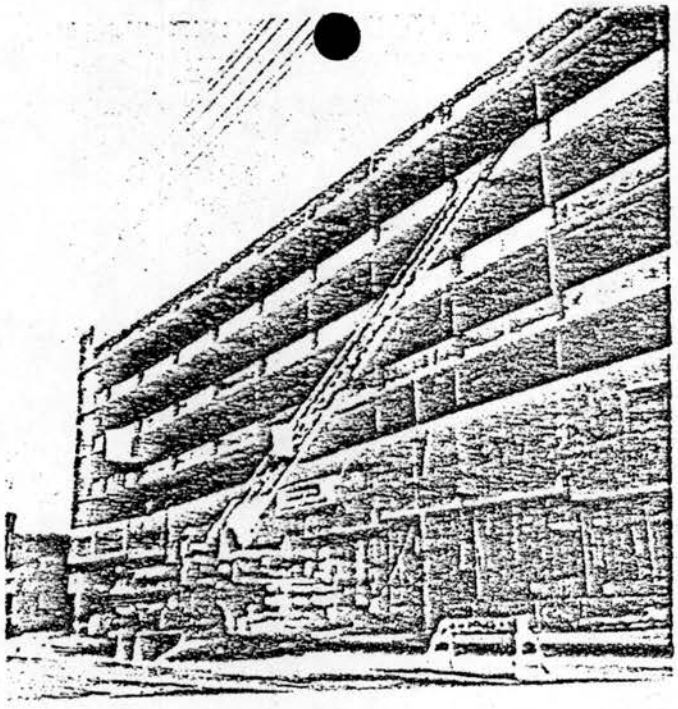
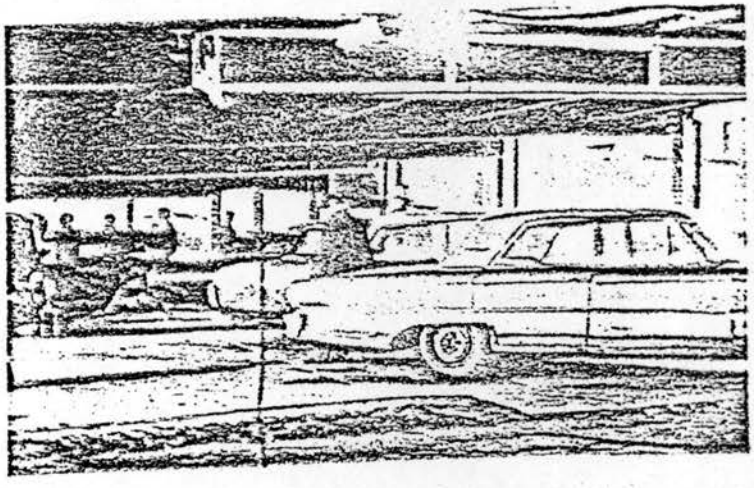


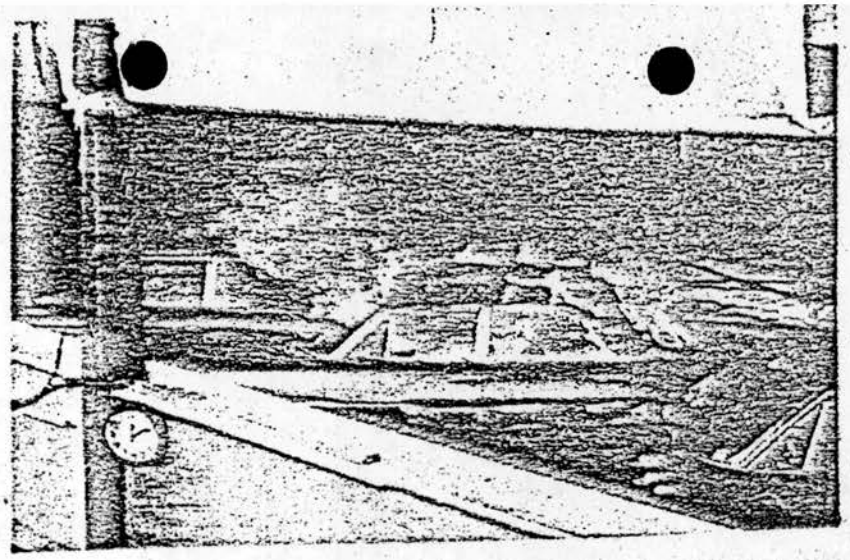
Linden Street elevation.



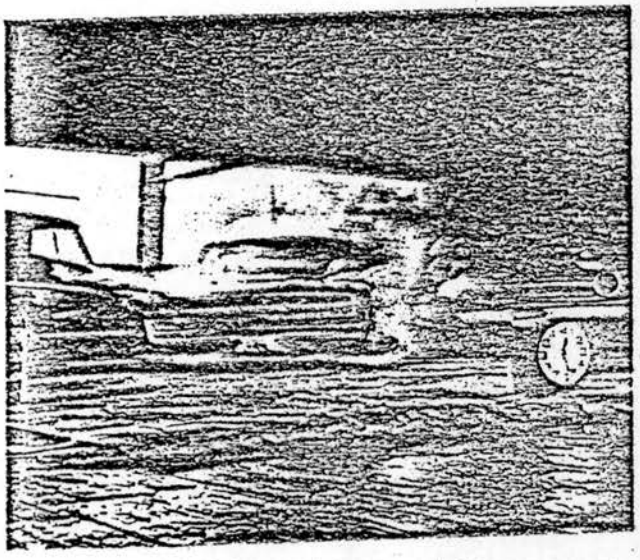
Test area at ignition.



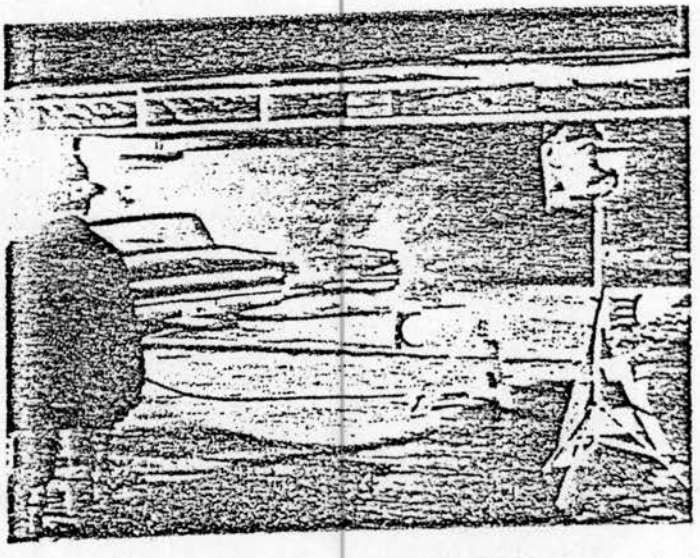
Burn car at 7 min.



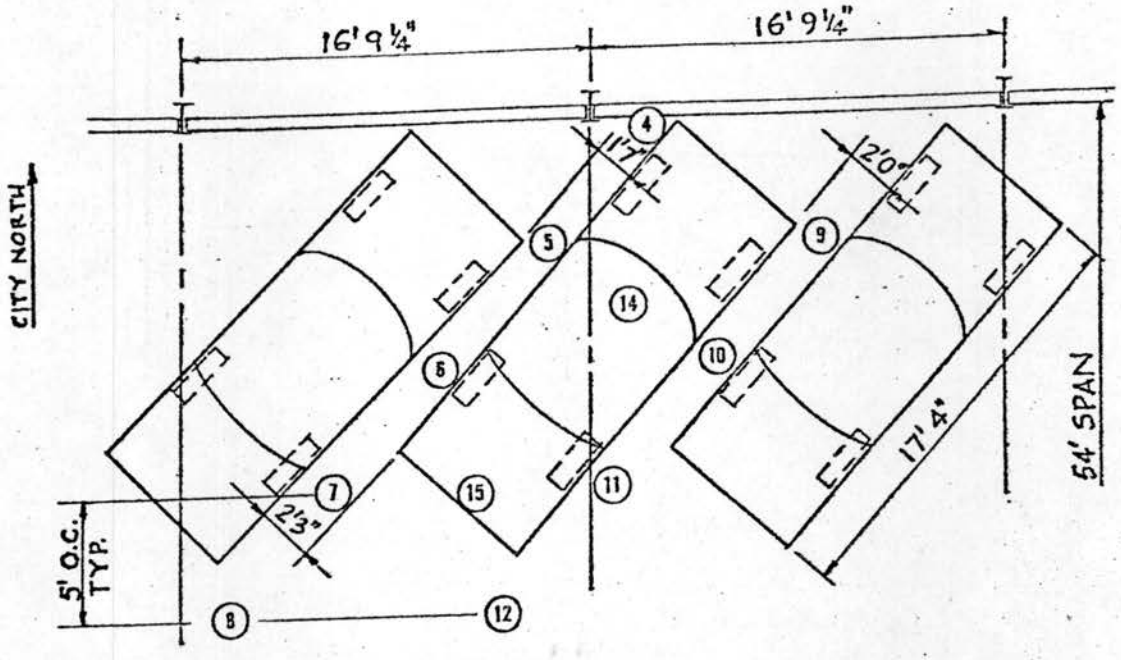
Burn car at 10 min.



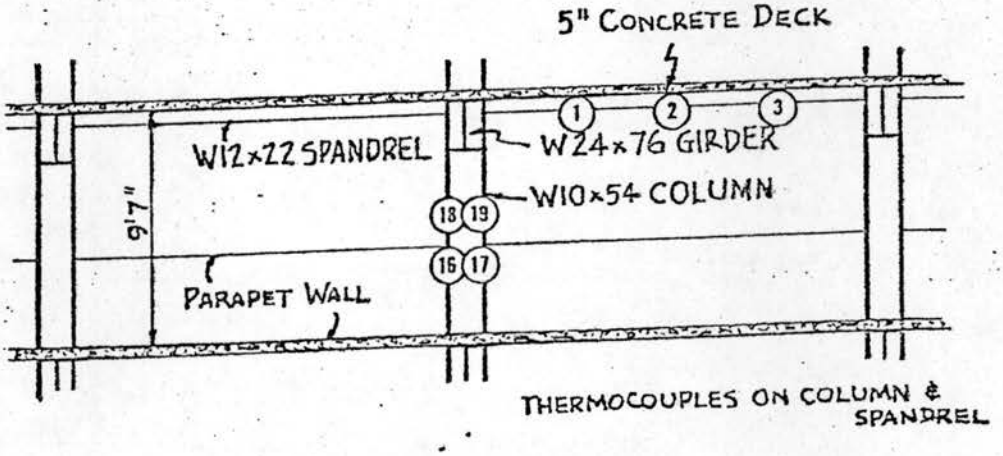
Burn car at 28 min.



Burn car at height of fire.

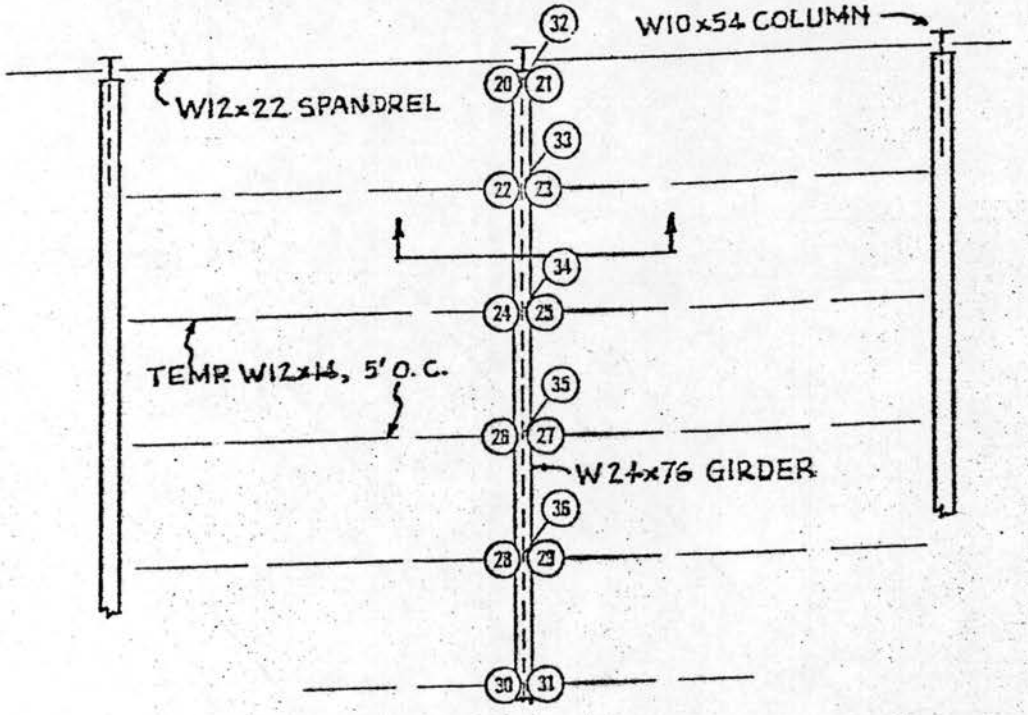


(13) FLOOR PLAN AT TEST SITE
SHOWING AIR THERMOCOUPLES



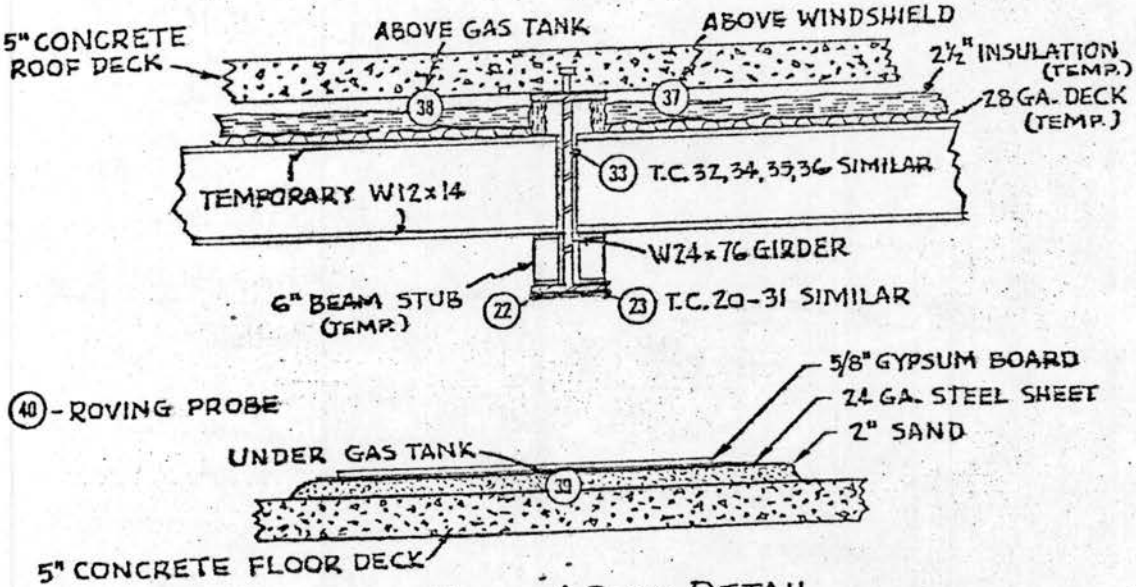
SECTION LOOKING NORTH

FIGURE 2.
SCALE: 1/8" = APPR. 1'0"



STRUCTURAL PLAN, SHOWING THERMOCOUPLES ON GIRDER

SCALE: 1/8" = APPR. 1'0"



FLOOR & ROOF DETAIL, THERMAL PROTECTION OF EXISTING CONCRETE

SCALE: ½" = APPR. 1'0"

FIGURE 3.

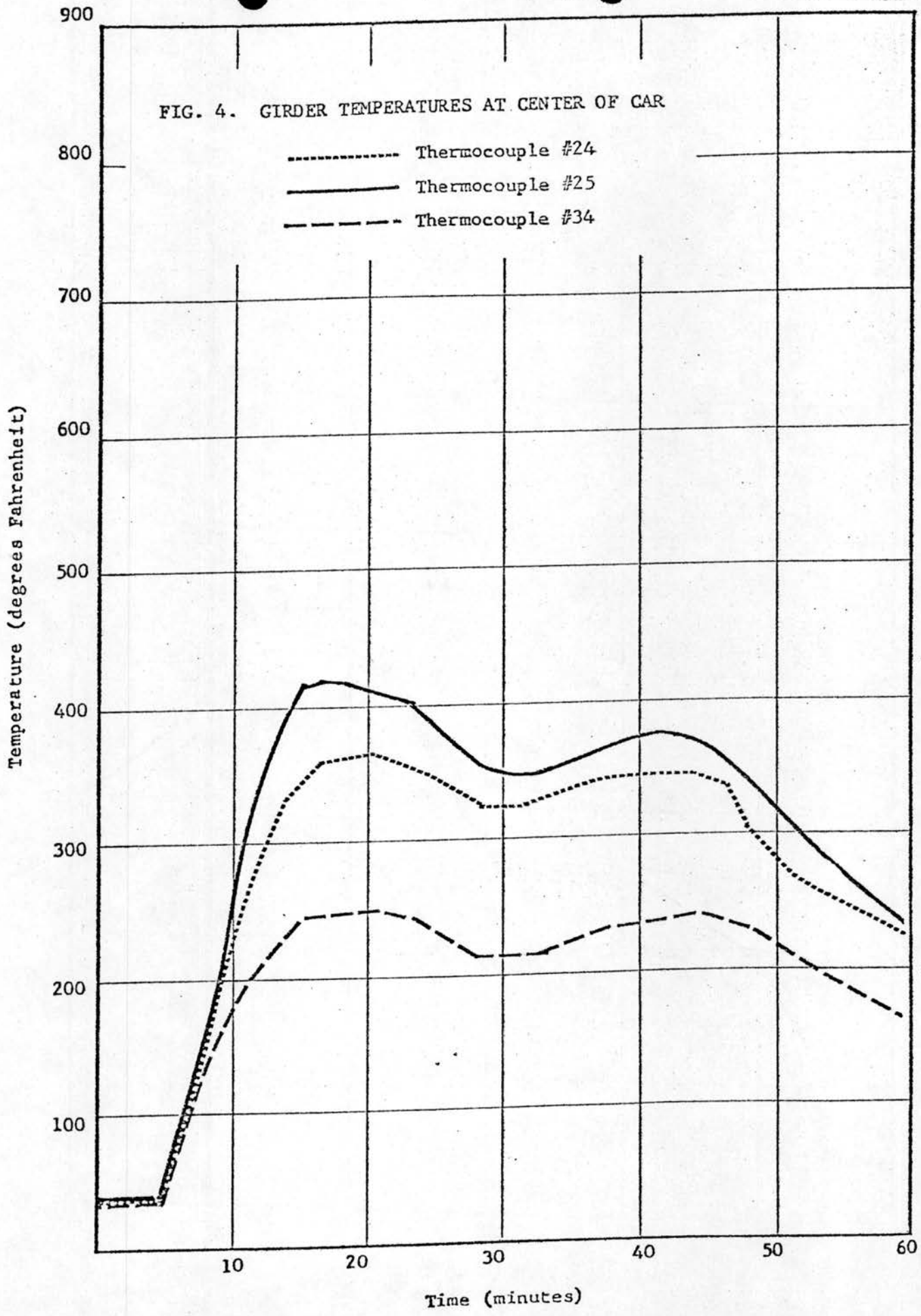


FIG. 4. GIRDER TEMPERATURES AT CENTER OF CAR
Thermocouple #24
Thermocouple #25
Thermocouple #34
Temperature (degrees Fahrenheit)
900
800
700
600
500
400
300
200
100
10
20
30
40
50
60
Time (minutes)

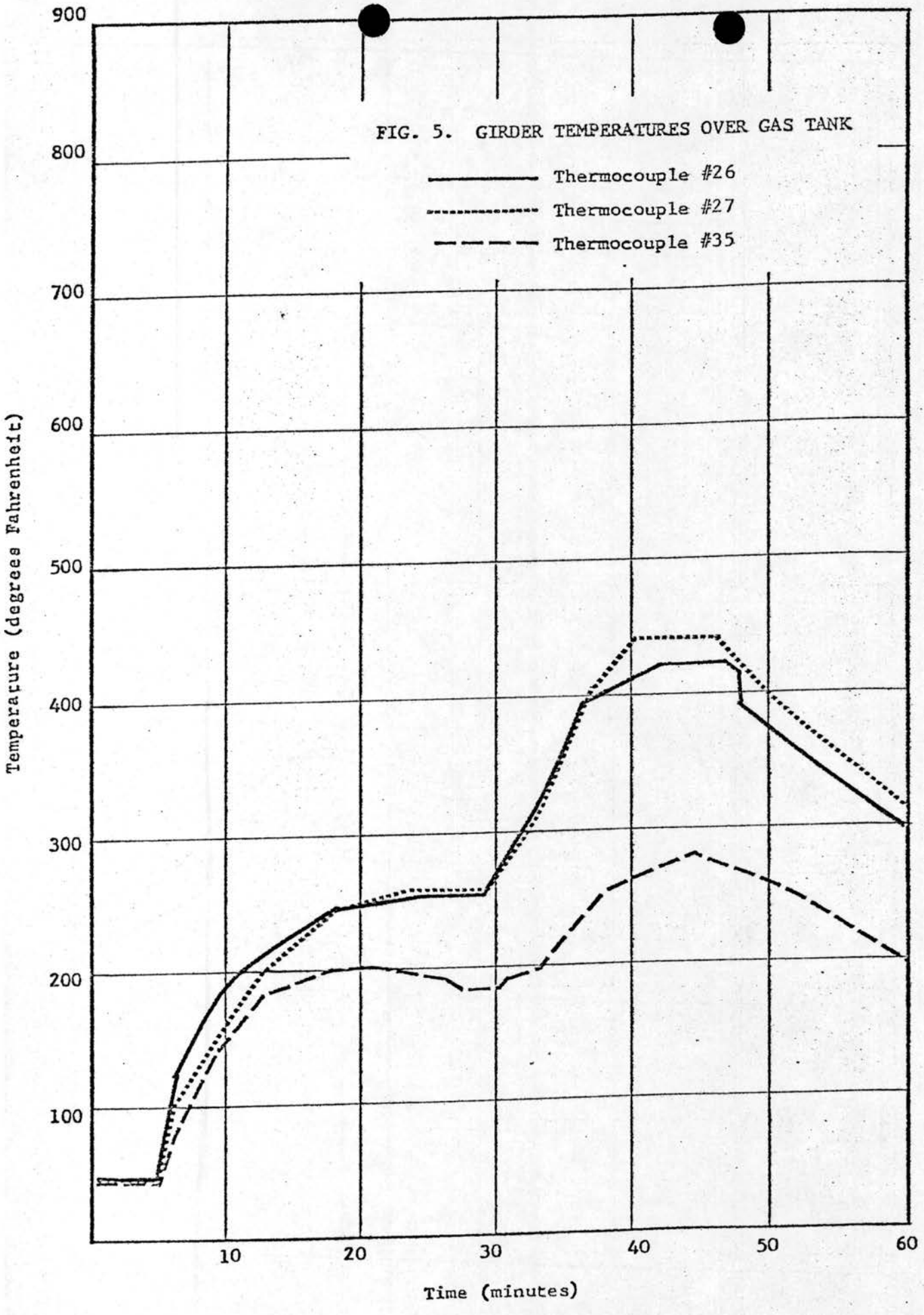


FIG. 5. GIRDER TEMPERATURES OVER GAS TANK

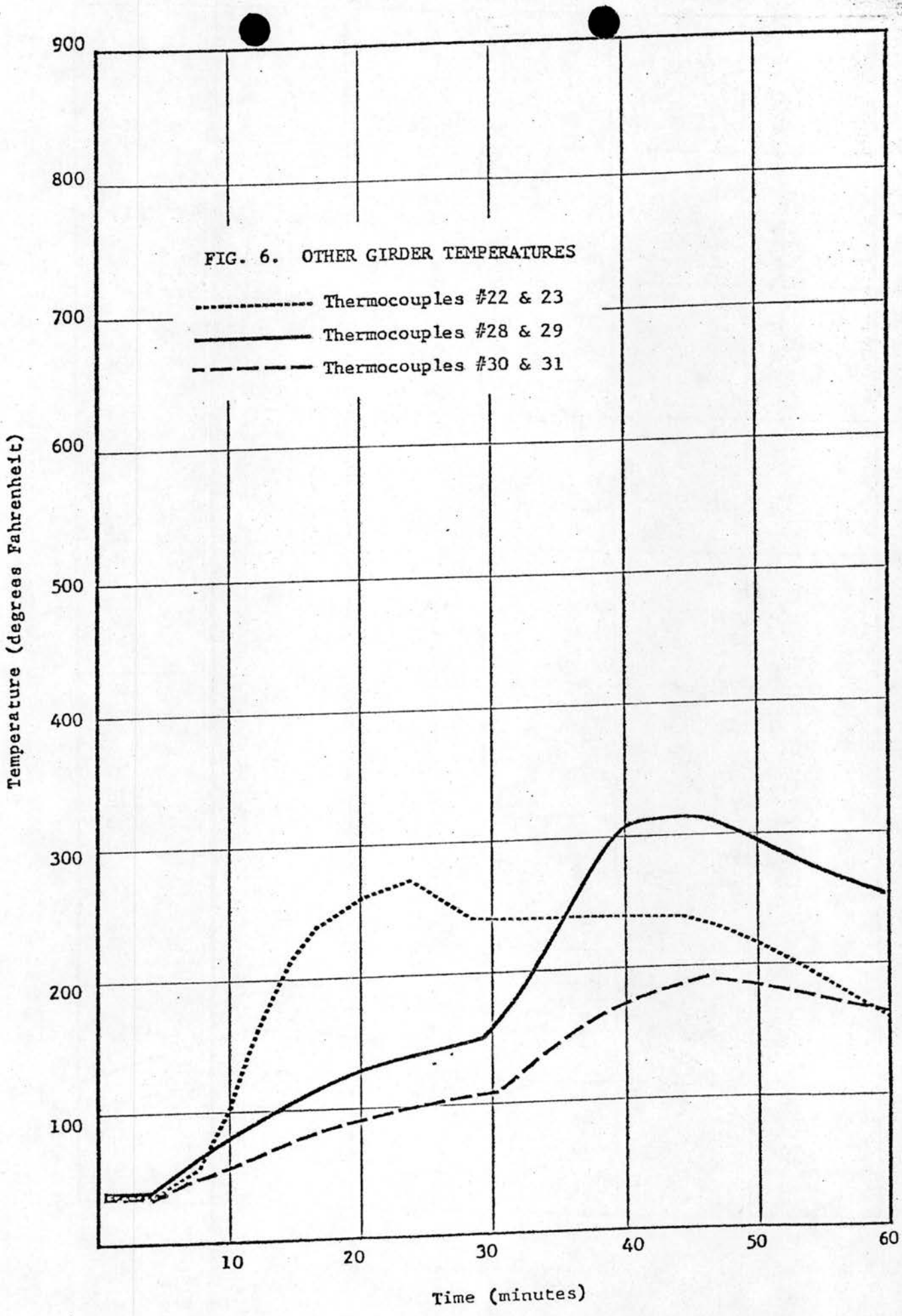


FIG. 6. OTHER GIRDER TEMPERATURES

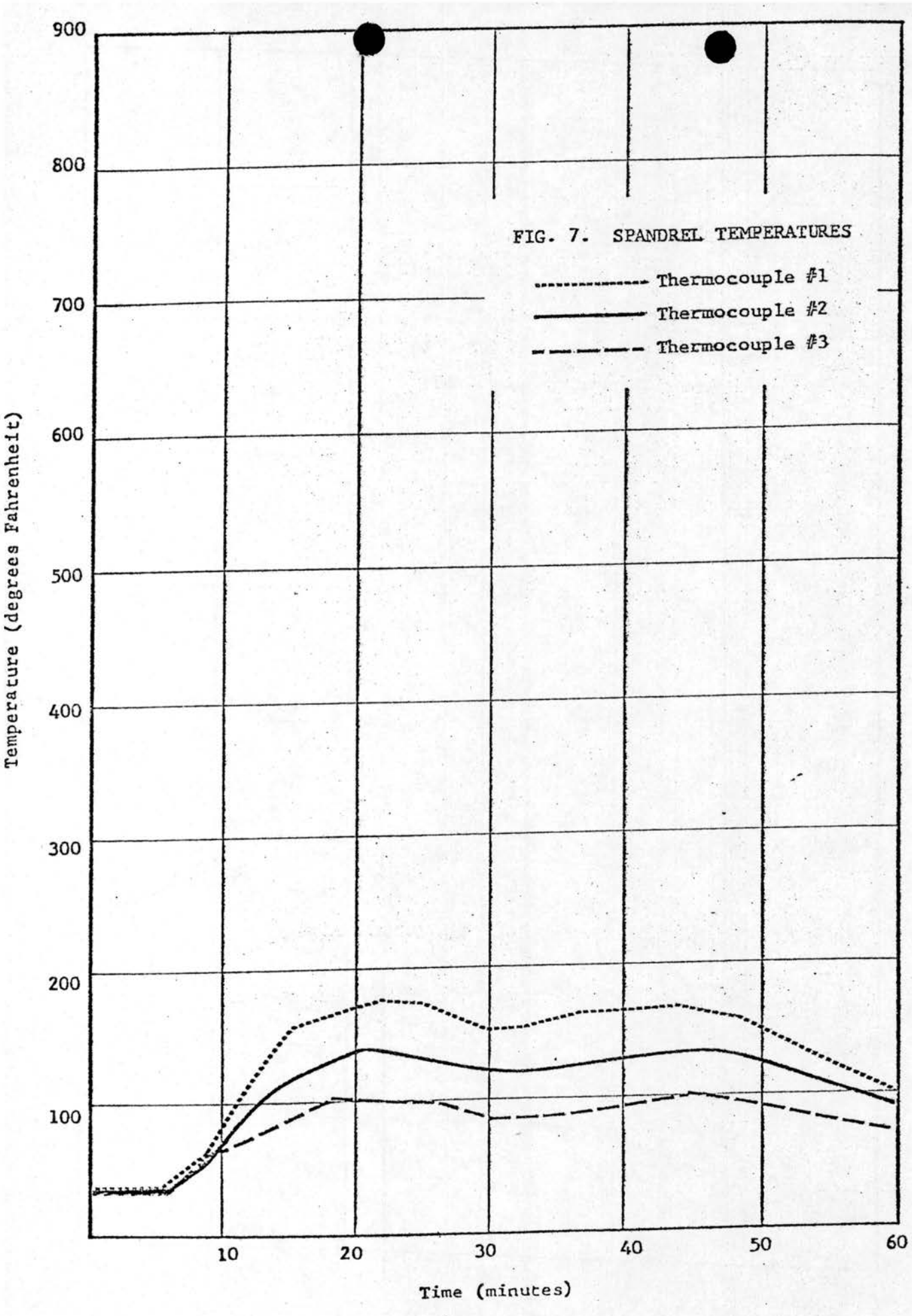


FIG. 7. SPANDREL TEMPERATURES

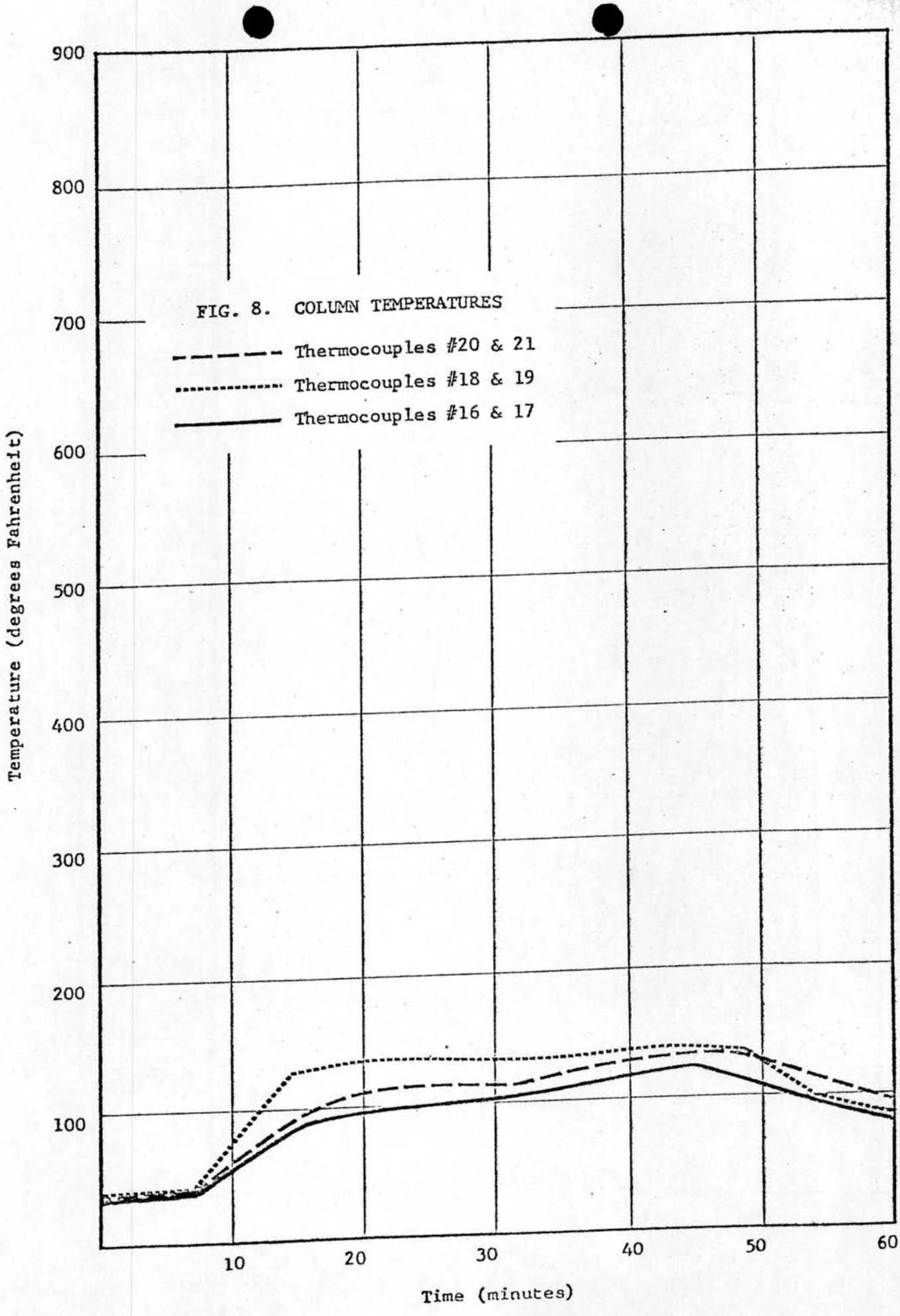


FIG. 8. COLUMN TEMPERATURES

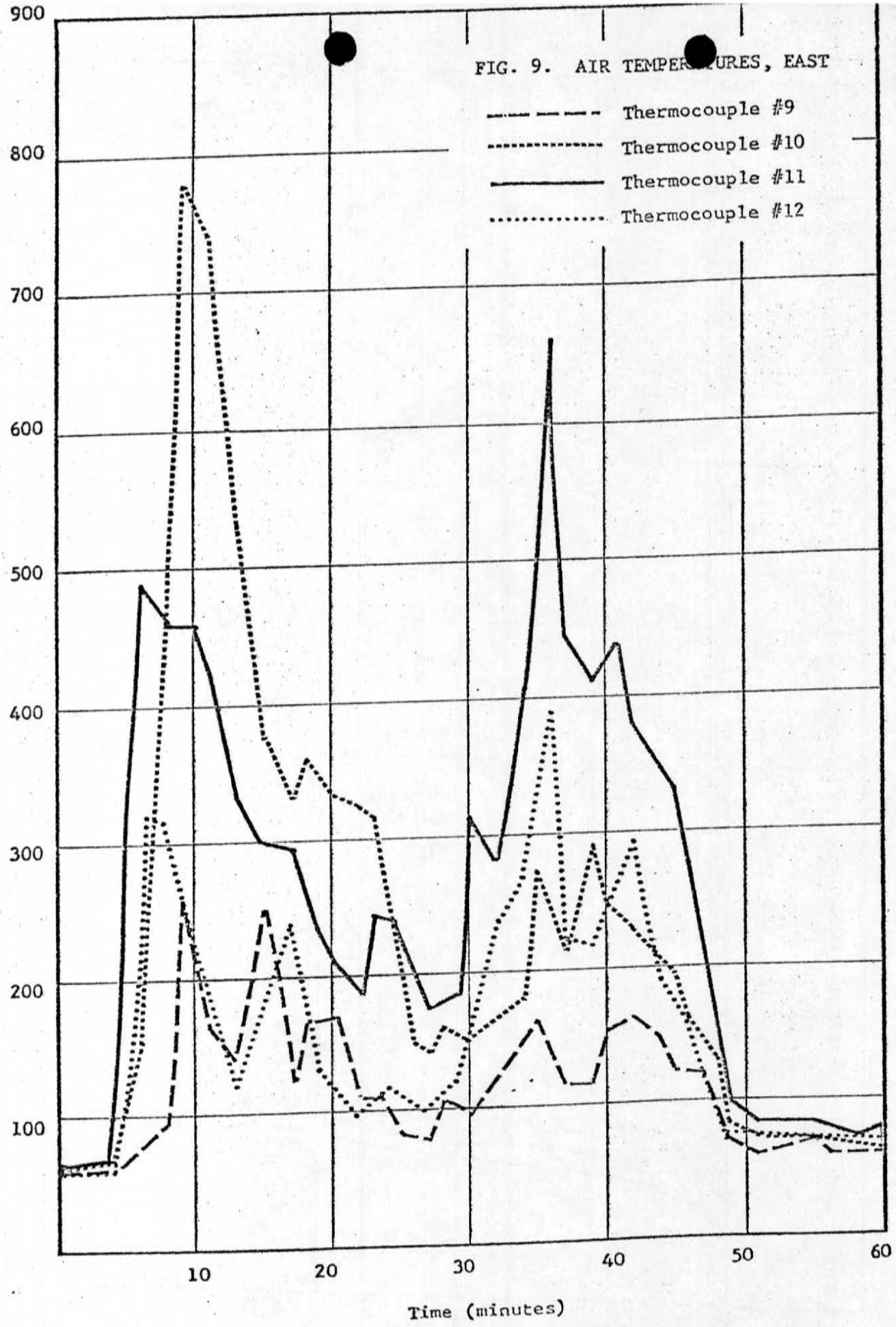


FIG. 9. AIR TEMPERATURES, EAST
Thermocouple #9
Thermocouple #10
Thermocouple #11
Thermocouple #12
900
800
700
600
500
400
300
200
100
10
20
30
40
50
60
Time (minutes)

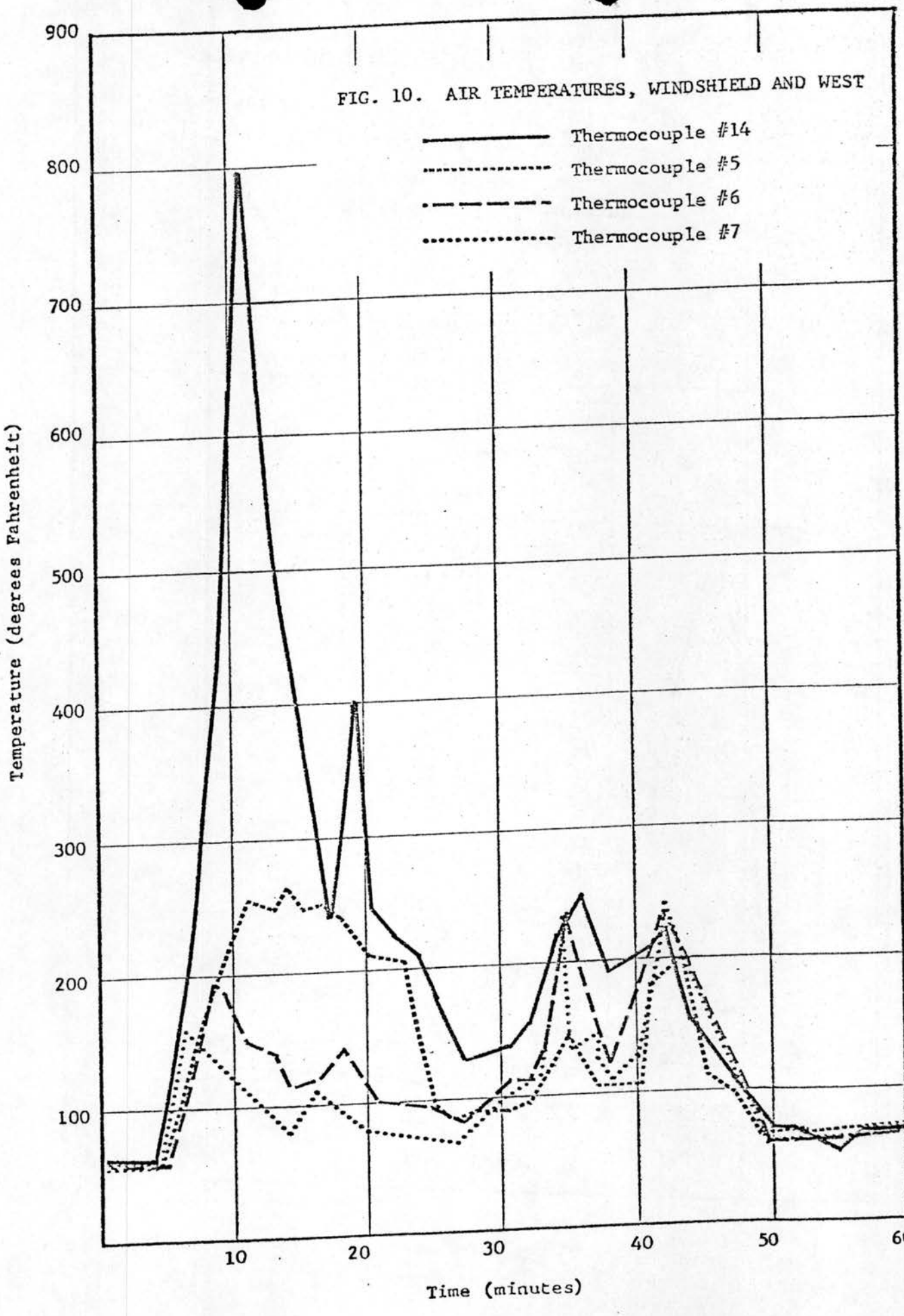


FIG. 10. AIR TEMPERATURES, WINDSHIELD AND WEST
Thermocouple #14
Thermocouple #5
Thermocouple #6
Thermocouple #7
Temperature (degrees Fahrenheit)
900
800
700
600
500
400
300
200
100
10
20
30
40
50
60
Time (minutes)

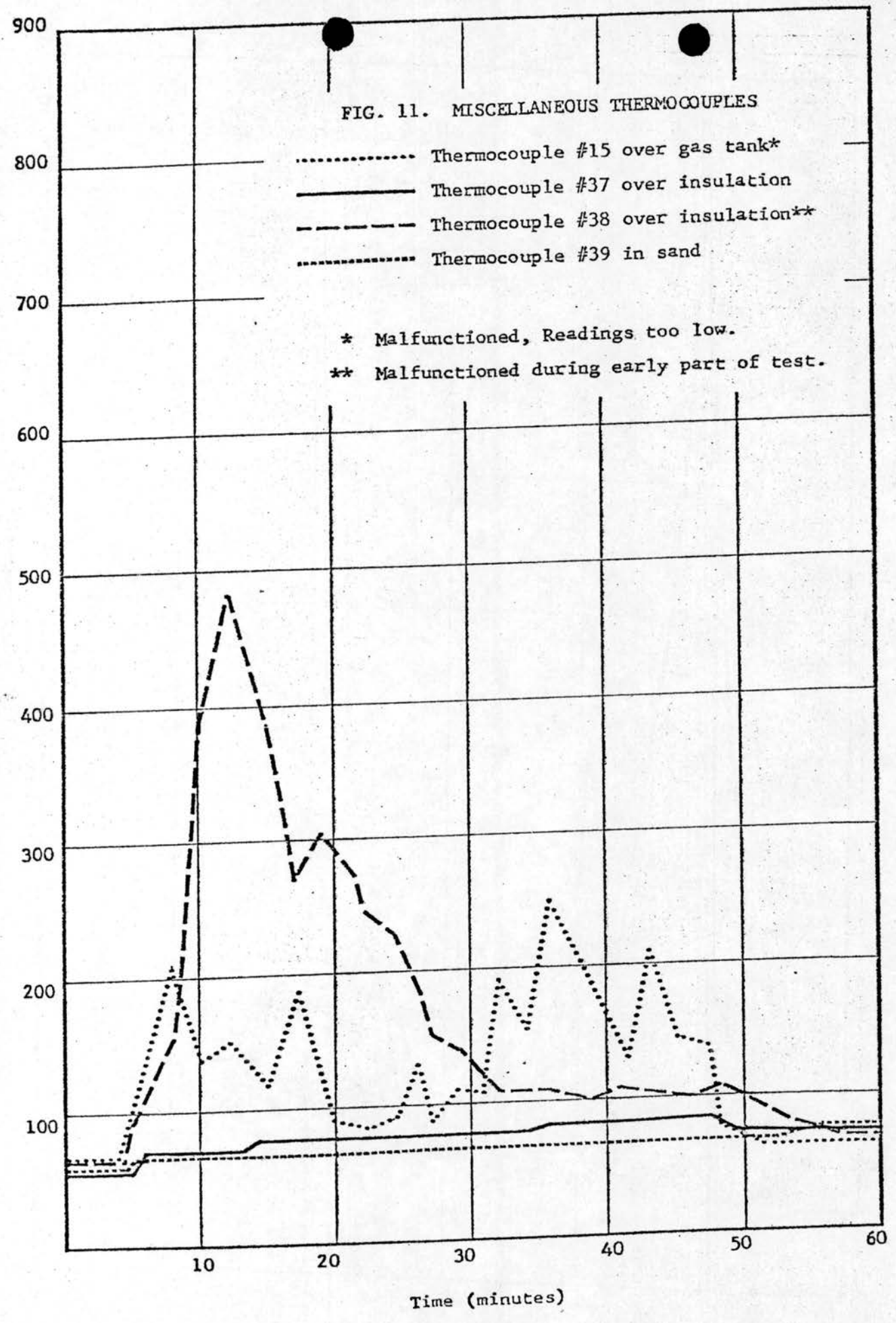


FIG. 11. MISCELLANEOUS THERMOCOUPLES

Fig. 12 DEFLECTION OF DECK OVER TEST AREA

Time After Start of Test	Rod Reading, Feet	Deflection, Inches	Ratio, Deflection to Span
0 min.	6.26	0	0
5	6.26	0	0
10	6.28½	3/8	1:2160
15	6.31	5/8	1:1080
20	6.32	3/4	1:900
25	6.32	3/4	1:900
30	6.32½	7/8	1:830
35	6.35	1-1/8	1:600
40	6.38	1-1/2	1:450
45	6.39	1-5/8	1:415
50	6.38	1-1/2	1:450
55	6.37	1-3/8	1:490
60	6.35	1-1/8	1:600
90	6.31	5/8	1:1080
120	6.28	1/4	1:2700
150	6.27	1/8	1:5400
180	6.26	0	0

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Fire Experience and Fire Tests in Automobile Parking Structures

RICHARD G. GEWAIN, *Chief Fire Protection Engineer*
American Iron and Steel Institute

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Fire Experience and Fire Tests in Automobile Parking Structures

RICHARD G. GEWAIN, *Chief Fire Protection Engineer*
American Iron and Steel Institute

A RESEARCH STUDY, "Survey of Fire Experience in Automobile Parking Structures in the United States and Canada," was sponsored by American Iron and Steel Institute to provide information that would be useful in determining the frequency of fires in passenger automobile parking structures and the dollar loss from those fires. The study was conducted with close cooperation by the members of the National Parking Association and the International Municipal Parking Congress, who responded with detailed information to the request that they report all fire incidents in their parking structures.

The questionnaire was designed to elicit information to provide a statistically reliable basis for evaluating fire protection requirements in codes and standards and to determine the appropriateness of the method used by insurance rating organizations to determine the potential loss from fires in such structures. Until this survey there was no authoritative information available on fires in parking structures to justify or challenge the present fire protection requirements in parking structures and the estimates of loss potential from parking structure fires.

Over the years many useful and attractive parking structures have been built. Much time and effort have been spent on formulating building code recommendations concerning fire protection (height and area limitations and the fire protection for structural members) for parking structures – recommendations based on fire experience not in parking structures but in occupancies such as mercantiles or occupancies for storage of medium- or high-hazard materials. A similar approach was taken on the subject of potential fire loss in parking structures. At present, structures involving storage, repair, and servicing of motor vehicles are all in one class. Or, where the fire loss information was insufficient for this grouping, parking structures were included in some other occupancy, such as mercantile. It is on this basis, then, that fire insurance rates are assigned to parking structures in many states.

Fire insurance costs in many jurisdictions have resulted in costly programs of construction of parking structures for passenger automobiles. The survey, which clearly shows frequency and size of fires and dollar loss based on fire experience over 60 years, indicates that in this area complete review and modification of existing fire protection requirements are warranted. Further, the survey identifies parking structures as a separate fire risk from other types of occupancies.

In fact, the Code Changes Committee of the Building Officials and Code Administrators recently approved a change in the *Basic Building Code* that permits unlimited area for exposed steel parking structures up to four tiers high. Likewise, the Southern Building Code Congress has adopted a similar code revision.

The Survey. A total of 981 owners or operators were sent questionnaires asking that they report any and all fires in their parking structures. A total of 448 companies, or 46 per cent, responded to the questionnaire. The 448 responses involved 1,686 parking structures and 778,000 car spaces. Three hundred and ninety-five of those responding reported fires in structures they own or operate. Care was taken to be certain there was no duplication in the reporting of fires. The time span involving the fires was a period of 60 years. Three hundred and sixty-eight of the 395 fires over the 60 years involved fire damage only to the automobile. One-third of the fires occurred during the last ten years. Twenty-seven fires resulted in building damage. Only four involved a loss exceeding $5,000. In none of the fires reported was there loss of life or injury.

None of the fire loss reports indicated replacement of beams, columns, or floors in the structures. Sprinkler systems were not reported as a factor in controlling any of the fires.

The conclusions of this study are of interest. Damage to automobiles, which are the primary source of fires in parking garages, is not a major problem. Seventy-seven per cent of the fires amounted to less than $500 damage.

Perhaps the most significant items of information from the survey are that the total dollar value of the real estate included in the survey is approximately $2 billion and that the *total* fire loss reported on this same real estate is approximately $130,000.

Fire Tests. If one considers the survey as a case history of what has occurred in the way of frequency and kinds of fires in parking structures over a 60-year span, a review of fire tests in simulated parking structures lends further support to the point that fires from passenger

automobiles are of a special nature, confined to the vehicle (which acts as a container) and of short duration. Review of fire tests involving passenger automobiles conducted by the British,[1] Japanese,[2] and Swiss [3,4] provides consistent data on the effects of fires originating in or under passenger automobiles on other automobiles parked adjacent to the fire car and on structural members located over or next to the fire car.

The actual studies of fires indicate that the automobile, besides acting as a container, has a very low fuel load in terms of pounds of combustibles per square foot of floor area. Table 1 gives one example of the passenger automobile fuel load and translates it into the equivalent weight of wood.

Table 1. Automobile Fuel Load

Type	Quantity of Combustible Material (Pounds)	Calorific Values		Equivalent Weight of Wood (Pounds)
		Per Pound	Per Car	
Motor fuel	85	20,000	1,700,000	212
Tires	101.2	17,000	1,720,000	215
Oil	13.8	19,000	260,000	32.9
Paint	18	10,000	180,000	22.5
Underseal	22.5	15,000	340,000	42.7
Cotton	14.9	9,000	130,000	16.5
Wood	14.1	8,000	110,000	14.1
Polyvinyl	34.9	10,000	340,000	40.5
Polyurethane	71.2	12,000	850,000	106.8
TOTALS	376 Pounds per Car		5,630,000 Btu per Car	703 Pounds per Car

The space per car is obtained by dividing the total square feet of each parking level by the number of car stalls on that level and then dividing the square feet per car into 703 pounds. On this basis the fire load will generally be well below two pounds per square foot.

British Tests. The tests conducted in Great Britain in an exposed steel-frame test structure clearly establish the following:

1. The highest temperature on the exposed steel structural members was 680°F.
2. The highest average fire temperature measured by thermocouples located in the air space above the test vehicle was approximately 1,550°F.
3. The duration of peak fire temperatures was nine minutes or less.
4. The duration of the fires did not exceed 45 minutes from ignition to burnout.
5. In no case was an adjacent car ignited.

The results of the tests conducted in Japan and Switzerland confirm the results obtained by the British, that a fire in an automobile is a low-hazard fire that produces much smoke but little exposure to surrounding automobiles and no high temperature buildup on surrounding exposed steel structural members.

The Swiss tests were unique, in that they were conducted in an enclosed parking structure and they included a comparison of fire conditions with and without sprinklers:

Without an automatic extinguishing system

1. The temperature in the area of the burning car remained bearable during all the tests, and it was concluded that the spaciousness in automobile parking structures is an asset.
2. Smoke did not impair visibility until some minutes after the fire had reached its full proportions.

With an automatic extinguishing system

1. Since sprinklers need a relatively high temperature at ceiling level to respond, sprinkler flow involves an already sizable fire.
2. Sprinklers cannot extinguish a fire inside or under a vehicle.
3. Pools of burning gasoline are shifted by extinguishing water, and thus fire can spread to other cars, to other parts of the building, or to the drainage system.
4. Extinguishing water causes immediate smoke spread that eventually leads to complete loss of visibility.

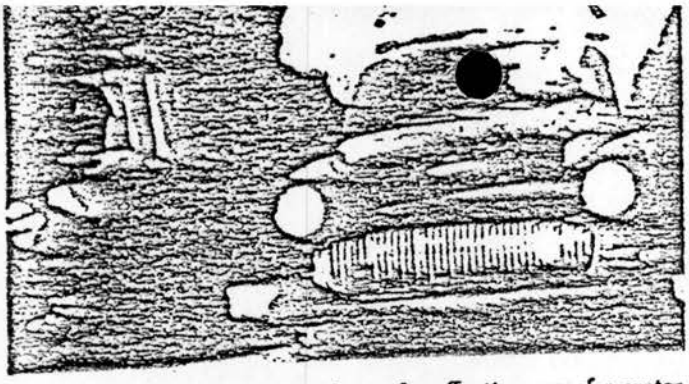
The trend to open-air automobile parking structures should even more significantly reduce fire loss experience in automobile parking operations. The study by the AISI clearly identifies parking structures as a separate fire risk from other types of occupancies. The study, as well as the British and Swiss tests, provides evidence that justifies re-evaluation of existing building code requirements and fire insurance rates for modern parking structures.

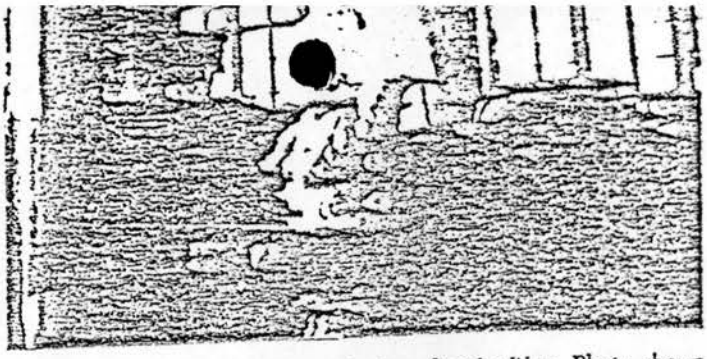
[1] E. G. Butcher, G. J. Langdon-Thomas, and C. K. Bedford, *Fire and Car-Park Buildings*, Fire Note No. 10 (London: Her Majesty's Stationery Office, 1968).

[2] "Fire Tests with Mock-Up of Steel-Frame Multi-Storied Parking Building," unpublished report of tests conducted by Nippon Steel Corporation (Tokyo, 1970).

[3] K. Sauser, P. Mueller, and K. Berger, *Report on Fire Test in the Steinenschanze Car Park* (Basel, Switzerland: Basel City Building Department and Fire Inspectorate, 1969). Available from Cerberus, Ltd., CH-8708, Männedorf, Switzerland.

[4] H. Buergi, *Fire Tests with Cars Parked in an Enclosed Car Park Building*, report of tests conducted in Bern, Switzerland, in April 1970. Available from Cerberus, Ltd.





Left: Photo 1, Swiss test to evaluate the effectiveness of a water curtain operated manually 10 minutes after ignition. Photo shows automobile in enclosed parking structure 5 minutes 30 seconds after ignition. There was no fire spread to the adjacent car. Smoke rapidly spread through the parking hall at ceiling level. Immediately after the water curtain had operated, smoke increased and spread, soon filling the entire parking level. Visibility decreased alarmingly. Two to four minutes after operation of the water curtain evacuation was ordered. Breathing was possible only with breathing apparatus.

Right: Photo 2, Swiss test in enclosed sprinklered parking structure. The purpose was to simulate arson, showing rapid fire spread creating temperature development in the test area. Intense fire developed and rapidly spread to the whole car. Photo shows extent of fire 50 seconds after ignition. Despite the fire volume, the fire temperature in the test area remained bearable. Firemen used foam to extinguish the fire at 4 minutes 45 seconds.

Open Parking Structure Fire Test. To confirm the data from fire tests in England, Japan, and Switzerland and the findings of the "Survey of Fire Experience in Automobile Parking Structures in the United States and Canada," a full-scale burnout test was planned in a modern open-air steel-frame parking structure. The test, the first such test in the United States, sponsored by American Iron and Steel Institute, was conducted on October 15, 1972, in Scranton, Pennsylvania.

The Test Building. Completed in 1970, the operating multistory parking structure, owned by the Scranton Parking Authority, is located in downtown Scranton, at the northeast corner of Washington Avenue and Linden Street. Part of the ground-floor level is occupied by retail stores. The remainder of the ground floor and five levels above, including the roof, are used for automobile parking.

The building has a structural steel frame and post-tensioned concrete decks. All structural steel in the parking decks is exposed. The over-all dimensions of the building are about 226 by 180 feet (see Figure 1).

The Test Area. Three late-model American automobiles were positioned on the next to top parking level, front first, in adjacent parking stalls delineated by painted stripes on the floor, and parked as would normally be expected under actual conditions. In this position the center car was located under the exposed steel girder, with the front of the car in one bay and the rear end in another. The other two cars extended partially into bays beyond the two that had been prepared for the fire test. The center car of the three parked in the test area was ignited. The cars were parked approximately two feet apart. To provide normal live load on the girder spanning the test area, cars were parked on the deck above the test area.

Fuel Load. To the normal fuel load of the automobiles (upholstery, lining, padding, carpeting, wiring, tires, oil and grease, etc.) were added crumpled-up newspapers and 10 gallons of gasoline in each fuel tank. The trunks contained a spare tire and other combustibles. The Scranton Fire Bureau had previously conducted a series of open-air burnout tests at its training ground. Cars were set on fire under the engine compartment, in the interior of the cars, with full tanks and half tanks of gasoline, with windows up and windows down. The purpose of these tests was to determine what conditions would most likely contribute to a major automobile fire.

Ventilation. Natural draft through the fire area was obtained from the open-sided structure. Because experience had shown that fire development in a closed-in automobile is extremely slow, if not impossible, the windows were partially open in all three automobiles.

Instrumentation. The temperatures in the test area were obtained from 40 thermocouples and recorded on one 16-point and one 24-point temperature recorder. The placement of the thermocouples and the recording of temperatures were accomplished by Underwriters' Laboratories, Inc., personnel.

Deflection of the steel girder across the test site was measured by a surveying instrument, which was set up on the roof of the structure. Horizontal expansion of the girder was measured by a plumb bob suspended from the column-girder connection and observed on a scale at the floor below.

Conclusions. During 48 minutes of uncontrolled burning, fire completely gutted the test car. From front to back, essentially all the combustible materials were consumed; nevertheless, about two quarts of gasoline, out of ten gallons at the start of the test, remained in the fuel tank. There was no leakage at the seams of the tank, and later examination did not reveal any rupture. The soldered joint at the fill pipe connection to the tank melted, allowing the fill pipe to separate from the tank.

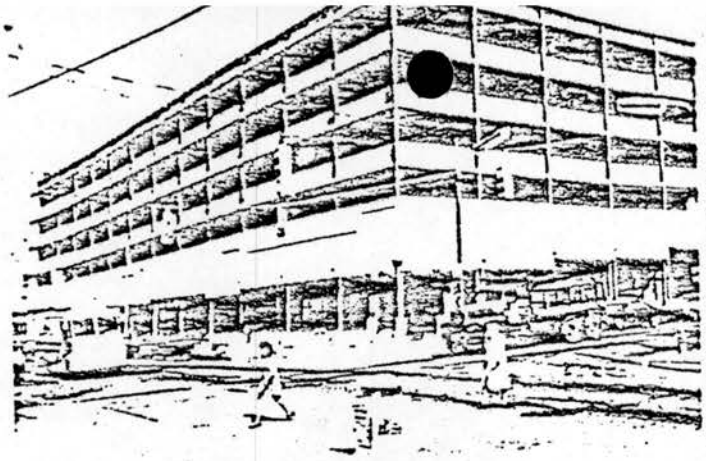


Photo 3: Scranton, Pennsylvania. This parking structure, completed in 1970, was an open steel-framed facility, with space for 554 cars, measuring 226 by 180 feet. Five parking levels are located above retail stores at ground level. In the structure, peripheral steel columns support 54-foot-span W24-by-76 girders of ASTM A572 steel. The fire test was carried out on the next-to-top parking level. To impose normal loading, automobiles were parked on the roof over the main girder being subjected to the fire test.

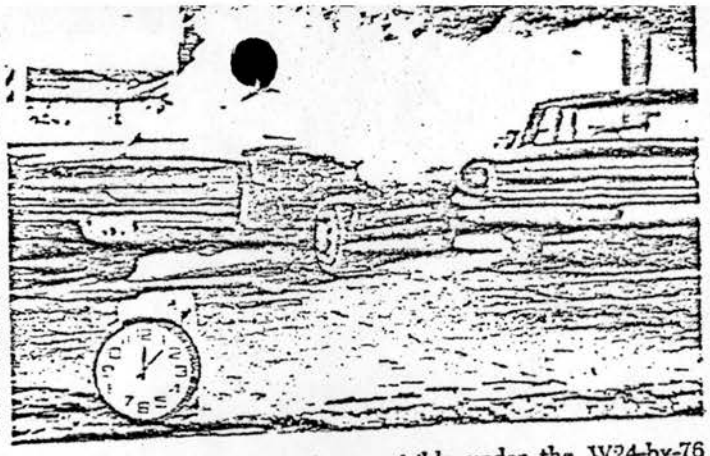


Photo 4. Scranton test. Flames visible under the W24-by-76 steel girder, the main structural member subjected to the fire test. The highest temperature recorded on the bottom flange, 440°F, for about five minutes, occurred at a point over the test car's gasoline tank. A temperature of 420°F was recorded over the windshield area. Limiting temperatures for such structural elements are 1,100°F average and 1,300°F at any one point, as set by NFPA No. 251, *Standard Methods of Fire Tests of Building Construction and Materials.*

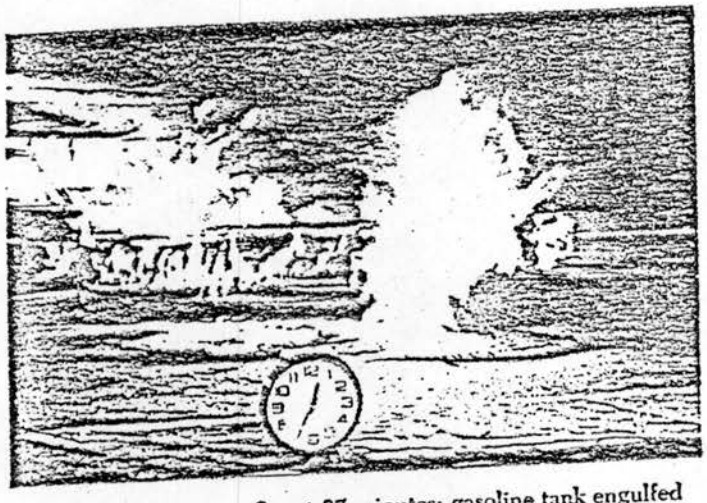


Photo 5, Scranton test: fire at 37 minutes; gasoline tank engulfed in flames; on right-hand car, left rear stoplight plastic reflector ignited; reflector burned itself out in five minutes. No further fire spread; no fire damage requiring replacement of structural members.

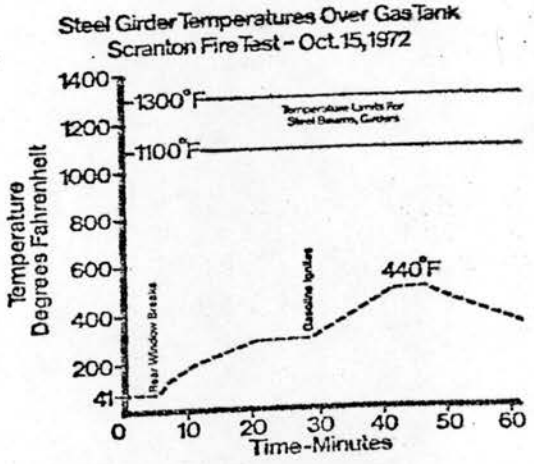


Figure 1. Scranton test. Steel girder temperatures over fuel tank.

A 15- to 20-mph wind blowing across the test site fanned the blaze. Undoubtedly the wind increased the intensity of the flaming, caused more direct flame impingement on the exposed cars, and increased the radiant heat exposure. Yet, despite localized ignitions, the two cars not more than two feet from the burn car received only minor fire and heat damage.

There was no structural damage. The only maintenance following the test, besides steam-cleaning to remove soot deposits, was application of one gallon of paint to the exposed steel girder in the test area.

The girder directly over the test car received more fire exposure than any other structural element. The maximum temperature recorded on the bottom flange was over the gas tank — 440°F at 41 minutes, for a period of about five minutes, just before the fire burned itself out. Briefly, for about two minutes, a temperature of 420°F was attained on the bottom flange over the windshield area about 17 minutes after the test started, when flames flared out of the passenger compartment. For the most part the temperatures on the beam remained well below 350°F. The limiting temperatures for such structural elements are 1,100°F average and 1,300°F at any one point, as set by NFPA Standard No. 251, *Standard Methods of Fire Tests of Building Construction and Materials* (see Figure 1).

The deck over the test area had been loaded with automobiles and the vertical deflection was measured. Briefly, at 42 minutes into the fire, as gasoline under the test car was burning vigorously, the deflection at the center of the 54-foot-long steel girder reached 1⅝ inches, and its horizontal expansion measured ⅝-inch. These readings resulted from thermal expansion of the bottom flange. After cooling, the structural element returned to its pretest conditions; both deflection and elongation were recorded as zero.

Air temperatures, measured by bare thermocouples suspended 24 inches below the slab, reached brief peaks when the fire flared up, then rapidly subsided. One reached 780°F momentarily nine minutes after the start of the test; another peaked at 810°F at 11 minutes over the windshield. For the most part the air temperatures were well below 400°F.

This full-scale test fire confirmed the results of similar tests conducted in England, Japan, and Switzerland. The over-all fire load in an open-air parking structure is very low, and the concentrated fire load, representing a single fueled automobile, will cause an intense fire in and around the car in which the fire starts, if the fire is left to burn, until the entire car is consumed of combustibles. Yet, even with wind causing flame impingement on the adjacent car only two feet away, the fire was confined to the car of origin for 37 minutes, when nonsustained ignition of the plastic on the taillight of an adjacent car occurred.

Fire exposure to the exposed steel structural members was never a critical factor during the test. Maximum temperatures and deflection of the girder directly over the fire remained well below significant levels. There was no damage to the exposed steel.

On the basis of this and other tests that have been conducted, it is concluded that open-air parking structures represent an extremely low fire hazard, and that exposed steel framing provides an adequate degree of safety against structural collapse. △

BOCA BASIC BUILDING CODE
1978 EDITION

OPEN TYPE PARKING STRUCTURE REQUIREMENTS

TYPES OF CONSTRUCTION

Type of construction Section 214.0									
Type 1 Section 213.0		Type 2 Section 216.0			Type 3 Section 217.0			Type 4 Section 218.0	
		Noncombustible Note c			Exterior masonry walls			Frame	
Fireproof		Protected		Unprotected	Heavy timber (mill)	Ordinary		Protected	Unprotected
						Protected	Unprotected		
1A	1B	2A	2B	2C	3A	3B	3C	4A	4B

SECTION 302.0 RESTRICTIONS WITHIN THE FIRE LIMITS

302.1 General: All buildings and structures, and all additions to existing buildings and structures, hereafter erected within the boundaries of the fire limits shall be of fireproof (Type 1), protected noncombustible (Types 2A and 2B), heavy timber (Type 3A), or ordinary protected (Type 3B), construction as defined in Article 2 and regulated in Table 214; and shall be constructed within the height and area limitations of Table 305 except as herein provided. Open parking structures may be constructed as permitted under Section 429.0.

306.2 Street frontage increase: When a building or structure has more than twenty-five (25) per cent of the building perimeter fronting on a street or other unoccupied space not less than thirty (30) feet in width accessible from a street by a posted fire lane not less than eighteen (18) feet in width, the tabular areas may be increased two (2) per cent for each one (1) per cent of such excess frontage.

306.3 Sprinkler increase: When a building is equipped with an approved automatic fire suppression system, unless such fire suppression system is required by the provisions of Article 4 for structures of special use and occupancy, the tabular areas may be increased by two hundred (200) per cent for one (1) story buildings and one hundred (100) per cent for buildings more than one (1) story in height.

429.6 Heights and areas: Heights and areas of open parking structures shall not exceed the limits specified in the following Table 429.

Table 429

HEIGHT AND AREA LIMITATION FOR OPEN PARKING STRUCTURES

Type of construction	Height	Area in square feet
1A & 1B	Unlimited	Unlimited
2A	12 Stories—120 feet	Unlimited
2B	10 Stories—100 feet	50,000
2C	8 Stories— 85 feet	30,000
2B & 2C	2 Stories— 25 feet	Unlimited

Note 1. Type 2B and 2C construction may be six stories in height and unlimited in area when at least fifty (50) per cent open on all sides and when the horizontal distance from any point on any level to an exterior wall opening on a street, alley, courtyard or any other permanent open space does not exceed two hundred (200) feet.

} Unlimited

The areas of structures wherein more than twenty-five (25) per cent of the perimeter has frontage on street or other open space leading to a street each of which is not less than thirty (30) feet wide may be increased as provided in Section 306.2. When an automatic sprinkler system is installed in accordance with Section 1204.0 in Types 2B and 2C construction, the area may be unlimited. The above limits of height

OPEN TYPE PARKING STRUCTURE REQUIREMENTS

TYPES OF CONSTRUCTION

Fire-Resistive Type A	Fire-Resistive Type B	Protected Limited — Combustible	Heavy Timber	Unprotected Limited — Combustible	Ordinary	Wood Frame

Note: "Limited Combustible" previously called "Noncombustible".

SECTION 392. OPEN AIR PARKING STRUCTURES.

392.1. Construction.

a. Open air parking structures shall be of fire-resistive, protected limited-combustible, or unprotected limited-combustible types of construction. Buildings used for any other purpose in which open air parking structures are located shall be of fire-resistive, protected limited-combustible, or unprotected limited-combustible types of construction, and the open air parking structure shall be of the same type of construction as the building.

b. Open air parking structures of fire-resistive or protected limited-combustible types of construction are permitted to be unlimited in height and area.

c. Open air parking structures of unprotected limited-combustible type of construction shall not exceed 75 feet in height and are permitted to be unlimited in area.

} Unlimited

i. When open air parking structures are of unprotected limited-combustible construction and all steel members are structural steel as regulated by the provisions of Section 921, the horizontal distance on any parking level shall not exceed 200 feet either to an open exterior wall or open side, which opens to a permanent open space not less than 10 feet in width, or to an unobstructed vertical opening having dimensions not less than 10 feet by 10 feet in the floor or roof above. The required open sides of each level and the unobstructed vertical openings shall not be enclosed or restricted by any material which would limit the free movement of air. Not less than one side of the parking structure, having the greatest horizontal dimension, shall be an open side and shall open to a street, public place, publicway, or other open space, not less than 40 feet in width, which is accessible from a street, and which by written agreement with the municipality is kept accessible at all times to the fire department and is satisfactory for the movement of motorized equipment. Exterior walls or sides, accessible to the fire department, which have materials or arrangements of materials which would restrict fire department access through the walls or sides, shall have access openings not less than 32 inches in width and 48 inches in height, with sills, not more than 50 feet apart for each parking level.

SECTION 570. RESTRICTIONS OF CONSTRUCTION WITHIN THE FIRE LIMITS.

570.2 New Buildings and Structures.

b. New buildings and structures, other than as described by the provisions of Section 570.2a, are permitted to be erected within the fire limits, provided they are one of the following (1) through (7):

(1) Single-story buildings of unprotected limited-combustible construction, except where used for high hazard occupancy, not exceeding 2,500 square feet in area where used for an automotive service garage, car wash, or a business occupancy, or 1,000 square feet in area where used for other occupancies. Exterior walls having a horizontal separation of less than 10 feet shall have a fire resistance rating of not less than 1 hour.

(2) Open air parking structures of unprotected limited-combustible construction, provided the structures comply with the provisions of Section 392.

NFPA – STANDARD FOR PARKING STRUCTURES

NFPA NO. 88A – 1973

OPEN TYPE PARKING STRUCTURE REQUIREMENTS

STANDARD TYPES OF BUILDING CONSTRUCTION

NFPA No. 220 — 1961

This standard provides the following classifications of building types:

Fire-resistive construction
Heavy timber construction
Noncombustible construction
Ordinary construction
Wood frame construction

1-2 Open Air Parking Structures are building structures or portions thereof used for parking motor vehicles and having not less than 25 percent of the total wall area open to atmosphere at each level, utilizing at least two sides of the structure. These structures may be of the ramp type in which the motor vehicles are parked by attendants or the driver; or they may have the mechanical parking facilities as described in 1-1. Dispensing of motor fuels, and motor vehicle servicing are occasionally provided.

2-1 General Requirements

2-1.1 Parking structures shall be constructed of one of the types of construction defined in the *Standard for Standard Types of Building Construction* (*NFPA 220–1961*) except as otherwise amended in this Standard.

2-7 Open-Air Parking Structures

2-7.1 Open-air parking structures shall be of fire-resistive or noncombustible construction, as defined in the *Standard for Standard Types of Building Construction* (*NFPA 220-1961*).

2-7.2 Heights and floor areas of open-air parking structures of fire-resistive construction and protected noncombustible construction may be unlimited.

2-7.3 Open-air parking structures of unprotected noncombustible construction shall not exceed 75 feet in height when of unlimited area, provided, however, the horizontal distance on any parking level to an exterior wall opening on a street, alley, court-yard or other similar permanent open space shall not exceed 200 feet.

Unlimited

2-7.4 The required open side areas of each story or parking level shall not be enclosed or restricted by any material which would limit free movement of air.

STANDARD BUILDING CODE

1977 EDITION

OPEN TYPE PARKING STRUCTURE REQUIREMENTS

TYPE OF CONSTRUCTION								
TYPE I	TYPE II	TYPE III	TYPE IV		TYPE V		TYPE VI	
			1-Hour	Unprotected	1-Hour	Unprotected	1-Hour	Unprotected
MCSC Type I 443	MCSC Type II 332	MCSC Type IV 3HH	MCSC Type II 211	MCSC Type II 100	MCSC Type III 211	MCSC Type III 200	MCSC Type V 111	MCSC Type V 100

301.2—TYPES OF CONSTRUCTION PERMITTED

Within the Fire District every building hereafter erected shall be one of the following Types (except as permitted in Section 304).

Type I
Type II
Type III
Type IV
Type V

412.7 – PARKING LOTS AND AUTOMOBILE PARKING STRUCTURES

(c) Open Automobile Parking Structures - As defined in Section 201.2, Automobile Parking Structures may be constructed with open exterior walls, with roof parking permitted, to the allowable heights and areas specified in Table 412.7 for Open Automobile Parking Structures when meeting the following criteria:

1. At least fifty percent (50%) of the clear height between floors shall be open to the atmosphere for the full length of at least two (2) exterior walls, excluding required stair and elevator walls and structural columns.

2. The distance from any point on any floor level to an open exterior wall facing on a street, or to other permanently maintained open space at least twenty (20) feet in width extending full width to a street, shall not exceed two hundred (200) feet.

3. When such structures are within ten (10) feet of a common property or building line, they shall be provided with an enclosure wall along the line of not less than one (1) hour fire resistance without openings therein, except door openings meeting the requirements of Section 703.4 shall be permitted.

4. All floor and roof areas providing for the parking or movement of automobiles shall be provided with pedestrian guardrails in accordance with Section 1108 (b) at all exterior and interior vertical openings when the vertical distance to the ground or surface directly below exceeds three (3) feet. Such parking areas shall also be provided with exterior or interior walls or impact guardrails, except at pedestrian or vehicular accesses, capable of withstanding an impact of not less than one hundred fifty (150) pounds per lineal foot applied at eighteen (18) inches above the floor. Each floor of such structure shall have wheel guards not less than four (4) inches in height above the floor with a clear passage of three (3) feet between the wheel guard and edge of structure.

TABLE 412.7
OPEN AUTOMOBILE PARKING STRUCTURES
ALLOWABLE HEIGHTS AND AREAS

Construction Type	Allowable Area Sq. Ft. Per Tier	Allowable Height
Type I	No Limit	No Limit
Type II	No Limit	No Limit
Type III	30,000	4 tiers or 40 ft.
Type IV	160,000	8 tiers or 75 ft.

NATIONAL BUILDING CODE OF CANADA
1975 Edition

OPEN AIR PARKING Exposed Steel CONSTRUCTION

Group F, Division 3
Storage Garages up to 6 Storeys

3.2.2.50.(1) A *building* used as a *storage garage* and having no other *occupancy* above it may have its floor, wall, ceiling and roof assemblies constructed without a *fire-resistance rating* provided the *building* is

← Exposed Steel

(a) of *noncombustible construction*,
(b) not more than 70 ft (21.3 m) in height above *grade*,
(c) not more than 100,000 sq ft (9290 m²) in *building area*,
(d) ventilated in conformance with Sentence 3.6.3.4.(6), and
(e) designed so that every portion of each *floor area* is within 200 ft (61.0 m) of an exterior wall opening.

Group F, Division 3, up to 6 Storeys

3.2.2.51.(1) A *building* classified as Group F, Division 3 shall conform to Sentence (2) provided the *building*

(a) is not more than 6 *storeys* in *building height*,
(b) if unsprinklered, is not greater in *building area* than the value in Table 3.2.2.W., and
(c) if *sprinklered*, is not greater than twice the area limits of Clause (b).

Table 3.2.2.W.

Forming Part of Sentence 3.2.2.51.(1)

No. of *Storeys*	Unsprinklered Maximum Area, sq ft		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	unlimited	unlimited	unlimited
2	72,000	90,000	108,000
3	48,000	60,000	72,000
4	36,000	45,000	54,000
5	28,800	36,000	43,200
6	24,000	30,000	36,000
Column 1	2	3	4

(2) The *building* shall be of *noncombustible construction*, and
(a) basements and cellars shall be subdivided by a 2-hr *fire separation* into areas not exceeding 10,000 sq ft (930 m²), or they shall be *sprinklered*,
(b) floor assemblies immediately above basements or cellars shall be a 2-hr *fire separation*,
(c) floor assemblies immediately above crawl spaces shall have a 1-hr *fire-resistance rating*, except that this requirement is waived if the crawl spaces are subdivided by a 1-hr *fire separation* into areas not exceeding 10,000 sq ft (930 m²), or they are *sprinklered* (see Article 3.2.2.3.),
(d) other floor assemblies shall be a 1-hr *fire separation*,
(e) balconies and *mezzanines* shall have a 1-hr *fire-resistance rating*,
(f) roof assemblies shall have a 1-hr *fire-resistance rating*, and
(g) all *loadbearing* walls, columns and arches shall have a *fire-resistance rating* at least equivalent to that required for the supported assembly.

(3) Notwithstanding the requirements of Sentence (2) for *fire separations*, openings for vehicle ramps are permitted through floors in *storage garages*.

Group F, Division 3, Any Height, Any Area

3.2.2.52.(1) A *building* classified as Group F, Division 3 shall conform to Sentence (2) provided the *building*

(a) is not limited in *building height*, and
(b) is not limited in *building area*.

(2) The *building* shall be of *noncombustible construction*, and
(a) basements and cellars shall be subdivided by a 2-hr *fire separation* into areas not exceeding 10,000 sq ft (930 m²), or they shall be *sprinklered*,
(b) floor assemblies immediately above basements or cellars shall be a 2-hr *fire separation*,
(c) floor assemblies immediately above crawl spaces shall have a 1-hr *fire-resistance rating*, except that this requirement is waived if the crawl spaces are subdivided by a 1-hr *fire separation* into areas not exceeding 10,000 sq ft (930 m²), or they are *sprinklered* (see Article 3.2.2.3.),
(d) all other floor assemblies shall be at least a 2-hr *fire separation*, except that such floor assemblies may be reduced to a 1-hr *fire separation* in a *storage garage* conforming to Sentence 3.6.3.4.(6),
(e) balconies and *mezzanines* shall have a 1-hr *fire-resistance rating*,
(f) roof assemblies shall have a 1-hr *fire-resistance rating*, and
(g) all *loadbearing* walls, columns and arches shall have a *fire-resistance rating* at

PART I — OPEN PARKING STRUCTURES

Ind 62.20 Scope. This classification provides the minimum requirements for the design and construction of open parking structures as defined in section Ind 62.10 (2).

History: Cr. Register, December, 1977, No. 264, eff. 1-1-78.

Ind 62.21 Construction requirements. (1) MATERIALS. All structural elements shall be of noncombustible materials.

(2) FLOORS. Floors shall be provided with positive surface drainage.

Note #1: Structural components of open parking structures are subjected to corrosive and deteriorating elements. The designer should consider the efforts of such elements and should consider the use of air-entrained concrete, concrete sealers and coatings, additional cover for reinforcing and other accepted engineering practices to protect the components.

Note #2: The department recommends a minimum slope of 1%.

History: Cr. Register, December, 1977, No. 264, eff. 1-1-78.

Ind 62.22 Setbacks. Open parking structures may be erected without enclosing walls, except that enclosing walls of not less than 2-hour fire-resistive construction, as specified in section Ind 51.04, shall be provided on all sides which are less than 10 feet from a property line between premises or any other building.

History: Cr. Register, December, 1977, No. 264, eff. 1-1-78.

Ind 62.23 Separation from other occupancies. Every open parking structure shall be separated from any other occupancy by noncombustible 2-hour (NC-2) rated construction, or better, except as specified in section Ind 55.05. (With respect to Ind 55.05, open parking structures are considered nonhazardous.) All openings in the wall to adjoining occupancies shall be protected by means of self-closing, fire-resistive doors as specified in section Ind 51.047.

Note: It is also the intent of this section to consider office and building maintenance areas used in conjunction with the operation of the open parking structure as distinct occupancies requiring 2-hour separation.

History: Cr. Register, December, 1977, No. 264, eff. 1-1-78.

Ind 62.24 Construction, height and allowable area. (1) CONSTRUCTION AND HEIGHT. Open parking structures shall be of the type of construction and shall not exceed the height as specified in this section. The maximum floor area, per level, of any such structure shall not exceed that permitted for the corresponding type of construction and height as follows:

(a) Open parking structures of noncombustible zero-hour (NC-0) rating shall not exceed 70 feet in height or 700,000 square feet in total area.

(b) Open parking structures of noncombustible 2-hour rating or better shall not be limited in height or area per floor level. Exterior walls need not be rated, except as provided in section Ind 62.22.

Note: Open parking structures in excess of 60 feet in height are currently required to be protected by an automatic fire sprinkler system. However, legislation is being introduced to exempt open parking structures from the applicable portions of this Wisconsin statute.

History: Cr. Register, December, 1977, No. 264, eff. 1-1-78.

1975 Wisconsin Code

Survey of Fire Experience in Automobile Parking Structures in the United States and Canada

by Dr. Lester M. Harris
Executive Vice President
Marketing Research Associates
MRA

January 31, 1972

SURVEY OF FIRE EXPERIENCE IN AUTOMOBILE PARKING STRUCTURES IN THE UNITED STATES AND CANADA

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1. OBJECTIVE

Along with the fast growth of the automobile population in recent decades came a concurrent need -- a place to park these autos when they were not traveling our streets and highways. As a result, parking structures began to be built, especially in highly populated areas, to efficiently accommodate automobiles. The parking business has grown into a major industry with thousands of parking structures rising to provide hundreds of thousands of parking spaces.

Because of its highly specific purpose, an automobile parking structure is inherently a special type of building. But because of a lack of detailed information on the fire safety in parking structures, persons and organizations who control building codes and insurance rates have continued to view parking structures similar to buildings such as department stores or office buildings.

This research project was conducted to fill this gap. It is a comprehensive effort to search out the fire experience of parking structures in the United States and Canada. The sponsor, the Subcommittee on Fire Technology of the Committee on Construction Codes and Standards of American Iron and Steel Institute, intends that the study provide a new, statistically reliable basis for evaluating fire protection requirements and the insurance rates of modern parking structures.

This research study was undertaken by American Iron and Steel Institute as a service to the members of the National Parking Association and the International Municipal Parking Congress. These findings should be useful to the parking industry to achieve major cost savings in their present operations and in the future construction of parking facilities.

2. PROCEDURES

Two mail questionnaires were used to gather this survey's information. The first questionnaire was sent to all 981 companies, municipal parking agencies and authorities and college and university parking administrators who are members of the two primary parking organizations -- the National Parking Association and the International Municipal Parking Congress. The names and addresses were provided with the cooperation of NPA and IMPC.

The membership rolls of these two groups represent the most complete record available of parking structure owners, operators, municipal parking agencies and authorities, college and university parking administrators and affiliated companies in the United States and Canada.

The National Parking Association members come from 43 states, the District of Columbia, Canada and a number of other countries in Europe, Latin America and the Far East. Membership includes either regular members, who are directly involved in owning or operating parking facilities, or associate members. Associate members are municipal and/or state parking officials, parking consultants, university parking officials, architects/engineers, realty companies, building owners, banks and others not directly related to the operation of parking facilities.

The International Municipal Parking Congress is a worldwide organization composed of municipalities and other governmental bodies concerned with planning, financing, design, construction, operation and administration of public parking systems.

After the questionnaires were returned from the first mailing, Questionnaire No. 2 was sent to companies, colleges and public agencies who

reported having had fire experience in Questionnaire No. 1. The purpose of the second questionnaire was to probe more deeply into the reported fires -- where the fires started, how they started, how they were controlled and extinguished, the extent of the loss, the type of structures, etc. Questionnaire No. 2 was limited only to fires that occurred in the past ten years with a loss of $100 or more.

The first questionnaire was mailed the week of September 13, 1971 and the second during the week of November 15, 1971.

Here are some of the interesting overall facts revealed by the two-step questionnaire procedure.

A total of 448 companies returned Questionnaire No. 1 (46 percent return of the 981 sent), including private and public agencies and colleges and universities. These 448 companies operated 1,686 parking structures with 778,000 car spaces.

A total of 395 fires was reported. (It should be kept in mind that these fires occurred within the entire life span of existing parking structures operated by the reporting companies, going back in some cases as far as 60 years to the first years when the automobile became a practical form of transportation.)

Twenty-seven (27) fires resulted in building damage, but only four of these exceeded losses of $5,000.

Three hundred sixty-eight (368) fires damaged an automobile only. Based on the analysis of Questionnaire No. 2, about one third of these fires occurred in the last ten years and/or damage was less than $100.

In none of these fires was there any reported loss of life or injury.

3. SUMMARY OF FINDINGS -- QUESTIONNAIRE NO. 1

This section summarizes the facts and figures obtained from the analysis of Questionnaire No. 1.

As a standard format, figures are presented on six important pieces of information in each paragraph below: 1 -- number of companies reporting, 2 -- number of parking structures they operate, 3 -- total car spaces, 4 -- fires resulting in building damage under $5,000, 5 -- fires resulting in building damage over $5,000, and 6 -- fires causing automobile damage. A more complete statistical analysis of Questionnaire No. 1 may be found in the final sections of this report.

1. Totals For All Fires Reported

Total Number of Companies Reporting	448
No. of Parking Structures	1,686
No. of Car Spaces	778,000
No. of Building Fires Causing Under $5,000 Damage	23
Over $5,000 Damage	4
No. Fires Damaging Automobiles	368

2. National Parking Association Member Companies

Total Number of Companies Reporting	219
No. of Parking Structures	1,286
No. of Car Spaces	557,000
No. of Building Fires Causing Under $5,000 Damage	11
Over $5,000 Damage	2
No. Fires Damaging Automobiles	192

3. International Municipal Parking Congress Members

Total Number of Members Reporting	100
No. of Parking Structures	300
No. of Car Spaces	166,000
No. of Building Fires Causing Under $5,000 Damage	11
Over $5,000 Damage	2
No. of Fires Damaging Automobiles	142

College and University Parking Administrators

Total Number Reporting	129
No. of Parking Structures	100
No. of Car Spaces	55,000
No. of Building Fires Causing Under $5,000 Damage	1
Over $5,000 Damage	0
No. of Fires Damaging Automobiles	34

4. FIRE EXPERIENCE REPORTED IN QUESTIONNAIRE NO. 2

This section reviews the findings reported in Questionnaire No. 2. As mentioned, Questionnaire No. 2 was limited only to fires that occurred within the past ten years and had a loss value of $100 or more. Thirty-two (32) companies also reported that either they had no fire experience during the past ten (10) years, or that they did not recall any fire that exceeded $100 in loss value.

Summary of Findings

A. Fire Reports -- Building Damage Over $5,000

1. Fire No. 1 -- Loss, $50,000

This fire in 1966 involved a three-story structure with underground parking only and resulted in the loss of what was primarily a service building. The company is in the tire business and at the time of the fire provided only 15 parking spaces. It now operates only surface parking lots.

The location had been operated for 38 years. The structure was built approximately 100 years ago using brick arch floors and brick columns. Gasoline was dispensed and automobile repairs were offered. The fire, which occurred on the third floor in a tire storage area, was extinguished by the fire department by way of an interior stairway. Building was subsequently condemned. Vehicle loss was only $50.

2. Fire No. 2 -- Loss, $40,000

This 1967 fire started in a storage area. Loss was apparently restricted to the contents of this area, as there was no damage indicated to vehicles. Building damage reported was limited to replacement of the suspended ceiling system. The underground structure with concrete beams and columns was built in 1954 and has been operated since that time. The fire was on the first level of the structure's two parking levels. No automotive services were offered. The fire was extinguished by the fire department.

Ten automobile fires also were reported for this facility. All fires were contained within the car of origin.

3. Fire No. 3 -- Loss, $18,400

This fire in 1968 took place in a seven-story building erected in 1930 that has been operated by the same company for the past 41 years. This was the one major fire (more than $100) in the history of the operation of this location.

The enclosed, aboveground structure was built with concrete beams and columns. Gasoline was dispensed. The fire started in a small office on the top floor of a seven-level structure. The fire department extinguished the fire, gaining access to it by ramp. In addition, there was an estimated vehicle loss of $10,000 (manufacturer's cost) consisting of three cars total loss and partial damage (smoke) to two others.

4. Fire No. 4 -- Loss, $9,000

This 1969 fire occurred in the basement of an open-air, multi-level structure built of concrete beams and columns. The fire ignited the urethane foam surface which was spray-applied to the reinforced concrete for insulation purposes. The fire damage reported involved the insulation, electrical and heating services for the basement level. There was no vehicle damage. The fire was extinguished by the fire department.

B. Fire Reports -- Building Damage Under $5,000

1. Fire Loss Damage and Type of Structure

A total of 23 fires was reported. Nine of these fires occurred prior to 1962, while for two fires no additional information was supplied other than that they occurred. A breakdown follows of the 12 recent fires for dollar value of fire loss to the building and type of parking structure:

Amount	Total No. of Fires 1962 - 1971	Type of Parking Structure: Open Deck	Type of Parking Structure: Enclosed Above Ground and/or Underground	Prior to 1962	Details of Fire Unreported
Under $500	5	1	4		
$500 - $999	2	1	1		
$1,000 - $1,999	4	1	3		
$2,000 - $2,999	0				
$3,000 - $3,999	0				
$4,000 - $4,999	1		1		
TOTALS	12	3	9	9	2

2. Geographical Location

The 21 fires occurred in 17 widely dispersed cities. The cities were:

1. Atlanta, Georgia
2. Chicago, Illinois
3. Des Moines, Iowa
4. Grand Rapids, Michigan
5. Harrisburg, Pennsylvania
6. Kansas City, Missouri
7. Miami, Florida
8. Montreal, Quebec, Canada
9. Nashville, Tennessee
10. New Haven, Connecticut
11. New York, New York
12. Providence, Rhode Island
13. San Francisco, California
14. Springfield, Illinois
15. St. Louis, Missouri
16. Toronto, Ontario, Canada
17. Winston-Salem, North Carolina

3. Median Years In Operation

The median number of years of operation (for facilities reporting fire losses during last ten years) was in the range of 10 to 12. The distribution was:

Years Operated	Number of Facilities
1 to 5	4
6 to 15	6

The two other fire loss locations have been in operation in each instance for 45 years. One of these locations reported the largest dollar loss in this category -- $4,000.

4. Loss Figures and Fires Per Year

Although the number of reported fires tended to increase in recent years, the amount of total loss per fire decreased during the same period of time.

Fire No.	Year	Loss	
		Building	Vehicle
1	1971	$ 250 (Oil Burner)	$ 0
2	1971	1,147	0
3	1971	1,000 (Rewiring)	0
4	1970	100	0
5	1970	500	0
6	1970	401	6,000
7	1969	4,000	0
8	1969	300	9,000
9	1968	200 (Sealer)	200
10	1967	1,500	2,000
11	1966	500	1,500
12	1965	1,400 (Paint & Plastic Signs)	0

5. Type of Parking Structure Involved in Fires:

Open Air	3
Enclosed above ground and/or underground	9

6. Type of Beams and Columns in Parking Structures Involved in Fires:

Steel-painted or exposed	1
Steel with fire protection	1
Concrete	10

7. Fire Origin

Five fires started in vehicles, while seven fires were other than vehicle initiated.

Of the fires not vehicle initiated, three started in the building electrical service (including the fire resulting in the loss value of $4,000),

one in the storage area and one during the completion of elevator penthouse. An oil burner loss and damage to paint and plastic signs were the two remaining non-vehicle fires.

8. No fire loss reports indicated replacement of beams, columns or floors.

9. Total number of parking levels and the level on which fire occurred:

Fire No.	No. of Levels	Level of Fire
1	4 - Basement	1st - Cashier Office
2	4	2nd
3 (steel-painted structure)	8	Basement
4	12	12th
5	12	3rd
6	3	2nd
7	3½	2nd Sub-level
8	10	2nd
9 (steel w/fire protection)	10	3rd
10	5	4th
11	6	Not reported
12	3	2nd

10. Four parking structures dispensed gasoline, two of which offered other automotive services. Of these parking structures which offered automotive services, one was an enclosed structure that had been built in 1926, and reported a fire loss of $1,000.

11. Five fires were extinguished by portable fire extinguishers. Two fires involved use of portable extinguishers before arrival of the fire department. Of seven fires extinguished by the fire department, in only one case did firemen approach by other than stairway or ramp.

12. Sprinkler systems were not reported as a factor in the control of any fires.

C. Fire Reports - Automobile Loss

1. Detailed information on 74 fires was reported. A breakdown follows of the 74, for the dollar value of automobile loss:

Amount	No. of Fires	Percent of Reported Fires
$500 and under	57	77%
$1,000 and under	3	4%
$2,500 and under	6	8%
$5,000 and under	5	7%
$10,000 and under	3	4%
	74	100%

2. Approximately three out of four automobile fires resulted in a dollar loss of $50 to $500.

3. Only six fires resulted in damage beyond the vehicles initially involved in the fire. In five of these cases the fire occurred in an enclosed or basement parking structure.

5. CONCLUSIONS

The primary conclusion to be drawn from this study is that automobile parking structures have an excellent fire safety record. Several factors substantiate this conclusion.

First, consider life safety. Not a single loss of life or injury of any kind was reported due to fire. It should be kept in mind that the study was based on information reported by 448 companies operating 1,686 parking structures providing 778,000 car spaces. Further, the survey covered a long span of years which includes information on parking structures operated as far back as 1911.

Second, building damage due to fires in parking structures cannot be called significant either in dollar loss or structural damage. Only four fires of any consequence were reported. The survey includes reports on approximately $2 billion dollars worth of real estate having a reported total dollar fire loss of approximately $130,000.

Third, automobile damage was no major loss category. Seventy-seven percent of the auto fires amounted to less than $500 damage. Only six auto fires caused damage beyond the car of origin.

Fourth, it is important to note that the trend to open air, multi-level parking structures will even more significantly reduce the fire loss experience in automobile parking operations.

The results of the survey provide additional evidence for justifying the re-evaluation of existing building code requirements for modern parking structures.

It is this researcher's opinion that this study identifies parking structures as a separate risk from other types of occupancies in establishing fire insurance rates.

ACKNOWLEDGEMENTS

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Leslie M. Harris, Ph.D.

6. STATISTICAL ANALYSIS OF SURVEY

STATISTICAL ANALYSIS OF ALL RESPONSES*

NUMBER WHO RETURNED QUESTIONNAIRES	448
NUMBER OF PARKING STRUCTURES	1,686
TOTAL PARKING SPACES	778,000
TOTAL FIRES: BUILDING	27
AUTOMOBILE	368
DAMAGE TO BUILDING OVER $5,000: NO. OF FIRES	4
DAMAGE TO BUILDING UNDER $5,000: NO. OF FIRES	23
DAMAGE TO AUTOMOBILE: NO. OF FIRES	368

NUMBER OF FACILITIES WITH THE FOLLOWING CAR SPACES:

No. Spaces	0 - 99	100 - 499	500 - 999	1000 and over
	209	1036	313	128

NUMBER OF STRUCTURES THAT ARE PRIMARILY SINGLE PURPOSE	1,091
NUMBER OF STRUCTURES THAT ARE PART OF ANOTHER MAJOR STRUCTURE	595

*Includes National Parking Association member companies, Municipal Parking Agencies and Authorities and colleges and universities.

ALL COMPANIES

DISTRIBUTION OF PARKING STRUCTURES BY STATE:

1.	Alabama	7	18.	Louisiana	20	35.	Ohio	96
2.	Alaska	1	19.	Maine	0	36.	Oklahoma	5
3.	Arizona	4	20.	Maryland	37	37.	Oregon	11
4.	Arkansas	6	21.	Mass.	36	38.	Penn.	76
5.	California	273	22.	Michigan	63	39.	Rhode Island	19
6.	Colorado	12	23.	Minnesota	14	40.	So. Carolina	3
7.	Connecticut	29	24.	Mississippi	1	41.	So. Dakota	0
8.	Delaware	4	25.	Missouri	63	42.	Tennessee	44
9.	Florida	25	26.	Montana	2	43.	Texas	99
10.	Georgia	84	27.	Nebraska	11	44.	Utah	7
11.	Hawaii	19	28.	Nevada	0	45.	Vermont	0
12.	Idaho	0	29.	New Hampshire	0	46.	Virginia	21
13.	Illinois	100	30.	New Jersey	20	47.	Washington	19
14.	Indiana	20	31.	New Mexico	1	48.	West Virginia	4
15.	Iowa	19	32.	New York	182	49.	Wisconsin	26
16.	Kansas	7	33.	No. Carolina	30	50.	Wyoming	0
17.	Kentucky	8	34.	No. Dakota	2	51.	Wash., D.C.	93
							CANADA	63
							TOTAL	1,686

January 31, 1972

STATISTICAL ANALYSIS OF NPA MEMBERS

NUMBER WHO RETURNED QUESTIONNAIRES	219
NUMBER OF PARKING STRUCTURES	1,286
TOTAL PARKING SPACES	557,000
TOTAL FIRES: BUILDING	13
AUTOMOBILE	192
DAMAGE TO BUILDING OVER $5,000:	
NO. OF FIRES	2
DAMAGE TO BUILDING UNDER $5,000:	
No. OF FIRES	11
DAMAGE TO AUTOMOBILE:	
NO. OF FIRES	192

NUMBER OF FACILITIES WITH THE FOLLOWING CAR SPACES:

No. Spaces	0 - 99	100 - 499	500 - 999	1000 and over
	155	863	190	78

NUMBER OF STRUCTURES THAT ARE PRIMARILY SINGLE PURPOSE	757
NUMBER OF STRUCTURES THAT ARE PART OF ANOTHER MAJOR STRUCTURE	529

January 31, 1972

NPA MEMBERS

DISTRIBUTION OF PARKING STRUCTURES BY STATE:

1.	Alabama	6	18.	Louisiana	17	35.	Ohio	80
2.	Alaska	1	19.	Maine	0	36.	Oklahoma	3
3.	Arizona	4	20.	Maryland	25	37.	Oregon	7
4.	Arkansas	6	21.	Mass.	28	38.	Penn.	45
5.	California	149	22.	Michigan	21	39.	Rhode Island	19
6.	Colorado	12	23.	Minnesota	14	40.	So. Carolina	2
7.	Connecticut	22	24.	Mississippi	0	41.	So. Dakota	0
8.	Delaware	1	25.	Missouri	60	42.	Tennessee	43
9.	Florida	17	26.	Montana	2	43.	Texas	98
10.	Georgia	84	27.	Nebraska	11	44.	Utah	7
11.	Hawaii	8	28.	Nevada	0	45.	Vermont	0
12.	Idaho	0	29.	New Hampshire	0	46.	Virginia	21
13.	Illinois	60	30.	New Jersey	13	47.	Washington	18
14.	Indiana	15	31.	New Mexico	0	48.	West Virginia	2
15.	Iowa	6	32.	New York	163	49.	Wisconsin	15
16.	Kansas	7	33.	No. Carolina	28	50.	Wyoming	0
17.	Kentucky	6	34.	No. Dakota	1	51.	Wash., D.C.	93
							CANADA	46
							TOTAL	1,286

January 31, 1972

STATISTICAL ANALYSIS OF IMPC MEMBERS

NUMBER WHO RETURNED QUESTIONNAIRES	100
NUMBER OF PARKING STRUCTURES	300
TOTAL PARKING SPACES	166,000
TOTAL FIRES: BUILDING	13
AUTOMOBILE	142
DAMAGE TO BUILDING OVER $5,000:	
NO. OF FIRES	2
DAMAGE TO BUILDING UNDER $5,000:	
NO. OF FIRES	11
DAMAGE TO AUTOMOBILE:	
NO. OF FIRES	142

NUMBER OF FACILITIES WITH THE FOLLOWING CAR SPACES:

No. Spaces	0 - 99	100 - 499	500 - 999	1000 and over
	45	125	93	37

NUMBER OF STRUCTURES THAT ARE PRIMARILY SINGLE PURPOSE	272
NUMBER OF STRUCTURES THAT ARE PART OF ANOTHER MAJOR STRUCTURE	28

January 31, 1972

IMPC MEMBERS

DISTRIBUTION OF PARKING STRUCTURES BY STATE:

1.	Alabama	1	18.	Louisiana	2	35.	Ohio	7
2.	Alaska	0	19.	Maine	0	36.	Oklahoma	1
3.	Arizona	0	20.	Maryland	11	37.	Oregon	0
4.	Arkansas	0	21.	Mass.	1	38.	Penn.	30
5.	California	98	22.	Michigan	35	39.	Rhode Island	0
6.	Colorado	0	23.	Minnesota	0	40.	So. Carolina	0
7.	Connecticut	6	24.	Mississippi	0	41.	So. Dakota	0
8.	Delaware	3	25.	Missouri	2	42.	Tennessee	1
9.	Florida	8	26.	Montana	0	43.	Texas	0
10.	Georgia	0	27.	Nebraska	0	44.	Utah	0
11.	Hawaii	11	28.	Nevada	0	45.	Vermont	0
12.	Idaho	0	29.	New Hampshire	0	46.	Virginia	0
13.	Illinois	20	30.	New Jersey	6	47.	Washington	0
14.	Indiana	3	31.	New Mexico	1	48.	West Virginia	1
15.	Iowa	11	32.	New York	15	49.	Wisconsin	10
16.	Kansas	0	33.	No. Carolina	2	50.	Wyoming	0
17.	Kentucky	0	34.	No. Dakota	1	51.	Wash., D.C.	0
							CANADA	15
							TOTAL	300

January 31, 1972

STATISTICAL ANALYSIS OF COLLEGES AND UNIVERSITIES

NUMBER WHO RETURNED QUESTIONNAIRES 129

NUMBER OF PARKING STRUCTURES 100

TOTAL PARKING SPACES 55,000

TOTAL FIRES: BUILDING 1
AUTOMOBILE 34

DAMAGE TO BUILDING OVER $5,000:

NO. OF FIRES 0

DAMAGE TO BUILDING UNDER $5,000:

NO. OF FIRES 1

DAMAGE TO AUTOMOBILE:

NO. OF FIRES 34

NUMBER OF FACILITIES WITH THE FOLLOWING CAR SPACES:

No. Spaces	0 - 99	100 - 499	500 - 999	1000 and over
	9	48	30	13

NUMBER OF STRUCTURES THAT ARE PRIMARILY SINGLE PURPOSE 62

NUMBER OF STRUCTURES THAT ARE PART OF ANOTHER MAJOR STRUCTURE 38

January 31, 1972

COLLEGES AND UNIVERSITIES

DISTRIBUTION OF PARKING STRUCTURES BY STATE:

1.	Alabama	0	18.	Louisiana	1	35.	Ohio	9
2.	Alaska	0	19.	Maine	0	36.	Oklahoma	1
3.	Arizona	0	20.	Maryland	1	37.	Oregon	4
4.	Arkansas	0	21.	Mass.	7	38.	Penn.	8
5.	California	21	22.	Michigan	7	39.	Rhode Island	0
6.	Colorado	0	23.	Minnesota	0	40.	So. Carolina	1
7.	Connecticut	1	24.	Mississippi	1	41.	So. Dakota	0
8.	Delaware	0	25.	Missouri	1	42.	Tennessee	0
9.	Florida	0	26.	Montana	0	43.	Texas	1
10.	Georgia	0	27.	Nebraska	0	44.	Utah	0
11.	Hawaii	0	28.	Nevada	0	45.	Vermont	0
12.	Idaho	0	29.	New Hampshire	0	46.	Virginia	0
13.	Illinois	20	30.	New Jersey	1	47.	Washington	1
14.	Indiana	2	31.	New Mexico	0	48.	West Virginia	1
15.	Iowa	2	32.	New York	4	49.	Wisconsin	1
16.	Kansas	0	33.	No. Carolina	0	50.	Wyoming	0
17.	Kentucky	2	34.	No. Dakota	0	51.	Wash., D.C.	0
							CANADA	2
							TOTAL	100

7. SPECIAL STATISTICAL ANALYSIS OF NATIONAL PARKING ASSOCIATION MEMBER COMPANIES

A separate analysis has been prepared of the larger NPA companies:

1. Operating 5,000 and More Spaces
2. Operating 1,000 to 5,000 Spaces

STATISTICAL ANALYSIS OF NPA MEMBERS WHO OPERATE OVER 5,000 SPACES

NUMBER WHO RETURNED QUESTIONNAIRES (96% of all NPA Members in this class)	23
NUMBER OF PARKING STRUCTURES	793
TOTAL PARKING SPACES	342
TOTAL FIRES: BUILDING	3
AUTOMOBILE	53
DAMAGE TO BUILDING OVER $5,000: NO. OF FIRES	0
DAMAGE TO BUILDING UNDER $5,000: NO. OF FIRES	3
DAMAGE TO AUTOMOBILE: NO. OF FIRES	53

NUMBER OF FACILITIES WITH THE FOLLOWING CAR SPACES:

No. Spaces	0 - 99	100 - 499	500 - 999	1000 and over
	89	553	104	47

NUMBER OF STRUCTURES THAT ARE PRIMARILY SINGLE PURPOSE	405
NUMBER OF STRUCTURES THAT ARE PART OF ANOTHER MAJOR STRUCTURE	388

NPA MEMBERS WHO OPERATE OVER 5,000 SPACES

DISTRIBUTION OF PARKING STRUCTURES BY STATE:

1.	Alabama	5	18.	Louisiana	6	35.	Ohio	39
2.	Alaska	1	19.	Maine	0	36.	Oklahoma	1
3.	Arizona	2	20.	Maryland	14	37.	Oregon	5
4.	Arkansas	6	21.	Mass.	25	38.	Penn.	16
5.	California	105	22.	Michigan	10	39.	Rhode Island	16
6.	Colorado	12	23.	Minnesota	7	40.	So. Carolina	0
7.	Connecticut	17	24.	Mississippi	0	41.	So. Dakota	0
8.	Delaware	0	25.	Missouri	24	42.	Tennessee	30
9.	Florida	9	26.	Montana	0	43.	Texas	52
10.	Georgia	68	27.	Nebraska	9	44.	Utah	1
11.	Hawaii	2	28.	Nevada	0	45.	Vermont	0
12.	Idaho	0	29.	New Hampshire	0	46.	Virginia	19
13.	Illinois	21	30.	New Jersey	5	47.	Washington	0
14.	Indiana	11	31.	New Mexico	0	48.	West Virginia	2
15.	Iowa	6	32.	New York	136	49.	Wisconsin	10
16.	Kansas	3	33.	No. Carolina	5	50.	Wyoming	0
17.	Kentucky	2	34.	No. Dakota	1	51.	Wash., D.C.	84
							CANADA	10
							TOTAL	793

January 31, 1972

STATISTICAL ANALYSIS OF NPA MEMBERS WHO OPERATE BETWEEN 1,000 AND 5,000 SPACES

NUMBER WHO RETURNED QUESTIONNAIRES	44
NUMBER OF PARKING STRUCTURES	238
TOTAL PARKING SPACES	91,000
TOTAL FIRES: BUILDING	7
AUTOMOBILE	68
DAMAGE TO BUILDING OVER $5,000:	
NO. OF FIRES	1
DAMAGE TO BUILDING UNDER $5,000:	
NO. OF FIRES	6
DAMAGE TO AUTOMOBILE:	
NO. OF FIRES	68

NUMBER OF FACILITIES WITH THE FOLLOWING CAR SPACES:

No. Spaces	0 - 99	100 - 499	500 - 999	1000 and over
	37	162	29	10

NUMBER OF STRUCTURES THAT ARE PRIMARILY SINGLE PURPOSE	157
NUMBER OF STRUCTURES THAT ARE PART OF ANOTHER MAJOR STRUCTURE	81

January 31, 1972

NPA MEMBERS WHO OPERATE BETWEEN 1,000 AND 5,000 SPACES

DISTRIBUTION OF PARKING STRUCTURES BY STATE:

1.	Alabama	0	18.	Louisiana	8	35.	Ohio	32
2.	Alaska	0	19.	Maine	0	36.	Oklahoma	0
3.	Arizona	1	20.	Maryland	0	37.	Oregon	0
4.	Arkansas	0	21.	Mass.	0	38.	Penn.	11
5.	California	11	22.	Michigan	0	39.	Rhode Island	3
6.	Colorado	0	23.	Minnesota	3	40.	So. Carolina	0
7.	Connecticut	0	24.	Mississippi	0	41.	So. Dakota	0
8.	Delaware	1	25.	Missouri	23	42.	Tennessee	9
9.	Florida	7	26.	Montana	0	43.	Texas	21
10.	Georgia	8	27.	Nebraska	0	44.	Utah	4
11.	Hawaii	0	28.	Nevada	0	45.	Vermont	0
12.	Idaho	0	29.	New Hampshire	0	46.	Virginia	0
13.	Illinois	27	30.	New Jersey	0	47.	Washington	4
14.	Indiana	0	31.	New Mexico	0	48.	West Virginia	0
15.	Iowa	0	32.	New York	9	49.	Wisconsin	0
16.	Kansas	0	33.	No. Carolina	22	50.	Wyoming	0
17.	Kentucky	0	34.	No. Dakota	0	51.	Wash., D.C.	6
							CANADA	28
							TOTAL	238

January 31, 1972

Questionnaire No. _____
(For polling office only)

FIRES WITHIN PARKING STRUCTURES

1. Number of parking structures your company or agency has owned or operated _____ (Total)

2. Number of facilities with the following car spaces:

_____ 0-99 _____ 100-499 _____ 500-999 _____ 1000 and over

3. Number of parking structures in each state:

1. Alabama _____
2. Alaska _____
3. Arizona _____
4. Arkansas _____
5. California _____
6. Colorado _____
7. Connecticut _____
8. Delaware _____
9. Florida _____
10. Georgia _____
11. Hawaii _____
12. Idaho _____
13. Illinois _____
14. Indiana _____
15. Iowa _____
16. Kansas _____
17. Kentucky _____
18. Louisiana _____
19. Maine _____
20. Maryland _____
21. Mass. _____
22. Michigan _____
23. Minnesota _____
24. Mississippi _____
25. Missouri _____
26. Montana _____
27. Nebraska _____
28. Nevada _____
29. New Hampshire _____
30. New Jersey _____
31. New Mexico _____
32. New York _____
33. No. Carolina _____
34. No. Dakota _____
35. Ohio _____
36. Oklahoma _____
37. Oregon _____
38. Penn. _____
39. Rhode Island _____
40. So. Carolina _____
41. So. Dakota _____
42. Tennessee _____
43. Texas _____
44. Utah _____
45. Vermont _____
46. Virginia _____
47. Washington _____
48. West Virginia _____
49. Wisconsin _____
50. Wyoming _____
51. Wash., D.C. _____

CANADA _____

TOTAL _____

4. Number of structures that are:

Primarily single purpose _____

Part of another major structure _____

5. Have you ever had a fire in any of your parking structures which resulted in damage to the building?

a. Under $5,000 Yes _____ If yes-How many? _____ (Total)

No _____

b. $5000 and over Yes _____ If yes-How many? _____ (Total)

No _____

6. Have you ever had a fire in any of your parking structures which resulted in damage only to the automobile?

Yes _____ If yes-How many? _____ (Total)

No _____

NAME _____

TITLE _____

COMPANY NAME _____

ADDRESS _____ (Street and No.)

_____ (City) _____ (State) _____ (Zip Code)

Telephone No. _____ (Incl. Area Code)

PLEASE NOTE: If you operate a facility owned by another party, do not duplicate the information submitted on the owner's questionnaire.

QUESTIONNAIRE NO. II

FIRES WITHIN PARKING STRUCTURES

Please complete the following information for each fire $100 and over that has occurred within the past ten years.

		Fire #1	Fire #2	Fire #3
1. Location of fire	City	_____	_____	_____
	State	_____	_____	_____
2. In what year did this fire occur?		_____	_____	_____
3. For how many years have you operated this location?		_____	_____	_____
4. In what year was structure constructed?		_____	_____	_____
5. Type of Parking Structure:				
Open deck (minimum 2 sides open)		_____	_____	_____
Enclosed above ground		_____	_____	_____
Underground		_____	_____	_____
(Please check ( ) which is applicable)				
6. Beams and Columns:				
Steel-painted or exposed		_____	_____	_____
Steel-with fire protection		_____	_____	_____
Concrete		_____	_____	_____
(Please check ( ) which is applicable)				

	Fire #1	Fire #2	Fire #3
7. Did fire start in vehicle?	Yes____	Yes____	Yes____
	No____	No____	No____
a) Was fire confined to vehicle?	Yes____	Yes____	Yes____
	No____	No____	No____
b) Did fire spread to other vehicles?	Yes____	Ues____	Yes____
	No____	No____	No____
c) Did fire damage structure	Yes____	Yes____	Yes____
	No____	No____	No____
8. Did fire start in:			
(For questions a, b and c, please check ( ) which is applicable.)			
a) Building electrical service	_____	_____	_____
b) Storage	_____	_____	_____
c) Other	_____	_____	_____
(For questions d, e and f, please answer Yes or No.)			
d) Was a vehicle ignited?	Yes____	Yes____	Yes____
	No____	No____	No____
e) Was more than one vehicle ignited?	Yes____	Yes____	Yes____
	No____	No____	No____
f) Did fire damage structure?	Yes____	Yes____	Yes____
	No____	No____	No____
9. Did fire damage require replacement of beams, columns or floors?	Yes____	Yes____	Yes____
	No____	No____	No____

	Fire #1	Fire #2	Fire #3
10. a) Total parking levels	_____	_____	_____
b) On which level was fire?	_____	_____	_____
11. Was an automotive service offered at this location that:			
a) Dispensed gasoline	Yes___	Yes___	Yes___
	No___	NO___	No___
b) Automobile repair	Yes___	Yes___	Yes___
	No___	No___	No___
c) Other automotive service - painting, spraying, etc.	Yes___	Yes___	Yes___
	No___	No___	No___
12. Was fire extinguished by:			
Hand extinguisher on premises	_____	_____	_____
Sprinklers	_____	_____	_____
Fire Department	_____	_____	_____
(Please check ( ) which is applicable)			
13. If fire was extinguished by Fire Department, access to fire was:			
By way of interior stairway or ramp	Yes___	Yes___	Yes___
	NO___	No___	No___
14. What was the value of Fire Loss?			
Vehicle	$_____	$_____	$_____
Structure	$_____	$_____	$_____

	Fire #1	Fire #2	Fire #3
15. Was there any loss of life from fire?	Yes____	Yes____	Yes____
	No____	No____	No____

16. Please indicate number of fires according to the year in which fire occurred:

	Damage To Automobile	Damage To Structure
1971	_____	_____
1970	_____	_____
1969	_____	_____
1968	_____	_____
1967	_____	_____
1966	_____	_____
1962-1965	_____	_____

NOTE: If you have had more than three fires, please use blank pages.

NAME _____

TITLE _____

COMPANY NAME _____

ADDRESS _____
(Street and No.)

_____
(City) (State) (Zip Code)

Telephone No.
(Incl. Area Code) _____

Yes, I would like a copy of the report of findings.

Thank you.

MRA Marketing Research Associates _____

APPENDIX TO STATEMENT OF NEED AND REASONABLENESS

October 9 and 10, 1979 Public Hearing

UBC Section 2311(g)

Supporting data submitted to Structural Advisory Subcommittee is attached.

Excerpts from Wind Forces on Structures published by American Society of Civil Engineers, 1961.

Excerpt from Standard Specification for Structural Supports for Highway signs, Luminaires and Traffic Signals published by the American Association of State Highway and Transportation Officials.

(5)

AMERICAN SOCIETY OF CIVIL ENGINEERS

345 EAST 47TH STREET, NEW YORK 17, N. Y.

WIND FORCES ON STRUCTURES

Final Report of the Task Committee on Wind Forces of the Committee on Loads and Stresses of the Structural Division

Paper No. 3269

Reprinted from TRANSACTIONS, *Vol. 126, Part II, 1961, p. 1124*

Reprinted 1962

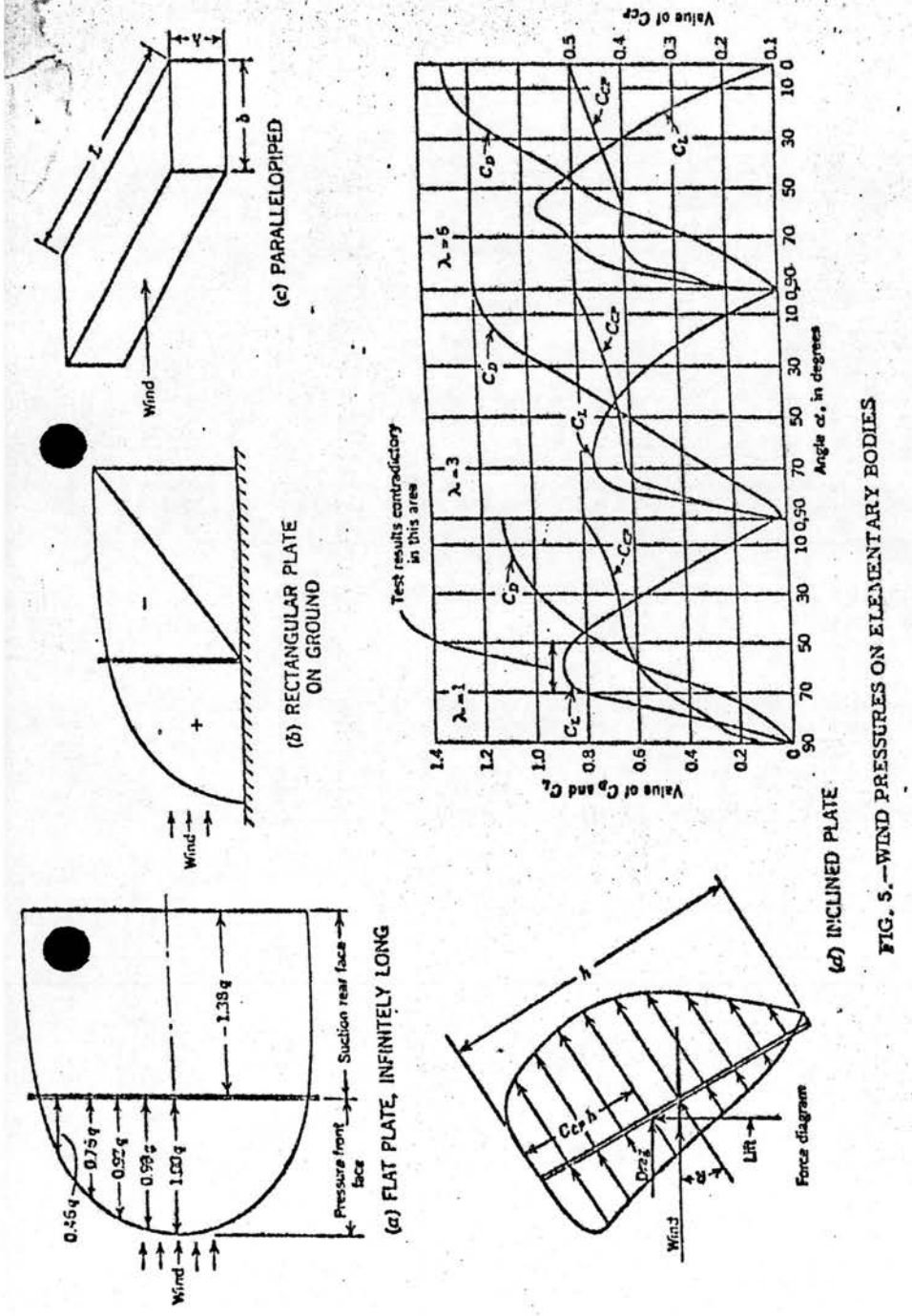


FIG. 5.—WIND PRESSURES ON ELEMENTARY BODIES

long plates. As a result, the aspect ratio has little effect in this case and the drag coefficient is nearly the same as for a square, freely suspended plate. It should be noted, however, that the drag in this case depends on the degree of development of the boundary layer upstream that depends, in turn, on the ground-surface condition. Consequently, the pressure distribution may, in some cases, be quite different from that shown in Fig. 5(b).

In all cases the suction on the rear is the larger factor in the total drag. When, for any reason, this suction is reduced, the effect on the drag is appreciable. As an example, consider the parallelopiped in Fig. 5(c). As the width, b, increases relative to the height, the object becomes more "streamlined" and the drag coefficient decreases.

If the plate is perforated the drag becomes a function of the solidity ratio, ϕ, or the ratio of solid to enclosed area, as well as the aspect ratio (see Section V).

Drag and lift coefficients for several typical structural shapes are given in Table 3. Extensive data on the drag of elemental shapes are available (112) (311) (315).

TABLE 2.—DRAG COEFFICIENTS

	(a) Flat Plate in Normal Wind[a]							(b) Rectangular Plate on Ground[a]			(c) Parallelopiped[b]		
	Value of λ										Value of b/h		
	1.0	2.0	5.0	10	20	40	∞	1.0	10	∞	0.1	1.0	6.0
Pressure, front face	0.76						0.60	0.38		0.60			
Suction, rear face	0.30						1.38	0.72		0.60			
Value of C_D	1.12	1.19	1.20	1.23	1.42	1.60	1.98	1.10	1.20	1.20	1.95	2.03	0.90

[a] From reference 111; [b] From reference 303.

When two plates or lattice structures form the obstruction, the leeward plate is "shielded" by the windward one. When the spacing is infinite, it is evident that the case is two separate plates. The degree of shielding is a function of the spacing between the structures, the solidity ratio and the angle of attack, either horizontal, vertical, or both (see Section V).

Orientation of the Object in the Wind Stream.—In general the wind does not strike an immersed object perpendicular to any of its axes. Even for a structure near the ground the wind may have a vertical angle of attack, possibly as much as 20° from the horizontal. The horizontal angle (yaw) may be of any amount.

Fig. 6 (d) shows a plate inclined to the wind. For aspect ratios of 1, 3, and 6 the variation of pressure coefficients with the angle of attack is given. The pressure distributions on the two faces are, of course, not uniform and the center of pressure is not at the plate centroid. Similar information for various structures is given in Sections IV and V.

Friction Forces.—In the examples given previously, the forces were a result of the change of surface pressure. Additional forces result from friction be-

STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS



Table 1.2.5A

Wind Pressure on Structural Supports*

$P = 0.00256(1.3V)^2 C_d C_h$

ance, feet (metre) from and Surface to Centroid Loaded Area in Each Height Zone	Pressure, psf. (Pa) for Indicated Wind Velocity, mph (kmph)											
	60	(97)	70	(113)	80	(129)	90	(145)	100	(161)	110	(177)
0- 15 (0- 4.57)	12	(575)	17	(814)	22	(1053)	28	(1341)	35	(1676)	42	(2011)
15- 30 (4.57- 9.14)	16	(766)	21	(1006)	28	(1341)	35	(1676)	43	(2059)	52	(2490)
30- 50 (9.14-15.24)	17	(814)	23	(1101)	31	(1484)	39	(1867)	48	(2298)	58	(2777)
50-100 (15.24-30.48)	20	(958)	27	(1293)	35	(1676)	44	(2107)	54	(2586)	66	(3160)
100-150 (30.48-45.72)	22	(1053)	30	(1436)	39	(1867)	49	(2346)	61	(2921)	73	(3495)
150-200 (45.72-60.96)	23	(1101)	32	(1532)	42	(2011)	53	(2538)	65	(3112)	79	(3783)
200-300 (60.96-91.44)	25	(1197)	34	(1628)	44	(2107)	56	(2681)	69	(3304)	84	(4022)

alues in this table were computed using $C_d = 1.00$; design pressures must be corrected by using specified value for C_d from *Table 1.2.5C*.

) Wind pressure, whether on horizontal or vertical structure supports, sign, luminire or traffic signals, should be calculated for the corresponding limits shown the following table:

Table 1.2.5B

Coefficient of Height (C_h)

Height (Ft.) (m)	C_h
0- 15 (0- 4.57)	0.80
15- 30 (4.57- 9.14)	1.00
30- 50 (9.14-15.24)	1.10
50-100 (15.24-30.48)	1.25
100-150 (30.48-45.72)	1.40
150-200 (45.72-60.96)	1.50
200-300 (60.96-91.44)	1.60

(C) Wind drag coefficients are tabulated in Table 1.2.5C.

(D) Notation for Wind Loads (*see Figures 1.2.5D(1), 1.2.5D(2) and 1.2.5D(3)*)

W = Wind load due to wind pressure.
W_v = Total normal wind load on exposed vertical supports.
W_l = Total normal wind load on luminaires, maximum projected area in any direction times W and shall be considered constant acting parallel to the direction of the wind.
W_h = Wind on exposed horizontal support.
W_p = Wind on sign panel or traffic signal. W_p for traffic signals and small regulatory traffic signs shall be the maximum projected area in any direction times W and shall be considered constant acting parallel to the direction of the wind. W_p for other signs shall be as enumerated in the following.

(1) The wind loads on a structure shall be determined by the areas of horizontal and vertical supports, signs, luminaires and signals and shall be applied to the surface area seen in normal elevation.

(2) Horizontal supports of luminaire support structures and all connecting hardware shall be designed for wind loads, W_l and W_h, applied at the centers of pressure of the respective areas.

(C) Table 1.2.5C - WIND DRAG COEFFICIENTS (C_d)[1]

Type of Member	Shape of Members					
	Cylindrical	Dodecagonal 2	Octagonal	Flat 3	Elliptical	
					Broadside facing Wind	Narrow side facing Wind
Structural Supports (Vertical & Horizontal)						
Single Member or Truss						
Vd < 32 (16)	1.10	1.20	1.2	1.7	$1.2(D/d_0-1)+C_{dh}(2-D/d_0)$	$C_{dl}\left[\frac{4-D/d_0}{3}\right]$
32 (16)< Vd < 64 (32)	$\frac{100}{(Vd)^{1.5}}$	$\frac{9.62}{(Vd)^{.6}}$	1.2	1.7		
Vd > 64 (32)	0.45	0.79	1.2	1.7		
Two Members or Truss (one in front of other)	1.86			2.86		
Three Trusses Forming Triangular Cross Section	1.75			2.60		
Sign Panel (By Ratio of Length to Width)						
L/h = 1.0	1.12					
2.0	1.19					
5.0	1.20					
10.0	1.23					
15.0	1.30					
Traffic Signals*	1.2					
Luminaires (With generally rounded surfaces)	0.5					
Luminaires (With rectangular flat side shapes)	1.2					

[1] Wind drag coefficients for members, sign panels and other shapes not included in this Table shall be established by wind tunnel tests (over an appropriate range of Reynolds numbers), in which comparative tests are made on similar shapes included in this Table.

2 Valid for members having a ratio of corner radius to distance between parallel faces equal to, or greater than, 0.125.

3 Flat members are those shapes which are essentially flat in elevation, including plates, angles and squares.

* Wind loads on free swinging traffic signals may be modified, as agreed by the owner of the structure, based on experimental data in Reference 38.

Nomenclature: V = Wind velocity (mph) (kmph).
d = Depth (diameter) of member (ft.) (m).
D/d_0 = Ratio of major to minor diameter of ellipse (max. of 2).
C_{dh} = Drag coefficient of cylindrical shape, diameter D.
C_{dl} = Drag coefficient of cylindrical shape, diameter d_0.

*In metric units this becomes 40.62.
**In metric units this becomes 6.35.

APPENDIX TO STATEMENT OF NEED AND REASONABLENESS

October 9 and 10, 1979 Public Hearing

UBC Section 2417(n)

Supporting data submitted to Structural Advisory Subcommitte is attached.

Proposed Code

Amendment (1)

DEPARTMENT OF
127 UNIVERSITY AVE.
ST. PAUL, MINNESOTA 55103
TELEPHONE 612 296-3705

DATE OF ADOPTION _____

Proponent Minnesota Masonry Institute Title Howard Noziska, P.E. - Executive Direct

Address 7851 Metro Parkway Suite 103 City Minneapolis State Minnesota Zip 55420

Proposed amendment to the Building Code. Section 2417(a)

(Check one)

- ☐ Change subsection to read as follows
- ☐ Delete subsection and sustitute as follows
- ☒ Add new subsection to read as follows
- ☐ Delete subsection without substitution

SUPPORTING STATEMENTS:

This change is proposed because of the adequacy and wide acceptance of the design requirements contained in the National Concrete Masonry Association's Specification for the Design and Construction of Load-Bearing Concrete Masonry. All necessary and reasonable factors of safety are provided for by the National Concrete Masonry Association (NCMA) criteria and are commensurate with similar construction products, the performance history of concrete masonry, and sound engineering judgment.

(Use additional pages if necessary)

Supporting Statements: Continued

The proposal is consistent with the stated Policy and Purpose of the law establishing the State Building Code. Minnesota Statute 16.83 states in part, "The construction of buildings should be permitted at the least possible cost consistent with recognized standards of.... safety." In effect this proposal clarifies an existing alternate design method as provided for in Section 107 of the State Building Code. It will provide for a means of assuring that buildings designed to this standard will be so constructed.

The design criteria recommended by NCMA have been used throughout most of the United States (including many of the jurisdictions that have adopted the Uniform Building Code for over ten years without any reported failures attributable to the design criteria. The criteria are accepted by most model code writing bodies and are used, referenced or quoted directly by federal agencies. For example the BOCA Basic Building Code, the Southern Standard Building Code, and the National Building Code list the National Concrete Masonry Association as an accredited authoritative agency and refers to the Specification for the Design and Construction of Load-Bearing Concrete Masonry as an accepted engineering practice standard. In addition the Specification for the Design and Construction of Load-Bearing Concrete Masonry is utilized as a reference in such text's as "Evaluation of Structural Properties of Masonry In Existing Buildings" published by the U.S. Department of Commerce/National Bureau of Standards.

The following cities and states are some of the other agencies that have accepted this engineering practice standard.

Ohio
New Jersey
Pennsylvania
North Carolina
Indiana
Wisconsin
Boston
Chicago
Detroit
Washington, D.C.

Also, the American Concrete Institute Committee 531 recommends utilizing this design criteria.

Finally acceptance by design professionals in Minnesota is wide spread. A majority of the recently constructed loadbearing masonry buildings have been designed and built by the NCMA criteria. The L'Hotel De France, a 6-story 8" block bearing wall located in Bloomington, and Richfield Seniors Residence, a 7-story 8" block bearing wall located in Richfield, are among these examples.

The Minnesota Masonry Institute believes that acceptance of the Recommended Design Criteria by the state of Minnesota will result in lower construction costs while providing adequate protection for the public safety and welfare.

SUBSTANTIATION FOR "SPECIFICATION FOR DESIGN AND CONSTRUCTION OF LOAD-BEARING CONCRETE MASONRY"

The publication "Specification for the Design and Construction of Load-Bearing Concrete Masonry" to which the following discussion pertains is presented to satisfy the demand for rational criteria which would be useful to the design profession in developing to a greater degree the inherent advantages of load-bearing concrete masonry. Present criteria, based on traditional masonry construction, does not adequately cover ever-increasingly popular, new concepts, and hence greatly restricts further development of load-bearing concrete masonry construction.

The first draft of this publication, which was titled "Recommended Building Code Requirements for Engineered Concrete Masonry," was published in 1967 and was submitted to USASI Sectional Committee on Building Code Requirements and Good Practice Recommendations for Masonry--A41 for approval as a USA Standard. The committee reviewed the draft and offered comments and criticisms designed to improve the publication and make it more acceptable. NCMA reviewed the USASI comments, and in cooperation with the Portland Cement Association, revised the publication to reflect the improvements suggested.

Many of the provisions contained in this publication were taken from existing masonry codes and for that reason, detailed substantiation for those portions is not offered. The following discussion is aimed for the most part at providing justification for new provisions. Section numbers referred to herein correlate to the appropriate provisions in "Specification for the Design and Construction of Load-Bearing Concrete Masonry."

Introduction and Discussion

Chapter 1—General

Chapter 1 covers Scope, Dimensions, and Definitions.

Scope—Provides for design of load-bearing concrete masonry only, both reinforced and nonreinforced. Also provides for reduction in allowable stresses of 50% where masonry is erected without architectural or engineering inspection. While we feel the 50% reduction is arbitrary and perhaps too severe for uninspected masonry, it is the only criteria which has been successfully used in actual practice for an extended period of time (UBC).

1.2 Dimensions—Same as current ASA Code.

1.3 Definitions—In most instances the definitions are similar to those which have been used in other masonry codes. Several which we feel have been improved include the following: Grout—the words "which is proportioned" are substituted for "to which sufficient water is added," and the words "or pumping" are added to the definition; Reinforced Concrete Masonry—Since design in the standard is based on net area, and arbitrary provisions are eliminated for the most part, the traditional definitions for "reinforced grouted," and "reinforced hollow unit" masonry are combined into one definition covering both methods of reinforcing concrete masonry construction.

Chapter 2—Materials

Similar in scope and requirements to other masonry codes.

Chapter 3—Structural Design

3.1 General—This section lists the items which the designer is required to consider in determining the stresses on concrete masonry. Em-

phasis is placed on lateral stability and interaction of horizontal and vertical elements in transferring lateral forces to the ground.

3.2 Concrete Masonry Strength—Allowable compressive stresses for both reinforced and nonreinforced masonry are based on strength of masonry (f'_m). Masonry strength (f'_m) is determined either by prism tests (Section 3.2.2.1) or by an assumed value based on the compressive strength of the units (Section 3.2.2.2 and Table 3-1).

The slenderness correction factors for piers of h/t other than 2.0 are identical with those which have been in use for years in both ASA A41.2 and UBC. Similarly, the values for assumed strength of masonry were taken from ASA A41.2 except, for practical considerations, values for units in excess of 6,000 psi were omitted. When f'_m is assumed, based on the strength of the units, the value should be conservative when compared with the strength which would be obtained by testing a prism composed of the units, mortar, and workmanship proposed for the construction. The values shown in Table 3-1 reflect this premis and are conservative.

Section 3.2.2.1 describes prism test procedures and conditions, and requirements for number and frequency of tests during construction.

Section 3.3 presents allowable compressive, tension in flexure, and shear stresses for nonreinforced concrete masonry. Compressive stresses will be discussed under Section 3.8. Stresses for tension in flexure are related to type of mortar and type of unit (hollow or solid). Research used to arrive at allowable stresses for tension in flexure in the vertical span consisted of 27 flexural tests of uniformly-loaded monowythe walls of hollow units. Tests were made in accordance with ASTM E 72. The following table summarizes the results:

TABLE 1
FLEXURAL STRENGTH—SINGLE WYTHE WALLS OF HOLLOW UNITS—
UNIFORM LOAD—VERTICAL SPAN

Mortar Type Proportion ASTM C 270	Modulus of Rupture psi, Net Area	Reference
M	110	10
M	108	NCMA
M	102	10
M	97	10
M	95	NCMA
S	94	NCMA
M	91	NCMA
M	89	NCMA
N	88	4
S	84	10
S	83	NCMA
S	81	10
S	75	NCMA
S	69	NCMA
N	67	4
N	62	4
S	60	10
N	58	4
N	45	4
O	60	10
O	41	4
O	36	4
O	36	4
O	33	4
O	32	4
O	30	10
O	27	4

From Table 1, the average modulus of rupture for walls built with Types M and S mortar is 93 psi on net area. For Type N mortar, the value is 64 psi. For Type O mortar, the value is 37 psi, but is not permitted for load-bearing concrete masonry; hence, no value for Type O is listed in Table 3-2. Applying a safety factor of 4 to the above values results in allowable stresses for hollow units as follows:

Mortar Type	Allowable Tension in Flexure
M & S	23 psi
N	16 psi

To establish allowable tensile stresses for walls of solid units, the 8-inch composite walls in Table 2 were used. These walls, composed of 4-inch concrete brick and 4-inch hollow block were greater than 75% solid, and thus were evaluated as solid masonry construction. Modulus of rupture (gross area) for these walls averaged 157 psi, giving an allowable stress of 39 psi when a safety factor of 4 is applied. The composite wall tests in Table 2 used Type S mortar. To establish allowable stresses for solid units with Type N mortar, the mortar influence established previously for hollow units was used:

$$\frac{23}{16} : \frac{39}{f} \; ; \; f = 27 \text{ psi}$$

Values for allowable tension in flexure for walls supported in the horizontal span are established by doubling the allowables in the vertical span. While it is recognized that flexural tensile strength of walls spanning horizontally is more a function of unit strength than mortar, it is conservative to use double the vertical span values. Table 3 lists a summary of all published tests and indicates an average safety factor of 5.3 for the 43 walls

TABLE 2 FLEXURAL STRENGTH, VERTICAL SPAN CONCRETE MASONRY WALLS FROM TESTS AT NCMA LABORATORY

ASTM Mortar Type*	Wall			Modulus of Rupture	
	Nominal Thickness in.	Max. Uniform Load psf.	Net Section Modulus in 3/ft	Gross Area, psi	Net Mortar Bedded Area, psi
Monowythe Walls of Hollow Units					
M	8	85.15	80.97	61.74	88.73
M	8	87.10	80.97	63.15	90.76
M	8	91.00	80.97	65.97	94.82
M	8	103.35	80.97	74.93	107.69
S	8	62.40	80.97	45.24	69.47
S	8	72.15	80.97	52.31	75.18
S	12	183.3	164.64	57.11	93.94
S	12	161.2	164.64	50.22	82.62
Composite Walls of Concrete Brick & Hollow CMU					
S	8	222.3	103.82	161.16	180.67
S	8	219.7	103.82	159.29	178.55
S	8	187.2	78.16	135.72	202.09
S	8	228.8	103.82	165.88	185.95
S	8	218.4	78.16	158.34	235.77
S	8	223.6	78.16	162.11	241.38
S	12	171.6	139.83	53.46	103.55
S	12	150.8	139.83	46.98	91.00
S	12	156.0	139.83	48.60	94.14
S	12	213.2	139.83	66.42	128.66
Cavity Walls					
S	10	98.8	50.36	158.62	165.55
S	10	156.0	50.36	250.44	261.38
S	10	88.4	48.16	141.91	154.88
S	10	119.6	50.36	192.01	200.40
S	10	114.4	50.36	183.66	191.68
S	10	109.2	48.16	175.30	191.32
S	12(4-4-4)	145.6	50.36	233.73	243.94
S	12(4-4-4)	145.6	50.36	233.73	243.94
S	12(6-2-4)	135.2	77.80	127.38	146.63
S	12(6-2-4)	119.6	77.80	112.68	129.70

* Mortar type by proportion requirements.

** Air space not included in gross area of cavity walls.

containing no joint reinforcement and 5.6 for the 15 walls containing joint reinforcement.

TABLE 3 FLEXURAL STRENGTH, HORIZONTAL SPAN, NONREINFORCED CONCRETE MASONRY WALLS

Construction	Mortar Type	Loading Type	Loading psf	Modulus of Rupture Net Area, psi	S.F. Act./Allow	Ref.
Monowythe 8" Hollow, 3-Core	N	Uniform	127	132	4.13	4
	N	"	136	141	4.41	4
	N	"	127	132	4.13	4
	N	"	169	176	5.50	4
	N	"	173	180	5.63	4
	O	"	123	128	4.00	4
	O	"	158	164	5.13	4
Monowythe 8" Hollow, Joint Reinf. @ 16 in.cc	N	"	149	155	4.84	4
	N	"	160	166	5.19	4
	N	"	193	201	6.28	4
	O	"	150	156	4.88	4
	O	"	186	193	6.03	4
Monowythe 8" Hollow Joint Reinf. @ 8 in.cc	N	"	203	211	6.59	4
	N	"	196	204	6.38	4
	O	"	202	210	6.56	4
	O	"	195	203	6.34	4
Monowythe 8" Hollow	N	1/4 pt	56	58	1.81	6
	N	"	38	39	1.22	6
	N	"	61	63	1.97	6
	N	"	60	62	1.94	6
	N	"	69	71	2.22	6
	N	"	93	96	3.00	6
8" Monowythe Hollow, 2-Core	M	Center	199	217	4.72	26
	M	"	176	192	4.17	26
	M	"	151	165	3.59	26
4-2-4 Cavity Wall, Hollow Units	M	"	111	210	4.57	26
	M	"	135	255	5.54	26
	M	"	95	180	3.91	26
8" Monowythe Hollow 2-Core Joint Re. @ 8"oc	M	"	159	173	3.76	26
	M	"	159	173	3.76	26
	M	"	191	208	4.52	26
4-2-4 Cavity of Hollow Units Tied w/Joint Re. @ 8"oc	M	"	159	300	6.52	26
	M	"	159	300	6.52	26
	M	"	159	300	6.52	26

TABLE 3 (Continued)

Construction	Mortar Type	Loading Type	Loading psf	Modulus of Rupture Net Area, psi	S.F. Act./Allow	Ref.
4" Hollow Monowythe	N	Center	138	365	11.41	25
	N	"	157	415	12.97	25
	N	"	101	268	8.38	25
8" Hollow Monowythe	M	"	268	202	4.39	25
	M	"	314	237	5.15	25
	M	"	314	237	5.15	25
8" Hollow Monowythe	N	"	277	210	6.56	25
	N	"	314	237	7.41	25
	N	"	314	237	7.41	25
8" Hollow Monowythe	O	"	259	195	6.09	25
	O	"	277	210	6.56	25
	O	"	277	210	6.56	25
8" Hollow Monowythe	M	"	268	202	4.39	25
	M	"	297	224	4.87	25
	M	"	277	210	4.56	25
8" Hollow Monowythe	N	"	277	210	6.56	25
	N	"	259	195	6.09	25
	N	"	297	224	7.00	25
8" Hollow Monowythe	O	"	360	271	8.45	25
	O	"	297	224	7.00	25
	O	"	268	202	6.31	25
12" Hollow Monowythe	N	"	352	142	4.44	25
	N	"	314	127	3.97	25
	N	"	333	134	4.19	25

Shear—Values proposed in Table 3-2 for allowable shear for non-reinforced concrete masonry result from an evaluation of test walls from four sources, which included the three mortar types permitted in the NCMA recommendations, several wall sections, and both full and faceshell mortar bedding. Average shear resistance of walls laid up with Type M and S mortars

was 130 psi, net area and 82 psi for walls using Type N mortar. Compared with the allowable stress of 34 and 23 psi, the average safety factor for the 21 walls is 3.65. The results of these tests are summarized in Table 4.

TABLE 4 RACKING TEST DATA—NONREINFORCED CONCRETE MASONRY WALLS

Construction	Mortar Type	Ultimate Racking Load, psi, Net Mortar Bedded Area	S.F. Act./Allow	Ref.
8" Hollow Units	N	66	2.87	2
	N	58	2.52	2
	N	57	2.48	2
6" 3-Core Hollow	N	69	3.00	3
	N	62	2.70	3
	N	78	3.39	3
8" Hollow Units	N	79	3.43	6
	N	79	3.43	6
	N	73	3.17	6
	N	119	5.17	6
	N	129	5.61	6
	N	109	4.74	6
	N	132	3.88	6
	S	139	4.09	6
	S	129	3.79	6
	S	159	4.68	6
	S	132	3.88	6
	S	159	4.68	6
4-2-4 Cavity Wall of Hollow Units	M	103	3.03	11
	M	108	3.18	11
	M	102	3.00	11

Avg = 3.65

Range = 2.48 - 5.61

Sections 3.4 - 3.7 were taken for the most part from Uniform Building Code, 1967 edition, but include some of the latest recommendations of ICBO Masonry Subcommittee.

Section 3.8 Design of Nonreinforced Concrete Masonry

Section 3.8-1—Slenderness Ratio is increased from traditional 18 to 20 times wall thickness. This increase is conservative when compared with recent tests conducted on nonreinforced walls having h/t greater than 30 and with eccentric loads up to t/3. Tests were sponsored by NCMA and conducted at National Bureau of Standards. As of this date, the results are not yet published, but an indication of the values obtained are contained in the charts listed as Fig. 1 through 6.

Section 3.8-4—Precedent for the provisions of this section is contained in the British Standard Code of Practice CP111:1964 and National Building Code of Canada, 1965.

Section 3.8-7 Axial Loads—The objective was to develop reasonable and safe engineering design criteria for nonreinforced concrete masonry based on all existing data. A review in 1967 of the compilation of all available test data on compressive strength of concrete masonry walls did not, according to some, provide a suitable relationship between wall strength and slenderness ratio. From a more-recent analysis, it was noted in many of the 418 individual pieces of data that either the masonry units or mortar, or in some cases, both units and mortar, did not comply with the minimum strength requirements established for the materials permitted for use in "Engineered Concrete Masonry" construction. Accordingly, it was decided to re-examine the data, discarding all tests which included materials that did not comply with the following minimum requirements:

Material	Compressive Strength
Solid units	1000 psi
Hollow units	600 psi (gross)
Mortar	700 psi

Also eliminated from the new correlation were walls with a slenderness ratio less than 6; walls with h/t ratio less than 6 were considered to be in the category of "prisms." For evaluation of slenderness reduction criteria, only axially-loaded walls were used. Number of data that were available consisted of tests on 159 axially-loaded walls with h/t ratio ranging between 6 and 18. With this as a starting point, the data were analyzed assuming that the parabolic slenderness reduction function, $[1 - \left(\frac{h}{40t}\right)^3]$, is valid.

Basic equation used to evaluate the test data was:

$$\frac{f_{test}}{S.F.} = C_o f'_m \left[1 - \left(\frac{h}{40t}\right)^3\right] \qquad (1)$$

$$\frac{f_{test}}{f'_m \left[1 - \left(\frac{h}{40t}\right)^3\right]} = C_o \times S.F. \qquad (2)$$

$$C_o \times S.F. = K$$

where

f'_m = Assumed masonry strength, net area, based on strength of units (taken from Table 3-1)

f_{test} = Net area compressive strength of panel

S.F. = Safety factor

C_o = Strength reduction coefficient

h = Height of specimen, inches

t = Thickness of specimen, inches

Net area used in the above formulae is net area of the masonry, and does not distinguish between type of mortar bedding. In the evaluation, mortar strength was assumed to be constant and was not considered as a significant influence on wall strength.

It was determined that the objective of reasonable and safe criteria would be met if 90% of the "K" values were greater than the K value selected and gave a minimum safety factor of 3. Accordingly, the K values were listed in ascending order and the value satisfying the above conditions was K = .610 for the 159 tests. Therefore, from equation (3):

$$C_o \times S.F. = K$$

$$C_o \times 3 = 0.610$$

$$C_o = \frac{0.610}{3} = 0.205$$

This value, 0.205, agrees very closely with the coefficient 0.20 which has been used for a number of years with reinforced masonry design.

An analysis of the safety factors present with the formula:

$$f_m = 0.205\, f'_m \left[1 - \left(\frac{h}{40t}\right)^3 \right]$$

indicates the following:

Safety factor greater than 3 is available in 93% of the tests; greater than 4 in 51% of the tests; greater than 5 in 15% of the tests, and greater than 6 in 5% of the tests.

Based on formula (2), "K" factors were calculated for all of the test specimens as listed in the following table:

TABLE 5

Ref.	Concrete Masonry Units			Mortar		Walls				
	Strength, Percent Solid	psi, net area	f'_m, psi	Str., psi	Bedding	h/t	Strength, psi, net f_{test}	f'_m C	K	S.F.
1	63	1160	980	1180	Full	6.0	750	978	.798	3.83
	63	1160	980	1180	Full	6.0	685	978	.701	3.49
	63	1160	980	1160	FS	6.0	670	978	.686	3.42
	63	1160	980	900	FS	6.0	555	978	.568	2.83
	63	1200	1000	1230	Full	6.0	860	995	.863	4.30
	63	1200	1000	730	Full	6.0	625	995	.627	3.12
	63	1200	1000	960	FS	6.0	580	995	.582	2.89
	63	1200	1000	780	FS	6.0	650	995	.652	3.25
	63	1320	1060	880	Full	6.0	1110	1055	1.050	5.25
	63	1320	1060	810	Full	6.0	970	1055	.918	4.58
	63	1320	1060	810	FS	6.0	780	1055	.738	3.69
	63	1160	980	1080	Full	6.0	800	978	.818	4.08
	63	1160	980	1080	Full	6.0	670	978	.686	3.42
	63	1810	1275	1270	Full	6.0	940	1270	.739	3.67
	63	1810	1275	1270	Full	6.0	940	1270	.739	3.67
	63	1505	1150	1670	Full	6.0	825	1145	.719	3.60
	63	1505	1150	1670	Full	6.0	820	1145	.715	3.57
	63	1240	1020	980	Full	6.0	1010	1015	.993	4.95
	63	1240	1020	980	Full	6.0	870	1015	.856	4.26
	63	1720	1230	880	Full	6.0	1035	1225	.844	4.21
	63	1720	1230	880	Full	6.0	940	1225	.766	3.81
	63	1380	1090	1730	Full	6.0	1000	1085	.920	4.58
	63	1380	1090	1730	Full	6.0	1010	1085	.930	4.63
	63	1780	1262	1870	Full	6.0	1450	1257	1.152	5.75
	63	1780	1262	1870	Full	6.0	1570	1257	1.248	6.22
	43	3300	1790	1230	Full	6.0	1560	1782	.874	4.36
	43	3300	1790	1230	Full	6.0	1730	1782	.969	4.84
	70	1645	1208	1140	Full	6.0	1000	1200	.830	4.15
	70	1645	1208	1140	Full	6.0	1220	1200	1.013	5.06
8	63	509	458	3140	Full	6.0	303	455	.664	3.30
	63	509	458	1610	Full	6.0	295	455	.646	3.21
	63	509	458	1060	Full	6.0	295	455	.646	3.21
	63	840	756	3140	Full	6.0	532	753	.706	3.52
	63	840	756	1610	Full	6.0	540	753	.716	3.58
	63	840	756	1060	Full	6.0	505	753	.670	3.35
	63	875	788	3140	Full	6.0	438	785	.558	2.79

TABLE 5 (Continued)

Ref.	Concrete Masonry Units			Mortar		Walls				
	Percent Solid	Strength, psi, net area	f'_m, psi	Str., psi	Bedding	h/t	Strength, psi, net f_{test}	f'_m	C	K	S.F.
8	63	875	788	1610	Full	6.0	430	785	.547		2.74
	63	875	788	1060	Full	6.0	500	785	.637		3.17
	63	1080	940	3140	Full	6.0	605	936	.646		3.22
	63	1080	940	1610	Full	6.0	715	936	.763		3.81
	63	1080	940	1060	Full	6.0	765	936	.817		4.07
	63	1230	1015	3140	Full	6.0	1160	1010	1.146		5.70
	63	1230	1015	1610	Full	6.0	1000	1010	.988		4.92
	63	1230	1015	1060	Full	6.0	1110	1010	1.097		5.46
	63	1410	1105	3140	Full	6.0	1140	1100	1.030		5.16
	63	1410	1105	1610	Full	6.0	985	1100	.893		4.45
	63	1410	1105	1060	Full	6.0	1030	1100	.935		4.66
	63	1520	1157	3140	Full	6.0	660	1152	.572		2.85
	63	1520	1157	1610	Full	6.0	740	1152	.642		3.20
	63	1520	1157	4780	Full	6.0	830	1152	.719		3.58
	63	1860	1295	3140	Full	6.0	1476	1290	1.143		5.70
	63	1860	1295	1610	Full	6.0	1539	1290	1.192		5.94
	63	1860	1295	1060	Full	6.0	1365	1290	1.058		5.27
	63	2510	1554	3140	Full	6.0	1698	1550	1.096		5.47
	63	2510	1554	1610	Full	6.0	1365	1550	.881		4.39
	63	2510	1554	1060	Full	6.0	1325	1550	.856		4.27
	63	3030	1710	3140	Full	6.0	2222	1705	1.304		6.50
	63	3030	1710	1610	Full	6.0	2222	1705	1.304		6.50
	63	3030	1710	1060	Full	6.0	1984	1705	1.164		5.80
	63	3740	1923	3140	Full	6.0	1857	1918	.969		4.82
	63	3740	1923	1610	Full	6.0	2523	1918	1.316		6.56
	63	3740	1923	4780	Full	6.0	2317	1918	1.209		6.03
	63	6640	2400	3140	Full	6.0	3587	2392	1.499		7.48
	63	6640	2400	1610	Full	6.0	3856	2392	1.612		8.04
	63	6640	2400	4780	Full	6.0	5031	2392	2.102		10.49
12**	100	1383	1257	2562	Full	7.0	1140	1254	.910		4.13
	100	1388	1640	3017	Full	7.0	1358	1635	.830		4.57
	100	1892	1853	2317	Full	7.0	1469	1846	.795		4.52
	100	1923	1630	2153	Full	7.0	1394	1625	.858		4.29
	100	2508	2390	2427	Full	7.0	1947	2380	.817		4.56
	100	2529	2630	2347	Full	7.0	2151	2620	.820		4.68
	100	2545	2130	2143	Full	7.0	1930	2120	.909		4.17
	100	2610	2220	3195	Full	7.0	2078	2210	.939		4.71
	100	2678	2030	2322	Full	7.0	1832	2020	.905		3.99
	100	4474	2210	2792	Full	7.0	1810	2200	.821		4.10
	100	4474	2540	2154	Full	7.0	2157	2530	.937		4.09

** f'_m values from this reference were determined from prism tests instead of assumed values. Test results multiplied by factor of 1.2.

TABLE 5 (Continued)

Ref.	Concrete Masonry Units			Mortar		Walls				
	Percent Solid	Strength, psi, net area	f'_m, psi	Str., psi	Bedding	h/t	Strength, psi, net f_{test}	f'_m C	K	S.F.
5	62	2547	1556	1400	FS	9.0	1241	1540	.807	4.05
	62	1886	1305	1400	FS	9.0	1153	1290	.894	4.50
	62	1999	1350	1400	FS	9.0	967	1335	.724	3.63
	62	1499	1150	1400	FS	9.0	685	1135	.603	3.02
	62	1934	1325	1400	Full	9.0	1354	1310	1.033	5.19
	62	2305	1473	1400	FS	9.0	1096	1455	.752	3.78
	62	2136	1405	1400	FS	9.0	1128	1390	.812	4.07
	62	1773	1260	1400	FS	9.0	1088	1245	.873	4.38
	62	1298	1049	1400	FS	9.0	854	1037	.823	4.14
	62	1241	1031	1400	FS	9.0	685	1010	.678	3.41
	62	1612	1196	1400	FS	9.0	991	1180	.838	4.20
	62	1805	1273	1400	FS	9.0	1088	1260	.864	4.33
	62	1491	1146	1400	FS	9.0	854	1133	.754	3.78
	62	1088	944	1400	FS	9.0	629	933	.673	3.38
	62	1918	1318	1400	FS	9.0	1072	1302	.822	4.12
	62	1169	985	1400	FS	9.0	605	975	.621	3.12
	45	2655	1598	1400	FS	9.0	989	1578	.626	3.15
	62	1088	944	1400	FS	9.0	564	933	.604	3.03
	62	1290	1045	1400	FS	9.0	701	1032	.678	3.41
	62	1999	1350	1400	FS	9.0	1104	1335	.826	4.16
	62	1862	1296	1400	Full	9.0	1378+	1280	1.075	5.44+
	62	967	870	1400	Full	9.0	758	860	.881	4.42
	62	1967	1338	1400	Full	9.0	1241	1320	.938	4.72
5	57	2280	1463	1400	FS	9.3	1228	1450	.849	4.27
	67	1917	1318	1400	FS	9.3	836	1302	.642	3.23
	67	1380	1090	1400	FS	9.3	724	1078	.672	3.37
	67	1902	1312	1400	FS	9.3	1223	1300	.943	4.74
	67	1246	1023	1400	FS	9.3	739	1010	.731	3.67
	57	2087	1386	1400	FS	9.3	1193	1370	.871	4.38
	57	2087	1386	830	FS	9.3	1298	1370	.948	4.76
	57	2385	1505	1400	FS	9.3	719	1485	.484	2.44
	57	2385	1505	1400	FS	9.3	789	1485	.530	2.67
	57	2385	1505	1400	FS	9.3	1105	1485	.743	3.74
	57	2385	1505	1400	FS	9.3	1140	1485	.766	3.85
1	39	1590	1187	1130	Full	9.5	885	1170	.756	3.79
	39	1590	1187	1010	Full	9.5	1000	1170	.853	4.28
	39	1718	1238	1070	Full	9.5	949	1220	.777	3.89
	39	1718	1238	840	Full	9.5	910	1220	.745	3.73

TABLE 5 (Continued)

Ref.	Concrete Masonry Units			Mortar		Walls				
	Strength, Percent Solid	psi, net area	f'_m, psi	Str., psi	Bedding	h/t	Strength, psi, net f_{test}	f'_m	C	K	S.F.
1	63	1159	985	1180	Full	14.3	683	940	.726	3.62
	63	1159	985	1440	Full	14.3	690	940	.734	3.66
	63	1159	985	1440	Full	14.3	738	940	.784	3.91
	63	1159	985	1060	FS	14.3	532	940	.565	2.82
	63	1159	985	900	FS	14.3	563	940	.599	2.98
	63	1159	985	1920	FS	14.3	563	940	.599	2.98
	63	1206	1020	1230	Full	14.3	738	974	.758	3.80
	63	1206	1020	730	Full	14.3	683	974	.702	3.51
	63	1206	1020	1130	Full	14.3	746	974	.765	3.83
	63	1206	1020	960	FS	14.3	571	974	.586	2.94
	63	1206	1020	780	FS	14.3	603	974	.619	3.10
	63	1206	1020	1250	FS	14.3	595	974	.610	3.05
	63	1317	1080	880	Full	14.3	905	1030	.877	4.38
	63	1317	1080	750	Full	14.3	1063	1030	1.030	5.14
	63	1317	1080	810	Full	14.3	929	1030	.901	4.49
	63	1317	1080	1020	FS	14.3	714	1030	.692	3.45
	63	1317	1080	1020	FS	14.3	667	1030	.647	3.23
	63	1159	985	1120	Full	14.3	579	940	.616	3.07
	63	1159	985	1150	Full	14.3	635	940	.675	3.37
	63	1159	985	1080	Full	14.3	635	940	.675	3.37
	63	1810	1274	1270	Full	14.3	873	1218	.717	3.54
	63	1810	1274	940	Full	14.3	881	1218	.725	3.58
	63	1810	1274	1120	Full	14.3	817	1218	.671	3.32
	63	1508	1153	1380	Full	14.3	706	1100	.641	3.17
	63	1508	1153	1380	Full	14.3	746	1100	.677	3.34
	63	1508	1153	1670	Full	14.3	643	1100	.584	2.88
	63	1238	1025	1920	Full	14.3	833	978	.851	4.24
	63	1238	1025	980	Full	14.3	802	978	.819	4.09
	63	1238	1025	1280	Full	14.3	817	978	.835	4.16
	63	1714	1230	800	Full	14.3	1111	1172	.946	4.73
	63	1714	1230	800	Full	14.3	1127	1172	.959	4.79
	63	1714	1230	750	Full	14.3	1079	1172	.918	4.59
	63	1381	1090	1730	Full	14.3	968	1040	.930	4.64
	63	1381	1090	2200	Full	14.3	960	1040	.923	4.61
	63	1774	1245	2100	Full	14.3	1240	1190	1.043	5.21
	63	2253	1450	1230	Full	14.3	936	1385	.675	3.42
	63	2253	1450	1270	Full	14.3	920	1385	.664	3.37
	70	1643	1206	1180	Full	14.3	807	1150	.701	3.55
	70	1643	1206	1300	Full	14.3	986	1150	.857	4.33
	55	1273	1040	1220	Full	14.3	727	993	.732	3.66
	55	1273	1040	1220	Full	14.3	764	993	.770	3.84
7	100	2900	1665	1475	Full	15.0	1250	1565	.801	3.93
5	65	1746	1250	1400	Full	18.0	1108	1135	.975	4.87
	65	1246	1015	1400	Full	18.0	785	925	.850	4.25
	65	1562	1175	1400	Full	18.0	1208	1065	1.131	5.66

Section 3.8-8 Eccentric Loads—Members subject to eccentric loads are proportioned so that the following relationship is satisfied:

$$\frac{f_a}{F_a} + \frac{f_m}{F_m} \leq 1$$

Test data pertaining to this relationship is summarized in Table 6. A plot of the ratios $\frac{f_a}{f'_m}$ vs $\frac{f_b}{f'_m}$ for all the tests is given in Fig. 7. Also indicated on this chart are a line representing allowable axial and flexural stresses, and a line showing factors of safety of three, applied to the allowable values. It can be seen that in all except one test, the allowable values recommended result in safety factor greaterthan three. Section 3.8-8.2 defines limits for the above listed formula and states that no tension due to eccentric load is permitted in walls of hollow units. For solid walls, maximum virtual eccentricity permitted is t/3, and where tension exists, that part of the section in tension (according to straight-line theory) is assumed to be inactive and the remainder carrying compressive load only.

Section 3.10—Reinforced Concrete Masonry. Requirements for design of reinforced concrete masonry agree for the most part with other accepted standards. (14, 16) Points of departure from previous standards are: permissible h/t ratio increased from 25 to 30; strength reduction coefficient increased from $0.20f'_m$ to $0.225\ f'_m$; slenderness reduction changed to $\left[1-\left(\frac{h}{40t}\right)^3\right]$ It is believed that the previously mentioned tests at the National Bureau of Standards (unpublished), summarized in Table 1-6, amply justify the recommendations listed. The data provided in Tables 7,8, 9,10, and 11 are provided to complete the list of available test information.

Table 7 compares NCMA specification criteria with ultimate compressive strength of both reinforced and nonreinforced concrete masonry columns. The reinforced columns had an average safety factor of 5.0 with individual values ranging from 4.7 to 5.3. Average safety factor for the nonreinforced columns was 4.7 with a range of 3.9 to 6.7.

Table 8 summarizes the important details from 31 reinforced concrete masonry walls tested for flexure. In three of the four referenced investigations, the walls were tested in either a vertical or horizontal position as simply supported beams. In the other investigation (22), the walls were tested as vertical cantilever beams—fixed at bottom, free at top. The 31 walls all failed by yielding of the tensile reinforcement. From the comparison of ultimate resisting moment with allowable moment in Table 8, the average safety factor is 3.00 and the range is from 2.20 to 4.86. In arriving at the allowable resisting moment, the steel, rather than flexural compressive stress was the governing factor.

At failure, the walls in Table 8 had calculated shear stresses from 50 psi to 170 psi. Since none of the walls actually failed in shear, however, these stresses do not indicate the maximum shear stresses which can be developed in reinforced concrete masonry walls subject to flexure.

Shear (Racking) Tests of Walls

Eighteen reinforced concrete masonry walls, including both fully-grouted and intermittently-grouted walls, were tested for shear (racking) properties. Table 9 compares the ultimate load per foot of wall with the allowable. The average ratio of ultimate to allowable stress was 2.6 with the

range of 2.2 - 3.3.

Beams and Lintels

Tables 10 and 11 summarize data from 84 tests of reinforced concrete masonry beams and lintels. The 57 beams and lintels included in Table 10 failed in flexure, either by yielding of tension reinforcement or by crushing of masonry. Allowable resisting moments in this table have been based on an ultimate masonry strength (f'_m) of 1600 psi, and the average ratio of ultimate to allowable moment for the 57 tests was 4.56 with a range of 2.42 - 8.85.

In order to evaluate the performance of the beams and lintels which failed in shear or diagonal tension, ultimate shear values are compared in Table 11 to allowable shear values based on requirements of the code. The average ratio of ultimate to allowable shear for the 27 beams listed was 5.18 with a range of 2.72 - 9.20. Calculated shear stresses (V_u/bjd) at failure corresponding to the above ratios was 260 psi with a range of 135 - 460 psi.

TABLE 6

ECCENTRICALLY LOADED WALLS

Reference	h/t	f'_m psi	f_a psi	e in.	t in	f_b psi	S in^3/ft
1	6.0	988	700	1.33	8.0	577	97.5
	6.0	988	810	"	"	419	"
	14.3	987	595	"	"	486	"
	14.3	987	651	"	"	533	"
	14.3	987	651	"	"	533	"
	14.3	980	579	"	"	478	"
	14.3	980	548	"	"	452	"
	14.3	1120	682	"	"	562	"
	14.3	1120	667	"	"	551	"
	14.3	1820	1268	"	"	1045	"
	14.3	1820	1140	"	"	940	"
2	12.4	1360	759	1.30	7.8	538	92.5
	"	"	712	"	"	503	"
	"	"	702	"	"	497	"
3	16.3	1215	648	1.00	6.0	434	84.6
	"	"	555	"	"	372	"
	"	"	453	"	"	304	"
4	12.0	1500	1115	1.27	7.6	795	93.3
	"	"	1128	"	"	802	"
	"	1580	918	"	"	680	87.3
	"	1390	865	"	"	640	"
	"	1490	870	"	"	642	"
	"	1390	883	"	"	654	"
	"	1580	1174	"	"	868	"
	"	1490	983	"	"	731	"
6	12.0	1396	752	1.27	7.63	443	
	"	"	731	"	"	432	
	"	"	788	"	"	465	
	"	"	883	"	"	521	
	"	"	865	"	"	508	
	"	"	752	"	"	443	
	"	"	846	"	"	498	
	"	"	846	"	"	498	
	"	"	865	"	"	508	
	"	"	902	"	"	531	
	"	"	884	"	"	521	
	"	"	902	"	"	531	

TABLE 7

STRENGTH OF REINFORCED AND NONREINFORCED CONCRETE MASONRY COLUMNS

Construction	f'_m psi	p	f_s psi	h/t	Design Load* kips	Actual Load kips	Safety Factor Actual/Design	Ref.
Hollow Block	2280	--	--	10.29	27	106	3.9	27
Column 12" x 12"	2280	--	--	10.29	27	123	4.5	"
Hollow Block Column	2280	--	--	10.29	54	234	4.3	"
Filled With Grout	2280	--	--	10.29	54	218	4.0	"
Reinf. Col. 12 x 12	2280	.009	20,000	10.29	76	406	5.3	"
Four No. 5 Bars	2280	.009	20,000	10.29	76	360	4.7	"
Reinf. Col. 12 x 12	2280	.009	20,000	10.29	76	364	4.8	"
Four No. 5 Bars	2280	.009	20,000	10.29	76	385	5.1	"
Reinf. 12 x 12 Col.	2280	.023	16,000	10.29	92	432	4.7	"
Four No. 8 Bars	2280	.023	16,000	10.29	92	447	4.9	"
Hollow Unit 12 x 12	2520	--	--	10.29	30	122	4.1	"
Unfilled	2520	--	--	10.29	30	128	4.3	"
Hollow Unit 12 x 12	2520	--	--	10.29	60	360	6.0	"
Filled With Grout	2520	--	--	10.29	60	400	6.7	"
Reinf. 12 x 12	2520	.023	16,000	10.29	98	506	5.2	"
Four No. 8 Bars	2520	.023	16,000	10.29	98	503	5.1	"

*For nonreinforced columns $P = 0.18 f'_m \left[1 - \frac{h}{30t}^3\right] An$

For reinforced columns $P = Ag\ (0.20 f'_m + 0.65 pfs) \left[1 - \left(\frac{h}{30t}\right)^3\right]$

TABLE 8

FLEXURAL TESTS OF REINFORCED CONCRETE MASONRY WALLS

Nominal Cross-Section, in.	Span ft.	Reinforcement, Vertical Size & Spacing	d, in.	Actual Ult. Moment in-lb/ft	Allowable Design Moment in-lb/ft	Ratio: Actual M / Design M	Ref.
48x8	8	No. 5 @ 24"	5	67,620	13,900	4.86	27
48x8	8	No. 5 @ 24"	5	67,380	13,900	4.83	27
48x8	8	No. 6 @ 24"	5	62,970	19,850	3.17	27
48x8	8	No. 6 @ 24"	5	62,730	19,850	3.16	27
81x8	8.33	No. 4 @ 40"	3.87	15,700	4,170	3.76	21
81x8	"	No. 4 @ 40"	"	17,000	4,170	4.07	"
81x8	"	No. 4 @ 40"	"	15,700	4,170	3.76	"
81x8	"	No. 4 @ 27"	"	15,500	6,300	2.46	"
81x8	"	No. 4 @ 27"	"	15,700	6,300	2.50	"
81x8	"	No. 4 @ 27"	"	15,300	6,300	2.43	"
84x8	"	No. 4 @ 42"	"	10,900	4,000	2.72	"
72x8	"	No. 4 @ 36"	"	11,000	4,695	2.34	"
72x8	"	No. 4 @ 36"	"	10,800	4,695	2.30	"
105x8	"	No. 4 @ 35"	"	12,000	4,825	2.48	"
57x8	"	No. 4 @ 28"	"	15,500	6,085	2.55	"
57x8	"	No. 4 @ 19"	"	21,600	8,950	2.41	"
81x8	"	No. 4 @ 27"	"	14,100	6,300	2.24	"
81x8	"	No. 4 @ 27"	"	14,800	6,300	2.35	"
81x8	"	No. 4 @ 27"	"	15,700	6,300	2.49	"
81x8	"	No. 4 @ 27"	"	16,700	6,300	2.65	"
81x8	"	No. 4 @ 27"	"	15,000	6,300	2.38	"
81x8	"	No. 4 @ 27"	"	16,500	6,300	2.62	"
81x6	"	No. 4 @ 27"	2.87	12,200	4,530	2.70	"
81x6	"	No. 4 @ 27"	"	10,000	4,530	2.20	"
81x6	"	No. 4 @ 27"	"	10,400	4,530	2.30	"
48x12	6.4	No. 4 @ 24"	8.5	59,520	16,200	3.66	22
48x12	6.4	No. 4 @ 24"	9.0	59,520	16,200	3.66	"
64x8 Mortarless	7.5	No. 3 @ 21 each face	5.0	23,200	6,050	3.84	23
64x8	"	No. 3 @ 21 "	"	21,500	6,050	3.55	"
64x8	"	No. 3 @ 21 "	2.8	9,680	3,340	2.89	"
64x6	"	No. 3 @ 21 "	2.8	9,070	3,34-	2.72	"

TABLE 9

SHEAR (RACKING) TESTS OF REINFORCED CONCRETE MASONRY WALLS

Thickness, in.	Reinforcement		Ultimate Shear Stress, psi	Allowable Shear Stress, psi	Ratio: Ultimate / Allowable	Ref.
	Horizontal	Vertical				
8" Fully Grouted	2 #5 @ 24"	#5 @ 24"	143	55	2.6	30
8" Fully Grouted	"	"	136	55	2.5	30
8" Fully Grouted	"	"	147	55	2.7	30
8" Fully Grouted	"	"	162	55	2.9	30
8" Fully Grouted	"	"	136	55	2.5	30
8" Fully Grouted	2 #5 @ 48"	#4 @ 32"	136	55	2.5	30
8" Fully Grouted	"	"	145	55	2.6	30
8" Fully Grouted	"	"	147	55	2.7	30
8" Grout in Re-	"	"	134	55	2.4	30
inforced Cores	"	"	126	55	2.3	30
Only	"	"	134	55	2.4	30
8" Fully Grouted	J Rein @ 8"	#4 @ 16"	137	55	2.5	30
6" Fully Grouted	#4 @ 32"	#4 @ 32"	158	64	2.5	30
6" Fully Grouted	"	"	212	64	3.3	30
6" Fully Grouted	"	"	174	64	2.7	30
8" Fully Grouted	#5 @ 32"	#5 @ 32"	153	64	2.4	30
8" Fully Grouted	"	"	141	64	2.2	30
8" Fully Grouted	"	"	141	64	2.2	30

TABLE 10

COMPARISON OF ALLOWABLE RESISTING MOMENTS AND ULTIMATE MOMENTS BASED ON TESTS OF R/C/M BEAMS AND LINTELS*

Nominal Cross Section, in.	P $\left(\frac{A_s}{bd}\right)$	Ratio: Shear Span / Depth of Beam	Ratio: Ultimate Moment / Allowable Moment	Ref.
8x8	0.0047	4.55	2.54	21
8x8	0.0067	6.45	2.42	21
8x8	0.0067	6.45	3.50	21
8x8	0.0110	2.82	4.45	24
8x8	0.0110	4.50	3.60	24
8x8	0.0115	11.10	5.65	21
8x8	0.0117	8.00	5.63	27
8x8	0.0180	8.00	8.00	27
8x8	0.0180	8.00	7.53	27
8x16	0.0064	2.82	3.02	28,29
8x16	0.0065	2.13	2.80	24
8x16	0.0065	3.84	2.66	24
8x16	0.0065	2.13	3.05	24
8x16	0.0065	3.84	2.58	24
8x16	0.0066	2.17	2.67	24
8x16	0.0066	3.92	2.80	24
8x16	0.0103	5.32	4.83	27
8x16	0.0124	7.72	4.13	28,29
8x16	0.0124	7.72	4.31	28,29
8x16	0.0124	7.72	3.48	28,29
8x16	0.0136	8.47	4.25	28,29
8x16	0.0136	8.47	4.06	28,29
8x16	0.0189	5.45	7.62	27
12x16	0.0115	5.10	5.05	27
12x16	0.0173	5.10	7.29	27
12x16	0.0173	5.10	6.92	27
12x16	0.0173	5.10	6.43	27
12x16	0.0177	5.21	8.85	27
	Weighted Average (57 Beams)		4.56	

* Allowable resisting moments based on an assumed ultimate masonry compressive strength (f'_m) of 1,600 psi. Beams and lintels shown in this table failed either by yielding of tension reinforcement or by crushing of masonry.

TABLE 11

COMPARISON OF ALLOWABLE SHEAR VALUES AND ULTIMATE SHEAR VALUES BASED ON TESTS OF R/C/M BEAMS AND LINTELS**

Nominal Cross Section, in.	P $\left(\frac{A_s}{bd}\right)$	Ratio: $\frac{\text{Shear Span}}{\text{Depth of Beam}}$	Ratio: $\frac{\text{Ultimate Shear}}{\text{Allowable Shear}}$	Ref.
8x8	0.0176	2.89	5.96	24
8x8	0.0180	2.66	7.83	27
8x8	0.0341	2.89	9.20	24
8x16	0.0124	2.57	2.89	28,29
8x16	9.0126	2.13	4.65	24
8x16	0.0126	2.13	4.90*	24
8x16	0.0128	2.18	4.19	24
8x16	0.0136	2.82	2.17	28,29
8x16	0.0166	2.13	6.75*	24
8x16	0.0189	2.18	6.50	27
8x16	0.0189	2.18	5.90	27
	Weighted Average (27 Beams)		5.18	

* Vertical ties were neglected in computing allowable shear values.

** Beams and lintels shown in this table failed in shear or diagonal tension.

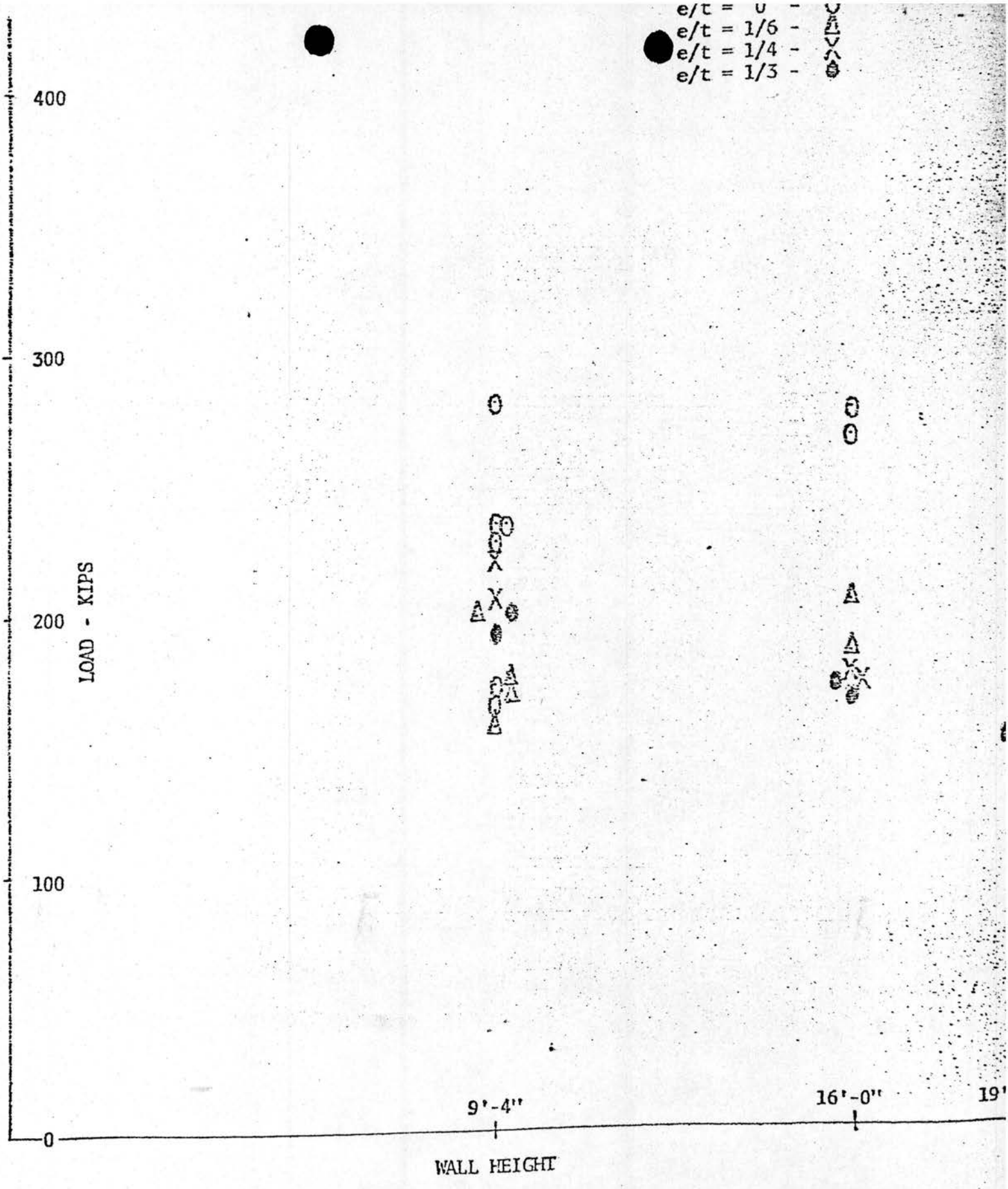
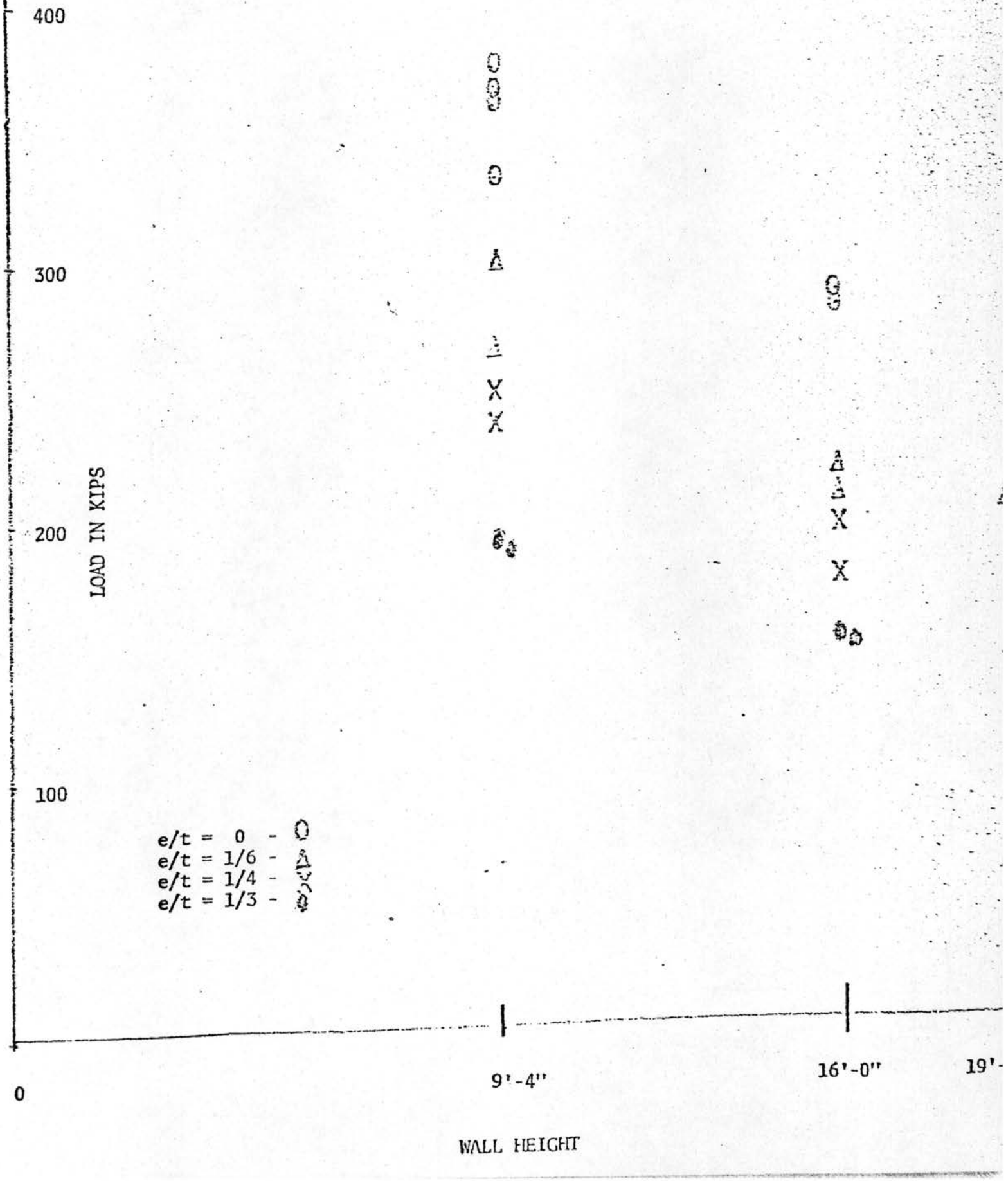


FIGURE 1. COMPRESSIVE STRENGTH TESTS -- 4 FT. WIDE X 8" THICK NONREINFORCED CONCRETE MASONRY WALLS. TYPE "S" MORTAR; f'_m - 1850 psi (approx.)

FIGURE 2. COMPRESSIVE STRENGTH TESTS--4 FT. WIDE X 6" THICK REINFORCED C/M WALLS. TYPE S MORTAR f'_m = 1850 PSI (APPROX.) VERTICAL REINF. - #5 @ 40"; HORIZONTAL REINF. - #5 @ 8'



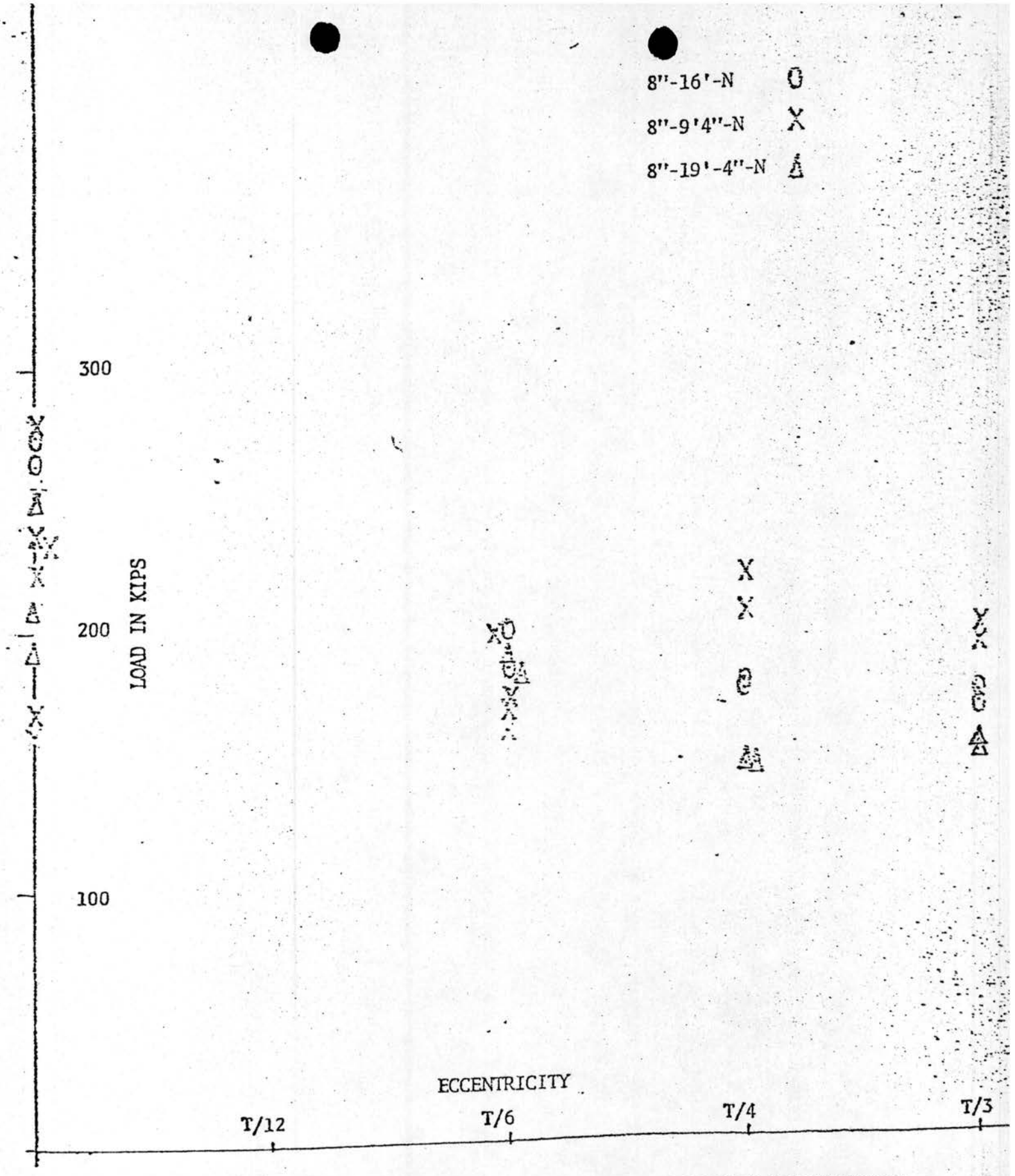


FIGURE 3. COMPRESSIVE STRENGTH TESTS -- 4 FT. WIDE X 8" THICK NONREINFORCED CONCRETE MASONRY WALLS. TYPE "S" MORTAR; f'_m - 1850 psi (approx.)

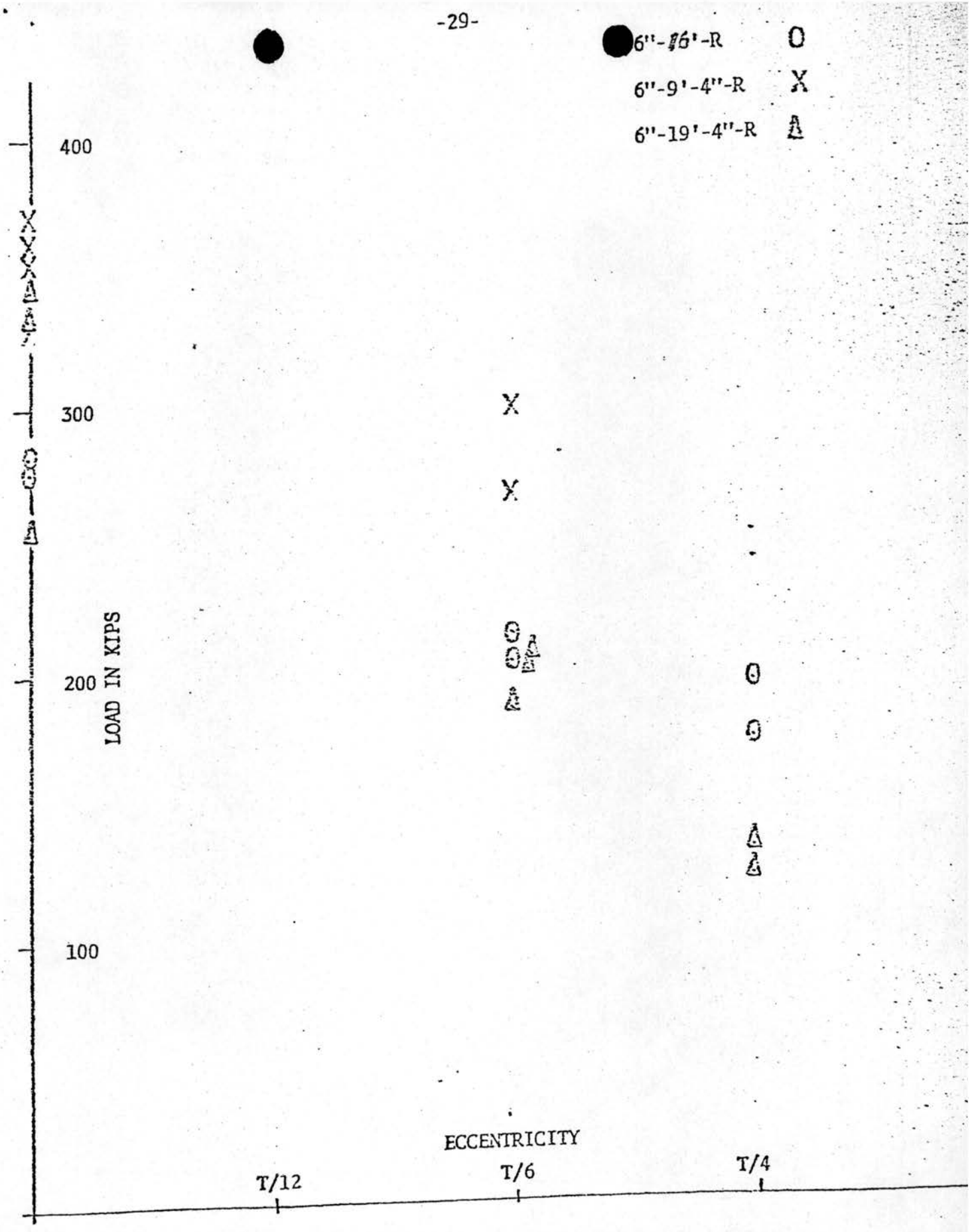


FIGURE 4. COMPRESSIVE STRENGTH TESTS--4 FT. WIDE X 6" THICK REINFORCED C/M WALLS. TYPE S MORTAR f'_m = 1850 psi (approx.) VERTICAL REINFORCEMENT - #5 @40"; HORIZONTAL REINFORCEMENT - #5 @8'.

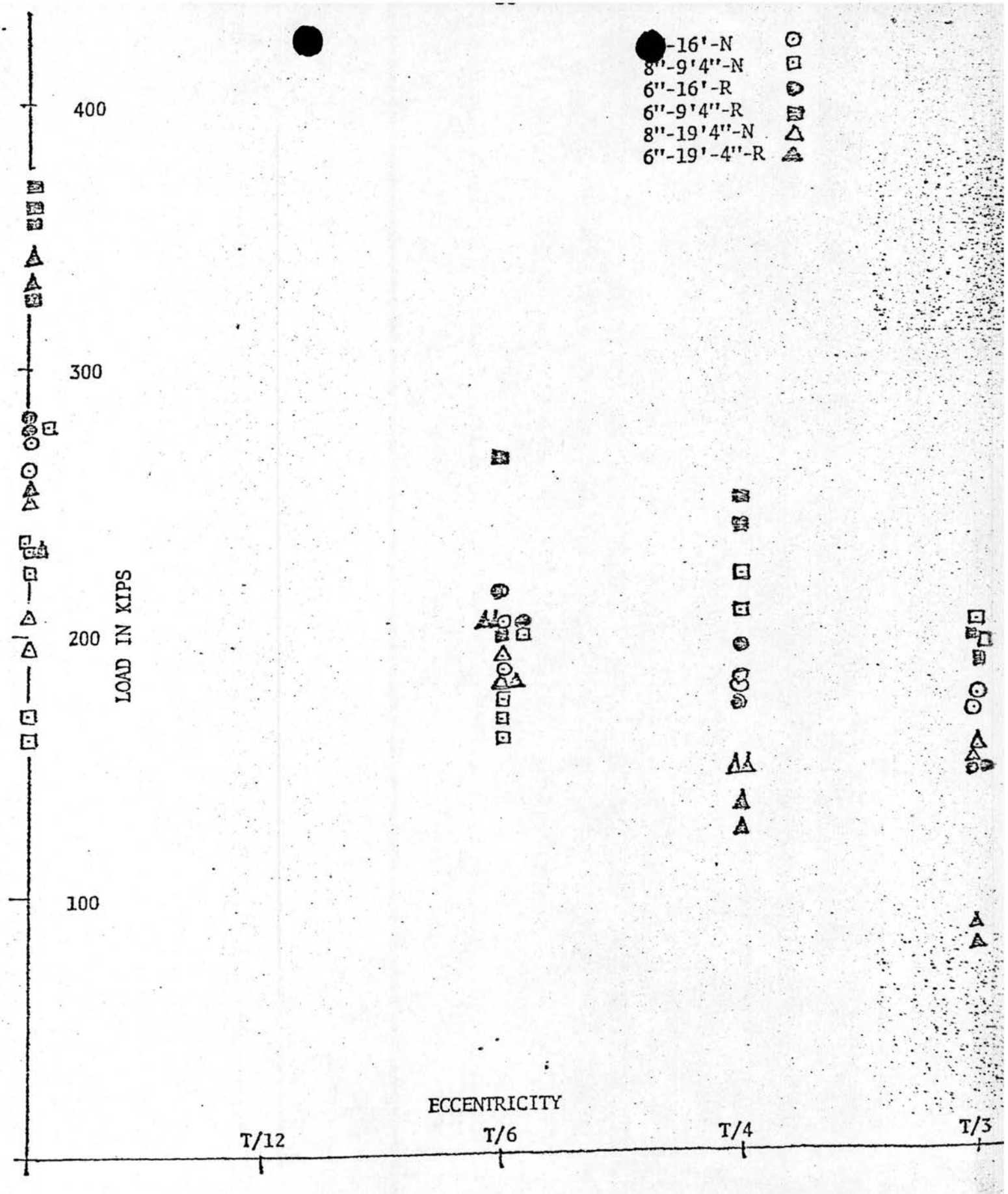


FIGURE 5. COMPRESSIVE STRENGTH OF 8" NONREINFORCED AND 6" REINFORCED C/M WALLS.

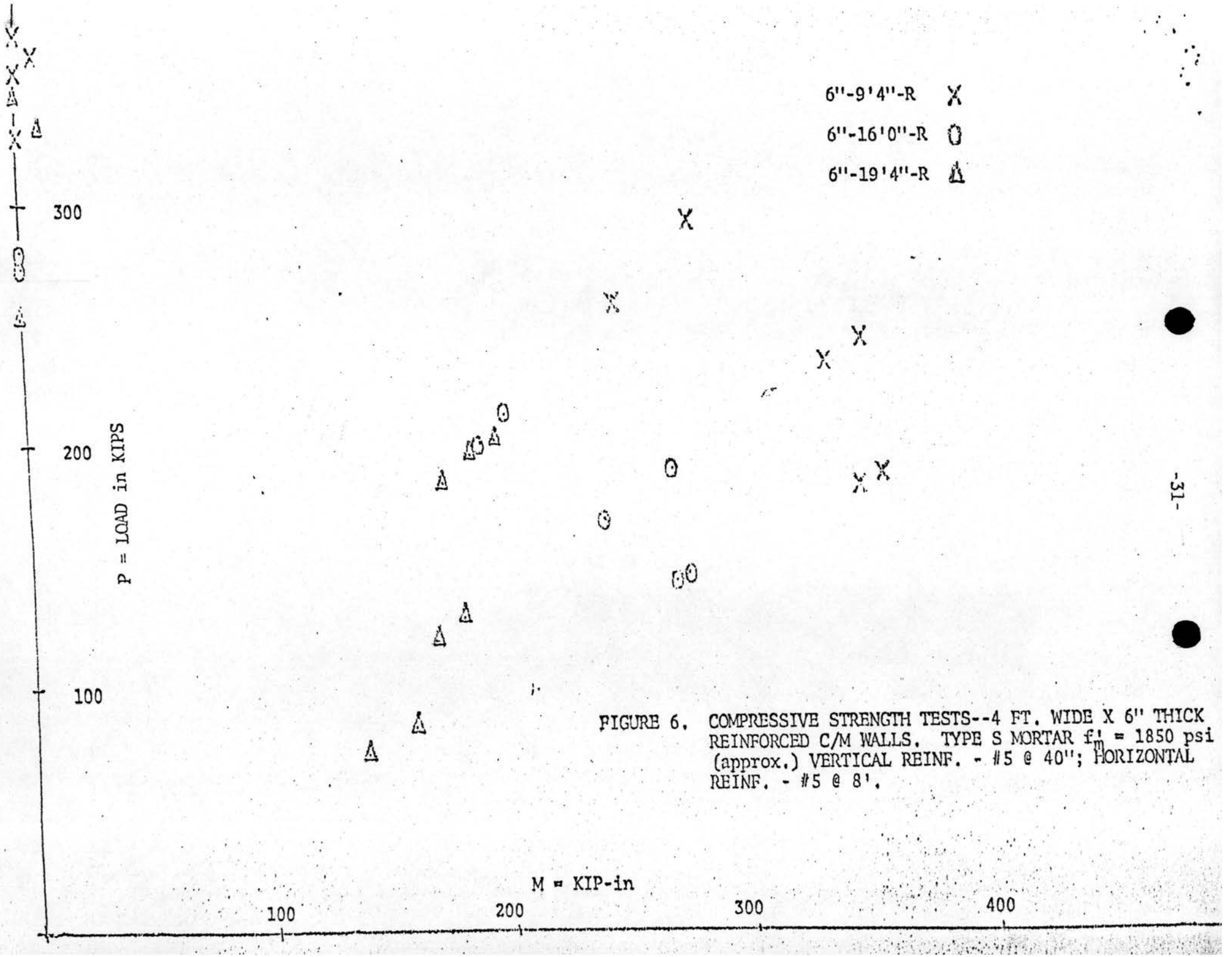


FIGURE 6. COMPRESSIVE STRENGTH TESTS--4 FT. WIDE X 6" THICK REINFORCED C/M WALLS. TYPE S MORTAR f'_m = 1850 psi (approx.) VERTICAL REINF. - #5 @ 40"; HORIZONTAL REINF. - #5 @ 8'.

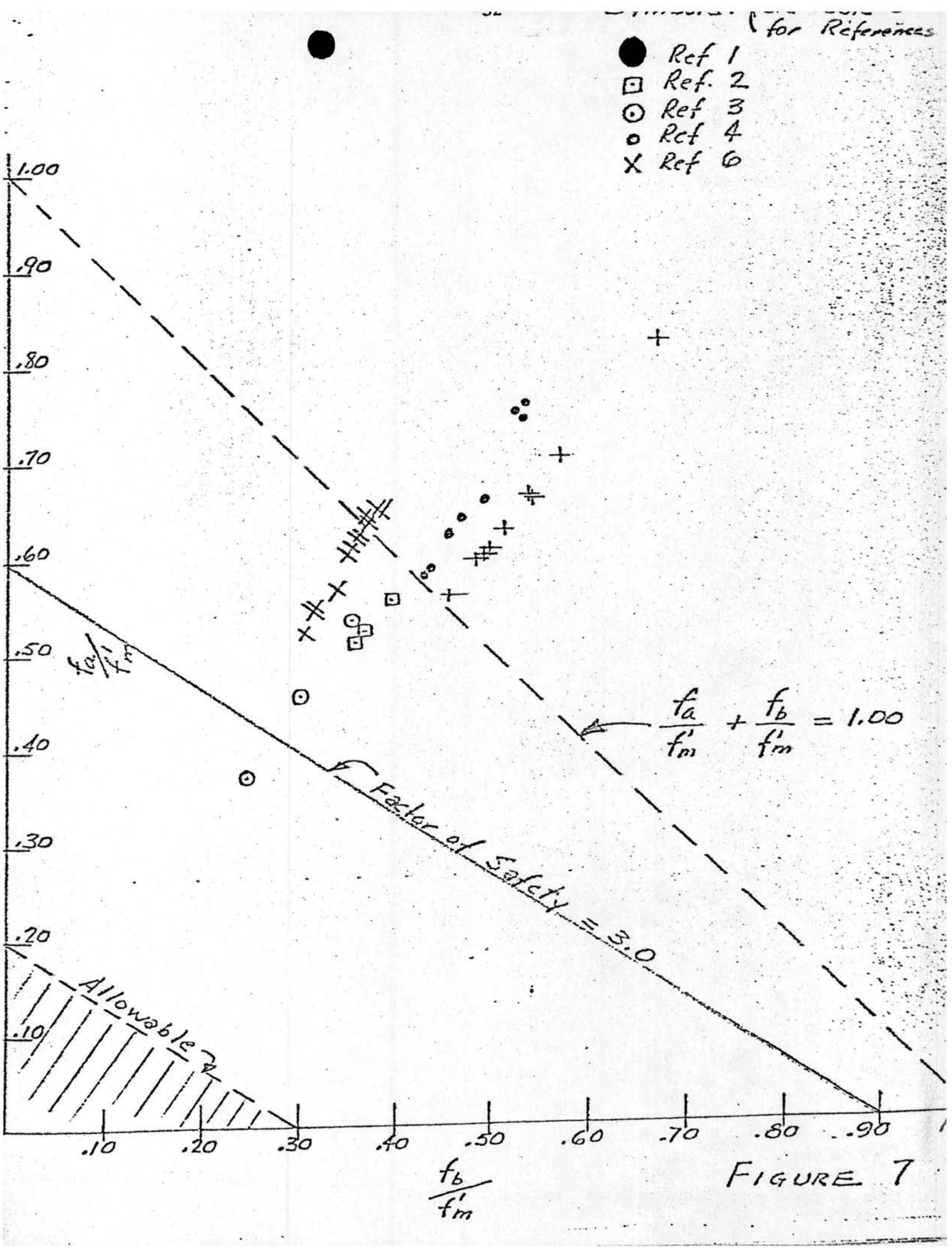

(for References
Ref 1
Ref. 2
Ref 3
Ref 4
Ref 6
1.00
.90
.80
.70
.60
.50
.40
.30
.20
.10
$\frac{f_a}{f'_m} + \frac{f_b}{f'_m} = 1.00$
Factor of Safety = 3.0
Allowable
$\frac{f_a}{f'_m}$
.10
.20
.30
.40
.50
.60
.70
.80
.90
$\frac{f_b}{f'_m}$

FIGURE 7

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APPENDIX TO STATEMENT OF NEED AND REASONABLENESS

October, 9 and 10, 1979 Public Hearing

UBC Section 2510(h)

Supporting data submitted to the Structural Advisory Committee is attached.

Proponent: Wood Structure Component Association
Jack Littfin, President
7300 France Ave. South
Edina, Minneosta 55435

Proposed Amendment to: Minnesota State Building Code Section 2510(h)

This change is proposed because of the restrictive nature of existing design requirements of the International Conference of Building Officials (ICBO) which are not warranted in light of over 500 million metal plate connected wood trusses in satisfactory service in the United States. The design requirements of of ICBO result in shorter spans for trusses as opposed to those designed in accordance with the design criteria recommended by the Truss Plate Institute, Incorporated (TPI). The shorter spans do not provide additional or commensurate safety or any other benefit to the consuming public. There is only an increase in cost to the consumer.

The design criteria recommended by TPI have been used throughout most of the United States (including most of the juridictions that adopt the Uniform Building Code) for over 16 years without any reported failures attributable to the design criteria. The criteria are accepted by most model code writing bodies and are used, referenced, or quoted directly be federal agencies. The TPI design criteria are followed by most countries in which trusses are produced and used. An overwhelming majority of trusses fabricated and used in Minnesota are designed and fabricated using the criteria recommended by TPI.

These design criteria have been and are being revised when new research results justify change or, as needed, to further clarify intent. TPI sponsors research and academic institutions and governmental agencies, both in the United States and in other countries, have initiated and conducted research. Examples of this research are:

> Exhibit 1. "Contact Area Stresses and Buckling Resistance of Light Gauge Metal Heel Plates for Wood Trusses," is from a presentation made by Dr. Isaac Sheppard, Jr. et. al., to the American Society of Agricultrual Engineers based on the investigation made for his doctoral thesis.
>
> Exhibit 2. "Longtime Performance of Truss Rafters with Different Connection Systems: Five Year Evaluation" from a 15-year research project being conducted by the Forest Products Laboratory, U.S. Department of Agriculture , Madison, Wisconsin.
>
> These exhibits will be presented at the public hearing.

Trusses designed in accordance with the TPI criteria and containing lumber which has allowable design stresses considerably reduced from those allowed prior to 1970 are much stiffer and stronger than would be indicated by a review of only the TPI design criteria. Abundant evidence is available on the performance of these trusses in areas subject to severe wind and snow storms. Almost invariably roofs constructed with these trusses remain intact, with little or no damage to individual trusses, even when the remainder of the structures are demolished. It is significant that the contribution to the stiffness and the strength of the roof system from the roof sheathing (usually plywood) is <u>not</u> taken into account in the design of a truss.

The Truss Plate Institute believes that acceptance of the recommended design criteria by the State of Minnesota will result in lower cost to the ultimate consumer with more than adequate protection of the public safety and welfare.

BCD-80-001-PE

RECEIVED
MAR 19 1980
DEPT. OF ADMINISTRATION
BUILDING CODE DIVISION

STATE OF MINNESOTA
OFFICE OF HEARING EXAMINERS

FOR THE DEPARTMENT OF ADMINISTRATION
BUILDING CODE DIVISION

In the Matter of the Proposed Adoption
of Amendments to the State Building Code

REPORT OF THE
HEARING EXAMINER

(B)

The above-entitled matter came on for rehearing before Hearing Examiner Peter C. Erickson of the State Office of Hearing Examiners at 9:30 a.m. on Friday, February 22, 1980 in Room 408 of the Metro Square Building, St. Paul, Minnesota.

Sheila Fishman and Jerry Anderson, Special Assistant Attorneys General, appeared as counsel on behalf of the Department of Administration, Building Code Division (BCD). Sivert Hendrickson, Code Consultant Chief, testified in support of the proposed rules on behalf of the BCD. The hearing continued until all interested persons or groups had had an opportunity to testify regarding the adoption of the proposed rules.

This hearing was reconvened to specifically consider adoption of the 1979 UBC, state amendments to that Code, and the repeal of the 1976 UBC and amendments to it. An initial error in publication, i.e., failure to publish the repealed amendments to the 1976 Code, resulted in this hearing. See BCD-80-001-PE (Report dated December 14, 1979), Finding No. 9. In addition, testimony was taken concerning the adoption of "Flood Proofing Regulations", Sec. 1.18901 of the State Building Code (SBC). At hearing, the entire record of the first hearing held on October 9 and 10, 1979, was incorporated into the record herein.

Pursuant to Minn. Stat. § 15.0412, subd. 4 (1978), this Report shall be available for review to all affected individuals upon request for at least five days. Thereafter, the Commissioner of Administration shall, if he proposes to adopt the rules as originally proposed or amended, submit a copy of the Order Adopting Rules, a copy of any additional agency findings, a copy of the rules as originally proposed, and a copy of the rules as adopted to the Chief Hearing Examiner for review pursuant to Minn. Stat. § 15.052, subd. 4 (1978). The submission to the Chief Hearing Examiner shall precede review by the Attorney General. The Chief Hearing Examiner shall complete his review and submit his report to the Commissioner on the issues of substantial changes in the rule and compliance with Minn. Stat. § 15.0412 (1978) within ten calendar days. The Commissioner will be responsible for filing the rules with the Attorney General and for notifying persons who have indicated that they wish to be notified of such filing.

Based upon all the records and proceedings herein, the Examiner makes the following:

FINDINGS OF FACT

1. On January 8, 1980, the BCD filed the following documents with the Chief Hearing Examiner:

(a) A copy of the proposed rules.
(b) The Order for Hearing proposed to be issued.
(c) The Notice of Hearing proposed to be issued.
(d) A Statement of the number of persons expected to attend the hearing and estimated length of the Agency's presentation.

2. On January 21, 1980, a Notice of Hearing and a copy of the proposed rules were published at 4 State Register 1149.

3. On January 15, 1980, the BCD mailed the Notice of Hearing to all persons and associations who had registered their names with the Secretary of State for the purpose of receiving such notice.

4. On January 25, 1980, the BCD filed the following documents:

(a) The Order for Hearing and authorizing resolution.
(b) The Notice of Hearing as mailed.
(c) The Affidavit of Receipt of the Secretary of State's list.
(d) The Affidavit of Mailing the Notice to all persons on the Secretary of State's list.
(e) The Secretary of State's Certificate and list.
(f) The Statement of Need and Reasonableness.
(g) The names of BCD personnel who will represent the Agency at the hearing together with the names of any other witnesses solicited by the Agency to appear on its behalf.

The documents were available for inspection at the Office of Hearing Examiners from the date of filing to the date of the hearing.

5. The record remained open through February 29, 1980 for the receipt of written comments and statements.

6. Statutory authority to promulgate the proposed rules is contained in Minn. Stat. §§ 16.83, 16.85 and 16.86 (1978). Minn. Stat. § 16.86, subd. 2, gives authority to the BCD to incorporate by reference absent compliance with Minn. Stat. § 15.0412, subd. 4.

7. This Report fully incorporates the Report issued on December 14, 1979, BCD-80-001-PE. Only new proposals, issues or testimony which were submitted at the February 22, 1980 hearing will be discussed herein. Insofar as this Report does not amend the December 14, 1979 Report, that earlier Report is dispositive of the issues presented therein.

8. The BCD proposed to add a new section 3802(e) of the UBC which sets standards for automatic fire-extinguishing systems installed in occupancies having commercial cooking equipment. This provision is contained in the present code and will remain as an amendment to the 1979 UBC. The BCD stated that these standards are part of the Minnesota Uniform Fire Code and are needed to make the Building Code comply with the rules of the State Fire Marshal. At hearing, a typographical error in the rule was corrected so that the fourth line now reads: ". . . systems complying with UBC Standard 38-1 or 38-2 shall be . . . "

The Examiner finds that proposed section 3802(e) is both needed and reasonable.

9. Claude Eizenhoefer, a member of the Structural Advisory Committee, testified to give further support to the amendment to UBC 2311(g) which requires a design factor for open frame towers of the effect of one-half inch of radial ice. He read from an article which appeared in the December 13, 1973

issue of the Engineer News Record concerning the collapse of a television tower in Iowa as the result of ice and wind loadings. Mr. Eizenhoefer then related how six electrical transmission towers, which were not designed to include ice loading, collapsed in northern Minnesota when subjected to ice loading and high winds. He stated that the radial ice factor "would probably be a significant addition to the total load situation in most high towers" and would not "significantly contribute to the cost of the materials or the total project."

As was stated in the December 14, 1979 Report, the Examiner finds that the amendment proposed to UBC 2311(g) is both needed and reasonable.

10. Ronald A. Johnson and Nels M. Nelson, co-chairmen of the Code Liaison Committee of the Door and Hardware Institute, submitted proposed amendments to UBC 3303(c) and 3304(h). They propose the use of manually operated labelled top and bottom flush or surface bolts on the inactive leaf of a pair of doors limited to rooms not normally occupied by humans; and to delete the gasket requirement for 20-minute door assemblies in corridor walls.

see p. 52 + F. of F. #9

The BCD should examine these proposals prior to final action on the rules.

11. Richard Schumacher submitted comments and testified in further support of the "Alternative Design Method" amendment proposed to UBC 2417(n). Ladi Cerny, Professor of Civil Engineering at the University of Minnesota, also testified in support of the adoption of the nationally recognized standard.

As was stated in the December 14, 1979 Report, the Examiner finds that the proposed amendment is both needed and reasonable.

12. Many comments were received opposing the deletion of the current amendments to UBC 3803(d), paragraph 5, and 3803(e). Representatives of the Minnesota State Fire Chiefs Association and the Minnesota Fire Marshals Association testified in favor of the retention of the two amendments. The comments state that the "water supply" requirement for standpipes is an essential ingredient for fire protection, and that only the Fire Chief should be able to authorize the installation of dry standpipes. The BCD did not offer any reasons in support of the deletions but stated that it would take the concerns under advisement "because we feel that the present code . . . offers proper fire protection."

neither section appears in Adopted Rules — therefore presumably not deleted?

The Examiner finds that the need for and reasonableness of the deletion of the above-cited amendments has not been demonstrated by the BCD. Both should be retained as amendents to the 1979 UBC.

13. Theodore R. Paulfranz, Assistant Chief of the Edina Fire Department, commented as follows in opposition to the proposed amendments to UBC 709(e):

> The size and height of a structure directly impacts fire growth, fire development and fire control within that structure. The size of a structure directly affects fire department access, heat and smoke ventilation and fire loading.
>
> Unprotected, non-combustible (II-N) construction (iron and steel) has performed poorly under severe fire exposure. Steel loses 60% of its load carrying capacity at 1100° F. Such temperatures are normally encountered in fire situations.
>
> Tests have shown that plastic fuel tanks perform poorly under fire exposure and allow the gasoline contents to be dumped to the road surface, resulting in a spreading fire. Over the past several years, a number of automobile manufacturers have considered using plastic fuel tanks and, in fact, several foreign and domestic models have used such fuel tanks.

The Scranton Tests in 1972 demonstrated that automobiles with metal fuel tanks and limited combustibles in their design do not present a severe exposure fire problem to other vehicles within a parking garage. I do not believe that the Scranton Tests will accurately predict fire performance in the highly combustible vehicles of the future.

Clearly, the trend in automobile design is towards a reduction in weight. Plastics will play a major role in this reduction. As such, I expect the available fuel load per vehicle within a parking garage to be steadily increasing through the next decade.

In speaking on behalf of both the City of Edina Fire Department and the Fire Marshal's Association of Minnesota, I strongly oppose any increase in allowable areas for unprotected,non-combustible construction.

Norene Dann Martin, executive vice president of the National Parking Association, commented in support of the amendment as follows:

I write in support of the proposed amendment to the above referenced UBC Section 709 (e) which would permit unlimited area of exposed steel when the height of a parking structure does not exceed eight tiers.

As the executive vice president of National Parking Association I worked for many years on the revision of the recommendations, known now as 88 A and 88 B, of the National Fire Protection Association. You will note, by comparison, that the proposed change before you now is more restrictive than that which appears in 88A. There seems to be no reason for not approving the amendment.

Henry V. Kominek, P.E., representing the American Iron and Steel Institute, states that the projected increase in combustibles in the 1986 car is only about 12.5 pounds more than the 1974 car. Mr. Kominek submitted several other building code provisions which deal with height and area requirements for open parking structures made of exposed steel in a similar manner. (e.g., 1976 National Buiding Code; NFPA No. 88 A-1973; Indiana Construction Rules and Regulations, section 1109(e); Standard Building Code, 1977 edition, section 412.7; National Building Code of Canada, section 3.2.2.50.(1); BOCA Basic Building Code, 1978 edition, section 429.6; Wisconsin Administrative Code, Ind 62.24; and ICBO Uniform Building Code, 1976 edition, section 1109.(e))

Mark Kluver, P.E., representing the Portland Cement Association, testified and submitted comments in opposition to the proposed amendment. He stated:

We are in a rapidly changing environment. Buildings must be designed to provide fire safety under foreseeable future conditions. Automobiles of the future may contain more than 350 lbs. of various plastics. The flammability, toxic fumes and low resistance of plastic material to high temperatures is well documented as well as the effect of high temperatures on the load capacity of structural steel. Perhaps this is one of the reasons why similar proposals for 8 tier, unlimited area, exposed steel parking structures have been turned down by so many other code bodies and jurisdictions.

Mr Kluver argues that the increased usage of combustible plastics in automobiles will create a much greater fire hazard in future years. The use of plastic gas tanks will allow for the spread of fire to adjacent vehicles in a parking ramp.

This issue, the reasonableness of permitting unlimited floor area in parking ramps of Type II-N Construction, is one of national debate. Most of the

codes cited above contain some height or area restriction which is more restrictive than the one now proposed. Of major consequence is the way in which combustible plastics are used in the manufacture of automobiles in years to come. At the present time, as was stated in the December 14, 1979 Report, the Examiner finds the proposed amendment to be both needed and reasonable. However, new research and the changing composition of automobiles should be examined on a yearly basis to determine the need for further fire protection standards.

14. The BCD has proposed to amend 2 MCAR § 1.10109, Appendices, by deleting the administrative provisions of the "Flood-Proofing Regulations" as an optional appendix item. The Division stated that those provisions are now "contained in 2 MCAR § 1.18901 and provide for an effective and reasonable method of administration that is consistent with the DNR regulations on flood plain management."

On January 28, 1980, the City of Duluth passed a comprehensive water resources ordinance. This ordinance resulted from negotiations with the Federal Emergency Management Agency and the Minnesota DNR regarding the content of the provisions. Duluth now argues that the proposed mandatory administrative provisions of the "Flood-Proofing Regulations" are unreasonable and unnecessary as applied to the City of Duluth and any other municipality similarly situated. Briefly, the City contends:

> A. Possible pre-emptive effect of the regulations make it impossible for Duluth to handle all of its water resource management problems in one comprehensive ordinance. This may result in the partial invalidation of our carefully thought out comprehensive water resources management ordinance and nullify the years of work put into it. Forcing Duluth to fragment its water regulations through piecemeal legislation is a step backwards which will only serve to confuse our Building Official and the general public.
>
> B. The parts of the regulations dealing with non-conforming uses are zoning regulations which should be handled in DNR regulations.
>
> C. The proposed regulations go far beyond what is required to participate in Federal Flood Insurance and do not allow sufficient flexibility to handle varying local conditions.
>
> D. With respect to the City of Duluth and particularly to the Fond du Lac area, the non-conforming use regulations are unneeded, confiscatory in nature and such that they may result in the destruction of an area which is a historical and cultural resource in the City of Duluth and a taking of property without just compensation.
>
> E. The administrative procedure for flood proofing in the proposed rules contains redundancies and is not as efficient as what Duluth has already adopted.

Of special concern to Duluth as paragraph 4 of Section 201.2 which reads:

> 4. If any nonconforming use or structure is destroyed by any means, including floods, to an extent of 50 percent or more of its assessed value, it shall not be reconstructed except in conformance with the provisions of these Regulations; provided, the Board of Appeals may permit reconstruction if the use or structure is located outside the floodway and is adequately and safely flood-proofed, elevated, or otherwise protected in conformance with these Regulations.

The City argues that this provision could mean that a structure which is destroyed only 20 to 30 percent of its fair market value may not be reconstructed unless conforming changes are made. This would directly affect historical buildings in Fond du Lac.

Duluth proposes that § 1.18901 be amended as follows:

> "~~1.10110~~ Sec. 1.18901 Adoption of 'Flood Proofing Regulations.' Sections 100 through 1406 of the 1972 Edition of 'Flood Proofing Regulations' (FPR) as promulgated by the Office of the Chief Engineers, U.S. Army, Washington, D.C. is incorporated by reference and hereby made a part of the State Building Code subject to the following amendments, and further provided that sections 201.1 through 208.2 shall not apply to any unit of government which has adopted flood proofing administrative procedures in a flood plain zoning ordinance which has been approved by the Department of Natural Resources and is on file in the office of the State Building Code Division:"

Chapter 104 of Minnesota Statutes is entitled "Flood Plain Management" and mandates that local governmental units shall adopt flood plain ordinances. Minn. Stat. § 104.04, subd. 1, reads as follows:

> 104.04 FLOOD PLAIN MANAGEMENT ORDINANCES. Subdivision 1. In accordance with the provisions of sections 104.01 to 104.07, the rules and regulations which the commissioner may promulgate pursuant to sections 104.01 to 104.07, and applicable laws authorizing local governmental units to adopt flood plain management ordinances, local governmental units shall adopt, administer, and enforce flood plain management ordinances, which shall include but not be limited to the delineation of flood plains and floodways, the preservation of the capacity of the flood plain to carry and discharge regional floods, the minimization of flood hazards, and the regulation of the use of land in the flood plain. The ordinances shall be based on adequate technical data and competent engineering advice and shall be consistent with local and regional comprehensive planning.

In addition, the Commissioner of the Department of Natural Resources has specific legislative rulemaking authority as provided in Minn. Stat. § 104.05:

> 104.05 RULES AND REGULATIONS. In the manner provided by Minnesota Statutes 1967, Chapter 15, the commissioner shall promulgate rules and regulations necessary to carry out the purposes of sections 104.01 to 104.07, including but not limited to the following: (a) criteria for determining the flood plain uses which may be permitted without creating an unreasonable public hazard or unduly restricting the capacity of the flood plain to carry and discharge the regional flood; (b) variance procedures; (c) the establishment of criteria for alternative or supplemental flood plain managemeant measures such as flood proofing, subdivision regulations, building codes, sanitary regulations, and flood warning systems.

The Commissioner of Administration has statutory authority to "establish a code of standards . . . governing matters of structural materials, design and construction, fire protection, health, sanitation and safety." Minn. Stat. § 16.85, subd. 1. In addition, the Commissioner "shall hold all state hearings . . . regarding any subject matter dealt with in the code including those in which another department or agency proposes to adopt or amend rules . . . which are incorporated by reference into the code. . . ." Minn. Stat. § 16.86, subd. 4.

The Commissioner of Administration has the authority to adopt "Flood-Proofing Regulations" which deal with "structural materials, design . . . sanitation and safety" (see full quote above) even though the Commissioner of the

Department of Natural Resources has authority to adopt rules regarding "building codes" for flood plain management. See Minn. Stat. § 104.05 above. A municipality may not adopt, by ordinance, a local building code governing any of the subject matter contained in the State Building Code because the State Code "shall . . . supersede the building code of any municipality . . .". Minn. Stat. § 16.851, subd. 1.

The legislature did provide, however, that local governmental units shall adopt flood plain management ordinances, i.e., administrative provisions, which "shall include . . . the regulation of the use of land in the flood plain." See Minn. Stat. § 104.04 above. The proposal of the BCD to make the administrative provisions of the "Flood-Proofing Regulations", which include land use standards, mandatory is in conflict with that statutory directive. The legislature must have intended to leave the administration of flood plain management and land use within the discretion of local units of government.

Consequently, Sections 201.2 through 208.2 of the "Flood-Proofing Regulations" should remain as a non-mandatory section of the Code; or, in the alternative, that Section 1.18901 be amended as proposed by the City of Duluth. see page 9

Based upon the foregoing Findings of Fact, the Hearing Examiner makes the following:

CONCLUSIONS

1. The BCD gave due, timely and adequate legal notice of the hearing, and all substantive and procedural requirements of law or rule have been met.

2. Pursuant to Minn. Stat. § 15.052, subd. 3 (1978), it is the duty of the Hearing Examiner to: ". . . (4) make a report on each proposed agency action . . . taking notice of the degree to which the agency has (i) documented its statutory authority to take the proposed action; (ii) fulfilled all relevant, substantive and procedural requirements of law or rule, and (iii) demonstrated the need for and reasonableness of its proposed action with an affirmative presentation of facts".

3. The BCD has documented its statutory authority to promulgate the proposed rules with the exception noted in Finding No. 14.

5. The BCD has demonstrated the need for and reasonableness of the proposed rules, with the exception noted in Finding No. 12

Based upon the foregoing Conclusions, the Hearing Examiner makes the following:

RECOMMENDATION

That the BCD adopt the rules as proposed with the exceptions noted above in Findings 12 and 14.

Dated this 19 day of March, 1980.

Peter C. Erickson

PETER C. ERICKSON
Hearing Examiner

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

In the Matter of the Proposed
Adoption of Amendments to the
State Building Code

FINDINGS OF FACT

The above-entitled matter came on for hearing before Peter Erickson, Hearing Examiner on the 9th and 10th days of October 1979 and on the 22nd day of February 1980, after proper notice required by Minn. Stat. 15.0412 (1978) and Minn. Stat. 16.86, subd. 6 (1978), was served upon all persons, associations, municipalities and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all of the testimony, having considered all the evidence adduced and upon the records, files and proceedings herein, this agency hereby accepts and adopts the findings of fact, conclusions and recommendations of the hearing examiner as included in his reports dated December 14, 1979 and March 19, 1980 and incorporates them hereto by reference with the following exeptions and amendments.

1. Hearing Examiners report dated December 14, 1979 Finding of Fact No. 10. The language as initially proposed for UBC Sec. 305(e) is retained.

see p. 13

2. Hearing Examiners Report dated December 14, 1979, Finding of Fact No. 11. UBC Section 203 has been referenced in Section 104(a) after consideration of comments by Mark Merrill. see p.10

3. Pursuant to Hearing Examiners Report dated December 14, 1979, Finding of Fact No. 38, 2MCAR 1.15501 through 1.15507 and tables 55A through D are deleted and will be considered further and submitted for hearing at a future date.

4. Hearing Examiners Report dated December 14, 1979, Finding of Fact No. 47 was considered and determination made that the travel distance should remain at 54 inches and the devices should not be exposed to the exterior elements during Minnesota winter. The required rated capacity was reduced to 400 pounds or 33-1/3 pounds per square foot which is the industry standard. A portion of new Section 1.18813 J 5 was deleted, as the requirement for an emergency stop switch is redundant when the operating switch is one requiring continuous pressure. see HE ¶47 & p.98 see p.99

5. Hearing Examiners Report dated December 14, 1979, Finding of Fact No. 55. The proposal submitted and revised by BOMA for NEC Section 300-22(b) is adopted with the change that detectors (plural) are required in plenums. see p.75

6. The proposed amendment as revised and submitted by BOMA to UBC Section 1807(h)(1) is adopted as per Hearing Examiner Report dated December 14, 1979, Finding of Fact No. 56. see HE ¶56 page 42

7. The amendments to 2MCAR 1.16005 proposed by the Minnesota Energy Agency are deleted and held for further consideration due to the Federal Department of Energy Building Energy Performance Standard (BEPS) which will require further amendments to the energy code in the near future. Hearing Examiners Report dated December 14, 1979, Findings of Fact Nos. 59 and 60.

see HE 58-60 p. 123.

8. The amendments to UBC Sections 405, 420, Table 5A and Section 1201 proposed by the Legal Advocacy for the Developmentally Disabled of Minnesota are adopted pursuant to Hearing Examiners Report dated December 14, 1979, Finding of Fact No. 61.

see HE P61 see p. 14, 15, 16

9. UBC Sections 3303(c) and 3304(h) as noted in Finding of Fact No. 10 of Hearing Examiner Report dated March 19, 1980 are held for further consideration.

See p. 52

10. Finding of Fact No. 12 of Hearing Examiners Report dated March 19, 1980 has been considered and UBC Section 3802(a) and UBC Standard 38-3, Section 38.306 revised so as to retain a water supply for Class I standpipes with the provision that a dry standpipe is permitted with prior approval of the fire chief.

see p. 54

11. Pursuant to Hearing Examiners Report dated March 19, 1980, Finding of Fact No. 14, Sections 201.8 through 208.2 of the Flood Proofing Regulations are retained as a non-mandatory appendix of the code.

see p. 9

12. UBC Section 3304(h) Exception 2 was inadvertently shown deleted in the Notice of Hearing. No affirmative presentation of facts establishing the need for and reasonableness of the deletion was offered either at the hearing or in the Statement of Need and Reasonableness, as required by Minn. Stat. 15.0412, Subd. 4 (1978), and therefore the repeal of this section would be improper. Thus, UBC Sec. 3304(h) Exception 2 is retained.

see P. 52.

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

6-10-80
DATE

James J. Hiniker

Commissioner

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

In the Matter of the Proposed Adoption of Amendments to the State Building Code

ORDER ADOPTING RULES

The above-entitled matter came on for hearing before Peter Erickson, Hearing Examiner on the 9th and 10th days of October 1979 and on the 22nd day of February 1980, after proper notice required by Minn. Stat. 15.0412 (1978) and Minn. Stat. 16.86 subd. 6 (1978), was served upon all persons, associations, municipalities and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all of the testimony, having considered all the evidence adduced and upon the records, files and proceedings herein, and having confirmed the need for the above captioned rules,

NOW THEREFORE IT IS ORDERED that these rules identified as Amendments to the State Building Code are adopted this 10th day of June, 1980 pursuant to authority vested in me by Minn. Stat. 16.86, subd. 3 (1978).

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

6-10-80
DATE

JAMES J. HINIKER JR.
COMMISSIONER

1. Amend MHD 122(g) by adding (4) as follows:

"(4) Connection to Public or Private Sewer. Every building shall have its own independent connection with a public or private sewer, except that a group of buildings may be connected to one or more manholes which are constructed on the premises, and connected to a public or private sewer."

2. Amend MHD Table 123(c) (3) VI. Water Service as follows:

"Water Service - Minimum working pressure rating shall be at least 150 psi for municipal water service and 100 psi for other service."

3. Amend MHD 123(d) (2) as follows:

"(dd) Copper tube 3E or 3G and fittings 3D or 3N (silver solder only).

(ee) Lead pipe 4B with heavy duty bronze unions or wiped joints with the provision that each joint must be supported by a durable support without abrasive or cutting edge.

(ff) Asbestos cement pipe 5A and fittings with the provision that this material be supported continuously and laid in granular soil and only in yard areas. Further that it not be used to convey extremely soft water, and shall pass through the floor within 3 feet of the outside wall.

(gg) Concrete pipe 5N.

(hh) Plastic pipe 6D, 6F and 6G may be used for water service pipe only up to the water meter or pressure tank and provided there is no more than 2 feet of such piping exposed within the building. These materials shall be installed in accordance with ASTM D 2774-72. Particular care shall be taken to avoid sharp edges in contact with the pipe and to provide for expansion and contraction."

4. Amend MHD 124(a) (2) (11-4) as follows:

"(11-4) Mechanical Joints in Hubless Cast Iron Soil Pipe. Mechanical joints for hubless cast iron soil pipe and fittings may be made by using a neoprene sleeve and stainless steel retaining band as specified in CISPI standard 301, by using a transition fitting made of elastomeric material (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts, or by using a two part coupling whose housing is fabricated of grey-cast iron (ASTM A 48), with a coupling gasket made of neoprene rubber (ASTM C 564), and coupling bolts and nuts made of 18-8 stainless steel.

5. Amend MHD 124(a) (4) by adding a new part (ff) as follows:

"(ff) Transition Couplings. A transition coupling is one which is to be used when pipes made of different materials are to be joined. A transition coupling may be made of elastomeric materials (ASTM C 425 and ASTM C 564) and 300 series stainless steel bands and bolts. Any transition coupling joining plastic to plastic, copper to copper, or galvanized to galvanized, must be approved by the Administrative Authority.

6. Amend MHD 125(b) (3) as follows:

(3) Cleanout Materials. The bodies of cleanout ferrules shall be made to standard pipe sizes, conform in thickness to that required for pipes and fittings of the same material and extend not less than 1/4 inch above the hub. The cleanout cover or plug shall be of brass, cast-iron or approved plastic and be provided with a raised nut or recessed socket for removal.

Neoprene or nordel rubber with a plastic disc and a single stainless steel (300 series) band may be used for a cleanout cover provided that it is exposed and readily accessible. Cleanout covers shall conform to specifications and details as shown in Figure 125 (b) (3), Appendix B."

7. Amend MHD 130(b) (2) (aa) as follows:

"(aa4) Where the provisions of subsections (aa1) and (aa2) cannot be met, the sewer pipe shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) and the water pipe of copper, cast iron, or plastic 6D, 6E, 6F or 6G (MHD Table 123(C) (3) VI.).

(aa5) Where the water service pipe must cross the building sewer, the bottom of the water service pipe located within 10 feet of the point of crossing shall be at least 12 inches above the top of the sewer, except where this is not feasible, the sewer shall be of cast iron or plastic 6A, 6B, 6C(2) or 6C(3) (MHD Table 123(C) (3) VI.) for at least 10 feet on either side of the crossing."

8. Amend MHD 130(e) (9) (gg) (ggl) as follows:

"(ggl) Connections Not Subject to Back Pressure: Where a water connection is not subject to back pressure an atmospheric type vacuum breaker shall be installed on the discharge side of the last valve on the line serving the fixture or equipment. Where a valve is installed on the discharge side of a vacuum breaker, that vacuum breaker must be a pressure-type vacuum breaker which complies with MHD 130(e) (9) (dd). A list of some conditions requiring protective devices of this kind is given in Table 130(e) (9) (ggl) Cross Connections Where Protective Devices Are Required and Critical Level (C-L) Settings for Backflow Preventers."

9. Amend MHD 130(f) by adding (6) as follows:

"Every water heater installation shall be readily accessible for inspection, repair or replacement. The appliance space shall be provided with an opening or doorway of sufficient size to provide such access."

10. Amend MHD Table 131(a) (2) (A) by changing the second heading as follows:

"Building Sewer *****, Building Drain and Building Drain Branches - from Stacks ****" and by adding a footnote to the Table as follows:

"***** No building sewer shall be less than 4 inches in diameter."

11. Amend MHD 131(b) (5) by adding (aa-5) as follows:

"(aa5) In single family dwellings the minimum capacity of a sump shall be 18 gallons."

Amend Table 123(C)(3) vi. PLASTIC PIPE AND FITTINGS in the portion entitled BUILDING SEWER, by adding 6C(3) as follows:

"6C(3) Acrylonitrile-Butadiene-Styrene (ABS) ASTM D 2751"

13 Amend MHD 123(d) (4) (gg) as follows:

"(gg) Plastic 6A, 6B, 6C(1), 6C(2) and 6C(3) with corresponding fittings laid on a continuous granular bed."

14 Amend MHD 130(e) (5) as follows:

"Potable water connections to boiler feed water systems, cooling systems, or other liquid systems, in which water conditioning chemicals may be introduced shall be made through an air gap or provided with an approved backflow preventer located in the potable water line before the point where such chemicals may be introduced. Where a system is filled with an anti-freeze or toxic solution a permanent tag will be placed in plain view stating "Caution, this system contains anti-freeze/toxic solution. There shall be no permanent direct connection between this system and the potable water supply to the building."

RECEIVED

JUN 5 1980

DEPT OF ADMINISTRATION
BUILDING CODE DIVISION

copy

STATE OF MINNESOTA

COUNTY OF HENNEPIN

BEFORE THE MINNESOTA

COMMISSIONER OF HEALTH

In the Matter of Proposed
Amendments to the
Minnesota Plumbing Code
for Incorporation into the
Minnesota Building Code

FINDINGS, CONCLUSIONS

AND ORDER FOR ADOPTION

The above-entitled matter came on for hearing before Hearing Examiner, Peter C. Erickson, on October 9 and 10, 1979, in Room 83 of the State Office Building, St. Paul, Minnesota, after proper notice as required by Minn. Stat. § 15.0412 subd.4 (1978) had been served upon all persons registered with the Secretary of State for that purpose.

The Plumbing Code amendments were submitted by the Commissioner of Health for incorporation by the Commissioner of Administration into the Minnesota Building Code pursuant to Minn. Stats. § 16.861 (1978)

After affording interested persons an opportunity to present written and oral data, statements and arguments, having received all of the testimony, having considered all of the relevant evidence in the records, files and proceedings herein, and applicable standards and criteria, and having confirmed the need for the plumbing code portion of the above-captioned amendments, the Commissioner hereby adopts as his own the pertinent Findings and Conclusions of the Hearing Examiner.

Pursuant to authority contained in Minn. Stats. § 326.37 (1978),

IT IS HEREBY ORDERED, that the amendments to the Minnesota Plumbing Code, (MHD 122(g)(4); MHD Table 123(C)(3)(VI); MHD 123(d)(2); MHD 124(a)(2)(11-4); MHD 124(a)(4); MHD 125(b)(3); MHD 130(b)(2)(aa); MHD 130(e)(9)(gg 1); MHD 130(f); MHD Table 131 (a)(2)(A); MHD 131(b)(5); MHD Table 123(C)(3)VI; MHD 123(d)(4)(gg) and MHD 130(e)(5)), a copy of which is attached hereto and made

a part hereof which were proposed to the Commissioner of Administration for incorporation into the State Building Code are HEREBY ADOPTED this 30th day of May, 1980.

STATE OF MINNESOTA

George R. Pettersen, M.D.
Commissioner of Health

1. Amend MHD 122(g) by adding (4) as follows:

"(4) Connection to Public or Private Sewer. Every building shall have its own independent connection with a public or private sewer, except that a group of buildings may be connected to one or more manholes which are constructed on the premises, and connected to a public or private sewer."

2. Amend MHD Table 123(c) (3) VI. Water Service as follows:

"Water Service - Minimum working pressure rating shall be at least 150 psi for municipal water service and 100 psi for other service."

3. Amend MHD 123(d) (2) as follows:

"(dd) Copper tube 3E or 3G and fittings 3D or 3N (silver solder only).

(ee) Lead pipe 4B with heavy duty bronze unions or wiped joints with the provision that each joint must be supported by a durable support without abrasive or cutting edge.

(ff) Asbestos cement pipe 5A and fittings with the provision that this material be supported continuously and laid in granular soil and only in yard areas. Further that it not be used to convey extremely soft water, and shall pass through the floor within 3 feet of the outside wall.

(gg) Concrete pipe 5N.

(hh) Plastic pipe 6D, 6E, 6F and 6G may be used for water service pipe only up to the water meter or pressure tank and provided there is no more than 2 feet of such piping exposed within the building. These materials shall be installed in accordance with ASTM D 2774-72. Particular care shall be taken to avoid sharp edges in contact with the pipe and to provide for expansion and contraction."

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5. Amend MHD 124(a) (4) by adding a new part (ff) as follows:

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6. Amend MHD 125(b) (3) as follows:

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10. Amend MHD Table 131(a) (2) (A) by changing the second heading as follows:

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BCD-80-001-PE

STATE OF MINNESOTA
OFFICE OF HEARING EXAMINERS

FOR THE DEPARTMENT OF ADMINISTRATION
BUILDING CODE DIVISION

IN THE MATTER OF THE PROPOSED) ADOPTION OF AMENDMENTS TO THE) STATE BUILDING CODE.)

ORDER OF THE CHIEF HEARING EXAMINER

WHEREAS, hearings were held on October 9 and 10, 1979, and February 22, 1980, before Peter C. Erickson, a Hearing Examiner of the State Office of Hearing Examiners, on the above-entitled matter in compliance with Minn. Stat. § 15.0412, subd. 4; and

WHEREAS, the Reports of the Hearing Examiner made pursuant to Minn. Stat. § 15.052, subd. 3, were issued on December 14, 1979, and March 19, 1980; and

WHEREAS, the Building Code Division (hereinafter "Division") has now determined to adopt rules pursuant to Minn. Stat. § 15.0412, subd. 4; and

WHEREAS, the Division has submitted said rules to the Chief Hearing Examiner for review pursuant to Minn. Stat. § 15.052, subd. 4, and 9 MCAR § 2.110; and

WHEREAS, the Chief Hearing Examiner finds that the final proposed rules are not substantially different from those proposed at the public hearings and that the Division has complied with all procedural requirements of Minn. Stat. § 15.0412, subd. 4.

NOW, THEREFORE, upon receipt of this Order, the Division has the responsiblity of submitting the complete hearing record and the rules as adopted by the Division to the Attorney General, notifying all persons who requested to be informed that the hearing record has been submitted to the Attorney General, and publishing in the State Register, all pursuant to Minn. Stat. § 15.0412, subd. 4.

Dated this 17th day of June, 1980.

Duane R. Harves

DUANE R. HARVES
Chief Hearing Examiner

STATE OF MINNESOTA
OFFICE OF HEARING EXAMINERS

FOR THE DEPARTMENT OF ADMINISTRATION
BUILDING CODE DIVISION

IN THE MATTER OF THE PROPOSED ADOPTION OF AMENDMENTS TO THE STATE BUILDING CODE.	ORDER OF THE CHIEF HEARING EXAMINER

WHEREAS, on June 10, 1980, the Building Code Division submitted the above-entitled rules to the Chief Hearing Examiner for review pursuant to Minn. Stat. § 15.052, subd. 4, and Rule 9 MCAR § 2.110; and

WHEREAS, on June 17, 1980, the Chief Hearing Examiner issued his Order finding that the rules as proposed to be adopted were not substantially different from those proposed at the public hearing and that the Building Code Division had met all requirements of Minn. Stat. § 15.0412, subd. 4; and

WHEREAS, the Building Code Division subsequently submitted the rules and the record of the proceedings to the Attorney General for his review as to form and legality pursuant to Minn. Stat. § 15.0412, subd. 4; and

WHEREAS, the Attorney General, in a memorandum dated July 14, 1980, recommended to the Building Code Division that certain of the rules be amended; and

WHEREAS, the Building Code Division, on July 18, 1980, resubmitted the rules to the Chief Hearing Examiner for his review; and

WHEREAS, the Chief Hearing Examiner finds that the changes made in the rules do not make the rules substantially different from those proposed at the public hearing.

NOW, THEREFORE, upon receipt of this Order, the Building Code Division has the responsibility of resubmitting the complete hearing record and the rules as adopted by the Division to the Attorney General, notifying all persons who requested to be informed that the hearing record has been resubmitted to the Attorney General, and publishing in the State Register, all pursuant to Minn. Stat. § 15.0412, subd. 4.

Dated this 24th day
of July, 1980.

DUANE R. HARVES
Chief Hearing Examiner

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DEPT. OF ADMINISTRATION
BUILDING CODE DIVISION

STATE OF MINNESOTA

DEPARTMENT OF ADMINISTRATION

BUILDING CODE DIVISION

IN THE MATTER OF THE PROPOSED)
ADOPTION OF AMENDMENTS TO THE)
STATE BUILDING CODE)

STATEMENT OF COMPLIANCE
WITH RULEMAKING PROCEDURES

I, Special Assistant Attorney General Sheila S. Fishman, do declare that I have reviewed the proposed rules governing amendments to the State Building Code and all related documents and that, based on said review and upon my personal familiarity with the applicable procedures, the Rulemaking Procedures have been complied with.

Dated: JUN 2 4 1980

SHEILA S. FISHMAN
Special Assistant
Attorney General

STATE OF MINNESOTA
OFFICE OF THE ATTORNEY GENERAL
ST. PAUL 55155

WARREN SPANNAUS
ATTORNEY GENERAL

April 30, 1980

TELEPHONE
(612) 296-6196

Mr. Joel R. Blumenthal
Dealer Account Administrator
American Stair-Glide Corporation
4001 East 138th Street
Grandview, Missouri 64030

Re: State Building Code Amendments

Dear Mr. Blumenthal:

I have received your letter of April 28, 1980, in regard to the State Building Code Amendments. The Minnesota Attorney General's Office reviews rules promulgated and adopted in Minnesota for "form and legality" pursuant to State statutes and rules of the Attorney General's Office. The rules and the record relating to the State Building Code Amendments have not been submitted to this office to date. I will consider your comments when the complete record is before me for review. If you appeared at the hearing and indicated that you wished to be informed by the agency of the date of submission to the Attorney General's Office the agency should so inform you. If you did not request such notice at the hearing you should now contact the agency if you wish to know the date on which the amendments are submitted to this office. This office has 20 days in which to complete its review after the submission of the rules.

In response to your question as to my authority in the rulemaking process, I have the following comments. This office disapproves rules and thereby prohibits them from having the force and effect of law only if they are not promulgated and adopted in compliance with the Minnesota Administrative Procedure Act, are defective in form or are illegal. This office does not have the authority to make any changes in a rule which it reviews. The authority to change a rule remains with the agency. However, agencies do make changes in rules in response to disapproval memorandums from this office and thereafter resubmit such changes for our approval.

Review by this office is the final step in the rulemaking process. If the rules are approved by this office, filed with the secretary of state and published in the state register they will have the force and effect of law. You may wish to consult a private attorney as to your legal recourse if the rules become effective.

Very truly yours,

Joanne E. Hinderaker

JOANNE E. HINDERAKER
Special Assistant Attorney General
G-25 State Administration Building
50 Sherburne Avenue
Saint Paul, Minnesota 55155
(612) 296-4692

JEH/bw

AN EQUAL OPPORTUNITY EMPLOYER

AMERICAN STAIR-GLIDE CORPORATION

April 28, 1980

RECEIVED
APR 30 1980
ATTORNEY GENERAL
ADMINISTRATIVE AGENCIES

Ms. Joann Hinderaker
State Attorney General's Office
Administration Building
Room G 25
St. Paul, MN 55155

Dear Ms. Hinderaker:

On October 10, 1979 Patrick Hubbard and I appeared before Hearing Examiner, Peter C. Erickson, in reference to the proposed adoption of amendments to the State Building Code. Our specific area of interest was in Section 4 which dealt with proposed amendments to the Elevator Code including provisions for wheelchair lifts. In a recent conversation with Mr. Duane Grace and with Mr. Elroy Berdahl of the Building Codes Division, I was advised the proposed changes were near adoption without consideration being given to several suggested changes. I am writing you at this point to determine whether this situation can be remedied.

Our specific areas of interest are as follows:

Section 1.18813 I--The proposal currently reads, "The total travel of the device shall not exceed 54"." Our contention is that the 54" requirement is capricious and arbitrary. Both statements made by the Building Codes Division in their statement of need and reasonableness are subject to question. The statement of need and reasonableness for this section reads, "The maximum travel distance was developed from the following: For safety it is essential that the entire travel distance be visible from both top and bottom landings; . . . increased engineering and manufacturing costs when maximum height is exceeded and total cost involved to exceed maximum height approach the cost of an elevator installation which fully meets the requirements of ANSI A-17.1 and is inherently safer." These two statements are simply not adequate proof of a need for a restriction.

Regarding the requirement that the entire travel distance be visible, how is the figure of 54" arrived upon? Regarding the contention that the total cost of the wheelchair lift traveling farther than 54" will escalate to the cost of a standard elevator installation, this is patently false. AMERICAN STAIR-GLIDE is the leader in the wheelchair lift industry and I can assure you that the cost for a wheelchair lift at the maximum height to which they are built, with every conceivable option added, would be priced somewhere in the neighborhood of $6,000 including installation. A floor-to-floor elevator, on the other hand, would be priced somewhere in the neighborhood of $15,000.

4001 EAST 138TH STREET, GRANDVIEW, MISSOURI 64030 - (816) 763-3100

What we asked for at the hearing was that the requirement be changed to read so that a height limitation would be "not in excess of eight feet or serving more than two levels". Further, we suggested that the wording might include the phrase "in no situation should the unit pierce a floor." We feel this is reasonable in that we attempt to serve those needs up to but not including or beyond that which a regular floor to floor elevator can serve.

We were supported on this point during testimony by Mr. Sal Jacobs, the Director of Inspections for the City of Minneapolis and by Mr. Harold Kiewell, an Accessibilities Specialist for the State of Minnesota. Furthermore, the hearing examiners report reads as follows: ". . . consideration should be given to increasing the travel distance. . ."

Section 1.18812-F--This section currently reads, "Devices shall not be exposed to the outside elements". In reference to this point, in our testimony, we suggested alternate language. Our suggestion was that a total exclusion not be made, that weatherproof equipment would be allowed to be used in outdoor situations. Mr. Erickson, the Hearing Examiner, in Point 47 of his report says, ". . .consideration should be given to . . . allowing some degree of disclosure to the outside elements as suggested above." What we are asking for here is that a total exclusion not be made.

A typical installation of this type of equipment is outside a church or a school or library several feet away from the actual building in areas where there is a stairway to be overcome. The normal alternative to a stairway lift in this location would be a ramp. Current requirements for a ramp are that it be at a gradient of 1 to 12 if it is covered and 1 to 20 if it is uncovered. Apparently the building codes concerned here is over snow removal, etc. To give a typical example, with a wheelchair lift you are talking about removing snow from a 12 square foot area. If the rise being overcome by this wheelchair lift is 50", the alternate application would be a ramp of a minimum of 56 feet long and 36" wide. By my computations, the area for snow removal in this situation is well beyond 12 square feet and in fact, that area would be put out of service for a much greater time than a wheelchair lift after a snowfall.

Furthermore, the language of the proposed regulation does not seem to allow for equipment which would, at a later date, be considered weatherproof by the Buildings Codes Division. This, to me, seems capricious.

Section 1.1881 -A--This section deals with requirements for hoistways or hoistway enclosures. Our suggestion here was not that the section be changed but that a proviso be added for an alternate method of protection--a pressure sensitive pan. Such an alternative will provide adequate protection without escalating the cost of the units well beyond the capabilities of the handicapped citizens of the State of Minnesota. Furthermore, the language we are suggesting is similar to that in the proposed ANSI Standards.



Ms. Hinderaker, what I am trying to determine from you is whether in your position you have any authority to make changes in this proposal at this point. If not, are there any alternate options left to us to make these changes before the proposed code is filed with the Secretary of State's office? Again, our major concern is that our testimony, as a leader in the industry, was virtually ignored. This was even though, in a number of the above instances, Mr. Erickson, the Hearing Examiner, agreed with our testimony and in the first example cited, Mr. Jacobs of the City of Minneapolis and Mr. Kiewell an official of the State of Minnesota agreed with us. If these changes cannot be resolved, even though it was a recommendation of the Hearing Examiner, to what end is a hearing held?

I look forward to your early response.

Sincerely,

J. R. Blumenthal

Joel R. Blumenthal
Dealer Account Administrator

JRB:jj

10/8/79

MINNESOTA STATE BUILDING CODE DIVISION
PUBLIC HEARING - OCT. 9-10, 1979
ERRATA TO PROPOSED RULES

AMENDED SAVE THIS

Page 2 - 3rd paragraph, last line - line through 1.16108

Page 11 1.10107 A 3 - delete appendix 23

Page 12 - Sec. 1.10109 B2 line through 15; add 11 underlined and 55 underlined

Page 12 - Sec. 1.10110 reserve for future use

Page 17 - Sec. 307(a) 2nd line - "sued" should read "used"

Page 18 - Definition of supervised living facilities: See Addenda

Page 20 - 4th line - line through "self closing"

Page 24 - Prior to UBC Sec. 709(e) add:
Section 709(e) of the UBC is amended to read as follows:
UBC Sec. 709(e) - On eighth line relocate comma after Type - it should be between
"FR" and "Type"

Page 25 - UBC Sec. 709(m) 5th line - "stope" should read stops

Page 32a - Revised - On Reverse Side

Page 39 - Sec. 1706(d) add "See Section 2 MCAR 1.18806C"

Page 58 - first line: the number 4 after occupancies should be lined through

Page 59 - UBC Section 6001 - 5th Line after Association - Add: Design Specification For and line through "Light"
4TH LINE LINE THROUGH: STRESS GRADE LUMBER & ITS FASTENINGS (1971) ADD: WOOD CONSTRUCTION (1977)

Page 60 - 2nd line add: "Be" before unconstitutional.
UNDERLINED.

Page 88 - Sec. 1.15514 Title - line through "Occupancies"

Page 91 - Sec. 1.15516C 1st line add: "Car" between Elevator & Controls.

Page 106 - Line through last paragraph

Page 132 FBR Sec 201.2 1st line: add city or county underlined at end of Section

Page 136 - Exception should read - Group M Division 1 Occupancies

138 Delete capital A FBR 301.2.4 1st line after room -

Page 145 and 146 - MHD 123 (d) (2) Sections after (ee) should be relettered because of deletion.

Page 146 - Section (11-4) 5th line "ASTIM" should read "ASTM"

Page 149 - MHD 123(d) (4) (gg) after 6C(3) add: "With Corresponding fittings"
MHD 130(e) (5) eighth line last word should be "plain"

U.B.C. Section 1101 Group M, 6th line is amended to read as follows:

U.B.C. Sec. 1101, Group M Occupancies.

For occupancy separations, see Table No. 5-B. For purposes of occupancy separation, mobile homes shall be considered as Group R, Division 3 occupancies.

U.B.C. Sec. 414 Definition of Mechanical Code is amended as follows:

U.B.C. Sec. 414 MECHANICAL CODE is the ~~Uniform Mechanical Code, 1979 Edition~~ Minnesota Heating, Ventilating, Air Conditioning and Refrigeration Code.

MINNESOTA BUILDING CODE DIVISION
PUBLIC HEARING OCTOBER 9-10, 1979
ADDENDA TO PROPOSED RULES

Page 25 - Definition revised to remove non-code provisions.

Section 709 of the UBC is amended by adding a new paragraph (m):

UBC Sec. 709(m) Every parking ramp or other parking facility shall include spaces for the parking of motor vehicles having a capacity of seven (7) to sixteen (16) persons. The number of required spaces shall be determined by 2% of the gross designed parking area with a minimum of two spaces. Such spaces shall be at least 10 feet in width, 20 feet in length and a height clearance of 10'-6" in the entry level and shall not apply to other levels of a ramp.

Page 25 - Additional words added to clarify intent.

Section 802(c) of the UBC is amended to read as follows:

UBC Sec. 802(c) Special Provisions. Rooms in Division 1 and 2 Occupancies used for day-care purposes, kindergarten ~~first or second grade~~ pupils and Division 3 Occupances shall not be located above the first story, nor shall they be located in a basement unless there is provided at least one exit without intervening stairs directly on grade from the occupied space.

Page 63 - Definitions 3 & 4 revised by deleting code requirements.

3. Curb ramp. Curb ramp shall mean a short inclined walking surface used to by-pass abrupt changes in level of less than nine (9) inches with a maximum slope ratio of one to ten (1:10).

4. Floor. Floor shall mean occupied horizontal space within the exterior walls of a building. Landings in stairways are not included.

Page 64 - Definition 8 revised to be identical with that in Uniform Building Code. Definitions 11 & 12 revised to remove code requirements.

8. Public way. Public way shall mean any street, alley or similar parcel of land, essentially unobstructed from the ground to the sky which is deeded, dedicated, or otherwise permanently appropriated to the public for public use and having a clear width of not less than 10 feet.

11. Skyways. Skyway shall mean an enclosed pedestrian passageway, elevated above street level, used to connect structures.

12. Slip Resistant. Slip resistant shall mean a surface that is firm, flat, continuous which retards sliding action with an anti-slip co-efficient of not less than 0.40 as defined in Research Paper No. RP-1879 of the National Bureau of Standards.

Page 65 - Definition 13 revised to remove code requirements.

13. Temporary Buildings. Temporary building shall mean any building(s or structure(s) authorized by the local authority for use for a determined period of time.

Page 66 - Section revised to clarify intent.

1.15504 Building Entrances

Building Entrances: When more than one exit is required at least two ~~one~~ required exits of the building shall be accessible for use as ingress for the handicapped. Primary entrances (required exit) to each building where required shall be accessible and shall be identified for such use. Such building entrances shall be at the main lobby or corridor, or shall be accessible thereto by ramp or elevator.

Delete paragraph entitled Clarification.

Page 68 - Word changed from spaces to suites to clarify intent.

1.15507 F. Doors and Doorways:

Doors and doorways serving buildings or portions thereof regulated by this chapter shall comply with the following:

A. This section applicable to Accessible Building entrance doors, entry doors to individual non residential tenant suites, conference rooms, accessible sanitation facilities and all doors in dwelling units required to be provided per table 55 A.

Page 74 - Words added to clarify intent.

A. B. Where Required:

1. In group R-1 occupancies having ~~eight~~ four (4) or more dwelling units or guest rooms, accessible sanitation facilities shall be provided in dwelling units and guest rooms in accordance with Table 55-A. When more than three accessible units or guest rooms are required at least one dwelling unit or guest room shall have a shower as prescribed in H 7 of this section. In a multiple building development, the dwelling units or guest rooms containing sanitation facilities shall not be located solely in one building and shall be located in at least 25% of the building when more than three accessible units or guest rooms are required.

Page 75 - Section D. Revised to remove unreasonable requirement for ancillary areas of R-1 Occupancies..

D. When toilet rooms are provided in all other occupancies regulated by these rules at least one toilet room for each sex shall have not less than one (1) water closet and lavatory complying with this section, and where urinals are provided in such toilet rooms, not less than one (1) urinal complying with this section shall be provided. In toilet rooms having more than one (1) water closet, at least one (1) water closet and one (1) lavatory shall be in compliance with this section. Toilet rooms having plumbing fixtures. Cont

Page 76 - Section E revised to remove requirements in Theaters and Museums..

E. Transportation terminals, and shopping malls shall, in addition to other requirements for accessible sanitation facilities, provide at least one (1) toilet room which houses only one water closet and one lavatory. This toilet room shall be in compliance with all other requirements of this section. Such facilities will be open to the public regardless of sex, and will have a sign indicating when in use that automatically displays when the door is locked from the inside.

Page 78 - Section 4. b. revised to make provision optional.

4. Grab bars.

b. Group E, I-1, and I-2 occupancies housing children below the age of ten (10) may have grab bars one inch (1") in diameter, plus or minus one-eight inch (1/8"), and with precisely one inch (1") clearance from walls or partititions when other standard facilities are provided for persons 10 years and older.

Page 90 - Section B deleted - not reasonable as a minimum code standard. Equipment needed to comply not readily available.

Delete Sec. 1.15515 B in entirety.

Page 95 - Table 55-B revised to remove inequitable provisions.

TABLE 55-B
REQUIRED ACCESSIBLE SEATING

OCCUPANT LOAD OF SEATING AREA	MINIMUM NUMBER OF ACCESSIBLE SEATS
One to 1499	1 for each 100 seats or fraction thereof
1500 and over	15 + 1 for each additional 500 seats or fraction thereof

STATE OF MINNESOTA
Department of Administration
Building Code Division
October 9, 1979

Modifications in Proposed Amendments to the State Building Code, as published at 4 S.R. 233 et seq. (September 3, 1979)

1. 4 S.R. 239 - Hearing Document pages 19-20

Delete the proposed definitions of "Class A Supervised Living Facilities" and "Class B Supervised Living Facilities" and substitute the following:

"Supervised Living Facility" means a facility in which there is provided supervision, lodging, meals, and, in accordance with the provisions of rules of the Department of Public Welfare, counseling and developmental habilitative or rehabilitative services to five or more persons who are mentally retarded, chemically dependent, adult mentally ill, or physically handicapped.

"Class A Supervised Living Facility" means a Supervised Living Facility for ambulatory and mobile persons who are capable of taking appropriate action for self-preservation under emergency conditions as determined by program licensure provisions.

"Class B Supervised Living Facility" means a Supervised Living Facility for ambulatory, non-ambulatory, mobile or non-mobile persons who are not mentally or physically capable of taking appropriate action for self-preservation under emergency conditions as determined by program licensure provisions.

2. 4 S.R. 242 - Hearing Document page 30

Delete the proposed amended version of UBC §§ 1001 and substitute the following:

"UBC §§ 1001. Group I Occupancies shall be:

Division 1. Nurseries for the full-time care of children under the age of six (each accommodating more than ~~five~~ four persons. Hospitals, sanitariums, nursing homes ~~with non-ambulatory patients~~ and similar buildings (each accommodating more than ~~five~~ four persons).

Division 2. ~~Nursing homes for ambulatory patients,~~ Detoxification centers, homes for children six years of age or over, supervised living facilities Class B as defined for the mentally retarded, mentally ill or the physically handicapped (each accommodating more than ~~five~~ four persons).

Division 3. Mental hospitals, mental sanitariums, jails, prisons, reformatories and buildings where personal liberties of inmates are similarly restrained.

For occupancy separations, see Table No. 5-B.

For occupant load, see Section 3301.

Exception: Group I Occupancies shall not include buildings used only for private residential purposes for a family group.

3. 4 S.R. 243 - Hearing Document page 32a

Delete the proposed amended UBC § 1201 and substitute the following:

Division 1. Hotels and apartment houses, convents and monasteries (each accommodating more than 10 persons). Boarding care homes and supervised living facilities, Class A as defined, for the mentally retarded, mentally ill, chemically dependent and the physically handicapped (each accommodating more than four persons). Physically Handicapped persons shall be housed at street level.

4. 4 S.R. 250 - Hearing Document page 57

Add the following proposed amendments:

UBC § 3319(b) is amended to read as follows:

(b) Minimum size of Exits. Every exit opening through which patients are transported ~~in wheelchairs~~ on stretchers or beds shall be of sufficient width to permit the ready passage of such equipment but shall have a clear width of not less than 44 inches. , except as hereinafter provided. Exit openings in Division 2 occupancies shall have a clear width of not less than 34 inches. There shall be no projections within ~~the 44 inch~~ such clear widths.

UBC § 3319(c) is amended to read as follows:

Corridors. The minimum clear width of a corridor shall be 44 inches except ~~that~~ as follows:

> corridors serving any area ~~housing one or more non-ambulatory persons~~ Group I, Division 1 Occupancies shall be not less than eight feet in width; corridors serving any Group I, Division 2 Occupancies shall be not less than six feet in width.

There shall be no change of elevation in a corridor serving non-ambulatory persons unless ramps are used.

In Group I, Division 3 Occupancies such as jails, prisons, reformatories and similar buildings with open barred cells forming corridor walls, the corridor and cell doors need not be fire resistive.

ADMIN 1000 (Rev. 1/78)
SF-00006-01

STATE OF MINNESOTA

Office Memorandum

DEPARTMENT ATTORNEY GENERAL

TO : JAMES J. HINIKER, JR.
Commissioner of Administration

DATE: July 14, 1980

Attn: SHEILA S. FISHMAN

FROM : H. THEODORE GRINDAL HTG
Special Assistant
Attorney General

PHONE: 296-3471

SUBJECT: In the Matter of the Proposed Adoption of Amendments to the State Building Code

The above-captioned rules have not been approved by this office for the following reasons:

1. The rules as adopted contain a section beginning at 2 MCAR sec. 1.16005 proposed by the Energy Agency that the Department's June 10, 1980, Findings of Fact No. 7 appears to delete. Yet, these last five pages of rules are contained in the Rules as Adopted. Based on the agency's Findings of Fact these rules should be deleted. Either the rules beginning at 2 MCAR sec. 1.16005 et seq. should be omitted or the Department's Findings of Fact should be amended.

2. 2 MCAR sec. 1.10334 B. 1. states, "The State Building Inspector may approve inspection or evaluation agencies which meet the requirements of Section 1 . . . . " This language appears to allow the State Building Inspector the discretion to approve or not approve agencies that meet listed requirements. Such unlimited discretion is improper. It would seem appropriate to replace the "may" with a "shall" in this instance, if the Department intended that the language "may approve" in the rule should be applied as "shall approve."

3. In 2 MCAR sec. 1.10334 B. 2. there appears to be no definite standard for the State Building Inspector to determine when an application is "suitable." Therefore the rule is improper. This rule might be remedied by referencing the review of the application to the preceding section listing the requirements of the application, (2 MCAR sec. 1.10334 A.).

Also, the following typographical errors require revision:

1. In 2 MCAR sec. 1.10109 B. 2. Chapters 11 and 15 appear to be missing from this series of Chapters.

2. In UBC 501 Table 5-A. I. 2. it appears that for consistency the second line should include the language "as defined in UBC 420."

3. In UBC 709 (e) that the last line runs off the page.

4. In UBC 709 (m) in the third line "speces" should be "spaces."

5. In UBC sec. 1201 Group R Division 4 Occupancies it appears that the cite 2 MCAR sec. 1.15001 should be 2 MCAR sec. 1.16001.

6. In UBC sec. 2510 (h) the last line contains the cite (TPI78) and the first line of the next section contains the cite TPI (78). These require revision for consistency.

7. In 2 MCAR sec. 1.10310 C. the second paragraph, fourth line "buildngs" should be "buildings."

8. In 2 MCAR sec. 1.10321 D. the eleventh line "inspecton" should be "inspection." Also, in the twelfth line of the same section, it appears the word "been" should be inserted between "not" and "applied", or that "that have," could be deleted.

9. In 2 MCAR sec. 1.10334 B. 3 in the first line the second "the" should be omitted.

10. In 2 MCAR sec. 1.10334 C. 2. b. it appears the word "ninety" should be inserted between "within" and "(90)."

11. In NEC 300 - 22 b. in the sixth line the word "exhuast" should be "exhaust." Also, on the ninth line the word "abaonded" should be "abandoned."

12. In 2 MCAR sec. 1.18806 D. 4. in the second line it appears the word "to" should be deleted.

13. In 2 MCAR sec. 1.18812 E. in the second line, it appears that the word "to" between "not" and "exceed" should be deleted.

14. In FPR 200.2 the fourth line it appears that the word "by" should be changed to "be."

Upon consideration of the issues raised in this memorandum, these rules may be resubmitted. Please be advised that the Chief Hearing Examiner requests that any changes other than those that are merely typographical or those that go only to form that are made subsequent to his review be resubmitted to that office. At the time of resubmission to this office, please insure that the original and two copies of the Amended Order Adopting and the Amended Rules as Adopted are submitted as they are necessary for filing with the Secretary of State. This office has retained copies of all other jurisdictional documents. For administrative convenience, please designate the rules as resubmitted rules, at the time of resubmission.

If you have any questions in regard to this memorandum please contact me.

HTG/bw
Encls.
cc: Duane Harves
Susan Robertson