APPENDIX G

GENERAL GUIDELINES FOR FIRE RESISTIVE CONSTRUCTION

1. Scope

This appendix is designed to assist in the coordination of design requirements for ensuring the safety of occupants of all classes of buildings in the event of a fire. Information on the fire resistance of materials and assemblies used in construction is provide in Section 4 of this Code and in Section E of the Building Guidelines. Sub-sections 502, 504 and 505 of the Code also provide information on the design of building components for fire safety and on the fire safety equipment required.

The main objective in the design of buildings must be to limit the spread of fire so that occupants can escape safely and so that the fire will not be spread to adjacent buildings before fire fighting efforts to contain the fire can be effective. The design on buildings must also take into account the need for access to the buildings by fire fighting apparatus and in the cases of buildings with their own water supply to the nearest suitable water connection.

2. Other Codes

This Appendix does not repeat the standards given in other Codes of practice as it is recommended that designers of institutional buildings and all buildings in Groups A, B, C, D, E (b) and (c), and F consult the codes listed in this paragraph. Where a conflict arises in the interpretation of the Codes, Part 3, Section 7 of the Caribbean Uniform Building Code takes precedence.

The reference codes are.

- **Caribbean Uniform Building Code (CUBiC) - Part 3 Section 7**

- **BS 5588**

Part 1	Code of Practice for residential buildings
Part 2	Code of Practice for shops
Part 3	Code of Practice for office buildings
Part 6	Code of Practice for places of assembly
Part 8	Code of Practice for means of escape for disabled people
Part 10	Code of Practice for shopping complexes

- **National Building Code of Canada**

Section 2.5	Fire Department Access to Buildings
Section 2.7	Safety to Life
Section 2.8	Emergency Planning
Section 2.10	Day Care Centres
Section 2.11	Boarding and Lodging Houses
Section 2.15	Construction Sites

3. Fire Resisting Construction for Important Buildings

Table G-1 gives the fire resistant periods required for institutional buildings, for shops and supermarkets, for assembly halls, theatres and stadiums, and for other public buildings such as post offices, general office buildings and banks.

Table G-1

Required Fire Resistant Periods

Buildings	Period in Hours
Assembly Halls	1-1/2
Hospitals	1-1/2
Infirmaries	2
Prisons	1
Theatres	1-1/2
Office Buildings	1/2
Banks	1/2
Shops and Shopping Centres	3/4

The fire resistant periods given are based on the need of occupants to exit the buildings safely under the conditions which obtain in the Turks and Caicos Islands. It is important to recognise that while it may be possible to exit buildings in much less time than indicated in the Table, yet the conditions for safe exit may not be in place, and caution must be used in the design of hospitals and infirmaries where the occupants will not be completely mobile and staff may not be available to offer assistance to the immobile or bedridden occupants.

4. Fire Protection Requirements for Storage and Maintenance Facilities

Table G-2 gives the type of construction required for the construction of buildings or rooms housing maintenance and storage facilities. This Table must be read with Tables 4-1 to 4-3 and with Part 3 Section 3 of CUBiC for the design of buildings storing flammable materials, to provide the material types that can be used for the construction of the facilities.

Table G-2

Structural Fire Protection of Certain Facilities

Facility		The facility should be separated from other parts of the complex by:
1.	Storage areas not greater than 450 sq.m. (other than refuse storage areas)	Robust construction having a minimum standards of fire resistance of 60 min.
2	Engineering services installations rooms (other than those covered in items 6, 7, and 8)	
3	Repair and Maintenance workshops	Robust solid non-combustible construction having a minimum standard of fire resistance of 120 min.
4	Storage areas greater than 450 sq.m. (other than refuse storage areas)	
5.	Refuse Storage Areas	Robust solid non-combustible construction having a minimum standard of fire resistance equivalent to that required for the elements of construction of the complex, and in no case less than 120 min.
6.	Rooms housing fixed internal combustion engines	
7	Boiler and fuel storage spaces	
8.	Transformer and switchgear rooms	
9	Central control room, fire control centre, enclosed car parks and enclosed servicing areas.	

5. Storage of Flammable Liquids and Gases

Section 3 of Part 3 of the Caribbean Uniform Building Code (CUBiC) provides details for the construction and occupancy of facilities with hazardous and volatile materials such as petroleum (gasoline), liquefied petroleum gases, flammable film, and combustible fibres.

CUBiC gives limiting distances from buildings for the location of facilities such as paint spraying booths, private and public garages, and motor fuel service stations depending on the capacity of the storage facility and the type of service proposed. Designers are advised to consult CUBiC and other Codes such as NFiPA 30 - Flammable and Combustible Liquids to ensure that the design of the facility conforms to the safety standards approved by the Board.

6. General

It is emphasised that building designers must examine the fire resistive periods of materials and assemblies as given in Tables 4-1, 4-2 and 4-3 of this Code and Tables E-1, E-2, E-3, E-4 and E-5 of Section E of the Building Guidelines to determine the component assembly and materials appropriate for the building to be constructed.

For example the use of 1/2 inch fibreboard for cladding of partitions or ceiling in institutional buildings would be inappropriate as Table E-4 of Section E of the Building Guidelines assigns a fire resistance period of 5 minutes to 1/2" fibreboard. The minimum timber assembly for a one-hour fire resistive period is given in Table 4-2. This assembly is described as 2" x 4" wood studs 16" on centre with two layers of 3/8" regular gypsum wallboard on each side. This assembly must be 5-1/4" thick.

The Board will not approve the design and construction of any building which does not comply with the minimum requirements for fire safety as given in this Code.

APPENDIX H (1)

REQUIREMENTS OF GROUP A OCCUPANCIES

1. DEFINITION

2. CONSTRUCTION, HEIGHT AND AREA ALLOWABLE

3. LOCATION ON PROPERTY

4. EXIT FACILITIES

5. OCCUPANCY CONTENT

6. WIDTH OF EXITS

7. MAIN FLOOR EXITS

8. BALCONY EXITS

9. EXIT DOORS

10. AISLES AND SEATING

11. LIGHT AND VENTILATION

12. HAZARDS

13. ENCLOSURE OF VERTICAL OPENINGS

14. STAGES

    a) Stage construction
    b) Gridirons
    c) Accessory rooms
    d) Proscenium walls
    e) Proscenium curtains
    f) Stage ventilators
    g) Flame retarding requirements
    h) Stage exits
    i) other requirements

15. PLATFORMS

    a) Platform construction
    b) Size of Platform
    c) Accessory rooms
    d) Screen

16. MOTION PICTURE MACHINE BOOTHS

17. **FIRE PROTECTION AND HAZARDS**

18. **PLUMBING AND TOILET FACILITIES**

19. **EXCEPTIONS AND DEVIATIONS**

20. **SCHOOLS AND CHURCHES**

- a) Special provisions
- b) Occupancy content
- c) Widths of exits
- d) Arrangement of exits
- e) Corridors
- f) Balconies
- g) Floors
- h) Doors

21. **MIXED OCCUPANCIES**

APPENDIX H (1)

REQUIREMENTS OF GROUP A OCCUPANCIES

1. DEFINITION

Group A occupancy is defined in 301.2 and includes assembly uses such as theatres, auditoria, motion-picture houses, exhibition halls, skating rinks, gymnasiums, bowling alleys, pool rooms, restaurants, churches, dance halls, night clubs, meeting rooms, passenger rooms, recreation facilities, and similar uses, having an occupant content of 50 or more persons.

2. CONSTRUCTION, HEIGHT AND AREA ALLOWABLE

Buildings or parts of buildings, classed in Group A because of use or Occupancy shall be Type 1 construction. Exterior walls shall have fire-resistance and opening protection, determined by location on property, as set forth for the Type of Construction in Tables 3-4 to 3-7.

Buildings in this Group shall not be limited as to occupant content, height or area except as may be required by the Director of Planning and as provided in the Development Manual issued by the Department of Planning.

3. LOCATION ON PROPERTY

See Development Manual for location

The main floor shall be located at or near grade.

4. EXIT FACILITIES

Exit facilities for Group A Occupancy shall be as set forth in Section 5 and in Table 5-2.

5. OCCUPANCY CONTENT (See Section 3 Table 3-1)

For places of public assembly with fixed seats, a space of seven square feet shall be allowed per person. For places of assembly with moveable seats, a space of ten square feet shall be allowed per person. For night clubs and restaurants with tables, a space of twelve square feet shall be allowed per person. Aisles or gangways shall not be included in these areas.

Notwithstanding the above areas required, the occupant content shall be taken as not more than one person per fifteen square feet of aggregate gross area of all floors or parts of the building used for assembly purposes including lobbies, corridors, dressing rooms, toilets, and other commonly used connecting rooms and service areas used in conjunction with the assembly occupancy.

Such areas as swimming pools, bowling alleys, may be excluded or other uses separately considered.

6. WIDTHS OF EXITS

Every place of assembly and every individual room used as a place of assembly shall have exits of a number and width sufficient to provide for the total occupancy as given in Tables 5-2 and 5-4. The widths can be calculated by the following:

a) Areas served by doors or horizontal exits leading to the outside of the building or 22 inch unit of exit width for each one hundred persons or fraction thereof.

b) Areas served by stairs or other type of exit not as set forth in (a) above, one 2 inch unit of exit width for each 75 persons or the fraction thereof. The minimum exit width shall be 36 inches in all cases.

However, the number and widths of exit shall not be less than those set out in Tables 5-2 and 5-4.

7. MAIN FLOOR EXITS

a) Not less than half of the required main floor exit widths shall be to a main entrance and exit, and the remainder shall be proportioned to the side exits. All required exits of Group A Occupancy shall serve no other Occupancy.

b) Exits no less in width than the full width of the aisles or gangway leading thereof shall be provided at the rear of the main-floor assembly and such exits hall lead into a foyer or into a passage-way to the outside of the building. Any change in elevation from a public footpath to the back of the main floor assembly or foyer shall be made by ramps having a slope of not more than one in ten. The most obvious and direct exit to the public street shall be and remain unobstructed.

c) The width of the foyer at any point shall not be less than the combined width of the aisles, gangways, stairways and passageways leading thereto. The foyer shall be separated from the assembly spaces with partitions having a fire rating of not less than two hours. There shall be not less than two remote exits from any Groups A Occupancy.

d) Half of the required main floor exit widths shall be proportioned to the side exits and when more than one side exit is required, shall be equally divided in full units of unit width to each side. The number of side exits shall be as in 502.4 g).

e) Exits shall be so arranged that the maximum distance as measured along the line of travel to the nearest floor exit from any point shall not exceed 150 feet. (See Table 5-3).

8. BALCONY EXITS

Exits from a balcony shall be as specified for main-floor exits except as follows:-

Balconies having an occupancy content of less than thirty persons may be served by one 44 inch stair, and for thirty persons or more at least two exits shall be provided.

9. EXIT DOORS

All doors in the paths of egress, normally closed and latched, shall be equipped with full sets of panic hardware. No single door shall be more than 3'8" in width and no double door ways shall be less than 3'9" in width.

10. MARKING OF EXIT DOORS

Above every exit door there shall be a lighted sign marked EXIT in letters at least 4" high lit normally by an electric bulb and in addition fitted with an emergency battery or power source to give light in the event of power failure. The letters shall be green and the background white. Doors which may be confused as leading to exits, shall clearly be marked "PRIVATE."

11. AISLES AND SEATING

a) Section 503.9 provides information on fixed seating in places of public assembly.

b) Fixed seats shall be securely fastened to the floor; moveable or folding seats for the assembly of five hundred (500) persons or more shall be fastened together in banks of six or more.

c) Where seating is at tables as in restaurants and night clubs, aisles or gangways shall be located so that there is not more than twenty-eight (28) feet between aisle or gangways nor more than fourteen (14) feet between an aisle or gangway and a wall. At each side exit there shall be a cross aisle or gangway leading to the centre of the width of the building. Aisle or gangway widths shall be rigorously maintained.

12. LIGHT AND VENTILATION

a) General

All portions of Groups A Occupancies customarily used by human beings and all dressing rooms shall be provided with light and ventilation by means of windows or skylights with an area of not less than one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with electric light and mechanically operated ventilating system as set forth in Section 11.

Ducts for the mechanical ventilation system shall serve no other Group of Occupancy.

b) Artificial lighting

Auditorium light shall be as set forth in accordance with the requirements of the Section 11, and emergency lighting shall be provided in all paths of egress to the approval of the Director.

13. HAZARDS

Registers or vents supplying air back stage, supplying a projection booth or passing through a fire wall shall be equipped with automatic closing devices activated by smoke detectors located in the registers or vents, and supplying air fans shall be controlled with a smoke sensing device.

14. ENCLOSURE OF VERTICAL OPENINGS

a) Vertical openings shall be enclosed as set forth in Part 3 Section 3.612 of CUBiC.

b) Elevators which serve dressing rooms, gridiron and fly galleries need not be enclosed above the sage level.

15. STAGES

Stages, platforms and accessory features thereof shall be designed and constructed as set forth herein.

a) Stage construction

All parts of the stage shall be designed to support not less than 125 pounds per square foot and shall be of Type 1 construction or fire retardant timber. The room directly under the stage shall not be used for any purpose other than the working of traps and mechanical apparatus necessary for a performance on the stage.

Openings through stage floors shall be equipped with tight-fitting trap doors or non-combustible materials or of wood not less than two inches thick.

b) Gridirons

Gridirons, fly galleries and pin rails shall be constructed of non-combustible materials, but fireproofing of metal shall not be required.

c) Accessory rooms

Dressing rooms, workshops, and store rooms shall be located on the stage side of the proscenium wall and shall be separated from each other and from the stage by two-hour fire-resistive construction.

d) Proscenium walls

The proscenium wall separating the stage portion from the auditorium shall be not less than four-hours fire-resistive construction and shall extend not less than four feet above the roof. The proscenium wall shall not be finished or covered with combustible materials.

Proscenium walls may have in addition to the main proscenium opening, one opening at the orchestra-pit level and not more than two openings at the stage-room level, each of which shall be not more than 25 square feet in area. Such openings shall be quipped with self-closing fire-resistive doors.

e) Proscenium curtains

The main proscenium opening shall be provided with a self-closing, tight-fitting, dirt-resistive curtain composed largely of heat-resistive material with no more than ten percent of weight of cotton or other combustible materials.

Such curtain shall be of one-ply thickness and shall weight not less than three pounds per square yard and shall be painted with a mineral pain so brushed into the cloth that no light or smoke can come through. Proscenium curtains of non-combustible materials other than fabric may be used, with the approval of the Director.

Proscenium curtains, 35 feet or less in width, shall have a rigid metal member, not less than the equivalent of a two-inch standard steel pipe, at the top and bottom edges, protected by the fabric on both the stage and auditorium sides. Curtains over 35 feet in width shall have a rigid metal frame, protected on both sides against fire and such frame shall be designed for a wind pressure of not less than 15 pounds per square foot.

The proscenium curtain shall extend into non-combustible and smoke-proof guides at the sides, a distance of not less than 12 inches. The curtain shall overlap at the top of the proscenium opening not less than 24 inches, and the bottom edge shall have a yielding pad of non-combustible materials not less than four inches deep to form a seal against the floor.

The proscenium curtain shall be rigged and counter-balanced with not less than six three-eighths-inch flexible steel cables and six safety stop chains of one-quarter-inch straight link-welded chain and shall be so arranged that it can be quickly released to descend by gravity and completely close the opening.

The releasing device and its location shall be approved by the Director.

f) Stage ventilators

There shall be one or more ventilators constructed of metal or other non-combustible materials near the centre and above the highest point of any permanent stage, raised above the roof and having a total ventilating area equal to at least five percent of the floor area within the stage walls, doors or covers for ventilators shall open by gravity and shall be held closed and manually operated by means of cords extending to each side of the stage.

These cords shall be equipped with three fusible links, one of which shall be placed in the ventilator above the mains roof level and the other two at approved points, no affected by sprinkler heads. Such links shall fuse and separate at 160 degrees Fahrenheit. Glass, if used in such ventilators, shall be wire glass.

g) Flame-retarding requirements

No combustible scenery, drops, decorations, or other combustible effects shall be placed on any stage or enclosed platform unless it treated with an effective fire-retardant solution and maintained in a non-flammable condition as approved by Department of Government responsible for fire protection and control.

h) Stage exits

At least one exit two feet six inches wide shall be provided from each side of the stage opening, directly or by means of a passageway not less than three feet in width, to a street or exit court. An exit stair not less than two feet six inches wide shall be provided for egress from each fly gallery.

Each tier of dressing rooms shall be provided with two remote paths of egress, each not less than two feet six inches wide, and where dressing rooms are provided more than one tier above the stage floor, stairways to all tiers shall be enclosed.

Stage exits shall be as set forth in Section except as otherwise required in this Sub-section.

i) Other requirements

There shall be no enclosed structure for human occupancy located above a stage.

16. PLATFORMS

a) Platform construction

The platform shall be constructed entirely of non-combustible materials except that where the auditorium floor extends under the full area of such platform, construction may be of Type 2, omitting the fire-proofing on the beams and girders.

b) Size of platform

The platform shall not extend from the rear wall a distance greater than 18 feet, measured to the greatest projection of the platform, nor shall the ceiling over any platform be more than five feet above the screen except that platforms for schools and churches may extend from the rear wall a distance not greater than 25 feet.

c) Accessory rooms

No dressing or other rooms for human occupancy shall be located on, under or above such platform unless such rooms shall be completely separated therefrom by not less than two-hour fire-resistive construction.

d) Screen

The screen shall be rigidly attached to the platform and to the rear wall, and a clear passageway, not less than 20 inches wide, shall be provided between the screen or sound equipment and the rear wall.

17. MOTION PICTURE MACHINE BOOTHS

All booths constructed for the projection or showing of motion picture films shall be as set forth herein:

a) Every motion-picture machine, using nitro-cellulose or other inflammable films together with all electrical devices, rheostats and sewing machines used in connection therewith, and all such films, shall be enclosed in a booth large enough to permit the operator to walk freely on either side or back of the machine; and such room shall be not less than seven feet high and shall have a floor area of not less than 50 square feet for each motion picture machine in such booth.

b) The floors, walls and ceiling of such book shall be of non-combustible materials of not less than two-hour fire-resistive construction as specified in Section 4.

c) The entrance to the booth shall be equipped with tight-fitting, self-closing doors of fire-resistive construction. Such door shall open outward and shall not be equipped with any latch. Booths exceeding 200 square feet in area shall have two means of exit therefrom, and doors shall be remotely located. Any required exit door from the motion picture booth shall be not less than two feet six inches in width.

d) Machine and observation ports in machine booth walls shall be of three kinds: projection ports, observation ports and combined observation and spotlights ports. These ports shall be limited in size and number as follows: there shall be not more than one projection port for each machine head, having an area of not more than 120 square inches.

e) There shall be not more than three combination observation and spotlight ports, and they shall not exceed 30 inches by 24 inches.

f) There shall be not less than one foot of wall space between openings. Each port in the projection booth wall shall be completely covered with a single pane of plate glass; and each such opening, together with all fresh air inlets, shall be provided with automatic shutters of not less than number ten U.S. gauge sheet metal and enough to overlap at least one inch on all sides and arranged to slide shut by gravity without binding.

g) These shutters shall be held normally open by means of chains equipped with approved 160 degree-Fahrenheit fusible links, all so arranged that the shutters may be easily released by hand or automatically by the fusible links and close smoothly without noise.

h) Every booth shall be equipped with a ventilating inlet not less than 30 inches square in area, placed near the floor and protected by two layers of copper gauze, one of 18 meshed per inch and the other of ten meshed per inch, in addition to the shutter specified above.

i) At the top of every booth, there shall be at least a ten-inch diameter vent for each motion-picture machine. Such vent shall be constructed of not less than #4 U.S. gauge sheet metal and shall connect into a masonry flue or go directly through the roof and 12 inches above, and shall be provided with an exhaust fan which will produce a complete change of air in the booth every two minutes.

j) No wood or other combustible materials shall be allowed closer than four inches to such vent, and there shall be not more than one elbow or change of direction of this metal vent in any attic space. No such vent shall pass through any occupied room unless encased in not less than four inches of solid masonry.

k) All shelves, furniture and fixtures within the booth shall be constructed of metal or other non-combustible materials.

l) Every motion-picture machine shall be securely fastened to the floor to prevent overturning.

m) The rewinding machine shall be located in a fire-proof compartment within the booth, and all films not in actual use shall be kept in individual metal boxes with tight-fitting covers and must be stores, each in its individual box, in a fire-proof cabinet, which cabinet shall be divided into compartments having a capacity of not more than ten such films boxes in each compartment.

n) Each compartment shall have a separate tight-fitting, self-closing cover of not less than number ten U.S. gauge sheet metal, arranged to close automatically.

No solder shall be used in the construction of such metal boxes, compartments or cabinets.

18. FIRE PROTECTION AND HAZARDS

The installation of fire alarm and fire suppression systems shall be in accordance with Sub-section 505.

19. PLUMBING AND TOILET FACILITIES

The installation of plumbing and toilet facilities shall be in accordance with Sections 3 and 9.

20. EXCEPTIONS AND DEVIATIONS

Existing buildings not fully complying with the requirements of the Appendix may be used for Group A Occupancies, if they meet the requirements of:

a) The construction Type, height and area as per Tables 3-1, 3-2 and 3-3.

b) Exit facilities as per Sub-section 503

c) Fire and Safety requirements as per Section 5 and

d) Plumbing and sanitation as per Section 9,

and providing that there is not less than a two-hour fire separation between such buildings and any other occupancies.

21. SCHOOLS AND CHURCHES

a) Special provisions

i) A fire-resistive ceiling shall not be required in the assembly space of churches and gymnasiums in one-storey buildings, every part of the roof structure of which is 18 feet or more above any floor or above any balcony or gallery seating 50 or more persons.

ii) Rooms having an occupancy content of more than 100 persons and rooms used for kindergarten, first, and second grade pupils, shall not be located above the first storey above grade except in buildings of Type 1 construction.

iii) Where there is useable space under the first floor of two storey Type 3 buildings, basements, including the first floor shall be of Type I construction.

b) Occupancy content

For determining exit requirements of Group A, schools and churches, the occupant content shall be the area within the perimeter of the building, or fire division at any floor level, with no deduction for corridors, divided by the area per person as specified below:

Occupancy	**Area (sq.ft per person)**
Auditoriums	7
Dining Rooms	10
Gymnasium seating areas	6
Classrooms	16
School Libraries	40
Other Uses	40

c) Widths of exits

Exits shall be provided as per Section 5

d) Arrangement of exits:

i) Classrooms and similar small room occupied by less than 40 persons may have one door thereof, provided such door is not less than 36 inches in width and located at the teacher end of the room.

ii) Classroom, shops and similar rooms occupied by 41 or more persons shall have not less than two exit doors, not less than 36 inches in width, the combined width of which shall be not less than one 20 inch unit of exit width for each 100 persons or fraction thereof, which doors shall be remote from each other.

iii) Rooms with occupant content exceeding 300 persons shall have exits as specified for Group A Occupancies and as shown in Section 5.

iv) Classroom exits may be to corridors.

v) Rooms in basements shall have not less than 50 percent of the required paths of egress therefrom opening directly to the exterior.

e) Corridors

i) Classrooms, assemblies to less than 300 persons, and other subdivisions shall open directly to floor exits or shall connect thereto by means of corridors.

ii) Corridors shall have a width of not less than six feet nor less than four inches for every 300 square feet, or major fraction thereof, of floor area served

iii) Room doors or locker doors swinging into corridors shall not at any point in their swing reduce the clear effective width of the corridor to less than six feet, nor shall drinking fountains or other equipment fixed or moveable, be placed to obstruct the required minimum six feet width

f) Balconies

Used as exits shall not be less than five feet in width at any point.

g) Floors

i) There shall be not less than two remote paths of egress from each floor.

ii) Floor exits shall be by means of stairways, ramps, horizontal exits, passageways or by doors at or near grade, directly to te exterior.

iii) The upper floors of two storey buildings may have enclosed interior stairways or open exterior stairways.

iv) The upper floors of three storey buildings shall have enclosed interior stairways for not less than one-half of the required floor exits. Other upper floor exits may be open exterior stairways or enclosed interior stairways.

v) The upper floor of building exceeding three stories shall have smokeproof towers for not less than one half the required floor exits. Other upper floor exits shall be enclosed interior stairways.

h) Doors

i) Doors in paths of egress, normally closed and latched, shall be equipped with panic hardware except that doors leading from classrooms directly to the outside of the building may be equipped with the same knob-operated schoolhouse type lock as is used on classroom doors leading to corridor with not provision whatsoever for locking against egress from the classroom.

ii) The minimum width of any required door in a path of egress shall be 36 inches.

iii) Doors of classrooms serving as required exits may swing against the direction of exit travel when serving an occupant load of less than 40 persons.

iv) Travel distance

The exits shall be so arranged that the maximum travel distance from any point or from the door of the separated spaces loss than 800 square feet, to the nearest floor exit shall not exceed 100 feet except that eh not distance in any room where one exit door is permitted shall not exceed 40 feet.

i) Fire protection and hazards

Automatic sprinkler systems, fire extinguishers, fire alarm systems and standpipes shall be as set forth in Section 5.

j) Plumbing and toilet facilities.

i) Plumbing shall be installed as set forth in Section 9.

ii) The number of toilet units shall be provided as in Section 3.

k) Exceptions and deviations

Except in buildings of Type 1 Construction, school classrooms used for kindergarten, first and second-grade pupils shall be located on the ground floor.

22. MIXED OCCUPANCIES

Separation of Group A Occupancies or division thereof from all other Occupancies or Divisions of Occupancies shall be as set forth in Table 3.208 of Part 3 Section 3 of CUBiC.

APPENDIX H (2)

REQUIREMENTS OF GROUP B OCCUPANCIES

1. **DEFINITION**

2. **TYPE OF CONSTRUCTION**

3. **LOCATION**

4. **EXIT FACILITIES**

   a) exit capacity
   b) Travel distance

5. **FIRE PROTECTION AND HAZARDS**

6. **PLUMBING AND TOILET FACILITIES**

7. **ELECTRICITY AND AIRCONDITIONING SERVICES**

APPENDIX H (2)

REQUIREMENTS OF GROUP B OCCUPANCIES

1. DEFINITION

Group B occupancy is defined as Institutional Buildings in which persons are incapacitated or their movements are physically restrained The buildings under this classification are listed in 301.3

2. TYPE OF CONSTRUCTION

Buildings in this Group can be of Types 1, 2, 3 or 4 construction. Construction in wood frames (Type 5) is not permitted

The permissible heights and areas under each classification are given in Table 3-3.

3. LOCATION

The limiting location of such buildings is given in Tables 3-4 to 3-7. The location with respect to the boundaries or to adjacent buildings depend on the fire resistance rating of the structure.

4. EXIT FACILITIES

a) Exit capacity

The number of persons per unit (22 inches of exit width) from a sprinklered or non-sprinklered building shall be as per Table 5-3(b)

b) Travel Distance

The maximum permitted travel distance shall be as per Table 5-3(a), except that for a sprinklered building the maximum travel distance may be increased to 150 ft.

5. FIRE PROTECTION AND HAZARDS

a) Buildings in this Group may be either sprinklered on non-sprinklered. To qualify for the sprinkler option, buildings must be protected in accordance with NFiPA 13 and the system must be supervised in accordance with NFiPA 71.

b) Buildings such as hospitals and nursing homes must be:

i) divided into areas not exceeding 750 sq.m. by 1 hour fire rated construction and

ii) further subdivided into areas not exceeding 375 sq.m by construction which is smoke proof.

c) For prison institutional buildings, each cell must be bounded with separating construction of block masonry or concrete with a fire rating of at least 1 hour and doorways to cells and other openings in construction bounding cells must be protected with 1 hour fire doors.

d) Institutional buildings not equipped throughout with complete automatic sprinkler system shall have an approved automatic smoke detection system installed in all corridors in accordance with NFiPA 72E. All automatic smoke detection systems shall be connected electronically to the fire alarm system.

6. PLUMBING AND TOILET FACILITIES

The installation of plumbing and toilet facilities shall be in accordance with Section 3 and Section 9.

7. ELECTRICITY AND AIRCONDITIONING SERVICES

Section 11 provides guidance on the installation of electricity and airconditioning services. Designers are advised to consult the specialist handbooks for the provision of these services to institutional buildings.

APPENDIX H (3)

REQUIREMENTS FOR GROUP C OCCUPANCY

1. **DEFINITION**

2. **CONSTRUCTION, HEIGHT AND AREA AVAILABLE**

3. **LOCATION ON PROPERTY**

4. **EXIT FACILITIES**

   a) General
   b) Content
   c) Width of exits
   d) Arrangement of exits
   e) Doors
   f) Travel distance
   g) Parking garages

5. **LIGHT AND VENTILATION**

6. **FIRE PROTECTION HAZARDS**

7. **PLUMBING AND TOILET FIXTURES**