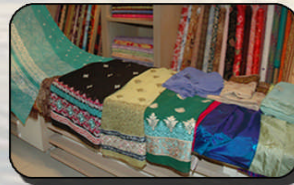
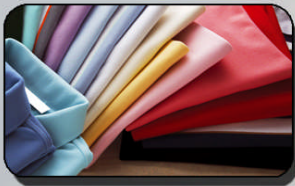




BANGLADESH
ECONOMIC ZONES
AUTHORITY

Bangladesh Economic Zones Authority (BEZA)

Mirershorai Economic Zone Chittagong district, Chittagong division



Operations, Management, Maintenance and Quality Assurance Manual

Prepared by Consortium of



Mahindra
Consulting Engineers



EZ Operations, Management, Maintenance and Quality Assurance Manual

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Abbreviations

Beza	:	Bangladesh Economic Zone Authority
BWDB	:	Bangladesh Water Development Board
CEO	:	Chief Executive Officer
EIA	:	Environment Impact Assessment
EMP	:	Environment Management Plan
FAR	:	Floor Area Ratio
FMB	:	Field Measurement Book
FSI	:	Floor Space Index
Ha	:	Hectare (Unit of Land Area)
HDPE	:	High Density Poly Ethylene
km	:	Kilometer
kmph	:	Kilometer Per Hour
LLC	:	Limited Liability Company
m	:	Metre
MoEF	:	Ministry of Environment & Forests
MIEZ	:	Mirershorai Economic Zone
MLD	:	Million Litres Per Day
MOA	:	Ministry of Agriculture
MOCI	:	Ministry of Commerce And Industry
MOD	:	Ministry of Defense
MOE	:	Ministry of Education
MOFL	:	Ministry of Fisheries and Livestock
MoHPW	:	Ministry of Housing & Public Works
MPD	:	Member (Planning and Development) of BEZA
NPZ	:	Non Processing Zone
OHT	:	Over Head Tank
PPS	:	Physical Planning Standards
PVC	:	Poly Vinyl Chloride
PZ	:	Processing Zone
SAWHS	:	Solar Assisted Water Heating System
SCP	:	Supreme Council for Planning
sq.km	:	Square Kilometres

Part - I

Administration

1.1 Short title, extent and commencement

- (1) Title - These Regulations shall be called the Operations, Management, Maintenance and Quality assurance manual for establishment of Economic Zone in Mirershorai at Chittagong district, Chittagong division. (hereinafter called “these Regulations”).
- (2) Jurisdiction - These Regulations apply to building activity and development works for provision of support facilities in areas under the entire jurisdiction of Mirershorai Economic Zone (MIEZ). If there is a conflict between the requirement of these regulations and those of any other rules or bylaws, these Regulations shall prevail:

Provided however, that in respect of areas included in a finally sanctioned layout plan/ master Plan scheme, the scheme regulations as approved by the Government of Bangladesh for Planning shall prevail, if there is a conflict between the requirements of these Regulations and the scheme regulations.

- (3) The Member (Planning and Development) (MPD) of BEZA or incumbent Chief Executive Officer (CEO) of Mirershorai Economic Zone is designated as representative of the Authority to enforce the provisions of these regulations.
- (4) Date of coming into force - These Regulations shall come into force from the date notified by the Authority of Mirershorai Economic Zone.
- (5) Any order / rule notified by the government in the form of relaxations / amendments additional provisions as part of Industrial policy from time to time may be made automatically applicable to MIEZ and form part of these regulations after approved by Authority of MIEZ.

1.2 Definition of terms and expressions

- (1) General - In these regulations, unless the context otherwise requires, the terms and expression shall have the meaning indicated against each of them.
- (2) Meaning as in the Acts, Rules etc.- Terms and expression not defined in these Regulations shall have the same meaning as given by the Government of Bangladesh for Planning and the rules or bye-laws framed there under, as the case may be, unless the context otherwise requires.

1.3 Definitions

1. “**Accessory building**” means a building separated from the main building on a plot and put to one or more accessories uses.
2. “**Accessory use**” means use of the building subordinate and customarily incidental to the principal use.
3. “**Addition and/or alteration** “ means change from one occupancy to another, or a structural change, such as addition to the area or height, or the removal of part of a building, or a change to the structure, such as the construction or cutting into or removal of any wall or part of a wall, partition, column, beam, joist, floor including a mezzanine floor or other support, or a change to or closing of any required means of ingress or egress, or a change to fixtures or equipment, as provided in these Regulations.
4. “**Advertising sign**” means any surface or structure with characters, letter or illustrations applied thereto and displayed in any manner whatsoever out of doors for the purpose of advertising or giving information regarding or to attract the public to any place, person, public performance, article or merchandise, and which surface or structure is attached to, forms part of, or is connected with any building, or is fixed to a tree or to the ground or to any pole, screen, fence or hoarding or displayed in space, or in or over any water body included in the limits of Mirershorai Economic Zone.
5. “**Air-conditioning**“ means the process of treating air to control simultaneously its temperature, humidity, cleanliness and distribution to meet

the requirement of an enclosed space.

6. **“Amenity”** means roads, streets, open spaces, parks recreational grounds, play grounds, gardens, water supply, electric supply, street lighting, sewerage, drainage, public works and other utilities, services and conveniences.
7. **“Ancillary building”** means a construction appended to main building but not connected to it. It is intended to serve the main building.
8. **“Architect”** means an architect who is an associate or corporate member of the controlling board for architects or who holds a degree or diploma which makes him eligible for such membership for such qualifications listed
9. **“Architectural projection”** means any element for decoration protruding beyond the building facade/ elevation line. This includes sheds for protection against weather conditions on windows, flower beds, cornices on the edge of the building facade/elevation and any architectural projection (vertical or horizontal) on the building facade/elevation.
10. **“Assembly building”** means a building or part thereof where groups of people congregate or gather for amusement, recreation, social, religious, patriotic, civil, travel and similar purposes. “Assembly buildings” include buildings of drama and cinema theatres, drive-in-theatres, assembly halls, city halls, town halls, auditorium, exhibition halls, museums, marriage halls, skating rinks, gymnasium, road, air, sea or other public transportation stations, and recreation places.
11. **“Atrium”** means a fully or partially enclosed space permanently open to the sky within a building at any level.
12. **“Automatic sprinkler system”** means an arrangement of pipes and sprinklers, automatically operated by heat and discharging water on fire, simultaneously setting an audible alarm.
13. **“Balcony”** means a horizontal projection, including a parapet, handrail and balustrade, to serve as a passage or sitting out place.

14. **“Balcony-Verandah (Projecting Balcony)”** means an extended area projecting beyond the building facade/elevation line. It may be open or have a horizontal roof.
15. **“Basement”** means an area below the ground floor, but connected to it from inside.
16. **“Bathroom”** means a room for bathing, provided with a hand washing basin, bath tub (banio) or a shower basin, toilet and bidet. In some oriental buildings the bathroom (Masbah) may be for bathing only and is built separately from the toilet.
17. **“Booster fire pump”** means a mechanical/electrical device which boosts up the water pressure at the top level of a multi-storeyed/ high rise building and which is capable of a pressure of 3.2 kg/cm² at the nearest point.
18. **“Boundary wall”** means a fence or wall of permanent material built to approved design at an appropriate height on the boundary of the plot along the property limits.
19. **“Building line”** means a line on which the building is erected. It may be on the boundary of the plot or at a certain setback distance from it as determined by the concerned authority.
20. **“Building”** means a structure incorporating a group of elements meant to serve a common or different purposes and functions. It includes the walls and all civil works and may consist of one floor only or a number of floors.
21. **“Built-up area”** means the area covered by a building on all floors including cantilevered portion, if any, but accepting the areas excluded specifically under these Regulations.
22. **“Cabin”** means a non-residential enclosure constructed of non-load bearing partitions.
23. **“Carpet area”** means the net usable floor area within a building, excluding

that covered by the wall of any other areas specifically exempted from floor space index computation in these Regulations.

24. “**Chimney**” means a construction by means of which a flue is formed for the purpose of carrying products of combustion to the open air and includes a chimney stack and the flue pipe.
25. “**Collection (holding) tank**” means a tank or pit built below the ground level in order to collect human refuse. It may be emptied by vacuum/suction when it is filled up.
26. “**Combustible material**” means that material which when burnt adds heat to a fire when tested for combustibility in accordance with the relevant standards.
27. “**Committee**” refers to Public Affairs Committee at the Council.
28. “**Compound wall**” means a wall separating two independent plots. It may be built by the two neighbours jointly.
29. “**Corridor**” means a common passage or circulation space including a common entrance hall.
30. “**Court yard**” means a space permanently open to sky within the site around the structure and paved / concretised
31. “**Drain**” means a system or a line of pipes, with their fittings and accessories such as man holes, inspection chambers, floor traps used for drainage of buildings or yards appurtenant to the buildings within the same cartilage. A drain includes an open channel for conveying surface water or a system for removal of any liquid.
32. “**Educational building**” means a building exclusively used for a school or college, recognised by the appropriate Board or University, or any other competent authority involving assembly for instruction, education or recreation incidental to educational use, and including a building for such other users incidental thereto such as a library or a research institution.

33. “**Effluent Treatment Plant**” means a treatment plant exclusively established to treat the process waste water in any kind generated by individual industries either by individual industries or by the park authority as per the directions of Department of Environment.
34. “**Enclosed stair case**” means a staircase separated by fire resistant walls and doors from the rest of the building.
35. “**Escape route**” means any well-ventilated corridor, staircase or other circulation space, or any combination of the same, by the means of which a safe place in the open air at ground level can be reached.
36. “**Exit**” means a passage, channel or means of egress from any building, storey or floor area to a street or other open space of safety
37. “**External wall**” means an outer wall of the building not being a partition wall even though adjoining a wall of another building and also means a wall abutting on an interior open space of any building.
38. “**Fire and/ or emergency alarm system**” means an arrangement of call points or detectors sounders or other equipment for the transmission and indication of alarm signals working manually or automatically in case of fire or other emergency.
39. “**Fire lift**” means a special lift designed for the use of fire service personnel in the event of fire or other emergency.
40. “**Fire proof door**” means a door or shutter fitted to a wall opening and constructed and erected with the requirement to check the transmission of heat and fire for a specified period.
41. “**Fire resistance**” means the time during which a fire resistant material i.e. material having a certain degree of fire resistance, fulfils its function of contributing to the fire safety of a building when subjected to prescribed conditions of heat and load of restraint. The fire resistance test of structures shall be done in accordance with relevant standards of Fire Resistance Test of

Structure.

42. “**Fire service inlet**” means a connection provided at the base of building for pumping up water through in-built fire-fighting arrangements by fire service pumps in accordance with the recommendations of the competent Fire Officer.
43. “**Fire tower**” means an enclosed staircase which can only be approached from the various floors through landings or lobbies separated from both the floor area and the staircase by fire-resisting doors and open to the outer air.
44. “**Flat**” means part of the building which constitutes an independent residential apartment.
45. “**Floor space index (FSI)**” means the quotient of the ratio of the combined gross floor area of all floors, excepting area specifically exempted under these Regulations, to the total area of the plot, viz.

Floor Space Index (FSI) = Total covered area on all floors / Plot area

46. “**Foundation**” means that part of the structure, which is in direct contact with and transmitting loads to the ground.
47. “**Front**” means the space between the boundary line of a plot abutting the means / of access/ road/ street and the building line. Plots facing two or more means of accesses/ roads/ streets shall be deemed to front on all such means of accesses/ roads/ streets.
48. “**Gallery**” means an intermediate floor or platform projecting from a wall of an auditorium or a hall, providing extra floor area, and /or additional seating accommodation. It also includes the structures provided for seating in stadium.
49. “**Garage-Private**” means a building or a portion thereof designed and used for the parking vehicles.
50. “**Garage-Public**” means a building or portion thereof, designed other than as a private garage, operated for gain, designed and/or used for repairing, servicing, hiring, selling or storing or parking motor-driven or other vehicles.

51. **“Ground connections”** means Underground horizontal pipes which take refuse (waste) from the vertical pipes in the building to the last inspection chamber before it is disposed for treatment within the plot or into the main sewers.
52. **“Gully trap”** means a check point or trap with a filter of galvanized iron, or any other approved material, and a tight cover. It receives water disposed from the sink units and ground siphons in sewage pipes before it reaches the inspection chamber.
53. **“Habitable room”** means a room occupied or designed for occupancy for human habitation and uses incidental thereto, including a kitchen if used as a living room, but excluding a bath-room water closet compartment, laundry, serving and storing pantry, corridor, cellar, attic, store-room and spaces not frequently used.
54. **“Hazardous building”** means a building or part thereof used for Storage, handling, manufacture or processing of radioactive substances or of highly combustible or explosive materials or products which are liable to burn with extreme rapidity and / or producing poisonous fumes or explosive emanations, and substances which involve highly corrosive, toxic or noxious alkalis, acids or other liquids, gases or chemicals producing flame, fumes and explosive mixtures or which result in division of matter into fine particles capable of spontaneous ignition.
55. **“Hazardous material”** means radioactive substances; material which is highly combustible or explosive and/or which may produce poisonous fumes or explosive emanations or storage, handling, processing or manufacturing of which may involve highly corrosive, toxic or noxious alkalis or acids or other liquids; Other liquids or chemicals producing flame, fumes, explosive, poisonous, irritant or corrosive gases or which may produce explosive mixtures of dust or fine particles capable of spontaneous ignition.
56. **“Height of a room”** means the vertical distance measured, from the finished floor surface to the finished ceiling/slab surface. The height of a room with a

pitched roof means the average height between the finished floor surface and the bottom of the eaves and the bottom of the ridge.

57. **“Height of building”** means the clear height of the building measured from the main road level in front of the building to the last level of the building. If there is no main road but some streets around the building, the street with the highest level is taken for measuring the height of the building.
58. **“House (Villa)”** means an independent residential unit consisting of one floor or more connected by an indoor staircase.
59. **“Implementing party”** means a person or a group of persons engaged in a construction work. This includes contractors, technicians, craftsmen and labourers.
60. **“Industrial building”** means a building or part thereof wherein products or material are fabricated, assembled or processed, such as assembly plants, laboratories, power plants, refineries, gas plants, mills, dairies and factories.
61. **“Licensed Surveyor / Engineer / Structural Engineers / Supervisor”** means a qualified surveyor, engineer, structural engineer or supervisor, licensed by the local authority.
62. **“Lift”** means a mechanically guided car, platform or transport for persons and materials between two or more levels in a vertical or substantially vertical direction.
63. **“Loft”** means an intermediate floor between two floors or a residual space in a pitched roof above normal level constructed for storage.
64. **“Masonry”** means an assemblage of masonry units properly bound together by mortar.
65. **“Mezzanine floor”** means an intermediate floor, not being a loft, between the floor and ceiling of any storey.

66. **“Multi-storeyed building”** or **“High-rise building”** means a building of a height of more than 15 meters above the average surrounding ground level or more than 4 floors
67. **“Non-combustible”** means not liable to burn or add heat to a fire when tested for combustibility
68. **“Occupancy”** or **“Use”** means the principal occupancy or use for which a building or a part of it is used or intended to be used.
69. **“Office building (premises)”** means a building or premises or part thereof whose sole or principal use is for an office or for office purposes or clerical work. “Office purposes” include the purpose of administration, clerical work, handling money, telephone, telegraph, banking, professional offices, court houses and computer operation; and “clerical work” included writing, book-keeping, sorting papers, typing, filing, duplicating, punching cards or tapes, machines calculations, drawing of matter for publication and editorial preparation of mater for publication.
70. **“Open space”** means an area forming an integral part of site left open to the sky.
71. **“Parapet”** means a low wall or railing built along the edge of roof or a floor.
72. **“Parking space”** means an enclosed or unenclosed covered or open area sufficient in size to park vehicles. Parking spaces shall be served by a driveway connecting them with a street or alley and permitting ingress or egress of vehicles.
73. **“Partition”** means an interior non-load bearing divider wall used for separation of areas for various uses in a floor.
74. **“Permanent building”** means building or structure made of bricks, block work, stone work reinforced concrete or stone etc or a metal frame work or any other solid permanent material.
75. **“Permanent open air space”** means air space permanently open- If it is a

street, If its freedom from encroachment is protected by any law or contract ensuring that the ground below it is either a street or is permanently and irrevocably appropriated as an open space.

76. “**Permission**” means a valid permission or authorisation in writing by the competent authority to carry out development or a work regulated by the Regulations.
77. “**Plinth area**” means the built-up covered area measured at the floor level of the basement or of any storey.
78. “**Plot**” means a parcel or piece of land enclosed by definite boundaries.
79. “**Porch**” means a covered surface supported on pillar or otherwise for the purpose of a pedestrian or vehicular approach to a building.
80. “**Public purpose building**” means - A building solely used for the purpose of a drama or cinema theatre, a drive-in-theatre, an assembly hall or auditorium, an exhibition hall, theatre museum, stadium, “marriage hall, hotel, lodging house.
81. “**Residential building**” means a building in which accommodation is provided for normal residential purpose, with or without cooking or dining facilities, and includes one or more family dwellings, lodging or rooming house, hostels, dormitories apartment house, flats and private garages of such buildings.
82. “**Retention activity**” means an activity or use which is allowed to continue, notwithstanding its non-conforming nature in relation to the use permitted in the adjoining or surrounding area.
83. “**Road width**” or “**Width of road / street**” means the whole extent of space within the boundaries of a road when applied to a new road/street, as laid down in the city survey or development plan or prescribed road lines by any act or law and measured at right angles to the course or intended course of direction of such road.

84. “**Road / street line**” means the line defining the side limits of a road/street.
85. “**Road / street-level or grade**” means the officially established elevation or grade of the centre line of the street upon which a plot fronts, and if there is no officially established grade, the existing grade of the street at its mid-point.
86. “**Semi-detached building**” means a building detached on three sides with open space as specified in these Regulations.
87. “**Service road**” means a road/ lane provided at the front, rear or side of a plot for service purpose.
88. “**Sewage Treatment Plant**” means a treatment plant exclusively established to treat the domestic waste and secondary treated process waste as per the directions of Department of Environment.
89. “**Site with double frontage**” means a site having a frontage on two streets other than a corner plot.
90. “**Site, corner**” means a site at the junction of and fronting on two or more or streets.
91. “**Site, depth of,**” means the mean horizontal distance between the front and rear site boundaries.
92. “**Site, interior or tandem**” means a site access to which is by a passage from a street whether such passage forms part of the site or not.
93. “**Site**” means a parcel or piece of land enclosed by definite boundaries.
94. “**Smoke-stop door**” means a door for preventing or checking the spread of smoke from one area to another.
95. “**Stair-cover**” means a structure with a covering roof over a staircase and its landing built to enclose only the stairs for the purpose of providing protection

from the weather, and not used for human habitation.

96. **“Storage building”** means a building or part thereof used primarily for storage freight depot, transit shed, store house, public garage, hangar, truck terminal, grain elevator and stable.
97. **“Storey”** means the portion of a building included between the surface of any floor and the surface of the floor next above it, or if there be no floor above it, then the space between any floor and the ceiling next above it.
98. **“Sun shade”** means a structural overhang provided over opening on external walls for protection from the weather.
99. **“Temporary building”** means any building or structure made of materials other than those stated in the definition of the permanent building. Also any building or structure erected by a special permission for a limited period of time, are included in this definition.
100. **“Tenement”** means an independent dwelling unit with a kitchen
101. **“Theatre”** means a place of public entertainment for the purpose of exhibition of motion pictures and/or dramas and other social or cultural programmes.
102. **“Unsafe building”** means a building which is structurally unsafe, insanitary, not provided with adequate means of egress, which constitutes a fire hazard and dangerous to human life.
103. **“Water closet (W.C)”** means a privy with an arrangement for flushing the pan with water.
104. **“Water course or Wadi”** means a natural channel or an artificial channel formed by training or diversion of a natural channel meant for carrying storm and wastewater.
105. **“Window”** means an opening, other than a door, to the outside of a building, which provides all or part of the required natural light, ventilation or both to an interior space.

1.4 Delegation of powers

Except where the MPD / CEO MIEZ's special permission is expressly stipulated, the powers or functions vested in him by these Regulations may be delegated to any MIEZ's official under his control, subject to his revision if necessary and to such conditions and limitations, if any, as he may prescribe. In each of the said Regulations, the word "MPD/CEO MIEZ" shall, to the extent to which any MIEZ's officials is so empowered, be deemed to include such official.

1.5 Discretionary powers

- (1) In conformity with the intent and spirit of these regulations, the Authority may:
 - a) decide on matters where it is alleged that there is an error in any order, requirement, decision, determination made by any municipal officer under delegation of powers in Regulations or interpretation in the application of these Regulations;
 - b) interpret the provisions of these Regulations where a street layout actually on the ground varies from the street layout shown on the master plan;
 - c) modify the limit of a Zone where the boundary line of the Zone divides a plot with the previous approval of Government; and
 - d) Authorize the erection of a building or the use of premises for a public service undertaking for public utility purposes only, where he finds such an authorization to be reasonably necessary for the public convenience and welfare, even if it is not permitted in any land use classifications.

- (2) In specific cases where a clearly demonstrable hardship is caused, the MPD/ CEO MIEZ may for reasons record in writing, by special permission may permit any of the dimensions prescribed in these regulations to be modified, except those relating to floor space indices unless otherwise permitted under these Regulation, provided that the relaxation will not affect the health, safety, fire safety, structural safety and public safety of the inhabitants of the building and the neighbourhood.

1.6 Applicability

1.6.1 Site development

- (1) Development of site or/and sub-division or amalgamation of land –**
Where land is to be developed, subdivided, or two or more plots are to be amalgamated, or a layout is to be prepared these regulations shall apply to the entire area under development, sub-division, amalgamation, and layout, provided that, where a developed land, an existing layout/subdivision plan is being altered, these regulations shall apply only to that part which is being altered.

1.6.2 Buildings

(1) Building permit:

No excavation for any building or structure shall be commenced until a building permit has been issued and the land has been officially handed over by the Economic Zone. The building permit issued by the Economic Zone is valid for one year commencing the date of issue. It shall be invalid unless renewed. Renewal shall be for the same period unless there are some reasons preventing renewal. No building shall be erected or used except for the purpose stated in the building permit and according to the land use and planning of the Economic Zone.

(2) Requirement of building permit:

Application for the building permit shall be submitted to the Economic Zone in accordance with procedures in force, the relevant forms shall be filled by the owner and/or his consultants. The following documents shall be attached to the application.

- i. Two copies of the layouts, each copy should be attached in a separate file.
- ii. The letter of the management of the Economic Zone showing the leased plot.
- iii. A copy of the FMB of the plot.
- iv. Among design of the project, the following points should be considered:

- a. Use of water for the relevant purposes only, accordingly the economic uses of water and necessary operations should be shown if there is a need for the use of water in the production line.
- b. Nature of effluent generated along with its contents, proposed effluent treatment system to remove the chemicals in order to meet the discharge standards as per the approval of Department of environment specification.
- c. Wastewater drainage should not contain any chemicals, which adversely affect the drainage network of the Economic Zone. Therefore, occupant units should use chemical separators and provide a sewage treatment plant as per approval of Department of Environment specifications if necessary.
- d. Fire fighting and fire prevention plans duly approved by relevant authority.
- e. Coordination for supplying the electrical services with intended companies for the construction, commissioning and for future purposes.

(3) Alterations in the building permit:

No alterations are permitted in the building permit, drawings or any official documents and recognized unless prior approval is obtained, duly signed and stamped from the Authority.

(4) Alterations after construction

No building may be constructed or demolished or any internal or external additions or alterations (including openings, windows or any external doors) made, prior to obtaining permission is permitted in the Economic Zone. Colors of paints, approved by Authority shall be adhered when the building is painted or re-painted and samples of these materials shall be approved by the Authority.

(5) Development and construction

Except as hereinafter otherwise provided, these Regulations shall apply to all

development, redevelopment, erection and /or re-erection of a building, change or use etc., as well as to the design, construction or reconstruction or, and addition and alterations to a building.

Before starting any construction work, organic and botanical materials, if any, shall be removed from the construction site and replaced if necessary by materials approved by the authority. The site shall also be treated with insecticides for protection against termites and other insects

(6) Part construction

Where the whole or part of a building is changed, except where otherwise specifically stipulated, these regulations apply only to the extent of the work involved.

(7) Reconstruction

The reconstruction in whole or part of a building which has ceased to exist due to an accidental fire, natural collapse or demolition, having been declared unsafe, or which is likely to be demolished by or under an order of the Authority and for which the necessary certificate has been given.

(8) Exclusion

Nothing in these regulations shall require the removal, alteration or abandonment or prevent the continuance of the lawfully established use or occupancy of an existing building or its use unless, in the opinion of the MPD / CEO, Mirershorai Economic Zone such a building is unsafe or constitutes a hazard to the safety of adjacent property.

1.7 Development permission

Necessity of obtaining permission - No person shall erect or re-erect a building or carry out any development or redevelopment, on any plot or land or cause the same to be done without first obtaining separate development permission from the Authority.

1.8 Procedure for obtaining development permission and commencement certificate

- (1) Notice of intention - every occupant entity who intends to carry out a development or redevelopment erect or re-erect a building or alter any building or part of a building shall give a notice in writing to the MPD/CEO, Mirershorai Economic Zone of its said intention in the form in **Appendix 'A'** and such notice shall be accompanied by plans and statements with sufficient number of copies, as required by sub-regulation hereunder. The plans may be ordinary prints. The plans shall be scrutinised under these regulations and shall be approved. One set of such plans shall be retained in the office of the MPD / CEO, Mirershorai Economic Zone. Procedure for obtaining development permission and commencement certificate is shown in **Appendix 'B'** and refusal for sanction is shown in **Appendix 'C'**.

(2) Information accompanying the notice:

- i. Ownership documents and certificates:
 - (i) Documents for verifying the ownership and area etc. of the land: -
Attested copy or original sale/lease deed/document
 - (ii) Possession receipt
 - (iii) Possession Plan/Block Plan/Site Plan as supplied by MIEZ
 - (iv) Receipt of payment of scrutiny fee, development permission fee at the rate fixed by the authority.
 - (v) Security deposit in the form of an irrevocable Bank Guarantee charged at a rate specified by the authority.
 - (vi) Clearance certificate for all the dues payable to MIEZ.
- ii. Supervision certificate

The notice shall be further accompanied by a certificate of supervision in the form in **Appendix 'D'** by the licensed surveyor/ engineer/ structural engineer / supervisor or architect as the case may be. In the event of the said licensed technical personnel ceasing to be employed for the development work, the further development work shall stand suspended

till a new licensed technical personnel is appointed and his certificate of supervision along with a certificate for the previous work erected is accepted by the Authority.

iii. No objection certificate - From the following authorities as applicable.

- (i) Department of Environment & Forests
- (ii) Directorate of Fire Service and Civil Defence
- (iii) Ministry of Commerce and Industries (MOCI)
- (iv) Civil Aviation Authorities
- (v) Any other statutory authority as applicable.

iv. Building proposals:

- i. Key plan indicating the plot location as supplied by MIEZ
- ii. Sub-division/lay out plan
- iii. Building Plan detailing all the floors, covered areas, detailed elevations, sections, marginal distances, setbacks, parking spaces, etc.
- iv. Service plans; Plans and sectional details of water supply, effluent disposal, sewage disposal and other building services, (Drawings and plans shall be submitted in accordance with requirement of the establishment and a minimum of three complete sets duly signed by the registered consultant office. It shall bear the name of the designer and confirmation on safety of the buildings. Consulting offices supervising any building shall strictly adhere to the approved drawing and legal boundary and shall sign the undertaking in the respective form)
- v. Structural drawings indicating details of all the structural members with detailed calculations and a “Structural Stability” certificate duly authenticated by a qualified licensed technical person. (Standards code of practices recognised in the Bangladesh shall be used for structural calculations provided that the lowest bearing capacity of soil is used in designing of foundations).
- vi. An area statement indicating the total plot area, FSI consumed, permissible FSI, detailed calculations of the various area used as per the land use, the percentages of area under roads, open spaces, etc.
(Appendix ‘E’)
- vii. Specifications; General specifications of the materials to be used for

the proposed construction work duly signed by the Architect.

(Note): *The colouring of the plans shall be as per the colour code described in the **Table 1** and size of drawing sheets shall be in the **Table 2** as shown in the end of this section.*

v. Undertaking

The notice shall also be accompanied by an undertaking from the Applicant to the effect that during the period of construction, facilities will be made available for day-care centre, crèche adult-literacy and non-formal education programmes for the construction workers, directly by him or through a voluntary agency.

vi. Signing of plans by owners and licensed personnel/architect

All the plans shall be signed by the owner and the licensed surveyors/ engineer/ structural engineer/ supervisor, or architect, as the case may be, and shall indicate their names in block capital letters, addresses and license number.

vii. Responsibilities of the Licensed Surveyor / Engineer / Structural / Engineer / Supervisor

The notice shall also be accompanied by an undertaking from the licensed surveyors, engineer, structural engineers and supervisors with the qualifications listed in **Appendix 'F'** to perform the tasks mentioned.

1.9 Processing of the development permission application

- (1) **Grant of permission or refusal** - The Authority may either sanction or refuse to sanction the plans and specifications or may sanction them with such modifications or directions as it may deem necessary, and thereupon shall communicate its decision to the occupant entity giving the notice accordingly.
- (2) **Fire brigade scrutiny** - The plans for all multi-storeyed, high rise and special building shall also be subject to the scrutiny of the competent Fire Officer.

- (3) **Revised plans** - Once the plans have been scrutinised and objections have been pointed out, the occupant entity giving notice shall modify the plans to comply with the objections raised and resubmit them to the MPD / CEO. The plans submitted for final approval shall not contain superimposed corrections. The MPD/CEO shall scrutinise the revised plans and provide the sanction.
- (4) **Validity of development permission:** Development permission shall remain valid for four years if the work is commenced within one year from the date of issue of the permission and if the work is not commenced within one year the permission shall lapse. The applicant shall apply afresh for permission. However, no renewal or sanction will be done if the work is not commenced within a period of one year from the date of sanction.

1.10 Procedure during construction

1. Intimation for commencement of work:

- (a) The occupant entity shall within one year from the date of issue of building permission / commencement certificate, commence the work for which the building permission/commencement certificate has been issued. The occupant entity shall mark on building site the line-out of the proposed development work i.e. centre lines of all external walls / columns proposed on ground floor of the structure. The occupant entity shall then give notice to Authority of the intention to start work on the building site in the Performa prescribed by the Authority on time to time. The Authority within 7 days of the receipt of such notice shall check the lineout. The occupant entity may anytime after seven days have elapsed from the date of service of such notice to the Authority or earlier if permitted by the Authority to commence the work.
- (b) Neither the granting of permission nor approval of the drawings and specifications, nor inspections made by the Authority during erection of the building, shall in any way relieve the occupant entity of such building from full responsibility of carrying out the work in accordance with the requirements of these Regulations.

All constructions shall be in conformity with the plan approved by the authority.

2. Documents at site

- (a) Results of tests- Where tests of any material are made to ensure conformity with the requirements of these Regulations, record of the test data shall be kept available for inspection during the construction of the building and for such period thereafter as required by the MPD / CEO, Mirershorai Economic Zone not exceeding 12 months from the date of issue of occupancy certificate.
- (b) Development permission- the person to whom development permission is issued shall during construction, keep
 - i. Posted in a conspicuous place, on the site for which permission has been issued, a copy of the development permission; and
 - ii. A copy of the approved drawing and specifications on the site for which the permit was issued.

3. Deviation during construction

If before starting the construction of a building or during the construction of a building, any departure from the sanctioned plans is intended by way of internal or external additions, approval of the MPD/CEO, Mirershorai Economic Zone shall be necessary. A revised plan showing the changes shall be submitted and the procedure laid down for the original plans here to fore shall apply to all such revised plans. Any work done in contravention of the sanctioned plans, without prior approval of the MPD/CEO, Mirershorai Economic Zone shall be deemed as unauthorised.

4. Completion certificate

The occupant entity, through his licensed plumber, shall furnish a drainage completion certificate and a building completion certificate through his licensed surveyors/engineers/structural engineer/supervisor or his architect to the MPD/CEO, Mirershorai Economic Zone in the form in **Appendix ‘G’ and ‘H’** respectively (subject to changes). These certificates shall be accompanied by three sets of plans of the completed development.

5. Occupancy certificate

The Authority may inspect the building and after satisfying himself that there is no deviation from the sanctioned plans, issue an occupancy certificate in the form in **Appendix ‘I’** or refuse to sanction the occupancy certificate in the form in **Appendix ‘J’** within 21 days from the date of receipt of the said completion certificate, failing which the building shall be deemed to have been approved for occupation, provided the construction conforms to the sanctioned plans. One set of plans, certified by the MPD/CEO, Mirershorai Economic Zone the completed plans, shall be returned to the occupant entity along with the occupancy certificate. Where the occupancy certificate is rejected, the reasons for rejection shall be given in intimation of the rejection or refusal.

6. Part occupancy certificate

When requested by the holder of the development permission, the MPD/CEO, Mirershorai Economic Zone may issue a part occupancy certificate for a building or part thereof, before completion of the entire work as per the development permission provided sufficient precautionary measures are taken by the entity to ensure public safety and health. The occupancy certificate shall be subject to the occupant entity indemnifying the MPD/CEO, Mirershorai Economic Zone in the form in **Appendix 'K'**.

7. Occupancy certificate for special building

The work of construction of a building having more than 24m height shall be subject to inspection also of the Authority; and unless a clearance regarding completion of the work from the fire protection point of view is given by him, no occupation certificate shall be issued by the Authority in respect of such building.

8. Refund or security deposit

Security deposit paid by the applicant while obtaining development permission shall be returned without interest after the applicant obtains occupancy certificate for the entire development work. The original receipt shall be submitted by the applicant to the Authority to process the claim.

9. Amendment / modification to appendices

Except where the same are prescribed in Upazilla for planning or the rules or bye-laws framed there under, the MPD/CEO, Mirershorai Economic Zone may, from time to time, add to alter or amend appendices.

1.11 Inspection of various stages

- (1) The MPD/CEO, Mirershorai Economic Zone may at any time during erection or a building or the execution of any work or development make an inspection thereof without giving previous notice of his intention so to do.

- (2) Inspection by Fire Department - For all multi-storeyed, high-rise and special buildings the work shall also be subject to inspection by the competent Fire Officer, and the MPD/CEO shall issue the occupancy certificate only after clearance by the said competent Fire Officer.
- (3) Unsafe buildings - All unsafe buildings shall be considered to constitute a danger to public safety, hygiene and sanitation and shall be restored by repairs or demolished or dealt with as otherwise directed by the MPD/CEO, Mirershorai Economic Zone
- (4) Unauthorised development - In case of unauthorised development, the MPD/CEO, Mirershorai Economic Zone shall:
 - (a) Take suitable action, which may include demolition of unauthorised development and recover the cost of demolition/removal of such unauthorised development from the owner of the property.
 - (b) Take suitable action against the licensed technical person or the architect concerned

Table 1: Colouring of plans

Sl. No.	Item	Site plan
1	Plot lines	Thick black
2	Existing street	Green
3	Future street	Green dotted
4	Permissible building	Thick dotted black
5	Buffer Zones	No colour
6	Work proposed to be demolished	Yellow hatched
7	Proposed work	Red filled in
8	Drainage, sewerage and effluent work	Red dotted
9	Water supply work	Blue dotted thin
10	Deviations	Red hatched
11	Recreation ground	Green wash
12	Roads and setbacks	Burnt sienna
13	Reservation	Appropriate colour code

Note: Existing work to be hatched black; for land development / sub-division / layout suitable coloring notations shall be used duly indexed.

Table 2: Size of drawing sheets

Sr. No.	Designation	Trimmed size mm
1	A0	841 x 1189
2	A1	594 x 841
3	A2	420 x 594
4	A3	297 x 420
5	A4	210 x 297
6	A5	148 x 210

Part - II

General planning requirement

The Economic Zone has been divided in to two zones namely Processing zone (PZ) and Non Processing Zone (NPZ).

2.1 Processing Zone (PZ)

Development / redevelopment of any land, building or premises the intended use in processing zone shall conform to the following requirement

2.1.1 Guidelines for siting and zoning

- (1) In every case of development / redevelopment of any land, building or premises the intended use shall conform to the use phase designated in the Master Plan or layout plan.
- (2) Shifting and or interchanging the purpose of designations: In case of specific designations in layout plan, the MPD/CEO, MIEZ may shift; interchange the designation on the same or adjoining land.

2.1.2 Land use zones

(1) Industrial use zone

- (a) The primary purpose of this zone is to provide land for industrial purposes for manufacturing, processing, assembling, servicing, repairing and packaging of goods and machineries / equipment on a large scale based on electrical, mechanical or chemical processes.
- (b) Use of land in Industrial Zone shall avoid undue and inefficient extension of urban infrastructure, and a “leap-frog” development pattern shall be followed.
- (c) Conditional uses in Industrial Zone shall neither create an excessive

demand on roads or physical infrastructure, nor degrade the living environment in any area.

- (d) Existing uses / activities such as – residential, agriculture, social facilities, infrastructure / utilities network and facilities, including approved land use conversions and land use commitments as per Upazilla plans. These shall be allowed to continue, without further expansion / improvement. Existing commercial uses shall be allowed to expand / improve.
- (e) Manufacturing, processing, assembly, fabrication, service and repair facilities, logistic units, indoor / outdoor storage or warehousing of goods, office buildings, research laboratories, truck terminals, printing press, agro processing / fish processing industries, petrol station with service facility are permitted in this zone.
- (f) Labor / staff accommodation, private offices, business hotels & restaurants, shops, banks, health facilities, professional training facilities, Call centres, IT Parks. Any kind of obnoxious and hazardous activities, mining, quarrying, waste disposal, storage of inflammable goods, etc. subject to necessary approvals from the environmental regulatory authorities are permitted under conditional basis.
- (g) Easements of way shall be permitted for essential transport and physical infrastructure network through lands in this zone if this is the best techno-economically sound option.
- (h) The plot extent floor space index setback lines, height etc. will be regulated as given below

- **For clean and light industries:**

- (i) Minimum plot extent : 1500 Sq. m
- (ii) Minimum plot frontage / width : 25m
- (iii) Maximum FSI : 1.00
- (iv) Maximum plot coverage : 60%
- (v) Maximum permissible height : 15 m
- (vi) Minimum width of green buffer
 - a. Road side : 4m
 - b. Other side : 2m
- (vii) Minimum front setback space after the green buffer
 - Road width 24.0m and above : 6.0m

- (viii) Minimum Side setback space : 4m
- (ix) Minimum rear set back space : 6m
- (x) Spacing between building blocks and vehicular access way:

If there is more than one building in a plot, the spacing between any two building blocks shall not be less than 6.0m. The width of the vehicular access way including passage if any within the plot shall not be less than 7.5m and such vehicular access shall be available for every building block in the site within a distance of 50.0m.

- **For medium industries**

- (i) Minimum plot extent : 2000 Sq. m
- (ii) Minimum plot frontage / width : 25m
- (iii) Maximum FSI : 1.00
- (iv) Maximum plot coverage : 50%
- (v) Maximum permissible height : 15 m
- (vi) Minimum width of green buffer
 - a. Road side : 4m
 - b. Other side : 2m
- (vii) Minimum front setback space after the green buffer : 6m
- (viii) Minimum Side setback space : 4m

(2) Commercial and amenities zone:

- (a) The following uses may be permitted in commercial and amenities zone
 - i. Wayside amenities such as retail outlet, restaurant and fuel station
 - ii. Commercial facilities such as office space, star hotel, cafe centre, etc.
 - iii. Social facility such as social centre, women's association centre
 - iv. Multi level car parking
 - v. Health facility such as emergency block.
 - vi. Any other facilities as deemed fit by the MPD/CEO, MIEZ.
- (b) The plot extent, plot frontage floor space index, setbacks etc. shall be regulated as given below:

(i)	Minimum plot extent	:	1500 sq.-m.
(ii)	Minimum plot frontage/width	:	25m.
(iii)	Maximum FSI	:	1.50
(iv)	Maximum plot coverage	:	50%
(v)	Maximum height	:	24m
(vi)	Minimum width of green buffer		
	a. Road side	:	4m
	b. Other side	:	2m
(vii)	Minimum front set back space	:	18m
(viii)	Minimum side set back space	:	4m
(ix)	Minimum rear set back space	:	6m

(3) Transportation use zone:

- a. The primary use of lands in this zone shall be to serve the transportation requirements of passengers and goods by any mode / means.
- b. Use of land in transportation zone shall avoid undue and inefficient extension of urban infrastructure, and a “leap-frog” development pattern.
- c. Use of land in transportation zone shall neither create an excessive demand on roads or physical infrastructure, nor degrade the living environment in any area.
- d. Uses / activities such as – residential, commercial, industrial, agriculture, social facilities, infrastructure / utilities network and facilities, shall be allowed to continue, without further expansion / improvement till such time that the operation of the designated transportation use is not constrained. When required, such existing uses / activities shall be relocated to their appropriate land-use zone/s through coordination among the concerned authorities.
- e. Roads, logistic hubs, goods shed terminals, railways, marshalling yard, railway station, bus depots, bus terminals, truck terminals, helipad, and petrol filling and service stations including provisions for parking, waiting, loading, unloading, ticketing, customs, etc. related to the primary function of the plot are some of the permissible activities inside the zone.
- f. Retail commercial uses, eating facilities, library, dormitories (not allowing over-night accommodation), etc. for serving the transit passengers and operators. Service and repair facilities for vehicles / vessels utilizing the

transport facility. Fuel station, with/ without service facility are also permitted under some conditions.

- g. Residential, public / semi-public uses, any kind of obnoxious and hazardous activities, ware-housing, industrial, mining, quarrying, waste disposal, etc. uses / activities not included
- h. Any use / activity which shall not cause damage disturbance to the primary use of the plot, for a maximum duration of not more than 14 days, with special permission from the concerned authorities.

(4) Utilities zone:

- a. The primary use of lands in this zone shall be to serve the physical infrastructure requirements of community and land uses.
- b. Use of land in utilities zone shall neither create an excessive demand on roads or physical infrastructure, nor degrade the living environment in any area.
- c. Existing uses / activities such as – residential, commercial, industrial, social facilities, shall be allowed to continue, without further expansion / improvement till such time that the development of the designated utilities use is not initiated. When required, such existing uses / activities shall be relocated to their appropriate land-use zone/s through coordination among the concerned authorities.
- d. Facilities related to physical infrastructure, such as, generation facilities, pumping stations, treatment plants, disposal sites, etc. are permitted.
- e. Accommodation facilities for essential staff. Service and repair facilities; Storage yard of material, equipment, machinery, etc. related to the physical infrastructure are permitted under conditional basis.

(5) Green zone:

Is an area to be used exclusively for the development of gardens, play fields, Helipads and club houses Utilities and services including effluent disposal system and disposal of treated water shall be permitted in the green zone along with any other ancillary structure as decided by the MPD/CEO, MIEZ.

Open spaces are the lungs of the society. Advantages of provision of Open spaces are multifold – from the physical, environmental and spiritual

considerations. Open spaces, in the form of formal uses like parks and gardens are developed by local authorities.

Table 3: Physical Planning standards (PPS)

Facility	Location	Catchment population	Site area (ha)
Amenity open space	Local centre	500-5000	0.02
Public garden	District / town centre	10000-20000	2-3
Formal public park	Regional / town centre	20000-50000	2.0

Overall, provision of open spaces should be 0.32 ha per 1,000 populations

(6) Governing set back and height conditions

- (a) When different open spaces/ widths are provided for under these regulations the largest of them shall prevail except when specifically provided otherwise.
- (b) When a building abuts more than one street the setbacks from each of them shall be such as if the building were fronting each such street.
- (b) Every open space whether interior or exterior shall be kept free from any erection there on and shall remain open to sky except the feature indicated in these regulations.
- (c) Minarets, dooms, antennas, telecom towers, etc, steeples, flag masks, water tanks, architectural features or similar structures shall not be included in the height of the building. However, specific permission of the MPD/CEO, MIEZ shall be obtained for the above mentioned structures.

2.1.3 Predominant and ancillary uses permitted

The predominant use within a plot should occupy at least 51% of the plot’s total floor area. In addition to the predominant use, ancillary uses, not exceeding 49% of the total floor area may be permitted for the following uses in the industrial use zone:

- (a) Showrooms
- (b) Leisure facilities
- (c) Creche
- (d) In-house clinic

- (e) Staff canteen
- (f) Security facilities
- (g) Maintenance office
- (h) Circulation areas, toilets, etc.
- (i) Any other use incidental to the predominant use as decided by the MPD/CEO of the MIEZ.

2.1.4 Layout and land sub division

If circumstances warrant the preparation of lay out or sub division then the applicant shall submit the proposal to the MPD/CEO, Mirershorai Economic Zone to that effect, the lay out or sub division would be governed by the rules as described below:

- a) The MPD/CEO, MIEZ may further sub-divide a plot in the lay-out plan within the boundaries of the original plot and confirming to the zoning provisions, ensuring that the plots can be developed in conformity with these regulations
- b) The minimum width of the access to any sub-divided plot shall be 10.0m
- c) The minimum extent of the plot shall be 1500 Sq.m

2.1.5 Ingress / egress points

Ingress / Egress Points for vehicular traffic access from individual plots to the road. There should be minimal direct access from the major roads. The minimum distance of Ingress / Egress points from a road junction shall be at least 20.0m.

Table 4: Number of ingress / egress points

Plot size	Number of points
Up to 8095 sq.m	1
8095 to 16190 sq.m	1 (or 1 Ingress + 1 Egress)
16190 to 40470 sq.m	2
Above 40470 sq.m	3

2.1.6 Temporary constructions:

The MPD/CEO, MIEZ may grant permission for temporary construction for a period not exceeding six months at a time in the aggregate not exceeding for a period of

three years. Such permissions may be given by him for the construction of the following namely:

- (1) Structures for protection from the rain or covering of the terraces during the monsoon only;
- (2) Structures for godowns / storage of construction materials within the site;
- (3) Temporary site offices and temporary guard room shelters within the site only during the phase of construction of the main building;
- (4) Structure for exhibitions etc,;
- (5) Structures for storage of machinery, before installation, for factories in industrial lands within the site;
- (6) Structures for educational and medical facilities within the site of the proposed building during the phase of planning and constructing the said permanent buildings;
- (7) Construction of infrastructures like, steel structure, rebar/ tankage fabrication yard, pre casting of pipes, concrete units etc.

Provided the temporary structures shall be demolished within a period of one year from the date of completion of erection unless specifically permitted to remain by the MPD/CEO, in writing.

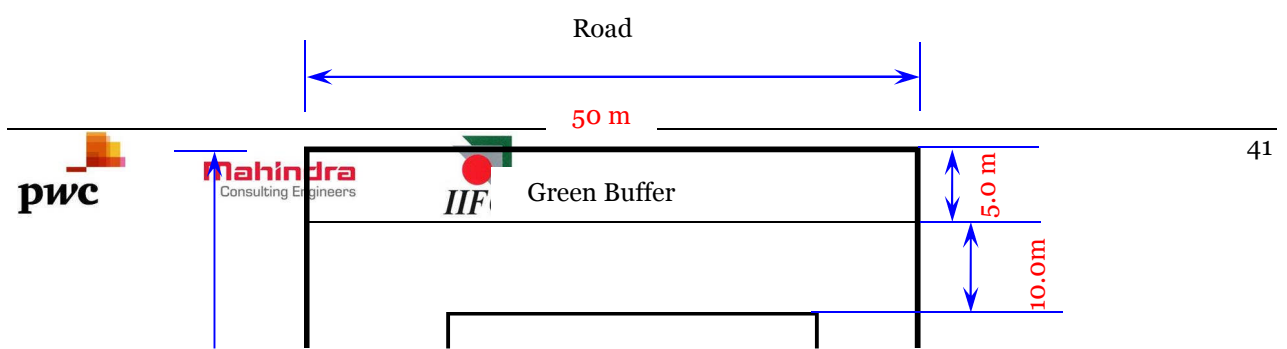
2.1.7 Electric sub-station

The sub-station shall be constructed in such a manner that it is away from the main building at a distance of at least 3m and in general does not affect the required set back spaces. It shall be adequately covered and look elegant.

2.1.8 Green buffer

In addition to the front setback a green buffer is to be left in the front. It is a strip of land strictly reserved for tree planting, landscaping and turfing. No other uses shall be permitted except for sign post, lamp post, small guard houses and bin points.

Diagrammatic example of building coverage and the requirement of buffer zones is shown in the exhibit below:



Plot area	=	5000 sq.m.
Built-up area	=	2500 sq.m.
Maximum building coverage	=	50% of the site

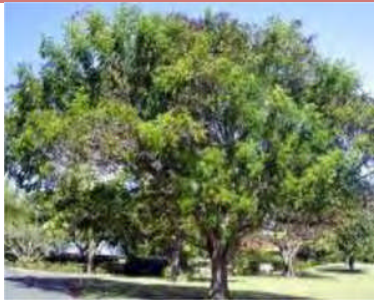
The landscaping takes into consideration, the topography of the land, the local flora and fauna, the quality of the soil and other such factors.

These plants generally adapt well to the local climate, consume less water and also require less maintenance. There are some plants and shrubs which can be planted in these green buffers. An illustrative list of such species is provided in this section.



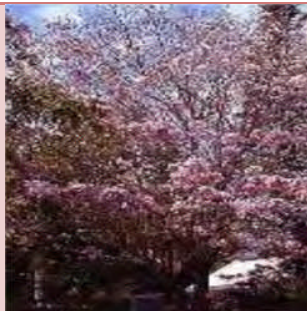
Royal Palm (Roystonea Regia)

Truly an aristocrat of the plant kingdom, this palm makes a memorable impression wherever it is grown. Growing up to 15 – 18 meters, with a straight grey smooth stem bulging slightly at the middle, this is a neat tree without any problem of fallen leaves and seasonal changes.



Tamarind Tree -Tamarindus Indicus

The tamarind is a large tropical tree with a short massive trunk, ferny pinnate leaves, small yellow flowers and fat reddish brown pods. The tree can get 90 ft tall but is usually less than 50 ft. Tamarind is a slow growing tree that, once established, needs no attention at all.



Pink trumpet-tree (Tabebuia Rosea)

An evergreen tree with shiny leaves and very light pink flowers. The foliage and flowers are sparse. The flowers are large funnels shaped and the flowering period is long. It is an attractive tree by its shape and placement of branches.



Kigelia Pinnata

A large evergreen tree, with flowers hanging on very long stalks from the branches. The fruits are large and cylindrical and hang on the tree for a very long time.



Sterculia Foetida

It is called the tropics most glorious flowering tree. It is a large tall tree, with horizontal branches in whorls. The flowers are vivid scarlet and borne copiously all over the shallow, domed crown



Gulmohar Tree (Delonix Regia)

A common avenue tree with gorgeous red or reddish orange flowers.



Acacia Tortilis

Flowers are small and white, highly aromatic and occur in tight clusters. Seeds are produced in pods which are flat and coiled into a spring like structure.



Rain tree (Albizia Saman)

Saman is a wide-canopied tree with a large symmetrical crown. It usually reaches a height of 25 m (82 ft) and a diameter of 40 cm. The leaves fold in rainy weather and in the evening



Buffalo grass

Buffalo grass is a native turf grass. Its tolerance to prolonged droughts and to extreme temperatures together with its seed producing characteristics enables buffalo grass to survive extreme environmental conditions. It is a low growing, commonly only 8 to 10 inches high, warm season perennial grass. Individual leaf blades may reach 10 to 12 inches in length, but they fall over and give the turf a short appearance

- Note: 1. An important observation of the type of roots must be made before deciding the type of trees, because if the roots tend to branch along its width, it may affect the infrastructural stability**
- 2. Each plot should maintain a minimum of 10% of the total area as greenery space**

2.1.9 Features permitted in open spaces

- (1) Certain features may be permitted in the green buffer and front open spaces as enumerated below:

Table 5: Features permitted in open spaces

Siting within	Ancillary structures allowed
Green buffer and front open space	<ul style="list-style-type: none"> • Guard houses • Garbage points • Flag and Lamp poles • Meter compartments • Sitting Benches • Fountains • Sign posts / boards
Front open space	<ul style="list-style-type: none"> • Gas pressure regulator kiosks • Above ground electricity boxes • Fenced up area and electric sub station • Below ground structures • Car porches • Automated teller machines

- (2) Features permitted in the side or rear open space:

Covered parking spaces, suction tank, pump room, electric meter room or sub-station, garbage shaft, space required for fire hydrant, electrical and water fittings, water tank, dust-bin, etc, provided there is a clear open space of 4.5 m all around and 6.0 m between building blocks for free movement of vehicles.

2.1.10 Floor space index / floor area ratio computation:

- (1) The following shall be excluded from the computation of FSI/FAR
- (a) The areas of structures permitted in the green buffer and set back spaces
 - (b) Stair cover over staircase on top floor;
 - (c) Machine room from lift on top floor as required for the lift machine room

installation

Note: The shaft provided for lift, shall be taken for covered area calculations only, on one floor.

- (d) Rockery, well and well structures, plant, nursery, water-pool, swimming pool (if uncovered), platform round a tree, water tank, fountain, bench, ramps, compound wall, gate, slide, steps outside building domestic washing place, swing fire escape staircase, overhead water tank on top of buildings.
- (e) Drainage culvert, conduit, catch-pit, gully pit, chamber, gutter culvert on drains.
- (f) Basement floors used as parking space, store room, air-conditioning plant room.
- (g) Area of fire escapes stairways and cantilever fire escape passage according to the Fire Officer's requirements.
- (h) Refuge area.
- (i) Areas covered by service ducts, pump rooms, electric substations, niches up to 1 m. depth below window sill, passages and additional amenity of lift and/or staircase beyond those required under the Regulations with the permission of the Project Director.
- (j) Areas covered with 1.5 m. projections in the marginal open space in the form of shelter for bicycles/scooters.
- (k) Areas covered by :
 - (i) Lofts
 - (ii) Rooms
 - (iii) Porches
 - (iv) Canopies
 - (v) Electric sub stations
 - (vi) Service floor of height not exceeding 2.5 m. with the special permission of the MPD/CEO.

Note: where the permissible FSI has not been exhausted in the case of existing buildings and cases decided by the earlier planning authority/ Upazilla, prior to coming into force of these Regulations, the exclusion from FSI computation as in these Regulations will be available for construction of the balance

potential.

- (2) The floor area ratio may be increased by 20% for the following services:
- Basements or cellars, underground car parks, storerooms and air-conditioned plant room.
 - Ancillary buildings, such as electric substation, guardhouse, pump room and garbage centers.
 - Staircase room, lift room above the topmost storey, architectural features, chimneys and elevated tanks.

2.1.11 Parking standards

1. To facilitate adequate circulation within the plots parking space for car and trucks/lorries should be provided within the plots. The minimum parking standards to be followed are as under:

(a) Lorry/ Truck parking:

Floor area	Lorry parking standards
Industries Upto 1500 Sq.m	1 per 40 sq.m
Industries above 2000 sq m	1 per 60 sq.m
Warehouses and godowns	1 per 100 sq.m

(b) Car parking:

- Commercial area: One car park, atleast, for every flat, office or shop. If the area or shop exceeds 100 sq.m. an additional car park shall be provided for every additional 50 sq.m.
- Industrial and Warehouses area: One car park at least for every five employees. Open or covered areas provided for workshops or warehouses are not included.
- Clubs and similar facilities: One car park at least for every 12 sq.m of the covered area.
- Five star hotels: A car park for every 3 beds

- v. Four star hotels: A car park for every 5 beds
- vi. Three star hotels: A car park for every 10 beds

Note: Plot area 200 sq.m in unplanned areas, inaccessible plots and plots that have special planning conditions are excluded from the conditions set for car parks.

- vii. The dimension of car parks (for private areas) whether on road sides or the areas mentioned above shall be as follows:
 - o Length: 5 m
 - o Width: 2.40 m
- viii. The minimum width of paths within car parks is as follows:
 - o 3 m if the parking is parallel to the path
 - o 3.5 m if the parking makes an angle of 45° with the path
 - o 6 m if the parking is at a right angle with the path.

If the width of parking area for each car is increased by 25%, the above width of paths may be reduced by 18%, maximum.

- ix. The dimensions of parking for heavy duty vehicles such as trucks shall be determined according to the specifications of the international code of practice.
- x. Parking areas in covered and multi-floor garages area planned according to the specifications of international code of practice.
- xi. When the minimum limit for paths within car parks is applied, traffic shall be in one direction to facilitate entrance and exit.
- xii. If parking cannot be provided within the legal boundaries of the plot, for any reasons, it may be permitted to use the ground floor for parking provided that the height of the floor from the ground to the slab of the roof is 225 cm. But, that height shall not be included in the permitted

heights of buildings. Thus the location of columns and smooth entrance and exit of cars should be considered carefully. The same applies for residential buildings where the number of units or flats is more than seven.

xiii. Educational Institutions:

1. Floor area less than 100 sq.m - Nil
2. Floor area above 100 sq.m but less than 1000 sq.m. of floor area or part thereof - one car space for every 200 sq.m.
3. For every additional 100 Sq.M. or part - one car space thereof over 1000 Sq.m.

Note: At least 25% of the total parking space shall be provided in the part of the site abutting the road for parking/stopping of vehicles.

- xiv. Nursing home one car space for every 15 beds or part thereof. One extra area for every 100 Sq.m. of non-bed space in the Nursing Homes.

2. **Radius:** Minimum inside radius of lane 4.5 m

3. Gradient

- o Preferred gradient 4% (1 in 25)
- o Absolute maximum gradient 5% (1 in 20)

4. **Head room:** In those parts of a building (above or below ground floor level) used or intended to be used for the parking of wheeled vehicles, the minimum clear height to such part of the building shall be not less than 2.4m. For lorry parking the minimum heads room shall be 3.5m.

5. General

- i. Each parking space shall have a minimum area of 16m² which is readily accessible at all times for parking and the removal of motor vehicle, without the necessity of moving any other vehicle.
- ii. Parking facilities shall be provided with suitable lighting facilities.

- iii. The surface of the parking area of all parking facilities and all entrances and exits to such parking facilities shall be graded and drained and made of asphalt or concrete.
- iv. Every parking lot with more than 15 spaces shall have adequate means of entrance and exit directly to an existing street and every such entrance shall be clearly marked by directional signs and divisions between parking spaces.
- v. The parking area shall be used for the parking of operative currently licensed vehicles only, and for vehicles used in operations incidental to the permitted use.

2.1.12 Fazard and elevation

1. The fazard and elevation of the buildings shall be as per the plan recommended by MIEZ and approved by the authority.
2. It is important to set a theme for so that all design elements relating to landscaping and signage are coordinated to reinforce a sense of harmony for the Zone as well as the image of the developer. The level of finish and overall quality of materials used should convey a high-tech image and be able to identify and communicate information.
3. The company name and logo should be placed at the main entrance in accordance with the guidelines laid down by the Upazilla (if any).
4. Reasonable dimensions for logo and / or company name range between 3.0m to a maximum of 6.0 m. in length. The developer should set a color scheme and a set of standard signage design, and get the same approved by the MPD/CEO, Mirershorai Economic Zone.

2.1.13 Disaster management plan

2.1.13.1 Accident / emergency response plan:

- To deal with an emergency, the arrangement for immediate deployment or appointment of key personnel with their specific duties should be clearly described and mentioned.
- The emergency planning includes anticipatory action for emergency, maintenance and streamlining of emergency preparedness and ability for sudden mobilization of all forces to meet any calamity.
- Communication links that can be established with local such as factory inspectorate, police station, fire brigade, hospital etc., the authorities to meet the challenges of emergencies and ensure reliability of functions of communication system.
- Adequacy and efficiency of fire fighting and fire detection equipment, personal protective appliances, medical services and safety and emergency training is to be ensured.
- An in-plant road map showing linkage with different units, gates and emergency gates should be prepared.
- The management should also maintain data on weather conditions of each season of plant area (temperature, wind speed, wind direction), for reference during emergency for evacuation purposes.

2.1.13.2 Accident / emergency response plan:

- Project plans should be approved by Directorate General of Fire Service and Civil Defence and the following aspects should be taken into consideration:
- Emergency doors and exits in the various buildings/ factories.
- Covering staircases and common areas with slippery-resistance
- Installation of safety fences around the open corridor & spaces.
- Natural or artificial ventilation in all parts of the building, particularly the divisions which require such ventilation, should be taken into consideration.
- Location of first aid spots should be marked.
- It is necessary to indicate the fire systems as per the requirements of Director General, Fire service and civil defence.
- Approval of the detailed drawings of the project depends on the approval of

the Director General, Fire service and civil defence.

2.1.13.3 Communication:

- A public address (PA) system with loud speakers installed at vital installations or corners.
- The details of the communication arrangements should include having a direct line to the fire brigade. A periodic check of this system is recommended.
- The description of the tasks and responsibilities, reporting place, etc. for each key functionary should be, as far as possible, so drafted as to reduce the communication needs between the interacting groups.

2.1.13.4 Recovery procedure:

- The management could restore normalcy only when speedy actions on the earlier phases are initiated.
- Treatment of patients after the disaster due to psychological breakdown (operators/resident around facility).
- Assessment of damages and rectification.
- Incidents of Fire mainly caused due to overloading, short circuit etc. By doing modifications in the wall socket outlets the total amount of current drawn from all the sockets together could exceed the rated capacity of the internal wiring which leads to fire accidents. To avoid this, periodic inspection of the conditions of electrical circuit wiring, taking preventive action whenever needed and, install MCBs (Miniature Circuit Breakers), so that any short-circuit would result in immediate disconnection of the current flow.

2.1.13.5 Provision of first aid and fire-fighting appliances

- (a) First-aid firefighting equipment shall be provided on all floors including basements, lift rooms, etc.
- (b) The fire fighting appliances shall be distributed all over the building.

2.1.13.6 Fixed fire-fighting installations

Buildings shall be protected by wet riser, wet riser-cum down comer, automatic sprinkler, installation, high pressure water spray or foam generating system

2.1.13.6.1 Wet riser installations

- (a) The wet-riser shall be designed for zonal distribution ensuring that unduly high pressure does not develop in risers and hose pipe. In addition to wet-riser, wet riser-cum-down comer, first aid hose reels shall be installed on the floors of buildings above 24 cm. The first aid hose reel shall be connected to one of the female coupling of twin couplings of landing valves directly to the wet riser in the case of single outlet of the wet riser installations by means of adapter
- i) Static water storage tank- A satisfactory supply of water for the purpose of fire fighting shall always be available in the form of an underground static storage tank with capacity specified for each building with arrangements of replenishments by main or alternative source of supply at 1,000 liters per minute. The static storage water supply shall be made available for immersion, repairs and inspection of suction hose etc. The covering slab shall be able to withstand a vehicular load of 18 tonnes. The domestic suction tank connected to the static water storage tank shall have an overflow capable of discharging 2250 litres per minute to a visible drain point from which by a separate conduit the overflow shall be conveyed to a storm water drain.
- ii) To prevent stagnation of water in the static water storage tank, the suction tank of the domestic water supply shall be fed only through an overflow arrangement to maintain the level therein at the minimum specified capacity.
- iii) The static water storage tank shall be provided with a fire brigade collecting breaching with four 63 mm. dia (two of 63 mm. dia for pump with capacity 1,400 liters/ minute) instantaneous male inlets arranged in a valve box at suitable point at street level and connected to the static tank by suitable fixed pipe of not less than 15 cm. dia to discharge water into the tank when required at a rate of 2250 liters per minute.

2.1.13.6.2 Automatic sprinklers- Auto sprinklers shall be installed

- (a) In basements used as car parks except in apartment buildings and residential hotels if the area exceeds 500 sq.m.
- (b) In basements of multi-storeyed buildings used as car parks and for permissible essential services ancillary to a particular occupancy;
- (c) In any rooms or other compartment of a building exceeding 500 sq.m
- (d) In department stores or shops in an area exceeding total of 750 sq.m
- (e) In all non-domestic floors of mixed occupancy considered to constitute a hazard and not provided with staircase independent of the remainder of a building;
- (f) In godowns and warehouses as considered necessary;
- (g) In dressing rooms, scenery decks stages and stage basements of theatres.

2.1.13.6.3 Automatic high pressure water spray (emulsifying)

This system shall be provided for protection of indoor transformers of a substation in a basement area.

2.1.13.6.4 Foam generating system

This system shall be provided for protection of boiler rooms with ancillary storage of furnace oils in a basement.

2.1.13.6.5 Carbon-dioxide (CO₂) fire extinguishing system

Fixed CO₂ fire extinguishing installation shall be provided on premises where water or foam cannot be used for extinguishing fire because of the special nature of the contents of the buildings/areas to be protected. Where possible, BCF installation may be provided instead of CO₂ installation.

2.1.13.6.6 Fire alarm system

All buildings mentioned below shall be equipped with fire alarm systems as given below:

- (a) Public purpose buildings above 15 m. in height and Business and Industrial buildings above 24 m. in height

- (I) Such buildings shall be equipped with a manually -operated electrical fire alarm system with one or more call boxes located at each floor. The call boxes shall be so located that one or the other of them shall be accessible to all occupants of the floor without having to travel more than 22.5 m.
 - (II) The call boxes shall be of the “break-glass” type without any moving parts where the call is transmitted automatically to the control room without any other action on the part of the person operating the call box.
 - (III) All call boxes shall be wired in a closed circuit to a control panel in the control room located as given in this rule so that the floor number where the call box actuated is clearly indicted on the control panel. The circuit shall also include one or more batteries with a capacity of 48-hrs norm, working at full load. The battery shall be arranged to be continuously trickle-charged from the electric mains.
 - (IV) The call boxes shall be installed that they do not obstruct the exit-way and yet their location can easily be noticed from either direction. The base of the call box shall be at a height of 1m. from the floor level.
- (b) All other buildings exceeding 24 m. height excluding those mentioned in clause (a) Above

These buildings shall, in addition to the manually operated electrical fire alarm system, be equipped with an automatic fire alarm system. The latter shall be in addition to any automatic fire-extinguishing system installed in any particular occupancy in accordance with the rules.

Provided that, no automatic detector shall be required in any room or portion of a building, which is equipped with an approved installation of automatic sprinklers.

2.1.13.6.7 Using a fire extinguisher

Most extinguishers are based on PASS System.

- “PASS” is an acronym to remember the steps involved – Pull (the pin), Aim (the nozzle), Squeeze (the trigger), Swipe (sideways).
- “P” - Pull the Pin on the extinguisher. This pin is kept to prevent accidental discharge while carrying/transporting the extinguishers.
- “A” - Aim the nozzle of the extinguisher at the base of the fire. It’s very important that the discharge from the extinguisher is directed towards the base of the fire. Most people make the mistake of directing the extinguishing agent on the fire itself. That’s ineffective. The extinguishing agent should be directed at the base of the fire – where the burning material is located. That is the point, where the fire-triangle is established, which needs to be broken.
- “S” - Squeeze the trigger, so that the extinguishing agent starts flowing out of the cylinder, and, onto the burning material – at the base of the fire.
- “S” - Swipe the nozzle sideways to coat the entire burning material, with the extinguishing agent.

2.1.13.6.8 Precautions while fighting a fire

When fighting a fire:

- Always stay upwind: It protects you from heat, smoke etc. It allows you to go closer to fire – thus, being able to better direct your extinguishing agent. It protects you from inhalation of poisonous gases, which might be given out during the fire.
- Keep under observation, even when the fire is extinguished. Smouldering particles can easily rekindle, thus, catching you off-guard.
- Pour extinguishing agent in adequate quantity, rather than small quantities. Doing it in instalments does not help. One discharge of 60 liters of water is not the same as two discharges of 30 liters each. E.g. If you have to pour 4 buckets of water, have the 4 buckets ready, and, pour all 4 buckets in one go. Instead, if you pour two buckets of water, refill them, and, pour again – it’s not the same.

2.1.13.7 Precautions during chemical leaks / spill over

- Risks associated with chemicals and chemical industries include:
- Risks due to blast of certain equipments involved in large chemical plants, e.g. boiler etc.

- Risks due to leakage of chemicals wherever they are stored/transported/used in small quantities etc.

Sometimes, seemingly harmless chemicals can also turn out to be hazardous, after they come in contact with other chemicals. Depending upon the toxicity of the material involved the most common kinds of problems that might be caused due to a chemical leak / plant accident might include:

- Blast and explosion
- Irritation to eyes, throats etc.
- Pollution and/or poisoning of air, water-bodies etc.
- Impact on vegetation and animals (including fishes in water-bodies)
- Difficulty in breathing etc.
- Fumes
- Heat and/or fire etc.

Usually, chemical plants employ certain safety measures. The amount of safety measures employed by chemical plants is a function of:

- Risk and hazard associated with the specific chemical plants
- Local laws and regulations
- Vigilance level of local community
- Technical competence of the plant managers
- The company's own standard of ethics –vs- short-term profitability decisions etc.

2.1.14 Environmental management plan

Preparation of environmental management plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plans should indicate the details as to how various measures have been or are proposed to be taken including cost components as may be required. Cost of measures for environmental safeguards should be treated as an integral component of the project cost and environmental aspects should be taken into account at various stages of the projects:

- Conceptualization: preliminary environmental assessment
- Planning: detailed studies of environmental impacts and design of safeguards

- Execution: implementation of environmental safety measures
- Operation: monitoring of effectiveness of built-in safeguards

2.1.14.1 Key considerations for environmental management plan

- i. Regular monitoring of fugitive emissions shall be conducted and any abnormalities reported for immediate corrective measures.
- ii. Regular monitoring of ambient air quality and noise in and around the site shall be conducted.
- iii. Regular monitoring of ground water quality and surface water quality shall be done.
- iv. Green belt plantation, maintenance, development of other forms of greenery such as garden nurseries shall be promoted.
- v. Regular inspections will be undertaken to assess erosion and sediment migration from topsoil stockpiles. Where unacceptable rates of erosion are identified, remedial works will be undertaken or the stockpile will be relocated.
- vi. Unauthorized clearing and removal of vegetation should be prohibited.
- vii. Normal means of dust suppression, including watering of roads, will be employed to minimize dust generation. Occupational dust levels will be monitored and managed as required
- viii. Stockpiles must not be located in or close to storm-water flow channels and surface water bodies
- ix. The size and area of stockpiles of soil will be minimized. Stockpiles that may be susceptible to erosion must be terraced, covered or have suitable erosion control measures such as silt fences
- x. Temporary cut off drains, bunding, and other sediment control measures such as sediment traps, silt fences and sediment basins and buffer strips will be used to capture sediments and nutrients during construction.
- xi. Access routes will use established roads wherever possible
- xii. The moisture content of access road surface layers will be maintained through routine directional spraying or the use of an appropriate dust suppressant as agreed with the authorities
- xiii. Access road verges will be planted with vegetation (if possible) to reduce erosion potential.
- xiv. Off road driving and the creation of new roads/tracks will be avoided wherever possible.

- xv. Fuel, lubricant and waste oil storage, dispensing and operating facilities must be designed and operated in such a way that contamination of soil and water is avoided as far as practicable.
- xvi. Vehicles in use on site are to be well maintained and operated to ensure that no accidental spillage or loss of fuel or lubricants occurs.

2.1.15 General

1. No overhead lines for water, electricity, telephone, and multimedia shall be allowed within the plot. They shall all be laid below ground level. However, water sprinkler systems, may be allowed above ground level subject to fire safety requirements.
2. No plot owner or occupier shall erect any advertising sign board within his premise or building or on the roads without the approval of the MPD/CEO, MIEZ.
3. No. plot owner or occupier shall connect any motor directly to MIEZ water main for withdrawal of water.
4. No plot owner or occupier shall sink any open well or bore well for drawl of water without the specific permission of the MPD/CEO, MIEZ.
5. No plot owner or occupier shall use any equipment, which will cause frequency interference with the equipments used by other occupants in the Zone.
6. No plot owner or occupier shall dump or throw any solid waste material on the road. He shall store such materials in the dust bins within the plot and transfer them to the collection staff authorized by ,MIEZ.
7. No plot owner or occupier shall erect any speed breaker on the road(s) abutting his plot,
8. No plot owner or occupier shall encroach on the pavement or any portion of the road land in front or rear or side of his plot.
9. No parking or permanent stationing of service vehicles, lorries/ trucks and trailers shall be allowed at the road side outside the plot.

2.2 Non Processing Zone(NPZ)

Development / redevelopment of any land, building or premises the intended use in Non Processing Zone shall conform to the following requirement

2.2.1 Guidelines for siting and zoning

- (1) In every case of development / redevelopment of any land, building or premises the intended use shall conform to the use phase designated in the Master Plan or layout plan.
- (2) Shifting and or interchanging the purpose of designations: In case of specific designations in layout plan, the MPD/CEO, MIEZ may shift; interchange the designation on the same or adjoining land

2.2.2 Land use zones

(1) Commercial and amenities zone:

- (a) The following uses may be permitted in commercial and amenities zone
 - i. Wayside amenities such as retail outlet, restaurant and fuel station
 - ii. Commercial facilities such as office space, star hotel, cafe centre, shopping mall, etc.
 - iii. Social facility such as social centre, women's association centre
 - iv. Multi level car parking
 - v. Health facility such as multi speciality hospital, emergency block.
 - vi. Residential facilities such as foremen's quarters, workmen's quarters, hostel
 - vii. Recreational facilities such as athletic track, indoor stadium etc
 - viii. Educational facilities such as vocational training centre, academic support facility, admin block etc
 - ix. Community facilities such as exhibition complex, seminar & conference hall, food joints, technical display halls, outdoor exhibit area etc
 - x. Any other facilities as deemed fit by the MPD/CEO, MIEZ.
- (b) The plot extent, plot frontage floor space index, setbacks etc. shall be regulated as given below:

(x) Minimum plot extent	:	1500 sq.-m.
(xi) Minimum plot frontage/width	:	25m.
(xii) Maximum FSI	:	1.50
(xiii) Maximum plot coverage	:	50%
(xiv) Maximum height	:	24m

- (xv) Minimum width of green buffer
 - c. Road side : 4m
 - d. Other side : 2m
- (xvi) Minimum front set back space : 18m
- (xvii) Minimum side set back space : 4m
- (xviii) Minimum rear set back space : 6m

(2) Residential

- (a) In the residential use zone, buildings or premises shall be normally permitted only for residential activity.
- (b) For all types of housing, the minimum width of green buffer shall be 1m
- (c) The extent of plot size, plot frontage, floor space index, plot coverage, height and set back lines for residential uses shall be regulated as given below:

- **Family house H1**

- (i) Minimum extent of Plot : 400 sq.m.
- (ii) Minimum plot frontage/width : 15 m.
- (iii) Allowable F.S.I : 1.0
- (iv) Maximum plot coverage : 50 %
- (v) Maximum height : As per the number of floors
- (vi) Front set back : 3 m
- (vii) Side set back : 2 m
- (viii) Rear set back : 3 m

Note: In semi-detached type housing, side setback can be 0 (zero) on the closed side

- (ix) Minimum parking requirements : 1 per 200 sq.m. of built-up area or 1 per dwelling unit, whichever is higher
- (x) Frontage / access requirements : Access through service

- road/ secondary road
or any lower category
road
- (xi) Maximum storey : 2

• **Family house H2**

- (i) Minimum extent of Plot : 500 sq.m 600sq.m,
700 sq.m.
- (ii) Minimum plot frontage/width : 16m, 18m, 18m.
- (iii) Allowable F.S.I : 0.9/0.8/0.7
- (iv) Maximum plot coverage (%) : 45/40/35
- (v) Maximum height : As per the number of
floors
- (vi) Front set back (m) : 3/2/3
- (vii) Side set back (m) : 5/2/3
- (viii) Rear set back (m) : 5/2/3
- (ix) Minimum parking requirements: 1 per 200 sq.m. of
built-up area or 1per
dwelling unit,
whichever is higher
- (x) Frontage/ access requirements : Access through service
road/secondary road or
any lower category
road
- (xi) Maximum storey : 2

• **Family house H3**

- (i) Minimum extent of Plot : 900 sq.m.
- (ii) Minimum plot frontage/width : 20m.
- (iii) Allowable F.S.I : 0.6
- (iv) Maximum plot coverage (%) : 30
- (v) Maximum height : As per the number of
floors
- (vi) Front set back (m) : 6

- (vii) Side set back (m) : 2
(viii) Rear set back (m) : 3

Note: In semi-detached type housing, side setback can be o (zero) on the closed side

- (ix) Minimum parking requirements: 1 per 200 sq.m. of built-up area or 1 per dwelling unit, whichever is higher.
(x) Frontage / access requirements : Access through service road / secondary road or any lower category road
(xi) Maximum storey : 2

• **Residential apartments A1**

- (i) Minimum extent of plot : 400 sq.m.
(ii) Minimum plot frontage/width : 16m.
(iii) Allowable F.S.I : 1.5
(iv) Maximum plot coverage (%) : 50
(v) Maximum height : As per the number of floors
(vi) Front set back (m) : 6
(vii) Side set back (m) : 2
(viii) Rear set back (m) : 1.5
(ix) Minimum parking requirement : 1.5 per dwelling unit.
(x) Frontage / access requirements : Access through service road / secondary road or any lower category road
(xi) Maximum storey : 3

• **Residential apartments A2**

- (i) Minimum extent of Plot : 600 sq.m.

-
- | | | |
|------------------------------------|---|---|
| (ii) Minimum plot frontage/width | : | 18m. |
| (iii) Allowable F.S.I | : | 2.0 |
| (iv) Maximum plot coverage (%) | : | 60 |
| (v) Maximum height | : | As per the number of floors |
| (vi) Front set back (m) | : | 6 |
| (vii) Side set back (m) | : | 2 |
| (viii) Rear set back (m) | : | 2 |
| (ix) Minimum parking requirements: | | 1.5 per dwelling unit, no on- street parking |
| (x) Frontage/access requirements | : | Access through service road/secondary road or any lower category road |
| (xi) Maximum storeys | : | 5 |

• **Residential apartments A3**

- | | | |
|------------------------------------|---|---|
| (i) Minimum extent of plot | : | 900 sq.m. |
| (ii) Minimum plot frontage/width | : | 20m. |
| (iii) Allowable F.S.I | : | 2.5 |
| (iv) Maximum plot coverage (%) | : | 60 |
| (v) Maximum height | : | As per the number of floors |
| (vi) Front set back (m) | : | 6 |
| (vii) Side set back (m) | : | 2 |
| (viii) Rear set back (m) | : | 3 |
| (ix) Minimum parking requirements: | | 2 per dwelling unit, no on- street parking |
| (x) Frontage/ access requirements | : | Access through service road/secondary road or any lower category road |
| (xi) Maximum storey | : | 8 |

(3) Mixed use:

- a. The primary purpose of this zone is to provide land for combined uses of residential and commercial in areas of high density development potential.
- b. Use of land in Mixed Use Zone shall avoid undue and inefficient extension of urban infrastructure, and a “leap frog” development pattern.
- c. Subdivision of land smaller than 1000 sq.m shall not be allowed.
- d. Conditional uses in Mixed Use Zone shall neither create an excessive demand on roads or physical infrastructure, nor degrade the living environment in any area.
- e. Uses / activities such as – agriculture, commercial, social facilities, infrastructure / utilities network and facilities, including approved land use conversions and land use commitments as per upazilla plans. These shall be allowed to continue, with further expansion / improvement as permissible in this zone and for the needs of the local population. Existing industrial, warehousing uses shall not be allowed to expand in this zone.
- f. Residential use with Retail commercial use such as shops, showrooms, Restaurants, Professional Offices, Banks are permitted in this zone.
- g. Home businesses (example: tailoring, beauty parlors); family clinics / maternity homes / diagnostic laboratories; fitness centers; Petrol Station (with/without service facility); Professional Training Facilities, Higher / Professional Education Facilities, Health Facilities, Entertainment, Social and Cultural Facilities, Government Offices, Mosques, Embassies / Consular Offices, etc. are some of the permissive activities in this zone.
- h. Any kind of obnoxious and hazardous activities, ware housing, industrial, truck terminal, mining, quarrying, waste disposal, etc. are not allowed in this zone.
- i. Any use / activity which shall not cause damage to the primary use / activity and which is not included under the non permissible uses / activities, for a maximum continuous duration of not more than 60 days in a year, with special permission from the concerned authorities.

(i) Minimum extent of plot	:	600 sq.m.
(ii) Minimum plot frontage/width	:	18 m.
(iii) Allowable F.S.I	:	2.5
(iv) Maximum plot coverage (%)	:	40
(v) Maximum height	:	24 m

(vi) Minimum width of green buffer		
a. Road side	:	4m
b. Other side	:	2m
(vii) Front set back (m)	:	6
(viii) Side set back (m)	:	3
(ix) Rear set back (m)	:	3
(x) Minimum parking requirements	:	1.0 per 20 sq.m of built up area, no on-street parking
(xi) Frontage / access requirements	:	Access through service road/ secondary road or any lower category road
(xii) Maximum storey	:	G+Mezzanine+5

(4) Public and semi public use zone:

- a. The primary purpose of this zone is to provide land for public and semi public uses / activities serving the community at large and towards improvement of quality of life through physical, mental and spiritual well being of the individuals.
- b. Use of land in public and semi public use zone shall avoid undue and inefficient extension of urban Infrastructure, and a “leap frog” development pattern.
- c. Subdivision of land smaller than 2000 sq.m. shall not be allowed.
- d. Conditional uses in public and semi-public use zone shall neither create an excessive demand on roads or physical infrastructure, nor degrade the living environment in any area.
- e. Uses / activities such as – residential, agriculture, social facilities, infrastructure / utilities network and facilities, including approved land-use conversions and land-use commitments as per Upazilla plans. These shall be allowed to continue, with further expansion / improvement as permissible in this zone and for the needs of the local population. Existing industrial, warehousing uses shall not be allowed to expand in this zone.
- f. General education schools, higher and professional education buildings, hospitals, polyclinics, mosques, public / semi-public / private office buildings, police-fire stations, entertainment social- cultural facilities,

tourism-related facilities, research institutions, embassies / consular offices are some of the permissible activities in this zone.

- g. There are some conditional uses/activities in this zone such as buildings of Public Utility and Services, assembly buildings including swimming pool, auditorium, club, stadium, theatre, etc., open spaces proposed for large gatherings such as party and marriage ceremonies, amusement and recreational activities, bus-station / terminus, hostels, staff quarters, banks, restaurants, canteens, sports complex, play-grounds, gymnasium, library, etc.
- h. Any kind of obnoxious and hazardous activities, ware housing, industrial, truck terminal, mining, quarrying, waste disposal, etc. is not permitted in this zone.
- i. Any use / activity which shall not cause damage to the primary use / activity and which is not included under the non-permissible uses / activities, for a maximum continuous duration of not more than 60 days in a year, with special permission from the concerned authorities.
- j. Traffic Impact Assessment must be carried out for exact definition of access and parking requirements. All parking requirement shall be satisfied inside the plot through basement / ground / podium-level parking and multi level car parking facility operated by electro-mechanical technology.
- | | | |
|----------------------------------|---|---|
| (i) Minimum extent of plot | : | As per physical planning standards defined for various categories and level of facilities. |
| (ii) Minimum plot frontage/width | : | 20 m. |
| (iii) Allowable F.S.I | : | 1.5 (No FSI shall be allowed for play-grounds, parks etc. passive uses attached to plots in this zone. Parking facilities shall not be counted towards FSI consumption) |
| (iv) Maximum plot coverage (%) | : | 40 |
| (v) Maximum height | : | 15 m |

- (vi) Minimum width of green buffer
- a. Road side : 4m
 - b. Other side : 2m
- (vii) Front set back (m) : 6
- (viii) Side set back (m) : 3
- (ix) Rear set back (m) : 3
- (x) Minimum parking requirements : As per PPS defined for various categories and levels of facilities. (This shall be separately confirmed through a Traffic Impact Assessment Study for each facility.) This shall serve the needs of staff, users (students, patients, etc.) and visitors. No on-street parking. Off-street parking shall be provided if necessary.
- (xi) Frontage/ access requirements : Access through service road/secondary road or any lower category road, depending on the category and level of facility.
- (xii) Maximum storey : Basement+G+ Mezzanine+3

(5) Transportation use zone:

- a. The primary use of lands in this zone shall be to serve the transportation requirements of passengers and goods by any mode / means.
- b. Use of land in transportation zone shall avoid undue and inefficient extension of urban infrastructure, and a “leap-frog” development pattern.

- c. Use of land in transportation zone shall neither create an excessive demand on roads or physical infrastructure, nor degrade the living environment in any area.
- d. Uses / activities such as – residential, commercial, industrial, agriculture, social facilities, infrastructure / utilities network and facilities, shall be allowed to continue, without further expansion / improvement till such time that the operation of the designated transportation use is not constrained. When required, such existing uses / activities shall be relocated to their appropriate land-use zone/s through coordination among the concerned authorities.
- e. Roads, railways, railway station, bus depots, bus terminals, helipad, and petrol filling and service stations including provisions for parking, waiting, loading, unloading, ticketing, etc. related to the primary function of the plot are some of the permissible activities inside the zone.
- f. Retail commercial uses, eating facilities, library, dormitories (not allowing over-night accommodation), etc. for serving the transit passengers and operators. Service and repair facilities for vehicles / vessels utilizing the transport facility. Fuel station, with/ without service facility are also permitted under some conditions.
- g. Residential, public / semi-public uses, any kind of obnoxious and hazardous activities, ware-housing, industrial, mining, quarrying, waste disposal, etc. uses / activities not included
- h. Any use / activity which shall not cause damage disturbance to the primary use of the plot, for a maximum duration of not more than 14 days, with special permission from the concerned authorities.

(6) Utilities zone:

- a. The primary use of lands in this zone shall be to serve the physical infrastructure requirements of community and land uses.
- b. Use of land in utilities zone shall neither create an excessive demand on roads or physical infrastructure, nor degrade the living environment in any area.
- c. Existing uses / activities such as – residential, commercial, industrial, social facilities, shall be allowed to continue, without further expansion / improvement till such time that the development of the designated utilities use is not initiated. When required, such existing uses / activities shall be

relocated to their appropriate land-use zone/s through coordination among the concerned authorities.

- d. Facilities related to physical infrastructure, such as, generation facilities, pumping stations, treatment plants, disposal sites, etc. are permitted.
- e. Accommodation facilities for essential staff. Service and repair facilities; Storage yard of material, equipment, machinery, etc. related to the physical infrastructure are permitted under conditional basis.

(7) Green zone:

Is an area to be used exclusively for the development of gardens, play fields, Helipads and club houses Utilities and services including disposal of treated water shall be permitted in the green zone along with any other ancillary structure as decided by the MPD/CEO, MIEZ.

Open spaces are the lungs of the society. Advantages of provision of Open spaces are multifold – from the physical, environmental and spiritual considerations. Open spaces, in the form of formal uses like parks and gardens are developed by local authorities.

Table 6: Physical Planning standards (PPS)

Facility	Location	Catchment population	Site area (ha)
Amenity open space	Local centre	500-5000	0.02
Children’s play area	Local / town centre	2000-5000	0.10-0.25
Public garden	District / town centre	10000-20000	2-3
Formal public park	Regional / town centre	20000-50000	2.0

Overall, provision of open spaces should be 0.32 ha per 1,000 populations

(8) Governing set back and height conditions

- (d) When different open spaces/ widths are provided for under these regulations the largest of them shall prevail except when specifically provided otherwise.
- (b) When a building abuts more than one street the setbacks from each of them shall be such as if the building were fronting each such street.

- (e) Every open space whether interior or exterior shall be kept free from any erection there on and shall remain open to sky except the feature indicated in these regulations.
- (f) Minarets, dooms, antennas, telecom towers, etc, steeples, flag masks, water tanks, architectural features or similar structures shall not be included in the height of the building. However, specific permission of the MPD/CEO, MIEZ shall be obtained for the above mentioned structures.

2.2.3 Layout and land sub division

If circumstances warrant the preparation of lay out or sub division then the applicant shall submit the proposal to the MPD/CEO, Mirershori Economic Zone to that effect, the lay out or sub division would be governed by the rules as described below:

- a) The MPD/CEO, MIEZ may further sub-divide a plot in the lay-out plan within the boundaries of the original plot and confirming to the zoning provisions, ensuring that the plots can be developed in conformity with these regulations
- b) The minimum width of the access to any sub-divided plot shall be 10.0m
- c) The minimum extent of the plot shall be 1500 Sq.m

2.2.4 Ingress / egress points

Ingress / Egress Points for vehicular traffic access from individual plots to the road. There should be minimal direct access from the major roads. The minimum distance of Ingress / Egress points from a road junction shall be at least 20.0m.

Table 7: Number of ingress / egress points

Plot size	Number of points
Up to 8095 sq.m	1
8095 to 16190 sq.m	1 (or 1 Ingress + 1 Egress)
16190 to 40470 sq.m	2
Above 40470 sq.m	3

2.2.5 Temporary constructions:

The MPD/CEO, MIEZ may grant permission for temporary construction for a period not exceeding six months at a time in the aggregate not exceeding for a period of three years. Such permissions may be given by him for the construction of the following namely:

- (1) Structures for protection from the rain or covering of the terraces during the monsoon only;
- (2) Structures for godowns / storage of construction materials within the site;
- (3) Temporary site offices and temporary guard room shelters within the site only during the phase of construction of the main building;
- (4) Structure for exhibitions etc,;
- (5) Structures for storage of machinery, before installation, for factories in industrial lands within the site;
- (6) Structures for educational and medical facilities within the site of the proposed building during the phase of planning and constructing the said permanent buildings;
- (7) Construction of infrastructures like, steel structure, rebar/ tankage fabrication yard, pre casting of pipes, concrete units etc.

Provided the temporary structures shall be demolished within a period of one year from the date of completion of erection unless specifically permitted to remain by the MPD/CEO, in writing.

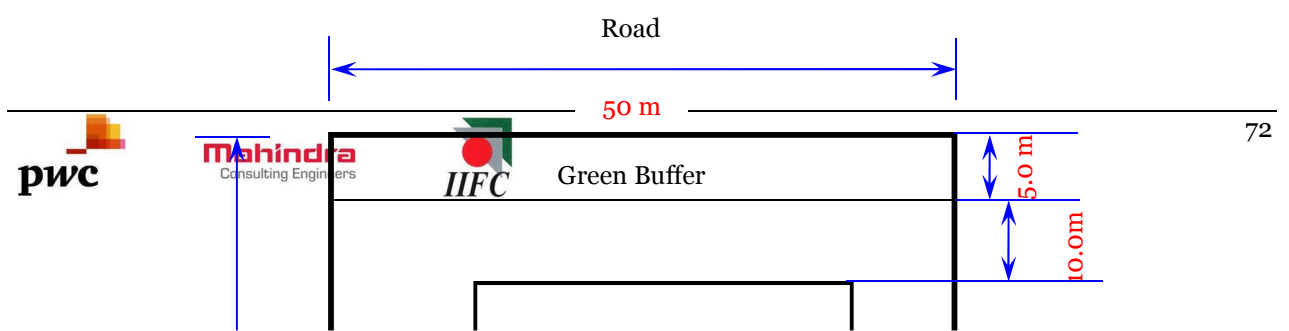
2.2.6 Electric sub-station

The sub-station shall be constructed in such a manner that it is away from the main building at a distance of at least 3m and in general does not affect the required set back spaces. It shall be adequately covered and look elegant.

2.2.7 Green buffer

In addition to the front setback a green buffer is to be left in the front. It is a strip of land strictly reserved for tree planting, landscaping and turfing. No other uses shall be permitted except for sign post, lamp post, small guard houses and bin points.

Diagrammatic example of building coverage and the requirement of buffer zones is shown in the exhibit below:



Plot area	=	5000 sq.m.
Built-up area	=	2500 sq.m.
Maximum building coverage	=	50% of the site

The landscaping takes into consideration, the topography of the land, the local flora and fauna, the quality of the soil and other such factors.

These plants generally adapt well to the local climate, consume less water and also require less maintenance. There are some plants and shrubs which can be planted in these green buffers. An illustrative list of such species is provided in this section.



Royal Palm (Roystonea Regia)

Truly an aristocrat of the plant kingdom, this palm makes a memorable impression wherever it is grown. Growing up to 15 – 18 meters, with a straight grey smooth stem bulging slightly at the middle, this is a neat tree without any problem of fallen leaves and seasonal changes.



Tamarind Tree -Tamarindus Indicus

The tamarind is a large tropical tree with a short massive trunk, ferny pinnate leaves, small yellow flowers and fat reddish brown pods. The tree can get 90 ft tall but is usually less than 50 ft. Tamarind is a slow growing tree that, once established, needs no attention at all.



Pink trumpet-tree (Tabebuia Rosea)

An evergreen tree with shiny leaves and very light pink flowers. The foliage and flowers are sparse. The flowers are large funnels shaped and the flowering period is long. It is an attractive tree by its shape and placement of branches.



Kigelia Pinnata

A large evergreen tree, with flowers hanging on very long stalks from the branches. The fruits are large and cylindrical and hang on the tree for a very long time.



Sterculia Foetida

It is called the tropics most glorious flowering tree. It is a large tall tree, with horizontal branches in whorls. The flowers are vivid scarlet and borne copiously all over the shallow, domed crown.



Gulmohar Tree (Delonix Regia)

A common avenue tree with gorgeous red or reddish orange flowers.



Acacia Tortilis

Flowers are small and white, highly aromatic and occur in tight clusters. Seeds are produced in pods which are flat and coiled into a spring like structure.



Rain tree (Albizia Saman)

Saman is a wide-canopied tree with a large symmetrical crown. It usually reaches a height of 25 m (82 ft) and a diameter of 40 cm. The leaves fold in rainy weather and in the evening



Buffalo grass

Buffalo grass is a native turf grass. Its tolerance to prolonged droughts and to extreme temperatures together with its seed producing characteristics enables buffalo grass to survive extreme environmental conditions. It is a low growing, commonly only 8 to 10 inches high, warm season perennial grass. Individual leaf blades may reach 10 to 12 inches in length, but they fall over and give the turf a short appearance

- Note: 1. An important observation of the type of roots must be made before deciding the type of trees, because if the roots tend to branch along its width, it may affect the infrastructural stability**
- 2. Each plot should maintain a minimum of 10% of the total area as greenery space**

2.2.8 Features permitted in open spaces

- (1) Certain features may be permitted in the green buffer and front open spaces as enumerated below:

Table 8: Features permitted in open spaces

Siting within	Ancillary structures allowed
Green buffer and front open space	<ul style="list-style-type: none"> • Guard houses • Garbage points • Flag and Lamp poles • Meter compartments • Sitting Benches • Fountains • Sign posts / boards
Front open space	<ul style="list-style-type: none"> • Gas pressure regulator kiosks • Above ground electricity boxes • Fenced up area and electric sub station • Below ground structures • Car porches • Automated teller machines

- (2) Features permitted in the side or rear open space:

Covered parking spaces, suction tank, pump room, electric meter room or sub-station, garbage shaft, space required for fire hydrant, electrical and water fittings, water tank, dust-bin, etc, provided there is a clear open space of 4.5 m all around and 6.0 m between building blocks for free movement of vehicles.

2.2.9 Floor space index / floor area ratio computation:

- (1) The following shall be excluded from the computation of FSI/FAR
- (a) The areas of structures permitted in the green buffer and set back spaces
 - (b) Stair cover over staircase on top floor;

- (c) Machine room from lift on top floor as required for the lift machine room installation

Note: The shaft provided for lift, shall be taken for covered area calculations only, on one floor.

- (d) Rockery, well and well structures, plant, nursery, water-pool, swimming pool (if uncovered), platform round a tree, water tank, fountain, bench, ramps, compound wall, gate, slide, steps outside building domestic washing place, swing fire escape staircase, overhead water tank on top of buildings.
- (e) Drainage culvert, conduit, catch-pit, gully pit, chamber, gutter culvert on drains.
- (f) Basement floors used as parking space, store room, air-conditioning plant room.
- (g) Area of fire escapes stairways and cantilever fire escape passage according to the Fire Officer's requirements.
- (h) Refuge area.
- (i) Areas covered by service ducts, pump rooms, electric substations, niches up to 1 m. depth below window sill, passages and additional amenity of lift and/or staircase beyond those required under the Regulations with the permission of the MPD/CEO.
- (j) Area of a separate letter box on the ground floor of residential and commercial buildings with one or more storey to the satisfaction of the Project Director.
- (k) Areas covered with 1.5 m. projections in the marginal open space in the form of shelter for bicycles/scooters.
- (l) Areas covered by :
- (vi) Lofts
 - (vii) Rooms
 - (ix) Porches
 - (x) Canopies
 - (xi) Electric sub stations
 - (xii) Service floor of height not exceeding 2.5 m. with the special permission of the MPD.

Note: where the permissible FSI has not been exhausted in the

case of existing buildings and cases decided by the earlier planning authority/ Upazilla, prior to coming into force of these Regulations, the exclusion from FSI computation as in these Regulations will be available for construction of the balance potential.

- (2) The floor area ratio may be increased by 20% for the following services:
- Basements or cellars, underground car parks, storerooms and air-conditioned plant room.
 - Ancillary buildings, such as electric substation, guardhouse, pump room and garbage centers.
 - Staircase room, lift room above the topmost storey, architectural features, chimneys and elevated tanks.

2.2.10 Parking standards

1. To facilitate adequate circulation within the plots parking space for should be provided within the plots. The minimum parking standards to be followed are as under:

(a) Car parking:

- i. Residential areas: One car park at least for every residential unit (flat) or a single family residence (villa). Ten percent of the total calculated car park area shall be provided additionally for visitor's parking area in addition to the area required as per flat area.
- ii. Commercial and commercial-residential area: One car park, atleast, for every flat, office or shop. If the area or shop exceeds 100 sq.m. an additional car park shall be provided for every additional 50 sq.m.
- iii. Cinemas, Theatres and entertainment centers: One car park at least for every 15 seats.
- iv. Clubs and similar facilities: One car park at least for every 12 sq.m of the covered area.
- v. Five star hotels: A car park for every 3 beds
- vi. Four star hotels: A car park for every 5 beds
- vii. Three star hotels: A car park for every 10 beds

Note: Plot area 200 sq.m in unplanned areas, inaccessible plots and plots that have special planning conditions are excluded from the conditions set for car parks.

- viii. The dimension of car parks (for private areas) whether on road sides or the areas mentioned above shall be as follows:
 - o Length: 5 m
 - o Width: 2.40 m

- ix. The minimum width of paths within car parks is as follows:
- 3 m if the parking is parallel to the path
 - 3.5 m if the parking makes an angle of 45° with the path
 - 6 m if the parking is at a right angle with the path.

If the width of parking area for each car is increased by 25%, the above width of paths may be reduced by 18%, maximum.

- x. The dimensions of parking for heavy duty vehicles such as trucks shall be determined according to the specifications of the international code of practice.
- xi. Parking areas in covered and multi-floor garages area planned according to the specifications of international code of practice.
- xii. When the minimum limit for paths within car parks is applied, traffic shall be in one direction to facilitate entrance and exit.
- xiii. If parking cannot be provided within the legal boundaries of the plot, for any reasons, it may be permitted to use the ground floor for parking provided that the height of the floor from the ground to the slab of the roof is 225 cm. But, that height shall not be included in the permitted heights of buildings. Thus the location of columns and smooth entrance and exit of cars should be considered carefully. The same applies for residential buildings where the number of units or flats is more than seven.
- xiv. Educational Institutions:
1. Floor area less than 100 sq.m - Nil
 2. Floor area above 100 sq.m but less than 1000 sq.m. of floor area or part thereof - one car space for every 200 sq.m.
 3. For every additional 100 Sq.M. or part - one car space thereof over 1000 Sq.m.

Note: At least 25% of the total parking space shall be provided in the part of the site abutting the road for parking/stopping of vehicles.

- xv. Hospitals & nursing home one car space for every 15 beds or part thereof. One extra area for every 100 Sq.m. of non-bed space in the Hospitals and Nursing Homes.

2. **Radius:** Minimum inside radius of lane 4.5 m

3. Gradient

- o Preferred gradient 4% (1 in 25)
- o Absolute maximum gradient 5% (1 in 20)

4. **Head room:** In those parts of a building (above or below ground floor level) used or intended to be used for the parking of wheeled vehicles, the minimum clear height to such part of the building shall be not less than 2.4m. For lorry parking the minimum heads room shall be 3.5m.

5. General

- vi. Each parking space shall have a minimum area of 16m² which is readily accessible at all times for parking and the removal of motor vehicle, without the necessity of moving any other vehicle.
- vii. Parking facilities shall be provided with suitable lighting facilities.
- viii. The surface of the parking area of all parking facilities and all entrances and exits to such parking facilities shall be graded and drained and made of asphalt or concrete.
- ix. Every parking lot with more than 15 spaces shall have adequate means of entrance and exit directly to an existing street and every such entrance shall be clearly marked by directional signs and divisions between parking spaces.
- x. The parking area shall be used for the parking of operative currently licensed vehicles only, and for vehicles used in operations incidental to the permitted use.

2.2.11 Fazard and elevation

1. The fazard and elevation of the buildings shall be as per the plan recommended by MIEZ.
2. It is important to set a theme for so that all design elements relating to landscaping and signage are coordinated to reinforce a sense of harmony for the Zone as well as the image of the developer. The level of finish and overall quality of materials used should convey a high-tech image and be able to identify and communicate information.
3. The company name and logo should be placed at the main entrance in accordance with the guidelines laid down by the Upazilla (if any).
4. Reasonable dimensions for logo and / or company name range between 3.0m to a maximum of 6.0 m. in length. The developer should set a color scheme and a set of standard signage design, and get the same approved by the MPD/CEO, Mirershorai Economic Zone.

2.2.12 Disaster management plan

2.2.12.1 Accident / emergency response plan:

- To deal with an emergency, the arrangement for immediate deployment or appointment of key personnel with their specific duties should be clearly described and mentioned.
- The emergency planning includes anticipatory action for emergency, maintenance and streamlining of emergency preparedness and ability for sudden mobilization of all forces to meet any calamity.
- Communication links that can be established with local such as police station, fire brigade, hospital etc., the authorities to meet the challenges of emergencies and ensure reliability of functions of communication system.
- Adequacy and efficiency of fire fighting and fire detection equipment, personal protective appliances, medical services and safety and emergency training is to be ensured.

- The residential developer should also maintain data on weather conditions of each season of plant area (temperature, wind speed, wind direction), for reference during emergency for evacuation purposes.

2.2.12.2 Accident / emergency response plan:

- Project plans should be approved by Directorate General of Fire Service and Civil Defence and the following aspects should be taken into consideration:
 - Emergency doors and exits in the various buildings/ factories.
 - Covering staircases and common areas with slippery-resistance
 - Installation of safety fences around the open corridor & spaces.
 - Natural or artificial ventilation in all parts of the building, particularly the divisions which require such ventilation, should be taken into consideration.
 - Location of first aid spots should be marked.
- It is necessary to indicate the fire systems as per the requirements of Directorate General of Fire Service and Civil Defence
- Approval of the detailed drawings of the project depends on the approval of the Directorate General of Fire Service and Civil Defence.

2.2.12.3 Communication:

- A public address (PA) system with loud speakers installed at vital installations or corners.
- The details of the communication arrangements should include having a direct line to the fire brigade. A periodic check of this system is recommended.
- The description of the tasks and responsibilities, reporting place, etc. for each key functionary should be, as far as possible, so drafted as to reduce the communication needs between the interacting groups.

2.2.12.4 Recovery procedure:

- The management could restore normalcy only when speedy actions on the earlier phases are initiated.
- Treatment of patients after the disaster due to psychological breakdown (operators/resident around facility).
- Assessment of damages and rectification.

- Incidents of Fire mainly caused due to overloading, short circuit etc. By doing modifications in the wall socket outlets the total amount of current drawn from all the sockets together could exceed the rated capacity of the internal wiring which leads to fire accidents. To avoid this, periodic inspection of the conditions of electrical circuit wiring, taking preventive action whenever needed and, install MCBs (Miniature Circuit Breakers), so that any short-circuit would result in immediate disconnection of the current flow.

2.2.12.5 Provision of first aid and fire-fighting appliances

- (c) First-aid firefighting equipment shall be provided on all floors including basements, lift rooms, etc.
- (d) The fire fighting appliances shall be distributed all over the building.

2.2.12.6 Fixed fire-fighting installations

Buildings shall be protected by wet riser, wet riser-cum down comer, automatic sprinkler, installation, high pressure water spray or foam generating system

2.2.12.6.1 Wet riser installations

- (a) The wet-riser shall be designed for zonal distribution ensuring that unduly high pressure does not develop in risers and hose pipe. In addition to wet-riser, wet riser-cum-down comer, first aid hose reels shall be installed on the floors of buildings above 24 cm. The first aid hose reel shall be connected to one of the female coupling of twin couplings of landing valves directly to the wet riser in the case of single outlet of the wet riser installations by means of adapter
 - i) Static water storage tank- A satisfactory supply of water for the purpose of fire fighting shall always be available in the form of an underground static storage tank with capacity specified for each building with arrangements of replenishments by main or alternative source of supply at 1,000 liters per minute. The static storage water supply shall be made available for immersion, repairs and inspection of suction hose etc. The covering slab shall be able to withstand a vehicular load of 18 tonnes. The domestic suction tank connected to the static water storage tank shall have an

overflow capable of discharging 2250 litres per minute to a visible drain point from which by a separate conduit the overflow shall be conveyed to a storm water drain.

- ii) To prevent stagnation of water in the static water storage tank, the suction tank of the domestic water supply shall be fed only through an overflow arrangement to maintain the level therein at the minimum specified capacity.
- iii) The static water storage tank shall be provided with a fire brigade collecting breaching with four 63 mm. dia (two of 63 mm. dia for pump with capacity 1,400 liters/ minute) instantaneous male inlets arranged in a valve box at suitable point at street level and connected to the static tank by suitable fixed pipe of not less than 15 cm. dia to discharge water into the tank when required at a rate of 2250 liters per minute.

2.2.12.6.2 Automatic sprinklers- Auto sprinklers shall be installed

- (a) In basements used as car parks except in apartment buildings and residential hotels if the area exceeds 500 sq.m.
- (b) In basements of multi-storeyed buildings used as car parks and for permissible essential services ancillary to a particular occupancy;
- (c) In any rooms or other compartment of a building exceeding 500 sq.m
- (d) In department stores or shops in an area exceeding total of 750 sq.m
- (e) In all non-domestic floors of mixed occupancy considered to constitute a hazard and not provided with staircase independent of the remainder of a building;
- (f) In godowns and warehouses as considered necessary;
- (g) In dressing rooms, scenery decks stages and stage basements of theatres.

2.2.12.6.3 Automatic high pressure water spray (emulsifying)

This system shall be provided for protection of indoor transformers of a substation in a basement area.

2.2.12.6.4 Carbon-dioxide (CO₂) fire extinguishing system

Fixed CO₂ fire extinguishing installation shall be provided on premises where water or foam cannot be used for extinguishing fire because of the special nature of the contents of the buildings/areas to be protected. Where possible, BCF installation may be provided instead of CO₂ installation.

2.2.12.6.5 Fire alarm system

All buildings mentioned below shall be equipped with fire alarm systems as given below:

- (a) Public purpose buildings above 15 m. in height and Business buildings above 24 m. in height
 - (I) Such buildings shall be equipped with a manually -operated electrical fire alarm system with one or more call boxes located at each floor. The call boxes shall be so located that one or the other of them shall be accessible to all occupants of the floor without having to travel more than 22.5 m.
 - (II) The call boxes shall be of the “break-glass” type without any moving parts where the call is transmitted automatically to the control room without any other action on the part of the person operating the call box.
 - (III) All call boxes shall be wired in a closed circuit to a control panel in the control room located as given in this rule so that the floor number where the call box actuated is clearly indicted on the control panel. The circuit shall also include one or more batteries with a capacity of 48-hrs norm, working at full load. The battery shall be arranged to be continuously trickle-charged from the electric mains.
 - (IV) The call boxes shall be installed that they do not obstruct the exit-way and yet their location can easily be noticed from either direction. The base of the call box shall be at a height of 1m. from the floor level.
- (b) All other buildings exceeding 24 m. height excluding those mentioned in

clause (a) Above

These buildings shall, in addition to the manually operated electrical fire alarm system, be equipped with an automatic fire alarm system. The latter shall be in addition to any automatic fire-extinguishing system installed in any particular occupancy in accordance with the rules.

Provided that, no automatic detector shall be required in any room or portion of a building, which is equipped with an approved installation of automatic sprinklers.

2.2.12.6.6 Using a fire extinguisher

Most extinguishers are based on PASS System.

- “PASS” is an acronym to remember the steps involved – Pull (the pin), Aim (the nozzle), Squeeze (the trigger), Swipe (sideways).
- “P” - Pull the Pin on the extinguisher. This pin is kept to prevent accidental discharge while carrying/transporting the extinguishers.
- “A” - Aim the nozzle of the extinguisher at the base of the fire. It’s very important that the discharge from the extinguisher is directed towards the base of the fire. Most people make the mistake of directing the extinguishing agent on the fire itself. That’s ineffective. The extinguishing agent should be directed at the base of the fire – where the burning material is located. That is the point, where the fire-triangle is established, which needs to be broken.
- “S” - Squeeze the trigger, so that the extinguishing agent starts flowing out of the cylinder, and, onto the burning material – at the base of the fire.
- “S” - Swipe the nozzle sideways to coat the entire burning material, with the extinguishing agent.

2.2.12.6.7 Precautions while fighting a fire

When fighting a fire:

- Always stay upwind: It protects you from heat, smoke etc. It allows you to go closer to fire – thus, being able to better direct your extinguishing agent. It

protects you from inhalation of poisonous gases, which might be given out during the fire.

- Keep under observation, even when the fire is extinguished. Smouldering particles can easily rekindle, thus, catching you off-guard.
- Pour extinguishing agent in adequate quantity, rather than small quantities. Doing it in instalments does not help. One discharge of 60 liters of water is not the same as two discharges of 30 liters each. E.g. If you have to pour 4 buckets of water, have the 4 buckets ready, and, pour all 4 buckets in one go. Instead, if you pour two buckets of water, refill them, and, pour again – it's not the same.

2.2.12.7 Precautions during chemical leaks / spill over

- Risks associated with chemicals and chemical industries include:
- Risks due to blast of certain equipments involved in large chemical plants, e.g. boiler etc.
- Risks due to leakage of chemicals wherever they are stored/transported/used in small quantities etc.

Sometimes, seemingly harmless chemicals can also turn out to be hazardous, after they come in contact with other chemicals. Depending upon the toxicity of the material involved the most common kinds of problems that might be caused due to a chemical leak / plant accident might include:

- Blast and explosion
- Irritation to eyes, throats etc.
- Pollution and/or poisoning of air, water-bodies etc.
- Impact on vegetation and animals (including fishes in water-bodies)
- Difficulty in breathing etc.
- Fumes
- Heat and/or fire etc.

Usually, chemical plants employ certain safety measures. The amount of safety measures employed by chemical plants is a function of:

- Risk and hazard associated with the specific chemical plants
- Local laws and regulations
- Vigilance level of local community

- Technical competence of the plant managers
- The company's own standard of ethics –vs- short-term profitability decisions etc.

2.2.13 Environmental management plan

Preparation of environmental management plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plans should indicate the details as to how various measures have been or are proposed to be taken including cost components as may be required. Cost of measures for environmental safeguards should be treated as an integral component of the project cost and environmental aspects should be taken into account at various stages of the projects:

- Conceptualization: preliminary environmental assessment
- Planning: detailed studies of environmental impacts and design of safeguards
- Execution: implementation of environmental safety measures
- Operation: monitoring of effectiveness of built-in safeguards

2.2.13.1 Key considerations for environmental management plan

- i. Regular monitoring of fugitive emissions shall be conducted and any abnormalities reported for immediate corrective measures.
- ii. Regular monitoring of ambient air quality and noise in and around the site shall be conducted.
- iii. Regular monitoring of ground water quality and surface water quality shall be done.
- iv. Green belt plantation, maintenance, development of other forms of greenery such as garden nurseries shall be promoted.
- v. Regular inspections will be undertaken to assess erosion and sediment migration from topsoil stockpiles. Where unacceptable rates of erosion are identified, remedial works will be undertaken or the stockpile will be relocated.
- vi. Unauthorized clearing and removal of vegetation should be prohibited.
- vii. Normal means of dust suppression, including watering of roads, will be employed to minimize dust generation. Occupational dust levels will be monitored and managed as required

- viii. Stockpiles must not be located in or close to storm-water flow channels and surface water bodies
- ix. The size and area of stockpiles of soil will be minimized. Stockpiles that may be susceptible to erosion must be terraced, covered or have suitable erosion control measures such as silt fences
- x. Temporary cut off drains, bunding, and other sediment control measures such as sediment traps, silt fences and sediment basins and buffer strips will be used to capture sediments and nutrients during construction.
- xi. Access routes will use established roads wherever possible
- xii. The moisture content of access road surface layers will be maintained through routine directional spraying or the use of an appropriate dust suppressant as agreed with the authorities
- xiii. Access road verges will be planted with vegetation (if possible) to reduce erosion potential.
- xiv. Off road driving and the creation of new roads/tracks will be avoided wherever possible.
- xv. Fuel, lubricant and waste oil storage, dispensing and operating facilities must be designed and operated in such a way that contamination of soil and water is avoided as far as practicable.
- xvi. Vehicles in use on site are to be well maintained and operated to ensure that no accidental spillage or loss of fuel or lubricants occurs.

2.2.14 General

1. No overhead lines for water, electricity, telephone, and multimedia shall be allowed within the plot. They shall all be laid below ground level. However, water sprinkler systems, may be allowed above ground level subject to fire safety requirements.
2. No plot owner or occupier shall erect any advertising sign board within his premise or building or on the roads without the approval of the MPD/CEO, MIEZ.
3. No. plot owner or occupier shall connect any motor directly to MIEZ water main for withdrawal of water.
4. No plot owner or occupier shall sink any open well or bore well for drawl of water without the specific permission of the MPD/CEO, MIEZ.
5. No plot owner or occupier shall use any equipment, which will cause frequency interference with the equipments used by other occupants in the Zone.

6. No plot owner or occupier shall dump or throw any solid waste material on the road. He shall store such materials in the dust bins within the plot and transfer them to the collection staff authorized by MIEZ.
7. No plot owner or occupier shall erect any speed breaker on the road(s) abutting his plot,
8. No plot owner or occupier shall encroach on the pavement or any portion of the road land in front or rear or side of his plot.
9. No parking or permanent stationing of service vehicles, lorries/ trucks and trailers shall be allowed at the road side outside the plot.

Part - III

General building requirement

3.1 Processing Area(PZ)

Development / redevelopment of any land, building or premises the intended use in processing zone shall conform to the following requirement

3.1.1 Requirement of plinth

The height of plinth shall not be less than 45cm above the surrounding ground level. In areas subjected to flooding, the height of the plinth shall be at least 60cm. above the highest flood level or greater than 60cms.

Interior courtyards covered parking spaces and garages: these shall be raised at least 15cm. above the surrounding ground level and shall be satisfactorily drained. The plinth height of shops may be 30 cm.

3.1.2 Requirement of habitable room

(a) **Size and width:** The minimum size of a habitable room shall not be less than 9.0 Sqm. with the minimum width of 3.00 meters.

(b) **Height:** The minimum height of a habitable room shall not be less than 3.00m to 4.00m maximum for ground floors and 2.80m to 3.60 m for upper floors.

(c) **Other requirements:**

- (i) The architectural design of the building shall conform with the social norms of the Bangladeshi culture in terms of the location of various parts of residential unit e.g. The main entrance should be located in such a way that does not expose the house or interfere with the privacy and freedom of internal movement of members of the family i.e., from the living room

to the bedroom or to various service facilities in the house.

- (ii) Privacy within the residential unit shall be maintained whether the building is for private residence or for investment. i.e., a multi floor apartment
- (iii) Boundary walls of any building, walls separating two residential units or separating the living room from the guest room shall not be less than 20cm thick so as to prevent or reduce the emission of sound.
- (iv) Rooms should be provided with windows with at least 7% of the ground area of a residential room for ventilation and natural lighting. These should open on a street, road or internal court yard
- (v) Glass (laminated or solar control or reflective) shall be used in all windows (bedrooms, living rooms and offices) of multi floor buildings with more than four floors (or flats or offices of more than 11 units and public buildings)

3.1.3 Kitchen

- (i) **Size:** The area of the kitchen shall not be less than 5.5 sq. m. with a least dimension of 2.00 m, but in a two room tenement the minimum area of the room to be used as a kitchen shall be 7.5 sq.m
- (ii) **Height:** The height of a kitchen shall be the same as a habitable room
- (iii) Other requirements: Every room to be used as a kitchen shall have:
 - a) Unless separately provided in the pantry , the means for the washing of kitchen utensils which shall lead directly or through a sink to a grated and trapped connection to the waste pipe;
 - b) On an upper floor an impermeable floor ;
 - c) At least one window for ventilation and natural lighting not less than 6% of

the ground area of the kitchen or stair well in the same floor shall open directly on to an interior or exterior space, but not into a shaft.

3.1.3.1 Requirements regarding pantries

A pantry shall have:

- i. A floor area of not less than 3 sq. m. with the smaller side not less than 1.4 m.
- ii. A sink for the cleaning of kitchen utensils which shall drain through a grated and trapped connection to the waste water pipe where sewerage system is not available and the grated connection shall be made to the surface drain made concrete/cemented leading to soak pit or other approved system of disposal; and
- iii. An impermeable floor and an impermeable dado 0.9 m. high

3.1.4 Bathrooms and water closets

- (a) **Size:** The area and floor dimension of a bathroom or a water closet shall not be less than the values given below:-

Type	Area (in sq. m.)	Shortest side (in meters)
Bathroom	4.00	1.80
Water closet	1.50	0.9

- (b) A sanitary block consisting of a bath room and water closet for each wing of each floor at each stair case level of the building for use of domestic servants engaged in the premises may be permitted by the Authority.

(c) Other requirements

- (i) Every bathroom or water closet shall be so situated that at least one of its walls shall abut on to an exterior open space with a window opening not less than 5% of the ground area of a bathroom and toilet.
- (ii) No bathroom or water closet shall be situated directly over any room other than another water closet, washing place, bathroom, or terrace unless the said floor is made impervious with adequate waterproofing treatment.

However in no case shall a water closet or a bathroom be provided over a kitchen or a place storing food.

- (iii) Toilets and bathrooms may be located next to dining rooms provided that the access is not directly through these rooms.
- (iv) It shall be enclosed by walls or partition and the surface of every such wall or partition shall be finished smooth with an impervious material to a height of not less than 1.5 m above the floor of such a room.
- (v) Every bathroom or water closet shall have the platform or seat or flooring made of watertight non-absorbent material.
- (vi) It shall be provided with a impervious floor cover sloping towards the drain with a suitable grade and not towards a veranda or any other room
- (vii) No room containing water closet shall be used for any purpose except as a lavatory.
- (viii) Every water closet shall be provided with a flushing cistern of an adequate capacity attached to it.
- (ix) It shall be so situated that at least one of its walls shall open to external air
- (x) The number of toilets in commercial buildings, offices and workshops is determined according to the following table:

S. No	Sex	No. of users	Sanitary units required	Remarks
1	Men	1-100	1 Toilet 1 hand washing basin for every 10 people	If there is no urinal
2	Men	Above 100	1 more toilet 1 and hand washing basin for every 20 people	If there is no urinal
3	Men	1-100	1 toilet to every 25 people (hand washing basin and 1 urinal for every 10 people)	If there are urinals
4	Men	Above 100	1 more toilet for every 40 people, 1	If there are

S. No	Sex	No. of users	Sanitary units required	Remarks
			urinal, 1 hand washing basin for every 20 people above 100	urinals
5	Ladies	1-100	1 toilet 1 hand washing basin for every 10 people	No urinal
6	Ladies	Above 100	1 more toilet and 1 hand washing basin for every 10 people above 100	No urinal

(xi) The minimum number of sanitary units required in public buildings is as follows:

1. Hotels

➤ Halls

- Toilet, 2 urinals, 2 hand washing basins for every 80-100 men
- 3 toilets, 2 hand washing basins for every 100 ladies

➤ Rooms

- 1 toilet, 1 hand washing basin, 1 bathroom basin for every 10 beds

2. Mosques

➤ 1 toilet, 4 water taps for ablution for every 100 men.

- (a) A separate area for ablution shall be provided and connected to the women place of prayer (i.e. 1 toilet and four water taps for ablution for every 100 ladies)
- (b) It is not permitted to build toilets and ablution facilities on the front side of the mosque or on the directional bearing of Kaaba/ Mecca. Ablution places and toilets shall be carefully determined taking into consideration the direction of winds and the possibility of entering the ablution place or toilet from outside and then to the mosque through an inside door

- (c) Ablution places (toilets in particular) shall have a high degree of privacy i.e. no one can see from outside through a door or window

3. Filling stations

- 2 toilets shall be built as part of the main building of a petrol filling station (toilets for workmen in the station are not included) one for men and the other for ladies. The men's toilets shall be provided with a hand washing basin and 2 urinals, the ladies with a hand washing basin only.

3.1.5 Doors

Doors shall conform to the following provisions in additions to the requirements of Fire protection

- (a) Width: The entrance door shall be 1.0 m. wide, minimum, width of bedroom door and similar doors 0.90m, kitchen door 0.80m, bathroom door 0.75m
(b) Height: The minimum height of a doorway shall be 2.10m high, measured form the ground floor level to the soffit of lintels/beams or slabs.

3.1.6 Acceptable types of screens

The use of duplex or reflective glass does not apply to windows with screens and windows within roofed balconies or those provided with enough architectural projection to give shade.

- a. Perforated wood screen or wood-grills to cover the upper half of the window opening with ventilation blinders used for the other half (subject to acceptable design). This should be framed and fixed to the aluminium window and glass at a reasonable distance.
- b. Wood blinders that open and close vertically or at an angle.
- c. Aluminium blinders with an insulation layer - This should be fixed to the window from outside (outside the aluminium frame). Blinders should open and close vertically and at an angle.

- d. Other types of screens that serve the same purpose may be used subject to approval of the concerned department provided that these are non-metallic.

3.1.7 Height of other buildings

- i) The height for workshops, store rooms and factories with sheds should be 8 m, maximum. (Heavy industries of special specifications may be excluded).
- ii) For Workshops and stores built in reinforced concrete, with no mezzanine, the height may be 4.5 m. minimum or 6 m. to 7 m. maximum (Heavy industries of special specifications are excluded provided that the building consists of ground floor only).
- iii) If the architectural design requires a visible reinforced concrete beam inside the roof of an office, shop or showroom, the projecting part of the beam should be 0.40 m. maximum when the minimum head-room measurement is applied. The reinforced concrete beam should not be visible within bedrooms in residential units.
- iv) International code of practice shall apply to public buildings (e.g. International and regional exhibitions, conference halls, theatres, cinemas and similar buildings if no particular conditions are specified). Sheds may exceed the limit of maximum height, subject to functional and structural requirements.
- v) Staircase room, water tank and air-conditioning equipment etc. on the roof of the buildings may exceed the maximum height of the building and shall be screened according to the Upazilla 's design or any other approved design. The parapet wall shall not be more than one meter and a half above the maximum height of the building. Domes decorations, ventilation towers, chimneys and minarets may exceed the maximum height of the building.
- vi) In Commercial Buildings Ground floor 4.00 m up to 4.75 m maximum in case there is no mezzanine. The measurements apply whether the ground floor is part of a multi-storey residential-commercial building or a one-storey commercial building.

3.1.8 Mezzanine floor

- (a) **Size:** The total area of a mezzanine floor shall not exceed 50 per cent of the area of show room or shop.
- (b) **Height:** The space for the mezzanine shall be connected to the showroom of shop and provided with a fence or rails, of minimum height of 0.9m.

The height of commercial mezzanine is determined according to the conditions specified for internal heights of buildings.

In commercial and commercial residential buildings, the minimum height of mezzanine is 2.60m to 3.00m and the minimum height of ground floor should be 6 m.

The construction of commercial mezzanines in industrial areas (workshops or factories) and warehouses shall be approved subject to the following conditions:

- (i) In workshops, factories and warehouses with sheds, it is permitted to have mezzanine area of 30% of the net area of workshops, factory or warehouse.
- (ii) In factories and warehouses, it is permitted to screen the space of mezzanine connected to the lower space with glass, perforated wood or aluminium.
- (iii) In workshops built of concrete material, a mezzanine, 25% of the net area of workshop, shall be permitted

(c) Other requirements:

- (i) The mezzanine shall only be used for the direct service of the show-room or shop,
- (ii) The projection of mezzanine beyond the horizontal floor plan of the showroom or shop is not permitted. Special cases may be excluded if approved by concerned authorities.
- (iii) The mezzanine shall have ventilation and natural lighting.
- (iv) The mezzanine floor is not closed so as to make it possible to be converted into unventilated compartment.
- (v) Access to the mezzanine floor is from the respective room only.
- (vi) It is so constructed as not to interfere under any circumstances with the

- ventilation of the space above and under it.
- (vii) No part of it is put to use as a kitchen.
 - (viii) It is at least 1.8m away from the front wall of the room.

3.1.9 Roof floor

Usage and conditions of the Roof Floor are as follows:

- (i) The roof floor is used to accommodate service facilities in the building such as the staircase room, water tank air conditioning equipment, lift engine room, central TV antenna/ dish etc.
- (ii) A pergola of permanent or temporary material occupying about 10% of the roof area may be permitted provided that its area is limited up to 40 sq.m maximum whatever the area of the roof. The pergola should be 2.30 m. height, measured from the ground of the floor to the lower soffit of concrete or wooden beams.
- (iii) Rooms on the roof are not permitted in buildings in industrial areas only a stair room is allowed.

3.1.10 Open to sky

- i. In commercial buildings (where the open-to-sky is required in the architectural design to meet the condition for natural light and ventilation for rooms. offices, bathrooms, toilets, kitchens and staircases) the area and dimensions for the open-to-sky shall be according to the table below:
- ii. The areas and dimensions do not include balconies overlooking the open-to-sky. Open-to-sky should not have any sort of construction that reduces the amount of light or ventilation or the areas and dimensions shown on the table below:

S. No.	No. of floors	Internal spaces overlooking the open-to-sky	Minimum area of opening (Sq.m)	Least dimension of sides (M.L)
1	1-3 floors	Bedrooms or offices	7.50	2.50

S. No.	No. of floors	Internal spaces overlooking the open-to-sky	Minimum area of opening (Sq.m)	Least dimension of sides (M.L)
2	More than three floors	Bedrooms or offices	$(1/5 \times \text{height})^2$, the outcome of this formula should be 9sq.m (minimum)	3.00
3	1-3 floors	Kitchen, bathrooms, toilets, stairs	7.50	2.50
4	4-6 floors	Kitchen, bathrooms, toilets, stairs	9	3.00
5	More than 6 floors	Kitchen, bathrooms, toilets, stairs	12	3.00

(The conditions mentioned under no. 1, 2 and 3 of the table above do not apply to bath rooms in public buildings such as hospitals and hotels etc.)

- iii. In multi-storeyed commercial buildings where only bathrooms or toilets overlook the open-to-sky, the area of the open-to-sky provided for natural light and ventilation shall be 1.50 sq.m. The length of each side shall not be less than 1 m. Bathrooms and toilets of multi-storeyed buildings (3-floors or more) may be excluded from the open-to-sky condition provided that proper artificial means are provided for ventilation and treatment of bad odour. Doors shall also have reasonable opening of perforated wood or aluminium.
- iv. The floor of the open-to-sky shall be paved with tiles or concrete and provided with appropriate means for drainage.
- v. The open-to-sky may have an opening for maintenance, cleaning and rescue purposes.

3.1.11 Requirement of basement

- a) Area and extent: The basement should not project more than 1.40m above the level of internal courtyard or the level of road pavement.
- b) Height: The net vertical height of basement is 2.75m to 3.50m maximum, measured from the ground of the basement to the soffit of the roof slab.

- c) Ventilation: The basement shall have natural ventilation, directly or indirectly.
- d) Uses permitted: The basement may be put to the following uses:
 - (i) Commercial buildings: For storing non-inflammable materials, services, emergencies and parking.
 - (ii) Industrial areas: Basement may only be permitted in buildings with showrooms on the front side of industrial plot.
 - (iii) Buildings for public services: A basement may be permitted if necessary, provided that approval of the security department is obtained if it is to be used parking.
- e) Other requirements:
 - i) The basement in any building shall not exceed more than one floor
 - ii) One toilet or two may be permitted in the basement if proper connections to main sewers are provided.
 - iii) Provisions for setbacks of the main building apply to the basement as well
 - iv) Protection against leaking through the walls and the ground of the basement should be considered. Drainage shall be provided and necessary precautions taken to protect neighboring buildings during the construction of basement.
 - v) All the conditions and provisions for protection against fire and other safety conditions apply to the basement floor.
 - vi) The area of basement shall not exceed the area of the ground floor.

3.1.12 Meter room

An independent and ventilated meter (service) room directly accessible from the outside shall be provided on the ground floor according to the requirement of the electric supply undertaking. The door to the room shall have fire resistance of not less than 2 hours.

3.1.13 Requirement of stair ways

- i) One staircase, at least, for each building where the area of one floor is not less than 500 sq.m and the total floors area is not more than 1500 sq.m

- ii) An additional staircase shall be provided for every 500 sq.m in addition to the area of one floor or for every 1500 sq.m additional to the total area of the building (as mentioned above)
- iii) The main staircase shall be built of reinforced concrete or any non-inflammable material. Staircases of private buildings and those for mezzanine in small shops are not included.
- iv) Stairways shall conform to the fire safety regulations in additions to the requirements listed below:
 - (a) Width: The net minimum clear width of stairs of main staircase other than a fire escape shall be as below:

Sr. No.	Type of occupancy	Min. Width of staircase (in meters)
1	Commercial buildings	1.20 m in buildings that consists of up to 5 floors and 1.40 m in buildings above that limit.
2	Public Buildings (Hospitals, schools, hotels etc)	1.40 m

The above conditions do not apply to staircases used for special or industrial purposes, minarets, towers and small oriental style buildings, also excluded are staircases of private buildings and villas the clear width of which shall be 1m, minimum.

- (a) The maximum travel distance served by the staircase shall be 27 m.
- (b) The number of stairs in each part of the staircase leading in one direction shall not exceed 14. Open external stairs of one storey oriental buildings are not included.
- (c) Treads: The tread of one step may not be less than 28 cm in width and not more than 30 cm. the rise of the step should not be less than 15 cm and not more than 18 cm. (Tread excludes nosing if any)
- (d) Head room: The net distance between one landing and the one above shall

not be less than 2.20 m

(e) The stairs shall be calculated according to the following formula.

Twice the rise of one step + tread = 60 to 65 cm.

- (f) Hand rail: Hand rails with a minimum height of 0.8 m from the center of the treads shall be provided.
- (g) Floor indicator: The number of each floor shall be conspicuously painted in figures at least 15 cm. large on the wall facing the flights of a stairway or at such suitable place as is distinctly visible from the flights.
- (h) No living space, store or other space including fire risk shall open directly into the stair case.
- (i) External exit door of staircase enclosure at ground level shall open directly to the open space or should be reached without passing through any door other than a door provided to form a draught lobby.

3.1.14 Ramps

Ramps for pedestrians

- (a) General provisions applicable to stairways shall generally apply to ramps..
- (b) Slope: the ramp shall have a slope not more than 1 in 10 and it shall be on non-slippery material.
- (c) Other requirements:
- i) Handrails shall be provided on both sides of the ramps.
 - ii) Ramps shall lead directly to outside open space at ground level or courtyards or safe place

3.1.15 Passages and corridors

The minimum width of corridors and passages in buildings shall be as follows:

➤ **Commercial buildings:**

- (i) The width of main corridors in front of a row of showrooms or shops shall be 1.80 m (unless special conditions are set for the commercial area)
- (ii) The width of the main corridor between two rows of showrooms or shops shall be 2.50 m

➤ **Other requirements:**

- (i) In the case of more than one staircase of the building by a corridor or other enclosed space, there shall be at least one smoke stop door across the corridor or enclosed space between the doors in the enclosing walls of any two staircases.

3.1.16 Percentage of covered area

The percentage of covered area differs from one area to another depending on the condition of each area and the type of buildings. Hence, it is not allowed to exceed the percentage set by the authority for each area according to its detailed plans.

The percentage of covered area does not include the following:

- i. Architectural projections.
- ii. Water tanks and mechanical equipments (if it is necessary to keep these separate from the main building)
- iii. Guard room and annexed facilities (if built separately from the main building)
- iv. Servants' accommodation provided that it consists of two rooms and adjoining facilities, in an area of 30 sq.m maximum. The authority may reduce the area and the number of rooms depending on the size of main building.
- v. Pergola whether it is used for sitting out of doors or for parking
- vi. Open to sky
- vii. Projecting shades, canopies at entrances of buildings.

The calculation of the percentage of floor area does not include the following:

- i. Mezzanine
- ii. Service floor
- iii. Stair and lift room on the roof of the building or any other room permitted on the roof

3.1.17 *Planned areas*

- i. Balconies and rooms projecting beyond the boundary of the plot shall not be permitted.
- ii. Balconies and projecting rooms are considered an integral part of the main building, therefore the article on setbacks, if any, shall be equally applied.

3.1.18 *Un-planned and partly planned areas*

- i. The projection of room or balcony shall be 10% of the width of the road. It should not be more than 1.20 m. wide, whatever the width of road.
- ii. The net width of the balcony shall be 75 cm. minimum.
- iii. The clear distance between the soffit of the slab of balcony or projecting room and the level of neighbouring foot-path shall be 4m minimum.
- iv. No balcony or room may project over a road less than 7.5 m wide.
 - a. Balconies in residential buildings overlooking the street and used for washing lines shall be screened. Perforated wood may be used for screening provided that the openings are not more than 1.50 cm x 1.50 cm, also perforated concrete depth 10 cm. maximum and openings not more than 7 cm x 7 cm. may be used.
 - b. In multi-storied residential buildings, with more than three units (flats) a balcony shall be provided in each unit for washing line. This should be appropriately located according to the architectural design of the unit and screened using one of the screening elements mentioned in (a) above.
 - c. Washing lines on balconies may only be used if the screening elements mentioned above are provided.
 - d. It shall not be permitted to use metal grills to screen openings in buildings (balconies or windows).

3.1.19 *Set backs*

Setbacks from the boundaries of adjacent plots in residential and commercial areas are determined according to the following (this does not include areas where special conditions are set for setbacks)

- i. If there are openings or windows on the side of the building overlooking the adjacent plot, a distance of 1.50 m minimum shall be left as set back in single storied buildings or the ground floor of multi-storied building.
- ii. A set back of 3 m minimum shall be left for the same purpose (as mentioned above) in case of successive upper floors of the same design (up to seven floors, ground floor is not included) provided that the area of openings is less than 15% of the area of the building façade/elevation overlooking the floor (ground floor not included) set back shall be 5m.
- iii. No openings or windows are permitted in buildings which consist of more than one floor unless these are overlooking a road, of width 6 m minimum. Otherwise the setback between the façade/elevation of the building and the edge of the road shall be half the difference between the width of the existing road and 6 m. this does not apply where the openings are only for bathrooms toilets and stairs. Also for buildings in small plots in unplanned areas where plot area is within 200 sq.m
- iv. Setbacks shall always be measured from the external boundary of the building to the boundary of the adjacent plot.
- v. A distance of 1.5 m shall be left for set-back if there are exhaust fans or air conditioners facing the adjacent plot. This condition applies to all residential and residential-commercial buildings whatever the number of floors.
- vi. In areas of industries and warehouses where the plot area is more than 1500 sq.m (whether there are openings in the buildings are not) setbacks shall be as follows:
 - a. 8m, between the main building and the boundary of the plot on the main road side. Guards room, usually built near the main entrance of the plot is not included.
 - b. 3m, between the main building and the boundary of the plot on the minor road side, if any.
 - c. 5m, minimum, between the main building and the boundaries on the side of the adjacent neighbour.

- vii. In plots allotted for light industry (workshops) with areas ranging from 800 – 1500 sq.m setbacks shall be as follows:
- a. 5 m between the main building and the boundaries of the plot on the main road side.
 - b. 1.50m minimum, between the main building and boundaries of the plot on the side of the adjacent neighbour or neighbouring street or road whether there are openings in the building or not.
 - c. 3 m between the main building and plot boundary on the side if the adjacent neighbour. This applies to two storied buildings where there are openings for windows in the upper floor.
- viii. In plots allotted for light industries with areas less than 800 sq.m setbacks shall be as follows:
- a. 1.5 m set back, in the ground floor between the main building and boundary of the plot of adjacent neighbour (if the building has openings overlooking the neighbouring plot)
 - b. 3 m between the main building and boundary of the neighbouring plot in case, there are window openings for offices in the upper floor.

3.1.20 Service floor

- i. A service floor may be permitted in high rise buildings (above 8 floors)
- ii. It is used for collection and convergence of sewage connections, water pipes, mechanical equipments and or for parking.
- iii. The height of service floor from the ground level to the soffit of the roof slab shall be 2.30 m maximum.
- iv. The service floor shall be an open area without any partitions.

3.1.21 Levelling floor

- i. The conditions regarding the heights of building do not apply to the leveling floor.
- ii. One leveling floor only, is permitted, however another leveling floor may be allowed in areas where the slope of the ground is steep.
- iii. No walls shall be built around the leveling floor of it is on the front side of the plot.

- iv. The leveling floor shall not occupy more than 50% of the area of the ground floor. However, this percentage does not strictly apply where the condition of the plot and the natural slope of the ground level requires otherwise. The area of the leveling floor should not be more than 60% of the ground floor area.
- v. All the conditions regarding lighting and ventilation shall apply to the leveling floor

3.1.22 Pergola

- i. The pergola, whether of reinforced concrete or timber, may be built on the roof of the building or the courtyard of the plot. The conditions for setbacks apply if it is built of concrete material.
- ii. The pergola should be open on all sides except the side adjoining part of the building or a wall.
- iii. The area of openings in the pergola shall not be less than 50% of its total area

3.1.23 Use of buildings

- ii. In Industrial areas of various types, warehouses and workers' camps it is not permitted to build residential units for family accommodation.
- iii. Owners of industrial plots over-looking a main street shall use the front part of the plot for commercial purpose, provided that prior approval is obtained from the concerned Authority. The conditions for set back at the front do not apply in such cases:
 - a. Workers accommodation is permitted within reasonable limits, in various types of industrial areas according to the type of industry or workshop built on the same plot. Bachelor's accommodation for staff or technicians may be permitted in plots with large areas, originally allocated as workers' camp.
 - b. Showrooms (to exhibit industrial products and spare parts only) shall be permitted in areas allotted for light industry provided that the area of showrooms is not more than 30% of the approved percentage of building.
 - c. In Industrial areas and areas allotted for warehouses, offices shall be permitted in the first floor only. The area of offices shall be 50% of the approved percentage of building, with an open space design combining public facilities in one place.

3.1.24 Architectural projection and building facades / elevations

- i. Architectural projection, 5% of the width of the street, is permitted on the neighbouring street side provided that the projection does not exceed 50 cm, whatever the width of the street.
- ii. The architectural design of facades/elevations of commercial buildings shall be according to the local or Islamic style as in the models prepared by the concerned Department or the conceptual design submitted by the Consultant and approved by the concerned Department.
- iii. Totally inclined roofs are not permitted as well as the use of potter tiles of all colours. However in facades such as entrances of buildings and sheds over windows slight deviations from these conditions may be accepted.
- iv. In Industrial areas of various types, wood or metal sheds shall be covered. Concrete materials, metals or wood may be used as cover depending on the areas where the plot is located.
- v. Projecting or visible air-conditioners on facades/elevations of buildings shall be covered with a screen. Air-conditioners, in all floors, shall have plastic pipes coming down the building to the ground to drain excess water. These pipes shall be inside the wall or fixed to it from outside in such a way that does not distort the facade/elevation of the building.
- vi. Unfinished plain concrete block shall not be used for the exterior facia on any building or structure located within the area covered by these regulations where that portion of the building or structure is located:
 - i) On a frontage or flanking facing a street.
 - ii) Permanent and decorative walls with a maximum height of 3m are permitted.

3.1.25 Water tanks

- i. Water tanks shall be of non-rusting, non-corrosive material that preserve the

- natural and chemical qualities of water, its colour, taste and odour and is unaffected by weather conditions such as heat and humidity.
- ii. The design of tanks shall not include sharp angles that lead to the accumulation of dirt or germs and obstruct regular cleaning.
 - iii. Tanks shall have tightly closed openings for filling, distribution and discharge. Openings shall be designed in such a way that prevents pollution and entry of insects. The opening shall be as follows:
 - a. For big tanks the opening for filling shall be wide enough to allow the person in charge of regular cleaning to get inside the tank.
 - b. Openings for distribution shall be at one side of the tank at a height of 6 cm, minimum, in order to prevent in-flow of deposits from the tank to distribution pipes.
 - c. Openings for scour-drainage shall be at the bottom of the tank. It shall be wide enough to drain all water and deposits.
 - d. The tank shall be covered with wooden slats designed according to the architectural design.
 - iv. The tank inward or outward connections for distribution of water to the building should be of non-rusting, non-corrosive material
 - v. Wherever the tank is located in a building it shall be put on appropriate supports of 1 foot above floor level so that the bottom of the tank may be cleansed. The tank should be kept away from sources of external pollution and should not be placed on the ground directly.
 - vi. Water tanks shall be cleaned regularly (once in every six months minimum) and sterilized with approved detergents. Materials and equipments used for cleaning should be non-poisonous and should not include organic materials harmful to health. The authorities have the right to take regulatory actions according to the controls set in this regard.
 - vii. Municipal authorities reserve the right to enter residential complexes at appropriate times to inspect water tanks, ensure adherence to the conditions and that tanks are regularly cleaned and the water is suitable for human

consumption.

3.1.26 Sewage disposal

Without violation of the conditions and specifications for sewage disposal network and the provisions stipulated by the Department of Environment the following articles shall be applicable.

- Requirement for sewage disposal:
 - i) Vertical waste water pipes
 - ii) In toilets, the internal diameter of sewage disposal pipe shall be 10 cm. minimum.
 - iii) The internal diameter of the waste water pipe (for bathroom basin, hand washing basin, ground sewerage, etc.) shall not be less than 7.5 cm. Waste in the pipe is disposed into a gully trap before reaching the inspection chamber.
 - iv) Waste water from the dishwashing sink in the kitchen is directly disposed into the vertical waste water pipe then into the gully trap and then inspection chamber.
 - v) A vent pipe, diameter 7.5 cm minimum, shall be used for ventilation in toilets. The pipe shall be of a reasonable height.
 - vi) The diameter of waste pipes (ground connection) shall be 15 cm minimum. The laying of such pipes under buildings should be avoided as far as possible. But if the laying of part of the waste pipe under the building is unavoidable it should be made of cast iron or any other material of approved technical specifications. The pipe shall be 6 mm thick (minimum) and covered with concrete 13 cm thick (minimum).
 - vii) If bathrooms, toilets or kitchens overlook a main road or minor road, the vertical pipes, if any, should be covered. Doors for inspection and maintenance of pipes should also be provided and appropriately located.
 - viii) Waste water pipes whether vertical, horizontal or underground should be of strong non-inflammable non-corrosive material and according to the specifications adopted in the Bangladesh.
 - ix) Waste water pipes (ground connections) should not be less than 60 cm. below the ground level and its slope shall be as follows:

Pipe size	Horizontal gradient	Vertical gradient
15 cm	1/60	1/8
20 cm	1/90	1/12
22.5 cm	1/100	1/14
In case it is necessary to use pumps the department concerned may permit lesser gradients as follows:		
15 cm		1/100 maximum
20 cm		1/175 maximum
22.5 cm		1/200 maximum

3.1.26.1 The locations and conditions of inspection chamber:

- i) Inspection chambers shall be built at each point the pipe route (sewer) changes its direction, level or slope.
- ii) At the junctions two or more waste pipes.
- iii) At the open ends of the waste pipe under the building.
- iv) At the junction of a vertical pipe with the ground connections.
- v) At the end of the horizontal waste pipe before it is connected to the main sewerage or septic tank.
- vi) The inspection chamber shall be built on a reinforced concrete layer 20 cm. thick, minimum. Its wall shall be built of block work with a thickness proportionate to the depth but not less than 20 cm. (Walls may be built of concrete). The inside of the inspection chamber shall be plastered in order to be smooth and to insulate water and humidity.
- vii) Sloping grounds (benching) shall be built inside the entrance openings around the pipes. The slope towards the pipe shall be 1:2.
- viii) The distance between an inspection chamber and the next one shall not be more than 25m.
- ix) The dimensions of inspection chambers vary from one chamber to another. However, these shall not be less than 60 cm. x 60 cm. The opening of the entrance shall be 45 x 45 cm. minimum. The inspection chamber shall be tightly covered with a cast iron cover or reinforced concrete in accordance with the standard specification in Bangladesh.

3.1.26.2 (A) Septic tanks

In areas with no public sewers, a septic tank shall be provided according to the type of soil at the site of the building, technical specifications, and regulations and approved schedules. Excess liquid waste from the tank shall be disposed to the soakage pit, waste pit or well.

The following conditions shall be observed when the septic tank is built:

- i. It shall be of adequate capacity, to contain human waste of the building and according to Standard criteria and rules adopted in the Economic zone of Bangladesh.
- ii. It shall be built in an open space accessible for maintenance, discharge etc. It may also be built near to a place where public sewers are expected to be provided in future.
- iii. The septic tank shall not be less than 2 m. from any building in the plot or neighbouring building. It shall be provided with insulators on the base and sides and well plastered from inside with cement and sand. The 2 m. distance between the tank and building is subject to review in unplanned areas where plot area is not more than 100 sq. m. provided that it has no adverse effect on public safety or interference with the rights of others.
- iv. The tank shall be built on a concrete or reinforced concrete layer and the side walls of cement blocks, concrete or reinforced concrete. The roof shall be of reinforced concrete, thickness 15 cm. minimum. It shall have enough openings for inspection (60 cm x 60 cm) and a tight cover.
- v. A septic tank shall have inspection chambers at the entrance and exit. The inspection chamber at the entrance is for initial precipitation.
- vi. The length of the tank shall not be less than three times the width or four times the width, maximum.
- vii. The depth of the septic tank shall be 1.20 m. minimum, if it is intended to serve 10 people and 1.50 m. minimum if it is for more than 10 people.

- viii. Ventilation shall be adequately provided by using the proper means as in force.
- ix. Approved readymade septic tanks may be used.
- x. Other technical methods in building septic tanks shall be observed.

(B) Soakage pit

- i. Waste is disposed from the septic tank on to the soakage pit in case of porous soil, where ground water is at an appropriate depth from the surface to allow for disposal. An under-ground soaking system may be used after obtaining approval from the concerned departments.
- ii. Walls of the pit shall be built of cement blocks or lime stone with no mortar but openings to allow disposal. Thickness of stone walls is 50 cm, minimum. Block walls shall be 35 cm thick minimum with no foundations.
- iii. The soakage pit shall be covered with a tight reinforced concrete cover, 15 cm thick, minimum with a tightly covered opening for inspection.
- iv. The depth or height of the pit shall not be more than 2 m.
- v. The length is determined according to the permeability of the soil and the rate of soaking.
- vi. Half the pit may be filled with soaking material.
- vii. The soakage pit shall not be placed at less than 3 m. distance from any building.
- viii. The construction of soakage pit and way of disposal from the septic tank to soakage pit shall be according to approved technical conditions.

(C) Collection tank (holding tank):

If the ground conditions make it impossible to have a soakage pit for disposal of refuse from the septic tank, a collection (holding) tank may be built according to the following conditions to contain and collect (hold) the waste.

- i. The tank shall have a capacity of a two days waste, minimum i.e. 200 liters for every person. The total capacity of the tank shall not be less than 2000 liters.
- ii. It shall be built on reinforced concrete base.
- iii. The walls shall be built of blocks, 30 cm thick at least.

- iv. The collection (holding) tank may be built of reinforced concrete in order to stand the load of traffic.
- v. For easy insertion of the suction pipe to pump out the waste collected in the pit, the reinforced concrete base of the pit shall have a slope of 1:4 towards the draining point, size 60 cm x 60 cm and 30 cm depth, below the base of the tank under the tightly covered opening on its roof (60cm x 60cm).
- vi. Ventilation shall be provided according to approved standard practice.
- vii. The depth of the tank shall be 1.5m. minimum or 2m maximum.
- viii. If more than one collection (holding) tank is built the minimum distance between each two shall be three times the dimension or diameter of the largest tank.
- ix. The tank shall be covered with a reinforced concrete roof, have an opening of 60cm x 60cm minimum, and a tight cover. Precautions shall be taken to prevent the entry of insects through the openings.
- x. The collection (holding) tank shall be located in an open place accessible for maintenance, discharge etc. and suitable for connection to public sewers in future.
- xi. Approved readymade collection (holding) tanks may be used.
 - a. If an alternative method is used for sewage disposal, approval shall be obtained from the concerned departments.
 - b. Under all circumstances technical aspects and approved sanitary regulations shall be observed.
- xii. Waste water pipes, septic tanks and soakage pits shall be within the legal boundaries of the plot, exceptional cases in unplanned areas, plots of small areas or rocky lands are excluded.
- xiii. Septic tanks and soakage pits already built outside the boundaries of the plot shall remain in place. A permission to maintain and clean them shall be obtained. If a house is demolished and rebuilt, its owner shall lose the above concession and shall construct a septic tank or soakage pit according to the permit and drawings.

In all the cases, the following points should be considered:

- a. The quality of water discharged shall meet the criteria established by MIEZ
- b. In case the industry does not meet up the criteria, it shall pre-treat the industrial effluent before discharging it to the system.

- c. MIEZ reserves the right to shut the intake of non complying effluent and also penalize the industry.
- d. MIEZ shall levy a connection fees & a monthly water treatment charge, to cover up the operation and maintenance cost.

3.1.26.3 Refuse chutes and refuse chambers

Multi storey buildings consisting of four floors minimum (Ground Floor + 3 Floors) shall be provided with a refuse collection chamber in the Ground Floor as part of the Main Building. The collection chamber shall be according to the following conditions:

- a. In four-storey buildings the area of the chamber shall be 4 sq.m. minimum. This area shall be increased by 20% for each extra floor provided that the maximum area is 8.30 sq.m.
- b. The authority serves the right to order the increase of the area of chamber if the number of residential units in each floor is more than seven. A refuse collection chamber may also be required in multi floor buildings where the number of floors is less than four but the number of units in each floor is more than 10.
- c. Huge buildings of more than 40 units (whatever the number of floors) shall be provided with refuse pressing machines inside the chamber. The area of the chamber shall therefore be determined according to the size of the machine.
- d. The chamber shall be built of non-inflammable materials.
- e. The surface of its floor and walls shall be strong, smooth and corrosion resistant.
- f. It shall be provided with means for liquid disposal on its floor. These are connected to the main sewers to dispose water when the chamber is washed or cleaned.
- g. It shall be reached through a rear entrance or a minor road. It should not be reached through the main entrance of the building.
- h. It shall be properly ventilated.
- i. Hoppers under refuse chutes shall be situated in a well ventilated position and the chutes shall be continued upwards with an outlet above roof level and with an enclosure wall of non-combustible material with fire resistance of not less than two hours. The hoppers shall not be located within the staircase enclosure.

- j. Inspection panels and hopper (charging station) opening shall be fitted with light fitting, metal doors, covers, having a fire resistance of not less than one flap doors/ covers i.e. push-in or lift-up type shall not be permitted.
- k. Refuse chutes shall not be provided in staircase walls and air conditioning shafts, etc.
- l. Refuse chambers shall have walls and floors or roofs constructed of non-combustible and impervious material and shall have a fire resistance of not less than two hours. They shall be located at a safe distance from exit routes.

3.1.27 Canopy

A cantilevered and unclosed canopy may be permitted over each entrance and staircase, if a clear distance of at least 1.5m is maintained between the plot boundary and the outer edge of the canopy. The minimum clear height of the canopy shall be 2.2m.

3.1.28 Rain water harvesting structure

Rain water harvesting in a building site includes storage or recharging into ground of rain water falling on the terrace or on any paved or unpaved surface within the building site.

The following systems may be adopted for harvesting the rain water drawn from terrace and the paved surface.

- i. Open well of a minimum of 1.00 m dia and 6 m. in depth into which rain water may be channelled and allowed after filtration for removing silt and floating material. The well shall be provided with ventilating covers. The water from the open well may be used for non potable domestic purposes such as washing, flushing and for watering the garden etc.
- ii. Rain water harvesting for recharge of ground water may be done through a bore well around which a pit of one meter width may be excavated up to a depth of at least 3.00 m. and refilled with stone aggregate and sand. The filtered rain water may be channelled to refilled pit for recharging the bore well.
- iii. An impervious surface/underground storage tank of required capacity may be constructed in the setback or other open space and the rain water may be

channelled to the storage tank. The storage tank shall always be provided with ventilating covers and shall have draw-off taps suitably placed so that the rain water may be drawn off for domestic, washing gardening and such other purposes. The storage tanks shall be provided with an overflow.

- iv. The surplus rain water after storage may be recharged into ground through percolation pits or trenches or combination of pits and trenches. Depending on the geomorphologic and topographical condition, the pits may be of the size of 1.20m width x 1.20 m. length 2.00 m. to 2.50 m. depth. The trenches can be of 0.60 m. width 2.00 to 6.00m length 1.50 to 2.00 m depth. Terrace water shall be back filled with filter media comprising the following materials.
 - a. 40 mm stone aggregate as bottom layer up to 50% of the depth
 - b. 20 mm stone aggregate as lower middle layer up to 20% of the depth
 - c. Coarse sand as upper middle layer up to 20% of the depth
 - d. A thin layer of fine sand as top layer
 - e. Top 10% of the pits/trenches will be empty and a splash is provided in this portion in such a way that roof top water falls on the splash pad
 - f. Brick masonry wall is to be constructed on the exposed surface of pits/trenches and the cement mortar plastered.
The depth of wall below ground shall be such that the wall prevents loose soil entering into pits/trenches. The projection of the wall above ground shall at least be 15 cms.
 - g. Perforated concrete slabs shall be provided on pits/trenches
- v. If the open space surrounding the building is not paved, the top layer up to a sufficient depth shall be removed and refilled with coarse sand to allow percolation of rain water ground.
- vi. The terrace shall be connected to the open well/bore well/storage tank/recharge pit/trench by means of HDPE/PVC pipes through filter media/ a valve system shall be provided to enable the first washings from roof or terrace catchment, as they would contain undesirable dirt. The mouths of all pipes and opening shall be covered with insect proof wire net. For the efficient discharge of rain water, there shall be at least two rain water pipes of 100 mm diameter for a roof area of 100 sq.mt.

- vii. Rain Water harvesting structures shall be sited as not to endanger the stability of building or earthwork. The structures shall be designed such that no dampness is caused in any part of the walls or foundation of the building or those of an adjacent building.

3.1.29 Provision of solar energy assisted systems

Solar Assisted Water Heating System (SAWHS) is a device used for heating water using solar energy as heat source.

Building of the following categories shall provide the system or the installation having an auxiliary Solar Assisted Water Heating Systems (SAWHS)

- i. Nursing homes.
- ii. Hotels and guesthouses.
- iii. Training centers.
- iv. Functional building like waiting rooms, retiring rooms, rest room and catering units.

3.1.29.1 Installation of solar assisted water heating systems (SAWHS)

The following provisions shall be applicable for all the new buildings of categories for installation of Solar Energy Assisted Systems.

- i. Adequate provisions shall be made for installation of SAWHS in the building design itself for and insulated pipeline from the rooftop to various distribution points, within the aforesaid occupancies. The building must have a provision for continuous water supply to the solar water heating system.
- ii. In case of hot water requirement, the building should also have open space on the rooftop, which receives direct sunlight. Wherever hot water requirement is continuous, auxiliary heating arrangement either with electric elements or oil of adequate capacity can be provided.
- iii. The load bearing capacity of the roof should at least be 50 kg. per sq.m. All new buildings of above said categories must complete installation of solar water

heating systems before obtaining necessary permissions to commence their activities.

- iv. The capacity of solar water heating system to be installed on the building different categories shall be decided in consultation with the Planning / Local Authority/ Upazilla concerned. The recommended minimum capacity shall not be less than 25 liters per day for each bathroom and kitchen subject to the condition that maximum of 50% of the total roof area is provided with the system. The solar connectors used shall have a proper certification mark.
- v. Building permissions for all the new constructions / buildings of the aforesaid categories shall be granted only if they have been complied with these provisions.

3.1.30 Solar energy

Solar panels to be located on appropriate places like roof top of parking area, administrative and private buildings.

- i. All inverters shall be installed at the outdoors to suit the local voltage conditions
- ii. All mounting structures shall be galvanized
- iii. Stainless steel shall be used for panel mounting fasteners, clips etc.
- iv. All the interconnection cable, LV cable and DC cable shall be of copper conductor.
- v. As per local conditions, due to sandstorms, panel cleaning is necessary
- vi. Dedicated mineral water supply shall be made for panel cleaning
- vii. For disposal of panels, agreement shall be made between the panel supplier and client after its life time

3.1.31 Town gas / LP gas supply pipes

These pipes shall run in shafts exclusively for this purpose and shall be on external walls, away from the staircases. There shall be no interconnection between these shafts and the rest of the floors, Gas meters shall be housed in a suitable constructed metal cupboard locate in well-ventilated space at ground level.

3.1.32 Terrace

Terrace shall not be sub-divided and shall be accessible by the common stair case.

3.1.33 Parapet

The height of the parapet walls and hand rails provided on the edges of the roof terrace shall not be less than 1.15m from the finished terrace.

3.1.34 Special amenities for physically handicapped persons:

Special amenities for physically handicapped persons as specified below shall be provided in buildings to be used for Public offices, commercial occupancy or other public use.

3.1.34.1 Site development

Level of the roads, access paths and parking areas shall be described in the plan along with specification of the materials.

- i. **Access path / walk way:** Access path from plot entry and surface parking to building entrance shall be of minimum of 1800 mm. wide having even surface without any slope. Slope if any shall not have gradient greater than 5%. Finishes shall have a no slip surface with a texture traversable by a wheel chair. Curbs wherever provided shall blend to a common level.
- ii. **Parking:** For parking of vehicles of handicapped people, the following provisions shall be made :
 - a. Surface parking for two car spaces shall be provided near entrance for the physically handicapped persons with maximum travel distance of 30 m. from building entrance.
 - b. The width of parking bay shall be minimum 3.60 m.
 - c. The information stating that the space is reserved for wheel chair users shall be conspicuously displayed.

iii. Building requirement:

The specified facilities for the buildings for physically handicapped persons shall be as follows:

- a. Approach to plinth level
- b. Corridor connecting the entrance/exit for the handicapped.
- c. Stairways.
- d. Lift
- e. Toilet
- f. Drinking water

iv. Approach to plinth level:

Every building should have at least one entrance accessible to the handicapped and shall be indicated by proper signage. This entrance shall be approached through a ramp together with the stepped entry.

v. Ramped approach:

Ramp shall be finished with no slip material to enter the building. Minimum width of ramp shall be 1800 mm with maximum gradient 1:12. Length of ramp shall not exceed 9.0 m. High hand rail on both sides extending 300 mm beyond top and bottom of the ramp. Minimum gap from the adjacent wall to the hand rail shall be 50 mm.

vi. Stepped approach:

For stepped approach size of tread shall not be less than 300 mm. And maximum riser shall be 150 mm. Provision of 800 mm. High hand rail on both sides of the stepped approach similar to the ramped approach.

vii. Exit / entrance door:

Minimum clear opening of the entrance door shall be 900 mm. And it shall not be provided with a step that obstructed the passage of wheel chair user. Threshold shall not be raised more than 12 mm.

viii. Entrance landing:

Entrance landing shall be provided adjacent to ramp with the minimum dimension 1800 x 2000 mm. Finishes shall have a non-slip surface with a

texture traversable by a wheel chair. Curbs wherever provided should blend to a common level.

ix. Corridors connecting the entrance/exit for the handicapped:

The corridor connecting the outdoors to a place where information concerning the overall use of the specified building can be provided to visually impaired persons either by a person or by signs, shall be provided as follows:

- a. The minimum width shall be 1500 mm.
- b. In case there is a difference of level slope ways shall be provided with a slope of 1:12.
- c. Hand rails shall be provided for ramps/slope ways.

x. Stairways:

One of the stair-ways near the entrance/exist for the handicapped shall have the following provisions:

- a. The minimum width shall be 1350 mm.
- b. Height of the riser shall not be more than 150 mm. And width of the tread 300 mm. The steps shall not have abrupt (square) nosing.
- c. Maximum number of risers on a flight shall be limited to 12.
- d. Handrails shall be provided on both sides and shall extend 300mm on top and bottom of each flight steps.

xi. Lifts:

Wherever lift is required as per bye-laws, provision of at least one lift shall be made for the wheel chair user with the following cage dimensions:

- a. Clear internal depth: 1100 mm.
 - b. Clear internal width: 2000 mm.
 - c. Entrance door width: 900 mm.
-
- i. A hand rail not less than 600 mm long at 1000 mm above floor level shall be fixed adjacent to the control panel. Also, switch control shall be at an operating height equal to that of hand rails.
 - ii. The lift lobby shall be of an inside measurement of 1800 x 1800 mm or more

- iii. The time of an automatically closing door should be minimum 5 second and the closing speed should not exceed 0.25 m/sec.
- iv. The interior of the case shall be provided with a device that audibly indicates the floor the cage has reached and indicates that the door of the cage for entrance/exit is either open or closed.

xii. Toilets:

One special W.C. in a set of toilet shall be provided for the use of handicapped with essential provision of wash basin near the entrance for the handicapped:

- a. The minimum size shall be 1500 x 1750 mm
- b. Minimum clear opening of the door shall be 900 mm and the door shall swing out.
- c. Suitable arrangement of vertical/horizontal handrails with 50 mm. Clearance from wall shall be made in the toilet.
- d. The W.C. seat shall be 500 mm from the floor.

xiii. Provision for drinking water:

Suitable provision of drinking water shall be made for the handicapped near the special toilet provided for them.

xiv. Designing for children:

In the buildings meant for the predominant use of the children, it will be necessary to suitably alter the height of the handrail and other fittings and fixtures etc.

3.1.35 Electrical services

- (a) The electric distribution cables wiring shall be laid in a separate duct. The duct shall be sealed at every alternate floor with non-combustible materials having the same fire resistance as that of the duct.
- (b) Water mains, telephone lines, inter-com lines, gas pipes or any other service line shall not be laid in the duct laid for electric cables.

- (c) Separate circuits for water pumps, lifts, staircase and corridor lighting and blowers for the pressurizing system shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduct pipes so that fire in one circuit will not affect the others. Master switches controlling essential services circuits shall be clearly labelled.
- (d) The inspection panel doors and any other opening in the shaft shall be provided with airtight fire doors having a fire resistance of not less than two hours.
- (e) Medium and low voltage wiring running in shafts, and within a false ceiling, shall run in metal conducts.
- (f) An independent and well ventilated service room shall be provided on the ground floor with direct access from outside or from the corridor for the purpose of termination of electric supply from the licensee's service and alternative supply cables. The door provided for the service room shall have fire resistance of not less than two hours.
- (g) If the licensees agree to provide meters on upper floors, the licensee's cables shall be segregated from consumer's cables by a partition in the duct. Meter rooms on upper floors shall not open into staircase enclosures and shall have fire resistance of not less than two hours.
- (h) PVC cables should have an additional sheathing or protection provided by compounds sprayed on after installation

3.1.35.1 *Alternate source of electric supply*

A stand-by electric generator shall be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pump, pressurization fans and blowers, smoke extraction and damper systems in case of failure of normal electric supply. The generators shall be capable of taking starting current of all the machines and circuits stated above simultaneously. If the stand-by pump is driven by diesel engine, the generator supply need not be connected to the stand-by pump.

3.1.35.2 *Transformers*

- (a) If transformers are housed in a basement, they shall be necessarily in the first basement in a separate fire resisting room of four hours rating, at the periphery of the basement. The rooms shall be protected by carbon dioxide or BCF fixed installation system to protect transformers. The entrance to the room shall be provided at the entrance in order to prevent the flow of oil from a ruptured transformer into other parts of the basement. Direct access to the transformer room shall be provided preferably from outside. The switchgears shall be housed in a separate room separated from the transformer bays by a fire-resisting wall with fire resistance of not less than four hours.
- (b) If housed in basement, the transformer shall be protected by an automatic high-pressure water spray system (emulsifying).
- (c) Transformers housed at ground floor level shall be cut-off from the other portion of the premises by fire resisting walls of four hour's fire resistance.
- (d) They shall not be housed on upper floors.
- (e) A tank of RCC construction of capacity capable of accommodating the entire oil of the transformers shall be provided at lower level, to collect the oil from the catch-pit in an emergency. The pipe connecting the catch-pit to the tank shall be of non-combustible construction and shall be provided with a flame-arrester.

3.1.35.3 *Light and ventilation*

- (1) Adequacy and manner of provision: All parts of any room shall be adequately lighted and ventilated. For this purpose every room shall have:
 - (a) One or more apertures, excluding doors, with area not less than one-sixth of the floor area of the room, with no part of any habitable room being more than 7.5m away from the source of light and ventilation. However a staircase shall be deemed to be lighted and ventilated if it has one or more openings their area taken together measuring not less than 1 sqm per landing on the external wall.
 - (b) An opening with a minimum area of 1 sqm in any habitable room including a kitchen and 0.3 sqm with one dimension of 0.3m for any bathroom water closet or store.

(c) All walls containing the openings for light and ventilation fully exposed to an exterior open surface either directly or through an veranda not exceeding 2.4m in width provided that a room meant for a non resident user shall be considered as adequately lighted and ventilated if its depth from the side abutting the required open space does not exceed 12m.

(2) Artificial ventilation shaft: - A bathroom, water closet, stair case or store may abut on the ventilation shaft the size of which shall not be less than the values given below:

Height of building	Cross section of ventilation shaft in sqm.	Side of shaft in meters
Upto 12 meters	2.8	1.2
Upto 18 meters	4.0	1.5
Upto 24 meters	5.4	1.8
Upto 30 meters	8.0	2.4
Above 30 meters	9.0	3.0

(3) Artificial lighting and mechanical ventilation: Where lighting and ventilation requirements are not met through day lighting and natural ventilation they shall be ensured through artificial lighting and ventilation

3.1.35.4 Staircase and corridor lighting

- (a) The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that they could be operated by one switch installation on the ground floor easily accessible to fire-fighting staff at any time irrespective of the position of the individual control of the light points, if any.
- (b) Staircase and corridor lighting shall also be connected to alternate supply as defined in sub-Regulation. However, for assembly and institutional buildings less than 24 cm, the alternate source of supply may be provided by battery continuously trickling charges form the electric mains.
- (c) Double throw switches should be installed to ensure that the lighting in the staircase and the corridor do not get connected to two sources of supply simultaneously. A double throw switch shall be installed in the service room to terminate the stand-by-supply.

- (d) Emergency lights shall be provided in the staircase/corridors for multi-storeyed high rise buildings.

3.1.35.5 Air-conditioning

- (a) Escape routes like staircases, common corridors, lift lobbies etc. shall not be used as return air passages.
- (b) The ducting shall be constructed of substantial gauge metal.
- (c) Wherever the ducts pass through fire-walls or floors the opening around the ducts shall be sealed with relevant fire-resisting materials like vermiculite concrete glass wool, etc.
- (d) As far as possible, metallic ducts shall be used even for the return air instead of space above the false ceiling.
- (e) The materials used for insulating the duct system (inside or outside) shall be of non-combustible materials such as glass wool, spun glass with neoprene facing.
- (f) Area more than 750 sq.m on an individual floor shall be segregated by a firewall and automatic fire dampers. Isolation shall be provided where the ducts pass through firewalls. The fire dampers shall be capable of operating manually.
- (g) Air ducts serving floor areas, corridor etc. shall not pass through the staircase enclosure.
- (h) The air handling units shall be as far as possible be separate for each floor and air ducts for every floor shall be separate and in no way interconnected with the ducting of any other floors.
- (i) Automatic fire dampers shall be provided at the inlet of the fresh air duct of each compartment on every floor. They shall be so arranged as to close by gravity in the direction of the air movement and to remain tightly closed upon operation of a smoke detector.
- (j) If the air handling unit serves more than one floor, the requirements given above shall be compiled with an addition to the conditions given below:-
- i) Proper arrangements by way of automatic fire dampers working on smoke detectors for isolating all ducting at every floor from the main riser shall be made.
 - ii) When the automatic fire alarm operates, the respective air handling units of the air-conditioning system shall automatically be switched off.
 - iii) The air filters of the air-handling units shall be of non-combustible

- materials.
- iv) The air handling unit room shall not be used for storage of any combustible materials.
 - v) Inspection panels shall be provided in main trunking to facilitate the cleaning of the duct of accumulated dust and to obtain access for maintenance of fire dampers.
 - vi) No combustible material shall be fixed nearer than 15 cm to any duct unless such duct is properly enclosed and protected with non-combustible material (glass wool or spun glass with neoprene facing enclosed and wrapped with aluminum sheeting) at least 3.2mm thick and which does not readily conduct heat.
 - vii) Materials used for false ceilings, runners and suspenders shall be of non-combustible material

3.1.36 Fire protection requirement

Any building of more than three floors (ground floor included) or of a height more than 13.5m measured from the road level or has a floor area more than 350 sq.m, corridors, emergency exits or additional stairs leading directly outside shall be provided.

- i) These means of escape shall be according to the specifications and conditions of protection of buildings against fire issued by the Directorate of Fire Service and Civil defence.
- ii) Buildings of one to four floors and floor area of 450 sq.m maximum, may be exempted from the additional stair case condition provided that other precautionary measures against fire are provided.
- iii) Staircases, emergency exits, corridors and walls shall be capable of resisting fire for half an hour at least or made of non inflammable material.
- iv) The staircase provided for escape shall have a clear width of not less than 90cm. The rise of one step shall not be more than 20 cm and the number of steps leading in one direction shall not exceed 12

- a. The distance from the escape staircase to the entrance of the unit shall not be more than 10m
 - b. Doors of kitchen and the main entrance of the unit shall be fire resistant for half an hour at least.
 - c. Partitions between indoor halls and corridors shall be provided with materials capable of resisting fire for half an hour at least. The same applies to walls along the staircases.
 - d. In order to limit the spread of fire to other parts of the building, facilitate extinction and the safe evacuation, the building shall be divided horizontally and vertically into fire zones according to the specifications and conditions for the protection of buildings against fire issued by the Directorate of Fire Service and Civil Defence
- v) Buildings where large number of people are usually present or areas where inflammable or dangerous materials are manufactured, used or stored, the number, direction and distance from one point and the nearest emergency exit should be according to the specifications and conditions for protection of buildings against fire issued by the Directorate of Fire Service and Civil Defence. The same applies to unfamiliar buildings or buildings in which people cannot easily move.
- vi) Roofs of buildings, balconies and open-to-sky shall be provided with rails or walls of height not less than 90 cm.
- vii) Hose reels for fire extinction or rising pipes shall be used to extinguish fire in buildings of more than four floors or where the number of flats on one floor exceeds four.
- viii) Small shops shall be provided with manually operated fire extinguishers. Equipment for fire extinction in commercial showrooms of large areas (area of one show room more than 60 sq.m) shall be determined by concerned department, each case considered separately.

- ix) Fire extinguishing equipment shall be appropriately placed and according to approved technical standards. Buildings shall have fire warning and fire fighting devices according to the specifications and guidelines approved by the concerned fire department.
- x) Approval of Directorate of Fire Service and Civil Defence on plans for the following buildings shall be obtained before these are finally approved by the Authority.
 - a. Buildings of and more than four floors or if the area of ground floor is more than 350 sq.m or the area of the one shop in the ground floor used for commercial purposes, is more than 60 sq.m
 - b. Any multi storey commercial building, hotels and similar buildings, also private shopping centers, multi-storey car parks in basement if the area is more than 450 sq.m, heavy and other industrial buildings in which more than 10 people are employed and involve the use of dangerous materials. Also buildings used for storing or selling inflammable materials and other similar buildings.
 - c. The Authority may ask for approval to be obtained from the Directorate of Fire service and civil defence for plans of any buildings, if necessary.
- xi) A space or balcony, overlooking an open space which has courtyard or road shall be provided outside the kitchen for keeping gas cylinders to ensure the safety of residents in single family housing and multi floor residential blocks. The cylinder outside the kitchen shall be properly connected to the kitchen and shall have natural ventilation and protection against heat in a way that does not distort the outlook of the building. The cylinders shall also be provided with safety devices such as fast-closing valves etc.
 - a. If in the architectural design the kitchen and its balcony overlook an internal courtyard surrounded by walls on all sides, gas cylinders shall not be kept in the balcony. A well secured place may be provided instead on the ground floor for the connection of cylinders to the upper floors. Thos condition does not apply to two storey buildings.

- xii) Chimneys in factories should be at a distance of 10m minimum, from the boundaries of the neighbouring plot or road (or as determined by concerned departments). The height of house chimneys and gas exhaustion facilities shall be according to the provisions and regulations set by concerned departments. In certain cases it shall be necessary to provide gas purification equipment in order to comply with the conditions set by the concerned departments.
- xiii) Necessary approval from Director General of Fire service and Civil Defense need to be obtained for the management of chemicals and hazardous materials in the factory premises. The safety measures employed by Chemical plants should not be limited to.
 - a. Risk and hazard associated with the specific chemical plants
 - b. Local laws and regulations
 - c. Vigilance level of local community
 - d. Technical competence of the plant managers
 - e. The company's own standard of ethics –vs- short-term profitability decisions etc.
- xiv) Exits: Every building meant for human occupancy shall be provided with exits sufficient to permit safe escape of its occupants in case of fire or any other emergency for which the exits shall conform to the following types :
- xv) Types: Exits should be horizontal or vertical. A horizontal exit may be a doorway, a corridor, a passageway to an internal or external stairway to an adjoining building, a ramp, a veranda or a terrace which has access to the street or to the roof of a building. A vertical exit may be a staircase or a ramp but not a lift.
- xvi) General requirements: Exits from all part of the building except those not accessible for general use shall
 - (a) Provide continuous egress to the exterior of the building or to an exterior open space leading to a street;
 - (b) Be so arranged that they can be reached without having to cross another occupied unit;
 - (c) Be free of obstruction;
 - (d) Be adequately illuminated;

- (e) Be clearly visible, with the route reaching them clearly marked and signs posted to guide any person to the floor concerned;
- (f) Be fitted, if necessary with fire fighting equipment suitably located but not as to obstruct the passage, clearly marked and with its location clearly indicated on both sides of the exit way;
- (g) Be fitted with a fire alarm device, if it is either a multi storied, high rise or special building so as to ensure its prompt evacuation
- (h) Remain unaffected by any alteration of any part of the building so far as their number, width, capacity and protection thereof is concerned
- (i) Be so occupied that the travel distance on the floor does not exceed the following limits:
 - a. Educational, Institutional and hazardous building –22.5m
 - b. Assembly business mercantile industrial and storage buildings – 30.0m

Note: The travel distance to an exit from the dead end of a corridor shall not exceed half the distance specified above.

3.1.37 Requirement of individual exits at each floor

The detailed requirements of individual exits at each floor are given below:

3.1.37.1 Corridors

The width of the corridors shall be as follows:

- (i) Nursing homes - 2.4 m
- (ii) Commercial buildings, offices, lodges, etc. - 2.0 m
- (iii) All other buildings - 1.5m
 - a) Where stairways discharge through corridors, the height of the corridors shall not be less than 2.4 m.
 - b) Where there is more than one staircase serving a building, there shall be at least one smoke-stop door in the space between the staircases.

3.1.37.2 Doorways

No exit doorway shall be less than 1.0m in width. Doorway shall not be less than 2.0m. in height. Doorways for the bathrooms, water-closets or stores shall not be less than 0.75 m. wide.

- (a) Every exit doorway shall open into an enclosed stairway, a horizontal exit or a corridor or passageways providing continuous and protected means of egress;
- (b) An exit doorway shall open outwards i.e. away from the room, but shall not obstruct the travel along any exit. No door, when opened, shall reduce the required width of a stairway or landing to less than 0.90 m.
- (c) An exit door shall not open immediately upon a flight or stairs; a landing equal to at least the width of the doors shall be provided in the stairway at each doorway; the level of the landing shall be the same as that of the floor which it serves.
- (d) Exit doorways shall be openable from the side which they serve, without the use of a key.

3.1.37.3 Revolving doors

- a. Revolving doors shall not be used as required exits except in business and mercantile occupancies; they shall not constitute more than half the total required door width.
- b. When revolving doors are considered as required exit way, the following assumptions shall apply:
 - i. Each revolving door shall be credited one-half a unit width
 - ii. Revolving doors shall not be located at the foot of stairway; any stairway served by a revolving door shall discharge through a lobby or foyer.

3.1.37.4 Fire escape or external stairs

Multi-storied, High-rise and special Buildings shall be provided with fire escape stairs which will be free of F.S.I. and these should conform to the following:

- (i) shall not be taken into account in calculating the evacuation time of a building;
- (ii) all shall be directly connected to the ground;

- (iii) entrance to these shall be separate and remote from the internal staircase;
- (iv) shall be constructed of non-combustible material;
- (v) the fire escape shall have the required fire resistance;

3.1.38 *Refuge area*

For all buildings exceeding 16 m in height, refuge areas shall be provided as follows:

a.	For floors above 16 m and up to 24 m	One refuge area on the floor immediately above 16 m
b.	For floors above 24 m and up to 36 m	One refuge area on the floor immediately above 24 m
c.	For floors above 36 m	One refuge area on the floor immediately above 36 m

- (a) In multi-storied buildings, at least one refuge area shall be provided on the floor immediately above 24 m.
- (b) It shall be on the external wall as a cantilevered projection or in any other manner.
- (c) It shall have a minimum area of 15 sq.m. And a minimum width of 3.0 m.
- (d) It shall not be counted in F.S.I.

3.1.39 *Structural safety and services*

3.1.39.1 *Structural design*

The structural design of foundations, elements made of masonry, timber, plain concrete, reinforced concrete pre stressed concrete and structural steel shall conform to the provisions of the relevant guidelines.

3.1.39.2 *Quality of material and workmanship:*

The quality of all material and workmanship shall conform to standards.

3.1.39.3 *Building materials*

- i. Materials used for buildings shall conform to locally approved specifications and measurements. The main building materials should be non-inflammable.

ii. Heat insulation materials shall be used for roofs and external walls according to the following formula:

o Roofs:

$$U \text{ (Maximum)} = 0.1 \text{ B.t.u/sq.ft/hr. } ^\circ\text{F i.e. } 0.57 \text{ Watts/sq.m. } ^\circ\text{C}$$

o External walls:

$$U \text{ (Maximum)} = 0.13 \text{ B.t.u/sq.ft/hr. } ^\circ\text{F i.e. } 0.741 \text{ Watts/sq.m. } ^\circ\text{C}$$

iii. Sketches showing heat insulation layers (for external face walls and roofs) should be submitted. These should be appropriately placed in relation to other layers and in accordance with the standard technical practice. Other specifications or information that helps in implementation may also be submitted.

iv. Acceptable building insulation materials are:

- Non-inflammable poly-styrene (extruded or expanded)
- Sprayed or solid Poritine/rigid polyurethane foam.

Other materials of the identical qualities may be used as heat insulators. However heat insulation materials used in buildings should be of similar composition, long lasting insulation capacity, fixed dimensions, hardly liable for expansion or contraction, and corrosion and stiff resistant. It would also be resistant to environment conditions in Bangladesh, chemical changes and reactions and fire resistant.

The condition for using heat insulation materials for (external walls) may not apply to the following:

- a. Oriental style building of one floor only where the internal court yard, veranda etc. provide treatment for weather conditions.
- b. Part of the boundary wall within the balcony
- c. Industrial buildings (workshops, factories, warehouses). Buildings for non human use may also be excluded.

3.1.39.4 Alternative materials, method of design and construction and tests:

The provisions of the regulations are not intended to prevent the use of any materials

or method of design of construction not specifically prescribed in them provided any such alternative has been approved. Nothing of the provisions of these regulations is intended to prevent the adoption of Architectural planning and layout conceived as an integrated development scheme. The concerned authorities of MIEZ may approve any such alternative. In the context of material, design and construction method or the work offered is, for the purpose intended, at least equivalent to that prescribed in these regulations in quality, strength, compatibility, effectiveness, fire and water resistance, durability and safety.

3.1.39.5 Tests

Whenever there is insufficient evidence of compliance with the provision of the regulations or evidence that any material or method of design or construction does not conform to the requirements of the regulations, in order to substantiate claims for alternative materials, design or method of construction, the MPD/CEO, MIEZ may require tests, sufficiently in advance, as proof of compliance. These tests shall be made by approved agency at the expense of the owner as follows:

Test methods: Test methods shall be as specified in the regulations for the materials, or design or construction in question. If there are no test methods specified in the regulations the Authority shall determine the procedure.

Test results to be preserved: Copies of the results of all such tests shall be retained by the MPD/CEO, MIEZ / Owner / developer for not less than two years after the acceptance of the materials.

3.1.39.6 Lifts

Any building of 4 storeys or more shall have at least one lift. The number of lifts in a building shall be proportional to its size, numbers of its residents and usage.

Electric lifts should work efficiently throughout the year; the owner should submit a certificate from a specialized registered company certifying that the lift is in good condition or is properly maintained and usable. This certificate should be submitted to the authority at least once a year.

3.1.39.7 Signs and outdoor display structures

Signs shall be permitted to the following structures after approval from the Industrial Zone.

- i. Every sign shall be located in a safe and secure place
- ii. Every sign shall be designed, constructed and maintained to withstand all possible loads.
- iii. No sign shall be erected on any street allowance excepting the following:
 - a. Signs erected by or for the Ministry or Establishment
 - b. Street information and bus stop signs
 - c. Signs specifically approved by the Economic Zone or other authorities
- iv. No sign shall be erected or maintained which resembles any official traffic signboard or signal, or which obstructs the view of any official traffic sign or signal.
- v. No sign shall be erected or maintained which attempts or purposes to direct the movement of traffic on roads, other than a sign erected by the establishment, except an entrance or exit sign.
- vi. No sign shall be located so as to obstruct or impede any fire escape, fire exit, door, window, skylight, flue or air intake or exhaust, or so as to impede the free access of fireman to any part of the building.
- vii. No sign shall be erected that is higher than the roof, eave or parapet line of the building, to which it is attached.
- viii. An illuminated sign shall be permitted, provided it is not flashing
- ix. Signs permitted in all zones:
 - a. A “NO TRESPASSING” or other announcement or sign other than an advertisement, not greater than 0.30 sq.m in area
 - b. A sign incidental to construction on the premises
 - c. A non illuminated sign not exceeding 1.5 sq.m in area, advertising the lease of any plot or premises.
- x. Signs shall be erected subjected to prior approval of MIEZ Authority.

3.1.40 Compound wall requirements

Compound walls within the Zone should meet the following requirement for the super structure:

- i. For the front part facing the road high solid wall fencing should be discouraged.
- ii. The fence should be of half brick wall and metal grills with a maximum height of 1.75 m.
- iii. For the side and rear fencing the maximum height of the wall shall be 1.8 m and barbed wire of 0.5m on top is optional.
- iv. The outer fence foundation limit should remain inside the plot line limit. No corrugated metal sheet fencing or solid compound wall will be allowed.

Typical compound wall detail for the occupant unit will be decided and selected (attached in **Appendix 'L'**) by the Authorities depending upon the location and type of industry.

3.1.41 *Inspection and supervision of buildings*

- i. Concerned MIEZ officials are authorized to enter the building site at any time to check whether the construction of the building is according to the permit and approved drawings and that there are no violations according to these regulations and others.
- ii. Concerned MIEZ officials are authorized to enter the building site at any time to check whether the construction of the building is according to the permit and approved drawings and that there are no violations according to these regulations and others.
- iii. The permit and approved drawings shall be kept at the site for checking. These should be submitted to the MIEZ 's officials in charge of the implementation of the provisions of this order.
- iv. No building may be erected or used except for the purpose mentioned in the building permit and in accordance with the land use and the structural planning of the area.
- v. The building permit is valid for two years commencing from the date of issuance. It shall be invalid thereafter unless it is renewed (by concerned departments). Renewal shall be for the same period, after paying the fees,

unless there are reasons for non-renewal in which case the concerned party shall be informed in writing.

- vi. No alteration is permitted in the approved permit, drawings or any other official document unless prior approval is obtained from the concerned department/ authority. No alternations shall be endorsed unless signed and stamped by the department that issued the permit or the document.
- vii. No construction work may be allowed between sunset and sunrise or during holidays unless prior approval is obtained from the Authority indicating the conditions thereof.
- viii. Any person who demolishes, builds or lays the foundations of any building shall take all necessary measures to secure the safety of neighbours, their property, protection of workers, passers-by, roads and whatever is under or above the ground including equipment and public service facilities and shall adhere to the law on the Conservation of National Heritage
- ix. Any holder of a building permit shall not commence any form of building unless (the owner or his agent) has received plot pegs from the surveyor in the presence of the building inspector. The prescribed forms shall be signed by the three parties concerned.

The owner or his agent shall maintain the pegs in position until the building is completed and shall continue to maintain these during all phases of implementation

- a. No contractor or other implementing party may commence work before signing an under-taking form, to confirm adherence to approved plans, fixed boundaries and the guidelines mentioned on the permit book. The Contractor or the implementing party shall pay a deposit to cover this undertaking as decided by the Authority.
- b. The deposit shall be refunded to the implementing party when the building is completed or part of it may be retained until the site is completely cleaned to the satisfaction of the authorities concerned.

- x. The Consultant responsible for design, the soil test consultant supervising the building and the building contractor, each in his respective field, are fully responsible for the safety of the building for minimum period of 10 years starting from the date of completing building works. This responsibility shall be in accordance with the Laws in force in the Bangladesh.
- xi. In case of buildings costing more than BDT Ten lakhs, the owner or his agent shall authorize a registered consultancy office to undertake technical supervision, and adhere to the approved drawings and specifications. The consultants shall also sign the prescribed undertaking form. Copy of the agreement with the consultant should be submitted to the MIEZ office.
 - a. A temporary fence shall be erected along the boundary of the plot prior to start any building in accordance with the conditions and specifications set by the Authority and shown on the building permit book.
 - b. The owner or contractor shall build a temporary latrine within the plot boundary for the workers to use during construction period in accordance with the conditions set by the authority .
 - c. Building of temporary offices or workshops shall not be assumed at the site unless prior approval is obtained from the authority and after payment of fees and insurance.
- xii. A sign board measuring 1.2m x 2.20m minimum shall be fixed by the owner or contractor on the building site, at least 3m. above the ground level showing the following in block letters written in Bangla and English:
 - a. Plot number, block number and area if any
 - b. Type of industry
 - c. Number of building permit
 - d. Name and address of contractor or contracting Co.
- xiii. The owner or contractor shall keep all building materials remnants of the building within the fence and shall remove these from the site as soon as possible.

- xiv. The owner or his agent shall ask the concerned authority to inspect the building (if no consultant is appointed to supervise implementation) on completion of excavations for foundations and column bases in order to ensure conformity to approved drawings and write this information in the permit book.
- xv. Workshops, factories, crushers, stores for building materials and all works and crafts that pollute the environment and cause disturbances may not be built in residential and residential-commercial areas.

The use of such buildings shall be limited to the purpose stated in the building permit and on the site shown thereon.

- xvi. Workers' camps may only be built on the sites planned and allocated for such purposes in accordance with the conditions laid down by the authority. Temporary camps erected at building sites for the sole use of workers are excluded, provided that prior approval for building such camps is obtained from the authority. The camps shall be built and removed according to the MIEZ's specifications and conditions.
- xvii. There may be no mountain cutting, road digging or removal of building remnants or debris from the site of building or from one site to another unless prior approval is obtained from the Authority and in accordance with the conditions the Authority sets in this regard. The authority may retain a cash deposit which will not be refunded unless all these conditions are met with and a certificate is issued from the concerned department to this effect.
- xviii. In Buildings for public use, commercial purposes and offices, which have lifts, there should be a person appointed to deal with any emergency that may arise. Adequate warning devices should be made available to him. A telephone may be provided inside the lift and connected to the guards' room if so required by the Authority which may set a further condition for providing a generator to operate the lift depending on the size, height, the number of occupants and use of the building.
- xix. The contractors and companies specialized in the maintenance of lifts shall submit their applications for registration to the Authority enclosing all

documents certifying the experience and proficiency of the technical staff employed. The Authority shall consider the application and complete the registration procedures, thereafter.

- xx. The lift shall be licensed annually by the Authority after the concerned committee checks the relevant certificates. If the license of the lift is not renewed the Authority may order the lift to be closed and prohibit its usage and penalize the owner of the building
- xxi. No building may be connected nor any recommendation be made to connect a building to public services e.g. electricity, water, telephone and sewerage, unless the following conditions are met with:
 - a. If the building is constructed according to the permit and drawings approved by the authority a recommendation to connect part of the building to public service may be made, if necessary, and approved by the building authorities.
 - b. A No Objection Certificate from the Directorate of Fire service and Civil Defence shall be submitted if the administration has approved same drawings of the buildings.
 - c. Pavements and passages for pedestrians in front of commercial and commercial residential buildings shall be paved according to the specifications set by the Authority.
 - d. A central T.V. dish/ antenna shall be installed on the roof of the building as shown on the approved drawings in the following locations:
 - i. At the main entrance of villas
 - ii. At the entrance of Commercial and Commercial Residential Buildings. The number of mail boxes shall be corresponding to the number of flats and offices in the building.
 - e. The building shall have a number. Otherwise a certificate from the concerned departments shall be submitted showing that the numbering of the area has not yet been finalized.
 - f. A wooden box shall be provided with a lock to cover the main switch and electric meters.

- g. Debris and remnants of the building should be removed from the site which should be perfectly levelled and graded.
 - h. A confirmation that electric lifts, if any, are installed according to the approved drawings and specifications and indicate the same in the power supply application form.
 - i. A temporary water meter may be allowed during the implementation period, at the contractor's expense, to ensure the supply of water for buildings purposes.
- xxii. The building completion certificate shall only be issued when the building is properly completed according to the approved drawings and building permit and considered safe and suitable for occupancy of work.
- xxiii. No building shall be painted from outside in colours other than the ones approved in the permit. Any person who wants to change the colour or repaint the building from outside shall abide by the colours approved by the Authority.
- xxiv. No sign, guidance, advertisement board, illuminated or otherwise may be installed or fixed on any building, street or wall, temporarily or permanently, prior to obtaining the necessary approval from the Authority. Before submission of application for approval of the sign-board, application form shall be duly filled by the applicant concerned. The installation of such boards on building facades (elevations) should not distort the general outlook of the building.
- xxv. For public safety excavations carried out under the authority approval shall be covered or screened to protect passers-by. A warning signal light lantern may be placed from sunset to sunrise as well as other requirements sought necessary by the authority or any other concerned department.
- xxvi. No excavations or buildings shall be made on public road, public square or open space owned by the government or by others temporarily or permanently unless prior approval is obtained from the Authority (in case of land owned by others, the owners approval should be obtained) in accordance with the conditions set by the Authority .

- xxvii. The issuance or renewal of permit shall not affect the rights of those concerned regarding the land shown on the permit. The Authority shall not be held responsible for any unknown documents (unknown at the time of issuing the permit) or legal rights that have amended or cancelled these rights.
- xxviii. Rain water gutters, drainage or air conditioners shall not be fixed or directed towards others' properties, unless such a right is legally acquired and provided that precautions are taken to eliminate the damage that may be caused to the neighbour or owner of the land.
- xxix. The owners of ruins or old deserted buildings (unaffected by planning) should make a boundary wall, of permanent material or a fence of plywood, according to the specifications set by the authority. Should these ruins threaten public health and safety, the Authority as the right to notify the owner to remove these completely and clear the site properly. Failing to meet this requirement during the notice period, the Authority shall have the right to demolish them and force the person concerned to bear the cost and impose any other legal penalty. The demolition shall be made in accordance with an administrative decision issued by the Authority or the person authorized by him. An appeal against the decision may be made. If the owners of ruins are unknown or not available, the Authority shall make an announcement in the local press for three days. At the expiry of the period mentioned in the announcement the Authority may take appropriate legal action.
- xxx. Owners of open lands which are relatively lower than its surrounding shall fill it up with earth and level it. Should they fail to act accordingly, the authority may notify them in writing. On the expiry of the notice period, the Authority reserves the right to fill it up and claim in the cost from the owner.
- xxxi. Buildings totally or partially dilapidated imposing danger on residents, neighbours and passers-by should be removed by the owner or his agent. Should they fail to respond to the notice issued by the Authority in this regard, the Authority shall have the right to evacuate and demolish the building as per administrative procedures, claim the cost from the owner or his agent and impose any other legal penalties.

- xxxii. The Authority has the right to force upon the owner or his agent to repair and maintain his building whenever necessary according to the specifications considered appropriate by the Authority. The owner has to act accordingly.
- xxxiii. The Authority has the right to issue an order to stop construction work, if so required by the concerned department.

3.1.42 Penalties

Persons violating any article of this local order shall be liable to penalties mentioned hereinafter:

- i. For constructing a new building or making extensive additions to an existing building without permit one or more of the following penalties shall be imposed:
 - a. A fine of BDT. 20000/ minimum and not more than BDT. 1,25,000/.
 - b. A fine of BDT 5000 per day for 30 days, maximum.
 - c. Six months imprisonment, maximum, depending on the intensity of the violation.
 - d. Removal of the violation by the MIEZ's authorities and claim of all cost from the defaulter.
- ii. For building on government land or the land of others without ownership or permit, one or more of the following penalties shall be imposed:
 - a. A fine or BDT. 40000/, minimum, and not more than BDT. 1,80,000/.
 - b. Immediate removal of the violation.
 - c. A fine or BDT. 10000/ per day.
 - d. Six months imprisonment, maximum, depending on the intensity of the violation.
 - e. Removal of the violation by the MIEZ 's authorities and claim of all cost from the defaulter.
- iii. For other violations one or more of the following penalties shall be imposed:

- a. A fine of BDT. 50,000, maximum, and not more than BDT. 2,00,000/.
 - b. A fine of BDT 15000/ per day, minimum, for 10 days, maximum.
 - c. Six months imprisonment, maximum, depending on the intensity of the violation.
- iv. In case of the recurrence of building violations despite orders from the MIEZ's authorities to the defaulter the violation shall be considered repeated and the defaulter shall be penalized as follows:
- o Second violation: Twice the penalty imposed for the first violation.
 - o Third violation: Twice the penalty imposed for the second violation.
 - o Fourth violation: Twice the penalty imposed for the third violation.
- v. Without breach of the provisions regarding the penal responsibility for violating the Local Order and the responsibility for the safety of the building for ten years, minimum, starting from the for the second violation, date of completing building works as mentioned in the same article, the following penalties shall be imposed for violations committed by contractors, implementing parties and consultancy offices.
- a. A fine of BDT. 150,000/- minimum, and not more than BDT300,000/- for the first violation.
 - b. A fine of BDT. 2,00,000/- minimum, and not more than BDT. 5,00,000/- for the second violation.
 - c. A fine of BDT. 2,50000/- minimum, and not more than BDT1000000/- for further violations.
- vi. The Authority may ask for the work to be stopped. If the violation is repeated the license may be withdrawn once and for all.

3.2 Non Processing Area(NPZ)

Development / redevelopment of any land, building or premises the intended use in Non processing zone shall conform to the following requirement

3.2.1 Requirement of plinth

The height of plinth shall not be less than 45cm above the surrounding ground level. In areas subjected to flooding, the height of the plinth shall be at least 60cm. above the highest flood level or greater than 60cms.

Interior courtyards covered parking spaces and garages: these shall be raised at least 15cm. above the surrounding ground level and shall be satisfactorily drained. The plinth height of shops may be 30 cm.

3.2.2 Requirement of habitable room

(a) **Size and width:** The minimum size of a habitable room shall not be less than 9.0 Sqm. with the minimum width of 3.00 meters.

(b) **Height:** The minimum height of a habitable room shall not be less than 3.00m to 4.00m maximum for ground floors and 2.80m to 3.60 m for upper floors.

(c) Other requirements:

- (i) The architectural design of the building shall conform with the social norms of the Bangladeshi culture in terms of the location of various parts of residential unit e.g. The main entrance should be located in such a way that does not expose the house or interfere with the privacy and freedom of internal movement of members of the family i.e., from the living room to the bedroom or to various service facilities in the house.
- (ii) Privacy within the residential unit shall be maintained whether the building is for private residence or for investment. i.e., a multi floor apartment
- (iii) Boundary walls of any building, walls separating two residential units or separating the living room from the guest room shall not be less than 20cm thick so as to prevent or reduce the emission of sound.
- (iv) Rooms should be provided with windows with at least 7% of the ground

area of a residential room for ventilation and natural lighting. These should open on a street, road or internal court yard

- (v) Glass (laminated or solar control or reflective) shall be used in all windows (bedrooms, living rooms and offices) of multi floor buildings with more than four floors (or flats or offices of more than 11 units and public buildings)
- (vi) In order to maintain privacy in residential buildings, where window openings of bedrooms are opposite to the windows of a neighbouring building, with a maximum distance of 10 m, an in-between screen should be provided on to the windows opening of both buildings to conceal or diminish the chance to see from outside. The same applies to windows of bedrooms or kitchens over looking an internal court yard

3.2.3 Kitchen

- (i) **Size:** The area of the kitchen shall not be less than 5.5 sq. m. with a least dimension of 2.00 m, but in a two room tenement the minimum area of the room to be used as a kitchen shall be 7.5 sq.m
- (ii) **Height:** The height of a kitchen shall be the same as a habitable room
- (iii) Other requirements: Every room to be used as a kitchen shall have:
 - a) Unless separately provided in the pantry , the means for the washing of kitchen utensils which shall lead directly or through a sink to a grated and trapped connection to the waste pipe;
 - b) On an upper floor an impermeable floor ;
 - c) At least one window for ventilation and natural lighting not less than 6% of the ground area of the kitchen or stair well in the same floor shall open directly on to an interior or exterior space, but not into a shaft.

3.2.3.1 Requirements regarding pantries

A pantry shall have:

- i. A floor area of not less than 3 sq. m. with the smaller side not less than 1.4 m.
- ii. A sink for the cleaning of kitchen utensils which shall drain through a grated and trapped connection to the waste water pipe where sewerage system is not available and the grated connection shall be made to the surface drain made concrete/cemented leading to soak pit or other approved system of disposal; and
- iii. An impermeable floor and an impermeable dado 0.9 m. high

3.2.4 Bathrooms and water closets

- (a) **Size:** The area and floor dimension of a bathroom or a water closet shall not be less than the values given below:-

Type	Area (in sq. m.)	Shortest side (in meters)
Bathroom	4.00	1.80
Water closet	1.50	0.9

- (b) A sanitary block consisting of a bath room and water closet for each wing of each floor at each stair case level of the building for use of domestic servants engaged in the premises may be permitted by the Authority.

(c) Other requirements

- (i) Every bathroom or water closet shall be so situated that at least one of its walls shall abut on to an exterior open space with a window opening not less than 5% of the ground area of a bathroom and toilet.
- (ii) Single family residence consisting of one or more bedrooms shall have at least one bathroom that shall not open into any other rooms directly. No bathroom or water closet shall be situated directly over any room other than another water closet, washing place, bathroom, or terrace unless the said floor is made impervious with adequate waterproofing treatment. However in no case shall a water closet or a bathroom be provided over a kitchen or a place storing food.

- (iii) Toilets and bathrooms may be located next to dining rooms or living rooms provided that the access is not directly through these rooms.
- (iv) It shall be enclosed by walls or partition and the surface of every such wall or partition shall be finished smooth with an impervious material to a height of not less than 1.5 m above the floor of such a room.
- (v) Every bathroom or water closet shall have the platform or seat or flooring made of watertight non-absorbent material.
- (vi) It shall be provided with a impervious floor cover sloping towards the drain with a suitable grade and not towards a veranda or any other room
- (vii) No room containing water closet shall be used for any purpose except as a lavatory.
- (viii) Every water closet shall be provided with a flushing cistern of an adequate capacity attached to it.
- (ix) It shall be so situated that at least one of its walls shall open to external air
- (x) The number of toilets in commercial buildings, offices and workshops is determined according to the following table:

S. No	Sex	No. of users	Sanitary units required	Remarks
1	Men	1-100	1 Toilet 1 hand washing basin for every 10 people	If there is no urinal
2	Men	Above 100	1 more toilet 1 and hand washing basin for every 20 people	If there is no urinal
3	Men	1-100	1 toilet to every 25 people (hand washing basin and 1 urinal for every 10 people)	If there are urinals
4	Men	Above 100	1 more toilet for every 40 people, 1 urinal, 1 hand washing basin for every 20 people above 100	If there are urinals

S. No	Sex	No. of users	Sanitary units required	Remarks
5	Ladies	1-100	1 toilet 1 hand washing basin for every 10 people	No urinal
6	Ladies	Above 100	1 more toilet and 1 hand washing basin for every 10 people above 100	No urinal

(xi) The minimum number of sanitary units required in public buildings is as follows:

1. Hotels

➤ Halls

- Toilet, 2 urinals, 2 hand washing basins for every 80-100 men
- 3 toilets, 2 hand washing basins for every 100 ladies

➤ Rooms

- 1 toilet, 1 hand washing basin, 1 bathroom basin for every 10 beds

2. Theatres & cinemas

- 1 toilet 1 urinal for every 200 men
- 2 hand washing basins for every 300 men
- 1 toilet for every 150 ladies
- 1 hand washing basin for every 200 ladies

3. Hospitals

- 1 toilet for every 18 beds (men)
- 1 urinal for every 30 beds (men)
- 1 hand washing basin for every 25 beds (men)
- 1 hand washing basin for every 15 beds (ladies)

Visitors and staff toilets are not included in the above. A reasonable number of toilets should thereof be provided.

4. Mosques

- 1 toilet, 4 water taps for ablution for every 100 men.
- (d) A separate area for ablution shall be provided and connected to the women place of prayer (i.e. 1 toilet and four water taps for ablution for every 100 ladies)
- (e) It is not permitted to build toilets and ablution facilities on the front side of the mosque or on the directional bearing of Kaaba/ Mecca. Ablution places and toilets shall be carefully determined taking into consideration the direction of winds and the possibility of entering the ablution place or toilet from outside and then to the mosque through an inside door
- (f) Ablution places (toilets in particular) shall have a high degree of privacy i.e. no one can see from outside through a door or window

5. Filling stations

- 2 toilets shall be built as part of the main building of a petrol filling station (toilets for workmen in the station are not included) one for men and the other for ladies. The men's toilets shall be provided with a hand washing basin and 2 urinals, the ladies with a hand washing basin only.

6. Educational institutions

- The minimum number of sanitary units required for schools below secondary level is as follows:
 - 1 toilet, 1 hand washing basin for every 20 students or half a class
- For secondary schools and schools above the secondary level the minimum number of sanitary units should be as follows:
 - i. 1 toilet for every 30 students - Male
 - ii. 1 hand washing basin for every 25 students- Male

- iii. 1 urinal for every 25 students - Male
 - iv. 1 toilet for every 25 students - Female
 - v. 1 hand washing basin for every 15 students – Female
- A water tap shall be provided near toilet of bathroom basin for cleaning purposes unless there is a bidet (ladies' shower)
 - All sanitary items shall be fixed in position according to the specifications and criteria adopted in the Bangladesh.

3.2.5 Doors

Doors shall conform to the following provisions in additions to the requirements of Fire protection

- (a) Width: The entrance door shall be 1.0 m. wide, minimum, width of bedroom door and similar doors 0.90m, kitchen door 0.80m, bathroom door 0.75m
- (b) Height: The minimum height of a doorway shall be 2.10m high, measured from the ground floor level to the soffit of lintels/beams or slabs.

3.2.6 Acceptable types of screens

The use of duplex or reflective glass does not apply to windows with screens and windows within roofed balconies or those provided with enough architectural projection to give shade.

- a. Perforated wood screen or wood-grills to cover the upper half of the window opening with ventilation blinders used for the other half (subject to acceptable design). This should be framed and fixed to the aluminium window and glass at a reasonable distance.
- b. Wood blinders that open and close vertically or at an angle.
- c. Aluminium blinders with an insulation layer - This should be fixed to the window from outside (outside the aluminium frame). Blinders should open and close vertically and at an angle.
- d. Other types of screens that serve the same purpose may be used subject to approval of the concerned department provided that these are non-metallic.

3.2.7 Height of other buildings

- i) The height for workshops and store rooms should be 8 m, maximum. (Heavy industries of special specifications may be excluded).
- ii) For Workshops and stores built in reinforced concrete, with no mezzanine, the height may be 4.5 m. minimum or 6 m. to 7 m. maximum
- iii) If the architectural design requires a visible reinforced concrete beam inside the roof of an office, shop or showroom, the projecting part of the beam should be 0.40 m. maximum when the minimum head-room measurement is applied. The reinforced concrete beam should not be visible within bedrooms in residential units.
- iv) International code of practice shall apply to public buildings (e.g. International and regional exhibitions, conference halls, theatres, cinemas and similar buildings if no particular conditions are specified). Sheds may exceed the limit of maximum height, subject to functional and structural requirements.
- v) Staircase room, water tank and air-conditioning equipment etc. on the roof of the buildings may exceed the maximum height of the building and shall be screened according to the authority's design or any other approved design. The parapet wall shall not be more than one meter and a half above the maximum height of the building. Domes decorations, ventilation towers, chimneys and minarets may exceed the maximum height of the building.
- vi) In Commercial and Commercial Residential Buildings Ground floor 4.00 m up to 4.75 m maximum in case there is no mezzanine. The measurements apply whether the ground floor is part of a multi-storey residential-commercial building or a one-storey commercial building.

3.2.8 Mezzanine floor

- (a) **Size:** The total area of a mezzanine floor shall not exceed 50 per cent of the area of show room or shop.

- (b) **Height:** The space for the mezzanine shall be connected to the showroom of shop and provided with a fence or rails, of minimum height of 0.9m.

The height of commercial mezzanine is determined according to the conditions specified for internal heights of buildings.

In commercial and commercial residential buildings, the minimum height of mezzanine is 2.60m to 3.00m and the minimum height of ground floor should be 6 m.

The construction of commercial mezzanines in industrial areas (workshops or factories) and warehouses shall be approved subject to the following conditions:

- (i) In workshops, factories and warehouses with sheds, it is permitted to have mezzanine area of 30% of the net area of workshops, factory or warehouse.
- (ii) In factories and warehouses, it is permitted to screen the space of mezzanine connected to the lower space with glass, perforated wood or aluminium.
- (iii) In workshops built of concrete material, a mezzanine, 25% of the net area of workshop, shall be permitted

(c) Other requirements:

- (i) The mezzanine shall only be used for the direct service of the show-room or shop,
- (ii) The projection of mezzanine beyond the horizontal floor plan of the showroom or shop is not permitted. Special cases may be excluded if approved by concerned authorities.
- (iii) The mezzanine shall have ventilation and natural lighting.
- (iv) The mezzanine floor is not closed so as to make it possible to be converted into unventilated compartment.
- (v) Access to the mezzanine floor is from the respective room only.
- (vi) It is so constructed as not to interfere under any circumstances with the ventilation of the space above and under it.
- (vii) No part of it is put to use as a kitchen.
- (viii) It is at least 1.8m away from the front wall of the room.

3.2.9Roof floor

Usage and conditions of the Roof Floor are as follows:

- (i) The roof floor is used to accommodate service facilities in the building such as the staircase room, water tank air conditioning equipment, lift engine room, central TV antenna/ dish etc.
- (ii) A room or hall may be approved on the roof of villas only provided that it occupies about 10% of the roof area. Its area should not be more than 30 sq.m whatever the roof area is.
- (iii) No room is permissible on the roof of a two storey residential building (for investment) which includes more than two residential units (two flats). However, if the building consists of two units (one in the ground floor and another in the first floor) one room, area 20 sq.m maximum may be permitted.
- (iv) Private residence (one unit) may be permitted on the roof of a residential building or multi-storey residential-commercial building (three floors minimum) subject to approval of the concerned planning department. This unit may occupy 50% of the roof area. Its area should be 350 sq.m maximum, whatever the area of the roof.
- (v) A pergola of permanent or temporary material occupying about 10% of the roof area may be permitted provided that its area is limited up to 40 sq.m maximum whatever the area of the roof. The pergola should be 2.30 m. height, measured from the ground of the floor to the lower soffit of concrete or wooden beams.
- (vi) Buildings with more than three residential units should have one central TV antenna to serve the whole building. This should be shown on plans of the building when submitted for approval.
- (vii) Rooms on the roof are not permitted in buildings in industrial areas only a stair room is allowed.

3.2.10 *Open to sky*

- i. In residential, commercial and multi storey residential commercial buildings (where the open-to-sky is required in the architectural design to meet the condition for natural light and ventilation for rooms, offices, bathrooms, toilets, kitchens and staircases) the area and dimensions for the open-to-sky shall be according to the table below:
- ii. The areas and dimensions do not include balconies overlooking the open-to-sky. Open-to-sky should not have any sort of construction that reduces the amount of light or ventilation or the areas and dimensions shown on the table below:

S. No.	No. of floors	Internal spaces overlooking the open-to-sky	Minimum area of opening (Sq.m)	Least dimension of sides (M.L)
1	1-3 floors	Bedrooms or offices	7.50	2.50
2	More than three floors	Bedrooms or offices	$(1/5 \times \text{height})^2$, the outcome of this formula should be 9sq.m (minimum)	3.00
3	1-3 floors	Kitchen, bathrooms, toilets, stairs	7.50	2.50
4	4-6 floors	Kitchen, bathrooms, toilets, stairs	9	3.00
5	More than 6 floors	Kitchen, bathrooms, toilets, stairs	12	3.00

(The conditions mentioned under no. 1, 2 and 3 of the table above do not apply to bath rooms in public buildings such as hospitals and hotels etc.)

- iii. In residential buildings one room only, in each unit (flat), shall overlook the open-to-sky.
- iv. In multi-storeyed residential, commercial and residential commercial buildings where only bathrooms or toilets overlook the open-to-sky, the area of the open-to-sky provided for natural light and ventilation shall be 1.50 sq.m. The length of each side shall not be less than 1 m. Bathrooms and toilets

of multi-storeyed buildings (3-floors or more) may be excluded from the open-to-sky condition provided that proper artificial means are provided for ventilation and treatment of bad odour. Doors shall also have reasonable opening of perforated wood or aluminium.

- v. The floor of the open-to-sky shall be paved with tiles or concrete and provided with appropriate means for drainage.
- vi. The open-to-sky may have an opening for maintenance, cleaning and rescue purposes.

3.2.11 Requirement of basement

- a) Area and extent: The basement should not project more than 1.40m above the level of internal courtyard or the level of road pavement.
- b) Height: The net vertical height of basement is 2.75m to 3.50m maximum, measured from the ground of the basement to the soffit of the roof slab.
- c) Ventilation: The basement shall have natural ventilation, directly or indirectly.
- d) Uses permitted: The basement may be put to the following uses:
 - (i) Residential building: Parking, services, emergencies and recreation. It should not be used for residence purpose.
 - (ii) Residential, commercial and commercial buildings: For storing non-inflammable materials, services, emergencies and parking.
 - (iii) Buildings for public services: A basement may be permitted if necessary, provided that approval of the security department is obtained if it is to be used parking.
- e) Other requirements:
 - i) The basement in any building shall not exceed more than one floor
 - ii) One toilet or two may be permitted in the basement if proper connections to main sewers are provided.
 - iii) Provisions for setbacks of the main building apply to the basement as well
 - iv) Protection against leaking through the walls and the ground of the

basement should be considered. Drainage shall be provided and necessary precautions taken to protect neighboring buildings during the construction of basement.

- v) All the conditions and provisions for protection against fire and other safety conditions apply to the basement floor.
- vi) The area of basement shall not exceed the area of the ground floor.

3.2.12 Meter room

An independent and ventilated meter (service) room directly accessible from the outside shall be provided on the ground floor according to the requirement of the electric supply undertaking. The door to the room shall have fire resistance of not less than 2 hours.

3.2.13 Requirement of stair ways

- i) One staircase, at least, for each building where the area of one floor is not less than 500 sq.m and the total floors area is not more than 1500 sq.m
- ii) An additional staircase shall be provided for every 500 sq.m in addition to the area of one floor or for every 1500 sq.m additional to the total area of the building (as mentioned above)
- iii) The main staircase shall be built of reinforced concrete or any non-inflammable material. Staircases of private buildings and those for mezzanine in small shops are not included.
- iv) Stairways shall conform to the fire safety regulations in additions to the requirements listed below:
 - (a) Width: The net minimum clear width of stairs of main staircase other than a fire escape shall be as below:

Sr. No.	Type of occupancy	Min. Width of staircase (in meters)
1	Residential and residential commercial buildings	○ 1.10m if the staircase serves three residential units in one floor or a total of 12 units maximum in all floors.

		o 1.20 m if the number of residential units in a floor is above 12
2	Commercial buildings	1.20 m in buildings that consists of up to 5 floors and 1.40 m in buildings above that limit.
3	Public Buildings (Hospitals, schools, hotels etc)	1.40 m

The above conditions do not apply to staircases used for special or industrial purposes, minarets, towers and small oriental style buildings, also excluded are staircases of private buildings and villas the clear width of which shall be 1m, minimum.

- (b) The maximum travel distance served by the staircase shall be 27 m.
- (c) The number of stairs in each part of the staircase leading in one direction shall not exceed 14. Open external stairs of one storey oriental buildings are not included.
- (d) Treads: The tread of one step may not be less than 28 cm in width and not more than 30 cm. the rise of the step should not be less than 15 cm and not more than 18 cm. (Tread excludes nosing if any)
- (e) Head room: The net distance between one landing and the one above shall not be less than 2.20 m
- (f) The stairs shall be calculated according to the following formula.
- Twice the rise of one step + tread = 60 to 65 cm.
- (g) Hand rail: Hand rails with a minimum height of 0.8 m from the center of the treads shall be provided.
- (h) Floor indicator: The number of each floor shall be conspicuously painted in figures at least 15 cm. large on the wall facing the flights of a stairway or at such suitable place as is distinctly visible from the flights.

- (i) No living space, store or other space including fire risk shall open directly into the stair case.
- (j) External exit door of staircase enclosure at ground level shall open directly to the open space or should be reached without passing through any door other than a door provided to form a draught lobby.

3.2.14 Ramps

Ramps for pedestrians

- (a) General provisions applicable to stairways shall generally apply to ramps. A ramp in a hospital building shall not be less than 2.40m.wide.
- (b) Slope: the ramp shall have a slope not more than 1 in 10 and it shall be on non-slippery material.
- (c) Other requirements:
 - i) Handrails shall be provided on both sides of the ramps.
 - ii) Ramps shall lead directly to outside open space at ground level or courtyards or safe place

3.2.15 Passages and corridors

The minimum width of corridors and passages in buildings shall be as follows:

➤ **Residential buildings:**

- (i) Corridors inside the residential unit 1.20 m.
- (ii) Public corridors of 15m, length maximum leading to various residential units (between two rows of units) shall be 1.50m wide. If the length is more than 15m, the maximum width shall be 2.20 m.
- (iii) Public corridors (in front of one row of units) leading to five residential units shall be 1.40 m wide. For more than five units the width of the corridor should be increased by 5% per unit provided that it does not exceed 2m.

➤ **Commercial buildings:**

- (i) The width of main corridors in front of a row of showrooms or shops shall be 1.80 m (unless special conditions are set for the commercial area)
- (ii) The width of the main corridor between two rows of showrooms or shops shall be 2.50 m

➤ **Hospitals and schools:**

- (i) The width of main corridors shall be 2.50m

➤ **Hostels and similar buildings:**

- (i) The width of main corridors shall be 2.20m
- (ii) Standard international specifications and measurements shall apply to corridors in other public buildings such as sports grounds, cinemas etc.

➤ **Other requirements:**

- (i) In the case of more than one staircase of the building by a corridor or other enclosed space, there shall be at least one smoke stop door across the corridor or enclosed space between the doors in the enclosing walls of any two staircases.

3.2.16 Percentage of covered area

The percentage of covered area differs from one area to another depending on the condition of each area and the type of buildings. Hence, it is not allowed to exceed the percentage set by the authority for each area according to its detailed plans.

The percentage of covered area does not include the following:

- i. Architectural projections.
- ii. Water tanks and mechanical equipments (if it is necessary to keep these separate from the main building)
- iii. Guard room and annexed facilities (if built separately from the main building)
- iv. Servants' accommodation provided that it consists of two rooms and adjoining facilities, in an area of 30 sq.m maximum. The Authority may

reduce the area and the number of rooms depending on the size of main building.

- v. Pergola whether it is used for sitting out of doors or for parking
- vi. Open to sky
- vii. Projecting shades, canopies at entrances of buildings.

The calculation of the percentage of floor area does not include the following:

- i. Mezzanine
- ii. Service floor
- iii. Stair and lift room on the roof of the building or any other room permitted on the roof

3.2.17 *Planned areas*

- i. Balconies and rooms projecting beyond the boundary of the plot shall not be permitted.
- ii. Balconies and projecting rooms are considered an integral part of the main building, therefore the article on setbacks, if any, shall be equally applied.

3.2.18 *Un-planned and partly planned areas*

- i. The projection of room or balcony shall be 10% of the width of the road. It should not be more than 1.20 m. wide, whatever the width of road.
- ii. The net width of the balcony shall be 75 cm. minimum.
- iii. The clear distance between the soffit of the slab of balcony or projecting room and the level of neighbouring foot-path shall be 4m minimum.
- iv. No balcony or room may project over a road less than 7.5 m wide.
 - a. Balconies in residential buildings overlooking the street and used for washing lines shall be screened. Perforated wood may be used for screening provided that the openings are not more than 1.50 cm x 1.50 cm, also perforated concrete depth 10 cm. maximum and openings not more than 7 cm x 7 cm. may be used.
 - b. In multi-storied residential buildings, with more than three units (flats) a balcony shall be provided in each unit for washing line. This should be appropriately located according to the architectural design of the unit and screened using one of the screening elements mentioned in (a) above.
 - c. Washing lines on balconies may only be used if the screening elements mentioned above are provided.
 - d. It shall not be permitted to use metal grills to screen openings in buildings (balconies or windows).

3.2.19 *Set backs*

Setbacks from the boundaries of adjacent plots in residential and commercial areas are determined according to the following (this does not include areas where special conditions are set for setbacks)

- i. If there are openings or windows on the side of the building overlooking the adjacent plot, a distance of 1.50 m minimum shall be left as set back in single storied buildings or the ground floor of multi-storied building.
- ii. A set back of 3 m minimum shall be left for the same purpose (as mentioned above) in case of successive upper floors of the same design (up to seven floors, ground floor is not included) provided that the area of openings is less than 15% of the area of the building façade/elevation overlooking the floor (ground floor not included) set back shall be 5m.
- iii. No openings or windows are permitted in buildings which consist of more than one floor unless these are overlooking a road, of width 6 m minimum. Otherwise the setback between the façade/elevation of the building and the edge of the road shall be half the difference between the width of the existing road and 6 m. this does not apply where the openings are only for bathrooms toilets and stairs. Also for buildings in small plots in unplanned areas where plot area is within 200 sq.m
- iv. Setbacks shall always be measured from the external boundary of the building to the boundary of the adjacent plot.
- v. A distance of 1.5 m shall be left for set-back if there are exhaust fans or air conditioners facing the adjacent plot. This condition applies to all residential and residential-commercial buildings whatever the number of floors.

3.2.20 Service floor

- i. A service floor may be permitted in high rise buildings (above 8 floors)
- ii. It is used for collection and convergence of sewage connections, water pipes, mechanical equipments and or for parking.
- iii. The height of service floor from the ground level to the soffit of the roof slab shall be 2.30 m maximum.
- iv. The service floor shall be an open area without any partitions.

3.2.21 Levelling floor

- i. The conditions regarding the heights of building do not apply to the leveling floor.
- ii. One leveling floor only, is permitted, however another leveling floor may be allowed in areas where the slope of the ground is steep.
- iii. No walls shall be built around the leveling floor of it is on the front side of the plot.
- iv. The leveling floor shall not occupy more than 50% of the area of the ground floor. However, this percentage does not strictly apply where the condition of the plot and the natural slope of the ground level requires otherwise. The area of the leveling floor should not be more than 60% of the ground floor area.
- v. All the conditions regarding lighting and ventilation shall apply to the leveling floor

3.2.22 Pergola

- i. The pergola, whether of reinforced concrete or timber, may be built on the roof of the building or the courtyard of the plot. The conditions for setbacks apply if it is built of concrete material.
- ii. The pergola should be open on all sides except the side adjoining part of the building or a wall.
- iii. The area of openings in the pergola shall not be less than 50% of its total area

3.2.23 Use of buildings

- a. Complexes or buildings for workers or bachelors accommodation are not permitted in residential or residential commercial areas. Any architectural design revealing such use shall not be accepted. Also buildings that consist of family as well as bachelors accommodation shall not be permitted.
- b. Buildings for industrial activities (heavy or light industries) shall not be permitted in residential, commercial or residential commercial areas.
- c. Residential and residential-commercial buildings of four floors, minimum, or buildings that have more than 10 residential units shall be provided with a bathroom in the ground floor, connected to the entrance, for use of the guard.

3.2.24 Architectural projection and building facades / elevations

- i. Architectural projection, 5% of the width of the street, is permitted on the neighbouring street side provided that the projection does not exceed 50 cm, whatever the width of the street.
- ii. The architectural design of facades/elevations of residential and residential-commercial buildings shall be according to the local or Islamic style as in the models prepared by the concerned Department or the conceptual design submitted by the Consultant and approved by the concerned Department.
- iii. Totally inclined roofs are not permitted as well as the use of potter tiles of all colours. However in facades such as entrances of buildings and sheds over windows slight deviations from these conditions may be accepted.
- iv. Projecting or visible air-conditioners on facades/elevations of buildings shall be covered with a screen. Air-conditioners, in all floors, shall have plastic pipes coming down the building to the ground to drain excess water. These pipes shall be inside the wall or fixed to it from outside in such a way that does not distort the facade/elevation of the building.
- v. Unfinished plain concrete block shall not be used for the exterior facia on any building or structure located within the area covered by these regulations where that portion of the building or structure is located:
 - i) On a frontage or flanking facing a street.
 - ii) Permanent and decorative walls with a maximum height of 3m are permitted.

3.2.25 Water tanks

- i. Water tanks shall be of non-rusting, non-corrosive material that preserve the natural and chemical qualities of water, its colour, taste and odour and is unaffected by weather conditions such as heat and humidity.
- ii. The design of tanks shall not include sharp angles that lead to the accumulation of dirt or germs and obstruct regular cleaning.
- iii. Tanks shall have tightly closed openings for filling, distribution and discharge.

- Openings shall be designed in such a way that prevents pollution and entry of insects. The opening shall be as follows:
- a. For big tanks the opening for filling shall be wide enough to allow the person in charge of regular cleaning to get inside the tank.
 - b. Openings for distribution shall be at one side of the tank at a height of 6 cm, minimum, in order to prevent in-flow of deposits from the tank to distribution pipes.
 - c. Openings for scour-drainage shall be at the bottom of the tank. It shall be wide enough to drain all water and deposits.
 - d. The tank shall be covered with wooden slats designed according to the architectural design.
- iv. The tank inward or outward connections for distribution of water to the building should be of non-rusting, non-corrosive material
- v. Wherever the tank is located in a building it shall be put on appropriate supports of 1 foot above floor level so that the bottom of the tank may be cleansed. The tank should be kept away from sources of external pollution and should not be placed on the ground directly.
- vi. Water tanks shall be cleaned regularly (once in every six months minimum) and sterilized with approved detergents. Materials and equipments used for cleaning should be non-poisonous and should not include organic materials harmful to health. The authorities has the right to take regulatory actions according to the controls set in this regard.
- vii. Municipal authorities reserve the right to enter residential complexes at appropriate times to inspect water tanks, ensure adherence to the conditions and that tanks are regularly cleaned and the water is suitable for human consumption.

3.2.26 Sewage disposal

Without violation of the conditions and specifications for sewage disposal network and the provisions stipulated by the Department of Environment the following articles shall be applicable.

- Requirement for sewage disposal:
- i) Vertical waste water pipes
 - ii) In toilets, the internal diameter of sewage disposal pipe shall be 10 cm. minimum.
 - iii) The internal diameter of the waste water pipe (for bathroom basin, hand washing basin, ground sewerage, etc.) shall not be less than 7.5 cm. Waste in the pipe is disposed into a gully trap before reaching the inspection chamber.
 - iv) Waste water from the dishwashing sink in the kitchen is directly disposed into the vertical waste water pipe then into the gully trap and then inspection chamber.
 - v) A vent pipe, diameter 7.5 cm minimum, shall be used for ventilation in toilets. The pipe shall be of a reasonable height.
 - vi) The diameter of waste pipes (ground connection) shall be 15 cm minimum. The laying of such pipes under buildings should be avoided as far as possible. But if the laying of part of the waste pipe under the building is unavoidable it should be made of cast iron or any other material of approved technical specifications. The pipe shall be 6 mm thick (minimum) and covered with concrete 13 cm thick (minimum).
 - vii) If bathrooms, toilets or kitchens overlook a main road or minor road, the vertical pipes, if any, should be covered. Doors for inspection and maintenance of pipes should also be provided and appropriately located.
 - viii) Waste water pipes whether vertical, horizontal or underground should be of strong non-inflammable non-corrosive material and according to the specifications adopted in Bangladesh.
 - ix) Waste water pipes (ground connections) should not be less than 60 cm. below the ground level and its slope shall be as follows:

Pipe size	Horizontal gradient	Vertical gradient
15 cm	1/60	1/8
20 cm	1/90	1/12
22.5 cm	1/100	1/14

In case it is necessary to use pumps the department concerned may permit lesser gradients as follows:		
15 cm		1/100 maximum
20 cm		1/175 maximum
22.5 cm		1/200 maximum

3.2.26.1 The locations and conditions of inspection chamber:

- i) Inspection chambers shall be built at each point the pipe route (sewer) changes its direction, level or slope.
- ii) At the junctions two or more waste pipes.
- iii) At the open ends of the waste pipe under the building.
- iv) At the junction of a vertical pipe with the ground connections.
- v) At the end of the horizontal waste pipe before it is connected to the main sewerage or septic tank.
- vi) The inspection chamber shall be built on a reinforced concrete layer 20 cm. thick, minimum. Its wall shall be built of block work with a thickness proportionate to the depth but not less than 20 cm. (Walls may be built of concrete). The inside of the inspection chamber shall be plastered in order to be smooth and to insulate water and humidity.
- vii) Sloping grounds (benching) shall be built inside the entrance openings around the pipes. The slope towards the pipe shall be 1:2.
- viii) The distance between an inspection chamber and the next one shall not be more than 25m.
- ix) The dimensions of inspection chambers vary from one chamber to another. However, these shall not be less than 60 cm. x 60 cm. The opening of the entrance shall be 45 x 45 cm. minimum. The inspection chamber shall be tightly covered with a cast iron cover or reinforced concrete in accordance with the standard specification in the Bangladesh.

3.2.26.2 (A) Septic tanks

In areas with no public sewers, a septic tank shall be provided according to the type of soil at the site of the building, technical specifications, and regulations and approved schedules. Excess liquid waste from the tank shall be disposed to the soakage pit, waste pit or well.

The following conditions shall be observed when the septic tank is built:

- i. It shall be of adequate capacity, to contain human waste of the building and according to Standard criteria and rules adopted in the Economic zone of Bangladesh.
- ii. It shall be built in an open space accessible for maintenance, discharge etc. It may also be built near to a place where public sewers are expected to be provided in future.
- iii. The septic tank shall not be less than 2 m. from any building in the plot or neighbouring building. It shall be provided with insulators on the base and sides and well plastered from inside with cement and sand. The 2 m. distance between the tank and building is subject to review in unplanned areas where plot area is not more than 100 sq. m. provided that it has no adverse effect on public safety or interference with the rights of others.
- iv. The tank shall be built on a concrete or reinforced concrete layer and the side walls of cement blocks, concrete or reinforced concrete. The roof shall be of reinforced concrete, thickness 15 cm. minimum. It shall have enough openings for inspection (60 cm x 60 cm) and a tight cover.
- v. A septic tank shall have inspection chambers at the entrance and exit. The inspection chamber at the entrance is for initial precipitation.
- vi. The length of the tank shall not be less than three times the width or four times the width, maximum.
- vii. The depth of the septic tank shall be 1.20 m. minimum, if it is intended to serve 10 people and 1.50 m. minimum if it is for more than 10 people.
- viii. Ventilation shall be adequately provided by using the proper means as in force.
- ix. Approved readymade septic tanks may be used.
- x. Other technical methods in building septic tanks shall be observed.

(B) Soakage pit

- i. Waste is disposed from the septic tank on to the soakage pit in case of porous soil, where ground water is at an appropriate depth from the surface to allow for disposal. An under-ground soaking system may be used after obtaining approval from the concerned departments.
- ii. Walls of the pit shall be built of cement blocks or lime stone with no mortar but openings to allow disposal. Thickness of stone walls is 50 cm, minimum. Block walls shall be 35 cm thick minimum with no foundations.
- iii. The soakage pit shall be covered with a tight reinforced concrete cover, 15 cm thick, minimum with a tightly covered opening for inspection.
- iv. The depth or height of the pit shall not be more than 2 m.
- v. The length is determined according to the permeability of the soil and the rate of soaking.
- vi. Half the pit may be filled with soaking material.
- vii. The soakage pit shall not be placed at less than 3 m. distance from any building.
- viii. The construction of soakage pit and way of disposal from the septic tank to soakage pit shall be according to approved technical conditions.

(C) Collection tank (holding tank):

If the ground conditions make it impossible to have a soakage pit for disposal of refuse from the septic tank, a collection (holding) tank may be built according to the following conditions to contain and collect (hold) the waste.

- i. The tank shall have a capacity of a two days waste, minimum i.e. 200 liters for every person. The total capacity of the tank shall not be less than 2000 liters.
- ii. It shall be built on reinforced concrete base.
- iii. The walls shall be built of blocks, 30 cm thick at least.
- iv. The collection (holding) tank may be built of reinforced concrete in order to stand the load of traffic.
- v. For easy insertion of the suction pipe to pump out the waste collected in the pit, the reinforced concrete base of the pit shall have a slope of 1:4 towards the draining point, size 60 cm x 60 cm and 30 cm depth, below the base of the tank under the tightly covered opening on its roof (60cm x 60cm).
- vi. Ventilation shall be provided according to approved standard practice.
- vii. The depth of the tank shall be 1.5m. minimum or 2m maximum.
- viii. If more than one collection (holding) tank is built the minimum distance between each two shall be three times the dimension or diameter of the largest tank.
- ix. The tank shall be covered with a reinforced concrete roof, have an opening of 60cm x 60cm minimum, and a tight cover. Precautions shall be taken to prevent the entry of insects through the openings.
- x. The collection (holding) tank shall be located in an open place accessible for maintenance, discharge etc. and suitable for connection to public sewers in future.
- xi. Approved readymade collection (holding) tanks may be used.
 - a. If an alternative method is used for sewage disposal, approval shall be obtained from the concerned departments.
 - b. Under all circumstances technical aspects and approved sanitary regulations shall be observed.

- xii. Waste water pipes, septic tanks and soakage pits shall be within the legal boundaries of the plot, exceptional cases in unplanned areas, plots of small areas or rocky lands are excluded subject to prior approval of the authority.
- xiii. Septic tanks and soakage pits already built outside the boundaries of the plot shall remain in place. A permission to maintain and clean them shall be obtained. If a house is demolished and rebuilt, its owner shall lose the above concession and shall construct a septic tank or soakage pit according to the permit and drawings approved by the authority.

In all the cases, the following points should be considered:

- a. The quality of water discharged shall meet the criteria established by MIEZ
- b. In case the industry does not meet up the criteria, it shall pre-treat the industrial effluent before discharging it to the system.
- c. MIEZ reserves the right to shut the intake of non complying effluent and also penalize the industry.
- d. MIEZ shall levy a connection fees & a monthly water treatment charge, to cover up the operation and maintenance cost.

3.2.26.3 Refuse chutes and refuse chambers

Multi storey buildings consisting of four floors minimum (Ground Floor + 3 Floors) shall be provided with a refuse collection chamber in the Ground Floor as part of the Main Building. The collection chamber shall be according to the following conditions:

- a. In four-storey buildings the area of the chamber shall be 4 sq.m. minimum. This area shall be increased by 20% for each extra floor provided that the maximum area is 8.30 sq.m.
- b. The authority serves the right to order the increase of the area of chamber if the number of residential units in each floor is more than seven. A refuse collection chamber may also be required in multi floor buildings where the number of floors is less than four but the number of units in each floor is more than 10.
- c. Huge buildings of more than 40 units (whatever the number of floors) shall be provided with refuse pressing machines inside the chamber. The area of the chamber shall therefore be determined according to the size of the machine.

- d. The chamber shall be built of non-inflammable materials.
- e. The surface of its floor and walls shall be strong, smooth and corrosion resistant.
- f. It shall be provided with means for liquid disposal on its floor. These are connected to the main sewers to dispose water when the chamber is washed or cleaned.
- g. It shall be reached through a rear entrance or a minor road. It should not be reached through the main entrance of the building.
- h. It shall be properly ventilated.
- i. Hoppers under refuse chutes shall be situated in a well ventilated position and the chutes shall be continued upwards with an outlet above roof level and with an enclosure wall of non-combustible material with fire resistance of not less than two hours. The hoppers shall not be located within the staircase enclosure.
- j. Inspection panels and hopper (charging station) opening shall be fitted with light fitting, metal doors, covers, having a fire resistance of not less than one flap doors/ covers i.e. push-in or lift-up type shall not be permitted.
- k. Refuse chutes shall not be provided in staircase walls and air conditioning shafts, etc.
- l. Refuse chambers shall have walls and floors or roofs constructed of non-combustible and impervious material and shall have a fire resistance of not less than two hours. They shall be located at a safe distance from exit routes.

3.2.27 Canopy

A cantilevered and unclosed canopy may be permitted over each entrance and staircase, if a clear distance of at least 1.5m is maintained between the plot boundary and the outer edge of the canopy. The minimum clear height of the canopy shall be 2.2m.

3.2.28 Rain water harvesting structure

Rain water harvesting in a building site includes storage or recharging into ground of rain water falling on the terrace or on any paved or unpaved surface within the building site.

The following systems may be adopted for harvesting the rain water drawn from

terrace and the paved surface.

- i. Open well of a minimum of 1.00 m dia and 6 m. in depth into which rain water may be channelled and allowed after filtration for removing silt and floating material. The well shall be provided with ventilating covers. The water from the open well may be used for non potable domestic purposes such as washing, flushing and for watering the garden etc.
- ii. Rain water harvesting for recharge of ground water may be done through a bore well around which a pit of one meter width may be excavated up to a depth of at least 3.00 m. and refilled with stone aggregate and sand. The filtered rain water may be channelled to refilled pit for recharging the bore well.
- iii. An impervious surface/underground storage tank of required capacity may be constructed in the setback or other open space and the rain water may be channelled to the storage tank. The storage tank shall always be provided with ventilating covers and shall have draw-off taps suitably placed so that the rain water may be drawn off for domestic, washing gardening and such other purposes. The storage tanks shall be provided with an overflow.
- iv. The surplus rain water after storage may be recharged into ground through percolation pits or trenches or combination of pits and trenches. Depending on the geomorphologic and topographical condition, the pits may be of the size of 1.20m width x 1.20 m. length 2.00 m. to 2.50 m. depth. The trenches can be of 0.60 m. width 2.00 to 6.00m length 1.50 to 2.00 m depth. Terrace water shall be back filled with filter media comprising the following materials.
 - a. 40 mm stone aggregate as bottom layer up to 50% of the depth
 - b. 20 mm stone aggregate as lower middle layer up to 20% of the depth
 - c. Coarse sand as upper middle layer up to 20% of the depth
 - d. A thin layer of fine sand as top layer
 - e. Top 10% of the pits/trenches will be empty and a splash is provided in this portion in such a way that roof top water falls on the splash pad
 - f. Brick masonry wall is to be constructed on the exposed surface of pits/trenches and the cement mortar plastered.
The depth of wall below ground shall be such that the wall prevents loose soil entering into pits/trenches. The projection of the wall above ground

- shall at least be 15 cms.
- g. Perforated concrete slabs shall be provided on pits/trenches
- v. If the open space surrounding the building is not paved, the top layer up to a sufficient depth shall be removed and refilled with course sand to allow percolation of rain water ground.
- vi. The terrace shall be connected to the open well/bore well/storage tank/recharge pit/trench by means of HDPE/PVC pipes through filter media/ a valve system shall be provided to enable the first washings from roof or terrace catchment, as they would contain undesirable dirt. The mouths of all pipes and opening shall be covered with insect proof wire net. For the efficient discharge of rain water, there shall be at least two rain water pipes of 100 mm diameter for a roof area of 100 sq.mt.
- vii. Rain Water harvesting structures shall be sited as not to endanger the stability of building or earthwork. The structures shall be designed such that no dampness is caused in any part of the walls or foundation of the building or those of an adjacent building.

3.2.29 Provision of solar energy assisted systems

Solar Assisted Water Heating System (SAWHS) is a device used for heating water using solar energy as heat source.

Building of the following categories shall provide the system or the installation having an auxiliary Solar Assisted Water Heating Systems (SAWHS)

- i. Hospitals and nursing homes.
- ii. Hotels, lodges and guesthouses.
- iii. Hostels of schools, colleges, training centers.
- iv. Individual residential buildings having more than 150 sq. m. plinth area.
- v. Functional building like waiting rooms, retiring rooms, rest room, inspection bungalows and catering units.
- vi. Community centers, banquet halls and buildings for similar use.

3.2.29.1 Installation of solar assisted water heating systems (SAWHS)

The following provisions shall be applicable for all the new buildings of categories for installation of Solar Energy Assisted Systems.

- i. Adequate provisions shall be made for installation of SAWHS in the building design itself for and insulated pipeline from the rooftop to various distribution points, within the aforesaid occupancies. The building must have a provision for continuous water supply to the solar water heating system.
- ii. In case of hot water requirement, the building should also have open space on the rooftop, which receives direct sunlight. Wherever hot water requirement is continuous, auxiliary heating arrangement either with electric elements or oil of adequate capacity can be provided.
- iii. The load bearing capacity of the roof should at least be 50 kg. per sq.m. All new buildings of above said categories must complete installation of solar water heating systems before obtaining necessary permissions to commence their activities.
- iv. The capacity of solar water heating system to be installed on the building different categories shall be decided in consultation with the Planning / Local Authority/ Upazilla concerned. The recommended minimum capacity shall not be less than 25 liters per day for each bathroom and kitchen subject to the condition that maximum of 50% of the total roof area is provided with the system. The solar connectors used shall have a proper certification mark.
- v. Building permissions for all the new constructions / buildings of the aforesaid categories shall be granted only if they have been complied with these provisions.

3.2.30 Solar energy

Solar panels to be located on appropriate places like roof top of parking area, administrative and private buildings.

- i. All inverters shall be installed at the outdoors to suit the local voltage conditions

- ii. All mounting structures shall be galvanized
- iii. Stainless steel shall be used for panel mounting fasteners, clips etc.
- iv. All the interconnection cable, LV cable and DC cable shall be of copper conductor.
- v. As per local conditions, due to sandstorms, panel cleaning is necessary
- vi. Dedicated mineral water supply shall be made for panel cleaning
- vii. For disposal of panels, agreement shall be made between the panel supplier and client after its life time

3.2.31 Town gas / LP gas supply pipes

These pipes shall run in shafts exclusively for this purpose and shall be on external walls, away from the staircases. There shall be no interconnection between these shafts and the rest of the floors, Gas meters shall be housed in a suitable constructed metal cupboard locate in well-ventilated space at ground level.

3.2.32 Terrace

Terrace shall not be sub-divided and shall be accessible by the common stair case.

3.2.33 Parapet

The height of the parapet walls and hand rails provided on the edges of the roof terrace shall not be less than 1.15m from the finished terrace.

3.2.34 Special amenities for physically handicapped persons:

Special amenities for physically handicapped persons as specified below shall be provided in buildings to be used for Public offices, commercial occupancy or other public use.

3.2.34.1 Site development

Level of the roads, access paths and parking areas shall be described in the plan along with specification of the materials.

- i. **Access path / walk way:** Access path from plot entry and surface parking to building entrance shall be of minimum of 1800 mm. wide having even surface without any slope. Slope if any shall not have gradient greater than 5%. Finishes shall have a no slip surface with a texture traversable by a wheel chair. Curbs wherever provided shall blend to a common level.
- ii. **Parking:** For parking of vehicles of handicapped people, the following provisions shall be made :
 - a. Surface parking for two car spaces shall be provided near entrance for the physically handicapped persons with maximum travel distance of 30 m. from building entrance.
 - b. The width of parking bay shall be minimum 3.60 m.
 - c. The information stating that the space is reserved for wheel chair users shall be conspicuously displayed.

iii. Building requirement:

The specified facilities for the buildings for physically handicapped persons shall be as follows:

- a. Approach to plinth level
- b. Corridor connecting the entrance/exit for the handicapped.
- c. Stairways.
- d. Lift
- e. Toilet
- f. Drinking water

iv. Approach to plinth level:

Every building should have at least one entrance accessible to the handicapped and shall be indicated by proper signage. This entrance shall be approached through a ramp together with the stepped entry.

v. Ramped approach:

Ramp shall be finished with no slip material to enter the building. Minimum width of ramp shall be 1800 mm with maximum gradient 1:12. Length of ramp shall not exceed 9.0 m. High hand rail on both sides extending 300 mm beyond top and bottom of the ramp. Minimum gap from the adjacent wall to the hand

rail shall be 50 mm.

vi. Stepped approach:

For stepped approach size of tread shall not be less than 300 mm. And maximum riser shall be 150 mm. Provision of 800 mm. High hand rail on both sides of the stepped approach similar to the ramped approach.

vii. Exit / entrance door:

Minimum clear opening of the entrance door shall be 900 mm. And it shall not be provided with a step that obstructed the passage of wheel chair user. Threshold shall not be raised more than 12 mm.

viii. Entrance landing:

Entrance landing shall be provided adjacent to ramp with the minimum dimension 1800 x 2000 mm. Finishes shall have a non-slip surface with a texture traversable by a wheel chair. Curbs wherever provided should blend to a common level.

ix. Corridors connecting the entrance/exit for the handicapped:

The corridor connecting the outdoors to a place where information concerning the overall use of the specified building can be provided to visually impaired persons either by a person or by signs, shall be provided as follows:

- d. The minimum width shall be 1500 mm.
- e. In case there is a difference of level slope ways shall be provided with a slope of 1:12.
- f. Hand rails shall be provided for ramps/slope ways.

x. Stairways:

One of the stair-ways near the entrance/exist for the handicapped shall have the following provisions:

- e. The minimum width shall be 1350 mm.

- f. Height of the riser shall not be more than 150 mm. And width of the tread 300 mm. The steps shall not have abrupt (square) nosing.
- g. Maximum number of risers on a flight shall be limited to 12.
- h. Handrails shall be provided on both sides and shall extend 300mm on top and bottom of each flight steps.

xi. Lifts:

Wherever lift is required as per bye-laws, provision of at least one lift shall be made for the wheel chair user with the following cage dimensions:

- d. Clear internal depth: 1100 mm.
- e. Clear internal width: 2000 mm.
- f. Entrance door width: 900 mm.

- v. A hand rail not less than 600 mm long at 1000 mm above floor level shall be fixed adjacent to the control panel. Also, switch control shall be at an operating height equal to that of hand rails.
- vi. The lift lobby shall be of an inside measurement of 1800 x 1800 mm or more
- vii. The time of an automatically closing door should be minimum 5 second and the closing speed should not exceed 0.25 m/sec.
- viii. The interior of the case shall be provided with a device that audibly indicates the floor the cage has reached and indicates that the door of the cage for entrance/exit is either open or closed.

xii. Toilets:

One special W.C. in a set of toilet shall be provided for the use of handicapped with essential provision of wash basin near the entrance for the handicapped:

- e. The minimum size shall be 1500 x 1750 mm
- f. Minimum clear opening of the door shall be 900 mm and the door shall swing out.
- g. Suitable arrangement of vertical/horizontal handrails with 50 mm. Clearance from wall shall be made in the toilet.
- h. The W.C. seat shall be 500 mm from the floor.

xiii. Provision for drinking water:

Suitable provision of drinking water shall be made for the handicapped near the special toilet provided for them.

xiv. Designing for children:

In the buildings meant for the predominant use of the children, it will be necessary to suitably alter the height of the handrail and other fittings and fixtures etc.

3.2.35 Electrical services

- (i) The electric distribution cables wiring shall be laid in a separate duct. The duct shall be sealed at every alternate floor with non-combustible materials having the same fire resistance as that of the duct.
- (j) Water mains, telephone lines, inter-com lines, gas pipes or any other service line shall not be laid in the duct laid for electric cables.
- (k) Separate circuits for water pumps, lifts, staircase and corridor lighting and blowers for the pressurizing system shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduct pipes so that fire in one circuit will not affect the others. Master switches controlling essential services circuits shall be clearly labelled.
- (l) The inspection panel doors and any other opening in the shaft shall be provided with airtight fire doors having a fire resistance of not less than two hours.
- (m) Medium and low voltage wiring running in shafts, and within a false ceiling, shall run in metal conduits.
- (n) An independent and well ventilated service room shall be provided on the ground floor with direct access from outside or from the corridor for the purpose of termination of electric supply from the licensee's service and alternative supply cables. The door provided for the service room shall have fire resistance of not less than two hours.

- (o) If the licensees agree to provide meters on upper floors, the licensee's cables shall be segregated from consumer's cables by a partition in the duct. Meter rooms on upper floors shall not open into staircase enclosures and shall have fire resistance of not less than two hours.
- (p) PVC cables should have an additional sheathing or protection provided by compounds sprayed on after installation

3.2.35.1 *Alternate source of electric supply*

A stand-by electric generator shall be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pump, pressurization fans and blowers, smoke extraction and damper systems in case of failure of normal electric supply. The generators shall be capable of taking starting current of all the machines and circuits stated above simultaneously. If the stand-by pump is driven by diesel engine, the generator supply need not be connected to the stand-by pump.

3.2.35.2 *Transformers*

- (a) If transformers are housed in a basement, they shall be necessarily in the first basement in a separate fire resisting room of four hours rating, at the periphery of the basement. The rooms shall be protected by carbon dioxide or BCF fixed installation system to protect transformers. The entrance to the room shall be provided at the entrance in order to prevent the flow of oil from a ruptured transformer into other parts of the basement. Direct access to the transformer room shall be provided preferably from outside. The switchgears shall be housed in a separate room separated from the transformer bays by a fire-resisting wall with fire resistance of not less than four hours.
- (b) If housed in basement, the transformer shall be protected by an automatic high-pressure water spray system (emulsifying).
- (c) Transformers housed at ground floor level shall be cut-off form the other portion of the premises by fire resisting walls of four hour's fire resistance.
- (d) They shall not be housed on upper floors.

- (e) A tank of RCC construction of capacity capable of accommodating the entire oil of the transformers shall be provided at lower level, to collect the oil from the catch-pit in an emergency. The pipe connecting the catch-pit to the tank shall be of non-combustible construction and shall be provided with a flame-arrester.

3.2.35.3 Light and ventilation

- (1) Adequacy and manner of provision: All parts of any room shall be adequately lighted and ventilated. For this purpose every room shall have:
- (a) One or more apertures, excluding doors, with area not less than one-sixth of the floor area of the room, with no part of any habitable room being more than 7.5m away from the source of light and ventilation. However a staircase shall be deemed to be lighted and ventilated if it has one or more openings their area taken together measuring not less than 1 sqm per landing on the external wall.
- (b) An opening with a minimum area of 1 sqm in any habitable room including a kitchen and 0.3 sqm with one dimension of 0.3m for any bathroom water closet or store.
- (c) All walls containing the openings for light and ventilation fully exposed to an exterior open surface either directly or through an veranda not exceeding 2.4m in width provided that a room meant for a non resident user shall be considered as adequately lighted and ventilated if its depth from the side abutting the required open space does not exceed 12m.
- (2) Artificial ventilation shaft: - A bathroom, water closet, stair case or store may abut on the ventilation shaft the size of which shall not be less than the values given below:

Height of building	Cross section of ventilation shaft in sqm.	Side of shaft in meters
Upto 12 meters	2.8	1.2
Upto 18 meters	4.0	1.5
Upto 24 meters	5.4	1.8
Upto 30 meters	8.0	2.4
Above 30 meters	9.0	3.0

- (3) Artificial lighting and mechanical ventilation: Where lighting and ventilation requirements are not met through day lighting and natural ventilation they shall be ensured through artificial lighting and ventilation

3.2.35.4 Staircase and corridor lighting

- (a) The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that they could be operated by one switch installation on the ground floor easily accessible to fire-fighting staff at any time irrespective of the position of the individual control of the light points, if any.
- (b) Staircase and corridor lighting shall also be connected to alternate supply as defined in sub-Regulation. However, for assembly and institutional buildings less than 24 cm, the alternate source of supply may be provided by battery continuously trickling charges form the electric mains.
- (c) Double throw switches should be installed to ensure that the lighting in the staircase and the corridor do not get connected to two sources of supply simultaneously. A double throw switch shall be installed in the service room to terminate the stand-by-supply.
- (d) Emergency lights shall be provided in the staircase/corridors for multi-storeyed high rise buildings.

3.2.35.5 Air-conditioning

- (a) Escape routes like staircases, common corridors, lift lobbies etc. shall not be used as return air passages.
- (b) The ducting shall be constructed of substantial gauge metal.
- (c) Wherever the ducts pass through fire-walls or floors the opening around the ducts shall be sealed with relevant fire-resisting materials like vermiculite concrete glass wool, etc.
- (d) As far as possible, metallic ducts shall be used even for the return air instead of space above the false ceiling.

- (e) The materials used for insulating the duct system (inside or outside) shall be of non-combustible materials such as glass wool, spun glass with neoprene facing.
- (f) Area more than 750 sq.m on an individual floor shall be segregated by a firewall and automatic fire dampers. Isolation shall be provided where the ducts pass through firewalls. The fire dampers shall be capable of operating manually.
- (g) Air ducts serving floor areas, corridor etc. shall not pass through the staircase enclosure.
- (h) The air handling units shall be as far as possible be separate for each floor and air ducts for every floor shall be separate and in no way interconnected with the ducting of any other floors.
- (i) Automatic fire dampers shall be provided at the inlet of the fresh air duct of each compartment on every floor. They shall be so arranged as to close by gravity in the direction of the air movement and to remain tightly closed upon operation of a smoke detector.
- (j) If the air handling unit serves more than one floor, the requirements given above shall be compiled with an addition to the conditions given below:-
 - i) Proper arrangements by way of automatic fire dampers working on smoke detectors for isolating all ducting at every floor from the main riser shall be made.
 - ii) When the automatic fire alarm operates, the respective air handling units of the air-conditioning system shall automatically be switched off.
 - iii) The air filters of the air-handling units shall be of non-combustible materials.
 - iv) The air handling unit room shall not be used for storage of any combustible materials.
 - v) Inspection panels shall be provided in main trunking to facilitate the cleaning of the duct of accumulated dust and to obtain access for maintenance of fire dampers.
 - vi) No combustible material shall be fixed nearer than 15 cm to any duct unless such duct is properly enclosed and protected with non-combustible material

(glass wool or spun glass with neoprene facing enclosed and wrapped with aluminum sheeting) at least 3.2mm thick and which does not readily conduct heat.

- vii) Materials used for false ceilings, runners and suspenders shall be of non-combustible material

3.2.36 Fire protection requirement

Any building of more than three floors (ground floor included) or of a height more than 13.5m measured from the road level or has a floor area more than 350 sq.m, corridors, emergency exits or additional stairs leading directly outside shall be provided.

- i) These means of escape shall be according to the specifications and conditions of protection of buildings against fire issued by the Directorate of Fire service and Civil defence.
- ii) Buildings of one to four floors and floor area of 450 sq.m maximum, may be exempted from the additional stair case condition provided that other precautionary measures against fire are provided.
- iii) Staircases, emergency exits, corridors and walls shall be capable of resisting fire for half an hour at least or made of non inflammable material.
- iv) The staircase provided for escape shall have a clear width of not less than 90cm. The rise of one step shall not be more than 20 cm and the number of steps leading in one direction shall not exceed 12
 - a. The distance from the escape staircase to the entrance of the unit shall not be more than 10m
 - b. The distance from the door of any bedroom to the entrance of the unit shall not be more than 7.50 m
 - c. Doors of bedrooms, kitchen and the main entrance of the unit shall be fire resistant for half an hour at least.

- d. Partitions between indoor halls and corridors shall be provided with materials capable of resisting fire for half an hour at least. The same applies to walls along the staircases.
- e. In order to limit the spread of fire to other parts of the building, facilitate extinction and the safe evacuation, the building shall be divided horizontally and vertically into fire zones according to the specifications and conditions for the protection of buildings against fire issued by the Directorate of Fire Service and Civil Defence.
- v) Buildings where large number of people are usually present or areas where inflammable or dangerous materials are manufactured, used or stored, the number, direction and distance from one point and the nearest emergency exit should be according to the specifications and conditions for protection of buildings against fire issued by the Directorate of Fire Service and Civil Defence. The same applies to unfamiliar buildings or buildings in which people cannot easily move.
- vi) Roofs of buildings, balconies and open-to-sky shall be provided with rails or walls of height not less than 90 cm.
- vii) Hose reels for fire extinction or rising pipes shall be used to extinguish fire in buildings of more than four floors or where the number of flats on one floor exceeds four.
- viii) Small shops shall be provided with manually operated fire extinguishers. Equipment for fire extinction in commercial showrooms of large areas (area of one show room more than 60 sq.m) shall be determined by concerned department, each case considered separately.
- ix) Fire extinguishing equipment shall be appropriately placed and according to approved technical standards. Buildings shall have fire warning and fire fighting devices according to the specifications and guidelines approved by the concerned fire department.

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- x) Approval of Directorate of Fire Service and Civil Defence on plans for the following buildings shall be obtained before these are finally approved by the authority.
- a. Buildings of and more than four floors or if the area of ground floor is more than 350 sq.m or the area of the one shop in the ground floor used for commercial purposes, is more than 60 sq.m
 - b. Any multi storey commercial building, hotels, hospitals and similar buildings, also private shopping centers, multi-storey car parks in basement if the area is more than 450 sq.m, heavy and other industrial buildings in which more than 10 people are employed and involve the use of dangerous materials. Also buildings used for storing or selling inflammable materials, cinemas, theatres and other similar buildings.
 - c. The authority may ask for approval to be obtained from the Directorate of Fire Service and Civil Defence for plans of any buildings, if necessary.
- xi) A space or balcony, overlooking an open space which has courtyard or road shall be provided outside the kitchen for keeping gas cylinders to ensure the safety of residents in single family housing and multi floor residential blocks. The cylinder outside the kitchen shall be properly connected to the kitchen and shall have natural ventilation and protection against heat in a way that does not distort the outlook of the building. The cylinders shall also be provided with safety devices such as fast-closing valves etc.
- a. If in the architectural design the kitchen and its balcony overlook an internal courtyard surrounded by walls on all sides, gas cylinders shall not be kept in the balcony. A well secured place may be provided instead on the ground floor for the connection of cylinders to the upper floors. Thos condition does not apply to two storey buildings.
- xii) Exits: Every building meant for human occupancy shall be provided with exits sufficient to permit safe escape of its occupants in case of fire or any other emergency for which the exits shall conform to the following types :

- xiii) Types: Exits should be horizontal or vertical. A horizontal exit may be a doorway, a corridor, a passageway to an internal or external stairway to an adjoining building, a ramp, a veranda or a terrace which has access to the street or to the roof of a building. A vertical exit may be a staircase or a ramp but not a lift.
- xiv) General requirements: Exits from all part of the building except those not accessible for general use shall
- (j) Provide continuous egress to the exterior of the building or to an exterior open space leading to a street;
 - (k) Be so arranged that they can be reached without having to cross another occupied unit;
 - (l) Be free of obstruction;
 - (m) Be adequately illuminated;
 - (n) Be clearly visible, with the route reaching them clearly marked and signs posted to guide any person to the floor concerned;
 - (o) Be fitted, if necessary with fire fighting equipment suitably located but not as to obstruct the passage, clearly marked and with its location clearly indicated on both sides of the exit way;
 - (p) Be fitted with a fire alarm device, if it is either a multi storied, high rise or special building so as to ensure its prompt evacuation
 - (q) Remain unaffected by any alteration of any part of the building so far as their number, width, capacity and protection thereof is concerned
 - (r) Be so occupied that the travel distance on the floor does not exceed the following limits:
 - a. Educational, Institutional and hazardous building –22.5m
 - b. Assembly business mercantile industrial and storage buildings – 30.0m

Note: The travel distance to an exit from the dead end of a corridor shall not exceed half the distance specified above.

3.2.37 Requirement of individual exits at each floor

The detailed requirements of individual exits at each floor are given below:

3.2.37.1 Corridors

The width of the corridors shall be as follows:

- (iv) Residential building - 1.0m
 - (v) Assembly buildings such as Auditorium, Marriage halls, cinema theatre, religious buildings, temple, Mosque or church and other buildings of Public Assembly or conference - 2.0 m
 - (vi) Hospitals & Nursing homes - 2.4 m
 - (vii) Educational buildings such as schools, colleges, research institutions - 2.0 m
 - (viii) Commercial buildings, offices, lodges, etc. - 2.0 m
 - (ix) All other buildings - 1.5m
- c) Where stairways discharge through corridors, the height of the corridors shall not be less than 2.4 m.
 - d) Where there is more than one staircase serving a building, there shall be at least one smoke-stop door in the space between the staircases.

3.2.37.2 Doorways

No exit doorway shall be less than 1.0m in width. Doorway shall not be less than 2.0m. in height. Doorways for the bathrooms, water-closets or stores shall not be less than 0.75 m. wide.

- (a) Every exit doorway shall open into an enclosed stairway, a horizontal exit or a corridor or passageways providing continuous and protected means of egress;
- (b) An exit doorway shall open outwards i.e. away from the room, but shall not obstruct the travel along any exit. No door, when opened, shall reduce the required width of a stairway or landing to less than 0.90 m.
- (c) An exit door shall not open immediately upon a flight or stairs; a landing equal to at least the width of the doors shall be provided in the stairway at each doorway; the level of the landing shall be the same as that of the floor which it serves.
- (d) Exit doorways shall be openable from the side which they serve, without the use of a key.

3.2.37.3 Revolving doors

- a. Revolving doors shall not be used as required exits except in residential, business and mercantile occupancies; they shall not constitute more than half the total required door width.
- b. When revolving doors are considered as required exit way, the following assumptions shall apply:
 - i. Each revolving door shall be credited one-half a unit width
 - ii. Revolving doors shall not be located at the foot of stairway; any stairway served by a revolving door shall discharge through a lobby or foyer.

3.2.38 Fire escape or external stairs

Multi-storied, High-rise and special Buildings shall be provided with fire escape stairs which will be free of F.S.I. and these should conform to the following:

- (i) shall not be taken into account in calculating the evacuation time of a building;
- (ii) all shall be directly connected to the ground;
- (iii) entrance to these shall be separate and remote from the internal staircase;
- (iv) shall be constructed of non-combustible material;
- (v) the fire escape shall have the required fire resistance;

3.2.39 Refuge area

For all buildings exceeding 16 m in height, refuge areas shall be provided as follows:

a.	For floors above 16 m and up to 24 m	One refuge area on the floor immediately above 16 m
b.	For floors above 24 m and up to 36 m	One refuge area on the floor immediately above 24 m
c.	For floors above 36 m	One refuge area on the floor immediately above 36 m

- (a) In multi-storied buildings, at least one refuge area shall be provided on the floor immediately above 24 m.

- (b) It shall be on the external wall as a cantilevered projection or in any other manner.
- (c) It shall have a minimum area of 15 sq.m. And a minimum width of 3.0 m.
- (d) It shall not be counted in F.S.I.

3.2.40 Structural safety and services

3.2.40.1 Structural design

The structural design of foundations, elements made of masonry, timber, plain concrete, reinforced concrete pre stressed concrete and structural steel shall conform to the provisions of the relevant guidelines.

3.2.40.2 Quality of material and workmanship:

The quality of all material and workmanship shall conform to standards.

3.2.40.3 Building materials

- i. Materials used for buildings shall conform to locally approved specifications and measurements. The main building materials should be non-inflammable.
- ii. Heat insulation materials shall be used for roofs and external walls according to the following formula:
 - o Roofs:
$$U \text{ (Maximum)} = 0.1 \text{ B.t.u/sq.ft/hr. } ^\circ\text{F i.e. } 0.57 \text{ Watts/sq.m. } ^\circ\text{C}$$
 - o External walls:
$$U \text{ (Maximum)} = 0.13 \text{ B.t.u/sq.ft/hr. } ^\circ\text{F i.e. } 0.741 \text{ Watts/sq.m. } ^\circ\text{C}$$
- iii. Sketches showing heat insulation layers (for external face walls and roofs) should be submitted. These should be appropriately placed in relation to other layers

and in accordance with the standard technical practice. Other specifications or information that helps in implementation may also be submitted.

iv. Acceptable building insulation materials are:

- Non-inflammable poly-styrene (extruded or expanded)
- Sprayed or solid Poritine/rigid polyurethane foam.

Other materials of the identical qualities may be used as heat insulators. However heat insulation materials used in buildings should be of similar composition, long lasting insulation capacity, fixed dimensions, hardly liable for expansion or contraction, and corrosion and stiff resistant. It would also be resistant to environment conditions in the Bangladesh, chemical changes and reactions and fire resistant.

The condition for using heat insulation materials for (external walls) may not apply to the following:

- a. Oriental style building of one floor only where the internal court yard, veranda etc. provide treatment for weather conditions.
- b. Part of the boundary wall within the balcony

3.2.40.4 *Alternative materials, method of design and construction and tests:*

The provisions of the regulations are not intended to prevent the use of any materials or method of design of construction not specifically prescribed in them provided any such alternative has been approved. Nothing of the provisions of these regulations is intended to prevent the adoption of Architectural planning and layout conceived as an integrated development scheme. The concerned authorities of MIEZ may approve any such alternative. In the context of material, design and construction method or the work offered is, for the purpose intended, at least equivalent to that prescribed in these regulations in quality, strength, compatibility, effectiveness, fire and water resistance, durability and safety.

3.2.40.5 *Tests*

Whenever there is insufficient evidence of compliance with the provision of the regulations or evidence that any material or method of design or construction does not conform to the requirements of the regulations, in order to substantiate claims for alternative materials, design or method of construction, the MPD /CEO, MIEZ may require tests, sufficiently in advance, as proof of compliance. These tests shall be made by approved agency at the expense of the owner as follows:

Test methods: Test methods shall be as specified in the regulations for the materials, or design or construction in question. If there are no test methods specified in the regulations the Authority shall determine the procedure.

Test results to be preserved: Copies of the results of all such tests shall be retained by the MPD/ CEO, MIEZ / Owner / developer for not less than two years after the acceptance of the materials.

3.2.40.6 Lifts

Any building of 4 storeys or more shall have at least one lift. The number of lifts in a building shall be proportional to its size, numbers of its residents and usage.

Electric lifts should work efficiently throughout the year; the owner should submit a certificate from a specialized registered company certifying that the lift is in good condition or is properly maintained and usable. This certificate should be submitted to the authority at least once a year.

3.2.40.7 Signs and outdoor display structures

Signs shall be permitted to the following structures after approval from the Industrial Zone.

- i. Every sign shall be located in a safe and secure place
- ii. Every sign shall be designed, constructed and maintained to withstand all possible loads.
- iii. No sign shall be erected on any street allowance excepting the following:

- a. Signs erected by or for the Ministry or Establishment
- b. Street information and bus stop signs
- c. Signs specifically approved by the Economic Zone or other authorities
- iv. No sign shall be erected or maintained which resembles any official traffic signboard or signal, or which obstructs the view of any official traffic sign or signal.
- v. No sign shall be erected or maintained which attempts or purposes to direct the movement of traffic on roads, other than a sign erected by the establishment, except an entrance or exit sign.
- vi. No sign shall be located so as to obstruct or impede any fire escape, fire exit, door, window, skylight, flue or air intake or exhaust, or so as to impede the free access of fireman to any part of the building.
- vii. No sign shall be erected that is higher than the roof, eave or parapet line of the building, to which it is attached.
- viii. An illuminated sign shall be permitted, provided it is not flashing
- ix. Signs permitted in all zones:
 - a. A “NO TRESPASSING” or other announcement or sign other than an advertisement, not greater than 0.30 sq.m in area
 - b. A sign incidental to construction on the premises
 - c. A non illuminated sign not exceeding 1.5 sq.m in area, advertising the lease of any plot or premises.
- x. Signs shall be erected subjected to prior approval of MIEZ Authority.

3.2.41 Compound wall requirements

Compound walls within the Zone should meet the following requirement for the super structure:

- i. For the front part facing the road high solid wall fencing should be discouraged.
- ii. The fence should be of half brick wall and metal grills with a maximum height of 1.75 m.
- iii. For the side and rear fencing the maximum height of the wall shall be 1.8 m and barbed wire of 0.5m on top is optional.
- iv. The outer fence foundation limit should remain inside the plot line limit. No corrugated metal sheet fencing or solid compound wall will be allowed.

Typical compound wall detail for the occupant unit will be decided and selected

(attached in **Appendix ‘L’**) by the Authorities depending upon the location and type of industry.

3.2.42 *Inspection and supervision of buildings*

- i. Concerned Authority officials are authorized to enter the building site at any time to check whether the construction of the building is according to the permit and approved drawings and that there are no violations according to these regulations and others.
- ii. Concerned Authority officials are authorized to enter the building site at any time to check whether the construction of the building is according to the permit and approved drawings and that there are no violations according to these regulations and others.
- iii. The permit and approved drawings shall be kept at the site for checking. These should be submitted to the MIEZ's officials in charge of the implementation of the provisions of this order.
- iv. No building may be erected or used except for the purpose mentioned in the building permit and in accordance with the land use and the structural planning of the area.
- v. The building permit is valid for two years commencing from the date of issuance. It shall be invalid thereafter unless it is renewed (by concerned departments). Renewal shall be for the same period, after paying the fees, unless there are reasons for non-renewal in which case the concerned party shall be informed in writing.
- vi. No alteration is permitted in the approved permit, drawings or any other official document unless prior approval is obtained from the concerned department/ authority. No alternations shall be endorsed unless signed and stamped by the department that issued the permit or the document.
- vii. No construction work may be allowed between sunset and sunrise or during holidays unless prior approval is obtained from the Authority indicating the conditions thereof.

- viii. Any person who demolishes, builds or lays the foundations of any building shall take all necessary measures to secure the safety of neighbours, their property, protection of workers, passers-by, roads and whatever is under or above the ground including equipment and public service facilities and shall adhere to the law on the Conservation of National Heritage
- ix. Any holder of a building permit shall not commence any form of building unless (the owner or his agent) has received plot pegs from the surveyor in the presence of the building inspector. The prescribed forms shall be signed by the three parties concerned.

The owner or his agent shall maintain the pegs in position until the building is completed and shall continue to maintain these during all phases of implementation

- a. No contractor or other implementing party may commence work before signing an under-taking form at the Area's, to confirm adherence to approved plans, fixed boundaries and the guidelines mentioned on the permit book. The Contractor or the implementing party shall pay a deposit to cover this undertaking as decided by the Authority.
 - b. The deposit shall be refunded to the implementing party when the building is completed or part of it may be retained until the site is completely cleaned to the satisfaction of the authorities concerned.
- x. The Consultant responsible for design, the soil test consultant supervising the building and the building contractor, each in his respective field, are fully responsible for the safety of the building for minimum period of 10 years starting from the date of completing building works. This responsibility shall be in accordance with the Laws in force in the Bangladesh.
 - xi. In case of buildings costing more than BDT Five Thousand, the owner or his agent shall authorize a registered consultancy office to undertake technical supervision, and adhere to the approved drawings and specifications. The consultants shall also sign the prescribed undertaking form. Copy of the agreement with the consultant should be submitted to the MIEZ office.

- a. A temporary fence shall be erected along the boundary of the plot prior to start any building in accordance with the conditions and specifications set by the Authority and shown on the building permit book.
 - b. The owner or contractor shall build a temporary latrine within the plot boundary for the workers to use during construction period in accordance with the conditions set by the Authority.
 - c. Building of temporary offices or workshops shall not be assumed at the site unless prior approval is obtained from the Authority and after payment of fees and insurance.
- xii. A sign board measuring 1.2m x 2.20m minimum shall be fixed by the owner or contractor on the building site, at least 3m. above the ground level showing the following in block letters written in Bangla and English:
- a. Plot number, block number and area if any
 - b. Type of industry
 - c. Number of building permit
 - d. Name and address of contractor or contracting Co.
- xiii. The owner or contractor shall keep all building materials remnants of the building within the fence and shall remove these from the site as soon as possible.
- xiv. The owner or his agent shall ask the concerned Authority to inspect the building (if no consultant is appointed to supervise implementation) on completion of excavations for foundations and column bases in order to ensure conformity to approved drawings and write this information in the permit book.
- xv. Workshops, factories, crushers, stores for building materials and all works and crafts that pollute the environment and cause disturbances may not be built in residential and residential-commercial areas.

The use of such buildings shall be limited to the purpose stated in the building permit and on the site shown thereon.

- xvi. Workers' camps may only be built on the sites planned and allocated for such purposes in accordance with the conditions laid down by the Authority. Temporary camps erected at building sites for the sole use of workers are excluded, provided that prior approval for building such camps is obtained from the Authority. The camps shall be built and removed according to the MIEZ's specifications and conditions.
- xvii. There may be no mountain cutting, road digging or removal of building remnants or debris from the site of building or from one site to another unless prior approval is obtained from the Authority and in accordance with the conditions the Authority sets in this regard. The Authority may retain a cash deposit which will not be refunded unless all these conditions are met with and a certificate is issued from the concerned department to this effect.
- xviii. In Buildings for public use, commercial purposes, residential blocks and offices, which have lifts, there should be a person appointed to deal with any emergency that may arise. Adequate warning devices should be made available to him. A telephone may be provided inside the lift and connected to the guards' room if so required by the Authority which may set a further condition for providing a generator to operate the lift depending on the size, height, the number of occupants and use of the building.
- xix. The contractors and companies specialized in the maintenance of lifts shall submit their applications for registration to the Authority enclosing all documents certifying the experience and proficiency of the technical staff employed. The Authority shall consider the application and complete the registration procedures, thereafter.
- xx. The lift shall be licensed annually by the Authority after the concerned committee checks the relevant certificates. If the license of the lift is not renewed the Authority may order the lift to be closed and prohibit its usage and penalize the owner of the building
- xxi. No building may be connected nor any recommendation be made to connect a building to public services e.g. electricity, water, telephone and sewerage, unless the following conditions are met with:

- a. If the building is constructed according to the permit and drawings approved by the authority a recommendation to connect part of the building to public service may be made, if necessary, and approved by the building authorities.
 - b. A No Objection Certificate from the Directorate of Fire service and Civil Defence shall be submitted if the administration has approved same drawings of the buildings.
 - c. Pavements and passages for pedestrians in front of commercial and commercial residential buildings shall be paved according to the specifications set by the Authority.
 - d. A central T.V. dish/ antenna shall be installed on the roof of the building as shown on the approved drawings in the following locations:
 - i. At the main entrance of villas
 - ii. At the entrance of Commercial and Commercial Residential Buildings. The number of mail boxes shall be corresponding to the number of flats and offices in the building.
 - e. The building shall have a number. Otherwise a certificate from the concerned departments shall be submitted showing that the numbering of the area has not yet been finalized.
 - f. A wooden box shall be provided with a lock to cover the main switch and electric meters.
 - g. Debris and remnants of the building should be removed from the site which should be perfectly levelled and graded.
 - h. A confirmation that electric lifts, if any, are installed according to the approved drawings and specifications and indicate the same in the power supply application form.
 - i. A temporary water meter may be allowed during the implementation period, at the contractor's expense, to ensure the supply of water for buildings purposes.
- xxii. The building completion certificate shall only be issued when the building is properly completed according to the approved drawings and building permit and considered safe and suitable for occupancy of work.

- xxiii. No building shall be painted from outside in colours other than the ones approved in the permit. Any person who wants to change the colour or repaint the building from outside shall abide by the colours approved by the Authority.
- xxiv. No sign, guidance, advertisement board, illuminated or otherwise may be installed or fixed on any building, street or wall, temporarily or permanently, prior to obtaining the necessary approval from the Authority. Before submission of application for approval of the sign-board, application form shall be duly filled by the applicant concerned. The installation of such boards on building facades (elevations) should not distort the general outlook of the building.
- xxv. For public safety excavations carried out under the authority approval shall be covered or screened to protect passers-by. A warning signal light lantern may be placed from sunset to sunrise as well as other requirements sought necessary by the authority or any other concerned department.
- xxvi. No excavations or buildings shall be made on public road, public square or open space owned by the government or by others temporarily or permanently unless prior approval is obtained from the Authority (in case of land owned by others, the owners approval should be obtained) in accordance with the conditions set by the Authority .
- xxvii. The issuance or renewal of permit shall not affect the rights of those concerned regarding the land shown on the permit. The Authority shall not be held responsible for any unknown documents (unknown at the time of issuing the permit) or legal rights that have amended or cancelled these rights.
- xxviii. Rain water gutters, drainage or air conditioners shall not be fixed or directed towards others' properties, unless such a right is legally acquired and provided that precautions are taken to eliminate the damage that may be caused to the neighbour or owner of the land.
- xxix. The owners of ruins or old deserted buildings (unaffected by planning) should make a boundary wall, of permanent material or a fence of plywood,

according to the specifications set by the Authority. Should these ruins threaten public health and safety, the Authority as the right to notify the owner to remove these completely and clear the site properly. Failing to meet this requirement during the notice period, the Authority shall have the right to demolish them and force the person concerned to bear the cost and impose any other legal penalty. The demolition shall be made in accordance with an administrative decision issued by the Authority or the person authorized by him. An appeal against the decision may be made. If the owners of ruins are unknown or not available, the Authority shall make an announcement in the local press for three days. At the expiry of the period mentioned in the announcement the Authority may take appropriate legal action.

- xxx. Owners of open lands which are relatively lower than its surrounding shall fill it up with earth and level it. Should they fail to act accordingly, the authority may notify them in writing. On the expiry of the notice period, the Authority reserves the right to fill it up and claim in the cost from the owner.
- xxxi. Buildings totally or partially dilapidated imposing danger on residents, neighbours and passers-by should be removed by the owner or his agent. Should they fail to respond to the notice issued by the Authority in this regard, the Authority shall have the right to evacuate and demolish the building as per administrative procedures, claim the cost from the owner or his agent and impose any other legal penalties.
- xxxii. The Authority has the right to force upon the owner or his agent to repair and maintain his building whenever necessary according to the specifications considered appropriate by the Authority. The owner has to act accordingly.
- xxxiii. The Authority has the right to issue an order to stop construction work, if so required by the concerned department.

3.2.43 Penalties

Persons violating any article of this local order shall be liable to penalties mentioned hereinafter:

- i. For constructing a new building or making extensive additions to an existing building without permit one or more of the following penalties shall be imposed:
 - a. A fine of BDT. 20000/ minimum and not more than BDT. 1,25,000/.
 - b. A fine of BDT 5000 per day for 30 days, maximum.
 - c. Six months imprisonment, maximum, depending on the intensity of the violation.
 - d. Removal of the violation by the MIEZ's authorities and claim of all cost from the defaulter.

- ii. For building on government land or the land of others without ownership or permit, one or more of the following penalties shall be imposed:
 - a. A fine or BDT. 40000/, minimum, and not more than BDT. 1,80,000/.
 - b. Immediate removal of the violation.
 - c. A fine or BDT. 10000/ per day.
 - d. Six months imprisonment, maximum, depending on the intensity of the violation.
 - e. Removal of the violation by the MIEZ 's authorities and claim of all cost from the defaulter.

- iii. For other violations one or more of the following penalties shall be imposed:
 - a. A fine of BDT. 50,000, maximum, and not more than BDT. 2,00.000/.
 - b. A fine of BDT 15000/ per day, minimum, for 10 days, maximum.
 - c. Six months imprisonment, maximum, depending on the intensity of the violation.

- iv. In case of the recurrence of building violations despite orders from the MIEZ's authorities to the defaulter the violation shall be considered repeated and the defaulter shall be penalized as follows:
 - o Second violation: Twice the penalty imposed for the first violation.
 - o Third violation: Twice the penalty imposed for the second violation.
 - o Fourth violation: Twice the penalty imposed for the third violation.

-
- v. Without breach of the provisions regarding the penal responsibility for violating the Local Order and the responsibility for the safety of the building for ten years, minimum, starting from the for the second violation, date of completing building works as mentioned in the same article, the following penalties shall be imposed for violations committed by contractors, implementing parties and consultancy offices.
- a. A fine of BDT. 150,000/- minimum, and not more than BDT. 300,000/- for the first violation.
 - b. A fine of BDT. 2,00,000/- minimum, and not more than BDT. 5,00,000/- for the second violation.
 - c. A fine of BDT. 2,50,000/- minimum, and not more than BDT. 1,000,000/- for further violations.
- vi. The Authority may ask for the work to be stopped. If the violation is repeated the license may be withdrawn once and for all.

Part - IV

Appendices

Appendix 'A' - Notice of Intention

To

**The Project Director,
Mirershorai Economic Zone.**

Sir,

I hereby give notice that I intend to carry out development in the site/to erect/to re-erect/to demolish/ to make material alteration in the building _____.
On /in Plot No. _____

I forward herewith the following plans and statements (item 1 to 17) in quadruplicate, wherever applicable, signed by me and (Name in Block letters) _____ the licensed architect/ Engineer/ Structure Engineer/ Supervisor Licence No. _____ who have prepared the plans, designs and a copy of other statements/ documents as applicable.

Enclosures:

1. Copy of Sale deed/ Allotment letter / Lease agreement
2. Possession receipt
3. Possession plan
4. Receipt of payment of Development charges
5. Security Deposit in the form of Bank Guarantee
6. Clearance Certificate for tax arrears from MIEZ's authorities.
7. Form of Supervision by Licensed Personnel..... Appendix "D"
8. No objection Certificate from
 - a) Ministry of Environment and climatic affairs
 - b) Directorate of Fire Service and Civil Defence.
 - c) Ministry of Commerce and Industries

d) Civil Aviation Authorities

9. Key plan
10. Building plans
11. Area statement..... Appendix "E"
12. Service plans
13. Structural drawings
14. Structural stability certificate
15. Specifications of materials to be used
16. Undertaking for providing necessary facilities during construction
17. Indemnity for part occupancy..... Appendix "K" (as applicable)

I request that the proposed development/construction may be got approved from the Local Body and permission accorded to me to execute the work.

Signature of Applicant

**Appendix 'B' - Form for sanction of Development Permission and
Commencement Certificate**

To

Sir,

With reference to your application No. _____ dated _____
for grant of Development permission to carry out development work on Plot
No. _____ of _____ zone/ phase. The development
permission / commencement permit is granted subject to the following conditions:

No new building or part thereof shall be occupied or allowed to be occupied or used
or permitted to be used by any person until occupancy permission has been granted.

The commencement certificate/Building permit shall remain valid for a period of
Four years commencing from the date of the issue.

Letter No:

Date:

Yours faithfully,

**Chief Executive Officer,
Mirershorai Economic
Zone**

Appendix 'C' - Form for Refusal of sanction of Development Permission

To

Sir,

With reference to your application No. _____ dated _____ for the
grant of sanction for development permission on Plot No. _____ in
_____ zone/ phase of Mirershorai Economic Zone.

The sanction has been refused on the following grounds:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Letter No.

Date:

Yours faithfully,

**Chief Executive officer
Mirershorai Economic
Zone**

Appendix 'D' - Form for supervision

To

**The Chief Executive officer,
Mirershorai Economic Zone.**

Sir,

I hereby certify that the development work/ erection, re-erection / demolition or material alteration in / of building for _____ use in Plot No. _____ situated in _____ Zone/ phase of Mirershorai Economic Zone shall be carried out under my supervision and I certify that all the material (type & grade) and the workmanship of the work shall be in accordance with the general specifications submitted along with, and that work shall be carried out according to the sanctioned plans. I shall be responsible for execution of work in all respect.

**Signature of the Licensed
Person**

(With licence No. Name and
Address)

Appendix 'E' - Area Statement

1. Area of plot : _____ Sq.m.
2. Permissible FSI : _____
3. Permissible floor area : _____ Sq.m
4. Existing floor area : _____ Sq.m.
5. Proposed built-up area
(incl. basement) : _____ Sq.m.
6. Building coverage (%) : _____
7. Building height : _____ M.
8. Parking lots permissible :
 - (a) Car parking :
 - (b) Truck :
9. Parking lots required as per regulation:
 - (a) Car parking :
 - (b) Truck :
10. Parking lots provided :
 - (a) Car parking :
 - (b) Truck :

11. Break-up of proposed built up area:

- a) Area under predominant use : _____ Sq.m.
(Factory, warehouse, etc.)
- b) Area under ancillary use : _____ Sq.m.
(Showrooms, Canteens, etc.)
- c) Area under predominant use : _____ % of total built up
area
(Factory, warehouse, etc.)
- d) Area under Ancillary use : _____ % of total built up
area
(Show rooms, Canteens, etc.)

**Appendix 'F' - Qualifications, competence, Duties and responsibilities, etc, of
Licensed Technical Personnel or Architect for preparation of schemes for
Development Permission and Supervision**

OWNER

1. General

- 1.1. The qualifications of technical personnel and their competence to carry out different jobs for development permission and supervision for the purpose of licensing shall be as given in Regulation 2 to 6 below. The procedure for licensing technical personnel is given in Regulation 6.

2. Architect

- 2.1. Competence of Architect - To carry out work related to development permission as given below and to submit:

- (a) All plans and information connected with development permission
- (b) Certificate of supervision and completion for all buildings.

3. Engineer

- 3.1. Qualifications: Corporate membership (Civil) of the Institution of Engineers or Degree or Diploma in Civil or Structural Engineering which makes him eligible for such membership.

- 3.2. Competence - To carryout work related to development permission as given below and to submit:

- (a) All plans and information connected with development permission
- (b) Certificate of supervision and completion for all buildings.

4. Supervisor

4.1. Qualifications:

- (i) Three year architectural assistantship or intermediate in architecture with two years experience (OR)
- (ii) Diploma in Civil Engineering with two years experience

4.2. Competence: to submit

- (i) All plans and related information connected with development permission on plots up to 200 Sq.M. and up to two storeys:
- (ii) Certificate of supervision of buildings on plots up to 200 sq.m and up to two storeys and completion thereof.

5. Structural Engineers

5.1. Qualification: Three years experience in structural engineering practice with designing and field work, and

- a) A Degree in Civil Engineering of a recognised Bangladesh or Foreign University and Chartered Engineer or Associate Membership in Civil Engineering Division of the Institution of Engineers (Bangladesh) or equivalent overseas institution; (OR)
- b) Associate Membership in Civil Engineering Division of the Institution of Engineers (Bangladesh) or equivalent overseas institution possessing exceptional merit.

5.2. Competence - To submit the structural details and calculations for all buildings and supervision

6. Licensing

6.1. Technical personnel to be licensed - the qualified technical personnel or group referred to in Regulation 3, 4 and 5 shall be licensed with the Mirershori Economic Zone and the licence shall be valid for one year after which it shall be renewed annually.

6.2. Fee for Licensing:

The annual licensing fees shall be as follows:

- For Architects, Engineers and Structural Engineers _____ per annum
- For Supervisors _____ per annum

6.3. Duties and responsibilities of licensed technical personnel or architect:

- (1) It will be obligatory on every licensed technical person or Architect in all matter in which he may be professionally consulted or engaged to assist and co-operate with the MPD/CEO, Mirershurai Economic Zone and other officers in carrying and enforcing the provisions of the Development Control Regulations and the Regional and Town Planning Act or any Regulations or Rules for the time being in force under the Acts.
- (2) Every licensed technical person or architect shall, in every case in which he may be professionally consulted or engaged to be responsible so far as his professional connection with such case extends, for due compliance with the provisions of Development Control Regulations, the Regional and Town Planning Act of any rules or regulations for the time being in force under the said Acts, or such of them as may respectively be applicable to the circumstances of the particular case. And in particular it will be obligatory on him to satisfy himself that a qualified and competent site supervisor with qualifications prescribed by the MPD/CEO, Mirershurai Economic Zone, is constantly employed and present on the work to supervise the execution of all work and to prevent the use of any defective material therein and the improper execution of any such work
- (3) In every case in which a licensed technical person or architect is professionally concerned with any building or work upon any premises designed or intended to be used or any purpose for which the written permission of the Authority is prescribed by the said Act as a necessary condition to the establishment or use of such premises for such purpose, it shall be obligatory on such licensed technical person or architect, so far as his professional connection with such case extends, to see that all conditions prescribed by the said Act, or by any rules or regulations for the time being in force there under, are duly fulfilled or

provided for.

- (4) A licensed technical person or architect shall not carry out any work in connection with any building or other erection on a plot of land leased or agreed to be leased by Mirershorai Economic Zone in contravention of any conditions of the lease or agreement to lease.
- (5) When a licensed technical person or architect to be in employment for the development work, he shall report the fact forthwith to the MPD/CEO, Mirershorai Economic Zone.

Appendix 'G' - Form for Drainage Completion Certificate

To

**The Chief Executive Officer,
Mirershorai Economic Zone**

Sir,

I hereby certify that the construction of drainage and sewerage works park of building on/ Plot No. _____ of _____ Zone/ phase of Mirershorai Economic Zone has been supervised by me and has been completed according to the plans sanctioned vide your letter No. _____ dated _____

I request you to arrange for the inspection and give the drainage completion certificate.

Date:

**Signature of the Licensed
Architect**
(With License No. and Address)

Appendix 'H' - Form for Completion Certificate

To

**The Chief Executive Officer,
Mirershorai Economic Zone**

Sir,

I hereby certify that the erection/re-erection or development work in / on building/part building/ Plot No. _____ of _____ zone/ phase of Mirershorai Economic Zone has been supervised by me and has been completed according to the plans sanctioned vide your Letter No. _____ dated _____

The work has been completed to my best satisfaction, the workmanship and all materials (type and grade) have been used strictly in accordance with the general and detailed specifications. No provisions of the Operations, Management, Maintenance and quality assurance manual or conditions prescribed or orders issued there under have been transgressed in the course of the work. I am enclosing three copies of the completion plans. One of which is cloth mounted. The building is fit for occupancy for which it has been erected/re-erected or altered, constructed and enlarged.

I have to request you to arrange for the inspection and give permission for occupation of the building.

Date:

Signature of Licensed Architect
(with License No. and address)

Encl: As above

Appendix 'T' - Form for Occupancy Certificate

To

Sir,

This is to certify that the development work in / on building/part building/ Plot No. _____ of _____ zone/ phase of Mirershorai Economic Zone completed under the supervision of _____ Licensed Architect/ Engineer/ Structural Engineer/ Supervisor, Licence No. _____ is permitted to be occupied subject to compliance on the following:

1. _____
2. _____
3. _____

Letter No.

Date:

Yours faithfully,

**Chief Executive Officer,
Mirershorai Economic
Zone**

Appendix 'J' - Form for Refusal of Occupancy Certificate

To

Sir,

This is to certify that the development work in / on building/part building/ Plot No. _____ of _____ zone/ phase of Mirershorai Economic Zone completed under the supervision of _____ Licensed Architect / Engineer / Structural Engineer / Supervisor, Licence No. _____ is not permitted to be occupied on the following grounds:

1. _____

2. _____

3. _____

Letter No.

Date:

Yours faithfully,

**Chief Executive Officer,
Mirershorai Economic
Zone**

Appendix 'K' - Form for Indemnify for Part Occupancy Certificate

To

The Chief Executive Officer,
Mirershorai Economic Zone.

Sir,

Sub:

While thank you to allow me to occupy a portion of the above building before acceptance of the Completion Certificate of the whole building for the plans approved vide your letter No. _____ dated _____. I hereby indemnify MIEZ against any risk, damage and danger such may occur to occupants and users of the said portion of the building and also undertake to take necessary security measures for their safety. We say that the undertaking will be binding on me/us, our heirs, and administrators and to our assignees.

Witness:

Yours faithfully,

Appendix 'L' - Typical compound wall details