

**GOVERNMENT OF BALOCHISTAN
LOCAL GOVERNMENT AND RURAL DEVELOPMENT
DEPARTMENT**



**BALOCHISTAN BUILDING
CONTROL AND TOWN PLANNING
RULES 2022**



Table of Contents

Chapter 1. Preliminary	1
1. Short title and commencement	1
2. Scope	1
3. Definitions	2
Chapter 2. Certifications/Approval of Documents	13
4. Procedure of approval	13
5. Plan and Documents:.....	13
6. Materials Tests Reports	22
7. Procedure of inspection	24
Chapter 3. Professionals and Laboratories	28
8. Qualifications of the professionals and professional responsibilities	28
9. Qualifications of the professionals	28
10. Qualification/entitlement of laboratories.....	29
11. Maximum Authorization of Professionals	30
Chapter 4. Building Structural Design and Materials Requirements.....	31
12. Scope	31
13. General Requirements	31
14. Structural Design Requirements.....	32
15. Loads	32
16. Combinations of Loads	32
17. Earthquake Design	33
18. Structural Concrete.....	37
19. Structural Steel Buildings.....	38
20. Composite Structural Steel and Reinforced Concrete Buildings	41

21.	Masonry.....	41
22.	Architectural Elements	41
23.	Mechanical & Electrical Systems.....	42
Chapter 5. Soil and Geotechnical Investigations.....		43
24.	Soil Report Review Process	43
25.	Seismic Hazard Assessment.....	43
26.	Soils and Foundations	44
Chapter 6. Use and Occupancy.....		47
27.	Scope	47
28.	Residential plots	47
29.	Residential buildings (Flats/Apartments).....	47
30.	Residential Buildings in approved housing schemes	48
31.	Public amenities buildings	49
32.	Industrial Zones and Industrial Buildings	53
33.	Commercial buildings	54
34.	Religious Buildings	61
35.	Dangerous Buildings	62
Chapter 7. Streets/Roads/Highways.....		65
36.	Scope:	65
37.	Pedestrian Lanes.....	65
38.	One-Way Streets	65
39.	Two way Streets	65
40.	Highways, major roads and boulevard.....	65
41.	Visibility at Cross Roads.....	66
42.	Street Lines and Building Lines	66

Chapter 8. Building Space Requirements.....	67
43. Method of Measuring Clear Space.....	67
44. Projections beyond Property Limits.....	67
45. Separate Approach for every Building.....	67
46. Open Spaces for High Rise Building.....	67
47. Space for Electrical Sub-Station.....	68
48. Space for CNG/LNG/ Petrol Filling Stations.....	68
Chapter 9. Construction Site Safety and Security Measures.....	69
49. Scope:.....	69
50. Site Hoardings.....	69
51. Use of Public Streets.....	69
52. Obstructions to be lit and marked.....	69
53. Utility Services not to be obstructed.....	69
54. Removal of Obstruction after Completion of Works.....	69
55. Dangerous Obstruction.....	69
56. Stability of Adjacent Building.....	70
57. Filling of Excavated Site.....	70
58. Adequate Safety Measures.....	70
59. Supervision of Demolition Work.....	70
60. Safe Loading.....	70
61. Scaffolds.....	70
62. Road Side Protection.....	71
63. Working Platform.....	71
64. Guard Rails.....	71
65. Ladders.....	71

66.	Work on Sloping Roofs.....	71
67.	Precautions for Raising and Lowering Loads	72
Chapter 10. Parking Requirements		73
68.	Scope	73
69.	Purpose	73
70.	General Conditions.....	73
71.	Car Lifts.....	73
72.	Commercial Area	74
73.	Amenity Area	74
74.	Residential Area	74
75.	Standard for Parking Spaces	74
76.	Exemption from Provision of Parking Space	76
Chapter 11. Water supply, Drainage and Sanitation.....		77
77.	Water Service Pipe	77
78.	Minimum Storage Capacity for buildings (public use buildings with total floor area more than 3600 Sq.ft. (336Sq.m).	77
79.	Recycling Plant and Treatment of Effluent/Sewage	78
80.	Sanitation and Solid Waste	79
81.	Digester/Septic tank	79
82.	Soil Pipes, Waste Pipes and Ventilating Pipes.....	79
83.	Sanitary Provisions.....	79
84.	Manholes and Inspection Chambers	81
85.	Storm water drainage	81
Chapter 12. Fire Preventions/Fire Safety Measures		83
86.	Scope	83

87.	Fire Zones:.....	83
88.	Type of Construction.....	84
89.	General	85
90.	Stand Pipes System	85
91.	Automatic Sprinkler System	86
92.	Sprinkler System Construction.....	87
93.	Manual Fire Extinguishing Equipment	87
94.	Installation of Interior Fire Alarm System	87
95.	Signal Stations.....	88
96.	Fire Resistance	88
97.	Test of Fire Resistance	90
98.	External Walls.....	90
99.	Separating Walls and Fire Walls.....	90
100.	Compartmentalization	91
101.	Construction of Fire Walls	91
102.	Openings in Fire Walls.....	91
103.	Direct Access for Ground Floor and Above.....	91
104.	Protected Shafts.....	92
105.	Fire Resistive Structure Requirements	93
106.	Fire Resistant Doors	93
107.	Miscellaneous Provisions	93
108.	Fire Resistive Structure Requirements	93
109.	Enclosures for Cinematographic Equipment.....	94
110.	Steel and Metal Structures.....	94
111.	Air Conditioning Ducts	94

Chapter 13. Life Safety	96
112. General Exit Requirements	96
113. Occupant Load and Exit Capacity	96
114. Number of Exits	99
115. Arrangement of Exits:	99
116. Corridors and passageways	100
117. Emergency and Escape Lighting	100
118. Illumination of Exit	102
119. Internal Staircases	102
120. Pressurization of Staircases (Protected Escape Routes)	104
121. External Stairs	105
122. Horizontal Exits	106
123. Fire Tower	106
124. Ramps	107
125. Fire Lifts	107
Chapter 14. Light and Ventilation	108
126. Size of external openings	108
127. Size of internal openings	108
128. Internal Air Wells	108
129. Permanent Openings in Kitchen	109
130. Water Closet, Bath Room & Ablution Places	109
131. Garages	109
132. Staircases	109
133. Mechanical Ventilation and Central Air-Conditioning waiver & minimum requirement.	109

Chapter 15. Development Permit and Procedures.....	111
134. Permits and Procedures-Land Development	111
135. General Requirements for Development Permission	112
136. Types of development permits	112
137. General Development Permits	112
138. Grant of Special Development Permit	113
139. Conditions for Development Permits	114
140. Criteria for Decisions Relating to Special Development Permits, Contingency Plans or Planning Positions	115
141. Notice for a Special Development Permit.....	116
Chapter 16. Sub-Division, Amalgamation of Land and Change of Land Use.....	117
142. Major Sub-division and Minor Sub-Division.....	117
143. Sub-Division and Amalgamation of plots	117
144. Approval of plans general requirement.....	118
145. Approval of minor subdivisions	119
146. Approval of major subdivision.....	119
147. Site inspections and Consolation.....	120
148. Conditions for Special Development Permits for Major Sub-Division	121
149. Change of Land use:.....	121
150. Commercialization of plots:	122
Chapter 17. Violation of Land Development	123
151. Removal or Prevention of Violation	123
152. Violations of Land Development	123
153. Appeals.....	124
154. Penalties of Orders or Determinations	124

Chapter 18. Preservation of Structures of Special Architectural or Historic Interests.	125
155. Definition	125
156. Designation and declaration of Special Architectural or Historical Interests Structures	125
157. Approval for demolition alteration or extension	126
158. Repeal.....	127
SCHEDULE -A:.....	129
A1: Rates of Scrutiny fee for approval of building plans.....	129
A2: Annual renewal fee for approval of building plans.....	129
A3: Rates of Inspection fee for the buildings (Approved Plans)	129
A4: Fines and Charges for violations of “Building Control Rules”.....	130
SCHEDULE -B:.....	132
B1: Rates of Scrutiny fee for approval of Development Permits (No Objection Certificates)	132
B2: Fines and Charges for violations of “Town Planning Rules”.....	132

Acknowledgements

Building control and town planning Rules is a technical and detailed document, and requires input from many experts in multi-disciplines within the civil engineering, Architecture and town planning. It is important to enlist all those who worked hard to complete this document.

Dr. Engr. Naik Muhammad	Ph.D. Structural Engg.
Dr. Engr. Muhammad Habib	Ph.D. Structural Engg.
Dr. Engr. Zafar Baloch	Ph.D. Structural Engg.
Dr. Engr. Saeed Ullah Jan	Ph.D. GeoTech. Engg.
Dr. Engr. Azmatullah Khan	Ph.D. Environmental Engg.
Engr. Nawaz Ali	MS Transportation Engg.
Arch. ZianUlabadien	BS Architecture
Dr. Sorath	Ph.D. Urban planning
Engr. Muddassir Ahmed khan	Civil Engg.
Engr. Nisar Ahmed	Civil Engg.
Engr. Asmatullah	MS Civil Engg.
Engr. Marjan Gul	MS Civil Engg.



THE BALOCHISTAN GAZETTE

PUBLISHED BY THE AUTHORITY

No.	Quetta	June	2022
-----	--------	------	------

BALOCHISTAN BUILDING CONTROL AND TOWN PLANNING RULES, 2022

**GOVERNMENT OF BALOCHISTAN
LOCAL GOVERNMENT RURAL DEVELOPMENT
AND AGROVILLES DEPARTMENT
(Balochistan Local Government Board)**

NOTIFICATION

Dated Quetta, the 14/ 06/ 2022

No. 1-83/2017(BLGB) A.O-IV/4876-5046. In exercise of the power conferred by Section 20 of the Balochistan Building Control Ordinance, 1979 (Ord: VI of 1979), the Government of Balochistan is pleased to make and promulgate the following Rules:-

Chapter 1. Preliminary

1. Short title and commencement

- (1) These rules shall be called the Balochistan Building Control and Town Planning Rules, 2022.
- (2) These rules shall come into force at once.

2. Scope

- (1) These rules will cover the buildings (Architectural, Engineering Structures, MEP Drawings, Electrical Drawings, Fire Fighting Systems), land development, fresh and

waste water, street/roads/highways within the city, soil, parking requirements, fire prevention and life safety as per engineering guidelines within the legal frame work of the Balochistan province.

- (2) These rules are to ensure the standard design, material selection, and to regulate the building construction as per Building Code of Pakistan (Seismic provisions, 2007) or any update in it.
- (3) The provision of minimum requirements for energy-efficient design and construction of buildings as per Building Code of Pakistan (Energy provisions 2011) or any update in it.
- (4) Provisions to be applied to construction/water/road/land development etc. which are not covered by these Rules, shall be specifically determined by the Departments/Autonomous Organizations supervising the construction.
- (5) The fire safety, fire protection systems, fire safety devices and other fire relevant provisions shall be applied as per Building Code of Pakistan Fire Safety Provisions – 2016 or any update in this code.
- (6) Any construction/demolishing should not violate the provisions of “The Balochistan Environmental Protection Act 2012 (Act VIII of 2012) and amendments made therein”.
- (7) To promote sustainable development and green materials for construction the provisions of International Building Code (IBC-2018) and Pakistan Green Building Code (In process) should be used.

3. Definitions (1) In these rules unless the context otherwise requires the following expressions shall have the meaning hereby respectively assigned to them:-

- (a) “Addition” means the addition of any unit/structure to any building/structure constructed in accordance with these rules;
- (b) “Admixture” means a material other than water, aggregate, or hydraulic cement used as an ingredient of concrete and added to concrete before or during its mixing to modify its properties;
- (c) “Aggregate” means a granular material, such as sand, gravel, crushed stone and iron blast-furnace slag, and when used with a cementing medium forms a hydraulic cement concrete or mortar;
- (d) “Allowable Stress Design” means a method of proportioning structural elements such that

computed stresses produced in the elements by the allowable stress load combinations do not exceed specified allowable stress (also called working stress design);

(e) “Amalgamation” means the joining of two or more adjoining plots of the same land use into a single plot in accordance with these rules;

(f) “Amenities plot” means a plot allocated exclusively for the purpose of amenity uses as defined in Chapter 7 of these rules, such as Government uses, Health and Welfare uses, Education uses, Assembly Uses, Religious uses, Parks and Play grounds, Burial grounds, Transportation right-of-way, Parking and Recreational Areas;

(g) “Anchorage Device” means in post-tensioning, the hardware used for transferring a post-tensioning force from the prestressing steel to the concrete;

(h) “Anchorage Zone” means in post-tensioned members, the portion of the member through which the concentrated prestressing force is transferred to the concrete and distributed more uniformly across the section;

(i) “Anchorage” means in posttensioning is a device used to anchor tendons to concrete member; in pretensioning, a device used to anchor tendons during hardening of concrete;

(j) “Apartment Building” means a building having more than one Storey and containing more than two apartments sharing common staircase, or access space;

(k) “Apartment” means an independent residential unit consisting of at least one habitable room, bathroom, toilet, and cooking facilities in an apartment building;

(l) “Approved” means approved in writing by the Building Control Authority;

(m) “Architect” means a person who has given license by Pakistan Council of Architects and Town Planners (PCATP) as an architect;

(n) “Architectural Plan” means a plan showing the arrangements of proposed building works, including floor plans, elevations and sections, in accordance with the requirements of these rules;

(o) “Attached Building” means a building which is joined to another building on one or more sides by a common wall or walls;

(p) “Balcony” means a stage or platform projecting from the wall of the building surrounded with a railing or parapet wall;

(q) “Bar Bending Schedule” means a complete list about details of reinforcement used in reinforced cement concrete. It includes diameter, shape, and total length, cut length, bend,

spacing and location of each bar;

(r) “Base of Structure” means the level at which earthquake motions are assumed to be imparted to a building. This level does not necessarily coincide with the ground level;

(s) “Base Shear” means the total design lateral force or shear at the base of a structure;

(t) “Basement” means the lowest portion of building partly (leaving not more than 4 feet above the ground) or wholly below Ground level;

(u) “Bath Room” means a room containing a water tap/wash basin and a shower or a bathtub or a bath tray, and may with or without a W.C;

(v) “Bearing Wall System” means a structural system without a complete vertical load-carrying space frame;

(w) “Building Frame System” means an essentially complete space frame that provides support for gravity loads;

(x) “Building Line” means a line upon which any part of a building from its lowest level, including all foundations, or other structure, butting on a public street or a road planned future public street, may extend, provided always such line is within the property line of such building or cut line as provided in these Rules of such plots;

(y) “Building Works” means erection or re-erection/modification including complete or partial demolition of a building including full or partial thereof or making additions and alterations to an existing building;

(z) “Bye Laws” means the Building Bye-Laws and rules/regulations made by the Authority.

(aa) “Cementitious Materials” means materials which have cementing value when used in concrete either by themselves, such as Portland cement, blended hydraulic cements and expansive cement;

(ab) “Ceiling” means the underside of a roof or a floor which may be covered with plaster, ceiling boards or other similar materials;

(ac) “Chimney” means a structure enclosing one or more flues, and includes any opening therein for the function of a heat producing appliance/fireplace;

(ad) “Commercial Building” means a building constructed for commercial use on commercial plot;

(ae) “Component” means a part or element of an architectural, electrical, mechanical or structural system;

(af) “Compulsory Open Space” means that part of a plot which is to be left completely open to sky, over which no structure or any integral part of the building shall be permitted except ramp upward/downward, permissible projections, steps, septic tanks, soak pits, water reservoirs and lines for sewage, water, electricity, gas, telephone etc;

(ag) “Concept plan” means a plan approved under relevant statute which indicates the approximate location or relationships but not the precise sites or boundaries of road, utility line and facilities, community facilities, and residential and other uses of land, as may be appropriate in an area designated for the development of a new community or the renewal improvement amelioration or development of an existing buildup community;

(ah) “Concrete cover” means the distance between the outermost surface of embedded reinforcement and the closest outer surface of the concrete indicated on design drawings or in project specifications;

(ai) “Contractor” means an individual or a firm who provides all the necessary services in terms of materials, labors, equipments and construction work of a project and registered with Pakistan Engineering Council;

(aj) “Contract Documents” means documents, including the project drawings and project specifications, covering the required Work;

(ak) “Contraction Joint” means a formed, sawed, or tooled groove in a concrete structure to create a weakened plane and regulate the location of cracking resulting from the dimensional change of different parts of the structure;

(al) “Corner Plot” means a plot situated at the intersection of two or more streets/roads;

(am) “Covered Area” means same as Floor Area;

(an) “Crossie” means a continuous reinforcing bar having a seismic hook at one end and a hook of not less than 90 degrees with at least six diameters at the other end;

(ao) “Damp Proof Course” means layer of material impervious moisture;

(ap) “Dangerous Building”

means a building or structure which is declared as structurally unsafe and/or which is hazardous;

(aq) “Dead Loads” means consist of the weight of all materials and fixed equipment incorporated into the building or other structure;

(ar) “Development Permit” means any general or special permit issued, including a permit

customarily denominated as a “No Objection Certificate”, “planning permit”, “town planning permit” or other document having the effect of permitting development as defined in these rules;

(as) “Development Works” means use of land as per approved plan, design and specifications;

(at) “Developer” means a person or a body of persons engaged in real estate activity and not engaged in construction as masons or such other artisan;

(au) “Detached Building” means a building not joined to another building to any side;

(av) “Detailed plan” means a land use of plan relating to

(a) the precise location and characteristic of roads, other rights of way and utilities,

(b) the dimensions and grading of plots and the dimensions and sitting of structures,

(c) the precise location and characteristics of permissible types of development; and

(d) any other planning matters which contribute to the development and use of area as a whole;

(aw) “Duct” means an opening provided in a building for the purpose of improving the indoor air quality and to maintain indoor constant temperature;

(ax) “Ductile Connection” means connection that experiences yielding because of the earthquake design displacements;

(ay) “Engineer” means a person currently registered as such under-Pakistan Engineering Council Act-1975;

(az) “Essential Facilities” means those structures that are necessary for emergency operations after a natural disaster;

(ba) “External Wall” means any outer wall of a building abutting on an external or internal open space on adjoining property lines;

(bb) “Factored Load” means the product of a load and a load factor;

(bc) “Factory” means a building or part thereof used for manufacture, production or preparation of any article;

(bd) “Fire Escape” means an exit from a building, for use in the event of fire;

(be) “Flat Sites” means plots designated as such for multi-family residential uses;

(bf) “Floor Area Ratio” means the total floor area of a building divided by the area of the plot;

(bg) “Floor Area” means horizontal area of floor in a building covered with roof, whether enclosed by walls but excluding ancillary covered spaces and projection allowed under these bye-laws;

(bh) “Foundation” means structure entirely below the level of the ground which carries and

distributes the load from pillars, beams or walls on to the ground;

(bi) “Gallery” means an open or a covered walk way or a long passage and underground Passage;

(bj) “Ground Floor” means floor of any structure built just above the plinth level;

(bk) “Habitable Room” means a room to be used primarily for human habitation;

(bl) “Head Room” means the clear vertical distance measured between the finished lower level and the underside of lowest obstruction such as ceiling or rafter, whichever is lower;

(bm) “Height of a Building” means vertical measurement from the mean level of the road/street adjoining the building to the highest part of the roof;

(bn) “Height of A Room” means vertical distance measured between the finished floor level and under side of the ceiling;

(bo) “Hoarding” means a fence of temporary character erected around a building site on which erection, demolition or repair work is in hand;

(bp) “Hoop” means a closed tie or continuously wound tie. A closed tie can be made up of several reinforcing elements, each having seismic hooks at both ends. A continuously wound tie shall have a seismic hook at both ends;

(bq) “House/Bungalow” means an independent residential building for the use of people, a family/families having at least one habitable room with a kitchen, a bath, and a toilet;

(br) “Housing Unit” means a part or whole of a residential building capable of being used independently for human habitation;

(bs) “Industrial Building” means a building constructed on a plot allotted exclusively for industry under these Rules;

(bt) “Inspection Chamber” means any chamber constructed to provide access thereto for inspection and cleaning;

(bu) “Jacking Force” means temporary force exerted by device that introduces tension into prestressing tendons in prestressed concrete;

(bv) “Joint” means portion of structure common to intersecting members;

(bw) “Land” means includes the earth, water and air, above, below or on the surface, and anything attached to the earth;

(bx) “Land Development” means process of acquiring land for useful purpose by constructing residential, commercial, industrial buildings and other public welfare structures;

(by) “Lateral Support Member” means member designed to inhibit lateral buckling or lateral-

torsional buckling of primary frame members;

(bz) “License” means a permission granted under these rules by the Authority to perform such functions as are allowed under these rules;

(ca) “Lightweight Concrete” means concrete containing lightweight aggregate and an equilibrium density, as determined by ASTM C567, between 90 and 115 lb/ft³;

(cb) “Limit State” means a condition in which a structure or component is judged either to be no longer useful for its intended function (serviceability limit state) or to be unsafe (strength limit state);

(cc) “Load And Resistance Factor Design (LRFD)” means a method of proportioning structural elements using load and resistance factors such that no applicable limit state is reached when the structure is subjected to all appropriate load combinations. The term “LRFD” is used in the design of steel and wood structures;

(cd) “Master Plan” means a Development plan for an area providing short terms and long terms policy guideline for a systematic and controlled growth in future;

(ce) “Medical Waste” means waste or item which can, or is likely to, cause infection, and without prejudice to the generality above, includes needles, operating theatre material, surgical gloves, bandages, blood, bones and flesh etc;

(cf) “Multi Storey Building” means any building above ground plus two or more storey;

(cg) “Normal Weight Concrete” means concrete containing only aggregate that conforms to ASTM C33;

(ch) “Openings” means apertures or holes in the exterior wall boundary of the structure;

(ci) “Owner” means a person or persons holding title to a piece of plot or land/construction thereupon;

(cj) “Parapet wall” means a wall, whether plain, perforated or paneled, protecting the edge of a Roof, Balcony, Verandah or Terrace;

(ck) “Party Wall” means a wall separating adjoining properties;

(cl) “PCATP” means Pakistan Council of Architects and Town Planners;

(cm) “PEC” means Pakistan Engineering Council established under PEC Act, 1976;

(cn) “Pedestrian Lane” means Thoroughfares intended exclusively for pedestrian traffic at least 10ft (3m) wide;

(co) “Plain Concrete” means structural concrete with no reinforcement or with less reinforcement

- than the minimum amount specified for reinforced concrete;
- (cp) “Plinth Level” means the height of the finished floor level of the ground floor, measured from the top of the finished surface of the road serving the plot.
- (cq) “Precast Concrete” means a structural concrete element cast in other than its final position in the structure;
- (cr) “Professional Engineer” means a person recognized as such under-PEC Act and Rules & Regulations framed thereunder;
- (cs) “Proof Engineer” means Engineer registered with Pakistan Engineering Council (PEC) as Professional Engineer (Structures) or a person having PhD. in Structural Engineering or a person having MS degree in Structural Engineering with 10 years structural design experience or a person with bachelor in civil engineering with 15 years structural design experience;
- (ct) “Property Line” means part of plot boundary which separates private property from the public property or a private property from another private property;
- (cu) “Proposed Plans” means plans submitted for approval in respect of proposed building works and/or land development work;
- (cv) “Public Building” means a building designed for public use such as Dispensary, Post Office, Police Station, Town Hall, Library, Recreational Buildings, etc;
- (cw) “Public Open Space” means open spaces including parks, playgrounds, waterways, streets, road and lanes and such other places as defined in these rules;
- (cx) “Registered Geo-Technology Consultant” means a person’s holding registration from Pakistan Engineering Council as a Geo-Technologist;
- (cy) “Registered Structural Engineer” means a qualified structural engineer registered with Pakistan Engineering Council;
- (cz) “Repair/Renovation” means repair work to services, painting, white-washing, plastering, flooring, paving, and replacement of roof of corrugated sheets or of T-iron/girders or wooden roof with RCC slab without change in the approved/completion plan;
- (da) “Residential Building” means building exclusively designed for use for human habitation together with such houses as are ordinarily ancillary to main building and used in connection therewith;
- (db) “Residential Zone” means a zone earmarked for buildings exclusively designed for human habitation and in no case shall include its use in whole or a part thereof for any other purpose e.g.

- shops, clinics, offices, schools, workshops, store/go down or any other commercial activity;
- (dc) “Revised/ Amended Plan” means previously approved drawings/plans re-submitted for approval in accordance with the provision of these rules;
- (dd) “Seismic Design Category” means a classification assigned to a structure based on its occupancy category and the severity of the design earthquake ground motion at the site;
- (de) “Seismic Hook” means a hook on a stirrup, or crosstie having a bend not less than 135 degrees, except that circular hoops shall have a bend not less than 90 degrees;
- (df) “Septic Tank” means tank in which sewage is collected and decomposed before the discharge into a public sewer or soakage pit;
- (dg) “Shear Wall” means a wall designed to resist lateral forces parallel to the plane of the wall, sometimes referred to as vertical diaphragm or structural wall;
- (dh) “Sheathing” means a material encasing prestressing steel to prevent bonding of the prestressing steel with the surrounding concrete, to provide corrosion protection, and to contain the corrosion inhibiting coating;
- (di) “Soakage Pit” means a pit filled with aggregate, boulders or broken brick and intended for the reception of waste water or effluent discharged from a septic tank;
- (dj) “Soft Storey” means the Storey in which the lateral stiffness is less than 70 percent of the stiffness of the Storey above;
- (dk) “Special Moment-Resisting Frame (SMRF)” means a moment-resisting frame specially detailed to provide ductile behavior;
- (dl) “Specified Compressive Strength of Concrete (F'_c)” means compressive strength of concrete used in design;
- (dm) “Storey Drift” means lateral displacement of one level relative to the level above or below;
- (dn) “Storey” means the space between levels;
- (do) “Structural Concrete” means concrete used for structural purposes, including plain and reinforced concrete;
- (dp) “Structural System” means an assemblage of load carrying components which are joined together to provide regular interaction or interdependence;
- (dq) “Sub-Division Plan” means a layout plan for a proposed sub-division duly approved by the Authority as provided in these rules;
- (dr) “Sub-Division” means the division of land held under the same ownership into two or more

plot;

(ds) “Substructure” means the portion of a building below ground level;

(dt) “Sun-Shade” means an outside projection from a building to provide protection from weather, which cannot be converted to habitable space;

(du) “Superstructure” means the portion of a building above ground level;

(dv) “Supervision” means to oversee and supervise the implementation of approved Architectural/Town Planning/Engineering design and specifications during the execution of buildings/development works at site;

(dw) “Temporary Structure” means a structure built/constructed purely on temporary basis, wholly within the plot with the approval of the Authority for a specific period of time and which shall be demolished on completion of the project;

(dx) “Total Floor Area” means sum of the floor areas of all the floors of all the buildings on a plot, less exemption as permitted in these rules;

(dy) “Town” means a buildup area with name, defined boundaries and certain local government, that is larger than a village and smaller than a city;

(dz) “Verandah” means a roofed gallery, terrace or other portion of building with at least one side open to courtyard or a permanent open space;

(ea) “Vertical Load-Carrying Frame” means a space frame designed to carry vertical gravity loads;

(eb) “Wall” means a member, usually vertical, used to enclose or separate spaces;

(ec) “Wall Pier” means a wall segment with a horizontal length-to thickness ratio between 2.5 and 6, and whose clear height is at least two times its horizontal length;

(ed) “Ware House” means a building in which goods are stored;

(ee) “Weak Storey” means the Storey in which the strength is less than 80 percent of the Storey above;

(ef) “Wet Connection” means any of the splicing methods, to connect precast members and uses cast-in-place concrete or grout to fill the splicing closure;

(eg) “Wood Structural Panel” means a structural panel product composed primarily of wood and meeting the requirements of UBC Standard 23-2 or 23-3;

(eh) “Work” means the entire construction or separately identifiable parts thereof that are required to be furnished under the contract documents;

(ei) “X Braced Frame” means a concentrically braced frame (CBF) in which a pair of diagonal braces crosses near mid-length of the braces;

(ej)“Schedule” means schedule appended with rules;

(2) Words and expressions used but not defined in these rules shall have the same meanings as respectively assigned in the Balochistan Building Control Ordinance 1979 (Ord: VI of 1979)

Chapter 2. Certifications/Approval of Documents

4. **Procedure of approval** (1) Every person intending to erect, re-erect, or alter a building shall apply for building permit under these rules along with necessary documents specified therein.
 2. The building plan shall be signed by a licensed Architect/Structural Engineer duly registered and enlisted with the PCATP and PEC.
 3. No building shall be erected, modified or amended without the plans being approved by the Authority.
 4. Any construction without prior permission of the Authority shall be liable to be demolished.
 5. The minimum panel required for the approval or disapproval at the Authority level will have at least the following technical persons:
 - (i) One Architect with valid membership of Pakistan Council of Architects and Town Planners.
 - (ii) One Civil Engineer with valid membership of Pakistan Engineering Council.
 - (iii) Proof Engineer or Vetting Engineer (Third party) to cross check the plans. The Payment of the Proof Engineer should be paid by Builder/Owner (Schedule-A) of the building. The concerned authority should enlist/register the Proof Engineers.
- 5. Plan and Documents:** All applications for approval of building plans shall be submitted on Form A. additionally Form B and C should be accompanied.
- (1) Every person who intends to carry out building works or to demolish a building or carry out additions, alterations or repairs in a building shall engage a licensed architect/Civil Engineer/Structural Engineer/Proof Engineer to supervise the works.
 - (2) Every application for building permit shall be accompanied by ownership documents / proof, duly updated by the concerned revenue authorities, or the in charge of an approved housing colony/Scheme and a site plan drawn to a scale of not less than 40 feet to an inch. The scale used shall be indicated on the plan which shall clearly show:

- (i) The direction of north point.
 - (ii) The boundaries of the site on which it is proposed to erect, re-erect or add to or alter in the building (s).
 - (iii) The position of all adjacent streets, vacant lands and drains.
 - (iv) Fixed distance from the center of road(s).
 - (v) The names and width of streets on which the site abuts, together with the numbers, of adjoining houses or premises, if any.
 - (vi) The alignment of adjoining buildings.
 - (vii) The alignment of drains showing the manner in which the roof / house / surface drainage will be disposed of
 - (viii) Building plan to a scale of not less than 8 feet to an inch. The scale used shall be indicated on the plan which shall include the section elevation and shall show:
 - a. The external dimension of the building.
 - b. The ground floor, first floor and upper floors (if any) and the roof.
 - (ix) The position of all the proposed and existing drains, urinals, privies, fireplaces, kitchens, gutters and down pipes.
 - (x) The dimensions of all rooms and position of doors, windows and ventilators in each room.
 - (xi) The materials to be used in the foundations, walls, floors and roofs.
 - (xii) The purpose for which it is intended to use the building.
 - (xiii) The level and width of the foundation and the ground floor with reference to the level of the center of the street on which the front of the proposed building is to abut.
- (3) The structural drawings and calculations should be submitted in the form of structural design report. The structural design report should be accompanied by
- i. Set of structure analysis design calculations.
 - ii. Set of working structural drawings.
 - iii. Set of bar bending schedule.
 - iv. Set of specifications relevant to structural work.

- (4) Material tests reports as per section 6 should be attached depending upon the size or use of building (Should be submitted at construction stage).
- (5) Complete soil investigation report as suggested in Chapter 5 (or indicated in Section 6 of these Rules), depending upon the size or use of building.
- (6) Any other information or document required by the Authority.
- (7) Title documents relating to the plot showing his right to erect or re-erect a building.
- (8) While giving the application for building permit, the applicant shall furnish five copies of building plans on white paper of A1 size (ammonia paper print is preferred).
- (9) Two copies of the sanctioned plan duly signed by the Head of the plan approval committee shall be returned to the applicant within a period of one month maximum.
- (10) Authenticated / original copies of all documents relied upon by the applicant shall, when required, be produced for inspection.
- (11) Return of Defective Plans: Where the plans are unintelligible/ ambiguous or are in contravention of these Rules, the Head of the Plan Approval Committee will return such plans to the applicant (within 30 days from the date of application) with reasons in writing until a rectified plan or required documents are re-submitted.
- (12) Reference to Proof Engineer: In case of a building other than an ordinary residential building (Ground plus one), the Authority should refer the plan to a Proof Engineer for technical scrutiny from structural point of view (Structural design vetting) on payment of fee to be paid by the applicant/builder as determined by the Authority from time to time (or Schedule-A). The Authority shall send the plan to Proof Engineer and return the same to the owner within one month of its receipt along with technical clearance/comments if any.
- (13) Submission of Revised Plans: When a person intends to make alterations /additions in the sanctioned building plan, he shall submit a revised plan showing all such alterations / additions for consideration by the Authority provided he shall not proceed with construction till the approval of the revised plan.
- (14) Compliance of Permission: Every person who carries out building works shall comply with the direction and conditions specified, in the permission or building permit.
- (15) The Engineer engaged to submit the submission drawings will be the same to submit the completion report. In case there is a change of Engineer, the following documents will be required:

- (i) A certificate will be submitted to the Authorities by the owner from the first Engineer to indicate the stage where he has completed the supervision (Form D).
 - (ii) A certificate will be submitted to the Authorities by the owner that he has made full payment up to that stage to the Engineer and there is no outstanding amount due, this certificate will be signed by the Engineer (Form D).
 - (iii) A certificate will be submitted to the Authorities indicating the name of the Engineer that he has engaged to supervise the remaining portion of the construction (Form D).
- (16) Regularization of works carried out without permission: the Regularization of works carried out without permission will not be allowed from the approved plan. Otherwise the addition /alteration should be demolished.

FORM A/Approval Form

APPLICATION FOR BUILDING PERMIT

The Chief Officer, Local Council_____.

1 We hereby apply for permission to erect/re-erect make additions to and / or alterations in the building on Plot No. _____situated at _____in accordance with the Building Plans submitted herewith for sanction.

2 Necessary particulars are given below and certified to be true:

- (i) Plot held from _____
- (ii) Copy of title deed.
- (iii)Intended use of proposed building works; and
- (iv)Description of the proposed building works
- (v) Site plan indicating the location of the plot.

3 Particulars / Enclosures:

- (i) copies of proposed plans
- (ii) Copy of power of attorney in case the owner is not submitting the plans himself.

4 I/We undertake that I/we shall be personally responsible for any violation of these Rules and conditions, if any, accompanying the sanction of the plan / plans.

Signature: _____

Owner/Lease/Allot tee Attorney

Address: _____

Dated: _____

FORM B

ENGINEER'S CERTIFICATE

(To be accompanied with Form A)

This is to certify that the building plans submitted by _____ for Plot

No _____ have been prepared by me/us and that I/we undertake to supervise the proposed construction as per specifications submitted herewith in triplicate. I/we further undertake that if I/we discontinue supervision of the work, I/we shall give immediate intimation thereof, as required under the above Building Control Rules.

Name, Signature and stamp of Architect /: _____

Registration No. of PCATP: _____

Name, Signature and stamp of Civil Engineer/Architectural Engineer

Registration No. of PEC: _____

Dated: _____

SPECIFICATIONS ATTACHED:

- 1) Nature of the soil below foundation (Test Reports).
- 2) Specification of foundation.
- 3) Specification of plinth.
- 4) Specification of superstructure.
- 5) Specification of floor.
- 6) Specification of roof.
- 7) Method of drainage and sewerage.
- 8) Kind of slab
- 9) Materials tests reports (will be submitted at execution stage)

FORM C

CERTIFICATION OF STRUCTURAL SOUNDNESS OF BUILDINGS

(To be accompanied with Form A and B)

I/we certify that:

1 I/we have been appointed as consulting structural Engineer by Mr./Mrs./M/s _____ for the structural design of the building on Plot No _____ situated on _____ in _____ on which:

- (i) Is likely to be constructed from _____
- (ii) Is under construction since _____
- (iii) Has been virtually completed on _____
- (iv) Stage of construction _____
- (v) No. of story's designed _____

2 The structure designed has been based on following Building Control Rules/Pakistan Building Code (Seismic Provisions-2007) and rationally coupled with Engineering knowledge and judgment where necessary:

3 a. The sub-surface investigation was carried out by M/s _____ on _____.

b. A design bearing capacity of the soil _____ Tons / Sft was adopted based on _____

4 Our / my contractual responsibilities were/are limited to:

- (i) Structure analysis and design.
- (ii) Preparation of working structure drawings.
- (iii) Preparation of bar bending schedule.

(iv) Checking bar bending schedule prepared by the contractors/ constructors/ Builders.

5 The following documents are attached:

- (i) Set of working structural drawings.
- (ii) Set of bar bending schedule.
- (iii) Set of design calculations.
- (iv) Set of specifications relevant to structural work.
- (v) Material Test Report as per Table 2.1
- (vi) Soil Test report as per Table 2.1

Name of Structural Engineer: _____

Signature _____

PEC Registration No: _____

Verification of Proof Engineer

(Other than Structural Design Consultant)

I/we certify that:

6 I/we have been appointed as Proof Engineer by Mr./Mrs./M/s

_____ for the cross check of structural design of the building on Plot No _____

situated on _____ in _____.

7 The structure designed has been cross checked following Building Control Rules/Pakistan Building Code (Seismic Provisions-2007 or any update)

Name of Proof Engineer: _____

Signature _____

PEC Registration No: _____

FORM D

NOTICE OF DISCONTINUANCE

The Chief Officer, Local Council, _____.

I hereby give notice of my discontinuance from the building works with effect from _____ as the Registered Architect/Civil Engineer in respect of Plot No _____ situated at _____. It is certified that I have been paid in full and the following building work on the said plot has been carried out under my supervision and according to the Building Control Regulation's.

Name & Signature of Architect /: _____

Registration No. of PCATP: _____

Name & Signature of Engineer: _____

Registration No. of PEC: _____

Dated: _____

Description of the Work carried out till this stage:

- 1 .
- 2 .
- 3 .
- 4 .
- 5 .

Copy to: -

_____ Owner

_____ Development Authority

6. Materials Tests Reports (1) The following tests reports (Table 2.1) should be submitted for reinforced concrete frames at construction stage to the authority, the completion certificate should not be issued by the authority without these tests. Other tests if necessary may be followed as required by BCP (2007).

- (2) The tests required for steel frames may be followed as required by BCP (2007).
- (3) The materials should be tested in licensed and approved Laboratories. The Laboratories should be accredited by PEC or relevant organizations.
- (4) Establishment of material testing laboratories is mandatory for every relevant department/authority.
- (5) The tests should be performed according to American Society for Testing of Materials (ASTM) standards or other relevant standards.

Table 2.1Material Tests as per ASTM or relevant standards

Materials	Up to 2 Storey Building (Ground Plus one)	Up to 4 Storey Building (Ground Plus three)	Up to 6 Storey Building (Ground Plus Five) or above
Soil	1. Bearing Capacity	Detailed site investigation report including but not limited to the following, at sufficient points and up to 30 m depth or bed rock/hard strata; 1. Bore holes (Minimum two or more dependent on the construction plot size and soil condition, up to 30 m depth or bed rock/hard strata) 2. Ground water 3. In situ bulk/dry density test 4. Natural Moisture Content test 5. Soil classification 6. Specific Gravity test 7. Atterberg Limits test 8. Compaction test 9. Consolidation test 10. Permeability test 11. unconfined and or direct shear test/Triaxial test 12. SPT/CPT and or Vs test	Detailed site investigation report including but not limited to the following, at sufficient points and up to 30 m depth or bed rock/hard strata; 1. Bore holes (Minimum two or more dependent on the construction plot size and soil condition, up to 30 m depth or bed rock/hard strata) 2. Ground water 3. In situ bulk/dry density test 4. Natural Moisture Content test 5. Soil classification 6. Specific Gravity test 7. Atterberg Limits test 8. Compaction test 9. Consolidation test 10. Permeability test 11. unconfined and or direct shear test/Triaxial test 12. SPT/CPT and or Vs test

		13. Bearing capacity	13. Bearing capacity
Cement	No tests required	<ol style="list-style-type: none"> 1. Fineness of Cement ASTM 184 2. Setting time & Normal Consistency ASTM C191, C187 3. Compressive Strength of Cement Mortar ASTM C109 4. Specific Gravity of Cement ASTM C188 	<ol style="list-style-type: none"> 1. Fineness of Cement ASTM 184 2. Setting time & Normal Consistency ASTM C191, C187 3. Compressive Strength of Cement Mortar ASTM C109 4. Soundness of Cement BS 196-3 (ASTM C189-49 withdrawn) 5. Specific Gravity of Cement ASTM C188 6. All Physical and Chemical properties as per ASTM C150
Aggregate	<p>Coarse Aggregate</p> <ol style="list-style-type: none"> 1. Sieve Analysis ASTM C136 <p>Fine Aggregates</p> <ol style="list-style-type: none"> 1. Sieve Analysis ASTM C136 2. Organic Impurity ASTM C40 	<p>Coarse Aggregate</p> <ol style="list-style-type: none"> 1. Sieve Analysis ASTM C136 2. Flakiness Index ASTM D4791 3. Elongation Index ASTM D4791 4. Rodded Density ASTM C29 1500 5. Specific Gravity ASTM C127 6. Water Absorption ASTM C127 <p>Fine Aggregates</p> <ol style="list-style-type: none"> 1. Sieve Analysis ASTM C136 2. Organic Impurity ASTM C40 3. Specific Gravity ASTM C128 – 15 	<p>Coarse Aggregate</p> <ol style="list-style-type: none"> 1. Sieve Analysis ASTM C136 2. Flakiness Index ASTM D4791 3. Elongation Index ASTM D4791 4. Rodded Density ASTM C29 1500 5. Specific Gravity ASTM C127 6. Water Absorption ASTM C127 7. Soundness ASTM C88 <p>Fine Aggregates</p> <ol style="list-style-type: none"> 1. Sieve Analysis ASTM C136 2. Organic Impurity ASTM C40 3. Specific Gravity ASTM

			C128 – 15 4. Soundness ASTM C88
Concrete	Compressive Strength of concrete ASTM C39	Concrete Mix design	Concrete Mix design
Steel	1. Tensile strength ASTM A615 is recommended	1. Gauge Test ASTM A615 2. Unit Weight Test ASTM A615 3. Tensile strength ASTM A615 4. Elongation by ASTM-A615	1. Gauge Test ASTM A615 2. Unit Weight Test ASTM A615 3. Tensile strength ASTM A615 4. Bend test ASTM A615 5. Elongation by ASTM-A615
Bricks/Tuff Tiles/Concrete Blocks	No test required	Compression tests by ASTM or relevant Standards	Compression tests and other required Tests by ASTM or relevant Standards

7. Procedure of inspection (1) the building inspector from the authority should perform inspection of the building. A building inspector should be a registered Civil Engineer with PEC having 5 years' experience or a registered Architectural Engineer with PEC having 5 years' experience.

(2) Verification of Building at Different Construction Stages / Floor Levels: Every person who commences any building works shall give notice to the Authority in 'Inspection Certificate' at the important stages of construction i.e. the foundation, plinth and pouring of all roof levels (Form E).

(3) Minimum of 3 visits for single or two storey buildings and 5 visits for three to five storey buildings. For the building more than five stories or important building at least seven visits should be carried to check the building at different construction levels according the approved plans and structural designs. However, maximum two visits for single or tow storey (ground plus one) buildings in seismic Zone 1, 2A and 2B (low risks buildings) should be carried. The Seismic zones 1, 2A and 2B are those defined in BCP (Seismic Provisions-2007).

(4) Cancellation of Permission: If any time after permission to carry out building work has been accorded, the Authority is satisfied that such permission was granted due to any defective title of the applicant, material misrepresentation or fraudulent statement contained in the

application therewith in respect of such building, such permission may be cancelled and any work done hereunder shall be deemed to have been done without permission. Any oversight in approved building plans does not entitle the owner to violate the Rules.

(5) Inspection of Building: The Authority may, without giving previous notice, cause the premises to be inspected at any time before the sanction of a plan under these Rules, at any time during the construction, within 30 days from the receipt of the notice.

(6) Inspection by the Authority Staff: A Civil Engineer/Architectural Engineer appointed on this behalf by the Executive Officer may inspect any building so as to determine whether any action is required to be taken in respect of such building or anything affixed thereof.

(7) Notice of Completion and Occupation:

(i) Every person who carries out and completes building works sanctioned under these Rules shall give notice to the Authority Executive Officer within thirty days of the completion of such works (Form F).

(ii) After receipt of the notice of completion, the Authority Executive Officer shall cause such work to be inspected and after such inspection he may approve or disapprove the building for occupancy or may make such further order as he may deem fit, within 90 days after receipt of application from the owner.

(iii) No person shall occupy any such building or use any part affected by the erection or re-erection of such building until the permission referred to in these Rules has been granted.

(iv) Quetta Electric Supply Company (QESCO), Sui Southern Gas Company Limited (SSGC), Public Health Engineering, WASA and other Government or non-Government organizations should not provide utility services to the building unless the completion certificate is awarded to the building.

FORM E (Inspection Certificate)

Verification of Building at Lay Out/Plinth/Super Structure Level

The Chief Officer, Local Council, _____ .

I / we hereby inform that I/we have commenced the building works on Plot No_____

located at _____ and also to bring into your notice that the following important stage of construction of building has been completed i.e. the layout/plinth/Super Structure levels:

Name & Signature of Building Inspector (Civil Engineer/Architectural Engineer):

2. You are, therefore, requested to depute a representative to verify the building line at

The above mentioned layout and plinth level or to check the construction at the required level of super structure so as to enable me/us to carry out the remaining work.

Owner's Signature &Address: -

FORM F

CERTIFICATE OF COMPLETION

The Chief Officer, Local Council, _____ .

Date _____

I / we hereby give notice of completion of building/addition or alteration in the building on Plot No. _____ located at _____ and of drainage and water arrangement therein and apply for occupation for the said building.

The said work has been carried out in accordance with approved Building Plans received vide letter No. _____ Dated _____.

Owner's Signature: _____

Address & Tel. No. _____ Dated: _____

ENGINEER'S CERTIFICATE

I hereby certify that the building/additions or alteration of the building on Plot No. _____ located at _____ have been completed/partly completed under my supervision and to my satisfaction. I have been paid in full for my services for the design, supervision and monitoring of the building. The building has been constructed as per the plans approved vide letter No. _____ dated _____

Civil Engineer _____ Signature _____

PEC Registration No: _____

Chapter 3. Professionals and Laboratories

8. Qualifications of the professionals and professional responsibilities

- (1) For construction of buildings in the Balochistan province it is mandatory to hire services of licensed Architects and Civil/Structural Engineers as defined by these rules.
- (2) The authority should enlist and register the Contactors/Consultants and Proof Engineers.
- (3) The Material Testing Laboratories should be accredited by Pakistan Engineering Council or relevant organizations.
- (4) A non-Technical person or An Architect or a Town Planner should not be allowed to do structural Design/approval/supervision of civil work or do the job of a Civil Engineer. Similarly, a Civil Engineer should not be allowed to work as an Architect or Town Planner. In case of violation the person should be removed from the work and should be fined (Rs. 1000 per day or Rs. 2000 per single task which is feasible).
- (5) The following tables enlist the requisite qualifications for various categories of Professionals, Laboratories and professional responsibilities

9. Qualifications of the professionals

Table 3.1 Qualifications of the professionals

Designation	Qualifications
Architect	A person recognized as such under PCATP Ordinance-ix of 1983 and Rules & Regulations framed thereunder.
Building Supervisor	<ol style="list-style-type: none"> 1. Diploma in Civil technology or B-tech with two years' experience in construction. 2. Bachelor Degree in Civil Engineering/Architectural Engineering and Registered Engineer with PEC and one year experience in Building Construction. 3. MS Degree in Structural/Civil Engineering
Professional Engineer (Civil)	A person recognized as such under PEC Act and Rules & Regulations framed thereunder.
Professional Engineer (Structures)	A person recognized as such under PEC Act and Rules & Regulations framed thereunder.

Proof Engineer	<ol style="list-style-type: none"> 1. A person registered with Pakistan Engineering Council (PEC) as Professional Engineer (Structures). 2. A person having Ph.D. in Structural Engineering. 3. A person having MS degree in Structural Engineering and 10 years' experience. 4. A person having BS degree in Civil Engineering or Architectural Engineering registered with PEC and having 15 years' experience.
Structural Design Engineer	<ol style="list-style-type: none"> 1. A person registered with Pakistan Engineering Council (PEC) as Professional Engineer (Structures). 2. A person having MS degree in Structural Engineering and 5 years' relevant experience. 3. A person having Ph.D. in Structural Engineering. 4. A professional Civil Engineer recognized as Consulting Structural Engineer under PEC Act.
Town Planner	A person recognized as such by PCATP. Ordinance-ix of 1983 and Rules & Regulations framed thereunder.
Building Inspector (From the authority)	<ol style="list-style-type: none"> 1. A person with diploma in Civil Technology or B-Tech and having 5 years relevant experience. 2. A person having BS degree in Civil Engineering or Architectural Engineering registered with PEC and having 5 years' experience. 3. A person having MS degree in Civil Engineering or Architectural Engineering registered with PEC and having 3 years' experience.

10. Qualification/entitlement of laboratories

Table 3.2 Qualification/entitlement of laboratories

Laboratory	Qualifications	Entitlement
Geo-Technical Laboratory	Fully equipped laboratory having technical staff as follows: <ol style="list-style-type: none"> 1. Geo-tech consultant, registered with PEC as consultant (Geology or Soil Science). 2. PhD. In Geo-Tech or Soil Sciences 	Soil Testing and recommendations for foundations for all types of Buildings and Projects.
Material Testing Laboratory	Fully equipped laboratory having technical staff as follows:	Material testing of all Buildings and Projects

	<p>1. Registered as Professional Engineer (Civil) with PEC, minimum five years' experience in field and technical paper/article on materials.</p> <p>2. PhD in Structural Engineering or Construction Materials.</p>	
--	--	--

11. Maximum Authorization of Professionals

Table 3.3 Maximum Authorization of Professionals

Materials	Up to 2 Storey Building (Ground Plus one)	Up to 4 Storey Building (Ground Plus three)	Up to 6 Storey Building (Ground Plus Five) or above
Building Supervisor	Supervision	Supervision with 5 years' experience	Supervision with 10 years' experience
Architect	Architectural Design/ Preparation of Plans	Architectural Design/ Preparation of Plans with 5 years' experience	Architectural Design/ Preparation Plans with 10 years' experience
Professional Engineer (Civil)	Design & Supervision	Supervision	Supervision with 5 years' experience
Structural Engineer	Structure Design & Supervision	Structure Design & Supervision	Structure Design & Supervision
Proof Engineer	-----	Structural Vetting	Structural Vetting
Town Planner	-----	-----	Design & Supervision
Building Inspector	Inspection	Inspection	Inspection

Chapter 4. Building Structural Design and Materials Requirements

12. Scope (1) Structure analysis, design, detailing and loading shall be in accordance with the requirements of Building Code of Pakistan, Seismic Provisions-2007 (BCP-2007).

(2) The design and material selection can be done through Uniform Building Code 1997 (UBC 1997), American Concrete Institute (ACI) guidelines for structural concrete or American Institute of Steel Construction (AISC) guidelines for steel members in the case where BCP-2007 guidelines are not sufficient for structural design or materials.

(3) This chapter is primarily related to the design of building or building like structures. The design of other structures should be carried according the expert committee decision made for the specific project or may be decided by authority according to the requirements of the structure.

(13) General Requirements (1) The maximum height of buildings in Quetta City on minor streets and one lane roads should not exceed by a vertical angle of 27° (Height of Building = Distance from apposite edge of road to building line $\times \tan(27^\circ)$). Additionally, the maximum height in Quetta City should not exceed 30 feet for residential and 60 feet for commercial buildings (IBC-2018) in any case (where the 27° angle gives greater heights for residential or commercial buildings).

(2) The maximum height of basements restricted to 12 feet for all types of buildings in Quetta city by these rules.

(3) No soft storey is allowed for buildings with heights more than 30 feet in any case especially in seismic Zone 3 and 4.

(4) Notice of violation: The building control authority is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in

violation of the provisions of these rules, or in violation of a permit or certificate issued under the provisions of these rules. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

(5) **Violation penalties:** Any person who violates a provision of these rules or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction plans or directive of the building Authority, or of a permit or certificate issued under the provisions of these rules, shall be subject to penalties as prescribed by these rules (Annexure-A).

(6) The building violations should be demolished along with imposing violation penalties and violations should not be relaxed in any case by these rules. The expense on removal of violations will be paid by the owner of the building.

(7) Provision of shelters and rescue places should be established at various locations of the city to be used during earthquake or any disaster for the public.

14 Structural Design Requirements

(1) Design shall be in accordance with Strength Design, Load and Resistance Factor Design or Allowable Stress Design methods, as permitted by the applicable materials.

(2) The design should be carried according the section 5.5, BCP-2007 or any update in this code.

15. Loads

(1) Dead Loads: consist of the weight of all materials and fixed equipment incorporated into the building or other structure. Dead loads should be in compliance to section 5.6 of BCP-2007.

(2) Live loads: shall be the maximum loads expected by the intended use or occupancy and should be taken according to section 5.7 of BCP-2007.

(3) Snow loads: shall be determined in accordance with Division II, Chapter 5, of BCP-2007.

(4) Wind loads: shall be determined in accordance with Division III, Chapter 5 of BCP-2007.

(5) Earthquake loads: shall be determined in accordance with Division IV Chapter 5 BCP-2007.

(6) Other minimum loads should be taken according to section 5.11 of BCP-2007.

16. Combinations of Loads Buildings and other structures and all portions thereof shall be designed to resist the load combinations specified in section 5.12 of BCP-2007 or any update in

this code.

17. Earthquake Design

The purpose of the earthquake provisions given by BCP-2007 is primarily to safeguard against major structural failures and loss of life, not to limit damage or maintain function. Structures and portions thereof shall, as a minimum, be designed and constructed to resist the effects of seismic ground motions as provided in Division IV-Earthquake Design (Chapter 5, BCP-2007).

(1) Criteria Selection:

The procedures and the limitations for the design of structures shall be determined considering seismic zoning, site characteristics, occupancy, configuration, structural system and height in accordance with the section 5.29, BCP-2007.

- (a) *Occupancy Categories: For purposes of earthquake resistant design, each structure shall be placed in one of the occupancy categories listed in Table 4.1 (Table 5.13, BCP-2007).*
- (b) *Site Geology and Soil Characteristics: Each site shall be assigned a soil profile type based on properly substantiated geotechnical data using the site categorization procedure set forth in Chapter 6 of these rules or minimum requirements as set in Chapter 3, Table 2.1.*
- (c) *Site Seismic Hazard Characteristics: Seismic hazard characteristics for the site shall be established based on the seismic zones and proximity of the site to active seismic sources, site soil profile characteristics and the structure's importance factor. The details in section 5.29.4 of BCP-2007 should be followed in this regard.*
- (d) *Configuration Requirements: should comply with section 5.29.5 of BCP-2007.*
- (e) *Structural Systems: General. Structural systems shall be classified as one of the types listed in Table 5.1 (Table 5.13, BCP-2007) and defined in the section 5.29.6 of BCP-2007.*
- (f) *Height Limits: Height limits for the various structural systems in Seismic Zones 3 and 4 are given in Table 5.1. However The maximum height of buildings in Quetta City on minor streets and one lane roads should not exceed by a vertical angle of 27° (Height of Building = Distance from apposite edge of road to*

building line $\times \tan(27^\circ)$). Additionally, the maximum height in Quetta City should not exceed 30 feet for residential and 60 feet for commercial buildings (IBC-2018) in any case (where the 27° angle gives greater heights for residential or commercial buildings). Buildings constructed in the rest of Balochistan the height may be finalized based on Table 4.1.

Table 4.1 Structural Systems (Table 5.13, BCP-2007)

Basic Structural System ²	Lateral-Force-Resisting System Description	R	Ω_o	Height Limit for Seismic Zones 3 And 4	
				(m)	(ft)
1. Bearing wall system	1. Light-framed walls with shear panel.	5.5	2.8	20	65
	a. Wood structural panel walls for structures three stories or less	4.5	2.8	20	65
	b. All other light-framed walls				
	2. Shear walls	4.5	2.8	50	160
	a. Concrete	4.5	2.8	50	160
	b. Masonry	2.8	2.2	20	65
	3. Light steel-framed bearing walls with tension-only bracing	4.4	2.2	50	160
	4. Braced frames where bracing carries gravity load	2.8	2.2	-	-
	a. Steel	2.8	2.2	20	65
	b. Concrete ³				
c. Heavy timber					
2. Building frame system	1. Steel eccentrically braced frames (EBF)	7.0	2.8	75	240
	2. Light-framed walls with shear panels				
	a. Wood structural panel walls for structures three stories or less	6.5	2.8	20	65
	b. All other light-framed walls	5.0	2.8	20	65
	3. Shear walls	5.5	2.8	75	240
	a. Concrete	5.5	2.8	50	160
	b. Masonry				
	4. Ordinary braced frames	5.6	2.2	50	160
	a. Steel	5.6	2.2	-	-
	b. Concrete ³	5.6	2.2	20	65
c. Heavy timber					
5. Special concentrically braced frames	6.4	2.2	75	240	
a. Steel					

3. Moment-resisting frames system	1. Special moment-resisting frames (SMRF)				
	a. Steel	8.5	2.8	N.L	N.L
	b. Concrete ⁴	8.5	2.8	N.L	N.L
	2. Masonry moment-resisting walls frames (MMRWF)	6.5	2.8	50	16
	3. Concrete intermediate moment-resisting frames (IMRF) ⁵	5.5	2.8	-	-
	4. Ordinary moment-resisting frame (OMRF)				
a. Steel ⁶	4.5	2.8	50	160	
b. Concrete ⁷	3.5	2.8	-	-	
5. Special truss moment frames of steel (STMF)	6.5	2.8	75	240	
4. Dual system	1. Shear walls				
	a. Concrete with SMRF	8.5	2.8	N.L	N.L.
	b. Concrete with steel OMRF	4.2	2.8	50	160
	c. Concrete with concrete IMRF ⁵	6.5	2.8	50	160
	d. Masonry with SMRF	5.5	2.8	50	160
	e. Masonry with steel OMRF	4.2	2.8	50	160
	f. Masonry with concrete IMRF ³	4.2	2.8	-	-
	g. Masonry with masonry MMRWF	6.0	2.8	50	160
	2. Steel EBF				
	a. With steel SMRF	8.5	2.8	N.L	N.L.
	b. With steel OMRF	4.2	2.8	50	160
	3. Ordinary braced frames				
	a. Steel with steel SMRF	6.5	2.8	N.L	N.L
	b. Steel with steel OMRF	4.2	2.8	50	160
	c. Concrete with concrete SMRF ³	6.5	2.8	-	-
	d. Concrete with concrete IMRF ³	4.2	2.8	-	-
4. Special concentrically braced frames					
a. Steel with steel SMRF	7.5	2.8	N.L	N.L	
b. Steel with steel OMRF	4.2	2.8	50	160	
5. Cantilevered column building systems	1. Cantilevered column elements	2.2	2.0	11	35
6. Shear wall-frame interaction systems	1. Concrete ⁸	5.5	2.8	50	160
7. Undefined systems	See Sections 5.29.6.7 and 5.29.9.2	-	-	-	-

N.L. – no limit

¹See section 5.30.4 (BCP-2007) for combination of structural systems.

²Basic structural system are defined in Section 5.29.6. (BCP-2007)

³Prohibited is seismic Zone 3 and 4.

⁴Includes precast concrete conforming to section 1931.2.7 (UBC 1997).

⁵Prohibited is Seismic Zones 3 and 4, except as permitted is section 5.34.2 (BCP-2007)

⁶Ordinary moment-resisting frames in Seismic Zone 1 meeting the requirements of chapter 8 (BCP-2007) may use a R value of 8.

⁷Total height of the building including cantilevered columns.

⁸Prohibited in Seismic Zones 2A, 2B, 3 and 4. See section 5.33.2 (BCP-2007)

- (g) Selection of Lateral-force Procedure: the lateral force analysis procedure should be selected according to BCP-2007, section 5.29.8.*
 - (h) System Limitations: Structures with a discontinuity in capacity, vertical irregularity, undefined structural systems or Irregular features should be analyzed or designed according to BCP-2007, section 5.29.9.*
- (2) Minimum Design Lateral Forces and Related Effects
- (a) Earthquake Loads and Modeling Requirements: Structures shall be designed for ground motion producing structural response and seismic forces in any horizontal direction. The loads should be calculated according to BCP-2007, section 5.30.*
 - (b) Static Force Procedure: The total design base shear in a given direction shall be determined from the formula given in BCP-2007, section 5.30.2.*
 - (c) Determination of Seismic Factors: these factors should be determined according to BCP-2007, Section 5.30.3.*
 - (d) Combinations of Structural Systems: Where combinations of structural systems are incorporated into the same structure, the requirements of BCP-2007, section 5.30.4 shall be satisfied.*
 - (e) Vertical Distribution of Force: The total force shall be distributed over the height of the structure in conformance with Formulas of BCP-2007, section 5.30.5.*
 - (f) Horizontal Distribution of Shear: the horizontal distribution of shear should be carried according to BCP-2007, section 5.30.6.*
 - (g) Drift: Drift or horizontal displacements of the structure shall be computed where required by BCP-2007, for both Allowable Stress Design and Strength Design, according to section 5.30.9.*
 - (h) Storey Drift Limitation: General. Storey drifts shall be computed using the Maximum Inelastic Response Displacement according to BCP-2007, section 5.30.10.*

(3) **Dynamic Analysis Procedures:** Dynamic analyses procedures, when used, shall conform to the criteria established in BCP-2007, section 5.31. The analysis shall be based on an appropriate ground motion representation and shall be performed using accepted principles of dynamics.

(4) **Lateral Force on Elements of Structures, Nonstructural Components and Equipment Supported by Structures:** Elements of structures and their attachments, permanent nonstructural components and their attachments, and the attachments for permanent equipment supported by a structure shall be designed to resist the total design seismic forces prescribed in Section 5.32.2 of BCP-2007.

(5) **Non-building Structures:** Non building structures include all self-supporting structures other than buildings that carry gravity loads and resist the effects of earthquakes. Non building structures shall be designed to provide the strength required to resist the displacements induced by the minimum lateral forces specified in BCP-2007, section 5.34. Design shall conform to the applicable provisions of other sections as modified by the provisions contained in Section 5.34.

(6) **Earthquake-Recording Instrumentations:** In seismic zones 3 and 4, every building over 10 storeys in height with an aggregate floor area of 9290 meter square (100,000 ft²) or more and every building over 15 storeys in height regardless of floor area shall be provides with not less than three approved recording accelerographs. The accelerographs shall be interconnected for common start and common timing. The provisions of BCp-2007, Section 5.35, should be followed in this regard.

18. Structural Concrete (1)**General Requirements:** This section contains special requirements for design and construction of cast-in-place reinforced concrete members of a structure for which the design forces, related to earthquake motions, have been determined on the basis of energy dissipation in the nonlinear range of response as specified in Chapter 5 of BCP-2007. For applicable specified concrete compressive strengths see 1.1.1 of ACI 318-05 and Section 7.3.4.1. For explanation of provisions, see Chapter 21, Commentary of ACI 318-05.

(2) **Flexural Members of Special Moment Frames:** Requirements of this section shall apply to special moment frame members (a) resisting earthquake-induced forces and (b) proportioned primarily to resist flexure. These frame members shall satisfy the requirements of BCP-2007 section 7.4.

(3) **Special Moment Frame Members Subjected to Bending and Axial Load:** The

requirements of this sub-section apply to special moment frame members (a) resisting earthquake induced forces and (b) having a factored axial compressive force P_u . This section shall satisfy all the requirements of BCP-2007, section 7.5.

(4) Joints of Special Moment Frames: This section shall satisfy all the requirements of BCP-2007, section 7.6.

(5) Special Moment Frames constructed using Precast Concrete: Special moment frames with ductile connections constructed using precast concrete shall satisfy all the requirements of BCP-2007, section 7.7.

(6) Special Reinforced Concrete Structural Walls and Coupling Beams: The requirements of this section apply to special reinforced concrete structural walls and coupling beams serving as part of the earthquake force-resisting system. This section shall satisfy all the requirements of BCP-2007, section 7.8.

(7) Foundations: Foundation resisting earthquake induced forces or transferring earthquake induced forces between structure and ground shall comply with 7.11 of cp-2007 and other applicable code provisions.

19. Structural Steel Buildings: The Seismic Provisions for Structural Steel Buildings, hereinafter referred to as these Provisions, shall govern the design, fabrication and erection of structural steel members and connections in the seismic load resisting systems (SLRS) and splices in columns that are not part of the SLRS, in buildings and other structures, where other structures are defined as those structures designed, fabricated and erected in a manner similar to buildings, with building-like vertical and lateral load-resisting-elements. These Provisions shall apply when the seismic response modification coefficient, R , (as specified in the Chapter 5, Table 5.13, BCP-2007) is taken greater than 3, regardless of the seismic design category. When the seismic response modification coefficient, R , is taken as 3 or less, the structure is not required to satisfy these Provisions, unless specifically required by the applicable building code.

These Provisions shall be applied in conjunction with the AISC Specification for Structural Steel Buildings ANSI/AISC 360-05, hereinafter referred to as the Specification. Members and connections of the SLRS shall satisfy the requirements of the applicable building code, ANSI/AISC 360-05, and these Provisions.

(1) Loads, Load Combinations, and Nominal Strengths: these shall satisfy the requirements

of BCP-2007, section 8.4.

(2) Structural Design Drawings and Specifications, Shop Drawings, and Erection Drawings: Structural design drawings and specifications shall show the work to be performed, and include items required by ANSI/AISC 360-05 and shall satisfy the requirements of BCP-2007 section 8.5.

(3) Materials: Structural steel used in the seismic load resisting system (SLRS) shall meet the requirements of ANSI/AISC 360-05 Section A3.1a, except as modified in section 8.6 BCP-2007.

(4) Connections, Joints and Fasteners: Connections, joints and fasteners that are part of the seismic load resisting system (SLRS) shall comply with ANSI/AISC 360-05 Chapter J, and with the additional requirements of BCP-2007, section 8.7. The design of connections for a member that is a part of the SLRS shall be configured such that a ductile limit state in either the connection or the member controls the design.

(5) Members: Members in the seismic load resisting system (SLRS) shall comply with ANSI/AISC 360-05 and Section 8.8 of BCP-2007.

(6) Special Moment Frames (SMF): Special moment frames (SMF) are expected to withstand significant inelastic deformations when subjected to the forces resulting from the motions of the design earthquake. SMF shall satisfy the requirements in the Section 8.9 of BCP-2007.

(7) Intermediate Moment Frames (IMF): Intermediate moment frames (IMF) are expected to withstand limited inelastic deformations in their members and connections when subjected to the forces resulting from the motions of the design earthquake. IMF shall meet the requirements in the Section 8.10 of BCP-2007.

(8) Ordinary Moment Frames (OMF): Ordinary moment frames (OMF) are expected to withstand minimal inelastic deformations in their members and connections when subjected to the forces resulting from the motions of the design earthquake. OMF shall meet the requirements in the Section 8.11 of BCP-2007.

(9) Special Truss Moment Frames (STMF): Special truss moment frames (STMF) are expected to withstand significant inelastic deformation within a specially designed segment of the truss when subjected to the forces from the motions of the design earthquake. STMF shall be limited to span lengths between columns not to exceed 20 m (65 ft) and overall depth not to exceed 1.8 m (6 ft). The columns and truss segments outside of the special segments shall be

designed to remain elastic under the forces that can be generated by the fully yielded and strain-hardened special segment. STMF shall meet the requirements in the Section 8.12 of BCP-2007.

(10) Special Concentrically Braced Frames (SCBF): Special concentrically braced frames (SCBF) are expected to withstand significant inelastic deformations when subjected to the forces resulting from the motions of the design earthquake. SCBF shall meet the requirements in the Section 8.13 of BCP-2007.

(11) Ordinary Concentrically Braced Frames (OCBF): Ordinary concentrically braced frames (OCBF) are expected to withstand limited inelastic deformations in their members and connections when subjected to the forces resulting from the motions of the design earthquake. OCBF shall meet the requirements in this Section. OCBF above the isolation system in seismically isolated structures shall meet the requirements in the Section 8.14 of BCP-2007.

(12) Eccentrically Braced Frames (EBF): Eccentrically braced frames (EBFs) are expected to withstand significant inelastic deformations in the links when subjected to the forces resulting from the motions of the design earthquake. The diagonal braces, columns, and beam segments outside of the links shall be designed to remain essentially elastic under the maximum forces that can be generated by the fully yielded and strain-hardened links, except where permitted in this Section. In buildings exceeding five storeys in height, the upper storey of an EBF system is permitted to be designed as an OCBF or a SCBF and still be considered to be part of an EBF system for the purposes of determining system factors in the applicable building code. EBF shall meet the requirements in the Section 8.15 of BCP-2007.

(13) Buckling-Restrained Braced Frames (BRBF): Buckling-restrained braced frames (BRBF) are expected to withstand significant inelastic deformations when subjected to the forces resulting from the motions of the design earthquake. BRBF shall meet the requirements in the Section 8.16 of BCP-2007. Where the applicable building code does not contain design coefficients for BRBF, the provisions of Appendix R of ANSI/AISC 341-05 shall apply.

(14) Special Plate Shear Walls (SPSW): Special plate shear walls (SPSW) are expected to withstand significant inelastic deformations in the webs when subjected to the forces resulting from the motions of the design earthquake. The horizontal boundary elements (HBEs) and vertical boundary elements (VBEs) adjacent to the webs shall be designed to remain essentially elastic under the maximum forces that can be generated by the fully yielded webs, except that plastic hinging at the ends of HBEs is permitted. SPSW shall meet the requirements in the

Section 8.17 of BCP-2007. Where the applicable building code does not contain design coefficients for SPSW, the provisions of Appendix R of ANSI/AISC 341-05 shall apply.

(15) Quality Assurance Plan: When required by the applicable building code or the engineer of record, a quality assurance plan shall be provided. The quality assurance plan shall include the requirements of Appendix Q of ANSI/AISC 341-05.

20. Composite Structural Steel and Reinforced Concrete Buildings

(1) Materials

(a) *Structural steel members and connections used in composite Seismic Load Resisting Systems (SLRS) shall meet the requirements of ANSI/AISC 360-05 section A3.*

(b) *Concrete and steel reinforcement used in composite components in composite SLRS shall meet the requirements of ACI 318-05, sections 21.2.4 through 21.2.8.*

(2) The design of Composite Members and Connections shall be in accordance with BCP-2007, chapter 8, or any update in BCP-2007.

21. Masonry

The materials, design, construction and quality assurance of masonry shall be in accordance with Chapter 9 of BCP-2007.

22. Architectural Elements:-Those unique components and details which are attached to structures for the purpose of good aesthetics or other architectural design are termed as architectural elements. These includes conservation pits, Apron, Balcony, Cornice, Keystone, Antefix, Arris, and Architrave etc.

(1) Seismic Loads Applied to Architectural Component

(a) *The Architectural components shall be attached in such a manner that the seismic loads are applied at the center of gravity of the components and then transferred to the structural system of the building in such a way that the failure of an architectural component shall not cause the failure of an architectural system.*

(b) *Architectural components and their means of attachment shall be designed for seismic forces in accordance with section 10.2 of BCP 2007.*

(2) Ceiling and other components attached to ceilings shall be designed and tied in

accordance with BCP-2007, section 10.3.

- (3) All the partitions of Architectural components shall meet the requirements of BCP-2007, Section 10.4.

23. Mechanical & Electrical Systems Mechanical and electrical components and their supports shall satisfy the requirements given in Chapter 11 of BCP 2007.

Chapter 5. Soil and Geotechnical Investigations

24. **Soil Report Review Process:** Soil/Geotechnical report prepared by the licensed engineer should be reviewed by the Expert such as Professional Engineer in Soils or having PhD qualification in Geotechnical Engineering or Prof Engineer having Consulting License in Geotechnical Engineering.

25. **Seismic Hazard Assessment:** For assessing the seismic hazard, the geotechnical report should be prepared by Professional Engineer in Soils or having PhD qualification in Geotechnical Engineering.

(1) **Bed Rock Response: Probabilistic Hazard Analysis:** Using the BCP-2007 seismic zonation, the bed rock Peak Ground Acceleration (PGA) can be calculated for the site of interest.

(2) **Seismic site classification:** For site classification shear wave velocity profile is required. Therefore, SASW (Spectral Analysis of Surface Waves) or MASW (Multi-channel Analysis of Surface Waves) geophysical tests are required.

(3) **Surface Response:** Using the BCP-2007 site amplification factors can be computed and multiplied to compute the surface response. As residential buildings in Pakistan either are single or double story therefore PGA will be reliable intensity measure to account for the level of expected ground motion intensity at site of interest. For the important building with multiple stories design response spectra can be defined as per the BCP-2007 guidelines. For site class F site specific response analysis must be carried out.

(4) **Ground motion selection:** In case, the time history analysis is required for the building seismic design, suite of ground motions should be selected as,

(a) *Locate the site of interest on the fault map given in BCP -2007, compute deterministic scenario.*

(b) *Using the computed deterministic scenario select the three (03) set of recorded acceleration time histories.*

(c) *In case buildings are single or double story with fundamental period less than 1s, use the PGA scaled motion, for mid to high rise building use response spectrum compatible time histories. The only required geophysical test for this*

step is MASW or SASW to compute the average shear wave velocity profile. These information will be provided to structure engineer for evaluation of “Seismic Design”.

(5) Liquefaction Potential: Mostly saturated soil (particularly sandy soil) if subjected to dynamic loading are susceptible to liquefaction. In case of earthquake prone area, the liquefaction is expected if the Rupture distance (source to site distance) is less than 100 km. If the above conditions are existing, the soil must be checked for liquefaction potential. The liquefaction potential of the sub-surface can be evaluated by performing standard penetration test (SPT), or cone penetration test (CPT), or shear wave velocity (Vs) test and incorporating the correlation between cyclic resistance ratio (CRS) and SPT/CPT/Vs. The liquefaction can also be assessed by performing one dimensional effective stress site response analysis.

(6) Potential Landslide and Slope Instability: In case the site is location on slope or face slope, it is required to evaluate the seismic slope stability such that the setback distance is not interspacing the failure plane of slope. Following methods maybe used to evaluate seismic slope stability,(a) Pseudo-static method, and (b) Sliding block method. The seismic load/demand in terms of PGA should be calculated as defined in Seismic Hazard section. To define the shear strength and stiffness of soil in seismic slope stability tests should be performed to determine required soil properties (c, phi, unit weight, and stratigraphy).

26. Soils and Foundations.-(1) Introduction: It is important that before a field investigation program is developed a preliminary site characterization based on published literature and clients and consultant’s information, information from old constructions etc. be prepared. Geotechnical properties of soils highly influence the stability of civil engineering structures. The occurrence and distribution of soils in nature varies from location to location. Therefore, site specific geotechnical investigation is always needed.

(2) Soil Profile: In view of the structural design as per Sec 4.3 and 4.4 of BCP-2007, type of Sub-Soil for foundation should be thoroughly ascertained by geo-technical investigation under the direct supervision of qualified and experienced geo-technical engineers. Initially, few bore holes (number and depth of bore holes will be suggested by the geotechnical expert) are made or a test pit is opened to establish in a general manner the stratification, types of soil to be expected, and possibly the location of the groundwater table. If the initial borings indicate that the upper soil is loose or highly compressible, one or more borings should be taken to rock or competent

strata. Following test should be performed on the soil samples collected at different depth during boring.

- (a) *Soil gradation (sieve analysis and or hydrometer test)*
- (b) *Liquid limit test*
- (c) *Plastic limit test*

(3) Standard penetration tests (SPT) or Cone Penetration Test (CPT) must be performed at the site to get knowledge about the subsurface stratigraphy encountered in each bore hole up to the desired depth. For seismic active zones Shear wave velocity tests (SASW or MASW geophysical tests) must be performed to characterize the site class. The information gathered from the above tests will be presented in the form of Bore loges. Geotechnical investigation report must contain the bore loges.

(4) Bearing capacity: The foundation to the structures is provided to safely transmit the load of the superstructure to the safe bearing capacity of the soil. The foundation can be a, (1) shallow foundation or (2) deep foundation, depend on the available bearing capacity and size of the structure. In view of the foundation construction as per Sec 4.5 of BCP-2007, the safe bearing capacity of the foundation soil must be calculated for any type of foundation.

(5) Shallow foundation: The bearing capacity for shallow foundation should be calculated by any of the following methods.

(a) Analytical methods: The analytical method proposed by Terzaghi (194) can be used to calculate the bearing capacity of shallow foundations. Shear strength parameters i.e. cohesion and the internal friction angle is used to calculate the bearing capacity of soil. The shear strength parameter can be determined by conducting the following tests;

- (b) *Direct shear test*
- (c) *Triaxial test*
- (d) *Unconfined test*
- (e) *The relative density test*
- (f) *Plate load test*

(6) The type of test will be selected by a qualified and experienced geo-technical engineer. The bearing capacity of shallow foundation can also be determined by performing the plate load test in the field on the desired depth. The foundation must also be checked for settlement and

shear failure. One dimensional consolidation test must be performed to assess settlement of the foundation. It is highly recommended for multi-story buildings and important buildings that the foundation must be checked for settlement and shear failure by using advanced soil constitutive models in computer simulation programs.

(7) Deep foundation: Deep foundation is provided if the desired bearing capacity is not found at shallow depth. Any of the following tests must be performed to find the desired bearing capacity depth.

- (i) Standard Penetration Test (SPT)
- (ii) Cone Penetration Test (CPT)

A qualified geo-technical engineer will have to verify the tests results and suggest the type of the foundation.

Proper investigation of lateral stresses and strains before excavation must be carried out.

(8) Design Parameters of Foundations in Seismic Zones: The seismic factor (k_h) must be considered in calculated the bearing capacity factors for foundations in seismic zones 3 and 4. Raft foundation or piles foundation is recommended if the overturning moment due to seismic loading is high. It is highly recommended for multi-story buildings and important buildings that the stability of the foundation against earthquake loading must be checked by using advanced soil constitutive models in computer simulation programs.

Chapter 6. Use and Occupancy

27. Scope.-

(1) In this chapter, the buildings are subdivided into residential plots and buildings, amenities buildings, and industrial and commercial buildings etc. The distribution of the area, minimum area requirement and setbacks are given in details for the mentioned classification of the buildings. These Rules separates use into broad groups called Occupancies. Under these groups, there are subdivisions that further refine the detailed requirements. Note: there is no restriction of construction of religious buildings in any area.

28. **Residential plots.-** (1) General requirements of the residential plots should be as given:

Table6.1: General provisions of residential plots

Plot Size (Marlas)	Up to 2	2 to 5	5 to 8	8 to 10	10 to 20	20 to 40	Above 40
Void Area (%) maximum	10	10	10	-	-	-	-
Setbacks (Feet) (front/Back/Side)	No restriction	No restriction	7/5/0	10/10/5(one side only)	10/10/5(one side only)	15/10/5	20/15/10
Basement Provisions (%)	100	100	100	100	100	100	100
Foot Prints (%) minimum	90	90	65	70	70	70	60
Plot to Floor Area	1:2, not exceeding ground + 1 floor (Mumty excluded)	1:2, not exceeding ground + 2 floor (Mumty excluded)	1:1.8, not exceeding ground + 1 floor (Mumty excluded)	1:1.25, not exceeding ground + 1 floor (Mumty excluded)	1:1.15, not exceeding ground + 1 floor (Mumty excluded)	1:1.25, not exceeding ground + 1 floor (Mumty excluded)	1:1.25, not exceeding ground + 1 floor (Mumty excluded)
Mumty Provisions (Sq.ft)	100	120	120	140	180	220	240

Note: No ramp, green belt or stairs on road for all size plots.

29. Residential buildings (Flats/Apartments)

The apartment buildings are divided based on number of floors.

(1) Buildings up to four storey or less

Recommendations for the apartment buildings are given as:

- (a) **Necessary Set Backs**
- (b) **Front Setback**
 - (i) 40ft if the front of the flats is open.
 - (ii) 60ft if row of flats facing each other.
- (c) **Side Setback**

- 20ft in between end of blocks of apartment/flats either facing each other or placed as single row from front line.

Back Setbacks

- 20ft at rear as service road for garbage collection and as privacy buffer for apartment/flats placed back to back

General Requirements

- General requirement of parking, staircase, water tanks, garbage disposal, sewerage system or septic tanks, firefighting devices, lighting conductor needs to be provided according to the provisions.

(2) Buildings above four storey:

All the requirements are same as for the apartment buildings less than four storey except with the mandatory provision of elevator.

(a) *At least one elevator for a building of G+3 is compulsory and additional one elevator shall be required for every additional two floor. Provision of stretcher/cargo lifts shall also be provided in relation to the requirements of the building.*

30. Residential Buildings in approved housing schemes

(1) Provisions of toilets and portable drinking water for general public are mandatory.

(2) Plots and public buildings in housing schemes:

The general guidelines for the public building plots and building in housing schemes are given in the Table 7.2.

Table 7.2: General guidelines for the public buildings plots in housing schemes

Plot Size (Marlas)	Less than 10	10 to 20	20 to 40	Above 40	Mini Bus stands	Theaters, clubs, marriage, concert & banquet Halls
Setbacks (Feet) (front/Back/Side)	7/5/0	10/5/5 (one side)	20/10/7	30/15/15	20/10/10	40/10/10
Foot Prints (%) Maximum	65	65	60	55	100	-
Plot to Floor Area	1:3	1:3	1:3	1:3	-	-

Note: Minimum plot size for the theaters, clubs etc is 4 kanals and Minimum parking for cars to be 60% of occupancy. OGRA rules and regulations for CNG/Petrol filling stations should be followed.

(3) Fire Fighting

Fire Route (Access and Exits of Fire Tenders) see Chapter 12.

Note: Furthermore, see Chapter 14 Fire Bye Laws and Byelaws regarding Fire Hazard should be adopted.

(4) Elevators in Public Buildings: Public Building of Ground + 2 or more storey must have Elevators.

(5) Approach Ramps for Special Persons

(i) Ramps for Physically Challenged Persons compulsory.

(ii) Bath rooms for Physically Challenged Persons compulsory

(iii) Push bar Doors for Special Persons

(6) Roads

Refer to Chapter 7 of the Rules (Highways and roads).

(7) At least one elevator for a building of G+2 is compulsory and additional one elevator shall be required for every additional two floor. Provision of stretcher/cargo lifts shall also be provided in relation to the requirements of the building.

31. Public amenities buildings.-

In real estate and lodging, an amenity is something considered to benefit a property and thereby increase its value. The most important public amenities buildings are religious buildings, Schools, Colleges & Universities, Hospitals and B.H. U's and Clinics.

(1) **Schools:** (Note: Location of school in most polluted areas and dense traffic route should be avoided)

The requirements of the plot sizes and space management is given as:

Minimum Plot Size Requirements.-

Primary Schools need a minimum of 2 Kanal total plot area.

Middle Schools need a minimum of 4 Kanal total plot area.

High Schools need a minimum of 8 Kanal total plot area.

Higher Secondary Schools needs a minimum of 16 kanal total plot area.

Necessary Set Back (Front, Rear, Sides)

The setback shall be 10 feet each side

Foot Print, Plot to Floor Area Ratio and Site Coverage

Foot Print (Max) = 40 %

Floor Area Ratio = 1:1.6

Height (Internal and External Building Height)

The height of the buildings (basement “B”, Ground floor “G” and three stories above the ground for all types of schools (all plot sizes) are given as:

Height of each floor

Ground Floor: 9.5 Ft to 12 Ft

1st Floor & 2nd Floor (if applicable): 10.5 Ft (each) 9.5 Ft (each)

Clear Height of Basement: 9 ft.

Playground:

Minimum One playground of sufficient size should be provided in the premises of schools.

(2) Colleges and universities

Minimum Plot Size Requirements

Minimum area of the college should be 36 kanal.

Minimum area of the university should be 56 kanal.

Necessary Set Back (Front, Rear, Sides)

Front setback should be 40 feet

All other sides shall have a setback of 20 feet each.

Foot Print, Plot to Floor Area Ratio and Site Coverage

Foot Print (Max) shall be 40 %

Floor Area Ratio shall be 1:1.6

Height of each storey

Ground Floor: 9.5 Ft to 12 Ft

1st floor & 2nd floor (if applicable): 10.5 Ft (each) 9.5 Ft (each)

Clear Height of Basement: 9 ft

Height of Lawn:

Height of Lawn should not be less than 9 inches from Road Level.

Playground:

Minimum One playground of sufficient size should be provided in the premises of college / university.

(3) Hospitals

Minimum Plot Size Requirements

Minimum area of a hospital should be 4 Kanal.

Necessary Set Backs (Front, Rear, Sides)

All the setbacks should be at least 20 feet.

Foot Print, Plot to Floor Area Ratio and Site Coverage

Foot Print (Max) = 60 %

Floor Area Ratio = 1:5

Maximum Height of building

Maximum height of the building should be selected from Chapter 4 or from Pakistan building code

(4) Basic Health Units (B.H. Us) & Clinics

Minimum Plot Size Requirements: For clinic the minimum space shall be according to the nature of practice

For B.H.Us the minimum Plot size shall be 1 Kanal.

Necessary Set Back (Front, Rear, Sides)

Set back from all sides shall be 5'-0"

Foot Print, Plot to Floor Area Ratio and Site Coverage

Foot Print (Max) = 60 %

Floor Area Ratio = 1:2.8

(5) General details

Plinth Level:

Plinth Level subject to contour of Plot as defined is 1.5 ft. to 4.5 ft.

Boundary Wall

Boundary Wall from Crown of the Road shall be 6 to 8 ft.

Height of each story

Floor height shall be: 9.5 Ft to 16 Ft

Clear Height of Basement shall be 9 ft.

Height of Lawn:

Height of Lawn should be 9 inches from Road Level.

Ramp:

Ramps should have minimum slope of 1:6 for pedestrians and physically challenged persons with holding bars for all Health facilities.

Doors, Windows & Ventilators:

All doors, Windows and Ventilators provided for rooms in the proposed building shall not be less than the following.

Minimum sizes

Ventilators: 3 sft

Doors: 2'6" X 6'6"

Windows: 6'-0"

Elevators:

At least one elevator for a building of G+2 is compulsory and additional one elevator shall be required for every additional two floor. Provision of stretcher/cargo lifts shall also be provided in relation to the requirements of the building.

Incinerators and Germs control:

- i. An incinerator plant of appropriate size shall be provided in hospital buildings for burning of hazardous wastes.

- ii. Incinerator plants should be installed at a distance from all the public areas in hospitals.
- iii. Chemical grout should be used in tile fixing of hospital buildings.
- iv. All skirting and dado should be flushed with plaster of the hospital to minimize dust, living spaces for germs.

Open Areas:

50% of the open area should be reserved for parks, recreational spaces and car parking inside hospitals and all other health care buildings.

32. Industrial Zones and Industrial Buildings

General provisions for the industrial zones and buildings must be followed for the safe and better environment. These guidelines are applicable for both the isolated industrial zones and the industries build up in already developed housing schemes.

(1) Planning and Zoning

- (a) Availability of sufficient barren and non-cultivable land for establishing industrial estate.*
- (b) Industrial estate shall be located away from the city/residential area.*
- (c) Ease and accessibility to industrial estate from the main artery roads.*
- (d) Industrial zoning to be carried out as per compatibility/nature of Industries with one another.*
- (e) Provision of appropriate and independent space for labor colonies, parks and green spaces and civic amenities at a safe distance from pollution areas.*
- (f) Creating buffer zones and green belts between the industrial estate and other settlements.*
- (g) Involvement of Technical professionals/firms and other concerned stake holders in the planning, Zoning and Designing of Industrial Estate.*
- (h) Mandatory sewerage treatment plant and safe disposal of the effluents free from all sorts of hazardous materials.*

(2) Building standards

The Table below summarize some general standards of the industrial buildings.

Table 7.3: General standards for industrial buildings

Plot Size	1 Kanal	2 Kanal	3 to 4 Kanal			1 to 3 Acre			4 Acres & above		
No. of Storey	-	-	Single	Double	Multi	Single	Double	Multi	Single	Double	Multi
Setbacks (Feet) (Front/Sides/Back)	15/5/5	20/10/10	25/10/15	30/15/20	35/15/25	60/20/20	65/20/30	65/20/30	80/25/30	80/25/30	80/25/30
Foot Prints (%) Maximum	60	60	60			60			60		
Min Floor Height (Feet)	12	12	12			12			12		
Parapet Height (Feet)	3	3	3			3			3		
Plinth level above the ground (feet)	1	1	1			1			1		

33. Commercial buildings

- (1) All the commercial buildings must have civic amenities such as rest rooms and portable water for general dwellers. Minimum one toilet for a 5 shops building.
- (2) General guidelines for commercial building are given here. These standards are also applicable to the commercial cum residential buildings.

Some of the general provisions are given in the table below.

Table 7.4: General provision for the commercial buildings

Plot Size (Marlas)	2.6 to 5	5.1 to 8.3	8.4 to 13.2	13.3 to 20	20 to 33	33 to 66
Setbacks (Feet) (front/Back/Side)	0/3/0	0/5/0	0/7.5/0	8/7.5/5	8/8/5	8/10/7.5
Foot Prints (%) GF/Above GF	100/100	95/95	90/90	85/75	80/70	70/65
Plot to Floor Area	1:6	1:6	1:6	1:6	1:6	1:6
Storey height (feet)	9.5	9.5	9.5	9.5	9.5	9.5
Plinth Level (feet)	2	2	2	2	2	2
	Keep plinth level equal to 3 feet if basement is provided.					
Arcade from road crown (feet)	1.33	1.33	1.33	1.33	1.33	1.33
Parapet wall (feet)	4	4	4	4	4	4

Height of stair tower (Feet)	8	8	8	8	8	8
Clear height of basement (Feet)	9	9	9	9	9	9
Ceiling height of shops (Feet)	9	9	9	9	9	9
	If mezzanine is provided then the height should not exceed 7 feet					

(3) Basement, Ramp, Parking

- (a) The lower ground floor/basement if used for car parking purposes can be constructed after leaving 4 feet (1.22 m) space all around within the plot. This would apply in the case where only one basement is provided with a maximum excavation of 12 feet (3.66 m). Ramp may be provided in the mandatory open spaces in the basements subject to the condition that it shall not obstruct these spaces on ground level.*
- (b) For the construction of basement beyond 12 feet (3.66 m) depth from road level, the entire plot area can be covered subject to the provision of RCC piling along all four sides of the plot.*
- (c) The lower ground floor/basement if used for purposes other than car parking shall be constructed after leaving all the mandatory open spaces as required under these Rules.*
- (d) No ramp shall start within 10 feet clear space from the plot line for entry and exit purpose such ramp should have a minimum slope of 1:7.5 with transition slopes minimum 8 feet long and maximum 1:10 gradient at both ends.*
- (e) In the parking basement non-usable areas such as generator room/water tanks/pumping stations/engineering services/transformer may be permitted subject to the condition that the area does not exceed 10% of the particular floor area with proper enclosure.*
- (f) The rooms for security/emergency staff may also be permitted in parking basement which will not create any hindrance in parking.*
- (g) In case of provision of parking in basement, the parking space should be provided for both Motor Bikes and Motor Cars. Parking Basement only for Motor Bikes will not be approved.*

(4) General Standards for Commercial Buildings

(a) *Basements: Basement shall be permitted/ allowed in all the cases provided that:*

- (i) The engineering instructions should be followed, and that the foundations of the basement do not intrude in the adjoining plot.
- (ii) Independent entrance as well as an emergency exit should be provided.
- (iii) Proper sanitary arrangements should be made.
- (iv) The drainage passing under the basement should be gas tight.
- (v) The minimum height should be not less than 3.1 meters. Wherever basement is permissible, it shall be subjected to the fulfillment of the following conditions.
 - (a) A basement shall be served with an independent entrance and it shall have an emergency exit.
 - (b) No difficulty should be felt for the proper sanitary arrangement of the basement and it can be directly connected to sewer or if this may not be possible pumping arrangement shall be installed.
 - (c) Drainage passing under the basement is gas tight.
 - (d) Minimum area of basement shall be 9.3 square meter (100 square feet)
 - (e) The maximum area of each basement shall not exceed 33.20 square meters (400 square feet) except apartment building.

(b) *Shops*

- (i) Minimum area of shops shall be 100 square feet with a minimum width of 8 feet.
- (ii) No shops shall be provided in basement. Basement in commercial plots exceeding 650 square yards will be used for car parking only. Fixing of hoarding over any building is prohibited, unless special permission has been authorized by the concerned building authority.

(c) *Door size, Window size, ventilator size*

All doors, windows and ventilators provided for rooms in the proposed building shall not be less than the following minimum sizes

- (i) Ventilators – 2 square feet
- (ii) Doors – 2'-6" x 6'-6"
- (iii) Windows – 9 square feet

(d) *Arcades*

- (i) The minimum width of arcade in Main Civic and Commercial Centers and Division/District centers shall be 10 feet. In case of neighborhood shops/Centre the minimum width of arcade shall not be less than 5 feet. This will also be applicable in all approved private commercial centers.
- (ii) The level between arcade and shopping floor shall not exceed 1.5 feet whereas the level of arcade from the center of road crest shall not exceed 6 inches.
- (iii) Arcade to be used as foot path for pedestrians shall be constructed in front of shops throughout and no building obstruction of any kind shall be allowed within arcade.

(e) *Ramp and toilet for disabled persons*

- (i) In all commercial buildings, public buildings and apartments a ramp of minimum 6 feet width and having maximum gradient of 1:12 should be provided.
- (ii) In case of non-provisions of lifts, each floor should be accessible through this ramp. A toilet for physically challenged persons must also be provided. Additionally, minimum one public toilet per 5 shops should be provided.

(f) *Connection to Public Sewer: All the sewer and sludge water should be connected to the public sewer if present.*

(g) *Cesspits, Septic Tanks and Soakage Pits: In case of no public sewer, all waste/sludge water shall be collected in soakage pits through septic tanks. Soakage pits should be impervious both for leakages and infiltrations. It should not pollute any drinking water facility (underground water reservoirs, wells, water aquifers etc). Septic tanks and drainage lines should be placed in such a way that it should not contaminate any drinking water lines. One-meter distance should be kept between the waste water line and drinking water line and water line should be encased with impervious concrete incase the distance is reduced due to any reason. Any settlement tank or septic tank shall be of suitable depth and adequate size covered or fenced and if covered, adequately be ventilated and shall be constructed with means of access for the purpose of inspection (Including inspection of the inlet and outlet), emptying and cleaning.*

(h) *Draining Roofs: The roofs of every building abutting on the street or constructed over a street shall be drained by means of gutters and down pipes to the satisfaction of*

Authority Concerned.

- (i) *W. Cs / Toilets: Five W. Cs and five urinals per one hundred males and females shall be provided in a unit.*
- (j) *Special Persons: One out of every two Lavatories in Public buildings shall be dedicated for Special people with grab bars of minimum width of 6 feet.*
- (k) *Manholes and Inspection Chambers: At every change of alignment, gradient or diameter of a drain, there shall be a manhole or inspection chamber. The spacing of manholes in case of pipe having a diameter of six inches or eight inches shall be fifty feet or one hundred and ten feet respectively and in case of diameter more than eight inches it shall be not more than one hundred and fifty feet.*
- (l) *Boundary Wall: Boundary Wall from Crown of the Road shall be 6 to 8 feet.*
- (m) *Power Backup System: An emergency power backup system should be provided in every hospital building.*
- (n) *Fire and Life Safety Preventions Byelaws: NOTE: - Fire and life safety preventions byelaws will be followed as Chapter 12, and Chapter 13, respectively.*
- (o) *Height of each story: Floor height shall be 9.5 Feet to 12 Feet with 1st floor & 2nd floor (if applicable): 10.5 Ft (each) 9.5 Ft (each) and Clear Height of Basement shall be 9 feet.*
- (p) *Ramp: Ramps should have minimum slope of 1:7.5 for pedestrians and physically challenged persons with holding bars.*
- (q) *Parking: Sufficient Car parking space shall be provided within the plot area for Visitors according to the standards.*
 - (i) *One car space for every 1000 square feet of floor area.*
 - (ii) *40% of Parking space shall be reserved for cycles and motorcycles*
- (r) *Solid waste management: Minimum 3 trash bins should be provided on each floor and 10000 square feet of open lawn of the commercial building for Organic, Inorganic and Hazardous waste separately. One Big trash bin should be provided in every commercial building as a collection point and for its easy disposal.*
- (s) *Emergency Escapes: All means of the emergency escape including extra corridors providing smooth access to streets and open spaces or adjacent buildings and roofs*

should be provided in all the commercial and commercial cum residential buildings. Window on the street elevation in all buildings should be provided.

- (t) *Stairs: Open stairs in setback (spiral or straight) would be allowed*
 - (i) These fall in the rear setbacks having a width of 10'-0" and above, and in side setback towards road/open space in case of corner plots.
 - (ii) The width of spiral stairs shall not be less than 5'-0" and not more than 6'-0" and in the Straight stairs, not more than 3'-3" and not less than 2'-9" (including railing). These stairs are provided for servant room located at first floor.
 - (iii) In no case, open stairs in the setback shall be used as main stairs for approach to first floor.
 - (iv) A suitable visual barrier of a height not more than 6'-0" shall be provided in front of servant rooms for the privacy of neighboring houses.
- (u) *Pitch of stair cases: Maximum pitch provided should be 10 inches and there shall not be more than 15 risers between each landing. A landing shall not be less than 1.6 meters (3.5 ft.) in depth except in case of service stair case where the number of risers may be increased depending upon the situation and design. Winders may only be permitted in residential building other than apartment houses and all the stair cases in apartment houses shall be of RCC or other non-inflammable material.*
- (v) *Stair cases passages, corridors: Every building other than apartments, houses up to 3 storey shall have stair cases having a clear width of 1.06 meters (3 ft. 6 inch) and 4 ft. where it exceeds three story.*
 - (i) In apartment houses, stair cases shells have the following minimum width for all the story
 - up to 5 storey-----1.22 meters (4 ft.) clear
 - Above 5 storey-----1.37meters (4ft 6 inches)
 - (ii) Every block of apartment houses having more than 6 units shall be provided with an additional stair case.
 - (iii) In a block of apartment houses emergency stair cases shall be provided in addition to main stair case/stair cases

- (iv) An emergency stair-case shall be sited at such a position that it should be accessible to all the units without any hindrance or obstruction.
- (w) *Emergency exit: An exit may be a door way or corridor, passageways to an internal stair case or external stair case or to a verandah or terraces which will have access to the adjoining street. An exit may also include a horizontal exit leading to an adjoining of the same level but lift and escalators shall not be considered as exists. The emergency escape shall conform to the following requirements:*
- (i) Every building meant for human habitation shall be provided with exit sufficient to permit safe escape of occupants, in case of fire or other emergency.
 - (ii) In every building exit shall comply with the minimum requirements of this part except the building not assessable for the general public use
 - (iii) All exits shall be free from obstructions.
 - (iv) No building shall be altered so as to reduce the number and provisions of exits to less than that of the requirement as by the approved Architect/ Town Planner.
 - (v) Where necessary, adequate and reliable illumination shall be provided for exits.
 - (vi) Exits shall be clearly visible and routes to reach exits clearly marked and sign posted to guide the inhabitants of the concerned.
 - (vii) Firefighting equipment shall be suitably located and clearly marked.
 - (viii) Alarm devices shall be installed to ensure prompt evacuation of inhabitants concerned.
 - (ix) Fire resisting doors or roller shutters of approved specification shall be provided at appropriate places along the escapes routes to stop the spreading of fire and smoke and particularly at the entrances and stairs where a final effect may be created including upward spread of fire.
 - (x) It shall also be compulsory for residential buildings envisaging.
- (x) *Elevators: At least one elevator for a building of G+3 is compulsory and additional one elevator shall be required for every additional two floor. Provision of stretcher/cargo lifts shall also be provided in relation to the requirements of the building.*
- (y) *Structures on roofs: Only the following structures of permanent nature may be constructed on roofs provided these are designed and built as per architecture and*

engineering design and to the satisfaction of the Authority.

- (i) Chimneys, air conditioning and other ducts, vents and wind catchers.
 - (ii) Water tanks suitably designed or not visible from the road.
 - (iii) Radio and television installations.
 - (iv) Parapet walls of 3 feet high. In case of accessible roof, the provision of railing/parapet wall shall be compulsory.
 - (v) Lift rooms skylights, etc.
 - (vi) Other structure which the Authority may, by general or specific order, permit.
- (z) *Compulsory Open Spaces (COS): Open spaces for commercial buildings are given as:*
- (i) For plots abutting on public streets at rear, the rear COS shall be condoned/excluded.
 - (ii) In case of corner plot, the COS on side abutting the lane or road shall be condoned and an arcade shall be provided.
 - (iii) Ramp leading to the parking area upward or downward is allowed only within the COS.
 - (iv) Projected balconies maximum three feet wide within the COS shall only be allowed at sixteen feet height from the finished floor level and the balconies shall always remain open from three sides.
 - (v) Projected balconies maximum three feet wide within the COS shall only be allowed at sixteen feet height from the finished floor level.

34. Religious Buildings (1) A Maximum of 5% of commercial activity for generating income/fund for maintenance of mosque shall be allowed on a plot reserved for religious buildings.

(2) No religious building shall be built within 700ft.(213m) of any cinema house, theatre, or similar entertainment facility.

(3) Religious buildings shall only be permitted on plots reserved for this purpose or on plots with specific approval from the Concerned Authority and concerned district administration for change in land use, if any, which shall be carried out in accordance with the procedures laid down in these Rules. Reasonable residential area may be allowed for the Khateeb.

(4) Necessary setbacks and other general requirements may be followed as given for

Public amenities buildings (The Architect is authorized to use similar setbacks, foot prints and other general requirements).

35. Dangerous Buildings.- (1) All such buildings, walls or structures which are declared by the Authority as dangerous shall lie in the following two categories.

- i. Building or structure whose strength, stability, serviceability, robustness or durability has been impaired due to any reason such as improper structural design and detailing, faulty or poor construction, decay, dilapidation, obsolescence, natural disasters or leading to abandonment due to all these reasons to a level, where it cannot be restored to its original status shall be classified as dangerous building category-1 by the authorized structural engineer of the Authority or a structural engineer as appointed by the Authority for said purpose and shall liable to be demolished.
- ii. Any building or structure or part thereof whose strength, stability, robustness, serviceability or durability has been impaired due to all such reasons as cited in clause (a) to a level where it could by way of strengthening, appraisal and restoration be brought partially or wholly near to its original status shall be classified as dangerous building category-2 by the authorized structural engineer of the Authority, or as appointed by the Authority.

(a) Buildings unfit for human habitation and notice of prohibition: If for any reason it shall appear to the building regulatory authority that any building or part thereof intended or used for human habitation or human occupation for any purpose whatsoever is unfit for such use, it shall signify its intention to prohibit the further use of such building or part of a building and call upon the owner or occupiers or tenants to state in writing their objections, if any, to such prohibition within fifteen days after the receipt of such notice. If no objection is raised by such owner or occupier or tenant within the prescribed period or if any objection which is raised appears to the Authority to be invalid or insufficient the Authority may prohibit by an order in writing the further use of such building or part thereof. The owner, occupier or tenant of the building shall be given an opportunity of appearing before the Authority in person or by an agent

in support of the objection, if so desired.

(b) Alteration, modification, uplifts and repairs of dangerous buildings of category-2

- (i) At any time if the Authority considers that it can be rendered fit for human habitation by the structural alterations, repairs, modifications or uplifts, the Authority may by notice in writing call upon the owner to commence the specified works within such time as may be specified but not less than thirty days and to complete within the period as specified in the than ninety days from the date of receipt of such notice, such notice but not more structural alterations, modifications, uplifts or repairs as deemed necessary and if at the expiration of the aforesaid period such alterations, modification, uplifts or repairs have not been commenced or completed to the satisfaction of the Authority, it shall issue to the said owner a notice in writing ordering the demolition of the subject building within thirty days from the date of receipt of such notice.
- (ii) If the Authority considers it impracticable to render such building or part thereof fit for human habitation, the authority may send a notice in writing call upon the owner to demolish it in a period specified by the authority.

(c) Demolition of dangerous building on expiration of notice period and extension of notice period

- (i) If at the expiration of the period specified in the notice and order to demolish a building or part of a building issued under has not been complied with, the Authority may direct, by an order in writing, the demolition thereof through a contractor who has on his roll at least one Authority qualified engineers responsible for undertaking all necessary safety measures during the process of demolition as per procedure laid down by the Authority.
- (ii) All expenses incurred by the Authority for demolishing of dangerous buildings shall be paid by the owner of the building.
- (iii) For sufficient causes, the Authority may extend the time prescribed.

(d) Evacuation of dangerous buildings

If in the opinion of the Authority, any building wall or structure or anything affixed thereto is in a hazardous or dangerous state, the Authority may, by notice in writing, require the owner or occupier thereof either to remove the same or to cause such repairs to be made thereto forthwith as the Authority may deem fit to avert such danger, including the evacuation without notice from such building of all the occupiers thereof.

(e) *Stability of the adjacent building*

No excavation or dewatering or earthwork or demolition of a building which is likely to effect the stability of adjacent building shall be started or continued unless adequate steps are taken before and during the work to prevent the collapse/damage of any adjacent building or the fall of any part of it and in case of any mishaps the owner shall be responsible for life and property of the effected.

Chapter 7. Streets/Roads/Highways

36. **Scope.**- In this chapter, the standards and regulation about the streets, roads and highways of the residential, commercials and other amenities are given.

37. **Pedestrian Lanes.**-Thoroughfares (streets and roads) intended exclusively for pedestrian traffic, referred to as "pedestrian lanes", and shall be at least 10 ft. (3m.) wide.

(1) Pedestrian lanes, if abutting plots on both sides, shall have uninterrupted length not greater than 30 times its width provided that interruption shall be created by other pedestrian lane or vehicular street.

(2) The grade of pedestrian lanes in cross-section shall be level, and their longitudinal slope may not be greater than 50, provided however, that:-

(a) *If the slope of the terrain is greater than 50, the difference in slope may be made up by an appropriate number of steps; the series of steps for each 50 higher slope shall be separated by a landing at least 6.5 ft. (1.97m) wide also there should be a ramp for wheel chair.*

(b) *If the lane is along double or single rows of plots in a terrain sloping more than 5%, the difference in slope may be made up by an appropriate number of steps at the bottom end of each double or single row of plots, as the case may be also. Also there should be ramp for wheel chair for special persons.*

38. **One-Way Streets** (1) Minimum width of one way street shall be 24ft.(7.31m) with parallel parking on one side only.

(2) One-way streets shall be intersected by vehicular streets at least every 500 ft.(152 m.)

39. **Two way Streets**

(1) Minimum width of two way street excluding parking shall be 40ft. (12.18m).

(2) Two way Street shall be so designed and maintained as to permit parallel parking on one side only.

40. **Highways, major roads and boulevard** (1) For Highways and major roads of not less than 100ft.(30m) right-of-way a permanent service road shall be provided on each side of the Highway/Boulevard.

(2) The width of sidewalks shall depend on the pedestrian traffic volume.

(3) New width of green strip in roads will depend on the nature and dimension of the utility

lines to be laid under them.

- (4) The width of the green median shall be at least 10 ft (3m) as to provide adequate pedestrian refuge island at crossing but where necessary such strips may be released by separate train/LAT right-of-way.
- (5) No direct access to highway or major roads will be allowed except through a service road at appropriate distances.
- (6) Bus bays/lanes on all major roads shall be provided in consultation with Transport Department.
- (7) No structure or part of a structure of ground floor may project beyond such building line or building setback line

41. Visibility at Cross Roads(1) In the interests of pedestrian safety and vehicular traffic visibility at cross roads, no trees or any other impediment/structure will be planted within 30 ft. (9.13 m) of any street right-of-way limit.

- (2) For the same purposes, except as otherwise provided in sub-clause, the borders of streets shall be chamfered at such distances from their crossing as provided in sub-clause

42. Street Lines and Building Lines.- (1) Street rights-of-way lines shall be regarded as distance between building lines of two front buildings except where building setback lines are established, pursuant to these Rules or otherwise.

Chapter 8. Building Space Requirements

43. Method of Measuring Clear Space (1) the minimum clear space prescribed between a building and from the property line shall be measured from the external face of the perimeter wall enclosing the covered or usable area of the building, at its greatest projection from the building, at right angles to the plot boundary, and excluding permissible chajjas and balconies. If there are more boundaries than one in the plot affecting the building, the above requirements will be satisfied at all such boundaries also.

44. Projections beyond Property Limits.-(1) No projections or overhanging features shall be permitted beyond property limits in zone 3 and 4 except where permitted under these Rules.

(2) Allowable Projections

(i) Maximum allowable projection of chajjas and sunshades in compulsory open spaces shall be 2 ft or half the width of compulsory open space whichever is less.

(ii) No construction shall be allowed in the chamfered portion up to 17ft (5.17m) measured from the adjacent road.

45. Separate Approach for every Building.-(1) Every building more three story building than 32 feet (10 m) high not abutting on a street shall have an access for an approach from the street, open to the sky, at least 22 ft (7 m) and one end of this street shall join another street not less than 22 ft (7 m) in width.

(2) Four to five story building not abutting on a street shall have an access for an approach from the street, open to the sky, at least 33 ft. (10 m) and one end of this street shall join another street not less than 33 ft.(10 m) in width.

(3) Six story building not abutting on a street shall have an access for an approach from the street, open to the sky, at least 40 ft. (12 m) and one end of this street shall join another street not less than 40 ft.(12 m) in width.

46. Open Spaces for High Rise Building.- (1) The width of the main street on which the building abuts shall not be less than 65 ft (20 m) and one end of this street shall join another street not less than 65 ft (20 m) in width;

(2) The road shall not terminate in a dead end; except in the case of residential building, up to a height of 30m or provision of a cul-de-sac.

(3) Adequate passageway and clearances requires for fire fighting vehicles to enter the premises shall be provided at the main entrance; the width of such entrance shall be not less than 16.5 ft. (5m). If an arch or covered gate is constructed, it shall have clear headroom of no less than 6m.

47. Space for Electrical Sub-Station.- (1) A minimum space of 16ft. x 21ft. (5m. x 6.5m) (per requirement of QESCO) shall be left for electrical sub-station which is abutting on road side / street or has a clear passage of 16ft. (4.87m) width, for public sale, commercial, residential building and industrial building having an area in excess of 25,000Sq.ft.(2323Sq.m) all Category “III” and Category “IV” buildings. In the event that KESC sub-station is not required, this space may be utilized as per Regulations.

48. Space for CNG/LNG/ Petrol Filling Stations.-Oil and Gas Regulatory Authority (OGRA) Pakistan, rules and regulations for CNG/LNG/Petrol filling stations should be followed.

Chapter 9. Construction Site Safety and Security Measures

49 Scope.-The temporary works connected with building operations will be regularized under the provisions of this chapter unless specifically prescribed by the authority.

50. Site Hoardings.- No person shall start building works on a site abutting on a street without having first provided hoarding or barriers to the satisfaction of the Authority along the whole length of such site so as to prevent danger or injury to the public or the persons employed in the work.

51. Use of Public Streets.-No part of any street shall be used in connection with the construction; repair or demolition of any building except with the written permission of the Authority. Any person holding such permission shall put up and street. Where such separation is not possible he shall make arrangement for the security of public to the satisfaction of the Authority. The materials shall not hinder with any public services, including but not limited to storm water drains, water supply lines, fire hydrants, electric poles/lines or piped gas lines etc.

52. Obstructions to be lit and marked.-Any person causing any building material or other things to be deposited, any excavation to be made, or any hoarding to be erected shall at his own expense cause sufficient and adequate red lights to be fixed upon or near the same and shall continue such lights every night from sunset to sunrise while such materials, hoardings, things or excavation remain. In addition to above, red flags of reflectorized material shall be provided during day time.

53. Utility Services not to be obstructed.-All materials, hoarding, fences or other obstructions on any street shall be kept clear of any fire hydrants of any and other utility services installation; or alternative arrangements shall be made and precautions shall be taken according to the laid down procedure of the utility agencies and to the satisfaction of the Authority to divert to keep clear of obstruction of any roadside or other drain during the period of temporary obstruction.

54. Removal of Obstruction after Completion of Works.-All obstructions shall be removed within seven days of the completion of the work and the area including the street, all drains and public utility installation shall be left in clean, tidy and in serviceable conditions.

55. Dangerous Obstruction.-If any material, hoarding, excavation or any other thing near or on any street shall be in the opinion of the Authority dangerous to the passers-by along such street

the Authority shall cause the same to be removed, protected or enclosed as to prevent danger there from and shall be entitled to recover the expenses thereof from the owner of such materials or from the person who made such hoarding, excavation or other thing to become dangerous.

56. Stability of Adjacent Building.-No excavation or dewatering or earthwork or demolition of a building which is likely to affect the stability of adjacent building shall be started or continued unless adequate steps are taken before, during and after the work to prevent the collapse/damage of any adjacent building or the fall of any part of it.

57. Filling of Excavated Site.-A site once excavated shall not be kept open and idle for a period beyond the validity period of construction failing which the Authority shall not revalidate the building plans and in case of any mishaps the owner shall be responsible for life and property of the effected.

58. Adequate Safety Measures.-Adequate safety measures shall where necessary be provided and used to protect any persons from falling on earth, rock or other material of or adjacent to any excavation or earth work.

(2) Material shall not be placed or stocked near the edge of any excavation so as to endanger persons working below.

(3) No load shall be placed or moved near the edge or any excavation where it is likely to cause a collapse of the side of the excavation and/or endanger any person.

(4) Where vehicles or machineries are used in close proximity to any excavation there shall be measures to prevent the vehicles or machineries from over-running and falling into the excavation or causing collapse of any side of the excavation.

(5) In all buildings of greater than 20 ft (6m) height temporary rails/scaffolding/barriers shall be installed during construction at the edge of slabs and around all openings such as lift, stairwell etc.

59. Supervision of Demolition Work.-The demolition of a building and the operations incidental thereto shall only be carried out under the direct supervision of a Professional.

60. Safe Loading.-No roof, floor or other part of the building shall be so overloaded during construction or demolition with materials or debris so as to render it unsafe.

61. Scaffolds.- (1) Suitable and sufficient scaffolds shall be provided for all work that cannot safely be done from the ground or from part of the building or from a ladder or other available means support and sufficient safe means of access shall be provided to every place at which any

person has to work at any time.

(2) Every scaffold and means of access and every part thereof shall be adequately fabricated with suitable and sound material and of required strength to ensure stability. All scaffolds, working platforms gangways, runs and stairs shall be maintained to ensure safety and security.

(3) All vertical members of scaffolds on ground level facing road side should be adequately wrapped with material up to a height of at least 7ft (2.13m) and for any horizontal member if used, up to a height of 7ft (2.13m) from ground, should be wrapped all along its length with such material.

(4) The contractor and owner of the building will be liable for any injury caused by the failure of such scaffolding.

62. Road Side Protection.- (1) To ensure adequate safety of the pedestrian and other road users, all building should have adequate arrangement by way of providing protective covering of suitable material.

(2) Adequate provision of safe passage for pedestrian shall be provided, in case the scaffolding covers part of the road/footpath.

63. Working Platform.- (1) Every working platform from which a person is liable to fall which is more than 7ft. (2.13m) height shall be at least 2ft. (0.6m) wide provided the platform is used as a working platform only and not for the deposit of any material.

(2) A clear passage-way at least 1.5ft.(0.45m) wide shall be left between one side of any working platform and any fixed obstruction or deposited materials.

64. Guard Rails(1)Every side of a working platform, gangway and stair shall be provided with a suitable guard-rail of adequate strength, to a height of at least 3'-3'(1m) above the platform, gangway or steps.

65. Ladders.- (1) Every ladder shall be of good construction, sound material and adequate strength for the purpose for which it is used.

(2) Every ladder shall be securely fixed when in use and shall not have any missing or defective rungs.

66. Work on Sloping Roofs.- (1) Where work is to be done on the sloping surface of a roof, suitable precaution shall be taken to prevent persons employed from falling off.

(2) Where persons are employed in a position below the edge of sloping roof and where they are in position of being endangered by work done on the roof, suitable precaution shall be taken to

prevent tools or materials falling from such roofs so as to endanger such persons or passer-by.

67. Precautions for Raising and Lowering Loads.- (1) For raising or lowering loads or for suspending them either hand or power operation the following precautions shall be observed

- (a) *No broken wire rope shall be used.*
- (b) *No chain shall be used which has been shortened or jointed to another chain except by means of bolts and nuts of ample strength.*
- (c) *No chain or wire rope shall be used which a knot has tied in any part which is under direct tension.*
- (d) *Provided with an efficient device to prevent the displacement of the sling or load from the hook; or of such shape as to reduce as far as possible the risk of such displacement.*
- (e) *All debris and waste material during construction shall be disposed off through well designed chutes from each level of under construction building.*
- (f) *The vertical hoist platform used shall be enclosed/protected by proper barrier. Every opening of lift, shaft or other such vertical voids or openings in slab etc. where a person is likely to fall shall be protected by safety barrier and properly lit. Any area e.g. basement, where natural light is not available or which is dark shall be so illuminated as to eliminate any risk of life or hazard to users.*

Chapter 10. Parking Requirements

68. **Scope (1)** Parking requirements for motor vehicles specified in these Rules shall apply when so ever:

- (a) *A new building is constructed or a change of use of existing building is established;*
- (b) *An existing building is altered and there is an increase in the floor area of the building, then additional parking requirement shall be totally applicable to the proposed addition only within the property limits as required under these Rules.*

69. **Purpose.-** (1) The purposes of the parking requirement within the metropolitans of Balochistan is to

- (a) *Promote the free flow of traffic in the streets*
- (b) *Design and situate parking facilities so as to ensure their usefulness*
- (c) *Ensure the appropriate development of parking areas throughout the city*
- (d) *Mitigate potential adverse impacts upon land uses adjacent to parking facilities*
- (e) *Provide parking facilities which serve the goal of a comprehensive circulation system throughout the community*

70. **General Conditions.-** (1) The parking space, including ramps, shall not be included in FAR.

- (2) Total parking space requirement of every building shall be determined as a sum of parking requirement for each type of use to which the building is subjected.
- (3) Minimum clear height of parking structure without obstruction shall be 8ft.
- (4) Detailed plan clearly showing entry, exit, gradient of ramp, turning radius, storage spaces, circulation and movement of vehicles etc shall be submitted.
- (5) 16% of the total car parking space will be utilized to provide space for Motorcycle parking @ 6 Motorcycles and 8 bicycles for every one car.
- (6) 14.3.6 Minimum one out of every 50 car parking stalls shall be dedicated for the disabled people at most convenient location.
- (7) When units of measurement used in computing the number of parking spaces result in the requirement of a fractional space, the nearest whole number to next higher side of parking spaces shall be taken.

71. **Car Lifts.-** (1) Where car lifts are provided there shall be a minimum of two car lifts with facilities of standby generator where-ever so required.

- (2) Minimum one car lift wherever so required with standby generator shall be provided for every 40 cars, if parking level is at more than 40ft.(12m) in height from road level.
- (3) One car lift with standby generator shall be provided for every 50 cars, if parking level is up to 40ft. (12m) in height.

72. Commercial Area.- (1) Minimum one motor vehicle parking space shall be provided for:

- (a) Every 4 bedrooms for a hotel of three star category and above. In addition to a per room requirement, parking space shall be provided for all other facilities e.g. restaurants, conference room etc.
- (b) Every 1000Sq.ft.(185.87Sq.m) of floor area of office space in an industrial building unit or wholesale use facilities.
- (c) Every 800Sq.ft (75Sq.m) of floor area of space for retail shopping.
- (d) Every 8 seats/occupancy of restaurants or banquet halls.
- (e) Every 500 Sq. ft of plot area marriage lawn/hall.

73. Amenity Area.- (1_ Minimum one motor vehicle parking space shall be provided for

- (a) Every 10 beds and or per consulting room of a clinical/medical service building.
- (b) Every 4000Sq.ft. (371.7Sq.m) floor area of all educational institutions situated on a plot measuring 2000 Sq.yds and above.
- (c) Every 1000Sq.ft.(92Sq.m) of business office.
- (d) Every 100Sq.ft.(9.29Sq.m) in places of all public assembly, unless specified.
- (e) Every 50 visitors who can be accommodated by an area or structure for sports activities.
- (f) Every 3000Sq.ft.(27.88Sq.m) of floor area of Cinema.

74. Residential Area.- (1) Minimum one motor vehicle parking space shall be provided for

- (1) Apartment building, residential or residential-cum-commercial building - for every 1000sq.ft.(111.52Sq.m).
- (2) For every 1200sq.ft for floor area of only residential use.

75. Standard for Parking Spaces.- (1) Configuration of parking space under these Rules shall conform to the minimum standards given in the Table 14.1 below

Table 14.1:Standard of parking spaces

Description	FOR CAR	FOR MOTORCYCLE
-------------	---------	----------------

Bay width	8ft.(2.43m)	2.5ft.(0.75m)
Bay Length	16ft.(4.86m)	6ft.(1.8m)
Gradient of Ramp	1:7.5	1:8.5
Straight Turning radius (outer)	24ft.(7.3m)	-
Helical length Turning radius	32ft.(9.7m)	
Lot Turning radius	17.5ft.(5.3m)	
Minimum Ramp and Driveway width		-
Two way traffic.	18ft.(5.5m)	
One way traffic.	11ft.(3.4m)	

i) For ramp gradient with 1:7.5 transition space of 8.5ft. Length shall be provided at start and termination of ramp with gradient of 50% of the main ramp gradient.

ii) For total climb of up to 3.3ft.(1m), the above shall be exempted.

Table 14.2: Standard of parking spaces

Angle of Parking (degrees)	Stall width Ft.	Stall length Ft.	Kerb length per car Ft.	Stall depth Ft.	Min. one way driveway width Ft.	Lot width 1 row+1 driveway Ft.	Lot width 2 rows+1 driveway Ft.
0=along kerb	8 (2.4m)	19(5.8m)	19 (5.8m)	8 (2.4m)	11.5(3.5m)	19.5(6.0m)	27.5(8.4m)

30	8 (2.4m)	16(4.9m)	18(5.5m)	15(4.6m)	12(3.7m)	27(8.2m)	42(12.8m)
45	8 (2.4m)	16(4.9m)	17(5.2m)	17(5.2m)	12(3.7m)	29(8.8m)	46(14.0m)
60	8 (2.4m)	16(4.9m)	15(4.6m)	18(5.5m)	21(6.4m)	39(11.9m)	57(17.4m)
90	8 (2.4m)	16(4.9m)	8 (2.4m)	16(4.9m)	25(7.6m)	41(12.5m)	57(17.4m)

(3) Exemption from Provision of Parking Space

The following types of buildings/plots shall be exempted from provision of car parking space within the premises.

- (1) Plots upto 720 sq.yds. (600.sq.m).
- (2) All buildings on plots of odd shapes and dimensions where there is no physical possibility of designing car parking space within the premises. The exemption in such case shall be given by the authority.
- (3) All places of worships.
- (4) Educational buildings of low income area/groups with due vetting by Transport Department.
- (5) Orphanage house, buildings for destitute or similar use after the vetting of the Transport Department.

Chapter 11. Water supply, Drainage and Sanitation

77. Water Service Pipe.-(1)Except as permitted in the following paragraph (15.1.2), underground water service piping and the building sewer line shall be not less than 7ft. (2.13m) apart horizontally and shall be separated by undisturbed or compacted earth.

- (2) The water service pipe may be placed within 7ft. (2.13m) of sewerage line provided that the bottom of the water service pipe is at least 12 inch (300mm) above the top of the sewer line.

78. Minimum Storage Capacity for buildings (public use buildings with total floor area more than 3600 Sq.ft. (336Sq.m)).

Minimum capacity of water storage tanks in buildings shall be:

- (1) Overhead tank = 1 day+ 25% reserved for fire fighting
- (2) Underground tank = 2 1/2 days out of the reserved capacity 25% shall be kept reserved for firefighting purposes by making suitable arrangements.**LY DRAINAGE
ASANITATION**

(3) Distribution of Water within the premises: The design of water supply pipe work, underground and overhead tanks shall be in accordance with the following schedule:

Table 11.1 Per capita water requirements/demand for various occupancies.

S. No.	Type of occupancy	Consumption per head/day (Liter)	
1	Residential	135	
2	Industrial		
	i. Day Schools	45-100	
	ii. Boarding Schools	135-225	
	iii. Medical Hospitals	450	
3	iv. Medical Quarters & Hostels	135	
	Assembly-Cinema, Theater Auditorium etc. (per seat of accommodation)	45	
	4	Government or Semi-public business	45
	5	Mercantile (Commercial)	
i. Restaurant 90		90	
ii. Shopping Centers, Stores (per toilet fixture		200	
6	iii. Other Business Building	45	
	Hotels	225	
	7	Industrial	45-135
8	Storage including warehouse	30	
9	Service Station 200	200	
10	Bus/Truck Stands (per vehicle) 200	200	
11	Live Stock (per animal) 45-150	45-150	
12	Poultry (per chicken) 45	45	

79. Recycling Plant and Treatment of Effluent/Sewage

- (1) In case recycling plant or treatment of effluent/sewage are provided, all requirements for construction and maintenance as set by National Environmental Quality Standard

(NEQS) shall be followed:

80. Sanitation and Solid Waste.- (1) All medical & hospital waste shall be safely collected, transported and disposed of in accordance with the public health standards (as prescribed by the Environmental Protection Agency) and up to satisfaction of the Authority.

(2) All industrial waste shall be treated in accordance with the National Environment Quality Standards (NEQS).

(3) All hospitals shall provide the disposal of medical waste as per National Environment Quality Standard (NEQS).

(4) In all public sale projects, the central waste disposal system shall be provided by the developer.

81. Digester/Septic tank.-Where no public sewer is in existence, all sewage shall be disposed of after properly treating, through digester or septic tank, and effluent shall be discharged safely into a soak pit as a temporary measure till such time as a system is laid out.

82. Soil Pipes, Waste Pipes and Ventilating Pipes.- (1) A trap shall be used to maintain the water seal and make system fool proof against closing and blockages.

(2) In no case shall the internal diameter of a soil pipe or waste pipe be less than the internal diameter of any pipe or of the outlet of any appliance which discharges into it.

(3) All the joints shall be:

- (i) properly prepared by the use of rubber gasket or water sealant materials for jointing;
- (ii) adequately supported throughout its length without restraining thermal movements, any fitting which gives such support being securely attached to the building;
- (iii) So placed as to be reasonably accessible for maintenance and repair.

(4) Ventilating pipe shall be provided in all stacks carrying wastewater or sewage, in accordance with the plumbing code.

(5) Drain water pipe of appropriate dimension shall be provided as per approved standard.

83. Sanitary Provisions.-The minimum requirements/sanitary provisions as prescribed hereunder shall be followed:

(1) For every five (5) single room units or servant quarters: one wash-basin, one W.C. and one (1) bathroom shall be provided.

(2) For every 10 (ten) bedrooms or less in a Boarding House or Guest House there shall be at

least two (2) W.C.'s, two (2) washbasins and two (2) showers.

(3) For every 20(twenty) persons in a Dormitory and Hostel there shall be at least three (3) W.C.'s, three (3) wash-basins and three (3) showers, and for every 10(ten) additional persons one (1) W.C., one (1) wash-basin, and one (1) shower are to be added.

(4) In an office with 30(thirty) persons (calculated at a rate of one (1) person per 100 Sqft. (9.29Sq.m)), there shall be minimum of three(3) W.C.'s, two(2) washbasins and one(1) urinals. For every additional 20 (twenty) persons there shall be one (1) W.C., one (1) wash-basin and one (1) urinal. One (1) Wash-basin or equivalent washing space per 25 (twenty-five) or less persons shall be provided for ablution purposes.

(5) In factory with 30(thirty) persons (calculated at a rate of one (1) person per 100Sq.ft.(9.29 Sq.)), there shall be minimum of three W.C.'s, two (2) wash-basins and one (1) urinals. For every additional 20(twenty) persons there shall be one (1) W.C., one (1) wash-basin and one (1) urinal. One (1) wash-basin or equivalent washing space per 25 (twenty-five) or less persons shall be provided for ablution purposes, and shall be divided proportionately amongst the genders.

(6) Shopping Center - a minimum of three (3) W.C.'s, one (1) urinals, and one (1) wash-basin shall be provided for 3000Sq.ft.(278.8 Sq.m) or less total floor area. For every additional 2000Sq.ft.(185.8 Sq.m) floor area, one (1) W.C., one (1) wash-basin, and one (1) urinal shall be

(7) Public Assembly building – two(2) W.C.'s, one(1) wash-basin, and three(3) urinals shall be provided for 1500Sq.ft.(139Sq.m) or less of total floor area and for every additional 1500Sq.ft.(139Sq.m) of floor area one(1) W.C., one(1) wash-basin and two(2) urinals shall be provided.

(8) For Mosque, five(5) ablution space for every Hundred (100) Namazis' and two(2) W.Cs, one shower room shall be provided, for every additional (100) Namazis' the number of ablution space will be extended by 8,6,4 respectively plus special arrangement for the female having a capacity of 300 Namazis' three (3) ablution and one(1) W.C shall be provided.

(9) Cinema and Auditorium - for every 50 seats or less, two (2) W.C.'s, two (2) urinals and two (2) wash-basins shall be provided, and for every additional 50 seats one (1) W.C., two (2) urinals and two (2) wash-basin shall be provided and shall be divided proportionately amongst the genders.

(10) School: four (4) W.C's and two (2) wash-basins per Hundred (100) students and for every additional fifty (50) students, one (1) W.C. and one (1) wash-basin shall be provided.

(11) Hospital: For every 10 beds in a general ward there shall be at least one (1) water closet, one (1) wash-basin, one (1) ablution tap and one (1) bathroom with shower. One (1) kitchen sink shall be provided in each ward.

(12) For 50 seats or part thereof of Restaurant, one (1) water closet, one (1) urinal, one (1) wash-basin shall be provided.

(13) Two urinals may be replaced by W.C., while proportionately dividing the fixtures among the genders.

(14) Provision of one (1) W.C. for special persons shall be provided.

(15) All fixtures shall be divided proportionately amongst the genders.

84. Manholes and Inspection Chambers.- (1) At every change of alignment, gradient or diameter of a drain, there shall be a manhole or inspection chamber. Bends and junctions in the drains shall be grouped together in manholes as far as possible. The spacing of manholes in case of pipe having a diameter 6inch/8inch (150 mm./200 mm) shall be 50 ft./110ft. (15.2 m./35.5 m) according to respective diameter, and in case of diameter more than 8inch (200mm) the distance shall be not more than 150 ft. (45 m).

(2) The chamber shall be so designed to make the cleaning and inspection conveniently.

(3) Proper benching shall be provided equal to half the diameter of pipe in semi-circular shape with proper slope in either direction so that no solid shall accumulate in the Manhole/Inspection Chamber.

(4) C.I. Rungs shall be provided at 16inch(400mm) center to center in all manholes over 4 ft. (1.2 m) in depth. The size of the manhole cover shall be such that there is a clear opening of at least 2 ft. (60 cm) in diameter for manholes exceeding 4 ft. (1.2 m) in depth.

85. Storm water drainage.- (1) The roofs of every building, and the floor or balconies abutting on a street or constructed over a street, shall be so constructed or framed as to permit effectual drainage of the rain water there from, by means of a sufficient number of leaders of adequate sizes, so arranged, jointed, and fixed as to ensure that the rain water is carried away from the building without causing dampness in any part of the walls, or foundations of the walls, or foundations of the building, or those of an adjacent building, provided the fall is not greater than

20ft.(6m) in case of spouts.

- (2) A leader shall not discharge into or connect with any soil pipe or its ventilating pipe, or any waste pipe or its ventilating pipe, nor shall it discharge into a sewer.
- (3) Rain water from leader spouts etc. shall not discharge onto a public street at a height greater than 12inch (300mm) from that street, or onto a neighboring property.

Chapter 12. Fire Preventions/Fire Safety Measures

86. Scope.-This chapter deals with fire preventions, fire safety measure and fire safety devices to be installed in each category of buildings.

87. Fire Zones.- (1) The city or area under the jurisdiction of Authority having Jurisdiction (AHJ) shall for the purpose of these provisions, be demarcated into distinct zones, based on fire hazard inherent in the buildings and structures according to occupancy, which shall be called as 'Fire Zones'.

(2) **Number and Designation of Fire Zones:** The number of fire zones in a city or area under the jurisdiction of AHJ depends upon the existing layout; types of building construction, classification of existing buildings based on occupancy and expected future development of the city or area. In large cities or areas, three fire zones may be necessary, while in smaller ones, one or two may be adequate. The fire zones shall make use of in-land use development plan and shall be designated as follows.

(a) ***Fire Zone No. 1.*** This shall comprise areas having assembly, educational, health care, day care, residential, detention and correctional and mercantile buildings, or areas which are under development for such occupancies.

(b) ***Fire Zone No. 2.*** This shall comprise business and industrial buildings, except high hazard industrial buildings or areas which are under development for such occupancies.

(c) ***Fire Zone No. 3.*** This shall comprise areas having high hazard industrial buildings, storage buildings and buildings for hazardous use or areas which are under development for such occupancies.

(3) **Change in Fire Zone Boundaries:** When the boundaries of any fire zone are changed, or when it is intended to include other areas or types of occupancies in any fire zone, it shall be done by following the same procedure as for promulgating new rules or ordinances or both.

(4) **Overlapping Fire Zones**

(a) *When any building is so situated that it extends to more than one fire zone, it shall be deemed to be in the fire zone in which the major portion of the building or structure is situated.*

- (b) *When any building is so situated that it extends equally to more than one fire zone, it shall be deemed to be in the fire zone having more hazardous occupancy buildings.*
- (5) **Temporary Buildings or Structures**
 - (a) *Temporary buildings and structures shall be permitted only in Fire Zones No. 1 and 2 as the case may be, according to the purpose for which these are to be used, by special permit from AHJ for a limited period and subject to such conditions as may be imposed in the permit.*
 - (b) *Such buildings and temporary structures shall be completely removed on the expiry of the period specified in the permit.*
- (6) **Restrictions on Type of Construction for New Buildings**
 - (a) *Buildings erected in Fire Zone No. 1 shall conform to construction of Type I, II, III, IV or V.*
 - (b) *Buildings erected in Fire Zone No. 2 shall conform to construction of Type I, II or III.*
 - (c) *Buildings erected in Fire Zone No. 3 shall conform to construction Type I or II.*

88. Type of Construction

- (1) **General**
 - (a) *Buildings and structures shall be classified according to their type of construction, which shall be based upon one of five basic types of construction designated as Type I, Type II, Type III, Type IV, and Type V, with fire resistance ratings not less than those specified in Table 8.2.3.1 of BCP- Fire Safety Provisions 2016.*
 - (b) *Type I and Type II construction shall be those types in which the fire walls, structural elements, walls, arches, floors, and roofs are of approved noncombustible or limited combustible materials.*
 - (c) *Type III construction shall be that type in which exterior walls and structural members that are portions of exterior walls are of approved noncombustible or limited combustible materials, and in which fire walls, interior structural elements, walls, arches, floors, and roofs, are entirely or partially of wood of smaller dimensions than required for Type IV construction or are of approved noncombustible, limited-combustible, or other approved combustible materials.*
 - (d) *Type IV construction shall be that type in which fire walls, exterior walls, and interior*

bearing walls and structural element that are portions of such walls are of approved noncombustible or limited-combustible materials. Other interior structural elements, arches, floors, and roofs shall be of solid or laminated wood without concealed spaces

(e) *Type V construction shall be that type in which structural elements, walls, arches, floors, and roofs are entirely or partially of wood or other approved material.*

(2) Exterior Walls

(a) *Exterior walls shall have a fire resistance rating based on Table 8.2.3.1 and Table 8.2.4.1 of BCP- Fire Safety Provisions 2016 whichever is greater.*

(b) *The fire resistance rating requirements of section 14.3.2 (i) shall not apply to exterior walls of existing buildings and new one- and two-family dwellings. Horizontal separation shall be measured at a 90-degree angle to the exterior wall.*

89. General.-Every building shall comply with the provisions in Chapters 14 in respect of fire resistance and fire precautions, unless noted otherwise.

90. Stand Pipes System.- (1) Requirements for Fire Prevention and Fire Extinguishing shall be the following:

(a) *All buildings which are ground plus three storeys or above or more than 43ft.(13m) high shall be provided a set stand pipe/ pipes as given below: -*

(i) Buildings from (4) storeys up to 8 storey in height shall be equipped with not less than 2-inch(5.1cm) diameter standard pipes.

(ii) Buildings over 8 storeys in height shall be equipped with not less than 4inch (10cm) dia stand pipe.

(b) *The number of stand pipes shall be such that all parts of every floor area are at a maximum distance of 120ft. (36.5m) from the stand point.*

(c) *In so far as practicable, stand pipes shall be located with outlets within stairway enclosures; but if these are not available the stand pipes shall be located in a common corridor. In any case, one shall be located in the main.*

(i) The construction of stand pipes shall be of mild steel.

(ii) Stand pipe risers shall extend from the lowest to the top most storey of the building or part of building which they serve.

- (iii) When more than one stand pipe is required, they shall be interconnected at their bases by pipes equal in size to that of the largest riser.
- (iv) Every stand pipe or stand pipe system in case of inter connected stand pipes, shall be equipped with a fire department approved in-let connection of corrosion resistive metal (e.g., gunmetal) located on an outer building face nearest to street approximately 20ft.(6m) to 30ft. (9.13m) above finished ground and suitably marked "Fire Department Connection – Stand Pipe”.
- (v) Stand pipes shall be provided in every storey with a 1.5inch (3.8cm) diameter flexible hose not less than 100ft. (30m) long, with a 0.5inch (1.25cm) nozzle, hang in an approved rack or cabinet.
- (vi) The stand pipes shall be fed by an overhead water tank reserved solely for this purpose. The minimum capacity of this tank shall be 5000 gallons (18,925Lit), with a minimum of 7ft.(2.1m) head above the highest discharge point.

91. Automatic Sprinkler System.-(1) Automatic sprinkler system shall be provided in the following:

- (a) *In every institutional building which serves restrained or handicapped persons.*
- (b) *In covered car parking areas in buildings of which upper storeys are designed for other uses when such parking area exceeds 5000Sq.ft.(464.6Sq.m).*
- (c) *Bus garages or terminals for passengers serving more than 4 buses at a time.*
- (d) *Each floor mercantile and industrial building which is more than one storey high and which exceeds 20,000Sq.ft (1858.73Sq.m) covered area.*
- (e) *All building compartments used for manufacture, display or sale of combustible materials and products which are more than 7000Sq.ft.(650.5Sq.m) in covered area.*
- (f) *All areas of theatres except auditorium, music hall, and lobbies.*
- (g) *All building areas used primarily for storage of goods, and material including areas clearly specified for storage of incombustible materials and goods, which are more than 1000Sq.ft.(92.93Sq.m) in areas.*
- (h) *No sprinkler provision should be made in the immediate vicinity of generators or any electrical equipment.*

92. Sprinkler System Construction.- (1) Sprinkler – System Construction shall be in the following manner:

- (a) *Sprinkler pipes, hangers and sprinkler heads shall be protected from corrosion.*
- (b) *Every sprinkler system shall be equipped with a fire department approved inlet connection located on an outer building face nearest to street approximately 20 to 30ft. (6 to 9.13m) above.*
- (c) *Automatic Sprinkler System shall be fed by a overhead water tank reserved solely for this purpose. The tanks shall be capable of supplying 25% of the Sprinkler heads for 20 minutes but the minimum capacity of any tank shall be 5000gallons(18,925Lit). There shall be a minimum head of 15Lbs. /Sq. ft. (1.02Kg/cm²) above the highest discharge point.*
- (d) *Automatic Sprinkler System shall be arranged to set off automatic fire alarm system simultaneously.*
- (e) *Every Sprinkler System shall be provided with a readily accessible outside valve to control all sources of water supply.*

93. Manual Fire Extinguishing Equipment.- (1)Manual fire extinguishers shall be provided as follows:

- (a) *Two extinguishers in stage area, one in each dressing room, one immediately outside each entry in theatres.*
- (b) *. One extinguisher in each 2400Sq.ft.(223Sq.m) of area of public assembly buildings, but not less than one on each occupied floor, and not less than 1 in each lab, workshop or vocational room.*
- (c) *At least one extinguisher on each floor at stairway landing and in corridor at each lift or group of lifts in residential and commercial buildings.*

94. Installation of Interior Fire Alarm System.-(1) Installation of interior fire alarm system shall be installed in the following:

- (a) *All hotels, motels, dormitories, more than one storey high and with a capacity of fifty (50) or more occupants.*
- (b) *All hospitals, asylums, nursing homes, and similar institutional buildings accommodating more than (20) twenty occupants above the ground floor.*

- (c) *All School buildings with provision of more than Thirty (30) students above the ground floor.*
- (d) *All mercantile buildings with more than 186m² above the first floor.*
- (e) *All factory buildings exceeding two (2) storey in height and with more than 4000Sq.ft. (371.74Sq.m) above the first floor.*
- (f) *All office buildings more than five (5) storeys in height and with occupancy area of more than 1, 00,000Sq.ft. (9293.68Sq.m) above the ground floor.*
- (g) *All Cinemas, theatres and similar places of public assembly.*

95. Signal Stations.- (1) Signal Stations shall be provided as follows

- (a) *At least one (1) station shall be located in each storey in an accessible location in the natural depth of exit-way or escape.*
- (b) *All stations shall be so located that no point on any floor or the building is more than 150ft. (45.69m) distant from a station.*

96. Fire Resistance.- (1) For purposes of this chapter, every building or compartment shall be regarded according to its use or intended use, and where a building is divided into compartments intended to be used for different purposes, the requirements of each compartment shall be determined separately.

(2) Every element of structure shall be required to have fire resistance for not less than the relevant period specified in TABLE 14.1 with regard to the building of which it forms part.

Table 12.1 Minimum periods of fire resistance

S.No	Types of Building or Compartment.	Minimum period of fire resistance in hours for elements of structure (hours)	
		Ground and Above	Basement
i)	Private Dwelling House	1.5	1.5
ii)	Private dwelling house	0.5	1.5
iii)	Institutional (up to 60ft height)	1	1.5
iv)	Residential buildings other than private dwelling house		
	a) up to 2 storeys high	0.5	1
	b) up to 3 storeys high	1	1
	c) up to 60 ft height	1	1.5
v)	Office Buildings		
	a) up to 2 storeys high	0.5	1
	b) up to 3 storeys high	1	1
	c) up to 60 ft height	1	1.5
vi)	Mercantile Buildings		
	a) up to 2 storeys high	0.5	1
	b) up to 3 storeys high	1	1
	c) up to 60 ft height	1	2
vii)	Factory Buildings		
	a) up to 2 storeys high	1.5	1
	b) up to 3 storeys high	1	1
	c) up to 60 ft height	1	2
viii)	Factory Buildings		
	a) up to 2 storeys high	0.5	1
	b) up to 3 storeys high	1	1
	c) up to 60 ft height	1	2
ix)	Public Assembly Buildings		
	a) up to 2 storeys high	0.5	1
	b) up to 3 storeys high	1	1
	c) up to 60 ft height	1	0.5
x)	Storage and Car parking		
	a) up to 2 storeys high	0.5	1
	b) up to 3 storeys high	1	2

c) up to 60 ft height	2	4
-----------------------	---	---

(3) If any part of a building is completely separated throughout its height, both above and below the ground, from all other parts by compartment walls in the same vertical plane, the fire resistance requirement of that part shall be determined solely by height of that part.

(4) If any element of structure forms part of more than one building or compartment and the requirements of fire resistance in respect of one building or compartment differ from those specified for any other building or compartment of which the element forms part, such element shall be so constructed as to comply with the greater or greatest of the requirements specified.

(5) Any element of structure shall have fire resistance of not less than the minimum period required for any element which it carries.

97. Test of Fire Resistance.-Every element of structure shall be capable of resisting the action of fire for the specified test of fire resistance period under the conditions of test appropriate to such an element in accordance with BS - 476: Part 1: 1953 and subject to modifications, if any.

98. External Walls.-(1) Any external wall which is situated within a distance of 4ft. (1.2m) from the relevant boundary, or is a wall of a building which exceeds 50ft.(15.22m) in height, shall be constructed wholly of non-combustible material apart from any external cladding.

(2) Any steel beam or column, wherever forming part of, or carrying, an external wall constructed of non-combustible material shall also be constructed wholly of non-combustible material.

(3) Any part of a roof shall be deemed to be part of an external wall if it is pitched at an angle of Seventy (70) degrees or more to the horizontal and covers a habitable space within the buildings.

99. Separating Walls and Fire Walls.- (1) Separating walls between two adjoining buildings shall form complete vertical separation and shall not have any opening except for the following:

(2) Passage of a pipe through a separating wall if the pipe is not a flue pipe and has a diameter not exceeding 1 inch (25mm) if it is made of combustible material, and 6 inch

(150mm) if it is made of non-combustible material.

- (3) An opening which is necessary as a means of escape from fire, if the opening is fitted with a fire door which has fire resistance not less than the period required for the separating wall.
- (4) Any separating wall or fire wall which forms a junction with a roof shall be carried above the upper surface of the roof covering to a distance not less than 15 inch (375mm).
A separating wall or fire wall shall not be required to comply with this requirement if:-
 - (5) The roofs being separated by the wall are of non-combustible construction;
 - (6) The buildings separated by the wall are residential, office or assembly buildings and do not exceed 40ft. (12.18m) in height.
- (7) If any external wall is carried across the end of a separating wall/fire wall, such external wall and separating wall/fire wall shall be bounded together.

100. Compartmentalization.- (1) Every floor of a building shall be divided as far as possible into compartments by means of appropriate fire resistant elements/measures for example fire walls as follows:

- (2) Separating one occupancy from another within the same building.
- (3) Separating part of a building from any other part of the same building which is used, or intended to be used, for a different function such as residential, institutional, assembly, storage, commercial use etc.
- (4) Dividing an institutional building, except industrial building, into smaller compartments of an area not exceeding 3000Sq.yds.(2500sq.m).
- (5) Separating occupancy areas from common circulation areas.

101. Construction of Fire Walls.-Fire walls shall be constructed in any manner or with any non-combustible material conforming to a minimum fire resistance of two (2) hours.

102. Openings in Fire Walls.- (1) Openings in fire walls may be fitted with a single or double leaf door with a minimum fire resistance for the following periods:-

- (2) Door giving access to an apartment from a common area – 0.5 hour;
- (3) Any other case – 1.5 hours.
- (4) Except in case of fire doors giving access to occupancy areas from common circulation areas, all fire doors must open in the direction of escape.

103. Direct Access for Ground Floor and Above.- (1) Except for storeys below the first

storey, direct access for firefighting shall be provided from the outdoors to every storey having its floor level less than 82ft.(25m) above ground by at least one unobstructed window or access panel for each 50ft.(15m) of wall, in each wall required to face a street.

- (2) An opening for access required in above clause shall be not less than 3.6ft.(1.1m) high by 2ft.(0.6m) wide, with a sill height of not more than 3ft.(0.9m) above the inside floor.
- (3) Access panels above the first storey shall be readily open able from both inside and outside or the opening shall be glazed with plain glass.

104. Protected Shafts.-(1) Protected shafts shall be constructed only for stairway lift, chute, duct, or any other purposes which enable persons, things or air to pass between different compartments.

- (2) There shall be no opening in shaft enclosures except the following:-
- (3) An opening for a pipe;
- (4) An opening fitted with a door which has fire resistance of half hour or not less than half the period required in TABLE 14.1, whichever is more;
- (5) Any protected shaft containing a lift or lifts:
- (6) Shall be ventilated to external air by means of one or more permanent openings situated at the top of the shaft and having a total unobstructed area of not less than 1.5Sq.ft.(0.13Sq.m) for each lift;
- (7) Shall not contain any pipe conveying oil or gas or any ventilating duct;
- (8) May have an opening in its protective structure for passage of cables for the lift into the machine room provided that if the opening is at the bottom of the shaft the opening should be as small as practicable.
- (9) If a protected shaft serves as, or contains, a ventilating duct, the duct shall not be constructed of, or lined with, any material which increases the risk of spread of fire.
- (10) If a protected shaft consists of a stairway, it shall not contain any pipe conveying oil or gas, or a ventilating duct.
- (11) A shaft that does not extend to the roof of a building shall be enclosed with top construction of the same strength and fire resistance as that of the shaft enclosure. Such shafts shall be provided with non-combustible vents for the relief of smoke and gases in the event of fire, with an area not less than 10% of the shaft area.

- 105. Fire Resistive Structure Requirements.-** (1) All shafts that extend to the roof of a building shall be ventilated by a window in the side of the shaft of not less than 75% of the area of the shaft. Such window shall not be located within three 10ft.(3m) of an interior property line, and its sill level shall not be less than 2.5ft.(0.76m) above the finished roof level.
- 106. Fire Resistant Doors.-** (1) Any fire resistant door shall, if exposed to a test by fire and then fitted in its frame, satisfy the requirements as to freedom from collapse and resistance to passage of flame for not less than the relevant period required.
- (2) The clearance between the leaf of the door and the frame , or between two leaves shall be as small as practicable.
- (3) If two separate doors (whether single or double leaf door) are installed on opposite sides of an opening, the required fire resistance may be achieved by the two doors together or by either of them separately.
- (4) Wired glass, if used in fire resistant doors, shall be of a maximum area of 1Sq. ft(0.1sq.m) and shall not be less than 1/4th inch (6mm) thick.
- 107. Miscellaneous Provisions.-** (1) If any part of an opening in an external wall of building other than a private dwelling house is directly above an opening in an adjoining storey, either:-
- (2) The bottom of the upper opening shall be not less than 3ft. (0.91m). above the top of the lower opening and not less than 1.5ft.(0.56m) above the upper surface of the floor separating the storeys; OR
- (3) A horizontal projection of non-flammable material is constructed between the two openings to project 1.5ft. (0.46m) from the wall.
- (4) Where a private dwelling house has an enclosed garage:-
- (5) The garage shall be constructed of non-flammable material having a fire resistance of not less than half an hour;
- (6) An opening in the wall separating the garage from the house shall at its lowest point be 4 inch (10cm) above the level of the floor of the garage and shall be protected by self-closing doors having a fire resistance not less than half an hour.
- 108. Fire Resistive Structure Requirements.-** (1) In premises with more than 400 persons seating capacity:-

(2) The stage area shall be separated from the auditorium on either side of the proscenium opening by a fire resisting wall not less than 6 inch(150mm) thick, of block masonry or its equivalent, carried down to a solid foundation and up to at least 3ft.(0.91m) above the roof level unless the roof is of fire resistant construction;

(3) Not more than two (2) openings shall be provided in the proscenium wall in addition to the proscenium opening. Such additional openings shall not exceed 20Sq.ft. (1.86Sq.m) area each, and should be fitted with a door of minimum half an hour fire resistance;

(4) A fire resistant curtain shall be provided to the proscenium opening.

109. Enclosures for Cinematographic Equipment.- (1) Cinematographic equipment shall be operated only within fire resistant enclosures located outside the auditorium.

(2) The enclosure shall be constructed to have minimum two (2) hours fire resistance.

(3) Two exits shall be provided to each enclosure. These shall be located outside the auditorium and fitted with self-closing doors with minimum fire resistance of half an hour. The door shall open outwards from the enclosure.

(4) There shall be a minimum number of openings between the projection enclosure and the auditorium, and these shall be fitted with a gravity shutter of minimum half an hour fire resistance overlapping all edges of the openings by not less than 1 inch (2.5cm) when closed. There shall be provided a suitable device to close all shutters simultaneously from any projector head or from a point outside each exit door.

(5) All enclosures shall be provided with adequate ventilation by suitable openings or shafts of non-flammable construction which shall lead to open air.

110. Steel and Metal Structures.- (1) All steel and other metal structural members shall be protected with non-combustible materials to provide the required fire resistance.

(2) Concrete fire protection on steel columns shall be reinforced and enclosed by wire mesh, metal clips or spirally wound wire of not less than 12 gauge size with a pitch not more than 4 inch(10cm).

(3) Where the fire resistant covering on columns is subject to damage by moving vehicles or handling of merchandise, the fire proofing shall be enclosed up to a height of not less than 5ft.(1.5m) from the finished flooring with a suitable metal covering of adequate strength.

111. Air Conditioning Ducts.- (1) All air-conditioning and ventilation ducts including

supports shall be constructed entirely of non-flammable materials.

- (2) No air-conditioning or ventilation duct shall pass through a fire wall or a separating wall.
- (3) Where ducts pass through floors or walls other than fire walls or separating walls, the space around the duct shall be sealed with mineral wool or other non-flammable material to prevent the passage of flames and smoke.

Chapter 13. Life Safety

112. General Exit Requirements.- (1) An exit may be a doorway corridor passageway to an internal staircase, or to a Verandah or terrace which have access to the street or to the roof of a building or a refuge area. An exit may also include a horizontal exit leading to an adjoining building at the same level.

(2) Lifts and escalators shall not be considered as exits

(3) Every exit, exit access or exit discharge shall be continuously maintained free of all obstructions or impediments to full use in the case of fire or other emergency.

(4) Every building meant for human occupancy shall be provided with exits sufficient to permit safe escape of occupants in case of fire or other emergency.

(5) In every building or structure, exits shall comply with the minimum requirements of this part except those not accessible for general public use.

(6) No building shall be so altered as to reduce the number width or protection of exits to less than that required.

(7) Exits shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor concerned. Sign shall be illuminated and wired to an independent electrical circuit on an alternative source of supply shall be in accordance with acceptable standards. The color of the exit signs shall be green.

Note: This provision shall not apply to A-2 and A-4 occupancies less than 15m in height.

(8) The floor of areas covered for the means of exit shall be illuminated to values not less than 1ft candle 10 lux at floor level. In auditoriums theaters concert halls and such other places of assembly the illumination of the floor exit/access may be reduced during period of performances to values not less than 1/5ft candle 2 lux.

(9) Fire doors with 2 h fire resistance shall be providing at appropriate places along the escape route and particularly at the entrance to lift lobby and stair well where a funnel or flue effect may be created inducing an upward spread of fire to prevent spread of fire and smoke.

113. Occupant Load and Exit Capacity.- (1) The occupant load in any building or portion thereof shall be not less than the number of persons determined by dividing the floor area by the occupant load factor specified in Table 15.1.

Table 13.1 Occupant Load Factors

Use	(ft ² per person)	(m ² per person)
Assembly Use		
Concentrated use, without fixed seating	7	0.65
Less concentrated use, without fixed seating	15	1.4
Bench-type seating	1 person/18 linear inch	1 person/455 linear mm
Fixed seating	Use number of fixed seats	Use number of fixed seats
Waiting spaces	7	0.65
Kitchens	100	9.3
Library stack areas	100	9.3
Library reading rooms	50	4.6
Swimming pools	50 (water surface)	4.6 (water surface)
Swimming pool decks	30	2.8
Exercise rooms with equipment	50	4.6
Exercise rooms without equipment	15	1.4
Stages	15	1.4
Lighting and access catwalks, galleries, gridirons	100	9.3
Gaming areas	11	1
Skating rinks	50	4.6
Business Use (other than below)	100	9.3
Concentrated Business Use	50	4.6
Air traffic control tower observation levels	40	3.7
Day-Care Use	35	3.3
Detention and Correctional Use	120	11.1
Educational Use		
Classrooms	20	1.9
Shops, laboratories, vocational rooms	50	4.6
Health Care Use		
Inpatient treatment departments	240	22.3
Sleeping departments	120	11.1
Outpatient health care	150	13
Industrial Use		
General and high hazard industrial	100	9.3
Special-purpose industrial	NA	NA
Mercantile Use		
Sales area on street floor	30	2.8
Sales area on two or more street floor	40	3.7
Sales area on floor below street floor	30	2.8
Sales area on floors above street floor	60	5.6
Floors or portions of floors used only for offices	See business use	See business use.

Use	(ft ² per person)	(m ² per person)
Floors or portions of floors used only for storage, receiving, and shipping, and not open to general public	300	27.9
Mall buildings	Per factors applicable to use of space	
Residential Use		
Hotels and dormitories	200	18.6
Apartment buildings	200	18.6
Board and care, large	200	18.6
Storage Use		
In storage occupancies	NA	NA
In mercantile occupancies	300	27.9
In other than storage and mercantile occupancies	500	46.5

NA: Not applicable. The occupant load is the maximum probable number of occupants present at any time.

(2) Egress Capacity from a Point of Convergence: Where means of egress from a story above and a story below converge at an intermediate story, the capacity of the means of egress from the point of convergence shall be not less than the sum of the required capacity of the two means of egress.

(3) Egress Capacity for Corridor

(a) *The required capacity of a corridor shall be the occupant load that utilizes the corridor for exit access divided by the required number of exits to which the corridor connects, but the corridor capacity shall be not less than the required capacity of the exit to which the corridor leads.*

(b) *The clear width of any corridor or passageway serving an occupant load of 50 or more shall be not less than 1200 mm.*

(4) Exit Access Capacity

(a) *Where any required exit access capacity from a balcony or mezzanine passes through the room below, that required capacity shall be added to the required capacity of the room in which it is located.*

(b) *Exit access capacity shall be calculated by the occupant load multiplied by the capacity factors shown in Table 17.2.*

Table 13.2Capacity Factors

Area	Stairways (width per person)		Level Components and Ramps (width per person)	
	in.	mm	in.	mm
Board and care	0.4	10	0.2	5
Health care, sprinklered	0.3	7.6	0.2	5
Health care, non sprinklered	0.6	15	0.5	13
High hazard contents	0.7	18	0.4	10
All others	0.3	7.6	0.2	5

(5) Minimum Width

- (a) *The width of any means of egress shall not be less than 36 in. (915 mm) where another part of this chapter does not specify a minimum width.*
- (b) *The width of exit access serving not more than six people, and having a length not exceeding 50 ft (15 m) shall be not less than 28 in. (455 mm).*
- (c) *In existing buildings, the width of exit access shall be permitted to be not less than 28 in. (710 mm).*

114. Number of Exits.- (1) In new and existing occupancies, the number of means of egress from any balcony, mezzanine, story, or portion thereof shall be not less than two.

(2) In new occupancies, the number of means of egress from any story or portion thereof, shall be as follows:

- (i) When the occupant load is from 500 to 1000, number of means of exits shall not be less than 3.
- (ii) When the occupant load is more than 1000, number of means of exits shall not be less than 4.

115. Arrangement of Exits:

(1) Exits should be so located that the travel distance on the floor shall not exceed the distance given in Table 17.3.

(2) The travel distance to an exit from the dead end of a corridor shall not exceed half the distance specified in the Table 17.3, except in assembly and institutional occupancies in which

case it shall not exceed 6m.

(3) Where more than one exit is required from a building or portion thereof, such exits shall be remotely located from each other and shall be arranged and constructed to minimize the possibility that more than one has the potential to be blocked by any one fire or other emergency condition.

(4) A single means of egress shall be permitted from a mezzanine, provided that the common path of travel does not exceed 23 m in case of non-sprinklered buildings and 30m in case of sprinklered buildings.

Table 13.3 Travel distance for occupancy and type of construction

S.No	Group of Occupancy	Maximum Travel Distance Construction	
		Types 1 and 2 (m)	Types 3 and 4 (m)
i)	Residential (A)	30.0	22.5
ii)	Educational (B)	30.0	22.5
iii)	Institutional (C)	30.0	22.5
iv)	Assembly (D)	30.0	30.0
v)	Business (E)	30.0	30.0
vi)	Mercantile (G)	30.0	30.0
vii)	Industrial (H)	45.0	Not permitted
viii)	Storage (J)	30.0	Not permitted
ix)	Hazardous (H)	22.0	Not permitted

Note: For fully sprinkled building, the travel distance may be increased by 50 percent of the values specified. Ramps shall be protected with automatic sprinkler system and shall be counted as one of the mean of escape.

116. Corridors and passageways.- (1) Exit corridors and passageways shall be of width not less than the aggregate required width of exit doorways leading from them in a direction of travel to the exterior.

- (2) Where stairways discharge through corridors and passageways, the height shall not be less than 2.4m.
- (3) All means of exit including staircases lifts lobbies and corridors shall be adequately ventilated.

117. Emergency and Escape Lighting.- (1) Emergency lighting shall be powered

from a source independent of that supplying the normal lighting.

(2) Escape lighting shall be capable of:

- (i) Indicating clearly and unambiguously the escape routes
- (ii) Providing adequate illumination along such routes to allow safe movement of persons towards and through the exits
- (iii) Ensuring that fire alarm call points and firefighting equipment provided along the escape routes can be readily located.

(3) The horizontal luminance at floor level on the centerline of an escape route shall be not less than 10 lux. In addition, for escape routes up to 2 m (6.5ft.) wide, 50 percent of the route width shall be lit to a minimum of 5 lux.

(4) The emergency lighting shall be provided to be put on within 1s of the failure of the normal lighting supply.

(5) Escape lighting luminaries should be sited to cover the following locations

- (i) Near each intersection of corridors
- (ii) At each exit door
- (iii) Near each change of direction in the escape route. Near shall be considered to be within 2 m (6.5 ft.) measured horizontally.
- (iv) Near each staircase so that each flight of stairs receives direct light
- (v) Near any other change of floor level
- (vi) Outside each final exit and close to it
- (vii) Near each fire alarm call point
- (viii) Near fire-fighting equipment
- (ix) To illuminate exit and safety signs as required by the enforcing authority

(6) Emergency lighting systems shall be designed to ensure that a fault or failure in any one luminaire does not reduce the effectiveness of the system.

(7) The luminaries shall be mounted as low as possible, but at least 2 m (6.5 ft) above the floor level.

(8) Signs are required at all exits, emergency exits and escape routes, which shall comply with the graphic requirements of the relevant standards.

(9) Emergency lighting luminaries and their fittings shall be of non-flammable type.

(10) Wiring and installation of the emergency lighting systems shall be of high quality so as to ensure their perfect serviceability at all times.

(11) Emergency lighting system shall be capable of continuous operation for a minimum duration of 1 h and 30 minutes.

(12) Emergency lighting system shall be maintained by periodical inspections and tests so as

to ensure their perfect serviceability at all times.

118. Illumination of Exit.- (1) The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that it could be operated by one switch installation on the ground floor easily accessible to firefighting staff at any time irrespective of the position of the individual control of the light points, if any. It shall be of miniature circuit breaker type of switch so as to avoid replacement of fuse in case of crisis.

(2) Staircase and corridor lighting shall also be connected to alternative supply. The alternative source of supply shall be provided by battery continuously trickle charged from the electric mains.

(3) Suitable arrangements shall be made by installing double throw switches to ensure that the lighting installed in the staircase and the corridor does not get connected to two sources of supply simultaneously. Double throw switch shall be installed in the service room for terminating the stand-by supply.

(4) **Power Source.** Where emergency lighting facilities are required for individual occupancies, the signs, other than approved self-luminous signs and listed/approved/approved photo luminescent signs shall be illuminated by the emergency lighting facilities.

119. Internal Staircases.- (1) Internal stairs shall be constructed of non-combustible materials throughout.

(2) Internal stairs shall be constructed as a self-contained unit with an external wall of the building constituting at least one of its sides and shall be completely enclosed.

(3) A staircase shall not be arranged round a lift shaft.

(4) No gas piping or electrical panels shall be allowed in the stairway. Ducting in stairway shall be permitted if it is of 1 h fire resistance rating.

(5) Following minimum width shall be provided for staircases, provided it is not less than minimum width specified for these occupancies elsewhere in these Provisions.

(a) Residential buildings (one to two family dwellings)	1.0m (3.25ft.)
(b) Residential buildings (hotels and dormitories)	1.5m (4.9ft.)
(c) Assembly buildings (like auditorium, theatres and cinemas)	2.0m (6.5ft.)
(d) Educational buildings up to 30 m (98 ft) in height	1.5m (4.9ft.)
(e) Health care occupancies	2.0m (6.5ft.)
(f) All other buildings	1.5m (4.9ft.)

(6) The minimum width of tread without nosing shall be 250 mm for internal staircase of

residential buildings. This shall be 300 mm (12 in.) for assembly, hotels, educational, business and other buildings.

(7) The treads shall be constructed and maintained in a manner to prevent slipping.

(8) The maximum height of riser shall be 190 mm (7.5 in.) for residential buildings and 150 mm (6 in.) for other buildings and the number shall be limited to 15 per flight.

(9) Handrails shall be provided at a height of 1 m (3.25 ft) to be measured from the base of the middle of the treads to the top of the handrails.

(10) Number of people in between floor landings in staircase shall not be less than the population on each floor for the purpose of design of staircase. The design of staircase shall also take into account the following

- (a) *No living space, store or other fire risk shall open directly into the staircase or staircases.*
- (b) *External exit door of staircase enclosure at ground level shall open directly to the open spaces or through a large lobby, if necessary.*
- (c) *The main and external staircases shall be continuous from ground floor to the terrace level.*
- (d) *No electrical shafts, A/C ducts or gas pipes, etc. shall pass through or open in the staircases. (5) Lifts shall not open in staircase.*
- (e) *No combustible material shall be used for decoration and wall paneling in the staircase.*
- (f) *Beams, columns and other building features shall not reduce the head room and width of the staircase.*
- (g) *The exit sign with arrow indicating the way to the escape route shall be provided at a suitable height from the floor level on the wall and shall be illuminated by electric light connected to corridor circuits.*
- (h) *All exit way marking signs shall be flush with the wall and so designed that no mechanical damage shall occur to them due to moving of furniture or other heavy equipment.*
- (i) *All landings of floor shall have floor indicating boards prominently indicating the number of floor. The floor indication board shall be placed on the wall immediately*

facing the flight of stairs and nearest to the landing. It shall be of size not less than 0.5×0.5 m (20x20 in.).

- (j) *Individual floors shall be prominently indicated on the wall facing the staircases.*
- (k) *In case of single staircase, it shall terminate at the ground floor level and the access to the basement shall be by a separate staircase. The second staircase may lead to basement levels provided the same is separate at ground level by ventilated lobby with discharge points to two different ends through enclosures.*

120. Pressurization of Staircases (Protected Escape Routes).- (1) The pressurization of staircases shall be adopted for high rise buildings and building having mixed occupancy or multiplexes having covered area more than 500 m² (5380 ft²).

(2) The pressure difference for staircases shall be as under: If possible, the same levels shall be used for lobbies and corridors, but levels slightly lower may be used for these spaces if desired. The difference in pressurization levels between staircase and lobbies (or corridors) shall not be greater than 5 Pa (see Table 17.4).

(3) The difference in pressurization levels between staircase and lobbies (or corridors) shall not be greater than 5 Pa (0.1 psf).

(4) Pressurization system shall be of two types:

- (a) *Single-stage, designed for operation only in the event of an emergency; and*
- (b) *Two-stage, where normally a level of pressurization is maintained in the protected escape routes and an increased level of pressurization can be brought into operation in an emergency.*

Table 13.4 Pressure Difference for Staircases

Building Height	Pressure Difference	
	Reduce Operation (Stage 1 of a 2-Stage System) (Pa)	Emergency Operation (Stage 2 of a 2-Stage or Single Stage System) (Pa)
Less than 15 m (49 ft)	8	50

Building Height	Pressure Difference	
15 m (46 ft) or above	15	a.

(5) The normal air-conditioning system and the pressurization system shall be treated as an integral one, especially for a two-stage system. When the emergency pressurization is brought into action, the following changes in the normal air-conditioning system shall be effected

- (a) *Any re-circulation of air shall be stopped and all exhaust air vented to atmosphere.*
- (b) *Any air supply to the spaces/areas other than escape routes shall be stopped.*
- (c) *The exhaust system shall be continued provided*
- (d) *The positions of the extraction grills permit a general air flow away from the protected escape route entry*
- (e) *The construction of the ductwork and fans is such that, it will not be rendered inoperable by hot gases and smoke*
- (f) *There is no danger of spread of smoke to other floors by the path of the extraction system which can be ensured by keeping the extraction fans running*

(6) The pressurization system shall be interconnected with the fire alarm system for actuation.

121. External Stairs.- (1) An external staircase shall be provided for high rise buildings.

- (2) External stairs shall always be kept in sound operable conditions.
- (3) All external stairs shall be directly connected to the ground.
- (4) Entrance to the external stairs shall be separate and remote from the internal staircase.
- (5) Care shall be taken to ensure that no wall opening or window opens on to or close to an external stair.
- (6) The route to the external stairs shall be free of obstructions at all times.
- (7) The external stairs shall be constructed of non-combustible materials, and any doorway leading to it shall have the required fire resistance.
- (8) No external staircase, used as a fire escape, shall be inclined at an angle greater than 45°

from the horizontal.

(9) External stairs shall have straight flight not less than 1.25m (4.10 ft.) wide with 250mm (10in.) treads and risers not more than 190 mm (7.5 in.). The number of risers shall be limited to 15 per flight.

(10) Handrails shall be of a height not less than 1m (3.25 ft.) and not exceeding 1.2m(4ft.).

(11) The use of spiral staircase shall be limited to a building not exceeding 9m(29.5ft.) in height. A spiral stair case shall be not less than 1.5m(5ft.) in diameter and shall be designed to give adequate headroom.

(12) Unprotected steel frame staircase shall not be accepted as means of egress.

(13) Steel staircase in an enclosed fire rated compartment of 2h shall be accepted as means of escape.

122. Horizontal Exits.- (1) The width of horizontal exit shall be same as for the exit doorways.

(2) A horizontal exit shall be equipped with at least one fire/smoke door of minimum 1 h fire resistance, of self-closing type.

(3) For buildings more than 30m (100ft.) in height, refuge area of 15 m²(161ft²) or an area equivalent to 0.3 m²(3.2ft²) per person to accommodate the occupants of two consecutive floors, whichever is higher.

(4) The refuge area shall be provided on the periphery of the floor or on a cantilever projection and open to air at least on one side protected with suitable railings.

(i) For floors above 30m(100ft.) and up to 45m(150ft.): one refuge area on the floor immediately above 30m(100ft.)

(ii) For floors above 45m(150ft.): one refuge area on the floor immediately above 45 m (150 ft) and so on after every 15 m(49ft.).

(5) Residential flats in multi-storied building with balcony, shall not be provided with refuge area, however flats without balcony shall provide refuge area as given above.

(6) Where there is a difference in level between connected areas for horizontal exits, ramps, not more than 1 in 10m (32.8ft.) slope shall be provided; steps shall not be used.

(7) Doors in horizontal exits shall be open-able at all times from both sides.

123. Fire Tower.- (1) Fire towers are the preferred type of escape route for storied buildings and these shall be considered as the safest route for escape. Their number, location and size shall depend on the building concerned, and its associated escape routes.

(2) In high rise buildings with over 30m (100ft.) in height, at least one required

means of egress shall be a fire tower.

(3) The fire towers shall be constructed of walls with a 2h fire resistance rating without openings other than the exit doorways, with platforms, landings and balconies having the same fire-resistance rating.

124. Ramps.-(1) Ramps shall comply with all the applicable requirements for stairways regarding enclosure, capacity and limiting dimensions.

(2) The slope of a ramp shall not exceed 1 in 10.

(3) For all slopes exceeding 1 in 10 and wherever the use is such as to involve danger of slipping, the ramp shall be surfaced with approved non-slipping material.

125. Fire Lifts.-(1) Where applicable, fire lifts shall be provided with a minimum capacity for 8 passengers and fully automated with emergency switch on ground level.

(2) Buildings 30 m (100 ft) in height or above shall be provided with fire lifts.

(3) In case of fire, only fireman shall operate the fire lift.

(4) Each fire lift shall be equipped with suitable inter-communication equipment for communicating with the control room on the ground floor of the building.

(5) The number and location of fire lifts in a building shall be decided after taking into consideration various factors like building population, floor area, compartmentation, etc.

Chapter 14. Light and Ventilation

126. Size of external openings.- (1) Every room, other than rooms used predominantly for the storage of goods, shall be provided with natural light and natural ventilation by means of one or more openings in external walls. These openings shall have a combined area of not less than 10% for habitable rooms and 7.5% for other rooms of the floor space of such opening, and the whole of such openings shall be capable of allowing free and uninterrupted passage of air.

(2) Area for openings in case of warehouse, godown, storage places etc. shall not be less than 5% of the floor space unless the space is mechanically ventilated.

(3) In case of buildings having more than one story and intended for separate occupation by more than one family, every part of such building above the ground floors, intended for common use, which opens to external air space, shall be provided with adequate means of ventilation.

127. Size of internal openings.- (1) Unless the light and ventilation requirements are met by an air well or ventilation duct, all internal habitable rooms must have openings in internal air wells in addition to door openings not less than 7.5% of the floor area of such room. Access for maintenance of shaft be provided at level for where the shaft is commence.

128. Internal Air Wells.- (1) Habitable rooms may receive daylight and natural ventilation from internal air Wells which shall conform to the following minimum sizes: -

- (i) For buildings up to 2 storeys, 50Sq.ft. (4.6Sq.m) with minimum width of well 5ft. (1.5m).
- (ii) . For buildings with 3 to 5 storeys, 100Sq.ft. (9.3Sq.m) with minimum width of well 8ft. (2.44m).
- (iii) For buildings higher than 5 storeys, 100Sq.ft. (9.3Sq.m) plus 10Sq.ft. (0.93Sq.m) for each additional floor over 5 storeys and minimum width of well 10ft. (3.0m).

(2) Where only kitchens, lavatories, W.C.'s and bathrooms may receive daylight and natural ventilation from internal air-wells, their sizes shall conform with the following as minimum: -

- (i) For buildings up to 2 storeys, 25Sq.ft. (2.3Sq.m) with minimum width of well 3ft. (0.9m).

(ii) For buildings with 3 to 5 storeys, 50Sq.ft.(4.6Sq.m) with minimum width of well 5ft.(1.5m).

(iii) For buildings higher than 5 stories, 50Sq.ft.(4.64Sq.m) plus 5Sq.ft.(0.46Sq.m) for each additional floor with minimum width of well 5ft.(1.5m).

(3) The floor of each air well shall have impervious paving and shall be adequately drained.

(4) Access for maintenance of each such shaft shall be provided at lowest level of the shaft.

(5) No internal air well or portion thereof shall be roofed over.

129. Permanent Openings in Kitchen.-Every kitchen shall have openings for permanent ventilation into the external air space not less than 15% of its floor area.

130. Water Closet, Bath Room & Ablution Places.-Every water closet, urinal stall, and bath room and ablution area shall be provided with natural lighting and ventilation by means of one or more openings in external walls having a combined area of not less than 2Sq.ft.(0.2sq.m) per water closet, urinal or bathroom except where adequate and permanent mechanical ventilation is provided and such openings shall be capable of allowing free uninterrupted passage of air.

131. Garages.-Every garage shall be provided with opening of not less than 5% of the floor area for ventilation and lighting incorporated in a wall or in the door.

132. Staircases.-All staircases which are enclosed shall be provided with adequate lighting and ventilation from openings not less than 7.5% of the staircase area.

133. Mechanical Ventilation and Central Air-Conditioning waiver & minimum requirement.- (1) Where undertaking for central air-conditioning and permanent mechanical ventilation is provided, the relevant clauses of these Rules dealing with natural ventilation, lighting and heights of rooms may be waived.

(2) Consideration to the waiver of the relevant regulation will only be given if in addition to the permanent air-conditioning system there is provided alternative approved means of ventilating the air-conditioned rooms.

(3) A minimum number of air changes per hour for any one type of accommodation shall be provided to the satisfaction of the Authority.

(4) Where permanent mechanical ventilation in respect of lavatories, water closets, bath rooms or corridors has been provided for and maintained in accordance with the following

clauses, conditions relating to natural ventilation and natural lighting under these Rules shall not apply to such lavatories, water-closets, bathrooms or corridors.

(5) Basement or underground car parks and other enclosures below ground level shall be provided with mechanical ventilation.

(6) Cinemas or other projection rooms where photographic film is being used, processed or stored; which are situated in the internal portion of the building; and in respect of which no such external walls (or those overlooking verandahs, pavements or walkways) are present, shall be provided with mechanical ventilation or air conditioning.

(7) In case of mechanical ventilation and central air conditioning for all types of buildings and spaces HVAC relevant code of practice as may be approved by the Authority shall be followed.

Chapter 15. Development Permit and Procedures

134. Permits and Procedures-Land Development.- (1) Unless there is anything repugnant in the subject or context, or unless otherwise provided in these Rules, “land development” or the “development of land” shall include the dividing of land into plots, the amalgamation of plots, infrastructure development operations, in, on, over or under land, making of any material change in the use of land, and the creation or termination of rights of access.

(2) The following activities or uses shall be taken for the purposes of these Rules to involve land development as defined herein unless expressly excluded by these Rules:

(i) A change in type of land use: a change from one designated class of use to a use in another designated class;

(ii) A material increase in the intensity of use of land, such as an increase in the number of businesses, manufacturing establishments, offices, or dwelling units in any, structure or on land;

(iii) Commencement of excavation on a plot of land;

(iv) Deposit of refuse, solid or liquid waste or fill on a plot of land.

(v) Alteration of a shore, bank, or flood plain of a sea coast, river, stream, lake, pond or artificial body or water;

(vi) The installation of underground or overhead public service facilities;

(vii) Departure from the normal use for which development permission has been granted, or failure to comply with the conditions of a regulation or an order granting the development permission under which the development was commenced or is continued.

(3) The following operations or uses do not constitute land development for the purposes of these Rules unless expressly included in these Rules:-

(i) The maintenance or improvement of a public road, highway, street or rail road track not involving substantial engineering redesign, if the work is carried out on land within the boundaries of the right-of-way;

(ii) Work by any public agency or public utility company or authority not involving substantial engineering redesign, for the purpose of inspection, repair or construction

on established rights-of-way, or any sewers, drains, mains, pipes, cables, power lines, lighting traffic or telephone poles or other apparatus, or similar facilities;

(iii) The use of any land or structure specified for residential purpose, for such occasional private family functions as are customary, in keeping with the norms of the society, without any commercial usage and advantage.

(iv) The use of any land for agricultural purposes, including excavations, in the course of agricultural operations, except to the extent of the making of wells which may be specifically controlled by these Rules, or by any other Rules concerned with water preservation;

(v) A change in the form of ownership of any land or structure not involving the division of land into plots or building into separate occupancy units.

135. General Requirements for Development Permission.-No person or group of persons may carry out land development or permit land development without a valid development permit. The land development shall be in compliance with the requirements, restrictions or conditions of:

- (1) These Rules;
- (2) Any applicable detailed plan;
- (3) Any applicable general standards and area standards;
- (4) Any applicable land grant
- (5) Any applicable sub-division plan; and
- (6) The conditions attached to a development permit.

136. Types of development permits.-Development permits shall consist of two types:

- (1) General development permit for land development
- (2) Special development permit or any other land development authorized under these rules

137. General Development Permits (1) General Development Permits for land development, meeting the following requirements, shall be issued by the Concerned Authority:-

- (a) *The proposed land development is in compliance with the requirements or conditions of these Rules, an existing detailed plan, any applicable general standards and area standards, and any applicable land grant and sub-division and amalgamation plans;*
- (b) *Does not involve a change in the use of land or a structure, from a use within a class designated in these Rules, to another use in a different class as defined in Clause 18-4 and any major sub-division and amalgamation as defined in these*

Rules.

(2) An application for a land development permit shall lie with the authority on the prescribed form who may grant such permit on satisfaction that the proposed land development is in accordance with the requirement of section 16.2 and

(3) The Concerned Authority may attach to a General Development Permit conditions relating to:-

- (a) *Compliance with the plans and specifications submitted by the applicant to the Concerned Authority;*
- (b) *The time within which the development or particular phases of it must be carried out or completed; and*
- (c) *Protective measures which the applicant must undertake for the benefit of neighboring property, such as the construction of fencing or retention of open spaces etc.*
- (d) *The Concerned Authority shall simultaneously endorse a copy of each General Development Permit granted by it to Local Government and Rural Development Department.*

138. Grant of Special Development Permit.- (1) Special Development Permits for any other land development, authorized under these Rules, shall be issued by Local Government and Rural Development Department as required under these Rules.

(2) The Concerned Authority shall refer to Local Government and Rural Development Department, for its decision, all applications for a Special Development Permit, except as otherwise provided in these Rules.

(3) Local Government and Rural Development Department, after consultation with the Concerned Authority in whose jurisdiction the land development fall, may grant a Special Development Permit where the provisions of a detailed plan, general standards or area standards, require special permission for designated kinds of land development, involving an exercise of policy decision.

(4) Local Government and Rural Development Department may from time to time prepare Master Plan/Development Plans, including contingency plan/s for the purpose of providing a foundation for the administration or revision of these Rules.

(5) The development plan/s or the contingency plan/s should be submitted to the Local

Government and Rural Development Department for its approval.

(6) The Local Government and Rural Development Department within a period of sixty days, shall approve or ask for amendments, and such approval shall be notified for the information of public in the manner prescribed under these Rules.

(7) Prior to making its determinations on such application, The Local Government and Rural Development Department shall conduct such studies for planning position or make such findings as it may deem appropriate regarding the feasibility, location or any other characteristics of the Proposed land development which, in the judgment of , the Local Government and Rural Development Department, may have important implications for implementation of the Development Plan or any other plan approved and prepared under section 138, Rules 1 to 3 and, in particular, for the coordinated development of the vicinity.

(8) The Local Government and Rural Development Department shall give along with its decision on the application, a statement of its planning position, which shall:

- (i) Summarize its findings;
- (ii) Set forth guidelines or conditions under which the proposed land development and, as may be pertinent, any other land development in the vicinity may be carried out.
- (iii) If deemed appropriate, include by reference and attach interim special area concept plan showing the planning position consisting of a map and explanatory matter, which is to govern land development in a specified area until such time as a detailed plan is approved for the area.

(9) If the Local Government and Rural Development Department rejects the application it shall state its reasons by reference to the planning position taken on the matter.

(10) If a development plan or other development exists for the area, in lieu of the foregoing, the statement may consist of reference to provision of such a development plan on which the decision may be based

139. Conditions for Development Permits.- (1) The Local Government and Rural Development Department or the Concerned Authority may attach to a development permit conditions which concern any matter subject to these Rules including means for:

- (i) Establishing more detailed records by submission of drawings, maps, or specifications;

- (ii) Minimizing any adverse impact of the proposed development upon other land, including the hours of use and operation and the type and intensity of activities which may be conducted;
- (iii) Controlling the sequence of land development, including when it must be commenced and completed;
- (iv) Controlling the duration of use of land development and the time within which any structure must be removed;
- (v) Ensuring that the land development is maintained properly in the future;
- (vi) Designating the exact location and nature of development.

(2) In addition, the authority may condition the grant of a Special Development Permit to the development of streets, other rights of way, utilities, parks, and other open space, of a quality and quantity reasonably necessary for the proposed development.

140. Criteria for Decisions Relating to Special Development Permits, Contingency Plans or Planning Positions.- In determining applications for Special Development Permits and making contingency plans or planning positions, The Local Government and Rural Development Department shall take into account, as may be pertinent;

(1) The provisions of the Master/Development Plan and of any applicable concept plan or contingency plan or other development plan for the community in which the proposed land development is located.

(2) The implications, if any, for the development of a larger region of which the community is a part, as such region is defined by the Master/Development Plan, or an applicable development plan or detailed plan, or as defined by The Local Government and Rural Development Department in the absence of such definition;

(3) The provisions of any approved development program or scheme of a public agency which might be adversely affected by the proposed land development;

(4) The need, if any, to protect existing resources, installations or investments of the Federal Government, Provincial Government or any public agency;

(5) Relevant conditions or needs in the neighborhood and community relating to sanitation, road and street networks, traffic and transportation facilities, the existence or absence of municipal services, public amenities, industrial and commercial activities and facilities, air and water quality, other attributes of the physical environment, and significant social and economic

characteristics of the inhabitants.

141. Notice for a Special Development Permit.- (1) In the case of an application for a Special Development Permit, the Local Government and Rural Development Department or concerned Authority if any, shall give a public notice under these rules.

(2) The applicant or his representative may request, and if so shall be granted, an opportunity to be heard on the matter within such reasonable time, not exceeding 30 days, as shall be fixed by The Local Government and Rural Development Department or the Concerned Authority, as the case may be.

(3) The determinations made by The Local Government and Rural Development Department or Concerned Authority on the applications for development permits shall be known as 'orders'.

(4) The Local Government and Rural Development Department or the Concerned Authority, as the case may be, denies the application or grants permission subject to conditions, it shall state the reasons for the denial or conditions.

(5) An applicant for a development permit shall pay scrutiny/attestation fee to the Concerned Authority and if the matter is referred to The Local Government and Rural Development Department, pay to it the prescribed fee for the type of land development there indicated.

Chapter 16. Sub-Division, Amalgamation of Land and Change of Land Use

142. Major Sub-division and Minor Sub-Division.- (1) “Major Sub-division” means any sub-division including sub-division of 2 or more acres (1 hectare), or any size sub-division requiring any new street or road, or the extension or addition of substantial new public facilities, or any sub-division of plot.

(2) “Minor sub-division” means any sub-division containing less than 2 acres (1 hectare) fronting an existing street, not involving any new street or road or the extension of or addition of substantial new public facilities.

143. Sub-Division and Amalgamation of plots.-For the sub-division and amalgamation of plots in the approved schemes and other areas, the criteria laid down below shall be followed.

(1) Sub-Division of Plots:

- (a) *Sub-division of any residential, commercial and industrial plots shall be allowed by the Concerned Authority in case of minor sub-division and with the approval of Local Government in case of major sub-division as per the rules set forth in these Rules.*
- (b) *Plots earmarked for flats shall not be considered for sub-division in to smaller plots.*
- (c) *Sub-division of residential plots will only be considered to the extent that sub-divided plot shall not be less than 400 Sq.m (4305.56 Sq. ft).*
- (d) *Sub-division of commercial plots will only be considered to the extent that sub-divided plot shall not be less than 400 Sq.m (4305.56 Sq. ft).Having a minimum frontage of.18.27m (60 ft).*
- (e) *In case of industrial plots a sub-divided plot shall not be less than 840.3Sq.m (9045 Sq. ft)or 25% of its original allotted size whichever is greater*
- (f) *No sub-division of a plot shall be considered without each of the sub-divided parts having a direct approach from a planned road / street.*
- (g) *For built-up plots demolition permission will be produced before allowing sub-*

division.

(h) For Katchi Abadis the Concerned Authority, with the approval of Local Government, may allow subdivision.

(i) Building control rules of the original plot/category shall be applicable to the subdivided plots

(j) No relaxation of these rules shall be allowed in respect of the sub-divided plots.

(2) Amalgamation of plots:

(a) “Amalgamation of two or more residential plots shall be allowed by the concerned Authority up to an area of amalgamated plot maximum of 1008 Sq.m (10850 Sq. ft) provided land grant/allotment conditions of the plots are similar. The above limits do not apply to the plot other than residential. Seven copies of proposed amalgamation plan shall be submitted with the signature of Town Planner and owner for approval.

(b) Rules of the original category of plot shall be applicable on the amalgamated plot. Where there is no similar category of plots, the terms and conditions shall be determined by the concerned authority.

144. Approval of plans general requirement.-

(1)

(a) No developer or owner of a plot shall make any advertisement through newspaper, radio or television or in any manner for the sale or lease of, or offer to sell or lease any plots in any subdivision on any part thereof before any final development permit for erection of any structure of subdivision of plot in such proposed subdivision have been granted.

(b) For the purpose of this chapter the term, offer to sell or lease shall include the application, through newspaper advertising or otherwise of membership in comparative held societies.

(2) The owner or his duly authorized agent for approval of such proposed subdivision shall apply in the first instance to the concerned authority having jurisdictions which shall refer the matter to the authority for its determination except in the case of a minor subdivision for which a general development permit may be granted by the concerned authority.

- (3) The authority shall issue a press release for public information in respect of the grant of special development permit, to the applicant, any amendments or cancellations of the permit.

145. Approval of minor subdivisions.-

Application for development permit for minor subdivisions shall be made as set out in section 0And the applicant shall furnish the information requested on such forms.

146. Approval of major subdivision.-

- (1) The applicant shall submit an application for a special development permit for a major subdivision to the authority under Balochistan Building Control Ordinance 1979.
- (2) The application shall be accompanied by the documentary evidence demonstrating
 - (i) payment by the applicant of the scrutiny fees prescribed
 - (ii) The applicant's ownership of sufficient title in the site to undertake the proposed subdivision and development
 - (iii)the deputy commissioner's approval of the proposed development , if required;
 - (iv)the approval of Civil Aviation , defense Authorities , or any other concerned authority , if required
 - (v) Compliance with any provisions or rules under the cooperative societies act 925 if the applicant is a cooperative housing society.
- (3) The application for approval of a subdivision plan shall include:
 - (i) A physical survey prepared by a qualified surveyor or a licensed professional of the site and of any larger tract of, the owner of which the site is part showing the boundary lines of such site and tract, official survey numbers and existing structures, water courses wooded areas streets, roads and other significant physical features within the site and an adjacent land within 180 meters of the site;
 - (ii) a topographical survey will contour's at intervals as Deemed necessary may be required by the planning, agency including both the site and adjacent land within 200 yards of the site ;
 - (iii) a proposed layout plan at a scale of not more than 330 ft to an inch, together with block plans at no less than 100' to an inch or at such different scales as may be

permitted by the planning agency for large developments: which layout plan shall show the locations and dimensions of proposed plots and structures, the locations, widths and grades of streets or other public ways, arrangements for street lighting; and the locations and dimensions of proposed parks, other open spaces, and area to be set aside for nonresidential use, including community facilities with percentages;

- (iv) existing sewer, water supply drainage and other utility lines or facilities:
- (v) the approximate locations and size of proposed water lines, hydrants, sewer lines, storm drainage or other utility lines or facilities and information regarding their connections with existing or new system:
- (vi) The proposed construction schedule:
- (vii) The proposed terms and conditions for the sale or lease of plots or structures.
- (viii) the arrangements for protecting purchasers or sub-leases for defaults by the developers or contractors:
- (ix) socio-economic data, the viability of new employment in the area or accessibility to existing employment as method;
- (x) Method and schedule of financing with the name/names of the Banks and Bank guarantees.
- (xi) any other information or other information documents or reports

(4) The layout plan required by clause ((iii)) of sub-section ((3)) and revision of such layout plan shall be prepared and endorsed by a licensed town planner.

(5) The applicant shall submit fair copies of plans with an under taking on the prescribed form incorporating all the amendments /conditions etc. conveyed by the Authority the sub-division plan for issue of special development permit.

147. Site inspections and Consolation.- (1) The applicant submitting a sub-division plan shall arrange for at least one site inspection by a representative of the concerned Authority;

(2) In connection with the submission of application the applicant shall consult with, or obtain information from appropriate public agencies or Companies concerned with the provisions of water supply, sewerage, electricity, telephone service, fire protection and other public services appropriate to the particular development but the authority may in its discretion, assist the applicant to obtain any necessary or desired clearances Or commitments regarding such

services.

148. Conditions for Special Development Permits for Major Sub-Division.- (1) In granting a Special Development Permit upon approval of a major sub-division plan, The Local Government and Rural Development Department or the Concerned Authority may:

- (i) imposes land use restrictions compatible with an applicable detailed plan, contingency plan, or planning positions;
- (ii) requires such restrictions, or others, to be incorporated in leases or sub-leases granted to plot holders;
- (iii) Requires the applicant to secure the concerned public agencies and lessees of plots against defaults by the applicant in meeting his obligations to make improvements on the site, or any other obligations the applicant may undertake, or the planning agency may impose, to protect the interests of lessees or sub-lessees.

(2) Where the development of the site of a major sub-division is to occur in phases, The Local Government and Rural Development Department or the Concerned Authority may grant a Special Development Permit for the first phase, and provisional permits for a later phase or phases which may become effective only upon further review of the development and which shall be subject to such revision as The Local Government and Rural Development Department or the Concerned Authority shall deem necessary following such review.

(3) The Local Government and Rural Development Department or the Concerned Authority shall limit the validity of a Special Development Permit for a major sub-division to such period as it may deem Reasonably necessary to complete the development or specified stage of development, and if at the end of such period the development or stage is not completed the Special Development Permit shall lapse unless extended on application.

(4) It shall be unlawful for any person to erase, alter, or modify any development permit issued by the Concerned Authority/ Local Government and Rural Development Department including the application thereof or any plans or drawings accompanying the same.

(5) The issue of a development permit shall not absolve the applicant from complying with other statutory provisions.

(6) Any development permit issued shall be void twenty four (24) months after the date of issue or the period fixed unless extended on application.

149. Change of Land use:- (1) Change of land use of amenity: No amenity plot reserved for the

specific purpose shall be converted or utilized for any other purpose.

(2) Change of land use of Residential plots:

- (i) No residential plot shall be converted into any other use except with the approval of the Concerned Authority (The authority should not allow the conversion unless it is very important)
- (ii) The applicant shall apply and pay necessary fee to the authority for change of land use of the plot with full justification, which shall examine the application in the light of the planning of the area and forward it to the authority for consideration.
- (iii) The authority shall also issue a public notice for the change of land use of the plot / plots in accordance with the provisions of these Rules and the expenses shall be borne by the applicant.
- (iv) The authority, shall give due consideration to the objections from the Public before the final decision.
- (v) The applicant shall pay the prescribed fees and other charges to the authority.
- (vi) Final NOC (No Objection Certificate) shall be issued by the Concerned Authority, after approval.
- (vii) Industrial plot cannot be converted into residential and commercial use except for Petrol Pump and CNG Station with the approval of the authority on payment of charges.
- (viii) Residential plot within a residential neighborhood can be allowed to be used for education by the authority after inviting public objection from immediate neighborhood.

150. Commercialization of plots.- (1) Conversion of residential plot into Commercial shall be allowed only according to a uniform commercialization policy formulated and revised from time to time by Local Government and Rural Development Department with approval of Government and notified in Balochistan Government Gazette on the basis of comprehensive study of various urban areas under pressure for commercialization. Individual plots outside the policy will not be considered for commercialization.

Chapter 17. Violation of Land Development

151. Removal or Prevention of Violation.- (1) The concerned Authority shall carry out inspection and take other appropriate measures to ensure compliance with these Rules.

(2) If the concerned authority finds that any of the provisions of these Rules, or any conditions of a general/special development permit, are being or have been violated, they shall serve a notice in writing on any person responsible for the violation.

- (i) In violation of these rules the notice shall indicate the nature of the violation and the Authority/Concerned Authority may order such action as it may deem appropriate to correct the violation including but not limited to:
- (ii) Any illegal work being done on, shall be discontinued, or activities being conducted in relation to, land;
- (iii) Requiring the Owner/Professional who are carrying out or have carried out such building works, on or before such day as shall be specified in such notice, by a statement in writing subscribed by him or by an agent duly authorized by him and addressed to the Authority, to show sufficient cause why such building works or such part thereof shall not be removed or altered to comply with these Rules;
- (iv) If such person fails to show sufficient cause to the satisfaction of the concerned Authority why such building works or part thereof shall not be removed or altered, the concerned Authority may take the following actions:-
- (v) Require the person who has carried out the works against the provisions of these Rules or any other statute, to alter or cessation the whole or part of development works thereof.

152. Violations of Land Development.- (1) Any other measures authorized by these Rules, or with the conditions of development permit.

(2) The order shall specify the period within which the violation shall be corrected and in the event of non-compliance with the order the Authority/Concerned Authority may itself cause appropriate measures under the relevant statute to be taken to effect compliance. The expenses shall be recoverable from the owner or owners in the manner provided for the recovery of arrears

of land revenues or taxes.

- (3) The giving of notice and making and serving of an order under this clause shall not be a prerequisite to the initiation of, and shall not bar, any prosecution under any applicable law, and the Authority/Concerned Authority may take action under this clause whether or not a prosecution has been initiated.

153. Appeals.- (1) Within 30 days from the date of receipt of any order of an Authority/Concerned Authority under these Rules, any aggrieved person so served may appeal to the Authority/Concerned Authority as the case may be, which shall give him an opportunity to be heard before such officer within 15 days of filing such appeal.

(2) Within 30 days from the date of receipt of any order of Authority/Concerned Authority under these Rules or of its determination on an appeal under the preceding sub-clause, the aggrieved person so served may appeal to the Government which shall give him an opportunity to be heard before such officer or committee and within such reasonable time as shall be designated by the Government.

(3) Authority/Concerned Authority or the Government, as the case may be, after considering a report and any recommendations of the hearing officer or officers, may affirm, modify or overrule the order or determination.

154. Penalties of Orders or Determinations.- (1) Unless an appeal has been admitted as provided by Clause (3) of above, an original or appellate order, or determination of the Authority/Concerned Authority or the Government shall be final.

(2) Any person who violates any of the provisions of these rules of development permit or who obstruct the entry of a person authorized under these rules shall be punishable whether or not enforcement action is initiated by the Authority under Building Control Ordinance 1979 as a delegate powers.

Chapter 18. Preservation of Structures of Special Architectural or Historic Interests

155. Definition

These definitions shall confine to this Chapter only.

- (1) "Special Architectural Historical Interest Structure" means any structure and its surrounding grounds designated as such pursuant to section (1) .
- (2) "Extension" or "to extend" means the making of additions to a Special Architectural Historical interest Structure which affects its character as such.
- (3) Alteration or to alter means any act or process which changes one or more the exterior architectural features of Special Architectural Historical Interest Structure.

156. Designation and declaration of Special Architectural or Historical Interests Structures

- (1) The Authority may designate and declare a special architectural, historical, archaeological, artistic, ethnological, anthropological or national interest structure/s; and forward the list of these designated structures to the Authority, as applicable, for enforcement of the writ; which
 - (i) Is of special interest through association with significant persons or events in the history of the province or nation, or
 - (ii) Embodies distinctive characteristics of a type period or method of construction, or possesses high artistic or architectural values, or
 - (iii) Has yielded or is likely to yield information important in pre-history, such as ancient monuments or archaeological findings
- (2) It may consult the Archaeological and Museum Department, Government of Pakistan for decoration of any structure as a special architectural or historic interest structure.
- (3) Prior to designating and declaring a structure as one of the special architectural or historic interest, the authority shall cause a notice to be served to the owner of the structure, in the following manner:-
 - (i) By giving or tendering the document to him;
 - (ii) If he is not found by leaving the document at his last known place of abode by giving or tendering the same to some adult male member or servant of his

family;

- (iii) if he does not reside in the city and his address elsewhere known to the Director, by forwarding the document to him by registered post under cover bearing the said address ;or
- (iv) if the name of the methods mentioned in the proceeding to sub clauses can be used by causing copy of the document to be affixed on some conspicuous part of the building or land (if any) to which it relates.
- (v) The authority shall accord the owner or his representative an opportunity to be heard at a time and place to be specified in the notice, which shall be not less than 10 days nor more than 30 days from the date of services of the notice.

157. Approval for demolition alteration or extension.- (1) It shall be illegal for any person to demolish, alter or extend any structure of special architectural or historic interest, without obtaining the prior approval of the authority.

(2) (2) Prior to permitting the demolition, alteration or extension to a structure of special architectural or historical interest, the authority shall give notice to the Directorate of Archeology and Museums which have a period of 30 days in which to express any objections or to obtain a drawn photographic record of the structure in the event. They do not oppose such demolition alternation or extension.

(3) In approving the demolition, alteration or extension on of a structure of special architectural or historic interest, the Authority may attach such conditions as it may deem necessary or desirable to protect the interests of the public in the preservation the structure or any information or artifices relating to or found in the structure.

(4) If the Authority refuses to grant a person permission to demolish, alter or extend a structure of architectural or historic interest and if the owner is unable to earn a reasonable return on the structure by reason of the refusal, the owner may appeal to the Government; and its decision shall be final.

158. Revise.

These Rules “The Balochistan Building Control and Town Planning Rules 2022”, should be revised after every 8-10 years to incorporate the advancement in Engineering and Technology, new researches, innovations and lessons learned from field experience, Earthquakes, and other natural disasters.

159. Repeal.

The Balochistan Building and Town Planning Rules 1979 and Building Code for Quetta Municipality, 1937 are hereby repealed.

**BY ORDER OF
GOVERNOR BALOCHISTAN**

DOSTAIN JAMALDINI
Secretary
Local Government Department


The Chief Controller,

Printing and Stationery Department, Balochistan, Quetta
for Publication and Provision of 200 copies of the Gazette Notification.

<u>No.</u>	<u>Even</u>	<u>Dated</u>	<u>Even</u>
------------	-------------	--------------	-------------

Copy for information to the:-

1. Additional Chief Secretary (Dev:) Planning & Development Department, Quetta
2. Additional Chief Secretary, Home & Tribal Affairs Department, Balochistan
3. Senior Member, Board of Revenue Balochistan, Quetta
4. Principal Secretary to Chief Minister Balochistan
5. Principal Secretary to Governor Balochistan
6. Chairman, Chief Minister's Inspection Team, Quetta
7. Chairman, Balochistan Public Service Commissioner, Quetta
8. Administrative Secretaries to Government of Balochistan _____(All)
9. Secretary, Law and Parliamentary Affairs Department Quetta
10. Divisional Commissioners in Balochistan _____(All)
11. Chief Metropolitan Officer, Metropolitan Corporation Quetta
12. Additional Secretary (Staff) to Chief Secretary, Balochistan
13. Deputy Commissioners in Balochistan _____(All)
14. Chief Officer, Municipal Corporation/ Committee/ District Council _____(All)
15. Union Councils, Taftan, Dasht and Sakran
16. P.S to Minister Local Government Department, Balochistan
17. P.S to Secretary Local Government Department, Balochistan
18. Master file


(ZAFAR IQBAL KHAN)
Secretary

Balochistan Local Government Board

SCHEDULE-A:

A1: Rates of Scrutiny fee for approval of building plans

Residential	Rs. 4000 (Up to 2000 Sq. feet) Rs. 6000 (Up to 3000 Sq. feet) Rs. 8000 (Up to 4000 Sq. feet) Rs. 10000 (above 4000 Sq. feet)
Amenity/office buildings/Hospitals/post offices/community buildings/institutional/sports etc.	Rs. 2000 (Up to 2000 Sq. feet) Rs. 3000 (Up to 3000 Sq. feet) Rs. 4000 (Up to 4000 Sq. feet) Rs. 6000 (above 4000 Sq. feet)
Commercial Buildings	Rs. 7000 (Up to 2000 Sq. feet) Rs. 10000 (Up to 3000 Sq. feet) Rs. 15000 (Up to 4000 Sq. feet) Rs. 20000 (above 4000 Sq. feet)

A2: Annual renewal fee for approval of building plans

Residential and no-commercial buildings	Rs. 1000 (Up to 2000 Sq. feet) Rs. 1500 (Up to 3000 Sq. feet) Rs. 2000 (Up to 4000 Sq. feet) Rs. 2500 (above 4000 Sq. feet)
Amenity/office buildings/Hospitals/post offices/community buildings/institutional/sports etc.	Rs. 1000 (Up to 2000 Sq. feet) Rs. 1200 (Up to 3000 Sq. feet) Rs. 1500 (Up to 4000 Sq. feet) Rs. 2000 (above 4000 Sq. feet)
Commercial Buildings	Rs. 2000 (Up to 2000 Sq. feet) Rs. 3000 (Up to 3000 Sq. feet) Rs. 5000 (Up to 4000 Sq. feet) Rs. 7000 (above 4000 Sq. feet).

A3: Rates of Inspection fee for the buildings (Approved Plans)

Residential and no-commercial buildings	Rs. 4 Per Sq. foot (Up to 2000 Sq. feet) Rs. 5 Per Sq. foot (Up to 3000 Sq. feet)
---	--

	Rs. 6 Per Sq. foot (Up to 4000 Sq. feet) Rs. 7 Per Sq. foot (above 4000 Sq. feet)
Amenity/office buildings/Hospitals/post offices/community buildings/institutional/sports etc.	Rs. 3 Per Sq. foot (Up to 2000 Sq. feet) Rs. 4 Per Sq. foot (Up to 3000 Sq. feet) Rs. 5 Per Sq. foot (Up to 4000 Sq. feet) Rs. 6 Per Sq. foot (above 4000 Sq. feet)
Commercial Buildings	Rs. 7 Per Sq. foot (Up to 2000 Sq. feet) Rs. 8 Per Sq. foot (Up to 3000 Sq. feet) Rs. 9 Per Sq. foot (Up to 4000 Sq. feet) Rs. 10 Per Sq. foot (above 4000 Sq. feet).

A4: Fines and Charges for violations of “Building Control Rules”

1. Penalty for incorrect construction at plinth level	
Residential and no-commercial buildings	1 % of the market value of the building.
Commercial Buildings	2 % of the market value of the building.
2. Penalty for non-verification at plinth level (Form A to D)	
Residential and no-commercial buildings	1 % of the market value of the building.
Commercial Buildings	2 % of the market value of the building.
3. Miscellaneous Charges (if permissible)	
Building supper structure violation	Residential: 0.5% Per Sq. foot market value of building. Commercial: 1% Per Sq. Foot market value of commercial unit.
Building height violation	Residential: 2% Per Sq. foot market value of building. Commercial: 3% Per Sq. Foot market value of commercial unit.
Material Tests violation	Residential: 0.3% Per Sq. foot market value. Commercial: 0.5% Per Sq. Foot market value of commercial unit.
Setbacks violations	Residential: 0.5% Per Sq. foot market value. Commercial: 1% Per Sq. Foot market value of commercial unit.
4. Penalty for starting Construction without approval of plans	
Residential and no-commercial buildings	2 % of the market value of the building.

Commercial Buildings	3 % of the market value of the building.
5. Charges for carrying out additions/alterations (more than 15%) in existing building without approval of revised plans	
Residential and no-commercial buildings	0.5 % of the market value of the building.
Commercial Buildings	1 % of the market value of the building.
6. Vetting Charges	
Structural vetting	Rs. 15 per sq. foot of the covered area of each storey.

SCHEDULE-B:

B1: Rates of Scrutiny fee for approval of Development Permits (No Objection Certificates)

1. Issuance of development permit	
Issuance of General development permit	Rs. 10000 (Up to 4 acres) Rs. 15000 (Up to 8 acres) Rs. 20000 (Up to 10 acres) Rs. 30000 (above 10 acres)
Issuance of Special development permit	Rs. 50000 (Up to 4 acres) Rs. 75000 (Up to 8 acres) Rs. 100000 (Up to 10 acres) Rs. 150000 (above 10 acres)
2. Use change of land	
Conversion from residential to commercial	1.5% Per Sq. foot market value of land/building
Amalgamation	0.5% Per Sq. foot market value of land/building

B2: Fines and Charges for violations of “Town Planning Rules”

1. Penalty for starting Construction without approval of Permits	
General development	2% Per Sq. foot market value of land.
Special development	3% Per Sq. foot market value of land.
2. Penalty for commercialization without approval	
Conversion of residential building to commercial	3% Per Sq. foot market value of building.
Construction of shops and markets in residential area	3% Per Sq. foot market value of shops.