

Information Paper for the LegCo Panel on Housing

Requirements and Standards of Private Domestic Buildings in Hong Kong

Purpose

This paper sets out the requirements and standards for private residential buildings in Hong Kong.

Objective of the Buildings Ordinance

2. The objective of the Buildings Ordinance is to provide for planning, design and construction of buildings and associated works and to make provision for the rendering safe of dangerous buildings and land; and to make provision for matters connected therewith.

3. The requirements set out in the Ordinance and regulations are related to the design and construction of building structure. Control of living space and density standards of private dwelling are outside the purview of the Buildings Ordinance.

Building Regulations and Codes of Practice

4. The building regulations that govern the design and construction of private residential buildings are :

- Building (Construction) Regulations;
- Building (Planning) Regulations;
- Building (Private Street and Access Road) Regulations;
- Building (Refuse Storage Chambers and Chutes) Regulations; and
- Building (Standards of Sanitary Fittings, Plumbing, Drainage Works and Latrines) Regulations.

5. These regulations provide for :

- a) the planning, design and construction of site formation works;
- b) the planning, design and carrying out of ground investigation and bulk excavation works in the scheduled areas;
- c) planning and design of buildings including density control, lighting and ventilation, provision of open space, fire safety provisions etc;
- d) the construction of building;
- e) the supply of water including the connexion and the arrangement, size, construction and type of piping.

6. In addition, the Building Authority has also issued the following Codes of Practice to provide guidance on compliance with the relevant requirements on the planning and construction of a building :

- Code of Practice for the Provision of Means of Escape in Case of Fire;
- Code of Practice for Fire Resisting Construction;
- Code of Practice for Means of Access for Firefighting and Rescue;
- Code of Practice for the Structural Use of Concrete;
- Code of Practice for the Structural Use of Steel;
- Code of Practice for Wind Effects;
- Code of Practice for Building Works for Lifts and Escalators; and
- Design Manual : Barrier Free Access.

7. These regulations, codes of practice and manuals are available for inspection in the Buildings Department and are distributed to professional institutes.

Requirements and Standards

8. Buildings Department enforces the safety and health standards for private buildings by administering an audit-check system to ensure that the building professionals and contractors perform their statutory duties. In building design, the authorized person and registered structural engineer have to comply with the following :

- the use and building bulk, if any, specified in the Outline Zoning Plan, if applicable;
- the requirements set out in the building regulations and codes of practice;
- the requirements on fire services installations and equipment; and
- the requirement for a permanent supply of water.

9. The major requirements and standards for private residential buildings are summarized as follows :

(a) Structural

The building should be capable of safely sustaining and transmitting to the ground the combined dead loads, imposed loads and wind loads of the building. The imposed loads shall be assessed in accordance with regulation 17 of the Building (Construction) Regulations. The structural elements shall be designed and constructed in accordance with the requirements set out in the Building (Construction) Regulations.

(b) Fire Resisting Construction ^{Note}

The building shall be designed and constructed in accordance with the Code of Practice for Fire Resisting Construction so as to

- (a) inhibit the spread of fire within the building and to nearby buildings;
- (b) provide adequate resistance to the spread of fire and smoke; and
- (c) maintain the stability of the building in case of fire.

(c) Means of Escape and Access ^{Note}

- (i) Every building which exceeds 6 storeys shall be provided with a minimum of 2 staircases and adequate means of escape shall be provided in accordance with the Code of Practice for Means of Escape in Case of Fire;
- (ii) Every building, except single occupancy residential building not more than 3 storeys high, shall be provided with staircase(s) so designed and constructed as to allow firemen safe and unobstructed access to all floors in the event of fire;
- (iii) Domestic buildings exceeding 30m high should be provided with a fireman's lift;
- (iv) The exit arrangement and access to staircase of a domestic building shall comply with the requirements *set out in* the Code of Practice on Means of Escape in Case of Fire.

(d) Plot ratio, Site Coverage, Storey Height and Open Space

- (i) The plot ratio and site coverage shall not exceed those specified in the First Schedule of the Building (Planning) Regulations (Appendix A);
- (ii) A room intended for habitation shall have a height of not less than 2.5m measured from floor to ceiling or 2.3 m measured from floor to the underside of a beam;
- (iii) Open space shall be provided partly at the side and/ or the rear of the site. Depending on the class of the site, the space to be provided varies from one-half to one-quarter of the roofed-over area of the building;
- (iv) Service lane shall be provided in accordance with Building (Planning) Regulation 28 unless the building is a detached or semi-detached building or the provision of such is exempted by the Building Authority.

^{Note} The fire safety codes set out the prescriptive provisions. The Building Authority may accept alternative provisions based on scientific fire engineering principles.

(e) Lighting and Ventilation

- (i) Every room for habitation or for purpose as a kitchen shall be provided with natural lighting and ventilation. Such natural lighting and ventilation shall be provided by means of window. The area of glass of the window(s) shall be not less than one-tenth of the area of the floor of the room and an area equals to at least one-sixteenth of the floor should be openable in such manner that the top of the opening is at least 2 m above the ground (or 1.9m in case of detached building). Such windows should face either into a street of not less than 4.5m wide or face into a space uncovered and unobstructed in accordance with the requirements set out in Building (Planning) Regulation 31;
- (ii) No part of any room for habitation shall be more than 9m from a prescribed window;
- (iii) Suitable provision shall be made for the installation of a room-sealed gas water heater in every bathroom in the building unless a centralized hot water supply is provided;
- (iv) Every room containing a soil fitment or waste fitment shall be provided with a window. The glass area of the window shall not be less than one-tenth of the area of the room and shall open into open air.

(f) Kitchen

Any part of a domestic building that is intended to be separately let for dwelling shall be provided with kitchen accommodation. The internal surface of the kitchen to a height of at least 1.2m from floor level shall be faced with tiles or rendered in cement mortar or other non-absorbent material. Every kitchen shall be provided with a cooking slab unless the cooking is to be done by gas, oil or electricity and be provided with a sink.

(g) Tenement House

- (i) No tenement house shall be erected with a depth from the front main wall exceeding 10m and every storey of every tenement house shall be provided with a window in such rear main wall such that the area of glass is at least 1.5 sq.m. openable into the open air in such manner that the top of the opening is at least 2m above the level of the floor;
- (ii) The internal area of every kitchen in a tenement house shall be
 - not less than 3.75 sq.m. where the total area of the domestic premises of which such kitchen forms part, does not exceed 45 sq.m.
 - not less than 4.5 sq.m. where the total area of the domestic premises of

which such kitchen forms part, is between 45 and 70 sq.m.

- not less than 5.5 sq.m. where the total area of the domestic premises of which such kitchen forms part, exceeds 70 sq.m.
- The small dimension of such kitchen shall not be less than 1.5m.

(h) Provisions for Persons with a Disability

The common areas of domestic buildings of more than 4 storey and the main entrance and common areas of the ground floor and means of access thereto for domestic buildings not exceeding 4 storey shall be provided with facilities for access for persons with a disability where the building is one to which persons with a disability have or may reasonably be expected to have access to.

(i) Access Roads and Private Streets

Access roads and private streets for domestic buildings shall be designed to the standards set out the Building (Private Streets and Access Roads) Regulations.

(j) Refuse storage chamber

A domestic building with usable floor space of 1320 sq.m or more shall be provided with a refuse storage chamber. The area of this chamber should be not less than the total usable floor area of the building divided by 440. For a domestic building with usable floor area exceeding 13200 sq.m., vehicular access to the refuse storage chamber shall be provided.

(k) Sanitation

- (i) Every domestic building shall be provided with watercloset fitments, urinals, baths or showers and lavatory basins in accordance with regulation 4(1) of the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations. In the case of tenement house, water supply points may be provided in lieu of lavatory basins and baths or showers;
- (ii) All soil waste shall be conducted by means of suitable soil pipes to drains provided for the carriage of foul water;
- (iii) Waste pipes shall discharge into properly trapped gully, hopper head or into common waste pipe;
- (iv) The soil and waste pipes drains shall be installed or laid in accordance with the requirements set out in the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations;
- (v) Surface water shall be conducted by means of rain water pipes and drains to a

public sewer for the carriage of surface water or to a stream course or nullah.

Buildings (Amendment) Bill 2000

10. The administration introduced the Buildings (Amendment) Bill 2000 on 16 February 2000 proposing, inter alia, the following improvements:

- (i) mandatory provision of refuse storage and material recovery chambers for separation of waste and material recovery in all new residential buildings; and
- (ii) access facilities for telecommunication and broadcasting equipment in new domestic buildings (other than single family residence) to support the development of Hong Kong's information infrastructure.

Reviews Underway

11. The Administration keeps the building regulations, codes of practice and manuals under constant review. Buildings Department has embarked on a number of studies on the review of design and construction of new buildings including residential buildings.

Review of Lighting and Ventilation Requirements

12. Buildings Department has commissioned a consultancy study on lighting and ventilation of buildings. The objective is to establish a new set of standards, which would not only adequately protect the health of occupants but also allow sufficient flexibility for the functional and architectural design of buildings. In formulating the requirements, the consultant has been asked to take into account modern day lifestyle, built form, environmental science and technology, energy efficiency and conservation. The study, commenced late last year, is expected to be completed by end of this year when we will consider if legislative amendments to the Buildings Ordinance governing the provision of lighting and ventilation in buildings should be introduced.

Review of Plumbing and Drainage Provisions

13. Building Department is making preparation for a review of the building regulations dealing with the provision of sanitary fitments, plumbing and drainage in private buildings. The aim of the review is to establish a new set of standards for the design, construction, operation and maintenance of sanitary fitments, plumbing and drainage provisions for buildings. A consultancy study is expected to be commissioned in a few months' time.

Review of Fire Safety Provisions

14. The Buildings Department will soon commission a consultancy study on the fire safety standards in private buildings and on Fire Engineering Approach. The objective is to establish a set of modern standards for the design of fire safety provision in new buildings, and for up-grading the fire safety provision in existing buildings to suit changes in the way they are used and occupied. The preparation of a Code of Practice on Fire Engineering Approach will also allow building professionals more flexibility in designing buildings for fire safety, in particular the design of special, tall and voluminous buildings.

Requirements for carrying out building works

15. Section 14(1) of the Buildings Ordinance provides that no person shall commence or carry out any building works without having first obtained from the Building Authority his approval and consent. A person intending to carry out building works is required to appoint an authorized person and a registered structural engineer to design the building and structural works, and a registered general building contractor or a registered specialist contractor to carry out the works. The contractors are required to give continuous supervision whereas the authorized person and registered structural engineer are required under the Ordinance to give periodic supervision and to make such inspections as may be necessary to ensure that the building works carried out comply with the Buildings Ordinance and regulations.

Buildings Department
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APPENDIX A

FIRST SCHEDULE

PERCENTAGE SITE COVERAGES AND PLOT RATIOS

Height of building in meters	Domestic buildings						Non-domestic buildings					
	Percentage site coverage			Plot ratio			Percentage site coverage			Plot ratio		
	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
Not exceeding 15 m	66.6	75	80	3.3	3.75	4.0	100	100	100	5	5	5
Over 15 m but not exceeding 18 m	60	67	72	3.6	4.0	4.3	97.5	97.5	97.5	5.8	5.8	5.8
Over 18 m but not exceeding 21 m	56	62	67	3.9	4.3	4.7	95	95	95	6.7	6.7	6.7
Over 21 m but not exceeding 24 m	52	58	63	4.2	4.6	5.0	92	92	92	7.4	7.4	7.4
Over 24 m but not exceeding 27 m	49	55	59	4.4	4.9	5.3	89	90	90	8.0	8.1	8.1
Over 27 m but not exceeding 30 m	46	52	55	4.6	5.2	5.5	85	87	88	8.5	8.7	8.8
Over 30 m but not exceeding 36 m	42	47.5	50	5.0	5.7	6.0	80	82.5	85	9.5	9.9	10.2
Over 36 m but not exceeding 43 m	39	44	47	5.4	6.1	6.5	75	77.5	80	10.5	10.8	11.2
Over 43 m but not exceeding 49 m	37	41	44	5.9	6.5	7.0	69	72.5	75	11.0	11.6	12.0
Over 49 m but not exceeding 55 m	35	39	42	6.3	7.0	7.5	64	67.5	70	11.5	12.1	12.6
Over 55 m but not exceeding 61 m	34	38	41	6.8	7.6	8.0	60	62.5	65	12.2	12.5	13.0
Over 61 m	33.33	37.5	40	8.0	9.0	10.0	60	62.5	65	15	15	15