



Measures to Foster a Quality and Sustainable Built Environment

**Development Bureau
(revised February 2011)**



Community Concerns

- Quality and sustainability of built environment
- Building bulk and height, air ventilation, greenery and energy efficiency
- Impact of gross floor area (GFA) concessions on building bulk and height



Public Engagement Process

- Collaboration between Government and Council for Sustainable Development (SDC)
- In-depth engagement from June to October 2009
- Over 65 engagement events attended by 4,000 participants from various sectors (professional institutes, developers, green groups, general public)



Public Engagement Process : Results

- Clear call from public : Status quo not an option

- SDC submitted 51 recommendations to Government in June 2010
 - (A) Sustainable Building Design (SBD) Guidelines
 - (B) GFA Concessions
 - (C) Energy Efficiency in Buildings
 - (D) Information and Transparency of Property Market

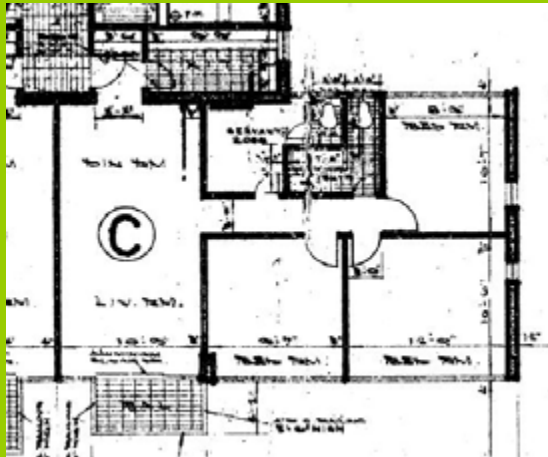


“Inflated Buildings” & “Shrunken Flats”

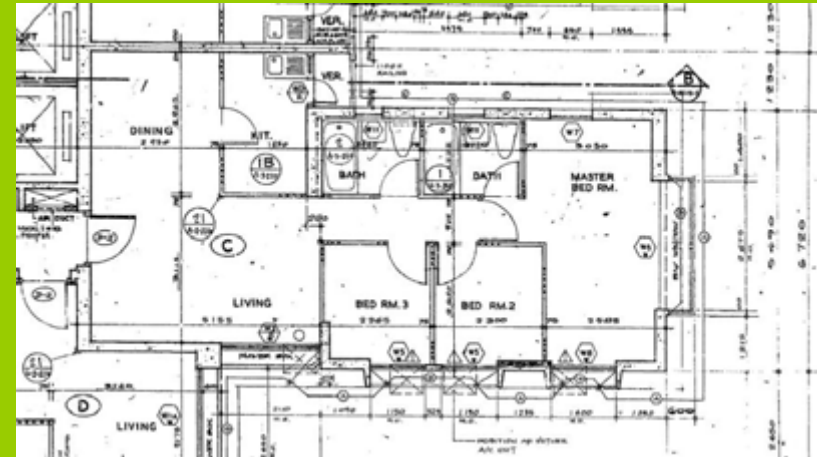
- ‘41. The Government’s purpose of allowing private buildings to increase floor area to include green and amenity features is to enhance the living environment of private buildings. In recent years, there have been community concerns about developers using this concessionary policy to substantially increase the floor area of buildings, which has given rise to the so-called “inflated building” problem.’
- ‘33. ... the THB will set up a steering committee to discuss specific issues on regulating the sale of first-hand flats by legislation..., including the use of saleable floor area as the only basis for listing the price per square foot to avoid misleading buyers and eradicate the problem of “shrunken flats”.’

(Note: THB = Transport and Housing Bureau)

Evolution of Design of Residential Units



A flat designed in 1972



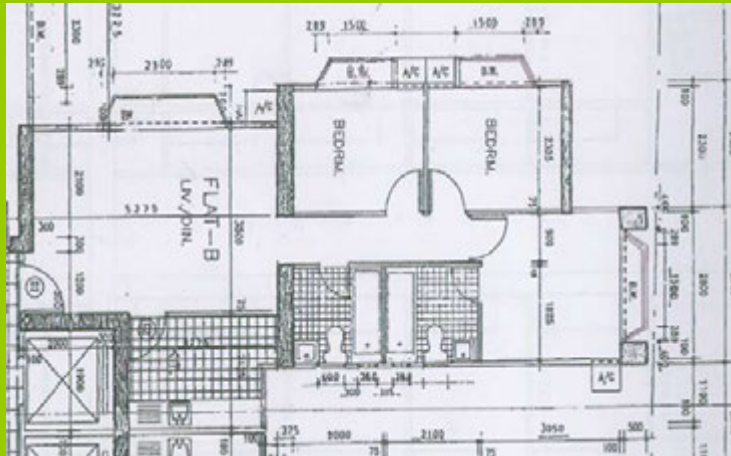
A flat designed in 1986

Sq ft	Saleable Area (A) (A1, A2 & A3 included)	Balcony (A1)	Utility Platform (A2)	External Walls* (A3)	Bay Windows (B)	Unit Covered Area (C) = (A) + (B)	Apportioned Share of Common Area (D)	Gross Area (E) = (C) + (D)
1972 design	793	36	0	45	0	793	57	850
1986 design	817	0	0	75	16	833	74	907

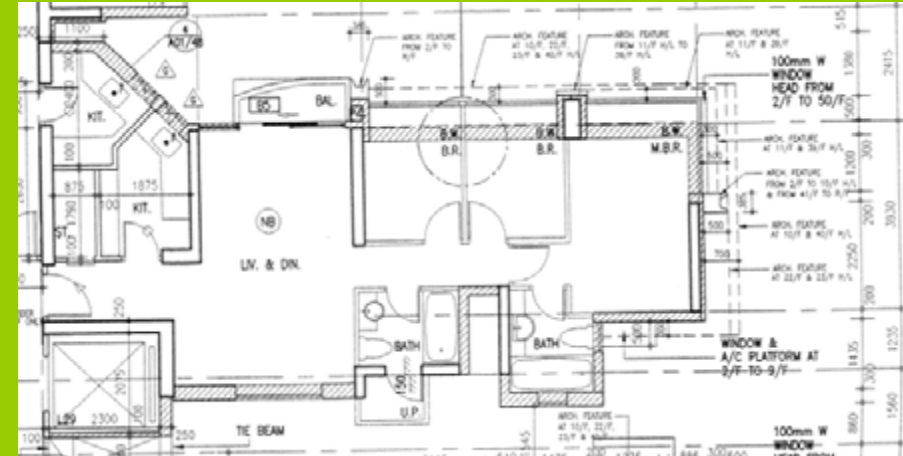
* Currently this item is not separately listed out in sales brochures

The above information is summarised by the Buildings Department from approved plans and sales information

Evolution of Design of Residential Units



A flat designed in 1993



A flat designed in 2010

Sq ft	Saleable Area (A) (A1, A2 & A3 included)	Balcony (A1)	Utility Platform (A2)	External Walls* (A3)	Bay Windows (B)	Unit Covered Area (C) = (A) + (B)	Apportioned Share of Common Area (D)	Gross Area (E) = (C) + (D)
1993 design	732	0	0	61	52	784	161	945
2010 design	785	22	16	132	34	819	211	1,030

* Currently this item is not separately listed out in sales brochures

The above information is summarised by the Buildings Department from approved plans and sales information

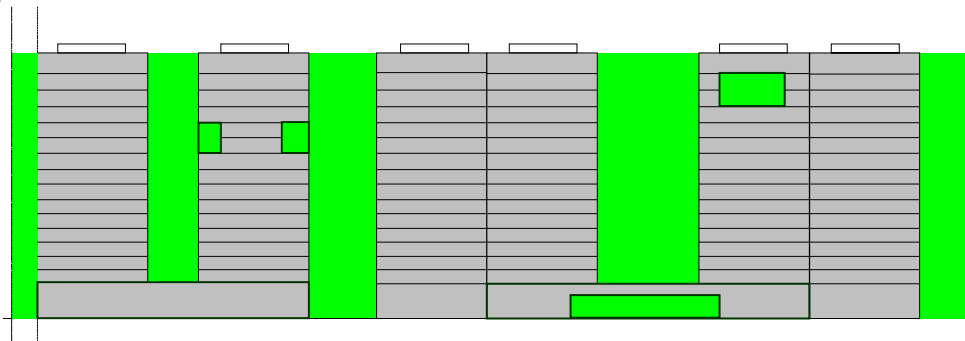
(A) SBD Guidelines

7 Building Separation and Permeability

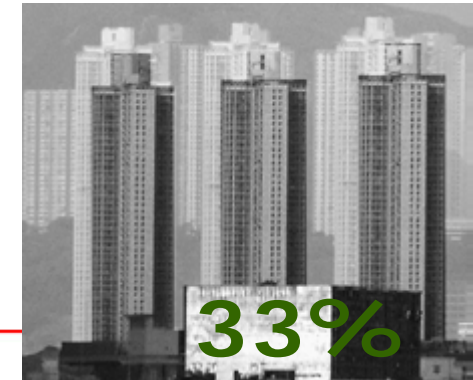
- Improve air ventilation
- Mitigate heat island effect

Depending on site area and building height, provision of 20%/25%/33.3% permeability applies to -

- Site area not less than 2 hectares; or
- Continuous façade length not less than 60 metres



■ Green parts represent acceptable building separation / permeable elements (including sky/podium gardens, void decks, refuge floors, building setbacks and varied building profiles)

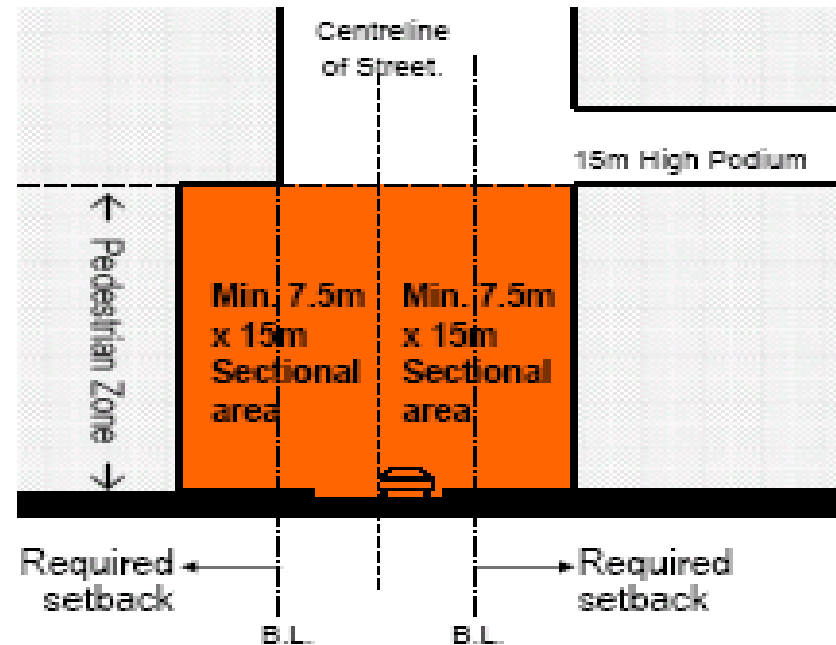


(A) SBD Guidelines

2 Building Setback

- Improve airflow in streets
- Mitigate heat island effect
- Enhance environmental quality at pedestrian level

- Applicable to streets less than 15-metre wide (e.g. Temple Street, Thomson Road)
- Minimum cross-sectional area of street canyon required:
7.5-metre wide x 15-metre high

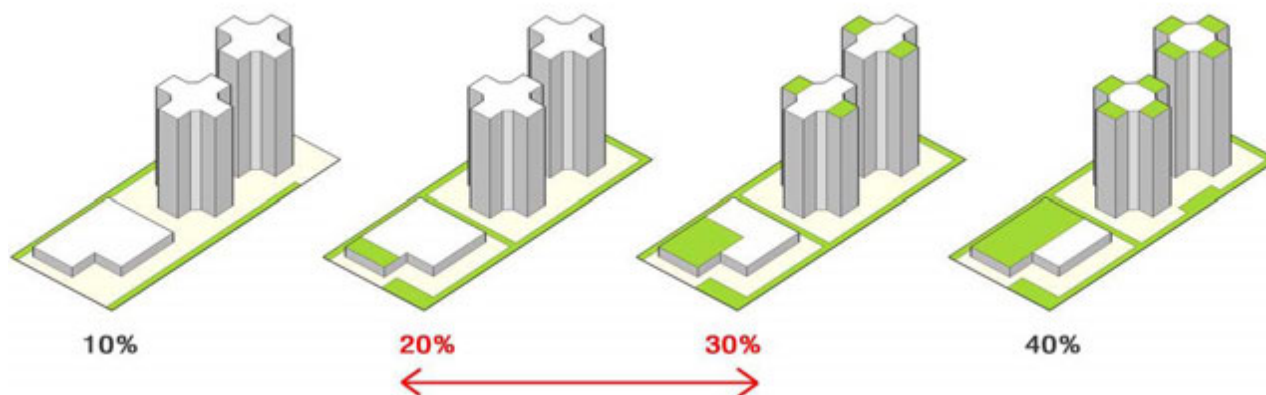


Cross-sectional Plan

(A) SBD Guidelines

3 Site Coverage of Greenery

- Mitigate heat island effect
- Enhance living environment



Minimum site coverage of greenery * :

- For sites not less than 1,000 m² : 20%
- For sites of 2 hectares or above : 30%

* Excluding greenery covered by roofed over area



(B) GFA Concessions and Other Measures

- Government has reviewed each and every item attracting GFA concessions and other measures, and decided:
 - To maintain status quo for GFA concessions for mandatory features (e.g. fire refuge floors, refuse storage and material recovery chambers, etc)
 - Green and amenity features
 - Beneficial to residents only : to impose overall cap on GFA concessions
 - Beneficial to community or environmentally friendly : not subject to overall cap on GFA concessions but to impose other controls
 - To tighten up GFA concessions for car parks
 - To tighten up design specification for projecting windows (i.e. bay windows)



(B) GFA Concessions

To obtain GFA concessions for green and amenity features in domestic and non-domestic developments:

- Prerequisites :
 - Compliance with abovementioned SBD guidelines
 - Submission of “BEAM Plus Assessment conferred by the Hong Kong Green Building Council (HKGBC)” and energy efficiency data
- Overall cap on GFA concessions for available green and amenity features (except those beneficial to community or environmentally friendly) : **10%** (applicable to residential and commercial buildings)



(B) GFA Concessions – Overall Cap

The following features are subject to 10% overall cap and control on certain individual items will be tightened up:

■ Green features

- Balconies (concessions halved)
- Utility platforms (concessions halved)
- Wider common corridors and lift lobbies (concessions only for those with natural ventilation)
- Non-structural prefabricated external walls (thickness eligible for concessions halved from 300 mm to 150 mm)

■ Amenity features

- Residential recreational facilities (including clubhouses and swimming pool filtration rooms) (a cap with sliding scale from 2.5% to 5%; as compared to across-the-board 5% at present)
- Covered walkways/trellis without provision of greenery
- Management facilities (e.g. caretakers' office)
- Larger lift shaft areas
- Prestigious entrances (non-domestic development only; doing away with concessions for domestic development)
- Voids
- Pipe ducts/air ducts/chimney shafts which are NOT part of the distribution network for mandatory services and environmentally friendly features
- Non-mandatory plant rooms (e.g. central air conditioning)

(B) GFA Concessions – Overall Cap

The following are not subject to overall cap:

- **Mandatory features**
 - Essential plant rooms and other services
 - Fire refuge floors
 - Public passages
 - Pipe ducts which are part of the distribution network for mandatory services and environmentally friendly features
- **Features beneficial to community, with practical need or environmentally friendly**
 - Communal sky gardens
 - Wing walls, wind catchers and funnels, noise barriers and acoustic fins, rainwater/grey water recycling systems and other systems which enhance energy efficiency or environmental friendliness of building
 - Covered gardens/play areas/communal podium gardens
 - High headrooms/voids in cinemas, shopping arcades, etc
 - Covered walkway with provision of greenery
- **Other items (functional features)**
 - Car parks and loading and unloading areas (separate control)
 - Sunshades and reflectors
 - Back-of-house facilities of hotels





(B) GFA Concessions

Do away with GFA concession for the following features:

- Entrance voids/prestigious entrances in domestic developments
- Mail rooms/mail delivery rooms with mail boxes
- Miniature logistic service rooms (for residential buildings)



(B) GFA Concessions – Car Parks

- Underground : 100% concession
Above ground : 50% concession (unless technically infeasible to be constructed underground)
- Prerequisites for concessions:
electric-vehicle charging-enabling
- To complete review of car parking space requirement in private residential developments, and revise standard of car parking spaces in Hong Kong Planning Standards and Guidelines
- Transport Department continues to scrutinise car parking spaces in building plans



(B) Control of Bay Window Design

Another concern of SDC

- Existing Criteria :
Not more than 500 mm from outer face of external wall
- Revised Criteria :
Not more than 100 mm from outer face of external wall

Impact of GFA Concessions on Building Bulk: 97 Sample Study Cases

GFA concessions	Domestic/Composite development						Non-domestic development	
	Residential (high density)		Residential (medium density)		Residential (low density)			
	Range	Average	Range	Average	Range	Average	Range	Average
Bonus GFA	0-10%	1%	Nil		Nil		1-17%	4%
Disregarded GFA (car parks)	0-37%	13%	4-111%	42%	6-64%	32%	0-33%	12%
Other disregarded GFA (e.g. plant rooms, but excluding car parks)	3-17%	9%	4-17%	10%	3-33%	11%	6-29%	15%
Exempted GFA (e.g. green and amenity features)	3-29%	17%	9-24%	15%	2-19%	14%	0.3-15%	6%
	Total	40%	Total	67%	Total	57%	Total	37%



Effect of New Measures on Sample Cases

GFA Concession – Domestic (1)

Features subject to overall cap	Existing concessions	Concessions under new measures
Green features		
(1) Balcony	3.9%	1.95%
(2) Utility platform	2.6%	1.3%
(3) Mail room/Mail delivery rooms with mail box	0.1%	
(4) Wider common corridors and lift lobbies#	1.1%	-
(5) Non-structural prefabricated external walls	3%	3%
Amenity features		
(1) Residential recreational facilities (e.g. clubhouses)	3%	3%
(2) Larger lift shaft areas	1.1%	1.1%
(3) Non-mandatory plant rooms (e.g. air handling unit, air conditioning plant room)	0.1%	0.1%
GFA concessions for green and amenity features subject to overall cap	14.9% (3,185m²)	10.45% (10% cap*/ 2,137m²)
Reduction in GFA concessions under new measures		-4.9% (-1,048 m²)

Features not subject to overall cap	Existing concessions	Concessions under new measures
Green and amenity features		
Covered gardens/play areas/communal podium gardens	0.1%	0.1%
Mandatory features		
(1) Essential plant rooms, mandatory pipe ducts and other services	4.1%	4.1%
(2) Fire refuge floors	1.7%	1.7%
(3) Public passage	0.4%	0.4%
GFA concessions for features not subject to overall cap	6.3% (1,346m²)	6.3% (1,346m²)
Other items		
Car parks^ (and associated ramps and facilities)	16%	16% (underground)
GFA concessions (excluding car parks)	21.2% (4,531m²)	16.3% (3,483m²) (-1,048 m²)

There is no natural ventilation in existing common corridors and lift lobbies.

* Features will be subject to 10% overall cap.

^ Assuming construction of underground car parks under new measures

GFA Concession – Domestic (2)

Features subject to overall cap	Existing concessions	Concessions under new measures	Features not subject to overall cap	Existing concessions	Concessions under new measures
Green features			Green and amenity features		
(1) Balcony	2.3%	1.15%	Covered gardens/play areas/communal podium gardens	3.0%	2.5% (- 472 m ²)
(2) Utility platform	1.6%	0.8%			
(3) Wider common corridors and lift lobbies [#]	3.8%	-			
(4) Non-structural prefabricated external walls	5.1%	3.8%			
Amenity features			Mandatory features		
(1) Residential recreational facilities (e.g. clubhouses)	5%	3.5%	(1) Essential plant rooms, mandatory pipe ducts and other services	10.8%	10.6% (- 185 m ²)
(2) Swimming pool filtration rooms	0.2%		(2) Fire refuge floors	1%	1%
(3) Management facilities	0.2%	0.2%	GFA concessions for features not subject to overall cap		
(4) Larger lift shaft areas	2.9%	2.9%	14.8% (15,036m ²)	14.2% (14,379m ²)	
(5) Prestigious entrance	0.5%		Other items		
(6) Voids	2%	2%	Car parks [^] (and associated ramps and facilities)	19%	19% (underground)
(7) Non-mandatory plant rooms (e.g. air handling unit, air conditioning plant room)	7%	7%	GFA concessions (excluding car parks)		
GFA concessions for green and amenity features subject to overall cap			45.4% (46,126m ²)	24.2% (24,587m ²) (-21,539 m ²)	
Reduction in GFA concessions under new measures					
			- 20.6% (- 20,930 m ²)		

[#] There is no natural ventilation in existing common corridors and lift lobbies.

^{*} Features will be subject to 10% overall cap.

[^] Assuming construction of underground car parks under new measures

GFA Concession – Non-domestic

Features subject to overall cap	Existing concessions	Concessions under new measures
Green features	Nil	
Amenity features		
(1) Larger lift shaft areas	0.8%	0.8%
(2) Prestigious entrance	2.1%	2.1%
(3) Non-mandatory plant rooms (e.g. air handling unit, air conditioning plant room)	7.1%	6.8%
GFA concessions for green and amenity features subject to overall cap	10% (2,615m²)	9.7%
Reduction in GFA concessions under new measures		0.3% (-78.5m²)

Features not subject to overall cap	Existing concessions	Concessions under new measures
Mandatory features		
(1) Essential plant rooms, mandatory pipe ducts and other services	24.4%	23.4%
(2) Fire refuge floors	3.1%	3.1%
GFA concessions for features not subject to overall cap	27.5% (7,191m²)	26.5% (6,929m²)
Other items		
Car parks^ (and associated ramps and facilities)	26%	26% (underground)
GFA concessions (excluding car parks)	37.5% (9,806m²)	36.2% (9,467m²) (-339 m²)

* Features will be subject to 10% overall cap.

^ Assuming construction of underground car parks under new measures

(C) Energy Efficiency in Buildings (1)

- Mandatory Building Energy Codes (BECs)
 - Buildings account for 89% of total electricity consumption in HK. Improving buildings energy efficiency could reduce greenhouse gas emissions and improve air quality
 - The Legislative Council passed the bill on mandatory implementation of BECs, which is expected to come into full operation by late 2012.
 - Periodic review of BECs with a view to further tightening up the standards

強制實施《建築物能源效益守則》
公眾諮詢

Public Consultation on
**Mandatory Implementation of
the Building Energy Codes**

諮詢期：二零零七年十二月廿八日至
二零零八年三月三十一日
Consultation Period: 28 December 2007 to
31 March 2008

諮詢文件可於各民政事務處索取或於下列網址下載：
The consultation document is available at the
District Offices and at the following website:
http://www.enb.gov.hk/bec_consult.html

請向我們提交你的意見！
Please send your views to:

郵遞 By Post：香港灣仔軒尼詩道44號環境局能源科22
Energy Division (2), Environment Bureau,
44/E, Revenue Tower, Wan Chai, Hong Kong

電郵 By E-mail： bec_consult@enb.gov.hk
傳真 By Fax： 2523 9488
如有查詢請致電熱線：1823
For any enquiries, please call hotline: 1823

Environment Bureau 環境局
Electrical and Mechanical Services Department 機電工程署
Hong Kong SAR Government 香港特別行政區政府



(C) Energy Efficiency in Buildings (2)

- Review of Existing Standards and Regulations
 - To save electricity consumption in air-conditioning for commercial buildings and hotels, Building (Energy Efficiency) Regulation and Code of Practice for Overall Thermal Transfer Value (OTTV) in Buildings require external walls and roofs of these buildings to be designed and constructed with suitable OTTV.
 - Current OTTV standard for building tower is proposed to be tightened up by 20%, resulting in energy saving of 2.4 to 4.4%.



(C) Energy Efficiency in Buildings (3)

■ District Cooling System

- Air conditioning system of high energy efficiency
- Plan to set up in Kai Tak Development
- Actively exploring feasibility of development in other sites
- Seriously considering mandating development in Kai Tak Development to use district cooling system



(C) Energy Efficiency in Buildings (4)

- Requirements for GFA concessions
 - Undertaking to submit BEAM Plus Assessment conferred by HKGBC

 - Undertaking to submit energy efficiency data

 - Car parks are electric-vehicle charging-enabling

(C) Energy Efficiency in Buildings (5)

- Assistance for Existing Buildings
 - Government launched \$450-million Buildings Energy Efficiency Funding Scheme in April 2009
 - Encourage building owners to conduct energy-cum-carbon audits and energy efficiency projects
 - More than \$240 million of funding granted
 - Technical advice through guidelines or voluntary schemes etc. regarding energy efficiency features/installations





(D) Information and Transparency of Property Market

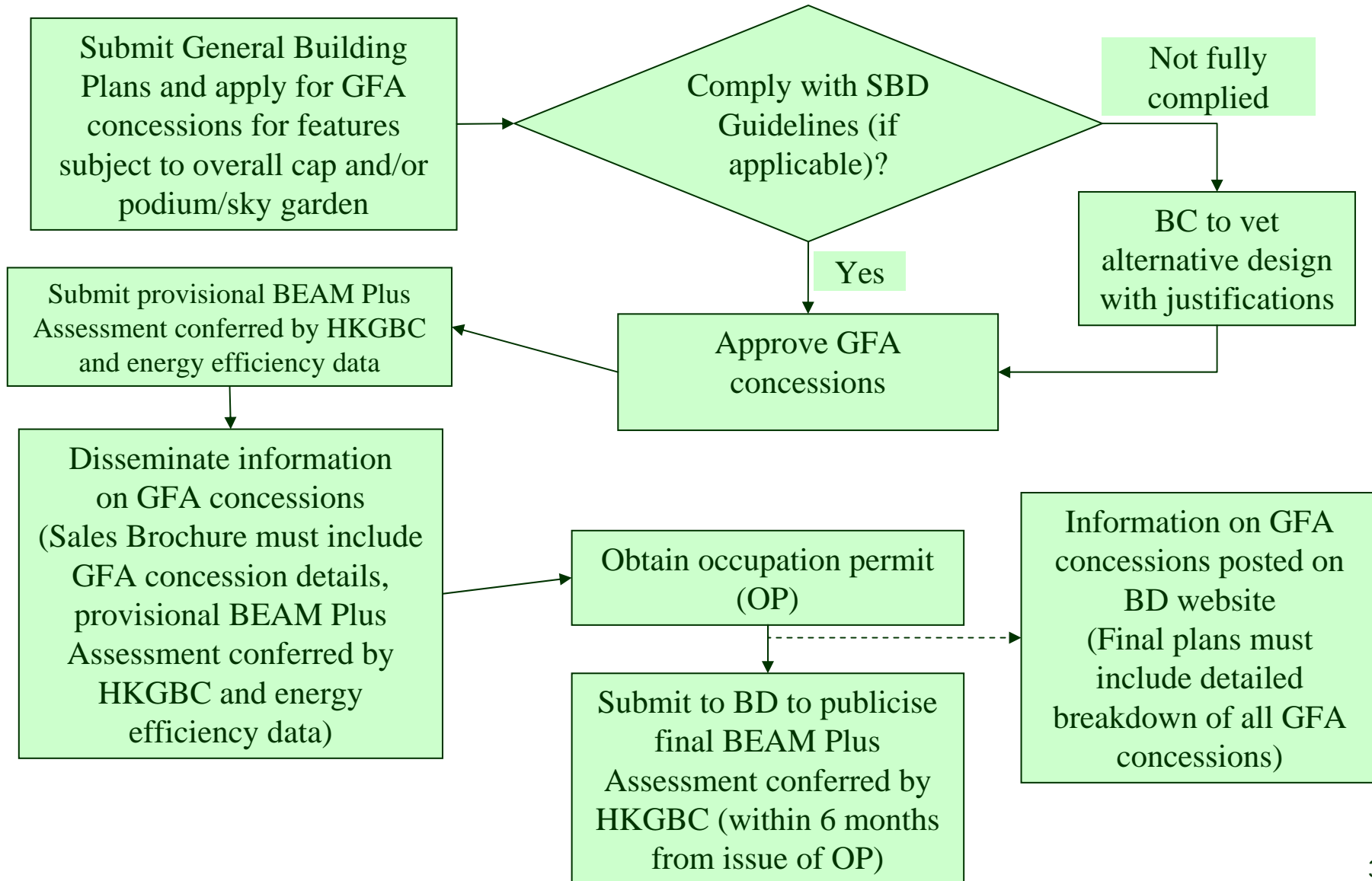
- From 1 September 2010, Buildings Department (BD) will publish GFA concession breakdown for newly completed buildings
- THB will require inclusion in sales brochures under Pre-sale Consent Scheme:
 - breakdown of GFA concessions obtained for all features
 - BEAM Plus Assessment conferred by HKGBC
 - Estimated energy consumption
- THB will consult relevant professional bodies and further require to provide breakdown on apportioned share of common area



Ensure Room for Creativity in Hong Kong's Building Designs – Expanded Building Committee (BC)

- Expand existing BC of BD to include non-Government experts from relevant fields on a need basis
- Applicants to provide scientific justifications (e.g. site location and configuration, wind direction, air ventilation, urban climatic considerations, etc)
- Flexibly consider SBD designs

Implementation Flow





Implementation Timetable

- Consulted industry on revised Practice Notes in late 2010
- Revised Practice Notes promulgated on 31 January 2011
- New measures applicable to new building plans submitted to BD on or after 1 April 2011*
- Further explore measures to adopt more performance-based and site-specific approach

* For Building plans submitted on or before 31 March 2011 which are not approved due to technical reasons (requirements on land ownership and realistic prospect of control of land not included), the applicant may re-submit revised building plans for one time within six months upon rejection of the original plans to address the reasons of rejection for processing under the current GFA concession policy.



Thank You