



# Components and systems of buildings

*Guest teacher :*

**Thei**

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8 September 2016

## **Presentation of students' favourite buildings,**

drawn and described on an A4 sheet : follow up on lecture content of 1 Sept 2016

Draw a sketch of your favourite building. Write down why it is your favourite.

My favourite building is: \_\_\_\_\_

A sketch of the building:



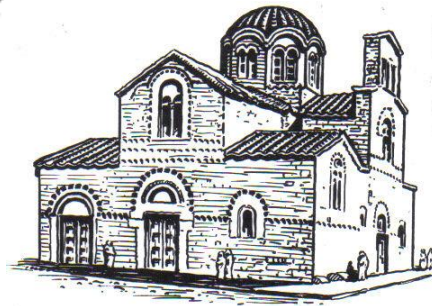
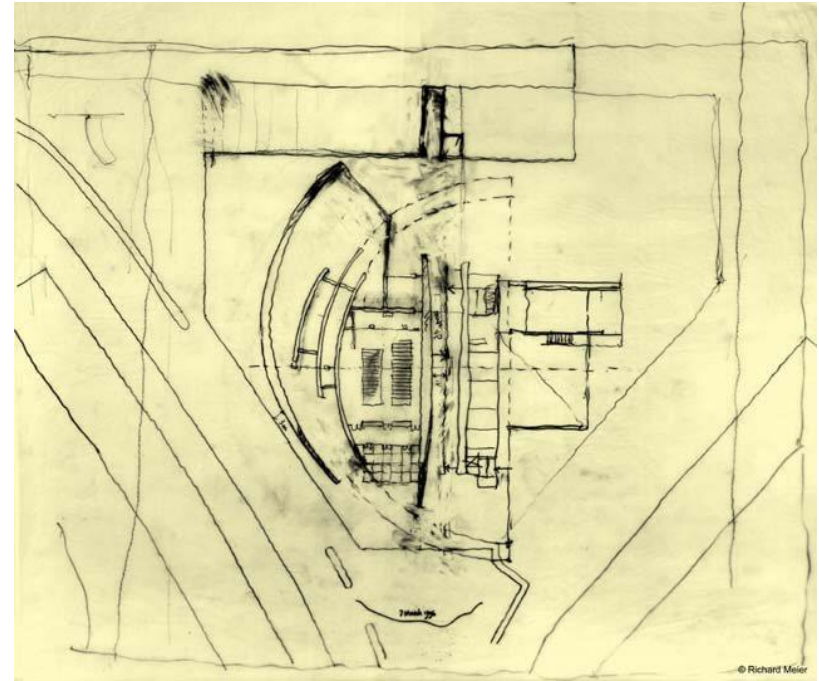
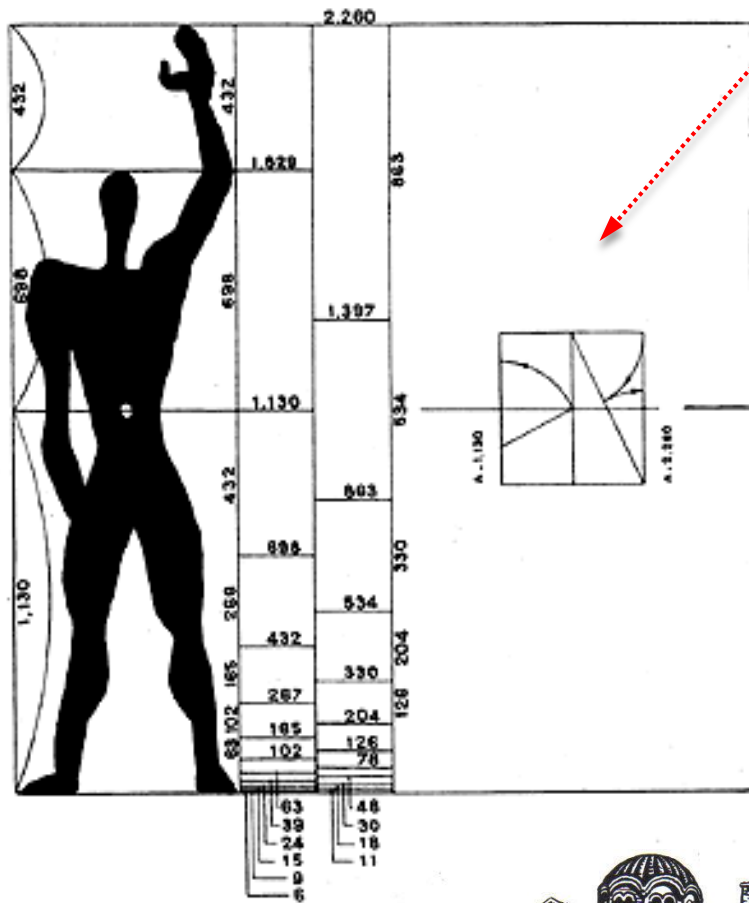
Why it is your favourite?: \_\_\_\_\_

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# Architecture is ...

Le Corbusier's book : Le modular ,...Golden ratio



J-197-BYZANTINE



**Some of the students' favourite buildings can be found at**

**<http://www.ad.arch.hku.hk/research/BEER/casestud.htm> ,**

**a web site developed jointly by Dr Sam Hui, & Prof. K P Cheung, HKU, since 1996.**

**Guest speaker : K P Cheung, Associate Professor, Department of Architecture**

**The University of Hong Kong, e-mail [kpcheuna@hku.hk](mailto:kpcheuna@hku.hk)**

**Cheung's Old web site: <http://www.ad.arch.hku.hk/~kpcheung/index.html>**

**Web site jointly developed with \*Dr Hui :**

**<http://www.ad.arch.hku.hk/research/BEER/> , since June 1996**

**\*Dr Hui 's web site on Building Services Engineering, at FST-THEi, since July 2016 :**

**<http://www.ibse.hk/>**

## Environmental :

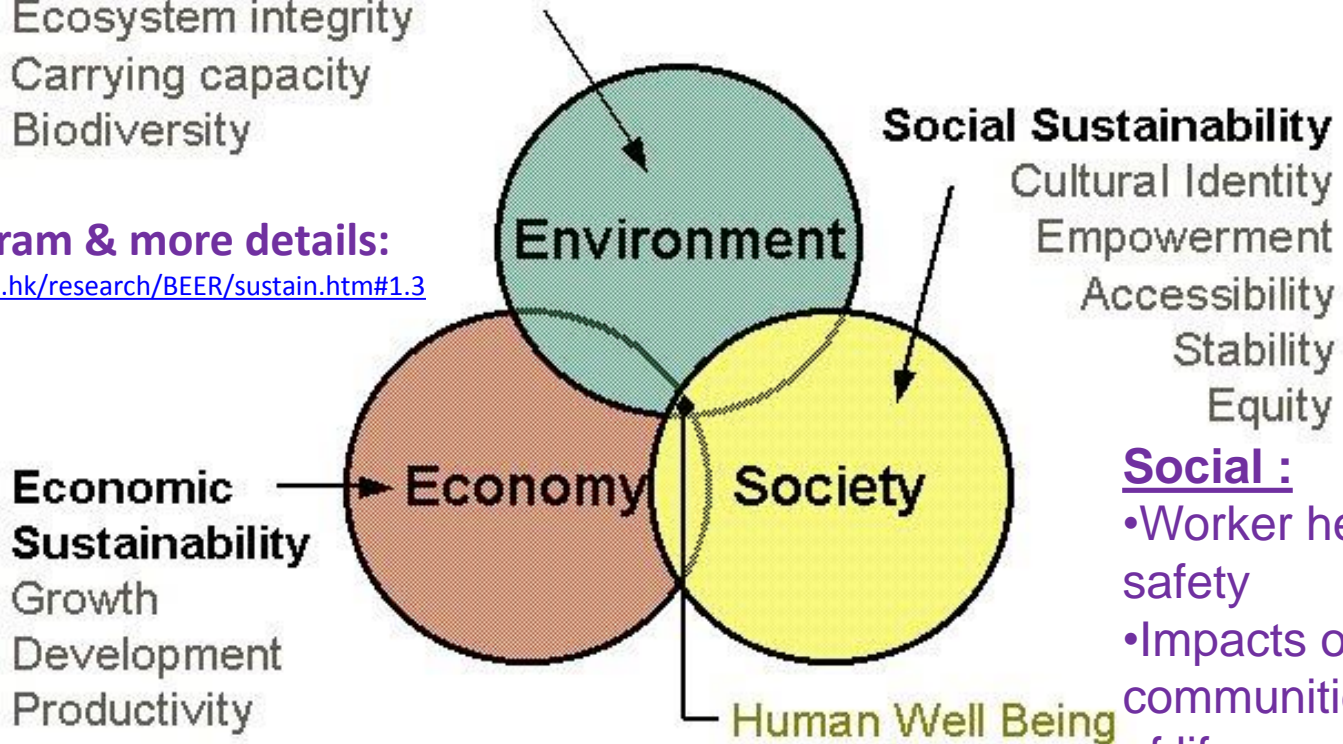
- Reduced waste, effluent generation, emissions to environment
- Reduced impact on human health & Elimination of toxic substances
- Use of renewable raw materials

### **Environmental Sustainability**

Ecosystem integrity  
Carrying capacity  
Biodiversity

## **Source of Diagram & more details:**

<http://www.ad.arch.hku.hk/research/BEER/sustain.htm#1.3>



### **Economic Sustainability**

Growth  
Development  
Productivity

## Economic : Trickle-down

- Creation of new markets, jobs, and opportunities for sales growth
- Cost reduction through efficiency improvements and reduced energy and raw material inputs
- Creation of added value

### **Social Sustainability**

Cultural Identity  
Empowerment  
Accessibility  
Stability  
Equity

## Social :

- Worker health and safety
- Impacts on local communities, quality of life
- Benefits to disadvantaged groups e.g. disabled
- Heritage values, e.g. UNESCO heritages

## ***Three Dimensions of Sustainability in Synergy***

<http://www.arch.hku.hk/research/BEER/sustain.htm#1.3>

歐智華稱香港成功對匯豐有利

## HSBC 150<sup>th</sup> Anniversary

2015-03-03 HKT 19:35 RTHK News ;

<http://rthk.hk/rthk/news/expressnews/news.htm?expressnews&20150303&55&1081374>

匯豐因應成立150周年，舉行燈光匯演。(莫靄欣攝)

匯控行政總裁歐智華稱香港成功對匯豐有利。(莫靄欣攝)

以稻米為主題的雕塑，是反映集團成立初期為國際貿易提供服務的銀行。(莫靄欣攝)

匯控行政總裁歐智華在本港出席匯豐銀行成立150周年紀念活動並致辭。他形容，香港的成功對匯豐有利，匯豐成功亦對香港有利。匯豐因應成立150周年，紀念鑄造以稻米為主題的雕塑，雕塑表面刻劃150幅代表匯豐重要事件、人物及物品圖案，包括昔日帳簿、舊版鈔票及總行大廈等。另外，銀行亦利用總行外牆，舉行燈光匯演，展示匯豐發展歷程。至於有報道指集團將發行面額150元的紀念鈔，集團發言人表示不評論消息。另外，主席范智廉同日亦在英國倫敦出席紀念儀式。  
[http://rthk.hk/APSuppics/mfile\\_55\\_1081374\\_2.jpg](http://rthk.hk/APSuppics/mfile_55_1081374_2.jpg)





Statue Square in the 1930s, looking south toward the HSBC building (third design, built in 1935). The canopy of Queen Victoria's statue is visible [https://en.wikipedia.org/wiki/Statue\\_Square](https://en.wikipedia.org/wiki/Statue_Square)

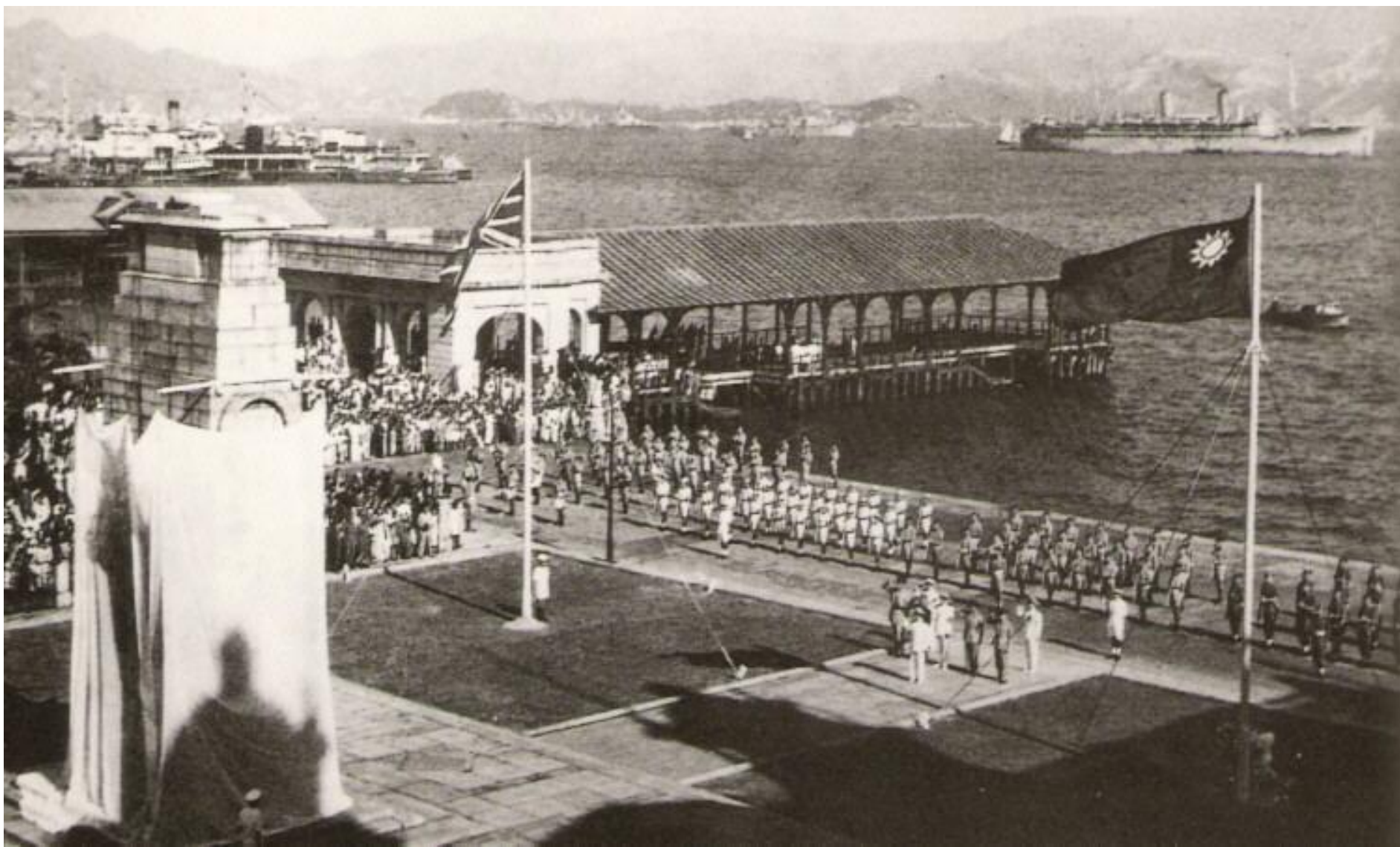


Present view of The Cenotaph, with the present BSBC HQ Building at the background  
<http://www.amo.gov.hk/graphics/en/monuments/large/102/1021.jpg>





The Hong Kong Club Building in 1928. [Cenotaph](https://upload.wikimedia.org/wikipedia/commons/2/2d/HKClub_1928.jpeg) in front  
source: [https://upload.wikimedia.org/wikipedia/commons/2/2d/HKClub\\_1928.jpeg](https://upload.wikimedia.org/wikipedia/commons/2/2d/HKClub_1928.jpeg)



1945 liberation of Hong Kong at the Cenotaph. [Queen's Pier](https://en.wikipedia.org/wiki/Queen's_Pier) is visible in the background.  
[https://en.wikipedia.org/wiki/The\\_Cenotaph\\_\(Hong\\_Kong\)](https://en.wikipedia.org/wiki/The_Cenotaph_(Hong_Kong))



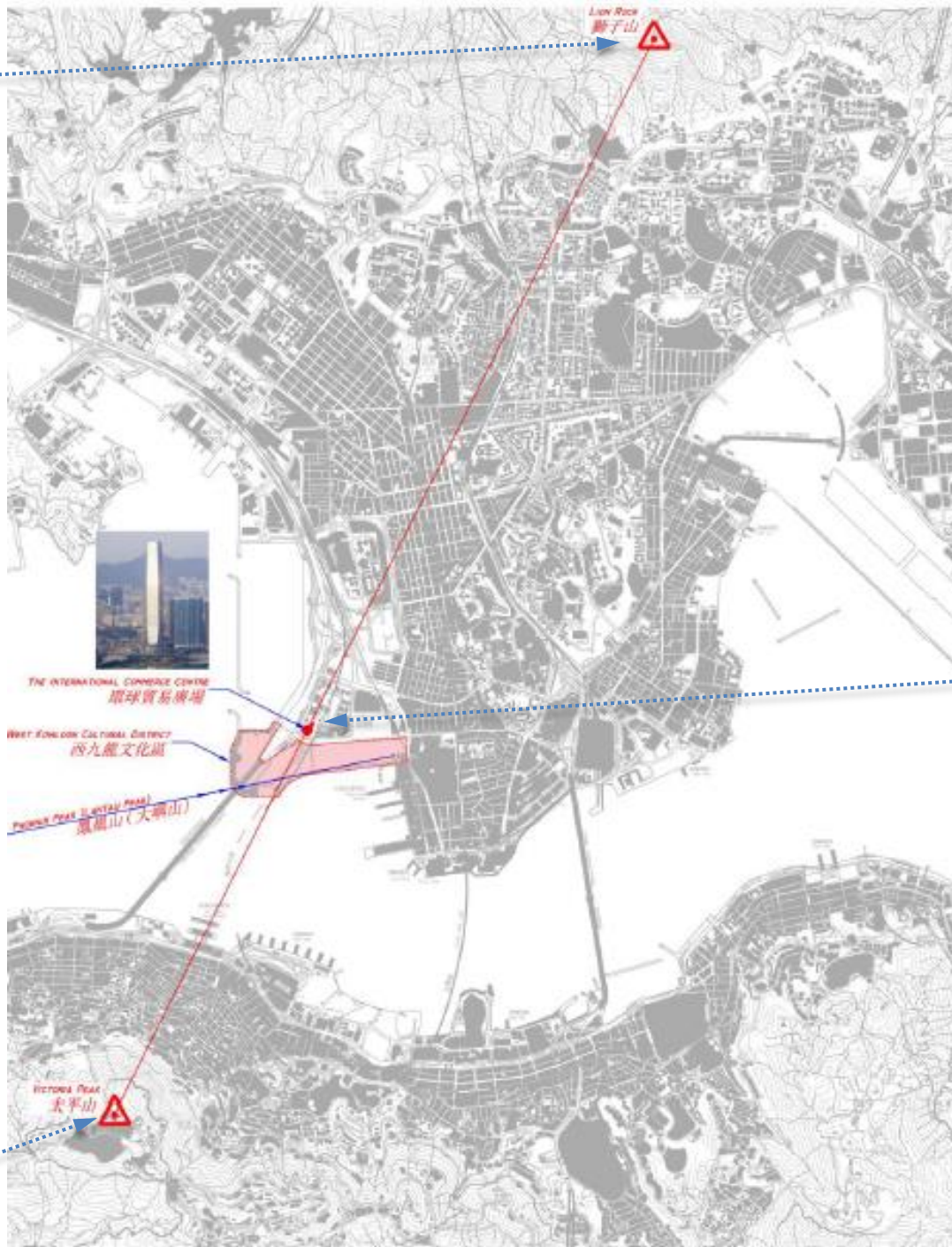
**HKSAR and the Harbour** : photo source [http://rthk.hk/APSuppicks/mfile\\_55\\_1079694\\_1.jpg](http://rthk.hk/APSuppicks/mfile_55_1079694_1.jpg)

**Discussion** : Where and what buildings are Now and in the past 200 years ?

**What are the components of each building?**

Lion Rock,  
495 m high

**A GEO-GEOMETRIC  
WONDER  
DISCOVERED IN  
HKSAR**

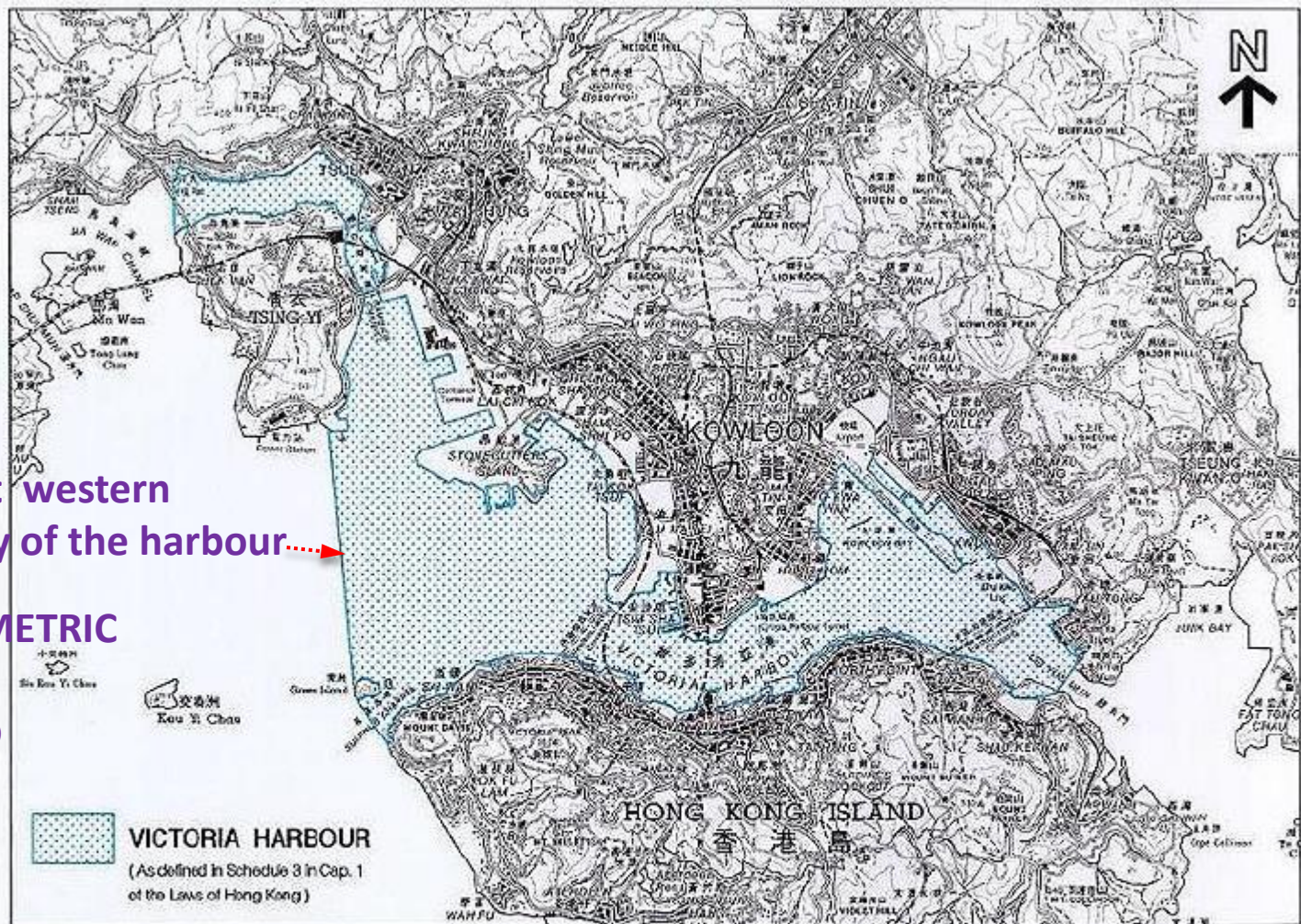


The tallest  
building in  
HKSAR, ICC,  
about 490 m  
tall

Victoria Peak,  
545 m high

Current western  
boundary of the harbour.....→

A GEO-GEOMETRIC  
WONDER  
DISCOVERED  
IN HKSAR



**Fig. 6a: The existing coverage and boundaries of Victoria Harbour, HKSAR, governed by Protection of the Harbour Ordinance [8]. East Harbour Boundary is at Lei Yue Mun Pass, and West Boundary is connected to Tsing Yi Island. Victoria Peak is on the Left side of Hong Kong Island. Photo Courtesy of Harbour-front Enhancement Committee, HKSAR**

image source : **DISCOVERY OF A GEO-GEOMETRIC WONDER OF THE WORLD : THE PEAK-HARBOUR LAYOUT OF HKSAR WITH REDEFINING THE WESTERN BOUNDARY OF VICTORIA HARBOUR OF HKSAR**

[http://www.bse.polyu.edu.hk/researchCentre/Fire\\_Engineering/summary\\_of\\_output/journal/IJAS/V9/p.1-17.pdf](http://www.bse.polyu.edu.hk/researchCentre/Fire_Engineering/summary_of_output/journal/IJAS/V9/p.1-17.pdf)



**Fig. 8: Hong Kong has a Legend: The Six-Point Four-Line Geo-Geometry of Peak-Harbour Layout HKSAR forms the basis of Discovery of A Geo-Geometric Wonder of the World: The Peak-Harbour Layout of HKSAR with Redefining the Western Boundary of Victoria Harbour of HKSAR [11]. Please see text on the steps of formation of the geometric figure.**

image source : **DISCOVERY OF A GEO-GEOMETRIC WONDER OF THE WORLD : THE PEAK-HARBOUR LAYOUT OF HKSAR WITH REDEFINING THE WESTERN BOUNDARY OF VICTORIA HARBOUR OF HKSAR**

[http://www.bse.polyu.edu.hk/researchCentre/Fire\\_Engineering/summary\\_of\\_output/journal/IJAS/V9/p.1-17.pdf](http://www.bse.polyu.edu.hk/researchCentre/Fire_Engineering/summary_of_output/journal/IJAS/V9/p.1-17.pdf)



A GEO-GEOMETRIC  
WONDER  
DISCOVERED IN  
HKSAR

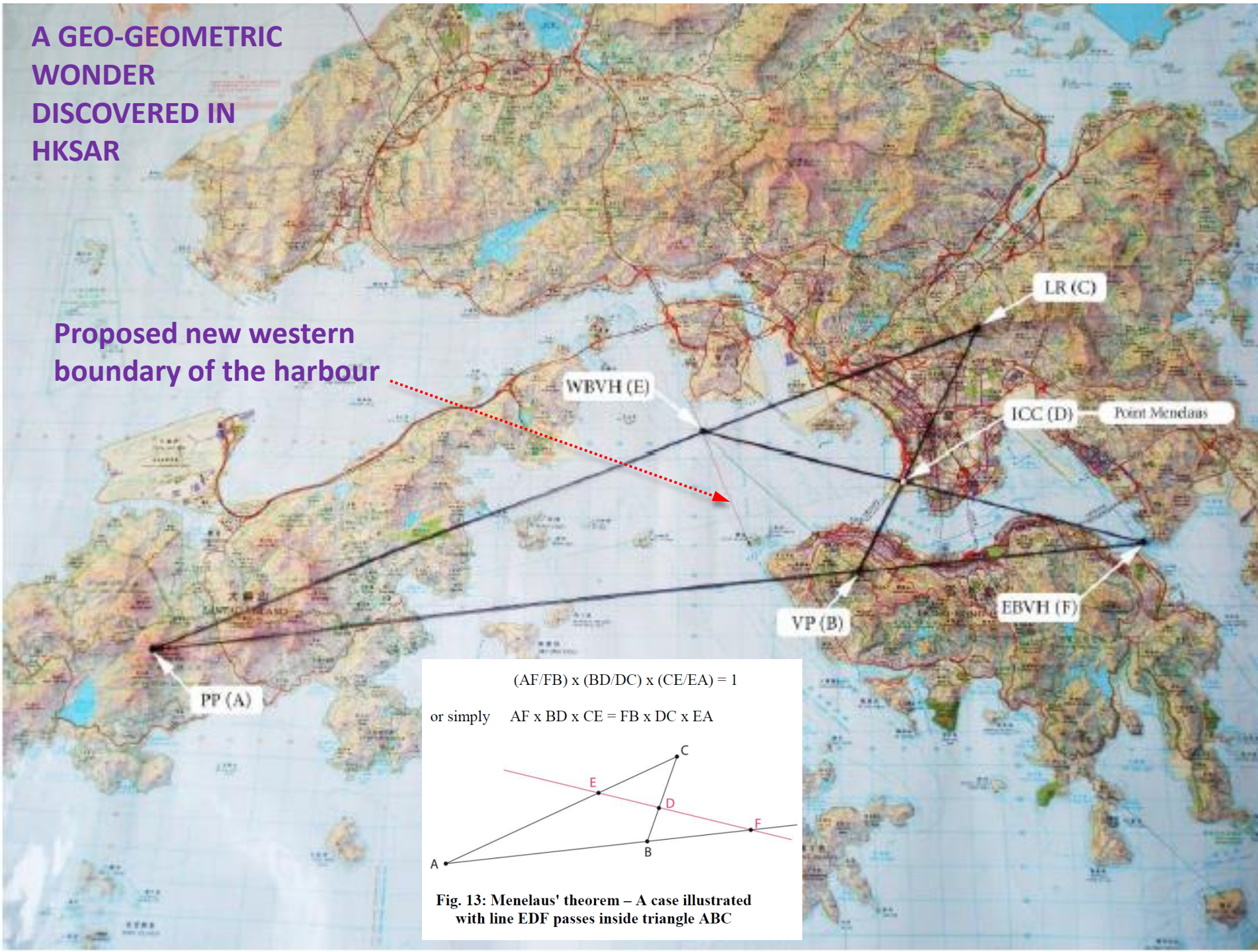
Fig. 7: Map of Hong Kong Special Administrative Region. Photo courtesy of Lands Department, HKSAR [6]

image source : **DISCOVERY OF A GEO-GEOMETRIC WONDER OF THE WORLD : THE PEAK-HARBOUR LAYOUT OF HKSAR WITH REDEFINING THE WESTERN BOUNDARY OF VICTORIA HARBOUR OF HKSAR**

[http://www.bse.polyu.edu.hk/researchCentre/Fire\\_Engineering/summary\\_of\\_output/journal/IJAS/V9/p.1-17.pdf](http://www.bse.polyu.edu.hk/researchCentre/Fire_Engineering/summary_of_output/journal/IJAS/V9/p.1-17.pdf)

# A GEO-GEOMETRIC WONDER DISCOVERED IN HKSAR

Proposed new western  
boundary of the harbour



$$(AF/FB) \times (BD/DC) \times (CE/EA) = 1$$

or simply  $AF \times BD \times CE = FB \times DC \times EA$

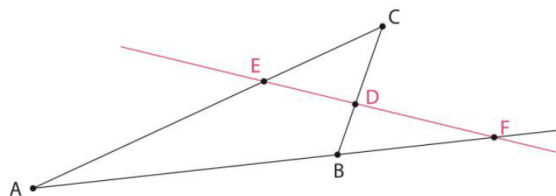
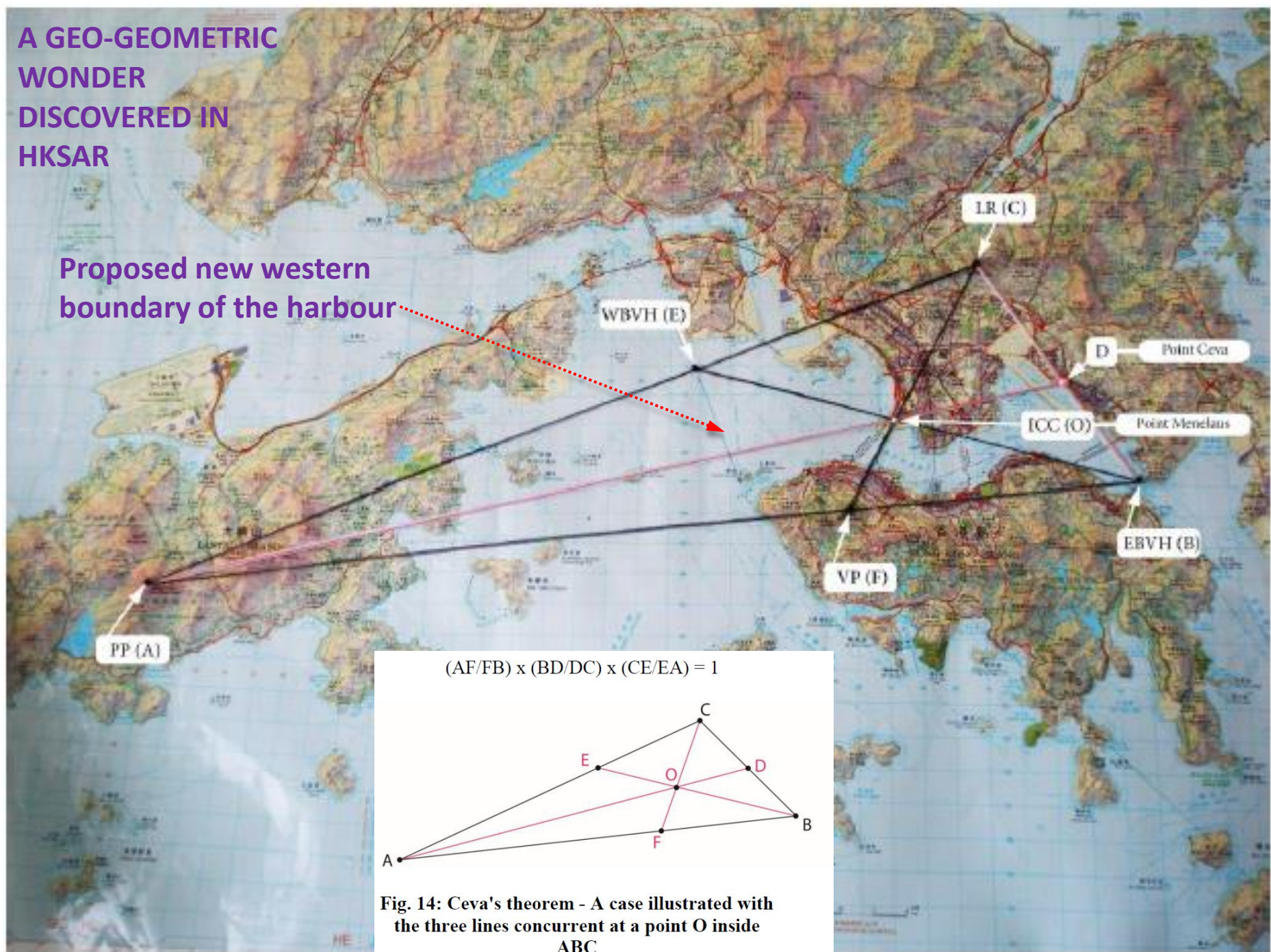


Fig. 13: Menelaus' theorem – A case illustrated with line EDF passes inside triangle ABC



**A GEO-GEOMETRIC  
WONDER  
DISCOVERED IN  
HKSAR**

**Proposed new western  
boundary of the harbour**

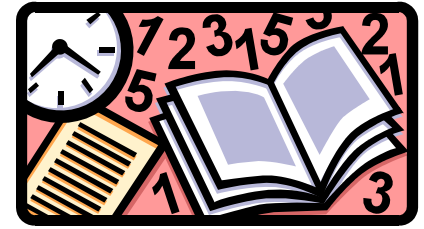


$$(AF/FB) \times (BD/DC) \times (CE/EA) = 1$$

**Fig. 14: Ceva's theorem - A case illustrated with the three lines concurrent at a point O inside ABC**



# About Me



- *Ir. Eur Ing. K P Cheung (Building Services Engineer & cross-disciplinary academic)*

- M Sc, Eur Ing, C Eng , RPE (HKSAR, Building Services), MHKIE, FCIBSE
  - C Eng = Chartered Engineer, UK  
[https://en.wikipedia.org/wiki/Chartered\\_Engineer\\_\(UK\)](https://en.wikipedia.org/wiki/Chartered_Engineer_(UK))
  - M Sc = Master of Science, in Fire Engineering, Edinburgh University, 1980  
<http://www.fire.eng.ed.ac.uk/history>
  - Eur Ing = European Engineer, FEANI, Brussels [www.feani.org/](http://www.feani.org/) ;  
[https://en.wikipedia.org/wiki/European\\_Engineer](https://en.wikipedia.org/wiki/European_Engineer)
  - RPE (HKSAR, Building Services) = Registered Professional Engineer, *Engineers Registration Board*, HKSAR, on Building Services <http://www.erb.org.hk/>
  - MHKIE = Member, *The Hong Kong Institution of Engineers*, <http://www.hkie.org.hk>
  - FCIBSE = Fellow, *The Chartered Institution of Building Services Engineers* , UK  
<http://www.cibse.org/>
- 25 yrs. teaching in Departments of Architecture, HKU on environmental controls and sustainable building technology & 4 years in teaching mechanical engineering hydraulic and building services engineering in HK Polytechnic University & 11 years in contracting and consulting firm of building services
- Research interests: solar tools for architecture, fire safety innovations, sustainable building technologies and integrated building services, integrated underground-aboveground developments, physical systems for infection control and nuclear dust control, greening the world mission, cross-disciplinary studies



**HKSAR and the Harbour** : photo source [http://rthk.hk/APSuppicks/mfile\\_55\\_1079694\\_1.jpg](http://rthk.hk/APSuppicks/mfile_55_1079694_1.jpg)

**Discussion** : Where and what buildings are Now and in the past 200 years ?

**What are the components of each building?**



**Discussion : What are the components of this building?**

Australia's first carbon-positive prefab house produces more energy than it consumes

<http://inhabitat.com/australias-first-carbon-positive-prefab-house-produces-more-energy-than-it-consumes/> by Lucy Wang, 02/23/15  
filed under: Architecture, gallery, Prefab Housing, Renewable Energy, Sustainable Building

Read more: Australia's first carbon-positive prefab house produces more energy than it consumes | Inhabitat - Sustainable Design Innovation, Eco Architecture, Green Building

Australian architecture firm [ArchiBlox](http://www.archiblox.com.au/) <http://www.archiblox.com.au/>

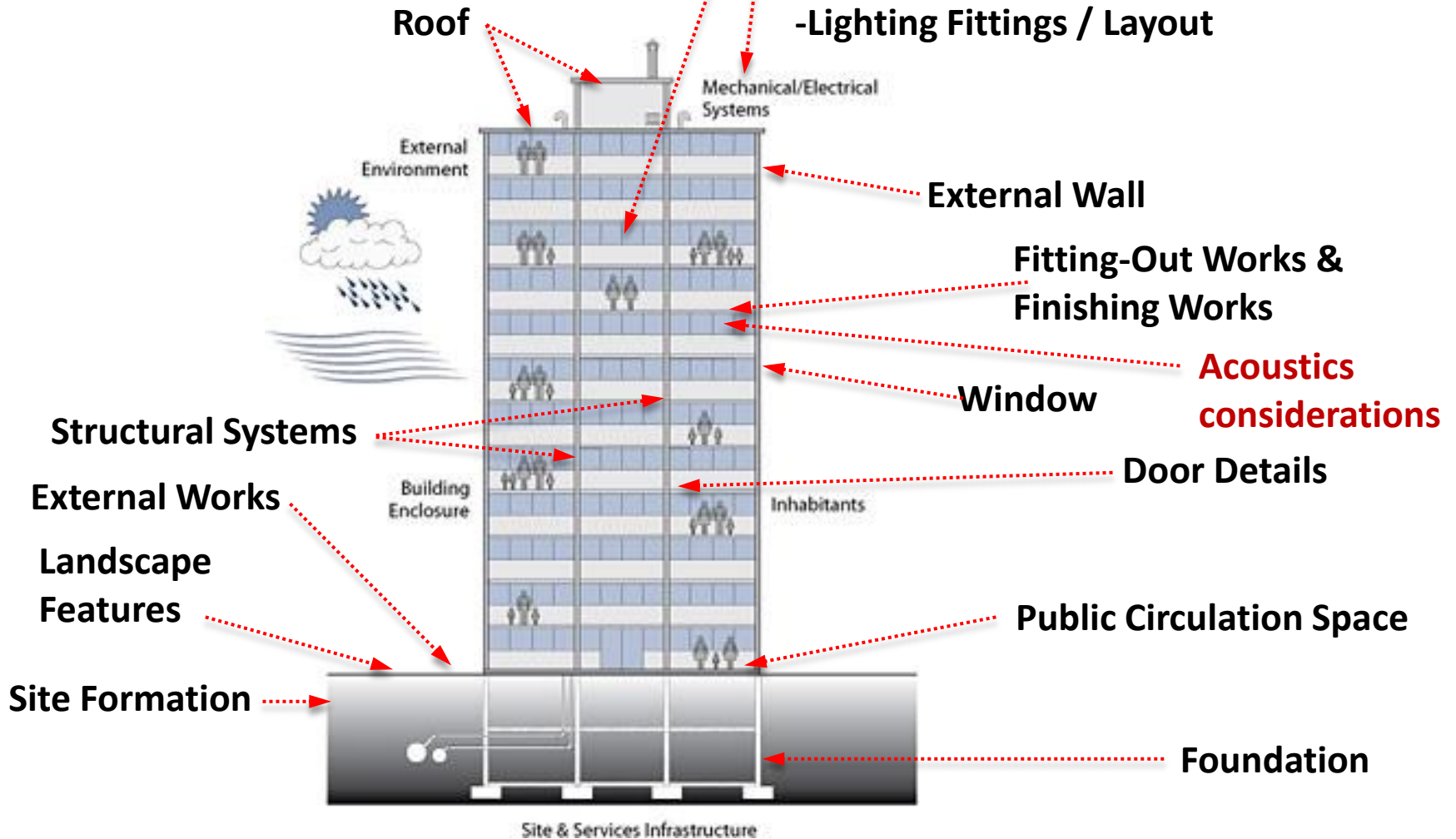
recently unveiled Australia's first carbon-positive [prefab home](#) that's packed with eco-friendly features and gorgeous to boot. Contemporary and cozy, this light-filled mobile home is sealed within an airtight 800-square-foot structure that locks in cool air and keeps Australia's intense heat out. The solar panel-topped Carbon Positive House prototype can produce more energy than it consumes and is currently on display in Melbourne's City Square. Read more:

[Australia's first carbon-positive prefab house produces more energy than it consumes | Inhabitat - Sustainable Design Innovation, Eco Architecture, Green Building](#)

# Main Components of a building

## Building Services:

- Air Conditioning and Ventilation Systems
- Fire Services Installations
- Plumbing & Drainage Systems
- Electric Services and Lifts
- Lighting Fittings / Layout



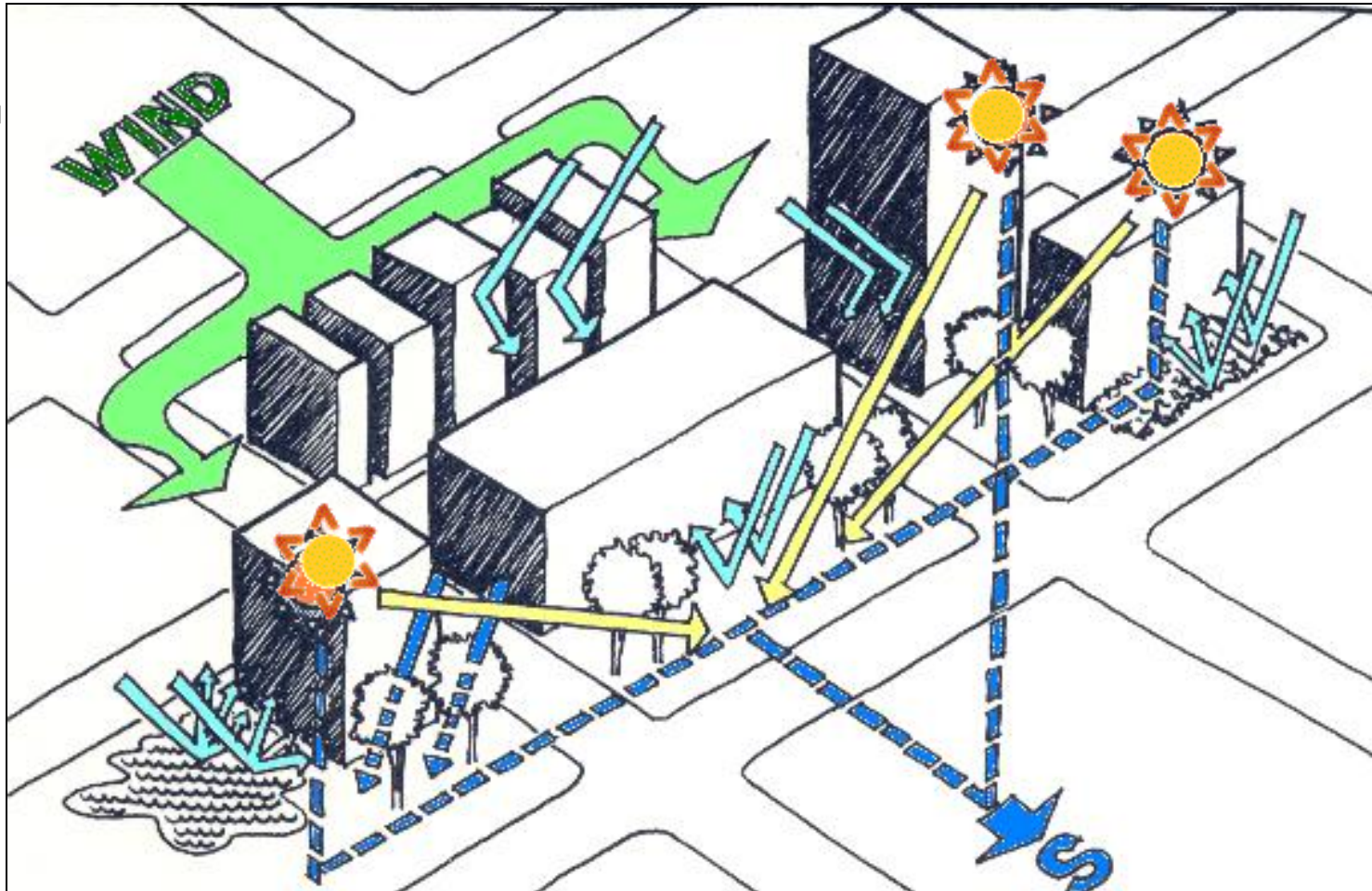
# Major site factors

風

Wind

光

Light



水

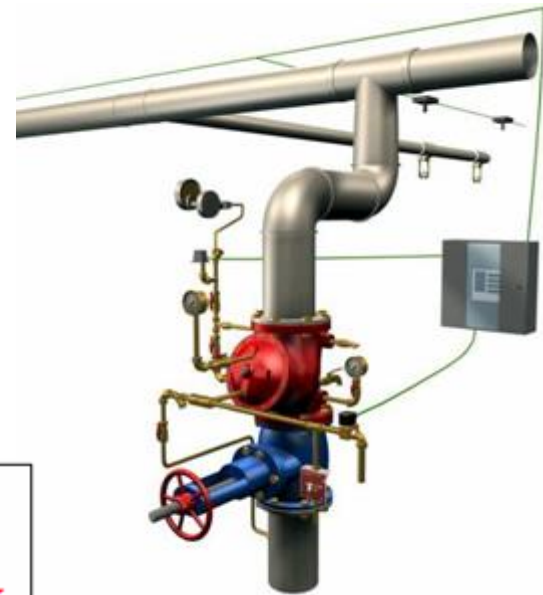
Water

物

Matter

Building designer is like a “Feng Shui” master.

# Major Building Services Systems and Components



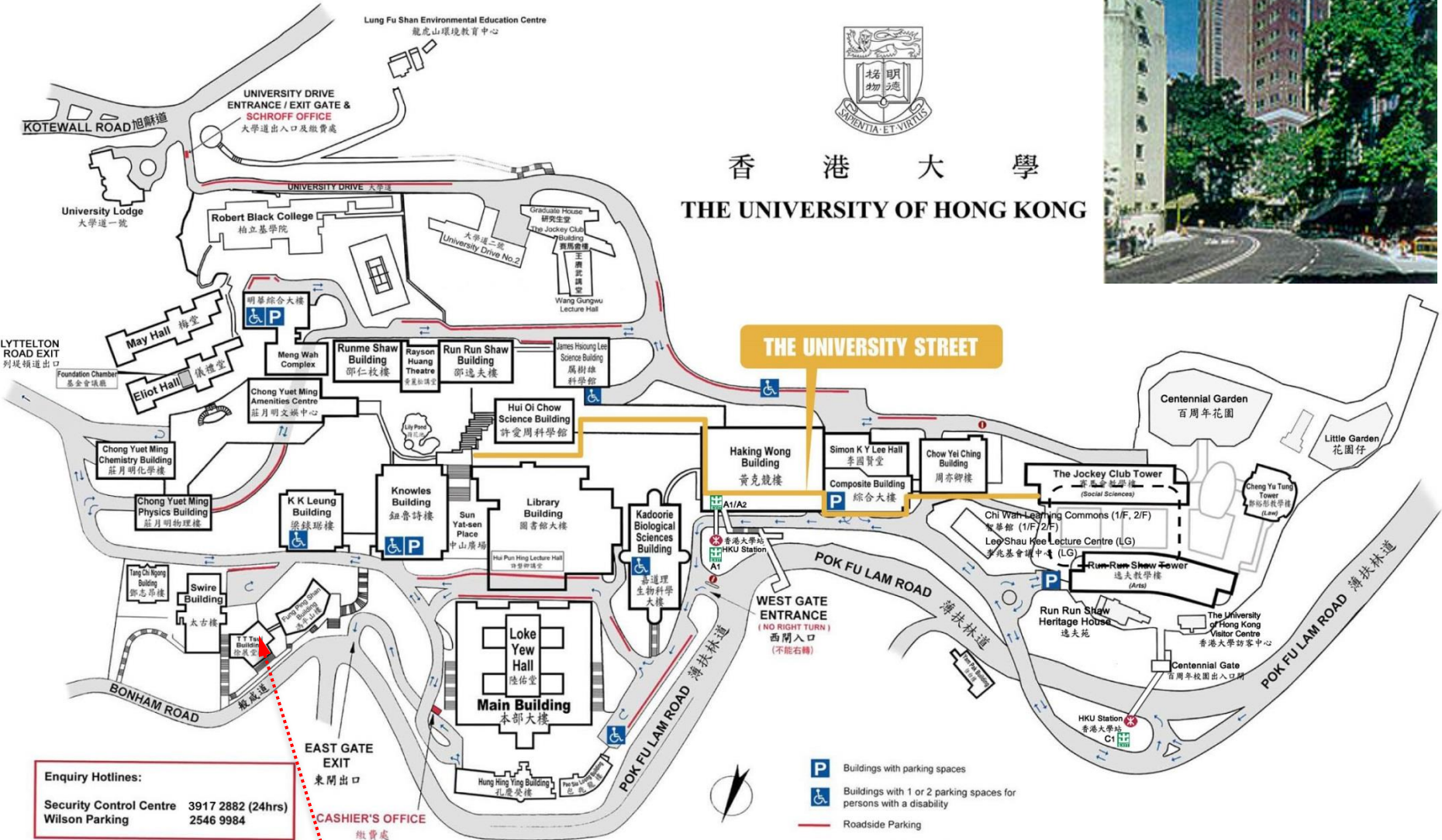
風 火  
水 電



# Case study : Tsui Tsin Tong Building, HKU →



香港大學  
THE UNIVERSITY OF HONG KONG



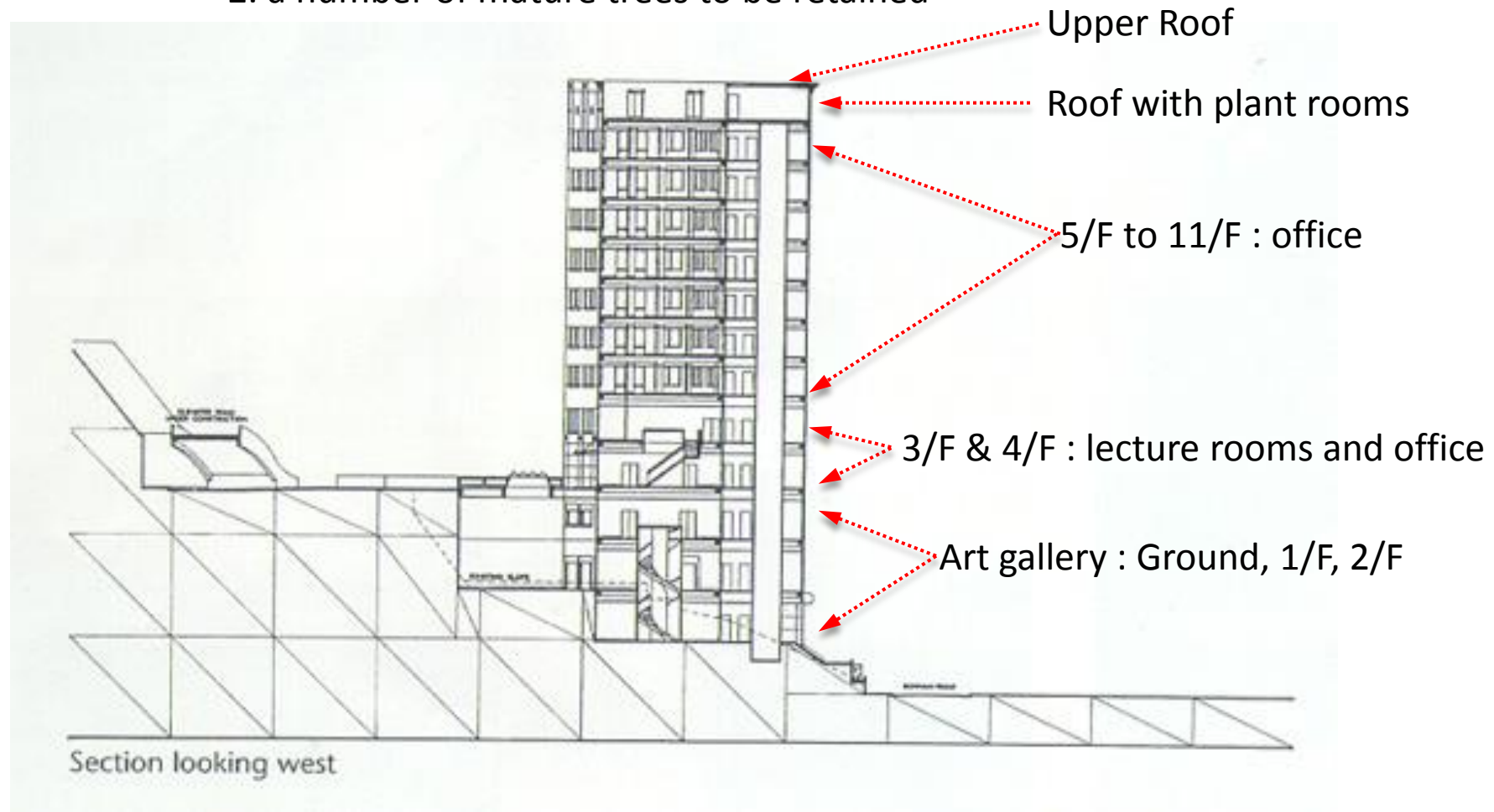




Tsui Tsin Tong Building, HKU <http://www.ad.arch.hku.hk/teaching/intgtech/article.html>

## Site limitation :

1. steeply sloping site with geotechnical requirements, limiting excavation to a certain level
2. a number of mature trees to be retained



Plumbing & Drainage Systems  
[toilets, water supply, etc.]

Fire Services Installations  
[fire hydrants]

Lifts

Structural Systems:  
-structural wall  
-structural column

Electric  
Services

Air Conditioning and  
Ventilation System  
[AHU= Air handling  
unit]

External Wall

Door  
Landscape  
Features

Escape route  
[cannot not  
exceed certain  
distance]

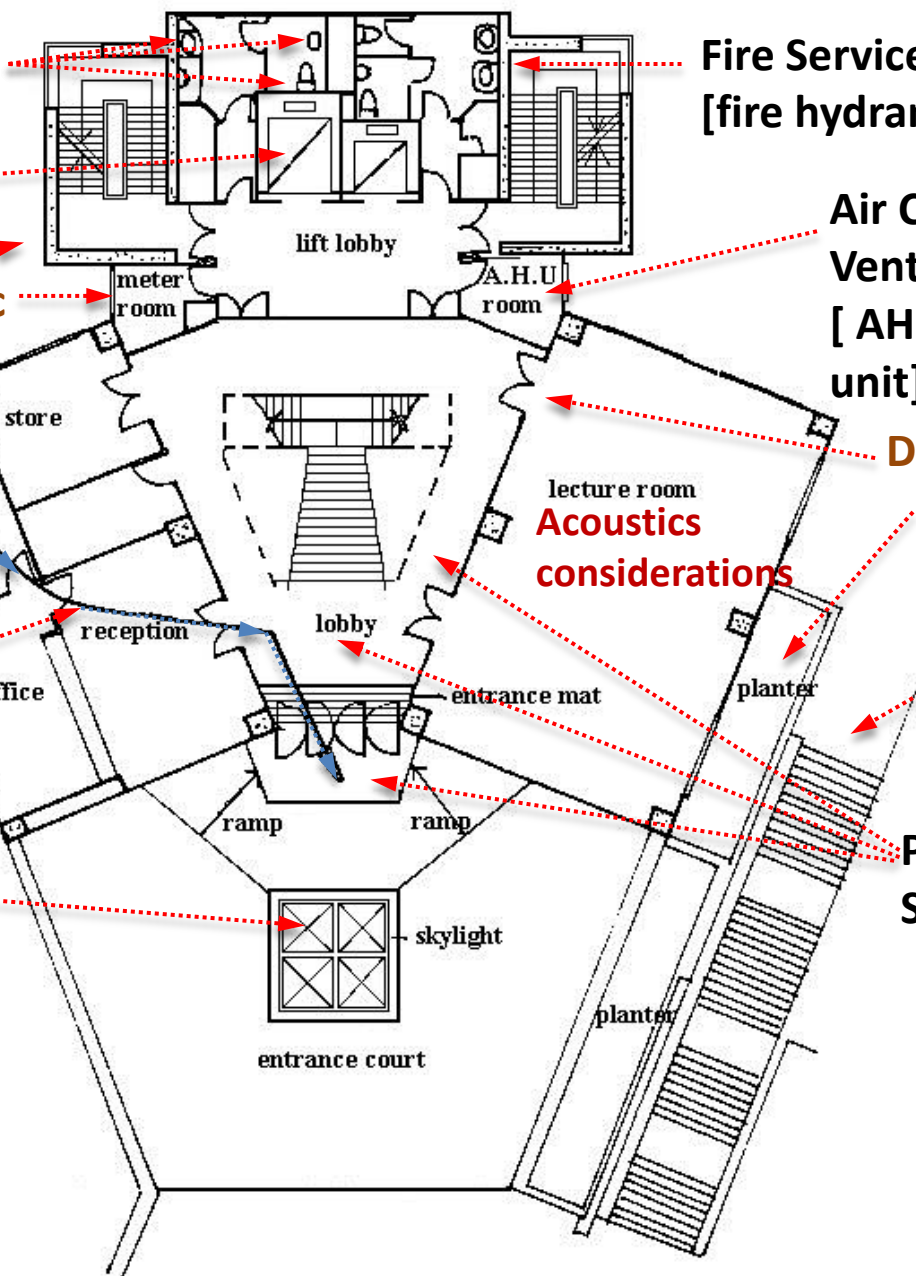
Window

Natural Lighting  
[roof of the  
space below]

External Works

Public Circulation  
Space

## 3/F Plan

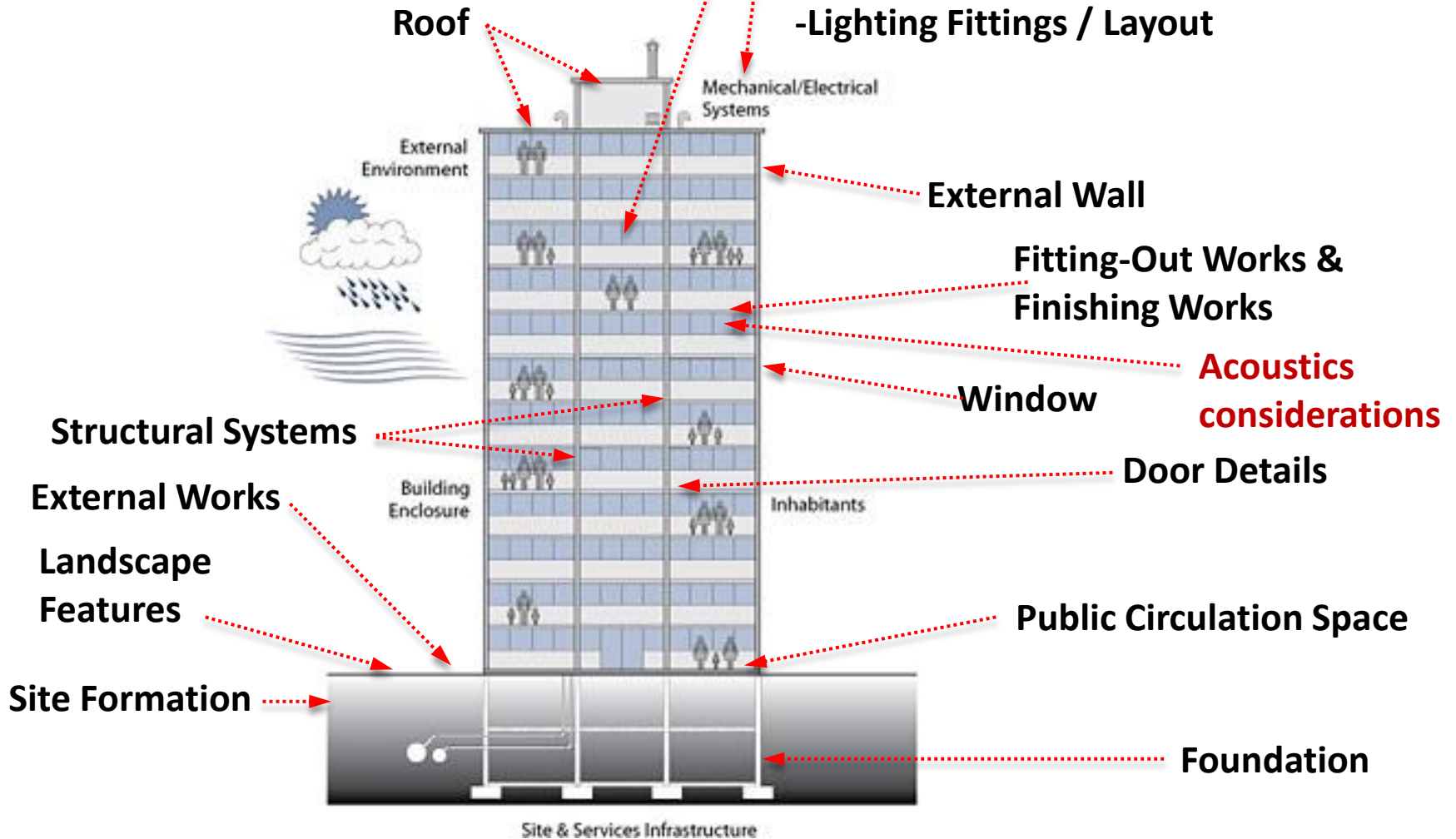


Tsui Tsin Tong Building, HKU <http://www.ad.arch.hku.hk/teaching/intgtech/62.htm>  
3/F evacuation plan : see <http://www.safety.hku.hk/homepage/pdf/FPTTT.pdf>

# Main Components of a building

## Building Services:

- Air Conditioning and Ventilation Systems
- Fire Services Installations
- Plumbing & Drainage Systems
- Electric Services and Lifts
- Lighting Fittings / Layout



# 火警疏散圖

## 徐展堂樓

三樓

集合地點：梁球瑀大樓, LG2

# Fire Evacuation Plan

## Tsui Tsin Tong Building

Third Floor

Assembly Point : K. K. Leung Building, LG2

### LEGEND :

圖標



FIRE PANEL

消防控制版



HOSEREEL

消防喉轆



MANUAL CALL POINT

火警鐘掣



FIRE ALARM BELL

火警鐘



EXIT SIGN

出路牌



ESCAPE ROUTES

逃生路線



PROTECTED AREA

保護區域



PLANT ROOM

機房



STAIRCASE

樓梯



CORRIDOR

走廊



LIFT

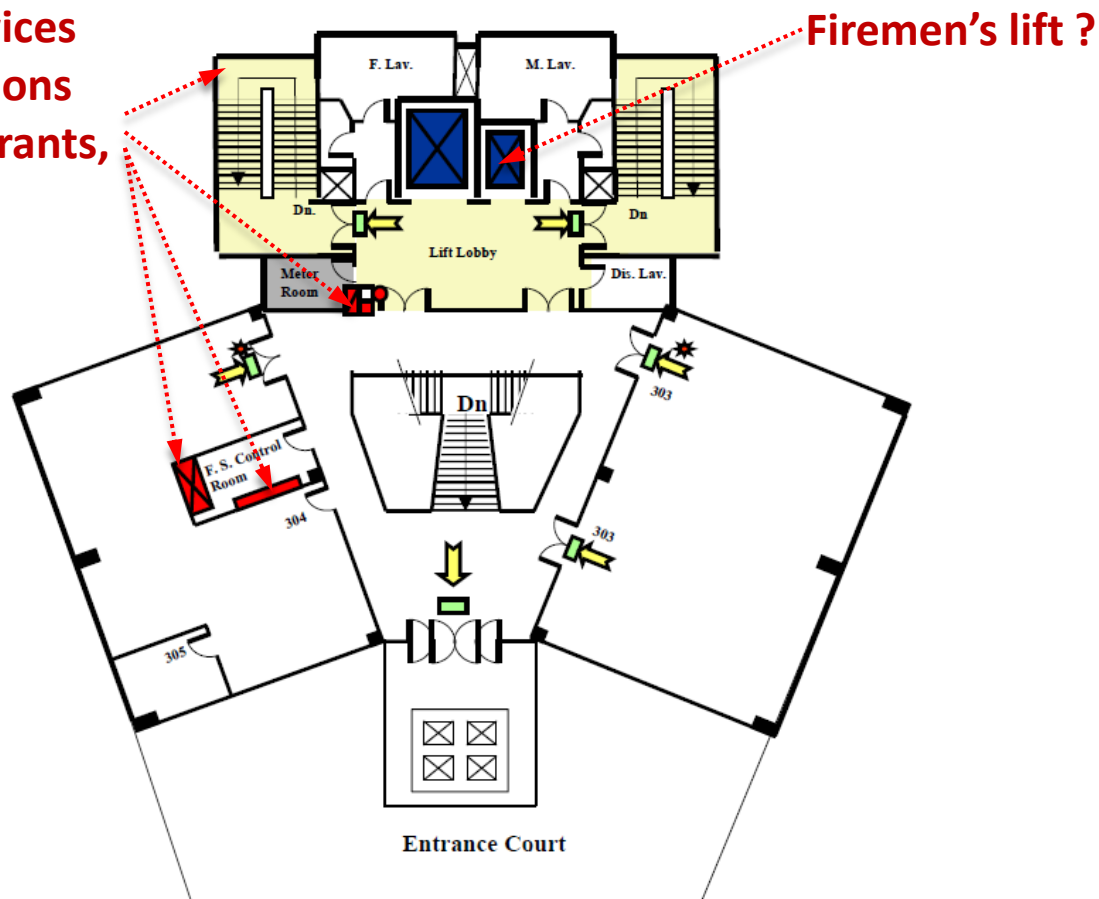
升降電梯



VISUAL FIRE ALARM

火警閃燈

**Fire Services Installations [fire hydrants, etc..]**



Drawn by Safety Office on 4/1998 By DP  
Revised on 10/2009

Tsui Tsin Tong Building, HKU , **3/F Fire Evacuation plan & other 12 Fire Evacuation plans** : see <http://www.safety.hku.hk/homepage/pdf/FPTTT.pdf>

This slide and other slides to follow will be discussed in the coming lecture of 15 Sept 2016.

## T.T.Tsui Building, HKU Main Campus

### 1. Site Issues

#### 1.1 Geotechnical, Dewatering, Settlement Problems;

#### Legislation Problems

#### 1.2 Bulk Excavation limits, Site Access

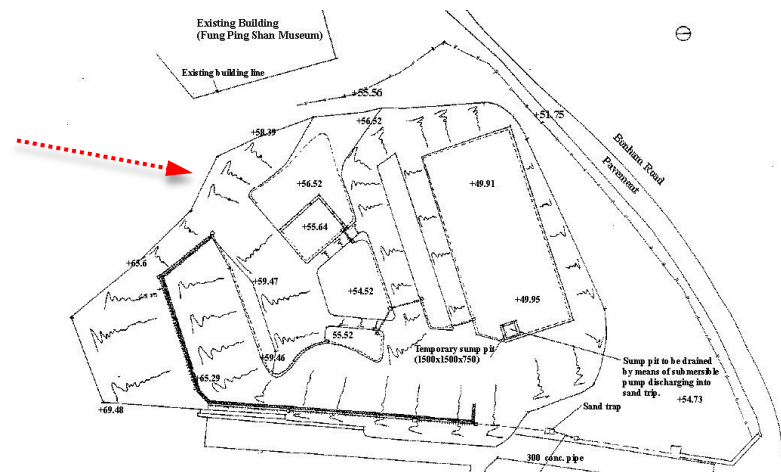
#### 1.3 Site Drainage - Temporary Drainage Pattern

#### 1.4 Typical Section - Screen Wall

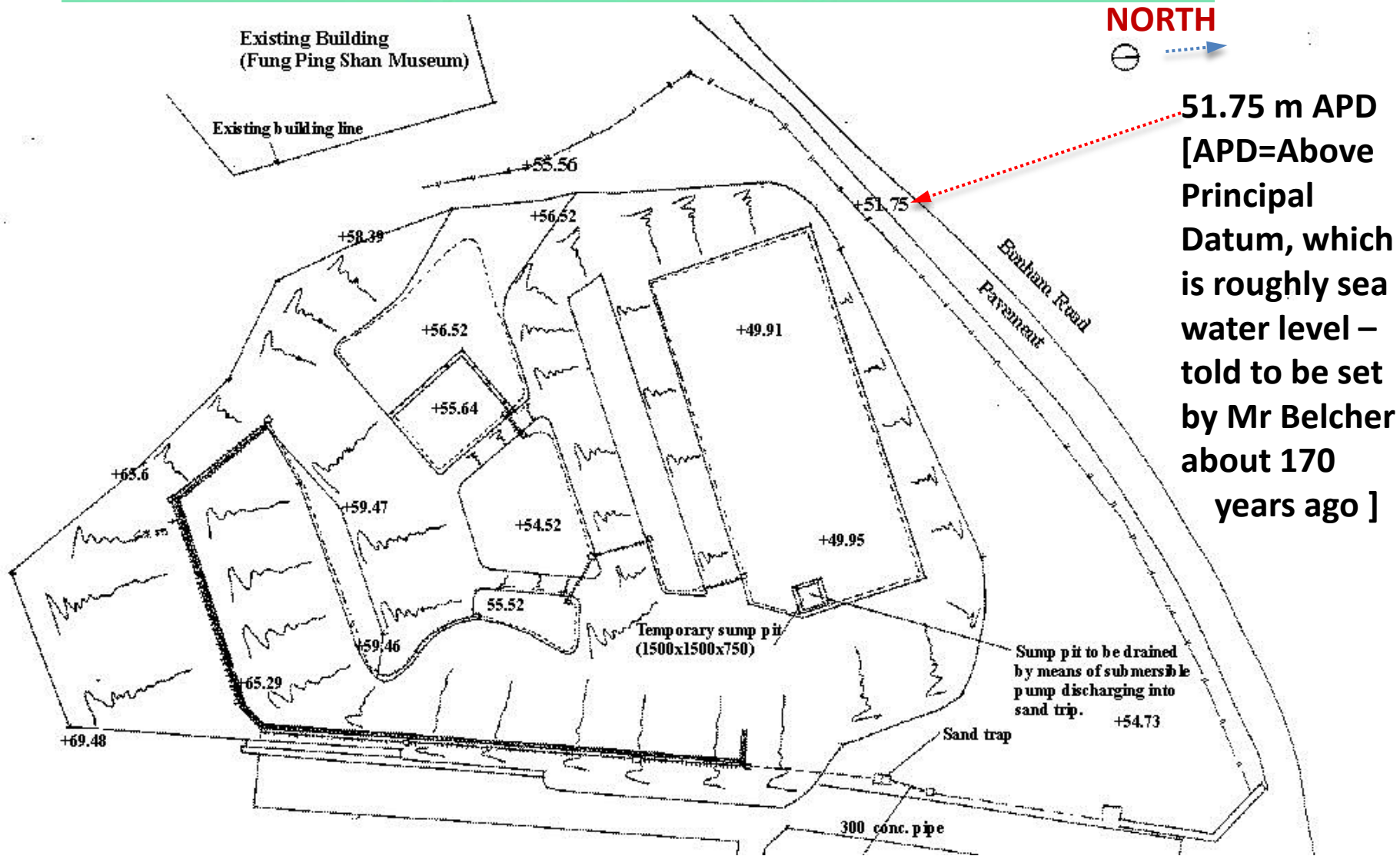
#### 1.5 Construction Sequence

#### 1.6 Details - Settlement Monitoring Station

#### 1.7 Details - Standpipe and Piezometer



# T.T.Tsui Building, HKU Main Campus



## 1.3 Site Drainage - Temporary Drainage Pattern

<http://www.ad.arch.hku.hk/teaching/intgtech/13.htm>

# T.T.Tsui Building, HKU Main Campus

## 2. Foundation

- 2.1 [Introduction](#)
- 2.2 [Caissons I](#)
- 2.3 [Caissons II](#)
- 2.4 [Caissons III](#)
- 2.5 [Sequence of Work I](#)
- 2.6 Sequence of Work II
- 2.7 Sequence of Work III
- 2.8 Sequence of Work IV
- 2.9 Sequence of Work V
- 2.10 [Time Limitations & Safety Measures](#)

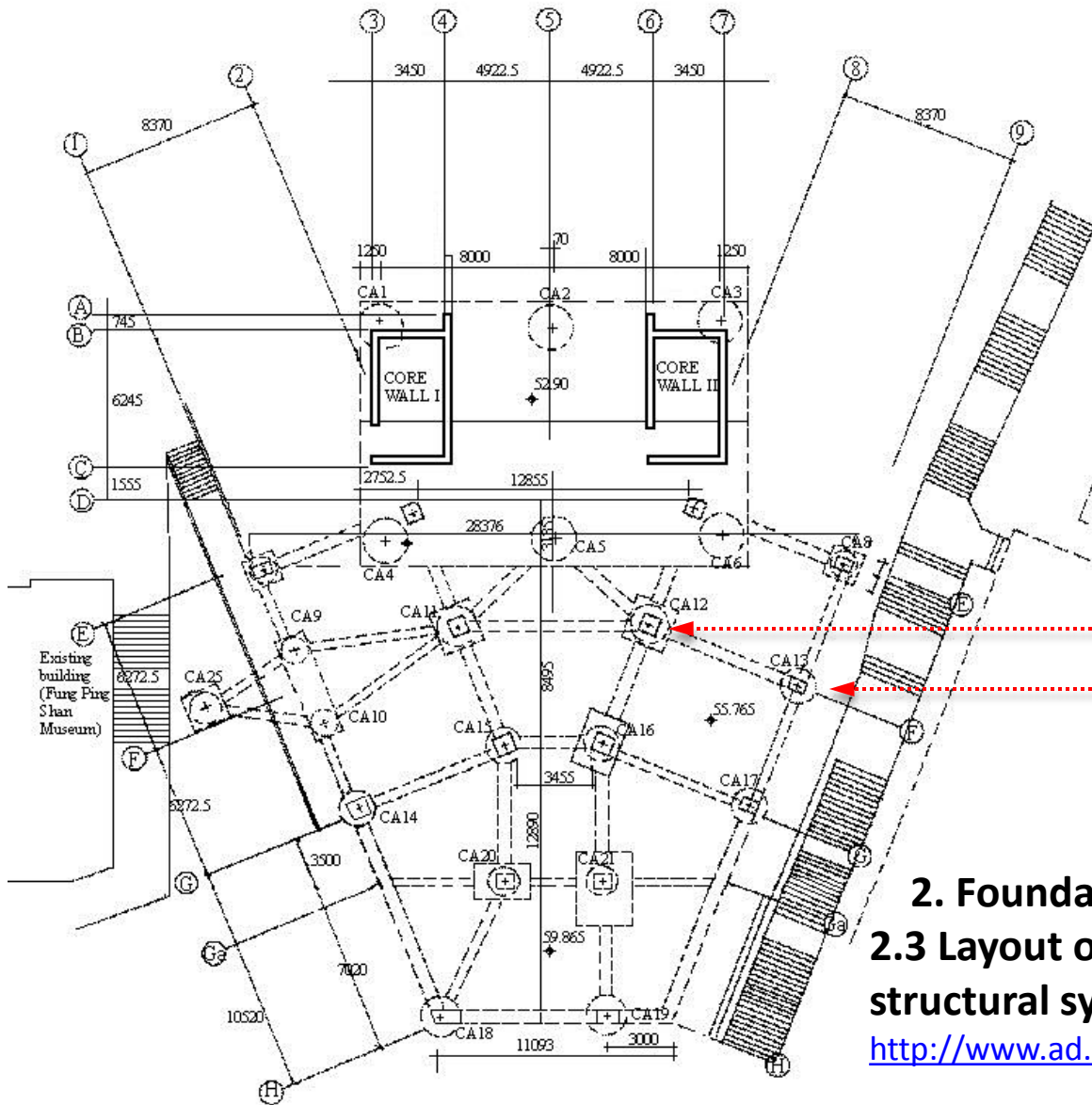
Hand-dug Caisson foundation in progress

<http://www.ad.arch.hku.hk/teaching/intgtech/21.htm>





# T.T.Tsui Building, HKU Main Campus



Caisson No. CA12  
 Caisson No. CA13

2. Foundation  
 2.3 Layout of Caissons & underground structural system

<http://www.ad.arch.hku.hk/teaching/intgtech/23.htm>

# T.T.Tsui Building, HKU Main Campus

## 3. External Wall

### 3.1 [Introduction I](#)

### 3.2 [Introduction II](#)

### 3.3 [Building Section I](#)

### 3.4 [Building Section II](#)

### 3.5 [Architectural Feature Details](#)

### 3.6 [Skylight Details](#)

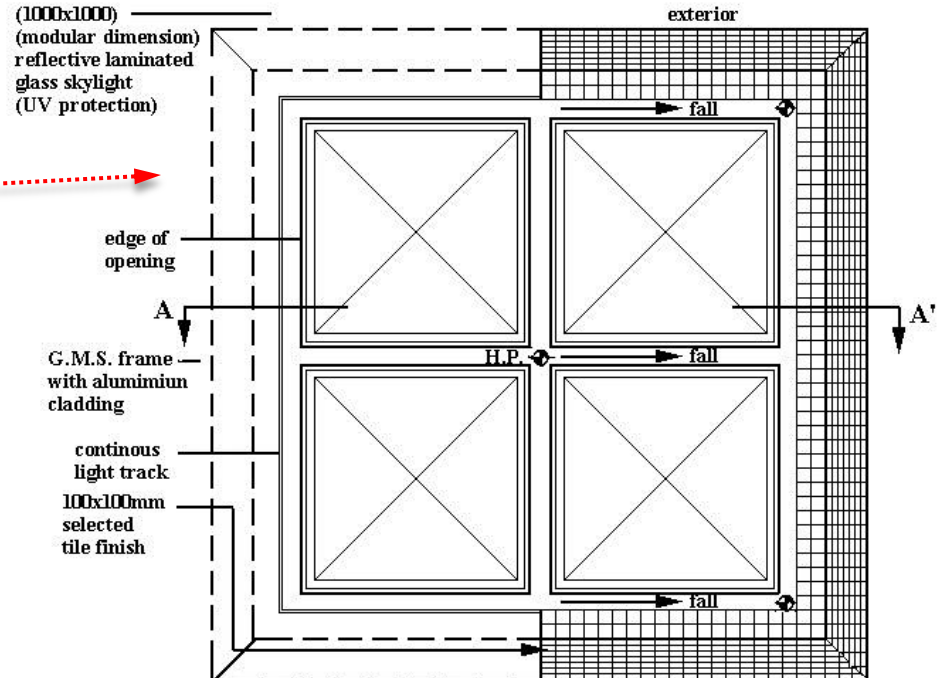
### 3.7 [Bridge Details](#)

### 3.8 [Signage Details](#)

### 3.9 [Wall Sections](#)

### 3.10 [G/F Canopy Details](#)

### 3.11 [3/F Canopy Details](#)



# T.T.Tsui Building, HKU Main Campus

## 4. Window Details

4.1 [Wall/Window Section](#)

4.2 [Window Details I](#)

4.3 [Window Details II](#)

4.4 [Window Details III](#)

4.5 [Window Details IV](#)

4.6 [Window Details V](#)

4.7 [Window Details VI](#)

4.8 [Window Details VII](#)

4.9 [Window Details VIII](#)

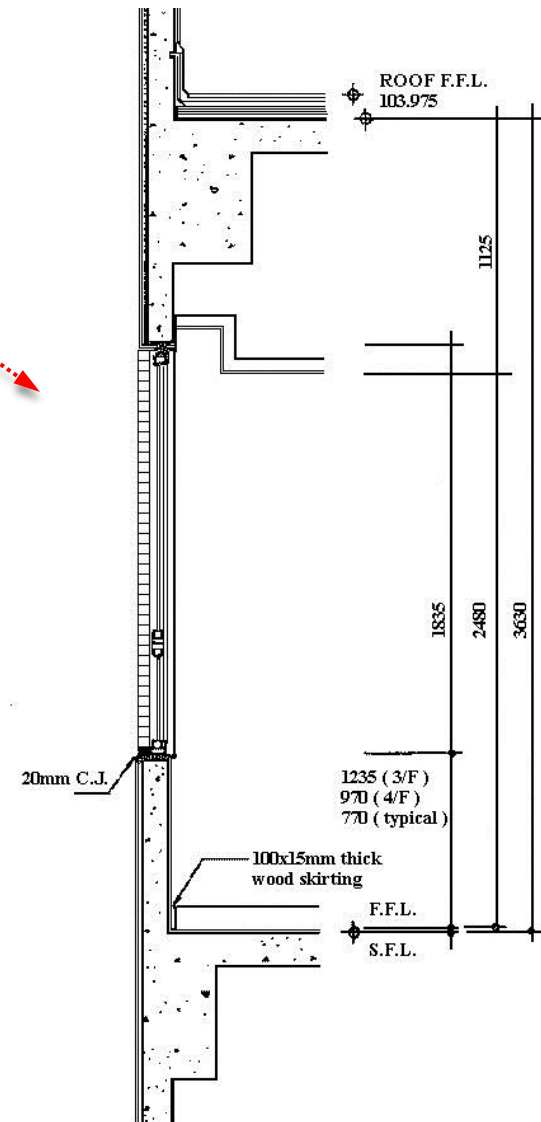
4.10 [Window Installation Details:](#)

Photos, Forming of opening for installation of window frames, Sequence of installation, and Installation regarding noise & heat

4.11 [Window Details - Photos](#)

4.12 [Building Regulation I](#)

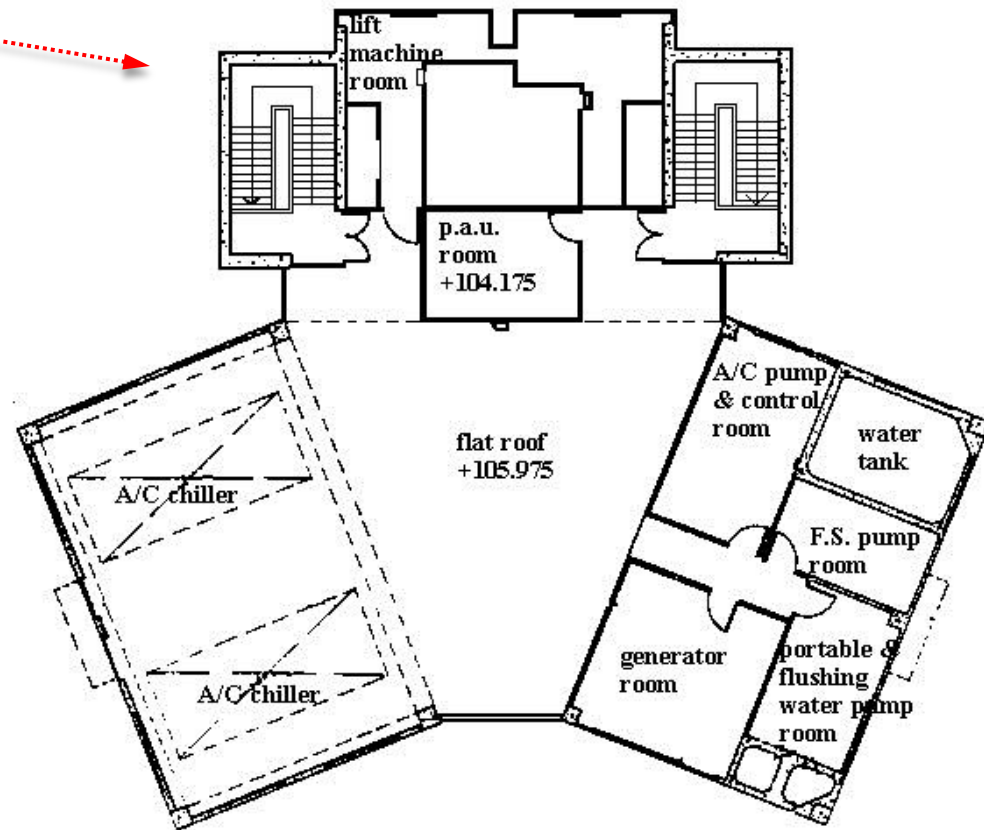
4.13 [Building Regulation II](#)



# T.T.Tsui Building, HKU Main Campus

## 5. Roof Details

- 5.1 [Roof Plan \( scale 1:200 \)](#)
- 5.2 [Upper Roof Plan \( scale 1:200 \)](#)
- 5.3 [Roof Details I \( scale 1:5 \)](#)
- 5.4 [Roof Details II \( scale 1:5 \)](#)
- 5.5 [Roof Details III \( scale 1:5 \)](#)
- 5.6 [Roof Details IV \( scale 1:5 \)](#)
- 5.7 [Roof Details V \( scale 1:5 \)](#)
- 5.8 [Roof Details VI \( scale 1:5 \)](#)
- 5.9 [Roof Details VII \( scale 1:5 \)](#)
- 5.10 [Roof Details VIII \( scale 1:5 \)](#)
- 5.11 [Water Tank Cover I \( scale 1:2 \)](#)
- 5.12 [Water Tank Cover II \( scale 1:2 \)](#)
- 5.13 [Water Tank Cover III \( scale 1:2 \)](#)



# T.T.Tsui Building, HKU Main Campus

## 6. Entrance Lobby & Public Circulation Space

6.1 [G/F Plan](#)

6.2 [3/F Plan](#)

6.3 [Typical Floor Layout](#)

### [Layout](#)

6.4 [Escape Stairs](#)

6.5 [Monumental Staircase and Building Section](#)

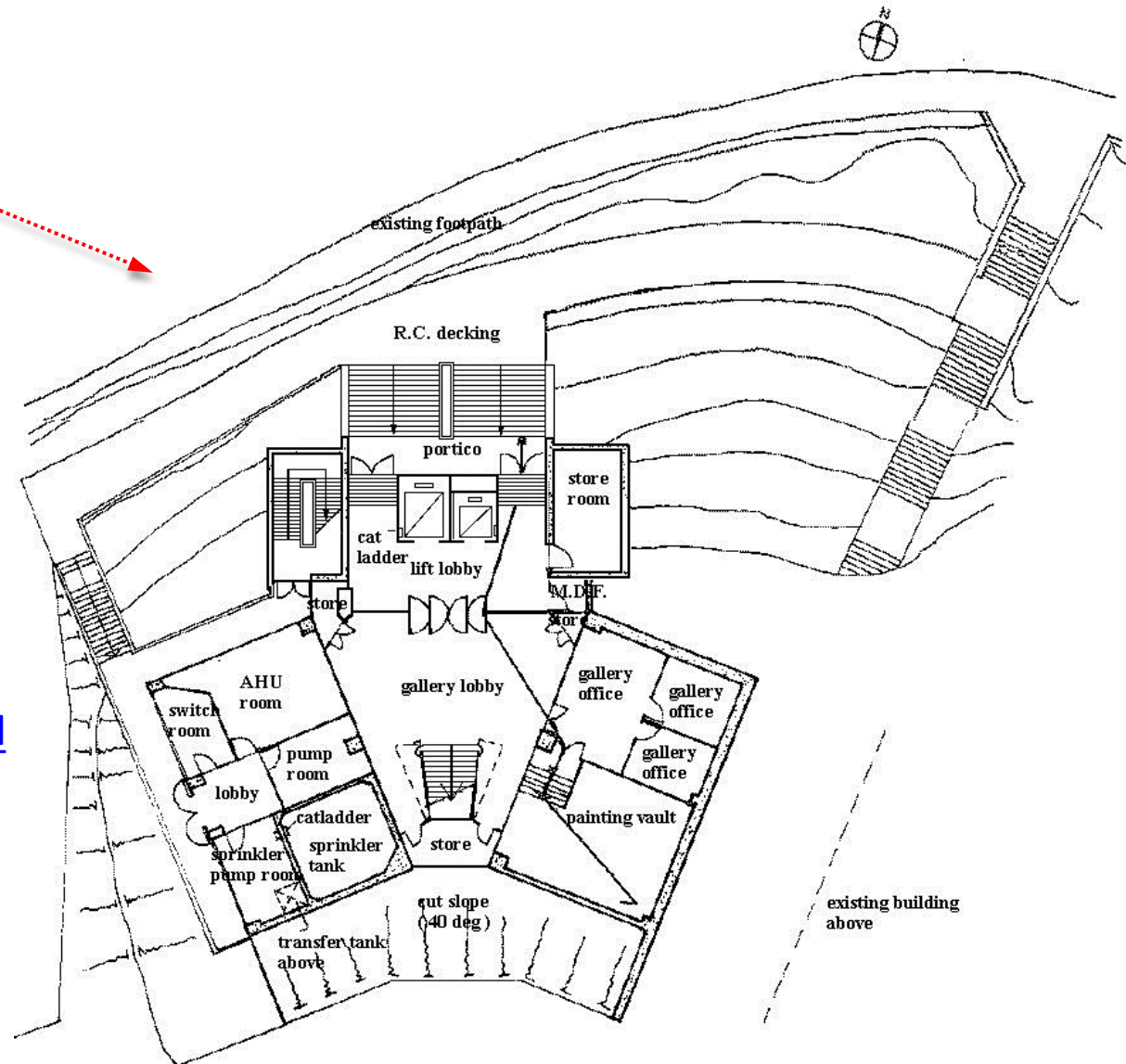
6.6 [Finishes of Entrance Lobby Elevations](#)

6.7 [Finishes of Typical Lift Lobby Elevations](#)

6.8 [Finish of Ceiling](#)

6.9 [Protected Lobby](#)

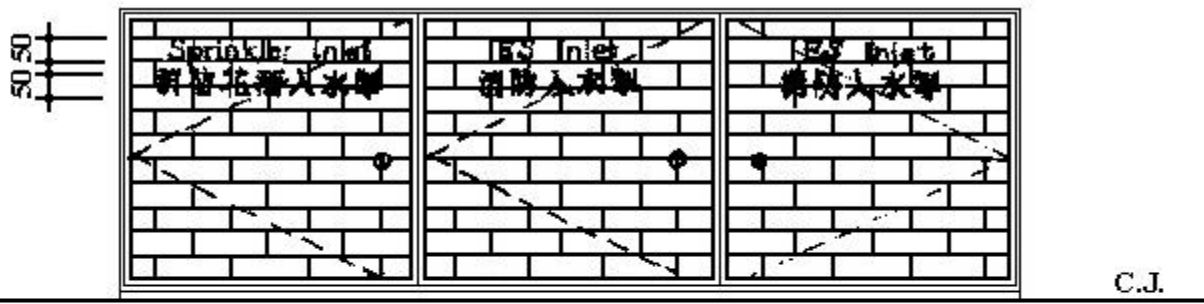
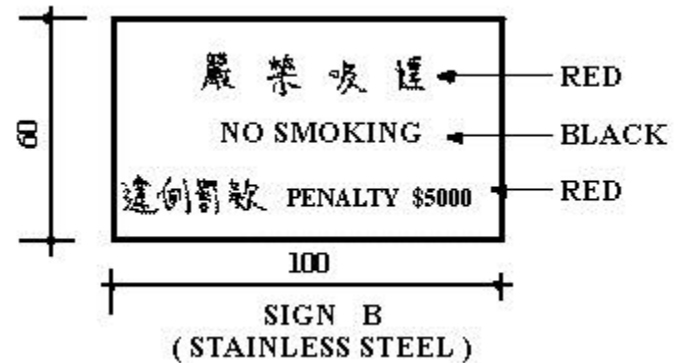
6.10 [Details](#)



# T.T.Tsui Building, HKU Main Campus

## 7. External Works

- 7.1 [Outdoor Lighting - Location](#)
- 7.2 [Outdoor Lighting - Elevation](#)
- 7.3 Building Sign at Main Entrance
- 7.4 Building Sign at G/F & 3/F
- 7.5 [Sign Boards for Lift](#)
- 7.6 [Exit Signs](#)
- 7.7 [Signage for Fire Services](#)



F.F.L.  
= Finished Floor Level  
F.F.L.

# T.T.Tsui Building, HKU Main Campus

## 8. Landscape Features

### 8.1 [Landscape Plan](#)

### 8.2 Railing Detail

### 8.3 Hand Rail Detail I

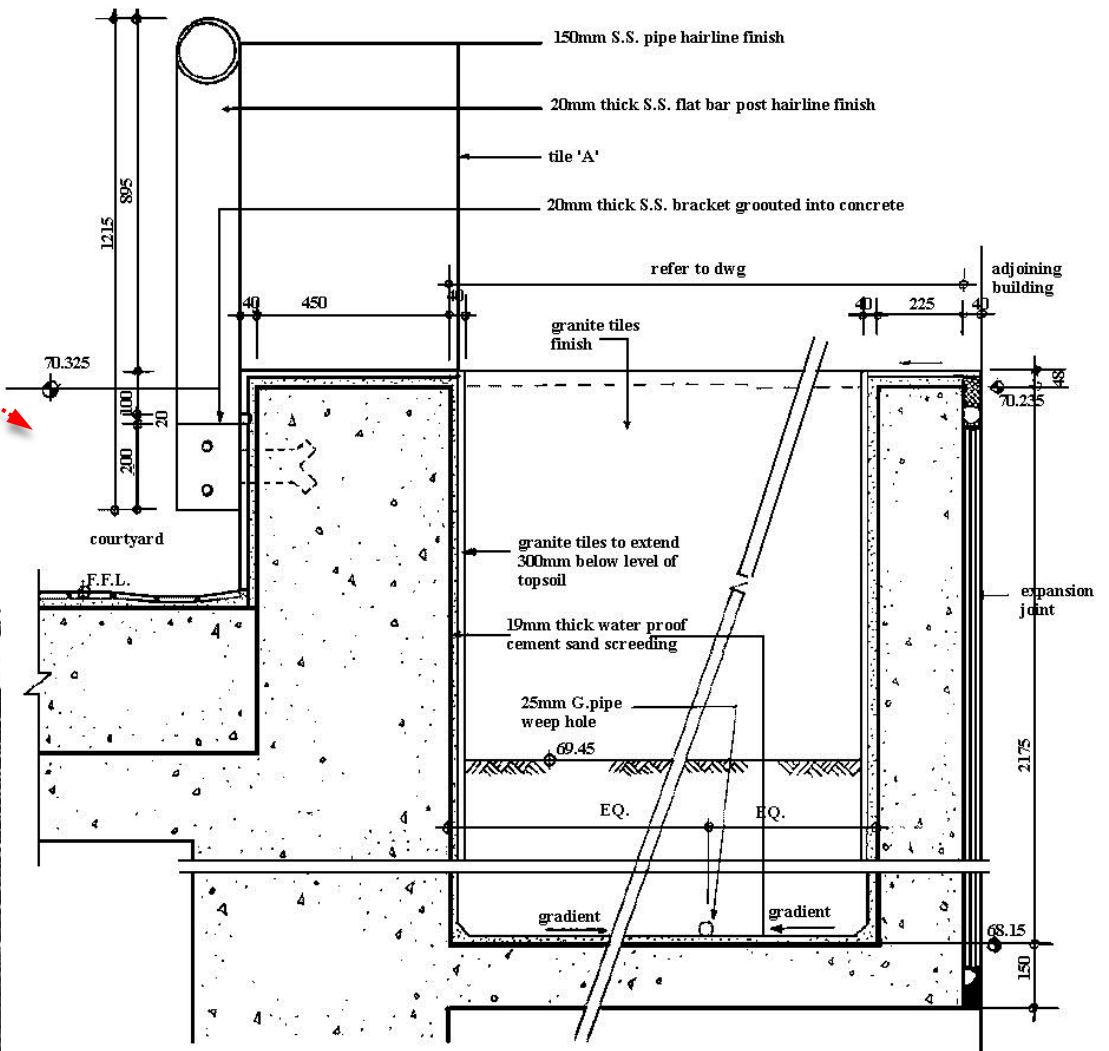
### 8.4 Hand Rail Detail II

### 8.5 [Planter Detail](#)

### 8.6 Hydroseeding I

### 8.7 Hydroseeding II

### 8.8 [Stone Pitching](#)



# T.T.Tsui Building, HKU Main Campus

## 9. Combined Building Services [ all building services installations are shown in one combined layout drawing ]

### 9.1 [Legend](#)

### 9.2 [G/F Plan - Service Rooms](#)

### 9.3 Service Room - Finish Schedule

### 9.4 G/F Part Plan - Services Layout ( scale 1:50 )

### 9.5 1/F Part Plan - Gallery - Services Layout Below False Ceiling ( scale 1:50 )

### 9.6 [3/F Part Plan - Lavatory - Services Layout Below False Ceiling \( scale 1:50 \)](#)

### 9.7 [3/F Part Plan - Lavatory - Services Layout Above False Ceiling \( scale 1:50 \)](#)

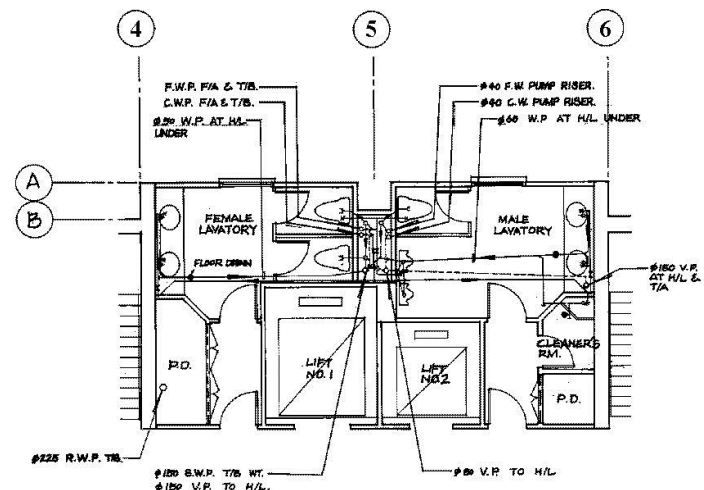
### 9.8 [3/F Part Plan - Lecture Room - Services Layout Below False Ceiling \( scale 1:50 \)](#)

### 9.9 [3/F Part Plan - Lecture Room - Services Layout Below False Ceiling \( scale 1:50 \)](#)

### 9.10 Roof - Services Layout ( scale 1:50 )

### 9.11 Photos I

### 9.12 Photos II





# **T.T.Tsui Building, HKU Main Campus**

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10.1 [Introduction](#)

10.2 [Photos](#)

10.3 **Chilled Water Schematic Diagram**

10.4 [Chilled Water Plant Control Strategy](#)

10.5 [AHU & PAU Control Strategy](#)

10.6 **G/F - A/C Layout**

10.7 [AHU Control Strategy for an Art Gallery](#)

10.8 [2/F - A/C Layout](#)

10.9 [5/F - A/C Layout](#)

10.10 [7/F - A/C Layout](#)

10.11 [Roof - A/C Layout](#)

# T.T.Tsui Building, HKU Main Campus

## 11. Fire Services Installations

- 11.1 [Fire Detection and Alarm System Schematic Diagram](#)
- 11.2 [Fire Hydrant and Hosereel System Schematic Diagram](#)
- 11.3 [Sprinkler System Schematic Diagram](#)
- 11.4 [Sprinkler Schematic Details](#)
- 11.5 [FS Control Centre and Pump Control Panels](#)
- 11.6 [G/F - Sprinkler Layout](#)
- 11.7 [5/F - Sprinkler Layout](#)
- 11.8 [FS Details I](#)
- 11.9 [FS Details II](#)
- 11.10 [FS Details III](#)
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- 11.12 [FS DetailsV](#)
- 11.13 [Photos I](#)
- 11.14 [Photos II](#)
- 11.15 Fire Evacuation Schematic Diagram [1996] [Tsui Tsin Tong Building,

**HKU , 13 Fire Evacuation plans : since 2001, see**

<http://www.safety.hku.hk/homepage/pdf/FPTTT.pdf>

# **T.T.Tsui Building, HKU Main Campus**

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12.3 [Flushing Water Supply System Schematic Diagram](#)

12.4 [Soil and Waste Drainage System Schematic Diagram](#)

12.5 Storm Water Drainage System Schematic Diagram

12.6 [G/F - Plumbing and Drainage Layout](#) ( scale 1: 200 )

12.7 [1/F - Plumbing and Drainage Layout](#) ( scale 1: 200 )

12.8 [3/F - Plumbing and Drainage Layout](#) ( scale 1: 200 )

12.9 [9/F & 11/F - Plumbing and Drainage Layout](#) ( scale 1: 200 )

12.10 [Roof & Upper Roof - Plumbing and Drainage Layout](#) ( scale 1: 200 )

12.11 [Drainage Details I](#)

12.12 [Drainage Details II](#)

# T.T.Tsui Building, HKU Main Campus

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- 13.2 [Communal Aerial Boardcasting System and Public Address ASystem - Schematic Diagram](#)
- 13.3 [G/F - Power Layout](#)
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- 13.6 [Roof - Power Layout](#)
- 13.7 [Installation Details I](#)
- 13.8 [Installation Details II](#)
- 13.9 [Installation Details III](#)
- 13.10 [Lift Services - Schematic Diagrams / Schedule](#)
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## 14. Lighting Fittings / Layout

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- 14.2 [3/F Lighting Layout](#)
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- 14.5 [Lighting Fittings I](#)
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- 14.9 [Integration of Natural Lighting and Artificial Lighting](#)
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# T.T.Tsui Building, HKU Main Campus

## 15. Solar Design ( Reserved )

### 16. Door Details

- 16.1 Door 1 - G/F Lift Lobby / Portico
- 16.2 Door 2 - 3/F Entrance Lobby / Court
- 16.3 Door 4 - 1/F Bridge / Gallery
- 16.4 Door 4, 20, 21 - 1/F Bridge / Gallery, Lavatory Foyer / Pipe Duct
- 16.5 [Door 5 - 1/F, 2/F Gallery / Lift Lobby](#)
- 16.6 Door 6 - G/F Gallery / Office
- 16.7 Door 17- 3/F to 11/F
- 16.8 Door 25 - G/F & 1/F Fire Exit Door
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- 16.10 Typical Double Door, Typical Solid Cored Door ( non-fire rated )

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- 17.2 [Enquiry Counter - Front Viwe](#)
- 17.3 [Enquiry Counter - Section & Detials](#)
- 17.4 [Form Filling Centre - Elevation](#)
- 17.5 Form Filling Centre - Section& Details
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# T.T.Tsui Building, HKU Main Campus

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# T.T.Tsui Building, HKU Main Campus

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## **T.T.Tsui Building, HKU Main Campus**

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- 22.6 [Design of Caisson I](#)
- 22.7 [Design of Caisson II](#)
- 22.8 [Caisson Details](#)
- 22.9 [Site Photos](#)

Tsui Tsin Tong Building, HKU <http://www.ad.arch.hku.hk/teaching/intgtech/content.htm>

*Thank you very much*