

**For discussion
on 15 June 2011**

PWSC(2011-12)27

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Public safety – Fire services

172BF – Construction of fire station-cum-ambulance facility at Cheung Yip Street, Kowloon Bay

Members are invited to recommend to Finance Committee the upgrading of **172BF** to Category A at an estimated cost of \$210.0 million in money-of-the-day prices for the construction of a fire station-cum-ambulance facility at Cheung Yip Street, Kowloon Bay.

PROBLEM

With the commissioning of the first berth of the cruise terminal at Kai Tak in mid-2013, we need to provide fire and ambulance facilities in the area for relevant emergency services. In addition, to enhance the capability of the Urban Search and Rescue Team in responding to emergencies, the Fire Services Department (FSD) needs to set up an urban search and rescue equipment store in Kowloon.

/PROPOSAL

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Security, proposes to upgrade **172BF** to Category A at an estimated cost of \$210.0 million in money-of-the-day (MOD) prices for the construction of a fire station-cum-ambulance facility at Cheung Yip Street, Kowloon Bay.

PROJECT SCOPE AND NATURE

3. The proposed project is to construct a new six-storey fire station with ambulance facility-cum-an urban search and rescue equipment store in Kowloon Bay with a site area of 2 250 square metres (m²). The scope of the proposed project comprises –

- (a) a 4-bay appliance room with watch rooms;
- (b) offices;
- (c) an urban search and rescue equipment store;
- (d) a drill yard with a drill tower;
- (e) a lecture room;
- (f) a disinfection room;
- (g) an exercise room, standby quarters and a recreation room;
- (h) dining rooms and kitchen; and
- (i) ancillary and supporting facilities.

A site plan, perspective drawings, layout plans and a sectional drawing for the project are at Enclosures 1 to 7. Subject to funding approval of the Finance Committee, we plan to start the construction works in July 2011 for completion in June 2013.

/JUSTIFICATION

JUSTIFICATION

4. To tie in with the commissioning of the first berth of the cruise terminal at Kai Tak in mid-2013 and cope with the commercial and residential developments in Kai Tak area, there is a need to develop a fire station-cum-ambulance facility at Cheung Yip Street in order to provide adequate emergency service coverage for the area and to meet future growth in service demand.

5. Under the existing fire risk categorization¹ adopted by the FSD, the future Kai Tak area is classified as “congested built-up area” in which FSD pledges to meet 92.5% of all building fire calls within a graded response time (GRT)² of six minutes. Currently, the fire stations closest to the proposed cruise terminal and its vicinity are the fire stations at Kowloon Bay and Ma Tau Chung, which are about 3.5 and 4 kilometres away respectively. For such distances, fire appliances will take more than ten minutes to reach the cruise terminal and its adjacent areas, falling short of the performance pledge of FSD. Therefore, there is a need to construct the proposed fire station at Cheung Yip Street to ensure adequate fire services coverage for Kai Tak area.

6. As for emergency ambulance services, it is expected that the demand for services will increase following the commissioning of the first berth of cruise terminal in mid 2013 and the completion of commercial and residential projects in the vicinity. Currently, a total of eight ambulances are stationed at Ma Tau Chung Ambulance Depot and Kowloon Bay Fire Station. However, these two deployment points cannot accommodate additional ambulances; hence we need to have ambulances stationed at the proposed fire station to ensure adequate provision of emergency ambulance services in Kai Tak area.

7. The Urban Search and Rescue Team is a special unit for emergency rescue operations in confined space at the scenes of building collapse or major landslides etc. The equipment of the Urban Search and Rescue Team include many heavy-duty items, such as life locators and heavy demolition equipment. Currently,

/these

¹ It refers to a system adopted in assessing the level of fire risk for a particular area. Assessment criteria include residential density, intensity of development, building height index and total gross floor area utilisation.

² It refers to the time interval between the time of receipt of a building fire call and the arrival of fire appliances at scenes.

these items are kept in a temporary store at the Pat Heung Fire Services Training School. As the Kai Tak Development area is centrally located, the proposed establishment of an urban search and rescue equipment store at the proposed fire station can greatly enhance the capability of FSD in emergency response by facilitating more expeditious delivery of the heavy-duty equipment to the scenes and allowing search and rescue operations to start as soon as possible.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the project to be \$210.0 million in MOD prices (please see paragraph 9 below), broken down as follows –

	\$ million	
(a) Site works	7.1	
(b) Piling	28.9	
(c) Building	75.7	
(d) Building services	27.0	
(e) Drainage	2.5	
(f) External works	4.7	
(g) Additional energy conservation measures	2.1	
(h) Furniture and equipment ³	18.9	
(i) Contingencies	14.8	
	181.7	(in September 2010 prices)
(j) Provision for price adjustment	28.3	
	210.0	(in MOD prices)

/The

³ The estimated cost of furniture and equipment is based on an indicative list of items required.

The construction floor area (CFA) of the proposed fire station-cum-ambulance facility is 4 300 m². The estimated construction unit cost, represented by building and building services costs, is \$23,884 per m² of CFA in September 2010 prices. We consider this comparable to that of similar projects built by the Government.

9. Subject to approval, we will phase the expenditure as follows –

Year	\$ million (Sept 2010)	Price adjustment factor	\$ million (MOD)
2011 – 12	18.0	1.04525	18.8
2012 – 13	67.0	1.10143	73.8
2013 – 14	53.0	1.16201	61.6
2014 – 15	20.0	1.22592	24.5
2015 – 16	14.0	1.29335	18.1
2016 – 17	9.7	1.36448	13.2
	181.7		210.0

10. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2011 to 2017. We will deliver the works under a lump-sum contract because we can clearly define the scope of the works in advance. The contract will provide for price adjustments.

11. We estimate the annual recurrent expenditure arising from the project to be \$24.5 million.

/PUBLIC

PUBLIC CONSULTATION

12. We consulted the Kwun Tong District Council (KTDC) on 2 November 2010. KTDC had no objection to the project. We also consulted the Legislative Council Panel on Security on 17 January 2011. Members raised no objection to the project.

ENVIRONMENTAL IMPLICATIONS

13. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We completed a Preliminary Environmental Review (PER) in June 2010 which concluded that the project would have no long-term adverse environmental impact.

14. During construction, we will control noise, dust and site runoff nuisances to levels within established standards and guidelines through the implementation of mitigation measures as recommended in the PER in the relevant contract. These include the use of silencers, mufflers, acoustic lining or shields and the building of barrier walls for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities to prevent dust nuisance.

15. At the planning and design stages, we have considered measures to reduce the generation of construction waste where possible (e.g. using metal site hoardings and signboards so that these materials can be recycled or reused in other projects). In addition, we will require the contractor to reuse inert construction waste on site (e.g. use of excavated materials for filling within the site) or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities⁴. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

/16.

⁴ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

16. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

17. We estimate that the project will generate in total about 30 090 tonnes of construction waste. Of these, we will reuse about 8 630 tonnes (28.7%) of inert construction waste on site and deliver 20 500 tonnes (68.1%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 960 tonnes (3.2%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$673,500 for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne⁵ at landfills).

HERITAGE IMPLICATIONS

18. This project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

19. The project does not require land acquisition.

/ENERGY

⁵ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90 per m³), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

ENERGY CONSERVATION MEASURES

20. This project has adopted various forms of energy efficient features, including –

- (a) T5 energy efficient fluorescent tubes with electronic ballast and lighting control by occupancy sensors and daylight sensors;
- (b) light-emitting diode (LED) type exit signs and feature lights; and
- (c) variable refrigerant volume (VRV) air-conditioning system.

21. For renewable energy technologies, we will install a solar hot water system and a photovoltaic system for environmental benefits.

22. For green features, we will provide greening on rooftop and vertical greening for environmental and amenity benefits.

23. For recycled features, we will provide rainwater recycling system for irrigating the greenery.

24. The total estimated additional cost for adoption of the energy conservation measures is around \$2.1 million (including \$127,500 for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 5.0% energy savings in the annual energy consumption with a payback period of about 7.9 years.

/BACKGROUND

BACKGROUND INFORMATION

25. We upgraded **172BF** to Category B in February 2009. We employed contractors to carry out topographical survey and utility mapping in May 2009, and site investigations in July 2009. We engaged consultants to carry out a PER in May 2009 and supplementary soil contamination study in August 2010. We charged the total cost of \$2.1 million to block allocation **Subhead 3100GX** “Project feasibility studies, minor investigations and consultants’ fees for items in Category D of Public Works Programme”. The contractors and consultants have completed the topographical survey, utility mapping, site investigations, PER and supplementary soil contamination study. We have completed the detailed design and tender documents with in-house staff resources.

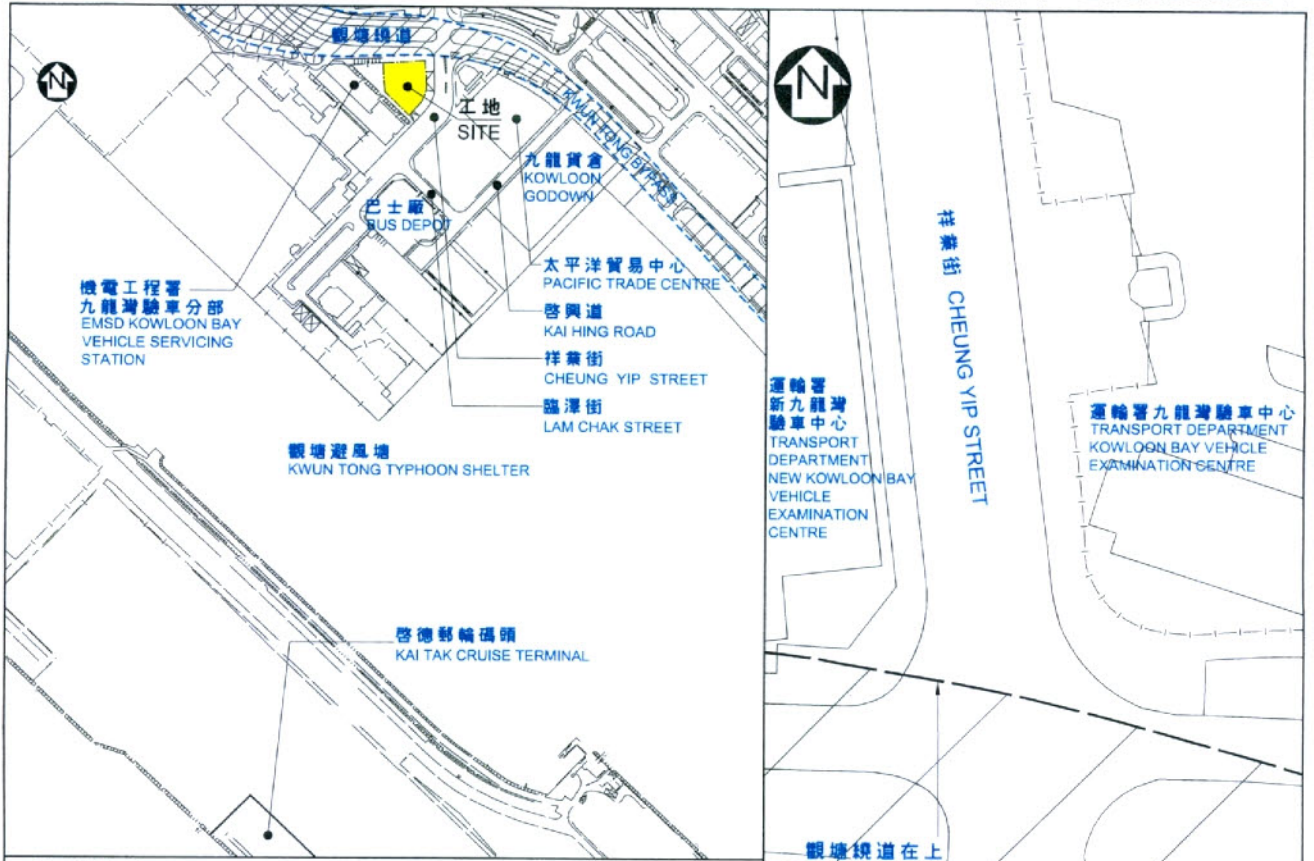
26. Of the nine trees within the project boundary, two trees will be preserved. The project will involve felling of seven trees. All trees to be removed are not important trees⁶. We will incorporate planting proposals as part of the project, including estimated quantities of 28 trees, 32 200 shrubs, ground covers and climbers.

27. We estimate that the proposed works will create about 165 jobs (155 for labourers and another ten for professional/technical staff) providing a total employment of 2 060 man-months.

Security Bureau
June 2011

⁶ An “important tree” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –


- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.



位置圖 LOCATION PLAN

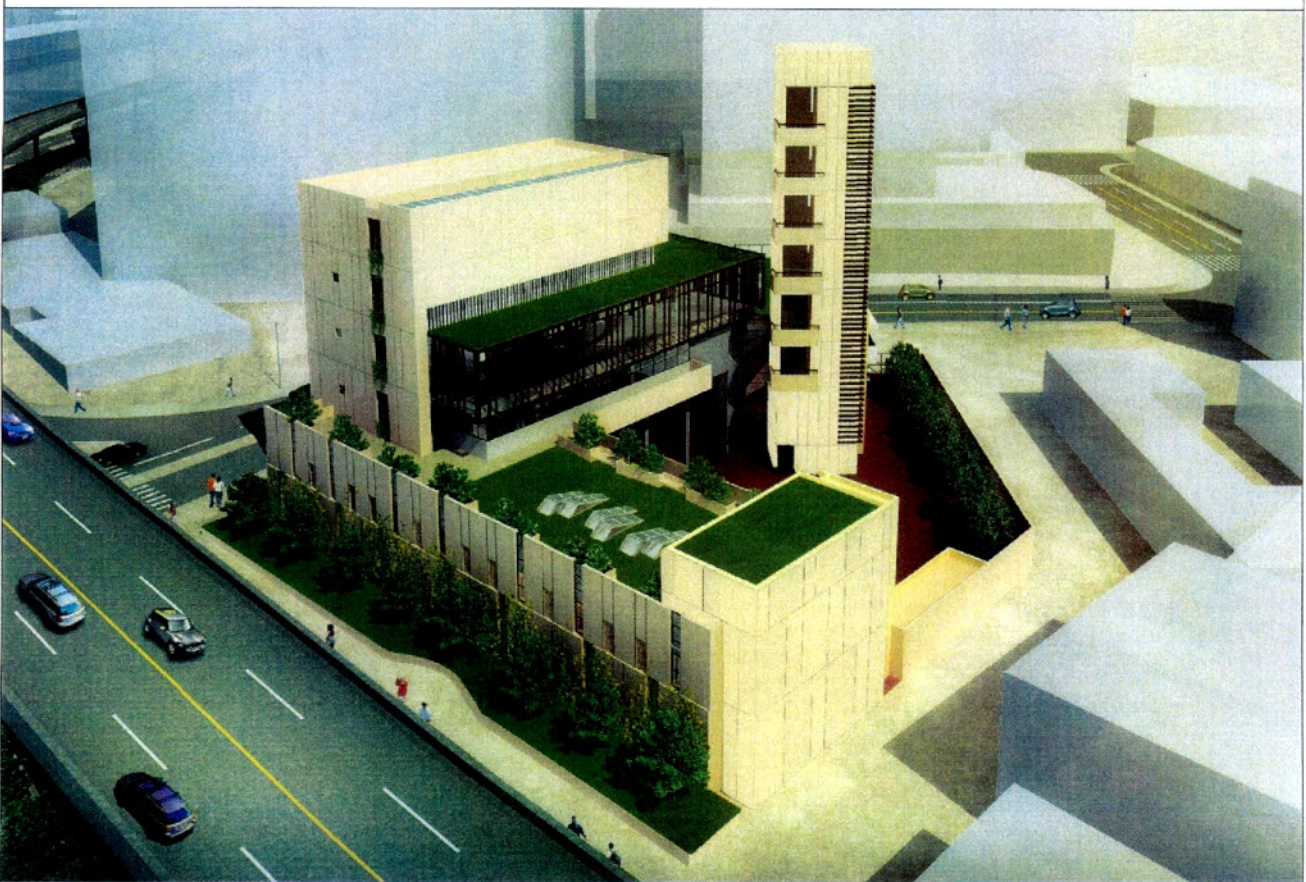
SCALE 比例: 1:8000




title 172BF 九龍灣祥業街消防局暨救護設施 興建計劃 Construction of Fire Station cum Ambulance Facility at Cheung Yip Street, Kowloon Bay	drawn by 繪圖 V. WONG	date 日期 11/2010	drawing no. 編號 AB/7279/XB001A	scale 比例 1:800
	approved 覆核 J. LEE	date 日期 11/2010	 ARCHITECTURAL SERVICES DEPARTMENT 建築署	
	office 辦事處 ARCHITECTURAL BRANCH 建築設計處			

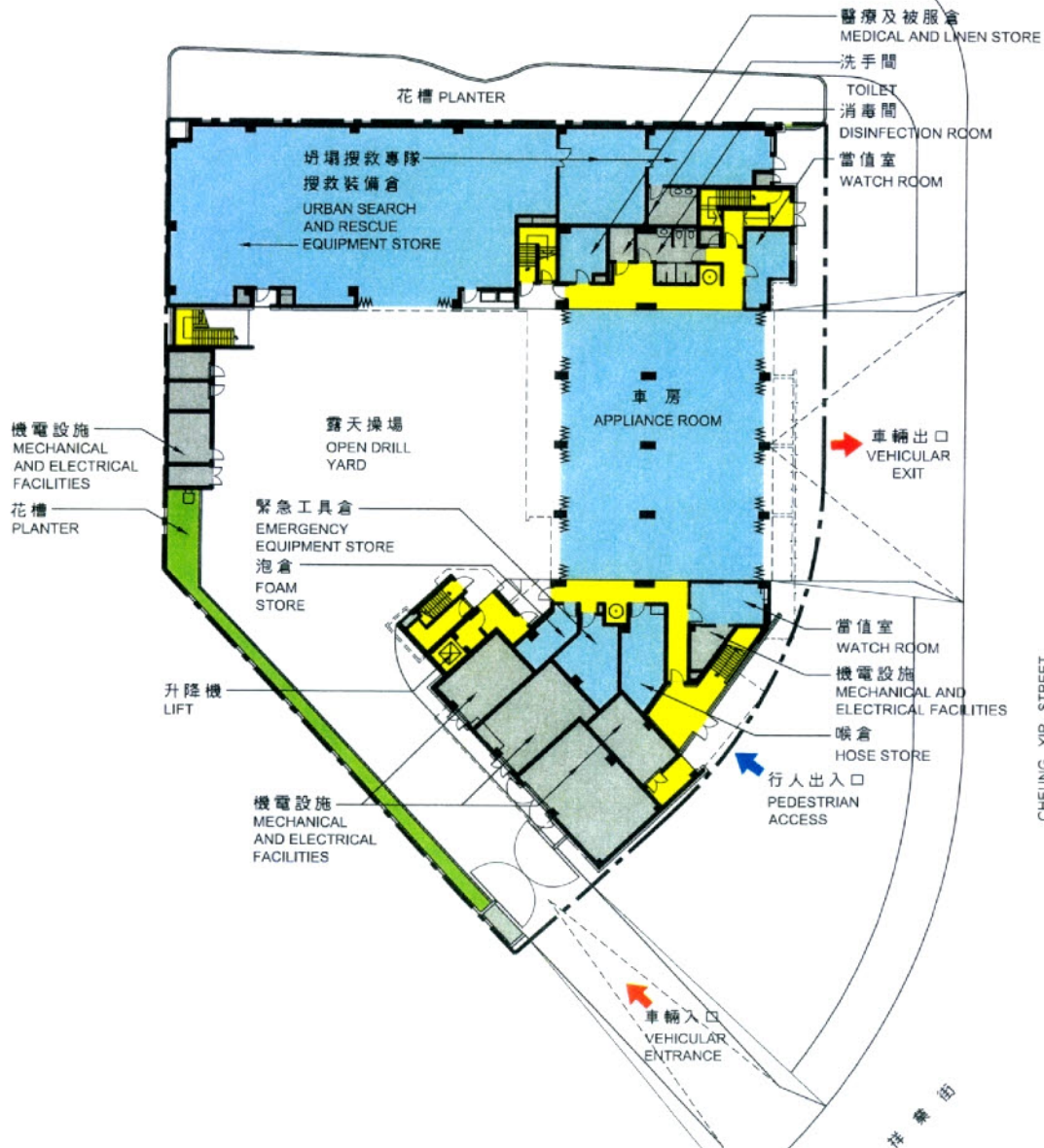


從祥業街望向消防局暨救護設施構思圖
VIEW OF FIRE STATION CUM AMBULANCE FACILITY FROM CHEUNG YIP STREET (ARTIST'S IMPRESSION)




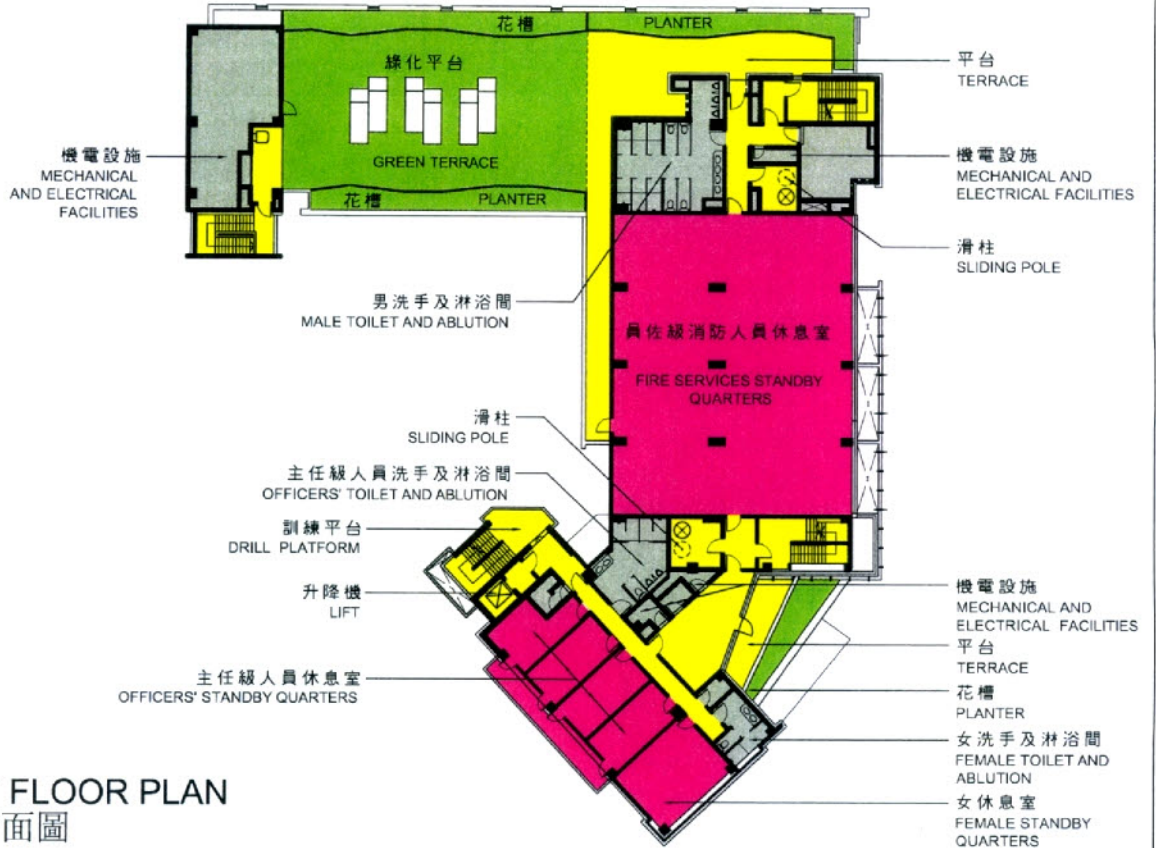
從觀塘繞道鳥瞰消防局暨救護設施構思圖
AERIAL VIEW OF FIRE STATION CUM AMBULANCE FACILITY FROM KWUN TONG BYPASS (ARTIST'S IMPRESSION)

title 172BF 九龍灣祥業街消防局暨救護設施 興建計劃 Construction of Fire Station cum Ambulance Facility at Cheung Yip Street, Kowloon Bay	drawn by 繪圖 V. WONG	date 日期 11/2010	drawing no. 編號 AB/7279/XB201	scale 比例 N.A.
	approved 覆核 J. LEE	date 日期 11/2010	 ARCHITECTURAL SERVICES DEPARTMENT 建築署	
	office 辦事處 ARCHITECTURAL BRANCH 建築設計處			

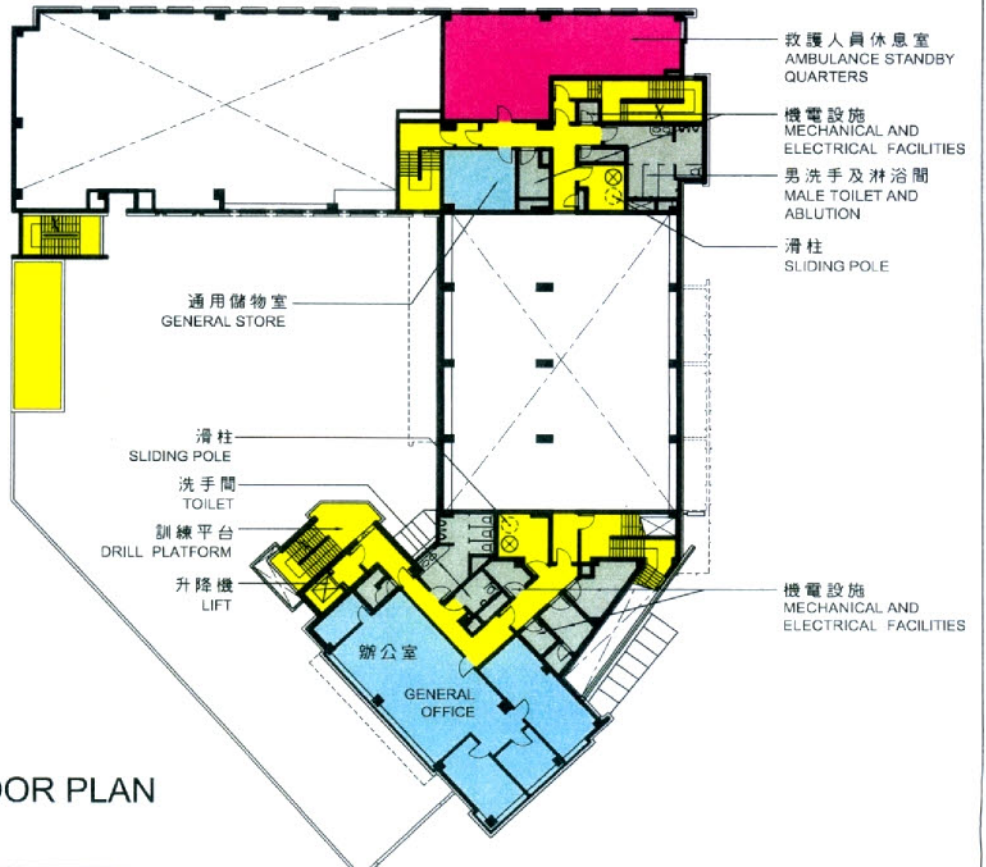


GROUND FLOOR PLAN
地下平面圖


title 172BF 九龍灣祥業街消防局暨救護設施 興建計劃 Construction of Fire Station cum Ambulance Facility at Cheung Yip Street, Kowloon Bay	drawn by 繪圖 V. WONG	date 日期 05/2011	drawing no. 編號 AB/7279/XB202	scale 比例 1:500
	approved 覆核 J. LEE	date 日期 05/2011	 ARCHITECTURAL SERVICES DEPARTMENT 建築署	
	office 辦事處 ARCHITECTURAL BRANCH 建築設計處			

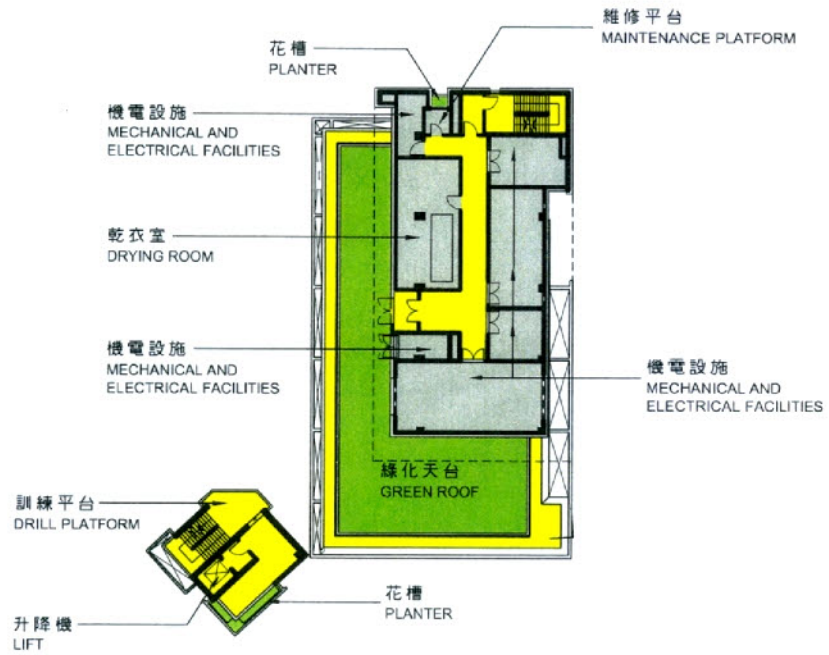


FIRST FLOOR PLAN
一樓平面圖

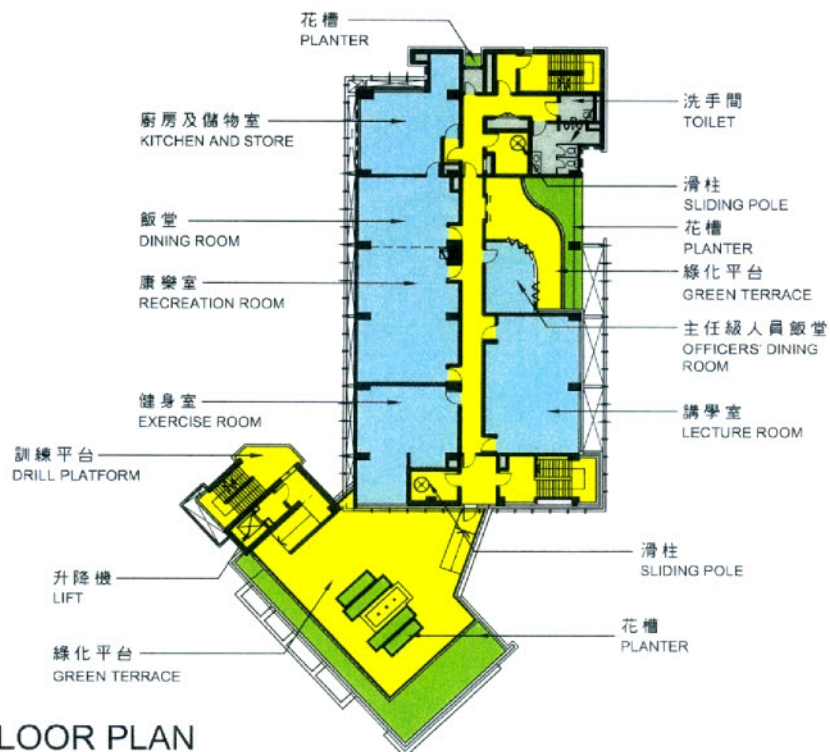


MEZZANINE FLOOR PLAN
閣樓平面圖

title 172BF 九龍灣祥業街消防局暨救護設施 興建計劃 Construction of Fire Station cum Ambulance Facility at Cheung Yip Street, Kowloon Bay	drawn by 繪圖 V. WONG	date 日期 05/2011	drawing no. 編號 AB/7279/XB203	scale 比例 1:500
	approved 覆核 J. LEE	date 日期 05/2011	 ARCHITECTURAL SERVICES DEPARTMENT 建築署	
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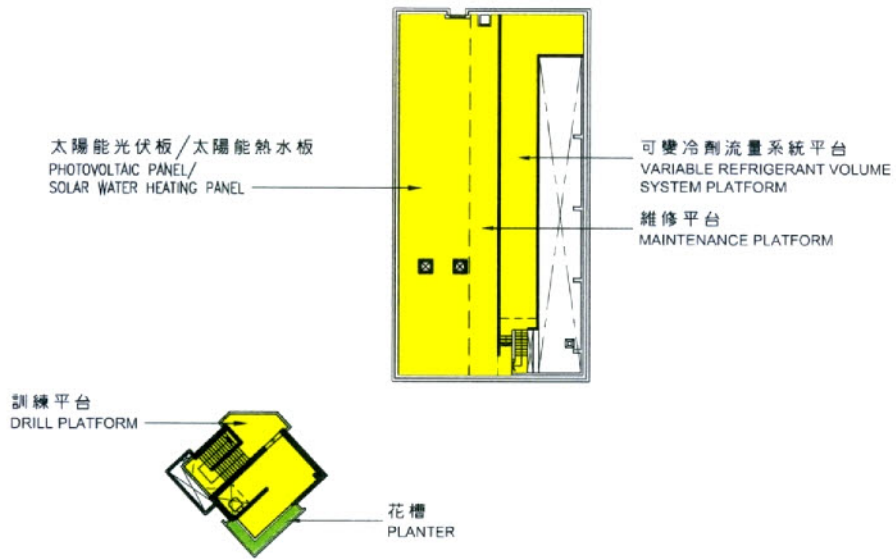


THIRD FLOOR PLAN
三樓平面圖

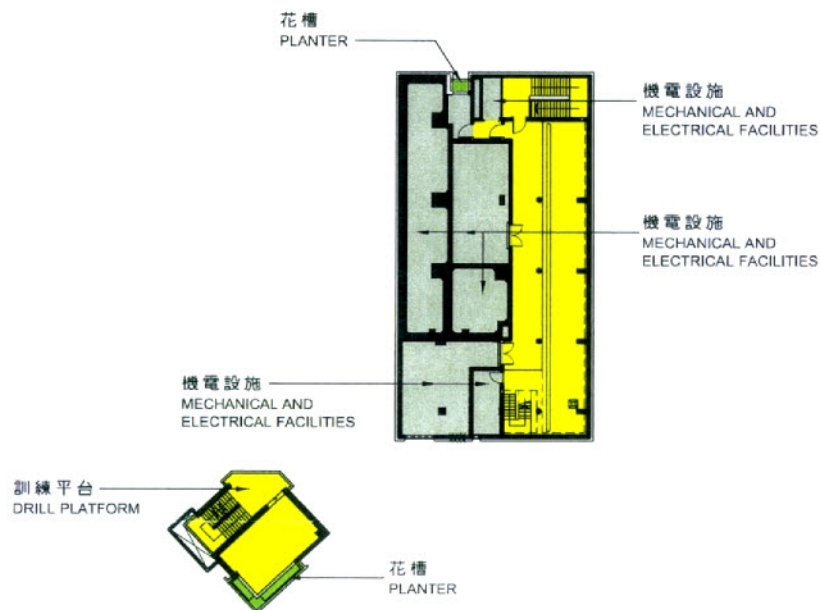


SECOND FLOOR PLAN
二樓平面圖

title 172BF 九龍灣祥業街消防局暨救護設施 興建計劃 Construction of Fire Station cum Ambulance Facility at Cheung Yip Street, Kowloon Bay	drawn by 繪圖 V. WONG	date 日期 05/2011	drawing no. 編號 AB/7279/XB204	scale 比例 1:500
	approved 覆核 J. LEE	date 日期 05/2011	 ARCHITECTURAL SERVICES DEPARTMENT 建築署	
	office 辦事處 ARCHITECTURAL BRANCH 建築設計處			

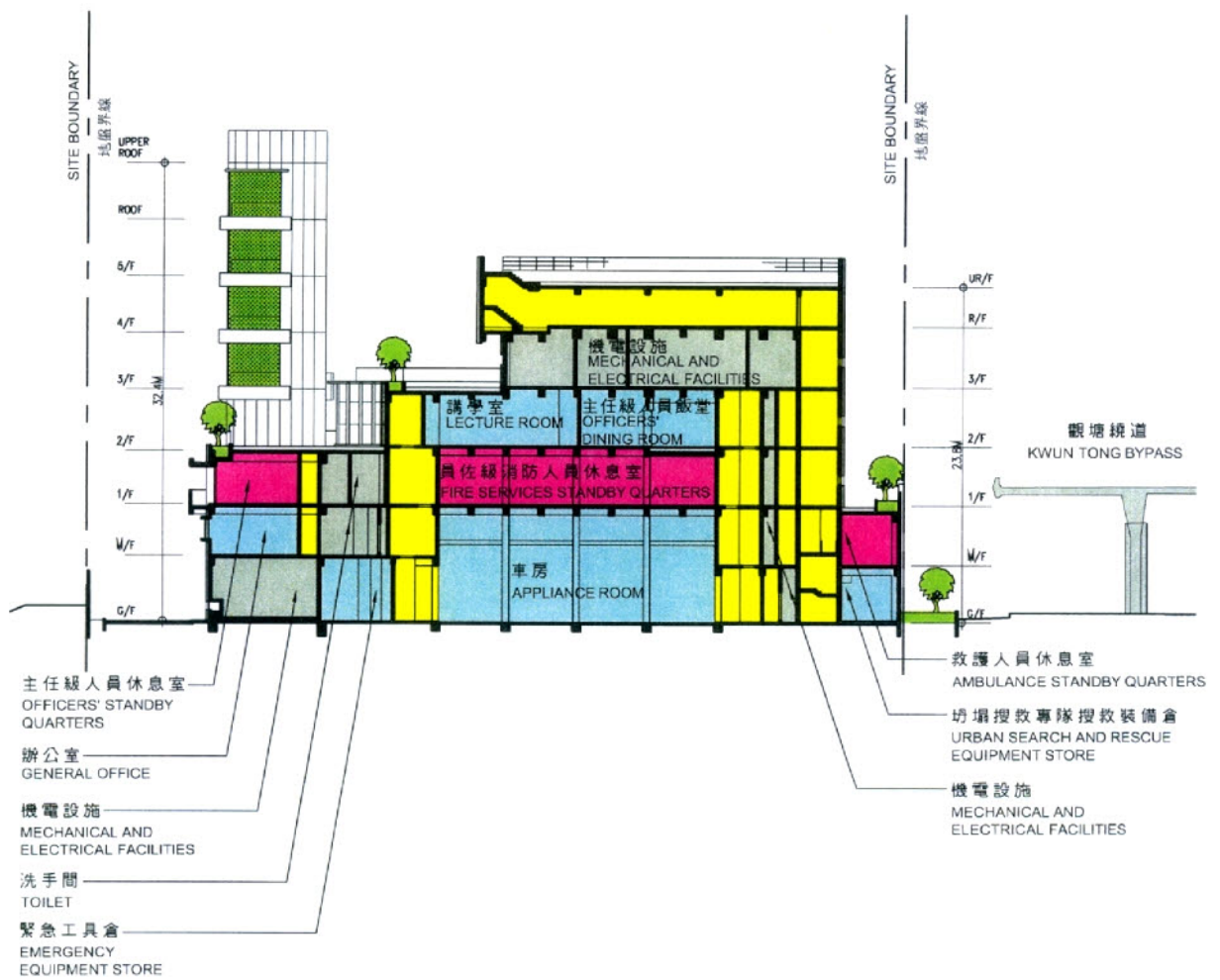


UPPER ROOF PLAN & FIFTH FLOOR PLAN OF DRILL TOWER
屋頂平面圖及操練塔五樓平面圖



ROOF PLAN AND FOURTH FLOOR PLAN OF DRILL TOWER
頂層平面圖及操練塔四樓平面圖

title 172BF 九龍灣祥業街消防局暨救護設施 興建計劃 Construction of Fire Station cum Ambulance Facility at Cheung Yip Street, Kowloon Bay	drawn by 繪圖 V. WONG	date 日期 05/2011	drawing no. 編號 AB/7279/XB205	scale 比例 1:500
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