

**For discussion
on 6 June 2007**

PWSC(2007-08)24

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT

**Technical Education and Industrial Training
Vocational Training Council**

**19EM – Construction of new campus at Tiu Keng Leng for
Vocational Training Council**

Members are invited to recommend to Finance Committee the upgrading of **19EM** to Category A at an estimated cost of \$1,006.3 million in money-of-the-day prices for the construction of a new campus at Tiu Keng Leng for the Vocational Training Council.

PROBLEM

The Vocational Training Council (VTC) needs to construct a new campus at Tiu Keng Leng, Tseung Kwan O.

/PROPOSAL

PROPOSAL

2. The Secretary for Education and Manpower (SEM), on the advice of the Director of Architectural Services (D Arch S), proposes to upgrade **19EM** to Category A at an estimated cost of \$1,006.3 million in money-of-the-day (MOD) prices for the construction of a new campus to accommodate the new Hong Kong Design Institute (HKDI) which will bring together the various design-related departments currently scattered in five campuses of the Hong Kong Institute of Vocational Education¹ (IVE) and to reprovise the existing campus of IVE (Lee Wai Lee) (IVE(LWL)).

PROJECT SCOPE AND NATURE

3. The scope of **19EM** comprises the following –
- (a) construction of an 11-storey teaching campus for the HKDI and an eight-storey teaching campus for the reprovise of the existing campus of IVE(LWL);
 - (b) provision of student sports and amenity facilities such as swimming pool, basketball courts, tennis courts and gymnasium; and
 - (c) formation of footpaths in the relevant part of the perimeter of the site and improvements to pedestrian crossings.

4. A site plan is at Enclosure 1. A full list of the facilities and an artist's impression of the campus are at Enclosures 2 and 3 respectively. The total net operating floor area of the campus is about 42 995 m². Facilities to be provided in the new campus include an auditorium, lecture theatres, workshops, laboratories and studios, student activities areas, classrooms, offices and function rooms. Subject to approval, the VTC plans to start construction in August 2007, with a view to completing the works for the HKDI and IVE(LWL) in July 2009 and January 2010 respectively.

/JUSTIFICATION

¹ The academic departments offering design-related programmes are scattered in five IVE campuses throughout the territory, including campuses in Sha Tin, Kwai Chung, Kwun Tong, Tsing Yi and Kowloon Tong.

JUSTIFICATION

Construction of HKDI

5. In support of the Government's policy to promote and develop high value added industries with high intellectual property and creative content in Hong Kong, IVE operates a strong design discipline which trains the necessary manpower required by the industries. Currently, the academic departments offering design-related programmes are scattered in five IVE campuses, which is not conducive to students' learning and development.

6. The VTC proposes to bring together its three strong design-related departments, namely, the Design, Fashion and Textiles, and Printing and Digital Media Departments, which offer about 4 000 full-time equivalent student places, by accommodating them in a dedicated HKDI on a single, purpose-built campus. The integration will not only pool resources and foster synergy among the design-related departments, but also enhance the creative and dynamic teaching and learning environment and the delivery of quality design education for nurturing design talents in Hong Kong.

7. To ensure that students will receive quality design education and training, the new HKDI will provide facilities including design studios, television, film and audio studios, drawing rooms, workshops, language and computer laboratories. In addition, the HKDI will provide a range of specialist learning facilities for students to explore aspects of design development within a structured environment conducive to the attainment of discipline focused skills. Each facility will be outfitted with the essential array of equipments and tools to promote the advancement of skills. All these facilities will provide the necessary infrastructure to help the HKDI fulfill its mission to become a leading international provider of foundation studies and lifelong learning in design.

Reprovisioning of IVE(LWL)

8. IVE(LWL), one of the nine IVE campuses, is currently located at Renfrew Road, Kowloon Tong. One of the strategic goals of IVE(LWL) is to provide integrated manpower training to support industrial development, in particular jewellery, watches and clocks, and optics industries which require design and technology to drive their growth and development. The IVE(LWL) campus was built 27 years ago and its ageing infrastructure requires upgrading in order to

/support

support a modernised provision of vocational education and training. Putting the HKDI and IVE(LWL) campuses on adjacent sites will help achieve better synergy among the various academic disciplines and departments in IVE. Moreover, integrating the design elements would help drive a multi-disciplinary approach which is essential to the development of the creative industries in Hong Kong. The HKDI, together with the Departments of Business Administration, Computing and Information Management, and Engineering Management and Technology (which offer about 2 500 full-time equivalent student places) to be accommodated at the new IVE(LWL) campus, will provide “one-stop” training services for design-related industries ranging from product design, technology, manufacturing, sales and marketing to after-sales services. This will strengthen the capacity of the industries concerned and enhance the content and value of their products and services.

9. With a combined full-time equivalent student places of about 6 500, economies of scale and cost savings can be achieved in the provision of student sports and other ancillary facilities. In this connection, the HKDI and IVE(LWL) will be designed as an open campus and landscaped areas on the podium will be accessible to the general public. Moreover, student sports and amenity facilities at the new campus will be opened to the public during non-school hours as suggested by the Sai Kung District Council (SKDC) (see paragraph 17 below).

10. Upon completion of the new campus at Tiu Keng Leng, the space vacated from the design-related departments in the existing IVE campuses will be rationalised to relieve overcrowding in the respective campuses and to improve the quality of the learning environment for the students. The existing site of IVE(LWL) in Kowloon Tong will be returned to the Government after the reprovisioning is completed.

FINANCIAL IMPLICATIONS

11. We estimate the capital cost of the project to be \$1,006.3 million in MOD prices (see paragraph 14 below), made up as follows –

	\$ million
(a) Site development including special piling in reclaimed site	45.8

/(b)

	\$ million	
(b) Building	489.1	
(c) Building services	225.8	
(d) Drainage	2.6	
(e) External works (including basketball courts, swimming pool, landscape, etc.)	17.4	
(f) Formation of footpaths and pedestrian crossings improvements	2.2	
(g) Consultants' fees for –	30.2	
(i) Tender assessment	2.0	
(ii) Contract administration	14.8	
(iii) Site supervision	12.4	
(iv) Out-of-pocket expenses	1.0	
(h) Furniture and equipment ²	89.4	
(i) Contingencies	90.3	
Sub-total	992.8	(in September 2006 prices)
(j) Provision for price adjustment	13.5	
Total	1,006.3	(in MOD prices)

/12.

² Furniture and equipment (F&E) cost is estimated based on 12.5% of the building and building services costs of the project estimate. This will cover specialist audio-visual equipment required for the auditorium, lecture theatres and digital media studios. The VTC will carry out a survey on the serviceability of existing F&E of the academic departments in various campuses of IVE offering design-related programmes and the academic departments of IVE(LWL) before procuring new F&E for the new campus.

12. The VTC proposes to engage consultants to undertake tender assessment, contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees by man-month is at Enclosure 4.

13. The construction floor area (CFA) of this project is 66 630 m². The estimated construction unit cost, represented by the building and building services costs, is \$10,730 per m² of CFA in September 2006 prices. D Arch S considers the estimated construction unit cost to be reasonable. A detailed account of the CFA vis-à-vis the construction unit cost of **19EM** is at Enclosure 5.

14. Subject to approval, the VTC will phase the expenditure as follows –

Year	\$ million (Sept 2006)	Price adjustment factor	\$ million (MOD)
2007 – 2008	120.0	0.99900	119.9
2008 – 2009	309.0	1.00649	311.0
2009 – 2010	380.0	1.01656	386.3
2010 – 2011	145.0	1.02672	148.9
2011 – 2012	38.8	1.03699	40.2
	992.8		1,006.3

15. The VTC has derived the MOD estimate on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period from 2007 to 2012. The contract will provide for price adjustments as the contract period exceeds 21 months.

16. The project will have no impact on tuition fees.

/PUBLIC

PUBLIC CONSULTATION

17. We consulted the SKDC on the proposal on 10 January and 4 April 2006 and the SKDC Members indicated their support. As suggested by Members of the SKDC, the student sports and amenity facilities at the new campus will be opened to the public during non-school hours.

18. We also consulted the Legislative Council Panel on Manpower on 19 April 2007. Members supported the proposal.

ENVIRONMENTAL IMPLICATIONS

19. The project will not cause long term environmental impact. We have included in the project estimates the cost to implement suitable mitigation measures to control short term environmental impacts.

20. During construction, the VTC will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

21. The VTC has considered measures such as the use of pre-fabricated and pre-cast elements, structural steels fabricated at factories etc. in the planning and design stages to reduce the generation of construction and demolition (C&D) materials where possible. In addition, the VTC will require the contractor to reuse inert C&D materials (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of C&D materials to public fill reception facilities. It will encourage the contractor to maximise the use of recycled or recyclable C&D materials, as well as the use of non-timber form work to further minimise the generation of construction waste.

22. The VTC will also require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. The VTC will ensure that the day-to-day operations on site comply with the approved WMP.

/It

It will control the disposal of public fill, C&D materials and C&D waste to public fill reception facilities³, sorting facilities³ and landfills respectively through a trip-ticket system. It will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities and record the disposal, reuse and recycling of C&D materials for monitoring purposes.

23. The VTC estimates that the project will generate about 67 510 tonnes of C&D materials. Of these, it will reuse about 25 650 tonnes (38%) on site, deliver 33 060 tonnes (49%) to public fill reception facilities for subsequent reuse, and 4 000 tonnes (5.9%) to sorting facilities in order to retrieve the inert portion for reuse as public fill. In addition, the VTC will dispose of 4 800 tonnes (7.1%) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites, together with the cost for handling the materials at sorting facilities is estimated to be \$1.89 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities, \$100/tonne at sorting facilities and \$125/tonne⁴ at landfills).

LAND ACQUISITION

24. The project does not require any land acquisition.

BACKGROUND INFORMATION

25. We upgraded **19EM** to Category B in September 2006. The VTC engaged consultants in September 2006 to carry out site investigation, detailed design and tender documentation at a total cost of \$14.7 million. We charged this amount to block allocation **Subhead 8100QX** "Alterations, additions, repairs and improvements to education subvented buildings". The consultants have completed the site investigation and detailed design. The VTC is finalising the tender documents of the project.

/26.

³ Sorting facilities and public fill reception facilities are specified in Schedule 3 and Schedule 4 respectively of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of public fill in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

⁴ The estimate has taken into account the costs 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 \$90m³) and the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

26. The proposed construction of the complex will involve removal of 53 trees, including 31 trees to be felled and 22 trees to be transplanted elsewhere within the campus. All trees to be removed are not important trees⁵. The VTC will incorporate planting proposals as part of the project, including estimated quantities of 38 trees.

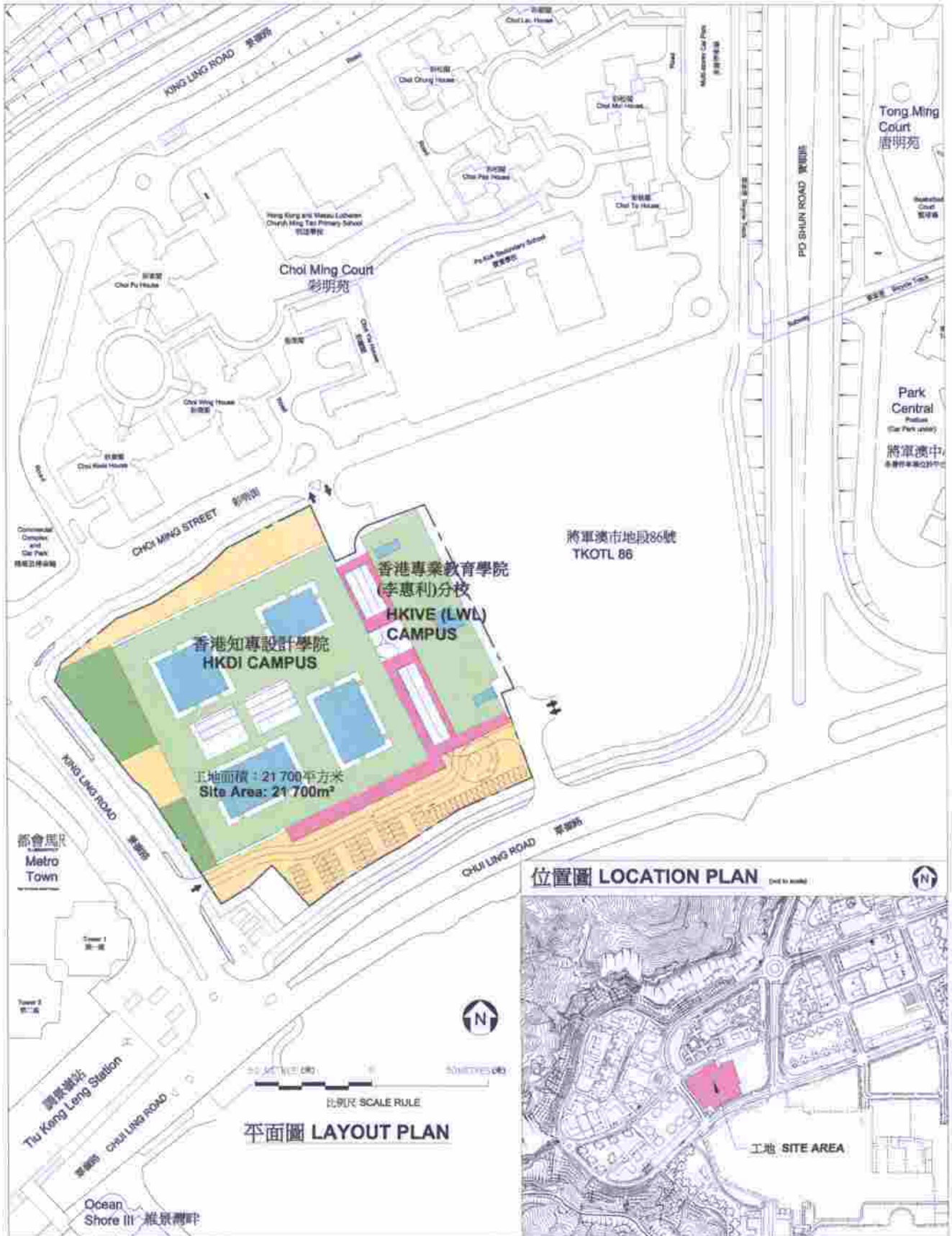
27. The VTC estimates that the proposed works will create about 752 jobs (672 for labourers and another 80 for professional/technical staff) providing a total employment of 15 900 man-months.

Education and Manpower Bureau
May 2007

⁵ "Important trees" refer 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 m (measured at 1.3 m above ground level) or with height/canopy spread equal or exceeding 25 m.

附件1 Enclosure 1 to PWSC(2007-08)24



Scale	發展計劃 Project Development	校對 Checked by	M.FUNG
AS SHOWN	19EM 為職業訓練局興建位於調景嶺的新校園 19EM CONSTRUCTION OF NEW CAMPUS AT TIU KENG LENG FOR VOCATIONAL TRAINING COUNCIL	繪圖 Drawn by	K.W.TSE
Date	日期 Drawing Date	圖號 Drawing no.	設計 Revision
Feb. 2007	平面圖 LAYOUT PLAN	HKDI&VE(LWL)/PWSCALP-01	



**19EM – Construction of new campus at Tiu Keng Leng for
Vocational Training Council**

List of facilities

	Facilities	NOFA (m²)
A	Teaching	25 840
1	Lecture Theatres	
2	Auditorium+	
3	Classrooms and tutorial rooms	
4	Computer / Language laboratories	
5	Drawing / Basic Design Studios	
6	2-Room Filming and TV Studio	
7	3-Room Band Room	
8	3-Room Digital Music and Audio Production Studio	
9	3-Room Photographic and Print Making Studio	
10	Motion Capture Studio	
11	Multimedia & Animation Studio	
12	5-Room Multimedia Design and Visual Communication Studio	
13	2-Room 3D Modeling Workshop	
14	Image Creation/Hair/Fashion/Clothing/Textile Design Studios	
15	2-Room Printing & Packaging Workshop	
16	Metal / Wood / Plastic / Ceramic Design Workshops	
17	2-Room Interior Design Workshop	
18	2-Room Jewellery Workshop	
19	2-Room Automation Workshop	
20	Optics Workshop	
21	Toy Design Workshop	
22	Horological Laboratory	
23	Electro-Optics and Thin Film Science Laboratory	

/Facilities

	Facilities	NOFA (m²)
B	Students Support, Sports and Amenities	12 705
1	Learning Resources Centre (Library, Self-Access Centre, AV production Centre, etc)	
2	Canteen	
3	Cafeteria and Snack Kiosks	
4	Exhibition and Multi-function Area	
5	Gallery with production and preparation room	
6	Students Support and Activities Centre (for counseling and interviews, career information and placement services, student clubs and unions, etc)	
7	Swimming Pool [^]	
8	Gymnasium [^]	
9	Dance Room	
10	Basketball Courts * [^]	
11	Tennis Courts * [^]	
C	Staff Areas	4 450
1	Academic Staff Offices	
2	Other Offices	
3	Meeting Rooms	
4	Conference Room	
	Total:	42 995

Notes

- + Members of the public may hire the auditorium for various activities when it is available. Certain exhibitions and displays will be opened to the public to promote cultural awareness among the local residents.
- [^] The facilities will be opened to the public during non-school hours.
- * Basketball courts and tennis courts will be provided on the top of building/podium with only minimal works and hence are not counted towards Net Operating Floor Area.

19EM – Construction of new campus at Tiu Keng Leng for Vocational Training Council

19EM – 為職業訓練局興建位於調景嶺的新校園



Artist's Impression of VTC campus at Tiu Keng Leng
職業訓練局調景嶺新校園的構思圖

19EM – Construction of new campus at Tiu Keng Leng for Vocational Training Council

Breakdown of the estimate for consultants' fees

		Estimated man- months	Average MPS* salary point	Multiplier (Note 2)	Estimated fees (\$ million)
(a)	Consultants fees ^(Note 1)				
	(i) Tender assessment				
	Professional	-	-	-	1.3
	Technical	-	-	-	0.7
	(ii) Contract administration				
	Professional	-	-	-	10.0
	Technical	-	-	-	4.8
(b)	Site supervision ^(Note 3)				
	Professional	91	38	1.6	7.9
	Technical	157	14	1.6	4.5
				Sub-total	29.2
(c)	Out-of-pocket expenses ^(Note 4)				
	Lithography and other direct expenses				1.0
				Total	30.2

* **MPS = Master Pay Scale**

Notes

- 1 The consultants' fees for tender assessment and contract administration are devised in accordance with the existing consultancy agreements obtained through competitive tendering for the design and construction of **19EM**. The assignment will only be executed subject to the Finance Committee's approval to upgrade **19EM** to Category A.
- 2 A multiplier of 1.6 is applied to the average MPS point to estimate the staff costs for contract staff employed by the VTC direct on the project. (As at 1 January 2007, MPS point 38 = \$54,255 per month, and MPS point 14 = \$18,010 per month.)

- 3 Having examined the site supervision costs estimated by the VTC, the Director of Architectural Services considered the figures acceptable. The actual man-months and actual costs for site supervision shall only be known after completion of the construction works.
- 4 Out-of-pocket expenses are the actual costs incurred. The consultants are not entitled to any additional payment for the overheads or profit in respect of these items.

**19EM – Construction of new campus at Tiu Keng Leng for
Vocational Training Council**

**Breakdown of the construction floor area (CFA) vis-à-vis the construction
unit cost**

(a) Breakdown of CFA

Estimated floor area (m²)

(i) Net operational floor area (NOFA)	42 995
(ii) Landscape area, circulation areas and toilets	19 165
(iii) Mechanical and electrical plants	4 470
CFA (i.e. (i) + (ii) + (iii))	66 630

(b) NOFA/CFA ratio 64.5%

(c) Estimated construction unit cost
(represented by the building and
building services costs) \$10,730 per m² of CFA
(in September 2006 prices)