

For discussion  
on 30 June 2021

PWSC(2021-22)25

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 708 - CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT**

#### **Universities**

#### **The Chinese University of Hong Kong**

#### **63EF – Renovation of Facilities in Choh-Ming Li Basic Medical Sciences Building (Remaining Works)**

Members are invited to recommend to the Finance Committee the upgrading of **63EF** to Category A at an estimated cost of \$57.2 million in money-of-the-day prices for the renovation of facilities in Choh-Ming Li Basic Medical Sciences Building, The Chinese University of Hong Kong (remaining works).

#### **PROBLEM**

The Chinese University of Hong Kong (CUHK) needs to upgrade and increase its healthcare-relevant teaching facilities with a view to coping with the additional University Grants Committee (UGC)-funded healthcare training places as specified by the Government.

#### **PROPOSAL**

2. The Secretary-General, UGC, on the advice of the Director of Architectural Services (D Arch S) as UGC's Technical Adviser, and with the support of Secretary for Food and Health and the Secretary for Education, proposes

/to .....

to upgrade **63EF** to Category A at an estimated cost of \$57.2 million in money-of-the-day (MOD) prices for carrying out spatial reorganisation and improvement works for up-to-date teaching laboratories and multi-purpose classrooms at the Choh-Ming Li Basic Medical Sciences Building (BMSB).

### **PROJECT SCOPE AND NATURE**

3. The proposed scope of the works involves mainly -
  - (a) spatial reorganisation and improvement works for G/F, 1/F (north side) and 3/F of the Choh-Ming Li BMSB to provide up-to-date teaching laboratories, interactive / multi-purpose classrooms and offices for the teaching and academic use by the Faculty of Medicine;
  - (b) provision of new ventilation / air conditioning system for the renovated area to cope with the up-to-date teaching laboratories requirements;
  - (c) provision of all necessary laboratory equipment and furniture, audio-visual system, and information technology (IT) system;
  - (d) upgrading of IT infrastructure to provide and support the academic endeavours in the information age in terms of speed, capacity, stability and security for the floors. Works include building distribution frame, network equipment, fibres / Local Area Network (LAN) cables, data port, Wi-Fi equipment and associated building services and builder's work;
  - (e) upgrading and improvement works for the central air-conditioning and ventilation system from an aged and inefficient system to an up-to-date, reliable and energy efficient system for the subject laboratory building. Works include upgrading of the central piping distribution system, air-side equipment and associated control system on various floors; and
  - (f) all necessary associated upgrading of building services provisions, energy saving / consciousness measures and safety facilities.
  
4. The project will provide technology-enabled measures for teaching including up-to-date audio / visual implementation and conversion works at existing premises. The project enables interactive and group learning environment of teaching venues, with no increase in the net operational floor area.

5. A location plan, floor plans, a sectional drawing and references of teaching laboratories and interactive classrooms are at **Enclosures 1 to 3**.

6. CUHK plans to commence the project upon obtaining funding approval from the Finance Committee (FC) for target completion in around two years. To meet the works programme, CUHK invited tender for the proposed works in December 2020. Tender will only be awarded after obtaining FC's funding approval.

## JUSTIFICATION

7. In order to increase the supply of doctors and nurses, the Government increased substantially the UGC-funded medical and nursing training places from 250 and about 520 in the 2005/06 academic year to 470 and 630 in the 2018/19 academic year respectively. In the 2019/20 to 2021/22 triennium, the Government has further increased the number of healthcare-related UGC-funded first-year-first-degree annual intake places of CUHK by 50 (including 30 medical and 20 nursing places).

8. The existing student population and teaching activities conducted at the Choh-Ming Li BMSB have already outgrown the building's allowable capacities and outlived its dated facilities and infrastructure. Given that no other major healthcare-related teaching facilities are available before the completion of the teaching-research complex in Tai Po Area 39<sup>1</sup> (as the medium-term project), an urgent stop-gap solution through spatial reorganisation, improvement and upgrading works for the existing facilities in the Choh-Ming Li BMSB is crucial to allow better utilisation of space.

9. Provision of up-to-date teaching laboratories and multi-purpose classrooms with new ventilation / air conditioning system and advanced IT infrastructure helps ease the pressure in teaching and learning before more spacious and better equipped facilities are built. The essence of the short-term measures, mainly upgrading the hardware teaching and learning facilities, is to better utilise the existing space to ensure that the standard and quality of training rendered to medical and nursing students will not be compromised.

10. For the remaining medium to long-term works projects for enhancing the healthcare-related teaching facilities, funding proposals will be submitted to the Legislative Council (LegCo) as soon as practicable after the completion of relevant consultancy studies.

**/FINANCIAL .....**

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<sup>1</sup> The consultancy study for construction of the teaching-research complex in Tai Po Area 39 was upgraded to Category A at \$59.7 million (in MOD prices) on 26 June 2020 under Public Works Programme Item No. **8062EF**.

**FINANCIAL IMPLICATIONS**

11. We estimate the capital cost of the project to be \$57.2 million in MOD prices, broken down as follows –

	<b>\$ million (in MOD prices)</b>
(a) Building <sup>2</sup>	19.7
(b) Building services <sup>3</sup>	23.4
(c) Additional energy conservation	0.5
(d) Furniture and equipment (F&E) <sup>4</sup>	7.4
(e) Consultants' fees for contract administration	1.0
(f) Contingencies	5.2
Total	57.2

12. CUHK will engage consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for consultants' fees is at **Enclosure 4**.

13. The construction floor area (CFA) of this project is approximately 3 850 m<sup>2</sup>. The estimated construction unit cost, represented by the building and building services costs, is \$11,195 per m<sup>2</sup> of CFA in MOD prices. The D Arch S considers that, taking into account the project nature, the estimated construction unit cost is reasonable as compared to similar projects for UGC-funded universities.

14. Subject to funding approval, CUHK plans to phase the expenditure as follows –

**/Year .....**

<sup>2</sup> Building works comprise renovation and improvement works at existing teaching premises.

<sup>3</sup> Building services works cover electrical installation, ventilation and air-conditioning installation, fire services installation and plumbing works.

<sup>4</sup> Furniture and equipment include general furniture and equipment, laboratory benches, audio-visual system, IT infrastructure and equipment.

Year	\$ million (in MOD prices)
2021 – 22	10.8
2022 – 23	32.8
2023 – 24	11.4
2024 – 25	2.2
	<hr/> 57.2 <hr/>

15. We have derived the MOD estimates 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 2021 to 2025. CUHK will award the works on a lump-sum contract as the scope of the works can be clearly defined in advance.

16. The project has no impact on tuition fees. The additional recurrent costs associated with this project will be absorbed by CUHK. The proposal has no additional recurrent financial implications for the Government.

## **PUBLIC CONSULTATION**

17. Given that the renovation works and implementation of technology-enabled measures are carried out inside the existing building, no public consultation was conducted. Students and teachers of CUHK Faculty of Medicine were informed of the proposed works and no adverse comment was received.

18. We consulted the LegCo Panel on Health Services and Panel on Education on 5 March 2021. Members supported submitting the funding proposal to the Public Works Subcommittee for consideration. In response to Members' requests for supplementary information on the curriculum of the two local medical programmes and the financial position of CUHK and The University of Hong Kong (HKU), an information note was issued on 26 May 2021.

**/ENVIRONMENTAL .....**

## ENVIRONMENTAL IMPLICATIONS

19. The renovation works and implementation of technology-enabled measures at the existing teaching building are not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). 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. The proposed works within the existing premises will only generate very little construction waste. At the planning and design stages, CUHK has considered optimisation of the construction programme to reduce the generation of construction waste by effective planning and scheduling of various working activities on site where possible (e.g. using metal site hoardings and signboards so that these materials can be recycled or reused in other projects). In addition, CUHK will require the contractor to reuse inert construction waste (e.g. removed partition systems) on 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 facilities<sup>5</sup>. CUHK will encourage the contractor to maximise the use of recycled / recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

21. At the construction stage, CUHK 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. CUHK will ensure that the day-to-day operations on site comply with the approved plan. CUHK will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. CUHK 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.

22. We estimate that the project will generate in total about 40 tonnes of construction waste. Of these, we will reuse about 8 tonnes (20%) of inert construction waste on site and deliver 4 tonnes (10%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 28 tonnes (70%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at public fill reception facilities and landfill sites, is estimated to be \$5,884 for this project (based on an unit charge rate of \$71 per tonne for disposal at public fill reception facilities and \$200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354N)).

**/HERITAGE .....**

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<sup>5</sup> Public fill reception facilities are specified in Schedule 4 to the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354N). Disposal of inert construction waste at public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

## **HERITAGE IMPLICATIONS**

23. The project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

## **LAND ACQUISITION**

24. The proposed works do not require any land acquisition.

## **ENERGY CONSERVATION**

25. This project will adopt various forms of energy efficient features, in particular the demand control of supply air.

26. The total estimated additional cost for adoption of the above energy conservation measures is around \$0.5 million which has been included in the cost estimate of this project. The energy efficient features will achieve 5.5% energy savings in the annual energy consumption with a payback period of about eight years.

## **BACKGROUND INFORMATION**

27. To support the second 10-year hospital development plan, improve the clinic facilities in the Department of Health, and upgrade and increase healthcare teaching facilities, the Government has set aside \$300 billion as announced in the 2018-19 Budget. Out of this \$300 billion provision, the Government has earmarked about \$20 billion for short, medium and long-term works projects to upgrade and increase the healthcare teaching facilities of CUHK, HKU and The Hong Kong Polytechnic University (PolyU). The latest packages of works projects are set out below –

(a) CUHK

- (i) Renovation of facilities in Choh-Ming LI BMSB (short-term project);
- (ii) Construction of a teaching-research complex in Tai Po Area 39 (medium-term project); and

/(iii) .....

- (iii) Construction of a multi-purpose building for CUHK's Faculty of Medicine and student residence around the Prince of Wales Hospital (long-term project);
- (b) PolyU
  - (i) Renovation of healthcare-related teaching facilities on campus (short-term project);
  - (ii) Campus expansion at Ho Man Tin Slope (medium-term project); and
  - (iii) Construction of an integrated teaching building (long-term project);
- (c) HKU
  - (i) Enhancement of facilities cum medical campus development (short-term project);
  - (ii) Construction of additional academic building and ancillary facilities for Faculty of Medicine of HKU (medium-term project); and
  - (iii) Redevelopment of Patrick Manson Building at No. 7 Sassoon Road and construction of a university corridor at Sassoon Road Campus (long-term project).

28. We upgraded **63EF** to Category B in September 2018. CUHK engaged consultants in May 2019 to carry out site survey and to prepare preliminary design, detailed design and tender documents at a total cost of about \$1.3 million. The services and works by the consultants are funded under block allocation **Subhead 8100EX** "Alterations, additions, repairs and improvements to the campuses of the UGC-funded institutions". The consultants have completed site survey, preliminary design and detailed design of the project.

29. The proposed project involving mainly renovation and conversion works, IT, air-conditioning / ventilation upgrading and up-to-date audio visual implementation within the existing premises will not involve removal of trees.



30. We estimate that the proposed works will create about 15 jobs (ten for labourers and five for professional or technical staff), providing a total employment of 320 man-months.

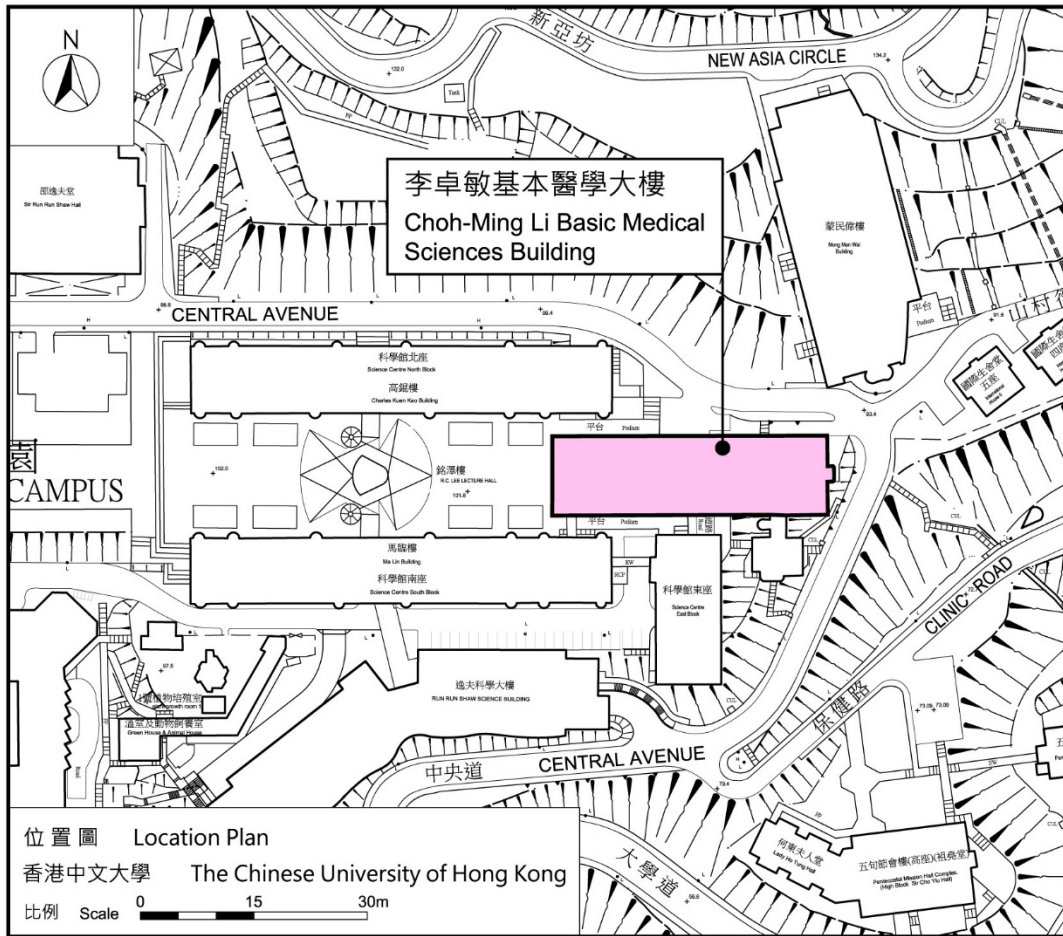
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Food and Health Bureau  
Education Bureau  
June 2021

63EF – 李卓敏基本醫學大樓設施翻新工程 (餘下部分)

63EF – Renovation of Facilities in Choh-Ming Li Basic Medical Sciences Building  
(Remaining Works)

位置圖 Location plan



圖例 Legend

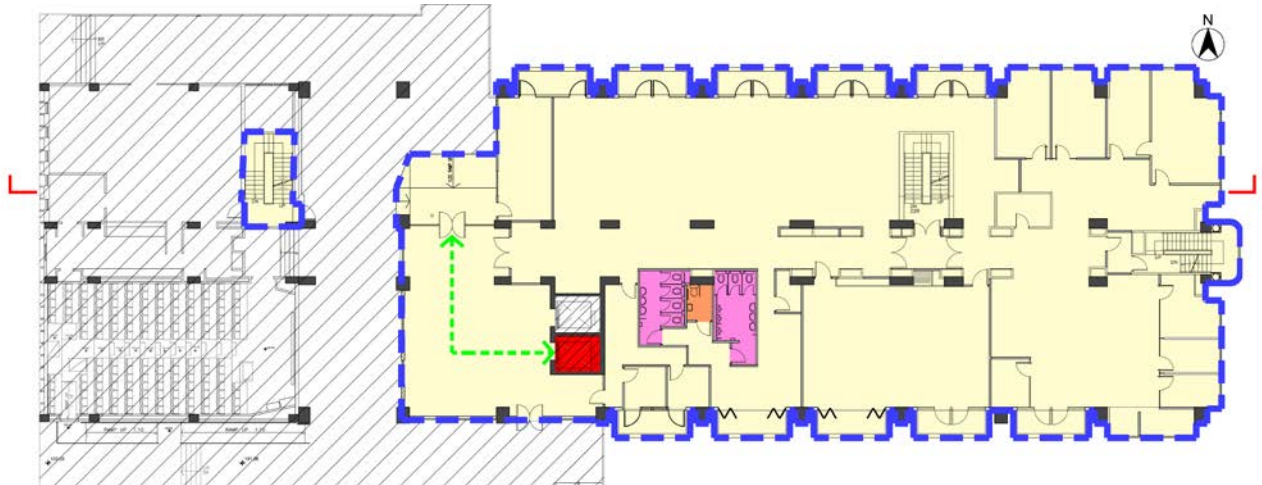
- 工地 Site
- 工地範圍 Site Boundary



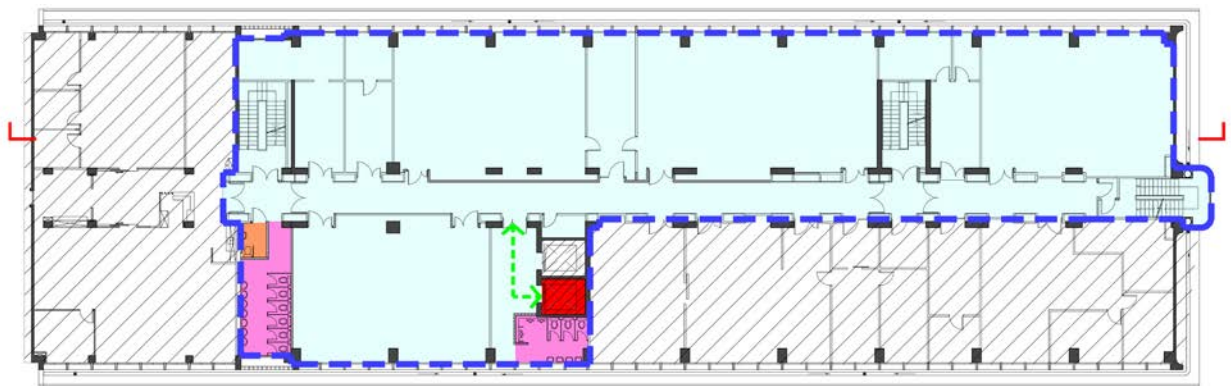
63EF – 李卓敏基本醫學大樓設施翻新工程 (餘下部分)

63EF – Renovation of Facilities in Choh-Ming Li Basic Medical Sciences Building  
 (Remaining Works)

樓層平面圖 Floor plan











地下平面圖  
 Ground Floor Plan



一樓平面圖  
 First Floor Plan

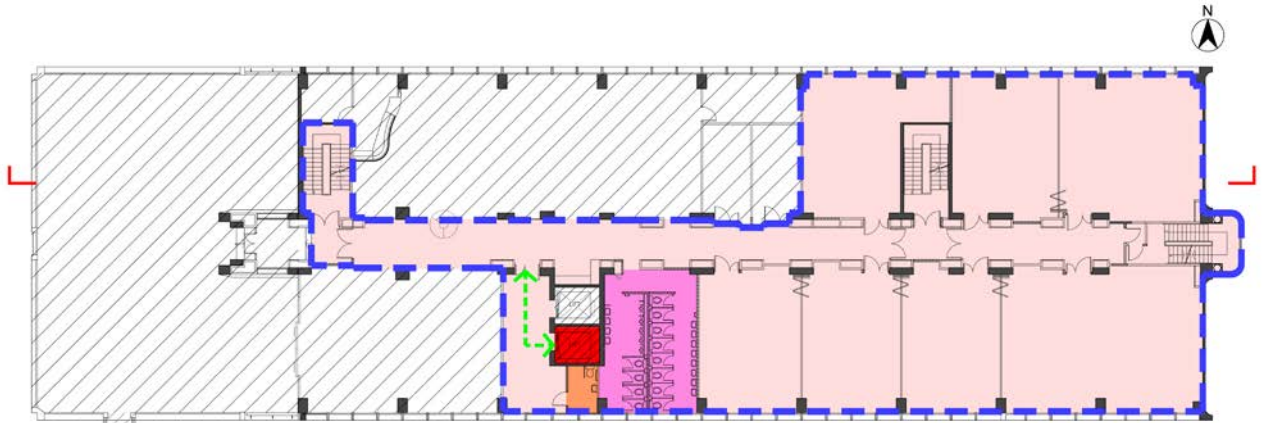
圖例 Legends

- |   |   |   |                              |
|---|---|---|------------------------------|
|  | 施工區域<br>Works Area  |  | 暢通易達洗手間<br>Accessible Toilet |
|  | 現有暢通易達升降機<br>Existing Accessible Lift                         |  | 洗手間<br>Toilet                |
|  | 教職員辦公室 / 通道<br>Academic & Admission Office / Circulation      |  | 非改建範圍<br>Non-Renovated Area  |
|  | 互動教學實驗室 / 通道<br>Interactive Teaching Laboratory / Circulation |  | 無障礙通道<br>Barrier Free Access |

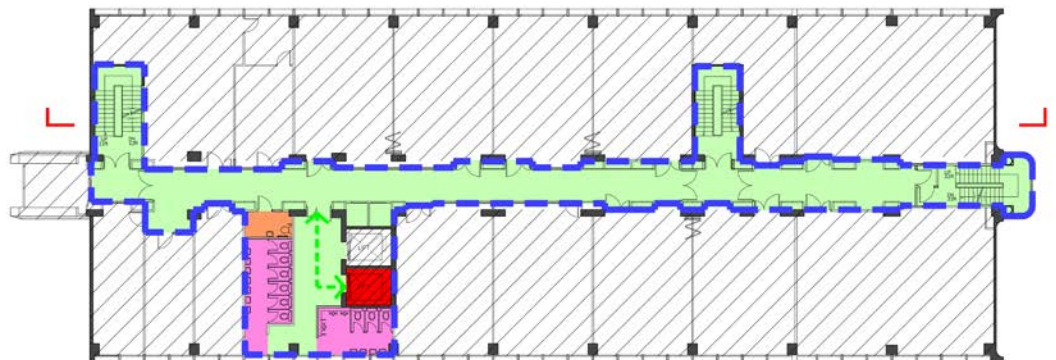
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 (Remaining Works)

樓層平面圖 Floor plan











三樓平面圖  
 Third Floor Plan



LG1 至 6 樓公共空間平面圖  
 Typical Communal Area from LG1/F to 6/F Plan

圖例 Legends

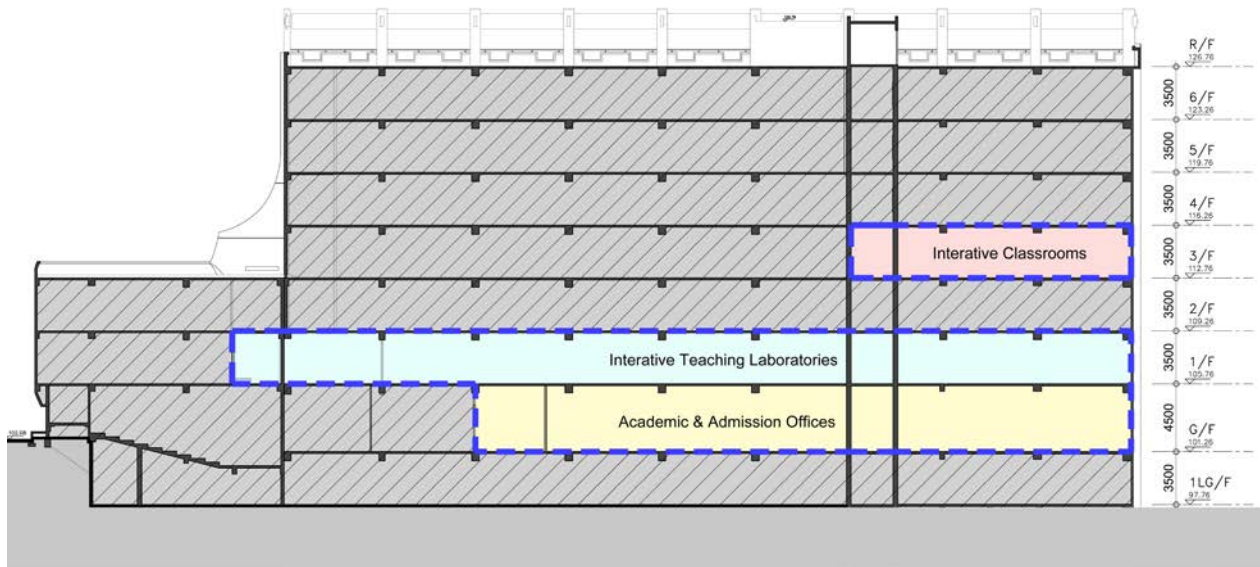
- |   |  |   |                              |
|---|--|---|------------------------------|
|  | 施工區域<br>Works Area   |  | 暢通易達洗手間<br>Accessible Toilet |
|  | 現有暢通易達升降機<br>Existing Accessible Lift  |  | 洗手間<br>Toilet                |
|  | 互動教學課室 / 通道<br>Interactive Classroom / Circulation   |  | 非改建範圍<br>Non-Renovated Area  |
|  | 通道 (翻新工程包括提升空調和資訊科技基礎設施)<br>Circulation<br>(Builder's works including upgrading of infrastructure of air-conditioning and IT services) |  | 無障礙通道<br>Barrier Free Access |









63EF – 李卓敏基本醫學大樓設施翻新工程 (餘下部分)

63EF – Renovation of Facilities in Choh-Ming Li Basic Medical Sciences Building  
 (Remaining Works)

截面圖 Sectional Drawing



圖例 Legends

- |   |  |   |                              |
|---|--|---|------------------------------|
|  | 施工區域<br>Works Area                         |  | 非改建範圍<br>Non-Renovated Area  |
|  | 互動教學實驗室<br>Interactive Teaching Laboratory |  | 無障礙通道<br>Barrier Free Access |
|  | 互動教學課室<br>Interactive Classroom            |   |                              |
|  | 教職員辦公室<br>Academic & Admission Office      |   |                              |

**63EF – 李卓敏基本醫學大樓設施翻新工程 (餘下部分)**

**63EF – Renovation of Facilities in Choh-Ming Li Basic Medical Sciences Building  
(Remaining Works)**

參考資料 / 圖片

Reference Materials / Photos



互動教學實驗室  
Interactive Teaching Laboratories



互動多功能教室  
Interactive Multi-Purpose Classroom

**63EF – Renovation of Facilities in Choh-Ming Li Basic Medical Sciences Building  
(Remaining Works)**

**Breakdown of estimates for consultants' fees and resident site staff costs  
(in September 2020 prices)**

		Estimated man- months	Average MPS* salary point	Multiplier	Estimated fee (\$ million)
(a)	Consultants' fees for contract administration (Note 1)				
	Professional	-	-	-	0.9
	Technical	-	-	-	-
				Total	<hr/> 0.9#

\*MPS = Master Pay Scale

**Note**

- The consultants' fees for contract administration is calculated in accordance with the existing consultancy agreements. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **63EF** to Category A.

**Remarks**

The figure in this Enclosure is shown in constant prices to correlate with the MPS salary point of the same year. The figure marked with # is shown in money-of-the-day prices in paragraph 11 of the main paper.