For discussion
on 29 April 2020

PWSC(2020-21)3

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT

Medical Subventions
4MJ – Expansion of United Christian Hospital
3MP – Redevelopment of Grantham Hospital, phase 1

HEAD 703 – BUILDINGS

Health – Hospitals
74MM – Community health centre cum social welfare facilities at Pak Wo Road, North District
85MM – Hospital Authority Supporting Services Centre

Members are invited to recommend to the Finance Committee –

(a) the upgrading of **4MJ** to Category A at an estimated cost of $16,214.1 million in money-of-the-day prices[1];

/(b) …..

[1] The estimated total project cost is $16,314.1 million, of which $16,214.1 million will be met by government commitment and the remaining $100 million by the United Christian Medical Service, the parent organisation of the hospital.

(b) the upgrading of part of **3MP**, entitled "Redevelopment of Grantham Hospital, phase 1 – demolition, site formation and foundation works", to Category A at an estimated cost of $1,181.9 million in money-of-the-day prices[2];

(c) the upgrading of **74MM** to Category A at an estimated cost of $1,780.4 million in money-of-the-day prices; and

(d) the upgrading of **85MM** to Category A at an estimated cost of $3,788.0 million in money-of-the-day prices.

PROBLEM

We need to expand the United Christian Hospital (UCH), redevelop the Grantham Hospital (GH), and construct a community health centre cum social welfare facilities at Pak Wo Road, North District (NDCHC) and a Hospital Authority Supporting Services Centre (HASSC) to enhance service capacity and services in order to cope with the rising demand of the increasing and ageing population.

PROPOSAL

2. The Secretary for Food and Health proposes to upgrade the following projects under the First Ten-year Hospital Development Plan (hereafter referred to as the HDP) to Category A –

(a) **4MJ** at an estimated cost of $16,214.1 million in money-of-the-day (MOD) prices[1] to carry out main works (superstructure and refurbishment) for the expansion of the UCH; and

/(b) …..

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[2] The estimated total project cost is $1,361.9 million, of which $1,181.9 million will be met by government commitment and the remaining $180 million by the Hong Kong Tuberculosis, Chest and Heart Diseases Association, the parent organisation of the hospital.

(b) part of **3MP** at an estimated cost of $1,181.9 million in MOD prices[2] to carry out demolition, site formation and foundation works for phase 1 of the redevelopment of the GH.

3. The Director of Architectural Services, with the support of the Secretary for Food and Health, proposes to upgrade the following HDP projects to Category A –

(a) **74MM** at an estimated cost of $1,780.4 million in MOD prices to construct an NDCHC; and

(b) **85MM** at an estimated cost of $3,788.0 million in MOD prices to construct an HASSC.

4. The total commitment sought for the four HDP projects is $22,964.4 million. Details of the projects are at Enclosures 1 to 4.

BACKGROUND

5. In the 2016 Policy Address, the Government announced that $200 billion would be set aside for the Hospital Authority to implement the HDP. The HDP covers the redevelopment and expansion of 11 hospitals, and the construction of a new acute hospital, three community health centres and one supporting services centre. Upon completion of all the projects under the HDP, it will provide more than 6 000 additional bed spaces, 94 additional operating theatres and increased capacity of specialist outpatient clinics and general outpatient clinics.

6. To date, the Government has upgraded the following projects (involving 11 hospitals) under the HDP to Category A –

(a) four projects in full –

(i) the extension of Operating Theatre Block for Tuen Mun Hospital;

(ii) the expansion of Haven of Hope Hospital;

(iii) the redevelopment of Queen Mary Hospital, phase 1 – main works; and

(iv) the redevelopment of Kwai Chung Hospital; and

/(b) …..

(b) ten projects in part –

(i) the redevelopment of Kwong Wah Hospital, phase 1 – demolition and substructure works;

(ii) the redevelopment of Kwong Wah Hospital, phase 1 – superstructure and associated works;

(iii) New Acute Hospital at Kai Tak Development Area – preparatory works;

(iv) New Acute Hospital at Kai Tak Development Area – foundation, excavation and lateral support, and basement excavation works;

(v) the redevelopment of Prince of Wales Hospital, phase 2 (stage 1) – preparatory works;

(vi) the redevelopment of Prince of Wales Hospital, phase 2 (stage 1) – demolition and foundation works;

(vii) the redevelopment of Our Lady of Maryknoll Hospital – preparatory works;

(viii) the redevelopment of Grantham Hospital, phase 1 – preparatory works;

(ix) the expansion of North District Hospital – preparatory works; and

(x) the expansion of Lai King Building in Princess Margaret Hospital – preparatory works.

7. The total commitment approved for the items in paragraph 6(a) is $26,728.8 million and that for paragraph 6(b) is $20,991.1 million, totalling $47,719.9 million or 23.9% of the $200 billion. If the proposals in this submission are approved by the Finance Committee, the cumulative commitment approved would amount to $70,140.6 million[3] or 35.1% of the package.

/8. …..

[3] $1,236.7 million out of the $1,780.4 million of the construction cost of the NDCHC would be met by the $200 billion set aside for the HDP.

8. We consulted the Legislative Council Panel on Health Services on **4MJ**, **3MP**, **74MM** and **85MM** on 20 March 2020. Members supported the submission of the funding proposals to the Public Works Subcommittee of the Finance Committee for consideration.

Food and Health Bureau
April 2020

4MJ - Expansion of United Christian Hospital

PROJECT SCOPE AND NATURE

We propose to carry out the main works of the expansion project of the United Christian Hospital (UCH), which mainly comprise superstructure and refurbishment works and associated works as follows –

(a) construction of a new ambulatory block;

(b) construction of a new extension to Block S and the auxiliary electrical and mechanical building;

(c) construction of linkages between the blocks;

(d) refurbishment of Blocks P and S for expansion of facilities;

(e) associated external works, landscaping, utilities diversion, roadworks, and formation of new vehicular access;

(f) other associated alteration and addition works inside existing blocks;

(g) construction of pedestrian linkages to neighbouring site;

(h) refurbishment of Blocks K and L after removal of decanted facilities and demolition of the decanting buildings; and

(i) consultancy services for contract administration and site supervision.

2. A site and location plan, sectional drawings and perspective views (artist's impression) for the project are at Annexes 1 to 7 to Enclosure 1.

3. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed superstructure and refurbishment works and associated works in mid-2020 for completion in 2024, with the pedestrian linkages and associated works planned to be completed by 2025. To meet the programme, the Hospital Authority (HA) invited tenders for the proposed works in December 2019. The contract will only be awarded upon obtaining the FC's funding approval. The UCH will remain functional at all times during the works period and any disruption of services, if unavoidable, will be kept to a minimum.

JUSTIFICATION

4. Established in 1973, the UCH is a major acute hospital in the Kowloon East Cluster (KEC) of the HA, serving patients from the Kwun Tong and Sai Kung districts in the KEC. It provides 24-hour accident and emergency service and a comprehensive range of acute, ambulatory, extended care and community medical services. An extension project on the UCH, involving the construction of extension blocks – Blocks B, C, D and S, and the redevelopment of Block P as well as minor refurbishment to Block G, was completed in 1999.

5. Over the years, the population of the Kwun Tong and Sai Kung districts has grown rapidly. The population of the two districts was 1 154 700 in 2018 and is projected to reach 1 273 500 in 2028 according to the latest population estimates of the Census and Statistics Department and projection of the Planning Department. Moreover, the elderly population aged 65 or above in the two districts is projected to increase from 197 900 in 2018 to 319 400 in 2028, representing a significant increase of around 61%.

6. The growing and ageing population in the two districts gives rise to increasing demand for both ambulatory and inpatient services, and has considerable impact on the provision of healthcare services in the KEC. The existing facilities at the UCH are however inadequate in terms of space, capacity and design to cope with the rising service demand, the present-day service standard and future service requirement. We therefore plan to improve and enhance the facilities in the UCH.

/7. …..

7. The project involves demolition of three existing hospital blocks (i.e. Blocks F, G and H) and Block P (lower portion) of the UCH for the construction of a new ambulatory block (i.e. Block A). An extension to the existing Block S will also be constructed. Upon completion, some services at the existing hospital blocks will be moved to the new ambulatory block and the new extension block. The areas so vacated will then be converted and renovated for the improvement, expansion and rationalisation of clinical and supporting services.

8. The expansion of the UCH will provide sufficient space and upgraded facilities for specialist outpatient service to address increasing service demand. Other ambulatory care services at the UCH will also be enhanced to provide comprehensive and integrated healthcare services to the community. A new oncology centre will be developed to provide radiotherapy, chemotherapy and psycho-social care for cancer patients of the KEC. In addition, the expansion project will enhance convalescent and rehabilitation service in the KEC. We expect that the total bed capacity including inpatient and day beds will be about 2 100 upon completion of the expansion project, i.e. providing 560 additional beds (including eight haemodialysis day beds). We also aim to provide five additional operating theatres upon completion of the proposed works. The existing diagnostic and treatment facilities including operating rooms, coronary care unit, intensive care unit, radiology department, accident and emergency department and endoscopy centre will be improved, expanded and/or rationalised. The annual capacity of specialist outpatient clinic attendance will also be increased by 681 800 upon expansion.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be $16,314.1 million in money-of-the-day (MOD) prices[1] (including the contribution of $100.0 million from the United Christian Medical Service (UCMS)) (please see paragraphs 11 and 12 below), broken down as follows –

/**$ million** …..

[1] This figure represents the latest estimate of the capital cost pending tender return. We plan to update the cost estimate before submission to the FC.

		$ million (in MOD prices)
(a)	Site works and basement[2]	670.3
(b)	Building[3]	5,877.2
(c)	Building services[4]	4,854.2
(d)	Drainage and external works[5]	681.7
(e)	Additional energy conservation, green and recycled features[6]	131.2
(f)	Demolition	14.2
(g)	Alteration and addition (A&A) works at existing blocks[7]	362.9
(h)	Furniture and equipment(F&E)[8]	1,877.7

/$ million …..

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2 Site works and basement works cover site clearance, basement enclosure, waterproofing and all related tests and monitoring.

3 Building works comprise construction of superstructure of a new ambulatory block, a new extension to Block S and the auxiliary electrical and mechanical building, linkages between blocks, and refurbishment of Blocks K, L, S and P.

4 Building services works cover electrical installations, ventilation and air-conditioning installations, fire services installations, lift and escalator installations and other specialist installations.

5 Drainage and external works cover external drainage, external paving, hard and soft landscape, tunnel, pedestrian linkages to neighbouring site and formation of new vehicular access.

6 Additional energy conservation, green and recycled features cover energy efficient features in various building services installation and renewable energy technologies and recycled features.

7 A&A works cover the interfacing works between new buildings and existing blocks.

8 Based on an indicative list of F&E items at Annex 9 to Enclosure 1 and their estimated prices.

			$ million (in MOD prices)
(i)	Consultants' fees for		151.8
	(i) contract administration	141.3	
	(ii) management of resident site staff (RSS)	10.5	
(j)	Remuneration of RSS		209.8
(k)	Contingencies		1,483.1
	Total		16,314.1

10. The HA will engage consultants to undertake contract administration and directly employ RSS for the supervision of the proposed works. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 8 to Enclosure 1. The construction floor area (CFA) of the project is about 275 727 m^2. The estimated construction unit cost represented by the building and the building services costs is $38,920.4 per m^2 of CFA in MOD prices. We consider this unit cost reasonable as compared with that of similar projects.

11. The UCMS, the parent organisation of the UCH, has undertaken to contribute $100 million in MOD prices towards the capital cost of the proposed works under this funding application. The Government will fund the remaining commitment of $16,214.1 million in MOD prices for the project, calculated as follows –

		$ million (in MOD prices)
(a)	Capital cost to be funded by the Government	16,214.1
(b)	Contribution from the UCMS	100.0
	Total	16,314.1

/12. …..

12. Subject to funding approval, we plan to phase the expenditure of the project as follows –

Year	$ million (MOD)	
	Funded under 4MJ	**Total construction cost**
2020 – 2021	433.0	458.0
2021 – 2022	1,822.6	1,847.6
2022 – 2023	4,412.4	4,437.4
2023 – 2024	3,098.4	3,123.4
2024 – 2025	2,569.4	2,569.4
2025 – 2026	1,934.8	1,934.8
2026 – 2027	1,228.2	1,228.2
2027 – 2028	575.5	575.5
2028 – 2029	139.8	139.8
	16,214.1	16,314.1

13. 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 2020 to 2029. Subject to funding approval, the HA will award the contract on a lump-sum basis as the scope of the works can be clearly defined in advance. The contract will provide for price adjustment.

/14. …..

14. The HA has assessed the requirements for F&E for the project, and estimates the F&E costs to be $1,877.7 million. The proposed F&E provision represents 16.5% of the total construction cost of the project[9]. An indicative list of major F&E items (costing $1 million or above per item) to be procured for the project is at Annex 9 to Enclosure 1.

15. We estimate the additional annual recurrent expenditure arising from the expansion project to be in the order of around $2,200 million.

PUBLIC CONSULTATION

16. The HA consulted the Kwun Tong District Council (KTDC) on 14 January 2020 in respect of the expansion project. Members of the KTDC supported the proposed project.

17. We consulted the Legislative Council Panel on Health Services on 20 March 2020. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

18. The expansion of the UCH is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The HA completed a Preliminary Environmental Review (PER) for the project in April 2015. The PER concluded and the Director of Environmental Protection agreed that with the implementation of mitigation measures recommended in the PER, the project would not have any long-term adverse environmental impacts.

19. The HA will incorporate into the works contract mitigation measures recommended in the PER to control the environmental impacts arising from the superstructure and refurbishment works to within the established standards and guidelines. These measures include the use of silenced construction plants and temporary noise barriers or screens for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities, etc. The HA has included in the project estimates the cost for the implementation of the environmental mitigation measures.

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[9] Represented by building, building services, drainage and external works costs.

20. At the planning and design stages, the HA has 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, the HA will require the contractor to reuse inert construction waste (e.g. use of excavated materials for filling within the site) 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[10]. The HA will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

21. At the construction stage, the HA 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. The HA will ensure that the day-to-day operations on site comply with the approved plan. The HA will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. The HA will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

22. The HA estimates that the project will generate in total about 267 400 tonnes of construction waste. Of these, the HA will reuse about 5 300 tonnes (2%) of inert construction waste on site and deliver 230 000 tonnes (86%) of inert construction waste to public fill reception facilities for subsequent reuse. The HA will dispose of the remaining 32 100 tonnes (12%) 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 $22.8 million for this project (based on a 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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[10] Public fill reception facilities are specified in Schedule 4 of 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 project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

25. The project will adopt various forms of energy efficient features and renewable energy technologies, in particular –

(a) high efficiency air-cooled chillers with variable speed drive;

(b) variable refrigerant volume air-conditioning system;

(c) heat energy reclaim of exhaust air;

(d) heat pump for hot water/space heating;

(e) heat pump for domestic hot water;

(f) demand control of supply air;

(g) building energy management system;

(h) lift and escalator with variable voltage variable frequency drives;

(i) scheduling timer lighting control, occupancy sensor control lighting and task lighting in office area; and

(j) renewable energy technologies such as photovoltaic system, solar hot water system and solar powered lighting fittings.

26. For greening features, the HA will provide green roofs, multi-purpose lawn and outdoor covered sitting out areas for environmental and amenity benefits.

27. For recycled features, the HA will adopt rain water stored harvest tank system for irrigation purpose.

/28. …..

28. The total estimated additional cost for adoption of the above energy conservation measures, greening features and recycled features is around $131.2 million in MOD prices (including $105.5 million in MOD prices for energy efficient features), which has been included in the cost estimate of the project. The energy efficient features will achieve 8% energy savings in the annual energy consumption with a payback period of about nine years.

BACKGROUND INFORMATION

29. In July 2012, the FC approved upgrading part of **4MJ** as **5MJ** "Expansion of United Christian Hospital – preparatory works" to Category A at an estimated cost of $352.3 million in MOD prices for preparatory works including site surveys and investigations, decanting works and consultancy services for outline sketch design, detailed design, as well as tender documentation and assessment for the main works. The preparatory works commenced in August 2012 and the HA completed the site surveys and investigations as well as decanting works in 2015. The detailed design for the new ambulatory block and the extension of Block S is completed, while that for the refurbishment of existing blocks is underway.

30. The main works of the expansion project comprises the demolition and substructure works, and the superstructure and refurbishment works. In July 2015, the FC approved upgrading part of **4MJ** as **6MJ** "Expansion of United Christian Hospital – main works (demolition and substructure works)" to Category A at an estimated cost of $1,791.6 million in MOD prices. Such works have commenced since August 2015 and are expected to be completed in the second quarter of 2020. We upgraded the remainder (i.e. superstructure and refurbishment works) of **4MJ** to Category B in December 2019 under the First Ten-year Hospital Development Plan.

/31. …..

31. Of the 87 trees within the project boundary, 75 trees will be preserved and 12 trees will be felled. All trees to be felled are not important trees[11]. The HA will incorporate planting proposals as part of the project, including the planting of about 270 trees, 37 400 shrubs and 27 400 groundcovers within the project boundary.

32. We estimate that the proposed works will create about 2 130 jobs (1 870 for labourers and 260 for professional/technical staff) providing a total employment of 103 100 man-months.

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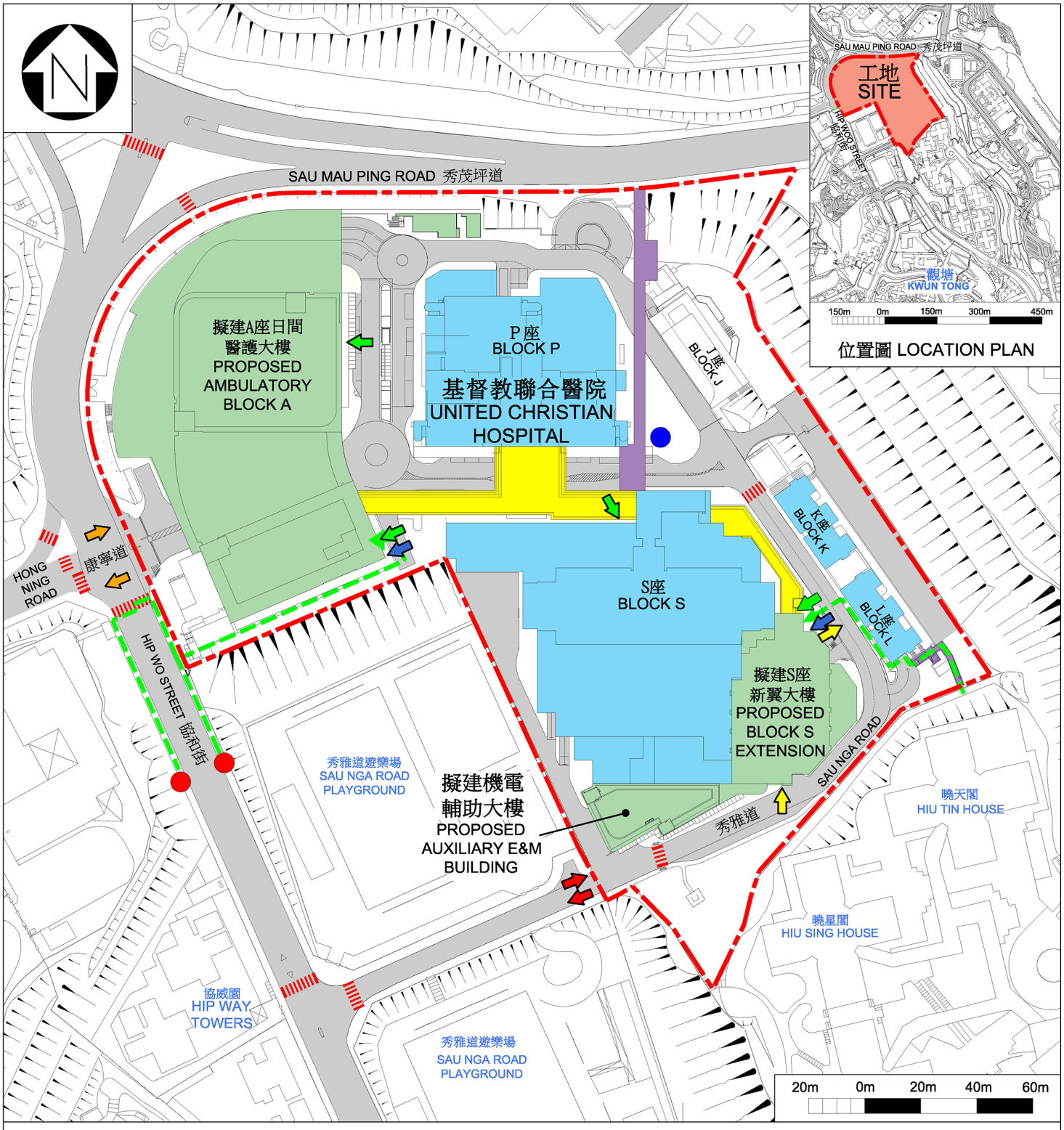
[11] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(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 metre (m) (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.



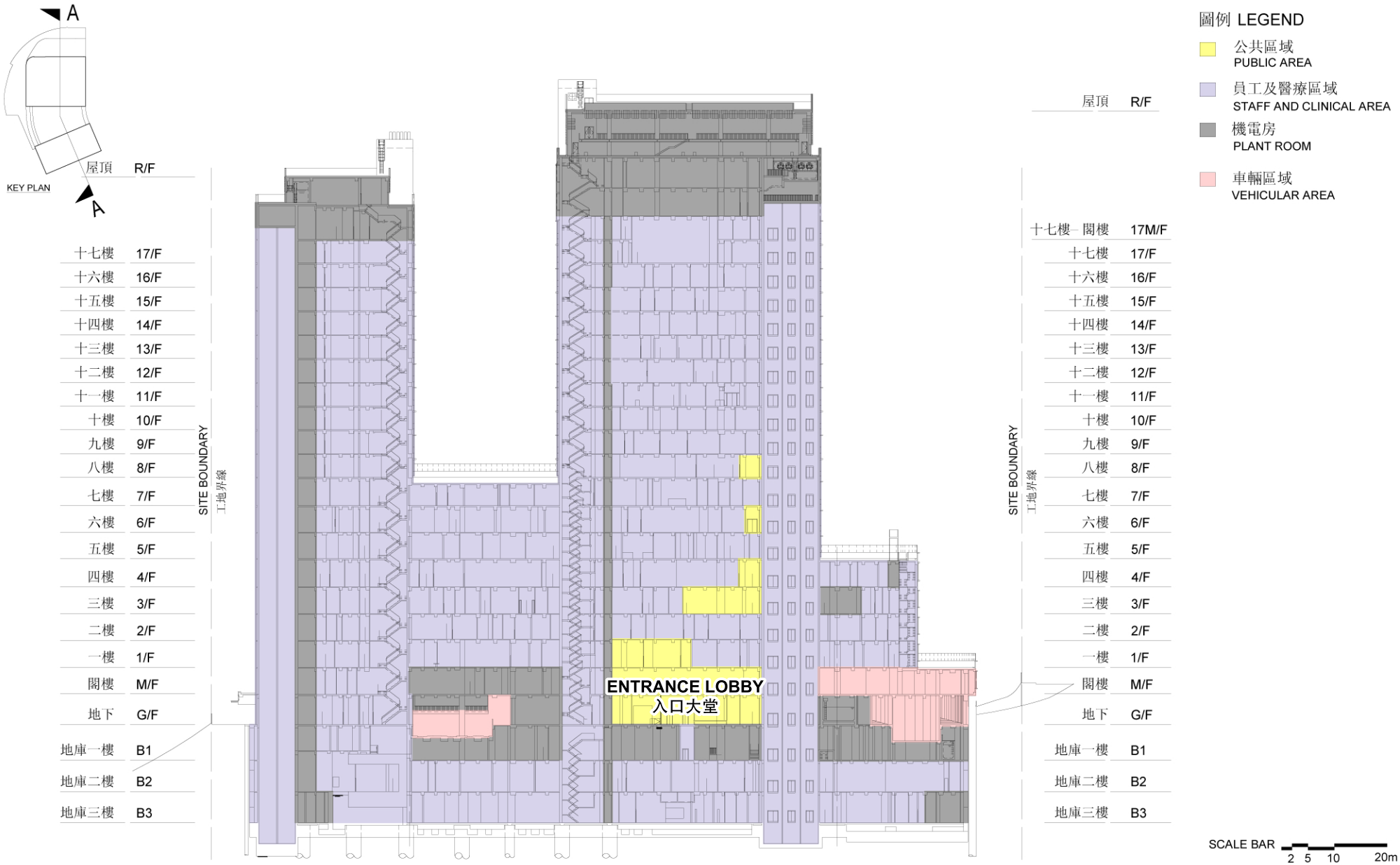
圖例 LEGEND

- 醫院及工地界線 HOSPITAL AND SITE BOUNDARY
- 擬建新大樓 PROPOSED NEW BUILDINGS
- 擬建新連接橋 PROPOSED NEW LINK BRIDGE
- 擬翻新大樓 PROPOSED REFURBISHED BUILDINGS
- 擬建行人通道 PROPOSED PEDESTRIAN LINKAGE
- 現有巴士站 EXISTING BUS STOP
- 現有小巴站 EXISTING MINI-BUS STOP
- 現有地面行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 擬建車輛出入口 PROPOSED VEHICULAR INGRESS / EGRESS
- 擬建救護車出入口 PROPOSED AMBULANCE INGRESS / EGRESS
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
- 行人 / 無障礙出道路 PEDESTRIAN / BARRIER-FREE ROUTE

工地平面圖 SITE PLAN

4MJ

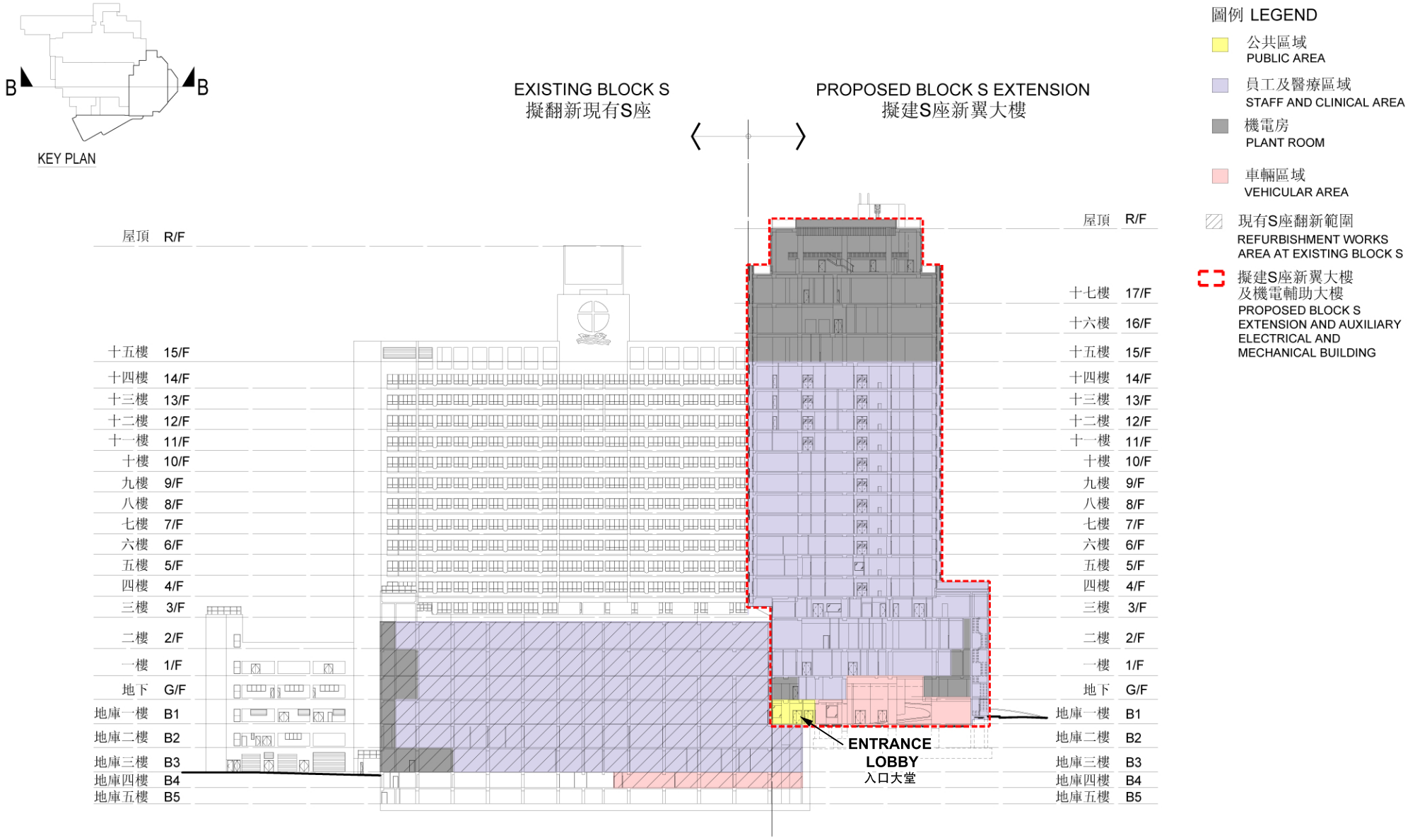
基督教聯合醫院擴建計劃 EXPANSION OF UNITED CHRISTIAN HOSPITAL



Project Title 項目名稱
基督教聯合醫院擴建計劃
Expansion of United Christian Hospital

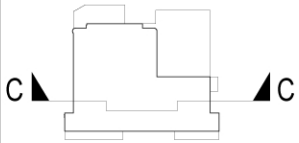
Drawing Title 圖則名稱
擬建日間醫護大樓 A-A 剖面圖
Proposed Ambulatory Block Section A-A

附件 1 附錄 2 Annex 2 to Enclosure 1



Project Title 項目名稱	Drawing Title 圖則名稱
基督教聯合醫院擴建計劃 Expansion of United Christian Hospital	擬翻新現有S座及擬建S座新翼大樓 B-B 剖面圖 Existing Block S and Proposed Block S Extension Section B-B

附件 1 附錄 3 Annex 3 to Enclosure 1

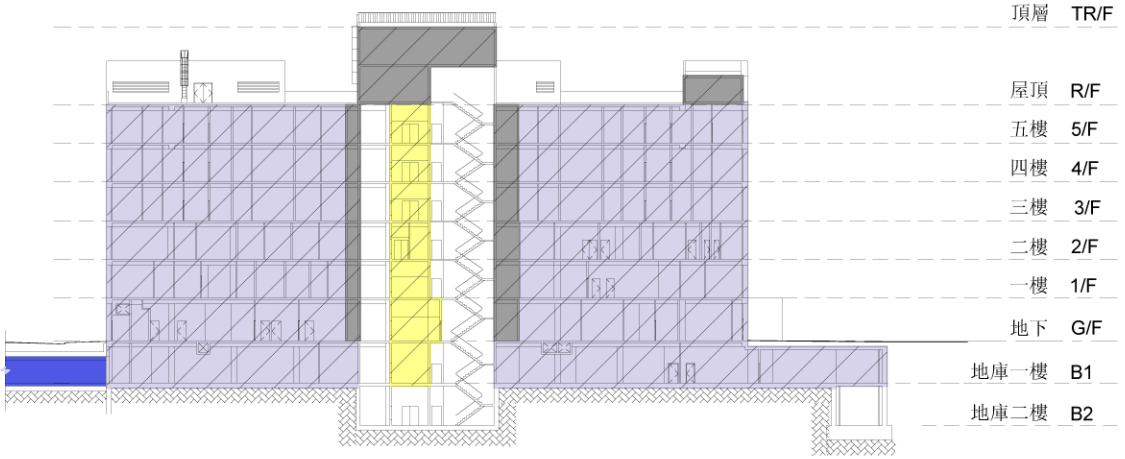


KEY PLAN

圖例 LEGEND

- 公共區域 PUBLIC AREA
- 員工及醫療區域 STAFF AND CLINICAL AREA
- 機電房 PLANT ROOM
- 連接隧道 TUNNEL
- 現有P座翻新範圍 REFURBISHMENT WORKS AREA AT EXISTING BLOCK P

BLOCK P
P 座



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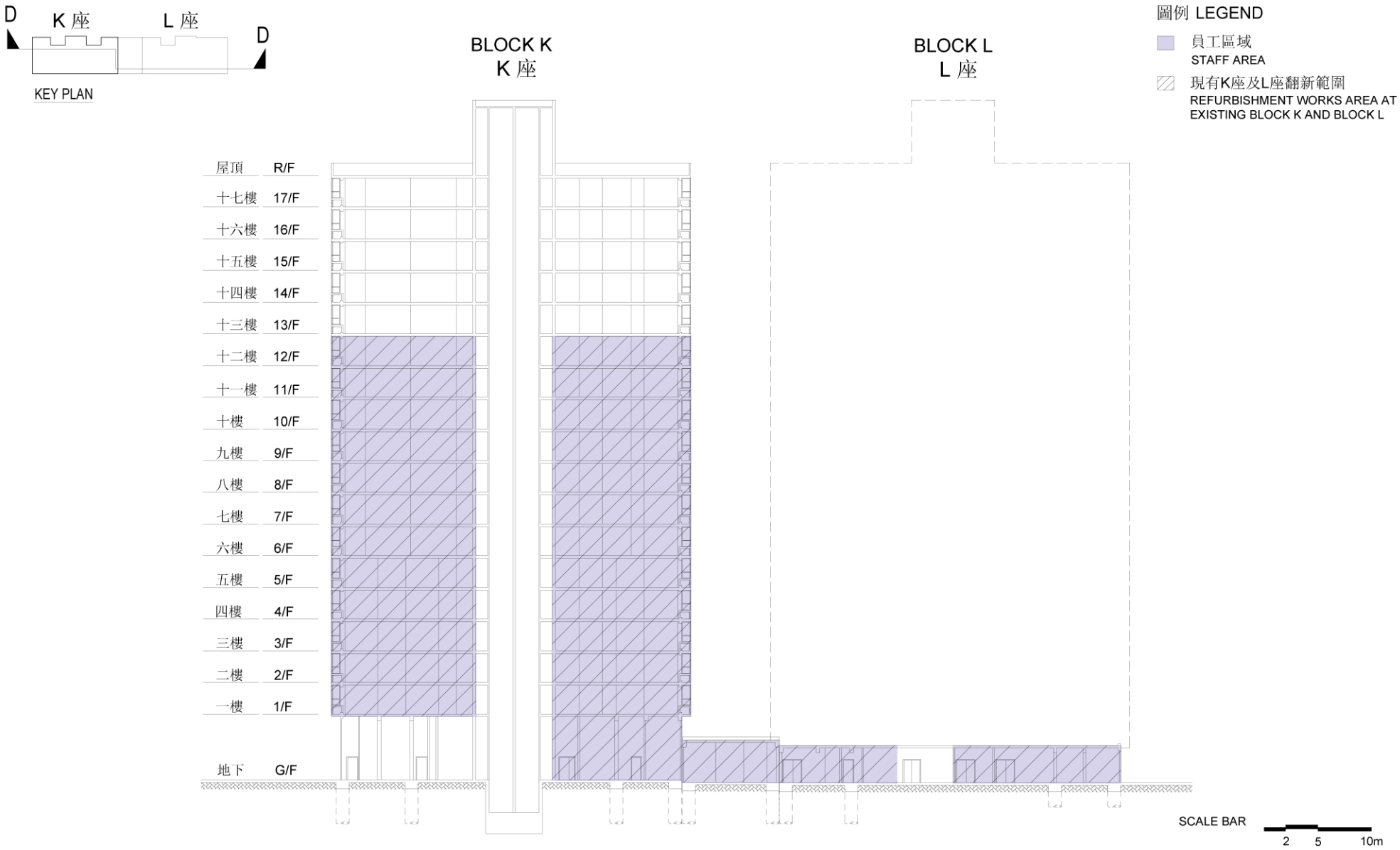
Project Title 項目名稱	Drawing Title 圖則名稱
基督教聯合醫院擴建計劃 Expansion of United Christian Hospital	擬翻新P座 C-C 剖面圖 Proposed Refurbished Block P Section C-C

附件 1 附錄 4 Annex 4 to Enclosure 1



Project Title 項目名稱	Drawing Title 圖則名稱
基督教聯合醫院擴建計劃 Expansion of United Christian Hospital	擬翻新K座及L座 D-D 剖面圖 Proposed Refurbished Block K and Block L Section D-D

附件 1 附錄 5 Annex 5 to Enclosure 1

從協和街望向擬建日間醫護大樓
View of Proposed Ambulatory Block from Hip Wo Street

Project Title 項目名稱
基督教聯合醫院擴建計劃
Expansion of United Christian Hospital

Drawing Title 圖則名稱
擬建日間醫護大樓構思圖
Proposed Ambulatory Block Artist's Impression

附件1 附錄6 Annex 6 to Enclosure 1

從秀雅道望向擬建S座新翼大樓
View of Proposed Block S Extension from Sau Nga Road

Project Title 項目名稱
基督教聯合醫院擴建計劃
Expansion of United Christian Hospital

Drawing Title 圖則名稱
擬建S座新翼大樓構思圖
Proposed Block S Extension Artist's Impression

附件1 附錄7 Annex 7 to Enclosure 1

Annex 8 to Enclosure 1

4MJ – Expansion of United Christian Hospital

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2019 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	—	—	—	100.0
		Technical				15.5
					Sub-total	115.5#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	494	38	1.6	67.9
		Technical	2 317	14	1.6	112.1
					Sub-total	180.0
	Comprising -					
	(i) consultants' fees for management of RSS			8.6#		
	(ii) remuneration of RSS			171.4#		
					Total	**295.5**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $85,870 per month and MPS salary point 14 = $30,235 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for preparatory works of **4MJ**. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade part of **4MJ** to Category A.

3. The consultants' fees and RSS cost for site supervision are based on the estimate prepared by the Hospital Authority. We will only know the actual man-months and actual costs after completion of the construction works.

Remarks

The cost figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 9 of Enclosure 1.

Annex 9 to Enclosure 1

4MJ - Expansion of United Christian Hospital

Indicative list of furniture and equipment items with unit cost of $1 million or above

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Analyzer, Automated Blood Grouping	1	2.0	2.0
Analyzer, Haematology Coagulation System	1	3.4	3.4
Analyzer, Molecular	1	2.0	2.0
Audio-Visual System, Coronary Care Unit (CCU) and Cardiovascular Catheterisation, and Intervention Centre (CCIC)	1	1.2	1.2
Audio-Visual System, Endoscopy Centre	1	3.5	3.5
Audio-Visual System, Operating Theatre	1	8.5	8.5
Audio-Visual System for Conference Centre	1	7.3	7.3
Audio-Visual System for Psychiatric Patient	1	2.3	2.3
Audio-Visual System for Training Centre	1	2.8	2.8
Autoclave	2	1.1	2.2
Automation System, Haematology	1	7.8	7.8
Automation System, Laboratory	1	27.7	27.7
Automation System, Medication Dispensing, Blister	1	6.4	6.4

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Automation System, Medication Dispensing, Tablet, Inpatient	1	1.5	1.5
Automation System, Medication Dispensing, Tablet, Outpatient	1	2.2	2.2
Bench Laboratory	1	10.5	10.5
Biopsy System, Prone Table, Mammographic	1	3.5	3.5
Communication System, Digital, Security	1	4.3	4.3
Confocal Scanning Microscopy	1	1.1	1.1
Cryoablation Unit	2	1.3	2.6
Electronystagmography System	1	2.0	2.0
Endoscope, Wide Angle, Flexible	1	1.2	1.2
Enteroscopy System, Double Balloon	1	2.0	2.0
Enteroscopy System, Spiral	1	2.0	2.0
Gene Sequencer	1	2.5	2.5
Generator, Clean Steam	2	2.8	5.6
Hydrotherapy Pool	1	10.0	10.0
Imaging System, Intravascular (Optical Coherence Tomography) (OCT)	1	1.3	1.3
Information System, Data Management, Dental (three-dimension (3D) virtual planning system)	1	1.1	1.1
Information System, Data Management, Electrodiagnostic Unit	1	1.8	1.8

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Information System, Data Management, Haemodialysis	1	1.2	1.2
Information System, Data Management, Nursing	1	1.3	1.3
Information System, Data Management, Oncology Treatment Planning	1	22.1	22.1
Information System, Data Management, Pathology	1	4.5	4.5
Inoculation System, Automatic	1	4.5	4.5
Laser Machine, Dermatology	1	1.4	1.4
Laser Machine, Endoscopy Centre	1	2.0	2.0
Laser Machine, Multi-wave Length	1	1.2	1.2
Laser Machine, Photocoagulation with Retina Navigation	1	2.5	2.5
Linear Accelerator, Dual Energy	1	25.5	25.5
Linear Accelerator, Dual Energy with Stereotactic Radiosurgery Capability	1	33.6	33.6
Linear Accelerator, Single Energy	2	19.0	38.0
Linear Accelerator, Tomotherapy	1	34.4	34.4
Mass Spectrometer - Liquid Chromatography with Liquid Handling	1	4.4	4.4
Mass Spectrometer - Liquid Chromatography with Nitrogen Generator	2	3.6	7.2
Microscope for Super-micro Surgery	1	3.5	3.5
Microscope with Intraoperative OCT	1	3.5	3.5

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Magnetic Resonance Imaging (MRI) Simulation Package	1	7.5	7.5
Monitoring System, Hemodynamic and Electrophysiologic	2	1.9	3.8
Navigation System, Surgical, Ear, Nose and Throat (ENT)	1	2.0	2.0
Navigation System, Surgical, Orthopaedic and Traumatology (O&T)	1	2.2	2.2
Optical Coherence Tomography, Angiography Camera	1	1.1	1.1
Optical Coherence Tomography, Wide-Field Fundus Camera	1	2.8	2.8
Optical Coherence Tomography	1	4.0	4.0
Public Address System (for Oncology Centre and Specialist Outpatient Departments)	1	5.6	5.6
Quality Assurance System, 3D, Oncology Treatment Planning	2	1.2	2.4
Radiographic Equipment, Angiography	2	24.0	48.0
Radiographic Equipment, C-Arm	1	7.0	7.0
Radiographic Equipment, Ceiling-mounted, Accident & Emergency Department, Trauma	2	1.1	2.2
Radiographic Equipment, Dental	1	1.6	1.6
Radiographic Equipment, Fluoroscopic	1	4.5	4.5
Radiographic Equipment, Mammographic	1	5.5	5.5

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Radiographic Equipment, O-Arm, Spine	1	5.6	5.6
Radiographic Equipment, Single Photon Emission Computed Tomography – Computed Tomography	2	8.5	17.0
Radiographic Scanning System, Computed Tomography, Spiral	1	20.0	20.0
Radiographic System, Digital	4	1.6	6.4
Retinal Camera Imaging System	1	1.5	1.5
Reverse Osmosis (RO) Water Treatment System, Central Sterile Supply Department	1	8.8	8.8
RO Water Treatment System, Endoscopy Centre	1	4.5	4.5
RO Water Treatment System, Haemodialysis Day Centre	1	6.8	6.8
Scanning System, MRI, Full Body	1	25.0	25.0
Shelving, Mobile, Electric, Recessed Floor for Medical Records Department	1	13.6	13.6
Simulator, Computed Tomography	2	14.1	28.2
Stage Lighting System	1	1.4	1.4
Stereotactic Systems, Image-Guided, Cardiac Mapping/Ablation	1	3.1	3.1
Sterilizing Unit, Gas Sterilisation	1	1.1	1.1
Sterilizing Unit, Steam	8	2.0	16.0
Telecommunication System	1	30.0	30.0
Thermoluminescent Dosimeter System	1	1.2	1.2

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Transthoracic Echocardiography System	1	1.7	1.7
Ultrasound System, 3D	2	2.2	4.4
Ultrasound System, Cardiovascular	2	2.3	4.6
Ultrasound Machine, Echo, CCU and CCIC	1	1.5	1.5
Ultrasound Machine, Intensive Care Unit	1	2.0	2.0
Ultrasound Machine, Intravascular, CCU and CCIC	1	1.2	1.2
Ultrasound Machine, Multi-purpose	2	1.5	3.0
Ultrasound Machine, Urology	2	1.5	3.0
Video System, Endoscopy	9	1.5	13.5
Video System, Eye Surgery (image recording for microscope)	1	3.0	3.0
Video System, Surgical, 3D	2	5.5	11.0
Video System, Surgical, ENT	1	6.8	6.8
Video System, Surgical, O&T	1	4.6	4.6
Video System, Surgical, Surgery	1	5.5	5.5
Vacuum Insulated Evaporator Tank	1	10.8	10.8
Washer, Cart	3	2.8	8.4
Washer/ Decontamination Unit, Surgical Instrument, 1-Chamber	5	1.5	7.5
Washer/Decontamination Unit, Surgical Instrument, Multi-Chamber	3	6.2	18.6

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Water Tank Beam Data Acquisition System	1	1.6	1.6

3MP - Redevelopment of Grantham Hospital, phase 1

PROJECT SCOPE AND NATURE

The part of the redevelopment of the Grantham Hospital (GH), phase 1 which we propose to upgrade to Category A (i.e. demolition, site formation and foundation works) comprises –

(a) demolition of the Senior Staff Quarters and Blocks 1 and 2 of the Nurse Quarters;

(b) diversion of underground utilities;

(c) tree felling and transplanting;

(d) excavation and lateral support works;

(e) piling works and construction of footing and pile cap; and

(f) consultancy services for contract administration and site supervision.

2. A site and location plan showing the location of the proposed demolition, site formation and foundation works is at Annex 1 to Enclosure 2.

3. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed demolition, site formation and foundation works in mid-2020 with a view to completing phase 1 of the redevelopment project in 2025. To meet the programme, the Hospital Authority (HA) invited tenders for the proposed works in January 2020. The contract will only be awarded upon obtaining the FC's funding approval. The GH will remain functional at all times during the works period and any disruption of services, if unavoidable, will be kept to a minimum.

/4. …..

4. We will retain the remaining part of **3MP** in the Ten-year Hospital Development Plan (HDP), which mainly covers the construction of two new blocks. Separate funding approval from the FC for the remaining part of the redevelopment of the GH, phase 1 project will be sought later to dovetail with the implementation programme.

JUSTIFICATION

5. Established in 1957 by the Hong Kong Anti-Tuberculosis Association (currently known as the Hong Kong Tuberculosis, Chest and Heart Diseases Association (HKTBA)), the GH is one of the seven hospitals in the Hong Kong West Cluster (HKWC) of the HA, serving the residents of the Central and Western District as well as the Southern District.

6. According to the latest population estimates of the Census and Statistics Department and the projection by the Planning Department, the elderly population aged 65 or above in the two districts is projected to increase from 91 000 in 2018 to 126 900 in 2028, representing a significant increase of 39%, even though there would be a slight decrease in the overall population in the two districts from 518 700 in 2018 to 502 700 during the same period. The growing elderly population gives rise to an increasing demand for comprehensive ambulatory care on a multidisciplinary basis, and cancer services especially post-treatment surveillance and follow-up as well as palliative care.

7. The GH compound comprises the Main Block built in the 1950s, an extension block named Kwok Tak Seng Heart Centre built in 1982, and several other blocks scattered over the hospital site without any linkage connecting the various buildings for convenient access provided to patients, staff and the public. The Main Block and Kwok Tak Seng Heart Centre are only connected up to the fourth floor, hindering the smooth delivery of patient services between these two blocks. The only one lift in the Heart Centre is inadequate for maintaining an effective transportation and delivery flow for people and goods.

/8. …..

8. With most of the buildings of the GH constructed over 50 years ago without any major refurbishment undertaken, the physical conditions of the hospital blocks have deteriorated to an undesirable state. The existing facilities of the GH also lag behind modern health care standards in terms of space provision, ward layout, structural loading and infection control.

9. Underpinned by the Clinical Services Plan for the HKWC, and given its strategic location, the GH will be redeveloped in phases into an academic ambulatory care centre with the provision of (i) a premier Cancer Centre providing evidence-based cancer services including personalised care, chemotherapy and radiotherapy, complementing the oncology services in the HKWC; (ii) a state-of-the-art Academic Ambulatory Care Centre which provides a comprehensive range of advanced and high-tech ambulatory services for chronic diseases, such as cardio-metabolic diseases related to the heart and diabetes and the associated complications affecting the eyes, kidneys, and other vital organs; and (iii) a Teaching and Research facility focusing on clinical and translational research.

10. Taking the opportunity, The University of Hong Kong will establish two centres under the redevelopment of the GH, namely a Centre for Clinical Innovation and Discovery (CCID) and an Institute of Cancer Care (ICC). The establishment of the CCID and the ICC will enable translational research by adopting the most advanced technology in screening, diagnosis and treatment of cancer, such as genetic and genomic development. Since cancer care involves multiple disciplines including allied health professionals, the ICC will provide a platform for developing programmes to address the psycho-social needs of cancer patients.

11. The redevelopment of the GH will be carried out in two phases. The phase 1 redevelopment will provide an additional oncology centre and three additional operating theatres upon redevelopment. The scope of facilities and services to be provided by the phase 1 redevelopment includes Cancer Centre, an Ambulatory Care Centre, a Clinical and Translational Research Centre, ancillary as well as administrative and supporting services.

/**FINANCIAL** …..

FINANCIAL IMPLICATIONS

12. We estimate the capital cost of the proposed demolition, site formation and foundation works to be $1,361.9 million in money-of-the-day (MOD) prices[1] (including the contribution of $180.0 million from the HKTBA) (please see paragraphs 14 and 15 below), broken down as follows –

			$ million (in MOD prices)
(a)	Site works		15.0
(b)	Demolition works		12.8
(c)	Site formation[2]		382.2
(d)	Excavation and lateral support[3]		400.4
(e)	Foundation[4]		341.0
(f)	External works and drainage		40.1
(g)	Consultants' fees for		25.3
	(i) contract administration	21.6	
	(ii) management of resident site staff (RSS)	3.7	
(h)	Remuneration of RSS		21.3
(i)	Contingencies		123.8
	Total		1,361.9

/13. …..

[1] This figure represents the latest estimate of the capital cost pending tender return. We plan to update the cost estimate before submission to the FC.

[2] Site formation works comprise rock slope cutting works, soldier pile walls, temporary ground anchors, wailings and other associated works.

[3] Excavation and lateral support works cover basement excavation with lateral support and other associated works.

[4] Foundation works cover piled foundation, pile caps, tie beams, raft footings and other associated builder's works for the new buildings.

13. The HA will engage consultants to undertake contract administration and directly employ RSS for the supervision of the proposed demolition, site formation and foundation works. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 2 to Enclosure 2.

14. The HKTBA, the parent organisation of the GH, has undertaken to contribute $180 million in MOD prices towards the capital cost of the proposed works under this funding application. The Government will fund the remaining commitment of $1,181.9 million in MOD prices for the project, calculated as follows –

	$ million (in MOD prices)
(a) Capital cost to be funded by the Government	1,181.9
(b) Contribution from the HKTBA	180.0
Total	1,361.9

15. Subject to funding approval, we plan to phase the expenditure of the project as follows –

/**Year** …..

Year	$ million (MOD)	
	Funded under 3MP	**Total construction cost**
2020 – 2021	72.8	102.8
2021 – 2022	527.9	677.9
2022 – 2023	278.4	278.4
2023 – 2024	220.0	220.0
2024 – 2025	79.5	79.5
2025 – 2026	3.3	3.3
	1,181.9	1,361.9

16. 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 2020 to 2026. Subject to funding approval, the HA will award the contract on a lump-sum basis as the scope of the works can be clearly defined in advance. The contract will provide for price adjustment.

17. The proposed demolition, site formation and foundation works will not give rise to any additional recurrent expenditure.

PUBLIC CONSULTATION

18. The HA consulted the Southern District Council (SDC) on the proposed redevelopment of the GH on 16 November 2017, 8 March and 8 November 2018, 7 March 2019, and 23 January 2020. Members of the SDC in general supported the proposed project, and strongly requested the construction of a footbridge connecting the Ocean Park Mass Transit Railway Station and Nam Fung Road to the GH redevelopment project, so as to improve pedestrian connectivity to the GH as well as other hospitals, elderly homes and mental health centres, etc. nearby. Relevant government departments are exploring the feasibility of enhancing the pedestrian connectivity to the GH. The HA also consulted the Culture, Leisure and Social Affairs Committee (CLSAC) of the Central and Western District Council (C&WDC) on the proposed project on 8 February 2018. Members of the CLSAC of C&WDC agreed to the proposed project.

19. We consulted the Legislative Council Panel on Health Services on 20 March 2020. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

20. The redevelopment of the GH is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The HA completed a Preliminary Environmental Review (PER) for the proposed works under the current scope of phase 1 project as set out in paragraph 1 in March 2020. The PER concluded and the Director of Environmental Protection agreed that the proposed works would not have any adverse long-term environmental impacts with implementation of suitable mitigation measures.

21. The HA will incorporate into the works contract mitigation measures recommended in the PER in order to ensure that the environmental impacts arising from the demolition, site formation and foundation works are within the established standards and guidelines. These measures include the use of quiet powered mechanical equipment, temporary noise barriers for noisy substructure works, site drainage to control runoff, covering of stockpiles material, frequent cleaning and watering of the site, and the provision of wheel-washing facilities. The HA has included in the project estimates the cost for the implementation of the environmental mitigation measures.

/22. …..

22. The HA has completed an Asbestos Investigation Report (AIR) for Senior Staff Quarters, Nurse Quarters Blocks 1 and 2, and Water Pump Room. As the AIR has identified some asbestos containing materials (ACM) thereat, the HA will remove and dispose of the ACM in accordance with the Asbestos Abatement Plan and the requirements under the Air Pollution Control Ordinance and the Waste Disposal Ordinance, prior to the demolition of these blocks. The removed ACM will be disposed of at Government designated disposal site. All demolition and substructure works would be carried out after the completion of asbestos investigations and/or asbestos abatement works of all concerned building structures at the site.

23. At the planning and design stages, the HA has 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, the HA will require the contractor to reuse inert construction waste (e.g. use of excavated materials for filling within the site) 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[5]. The HA will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

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

/25. …..

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[5] Public fill reception facilities are specified in Schedule 4 of 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.

25. The HA estimates that the project will generate in total about 661 600 tonnes of construction waste. Of these, the HA will reuse about 14 800 tonnes (2.2%) of inert construction waste on site and 51 400 tonnes (7.8%) of inert construction waste on other construction site, deliver 587 400 tonnes (88.8%) of inert construction waste to public fill reception facilities for subsequent reuse. The HA will dispose of the remaining 8 000 tonnes (1.2%) 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 $43.3 million for this project (based on a 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 IMPLICATIONS

26. 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

27. The project requires permanent grant of a piece of government land located at the south side. In order to meet the redevelopment timeline, in parallel with the conveyancing process of its permanent grant, this piece of land will be leased by means of Short Term Tenancy, which was approved in principle in the District Lands Conference on 16 January 2020, for the purpose of carrying out site formation, foundation, building and associated works. The location of this piece of land is also illustrated at Annex 1 to Enclosure 2.

/**BACKGROUND** …..

BACKGROUND INFORMATION

28. The redevelopment of the GH, phase 1 (**3MP**) is one of the projects covered by the HDP. In May 2018, the FC approved upgrading part of the **3MP** as **4MP** "Redevelopment of Grantham Hospital, phase 1 – preparatory works" to Category A at an estimated cost of $422.5 million in MOD prices for preparatory works including site investigation, building survey, decanting works for services and facilities in Blocks 1 and 2 of the Nurse Quarters, and consultancy services for outline sketch design, detailed design as well as tender documentation and assessment for the main works. The preparatory works commenced in June 2018 and are in progress.

29. We upgraded the relevant part of **3MP** (i.e. demolition, site formation and foundation works) to Category B in January 2020 under the HDP.

30. Of the 515 trees within the project boundary, five trees will be preserved. The proposed demolition, site formation and foundation works will involve the removal of 510 trees, including 502 trees to be felled and eight trees to be transplanted[6] within the project boundary. Seven important trees[7] will be affected during the implementation of the project. A summary of the important trees affected is provided at Annex 3 to Enclosure 2. The HA will incorporate planting proposal as part of the whole redevelopment project.

31. We estimate that the proposed works will create about 150 jobs (130 for labourers and 20 for professional/technical staff) providing a total employment of around 6 700 man-months.

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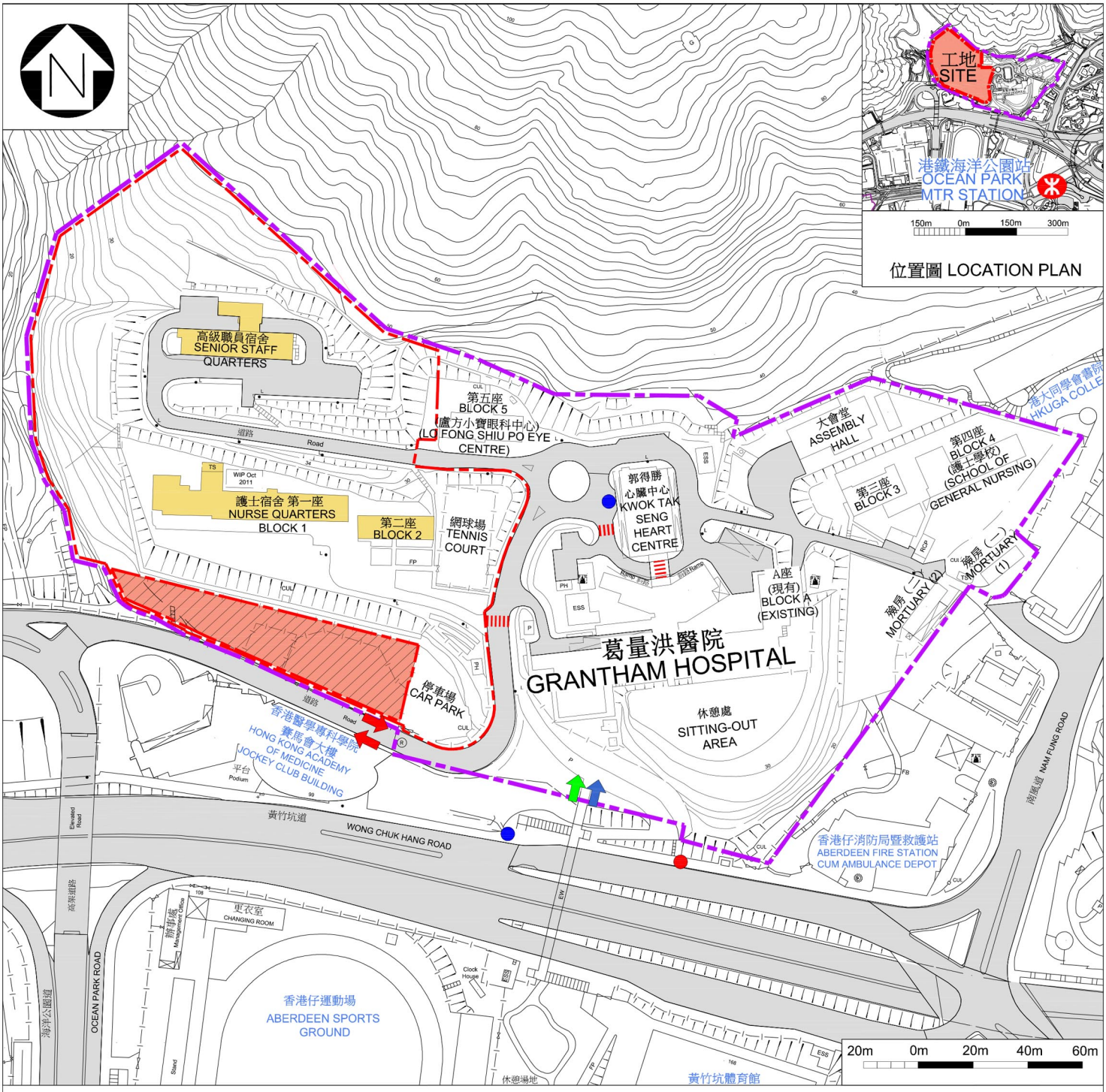
[6] Number of trees to be felled and transplanted is subject to minor adjustment in main works – superstructure stage.

[7] "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 trees, trees 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 the 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 a trunk of diameter equal to or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with a height or canopy spread equal to or exceeding 25 m.



圖例 LEGEND

- 醫院界線 HOSPITAL BOUNDARY
- 第一期工地界線[1] PHASE 1 SITE BOUNDARY[1]
- 第一期將予拆卸的樓宇 BUILDINGS TO BE DEMOLISHED IN PHASE 1
- 重建所需額外土地 ADDITIONAL LAND FOR REDEVELOPMENT
- 現有地面行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 現有巴士站 EXISTING BUS STOP
- 現有小巴站 EXISTING MINI-BUS STOP
- 現有港鐵站 EXISTING MTR STATION
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT

[1] 相關工程包括公用設施改道、拆卸、地盤平整及地基工程
Works involved include utilities diversion, demolition, site formation and foundation works

工地平面圖
SITE PLAN

3MP

葛量洪醫院重建計劃第一期
REDEVELOPMENT OF GRANTHAM HOSPITAL, PHASE 1

3MP (part) – Redevelopment of Grantham Hospital, phase 1 – demolition, site formation and foundation works

Breakdown of the estimates for consultants' fees and resident site staff (RSS) costs (in September 2019 prices)

		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a) Consultants' fees for contract administration (Note 2)	Professional	-	-	-	14.6
	Technical	-	-	-	3.7
				Sub-total	18.3#
(b) Resident site staff (RSS) costs (Note 3)	Professional	25	38	1.6	3.4
	Technical	403	14	1.6	19.5
				Sub-total	22.9
Comprising –					
(i) consultants' fees for management of RSS			3.4#		
(ii) remuneration of RSS			19.5#		
				Total	**41.2**

*MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS (as at now, MPS salary point 38 = $85,870 per month and MPS salary point 14 = $30,235 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for preparatory works of **4MP**. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade part of **3MP** to Category A.

3. The RSS cost for site supervision is based on the estimate prepared by the Hospital Authority. We will only know the actual man-months and actual cost after completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 12 of Enclosure 2.

Annex 3 to Enclosure 2

3MP - Redevelopment of Grantham Hospital, phase 1

Details of the "Important Tree" affected by the Project

Tree No.	Species[1]		Measurements			Amenity value	Form	Health condition	Structural condition	Suitability for transplanting		Conservation status [3]	Recommendation	Department to provide expert advice to Lands Department	Additional Remarks
	Scientific name	Chinese name	Height (m)	DBH[2] (mm)	Crown spread (m)	(Good/ Fair/ Poor)				(High/ Med/ Low)	Remarks		(Retain/ Transplant/ Fell)		
N194	*Artocarpus hypargyreus*	白桂木	5	140	3	High	Fair	Fair	Fair	Low	Located on natural vegetated slope at the Western part of the Lot that is inappropriate for tree transplanting. Unable to attain a sufficient and symmetric root ball for transplanting.	High	Fell	-	In conflict with proposed building footprint.
N381	*Aquilaria sinensis*	土沉香	10	400	2	High	Poor	Poor	Poor	Low	Located on natural vegetated slope at the Northern part of the Lot that is inappropriate for tree transplanting. Unable to attain a sufficient and symmetric root ball for transplanting.	High	Fell	-	In conflict with proposed building footprint. Broken branches, epicormic, mechanical injury, dead wood on trunk base.

Tree No.	Species[1]		Measurements			Amenity value	Form	Health condition	Structural condition	Suitability for transplanting		Conservation status [3]	Recommendation	Department to provide expert advice to Lands Department	Additional Remarks
	Scientific name	Chinese name	Height (m)	DBH[2] (mm)	Crown spread (m)	(Good/ Fair/ Poor)				(High/ Med/ Low)	Remarks		(Retain/ Transplant/ Fell)		
GH 221	*Corymbia citriodora*	檸檬桉	14	820	6	High	Fair	Poor	Fair	Med	Located on the flat surface. Sufficient work space for root pruning.	High	Transplant	-	In conflict with proposed building footprint. Broken branches, multi-trunks, cavity on branches, decay on branches, included bark, topped, epicormics.
GH 034	*Ficus elastica*	印度榕	12	1900	14	Fair	Fair	Fair	Fair	Low	Located on Registered SIMAR slope (11SW-D/C1039) that is inappropriate for tree transplanting. Unable to attain a sufficient and symmetric root ball for transplanting.	Fair	Fell	-	In conflict with proposed building footprint. Dead branches, numerous pillar roots.

Tree No.	Species[1]		Measurements			Amenity value	Form	Health condition	Structural condition	Suitability for transplanting		Conservation status [3]	Recommendation	Department to provide expert advice to Lands Department	Additional Remarks
	Scientific name	Chinese name	Height (m)	DBH[2] (mm)	Crown spread (m)	(Good/ Fair/ Poor)				(High/ Med/ Low)	Remarks		(Retain/ Transplant/ Fell)		
GH 039	*Ficus elastica*	印度榕	13	1800	10	Fair	Fair	Fair	Fair	Low	Located on Registered SIMAR slope (11SW-D/FR620) that is inappropriate for tree transplanting. Unable to attain a sufficient and symmetric root ball for transplanting.	Fair	Fell	-	In conflict with proposed building footprint. Numerous pillar roots.
X29	*Ficus elastica*[3]	印度榕	9	1100	9	Fair	Poor	Poor	Poor	Low	Located on Registered SIMAR slope (11SW-D/FR620) that is inappropriate for tree transplanting. Nearby man-made structure and unable to attain a sufficient and symmetric root ball for transplanting.	Fair	Fell	-	In conflict with proposed building footprint. Numerous pillar roots, Merged with man-made structure, restricted root.

Tree No.	Species[1]		Measurements			Amenity value	Form	Health condition	Structural condition	Suitability for transplanting		Conservation status [3]	Recommendation	Department to provide expert advice to Lands Department	Additional Remarks
	Scientific name	Chinese name	Height (m)	DBH[2] (mm)	Crown spread (m)	(Good/ Fair/ Poor)				(High/ Med/ Low)	Remarks		(Retain/ Transplant/ Fell)		
X46	*Ficus elastica*	印度榕	11	1800	15	Fair	Fair	Fair	Fair	Low	Located on man-made slope that is inappropriate for tree transplanting. Unable to attain a sufficient and symmetric root ball for transplanting.	Fair	Fell	-	In conflict with proposed road and outdoor parking Broken branches, dead branches, numerous pillar roots, numerous branches are supported by aerial roots.

Remarks:

(1) All these trees are not registered Old and Valuable Tree.
(2) Trunk diameter of a tree refers to its diameter at breast height (DBH) (i.e. measured at 1.3 m above ground level).
(3) Conservation status indicates rarity and protection status under relevant ordinances of a species in Hong Kong. References such as Rare and Precious Plants of Hong Kong, the IUCN Red List of Threatened Species and the Forests and Countryside Ordinance (Cap. 96) may be used.

74MM – Community health centre cum social welfare facilities at Pak Wo Road, North District

PROJECT SCOPE AND NATURE

The project site for the proposed community health centre cum social welfare facilities in North District (NDCHC) occupying an area of 4 830 square metres (m^2) is located at Pak Wo Road in Sheung Shui. The scope of the project comprises (i) demolition of the existing two-storey disused school building; and (ii) construction of a new joint-user building in-situ, to accommodate the following facilities –

(a) a community health centre (CHC), operated by the Hospital Authority (HA);

(b) a maternal and child health centre (MCHC), operated by the Department of Health (DH);

(c) a reprovisioned student health service centre (SHSC), operated by the DH;

(d) a reprovisioned elderly health centre (EHC) cum office of the visiting health teams (VHTs), operated by the DH;

(e) a reprovisioned office of the School Immunisation Team (SIT), operated by the DH;

(f) a day care centre for the elderly (DCCE)[1], operated by a non-governmental organisation (NGO) subvented by the Social Welfare Department (SWD); and

/(g) …..

[1] Bare shell premises will be constructed for the DCCE and ICCMW, of which the construction costs will be sought from the Lotteries Fund (LF) in accordance with the established mechanism. Funding for the DCCE and ICCMW's internal fitting-out works and purchase of furniture and equipment will also be sought from the LF separately in accordance with the established mechanism. Pursuant to the Government Lotteries Ordinance (Cap. 334), the Financial Secretary may appropriate from the LF moneys to finance and support the development of social welfare services as the Chief Executive, after consultation with the Social Welfare Advisory Committee, may approve. The Director of Social Welfare, as the Controlling Officer of the LF, will ensure that the applications fall within the approved ambit of the LF. Grants can be made to meet non-recurrent commitments for construction, fitting-out and purchase of furniture and equipment, etc. for premises occupied by NGOs providing welfare services.

(g) an integrated community centre for mental wellness (ICCMW)[1], operated by an NGO subvented by the SWD.

2. A site and location plan and a sectional plan for the project are at Annexes 1 and 2 to Enclosure 3. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed works in the third quarter of 2020 for completion in the fourth quarter of 2023.

JUSTIFICATION

3. To meet the healthcare needs in the North District in the long term, we propose to develop a CHC cum social welfare facilities to provide the following services –

HA

CHC

4. According to the latest population estimates of the Census and Statistics Department and the projection by the Planning Department, the population of the North District is projected to increase from 318 400 in 2018 to 421 500 in 2028. During this period, the elderly population aged 65 or above in the district is projected to increase from 52 900 to 93 200, representing a significant increase of 76%. Together with the forecast population growth from the New Development Areas (NDAs) and an ageing population in Hong Kong, it is envisaged that the healthcare needs of the residents of the North District will continue to increase.

5. Currently, there are four general outpatient clinics (GOPCs) and mobile medical services provided in the North District managed and operated by HA. Geographically, these clinics and services are distributed in the old towns of Sheung Shui, Fanling, Sha Tau Kok, Ta Kwu Ling and other rural areas of the district. In terms of space and functional layout, the existing facilities of these GOPCs are inadequate to cope with the growing demand for general outpatient services in the North District, especially in Sheung Shui and Fanling new towns.

/6. …..

6. Amongst these GOPCs, the two GOPCs at the Shek Wu Hui Jockey Club Clinic (SWHJCC) and the Fanling Health Centre are serving residents in Sheung Shui and Fanling new towns. Built in the early 1960s, the GOPC at the SWHJCC is aged and dilapidated. In-situ expansion to cope with the anticipated increase in demand for GOPC services is not feasible due to the physical and structural constraints of the building. Large-scale in-situ improvement works is also not desirable as operation of GOPC services should be maintained at all times. The out-dated layout and the congested environment of the SWHJCC are inefficient in meeting the rising public primary care service demand.

7. Having regard to an ageing population, the demographic profile and the increasing demand for healthcare services due to population growth and the development of NDAs, there is an imminent need to enhance and integrate various public primary healthcare services in the North District. We therefore plan to develop a CHC in the district by reprovisioning the GOPC at SWHJCC at the proposed CHC at Pak Wo Road.

8. The proposed CHC would provide one-stop public primary healthcare services to residents of the North District comprising three key elements: medical consultation services, nursing and allied health services, and patient empowerment services. This project, once materialised, will provide modernised facilities to improve the primary care services in the North District in order to meet the changing healthcare demand arising from the growing and ageing population. Through the CHC, the HA will provide a comprehensive range of multi-disciplinary professional services including doctor, nurse and allied health services, having regard to the demographic profile and projected service demand for public primary care services of the target population in the North District.

DH

MCHC

9. The MCHCs of Family Health Service of the DH provide a comprehensive range of health promotion and disease prevention services for children from birth to five years and women at or below 64 years of age.

10. Currently, Fanling MCHC is the only MCHC in the North District providing maternal and child health services for the vast population in the vicinity. Fanling MCHC has a total attendance of around 60 000 per year and is among the top three MCHCs with the highest attendance in recent years.

/11. …..

11. The population of the North District is growing with the development of the NDAs. The demand for maternal and child health services in the North District is expected to increase substantially in addition to its own natural growth.

12. Both the manpower and clinic space of the existing MCHCs in the neighbouring districts have become overstretched to cope with their own current service needs, and thus can barely share out the caseload from the North District due to their limited capacity. Therefore, a new MCHC in the North District is necessary to cope with the rising service demand and in particular the demand from the NDAs.

SHSC

13. The Student Health Service of the DH aims to safeguard both the physical and psychological health of students through health promotion and disease prevention services. Primary and secondary day school students who have enrolled in the SHSCs will be given annual appointments for health assessment at the SHSCs to receive services meeting the health needs at various stages of their development. These services include physical examination, individual health counselling and health education.

14. Students found to have health problems will be referred to the Special Assessment Centres (SACs) of the Student Health Service, specialist clinics of the HA or other institutions for detailed assessment, follow-up or treatment. Assessments in the SACs include assessments by clinical psychologists, dietitians, optometrists and audiologists, as well as further spinal assessment.

15. Taking into account the increasing requirement for child health service, it is anticipated that the demand for student health service will increase correspondingly. The existing space of Shek Wu Hui SHSC (SWHSHSC) is limited and its facilities are congested with inadequate space for service development. The reprovisioning of the SWHSHSC at the proposed building will improve its workflow and quality of service delivered to the public. A new SAC will also be set up and co-located with the reprovisioned SHSC on the same floor in the proposed building. With the addition of the SAC service, the reprovisioned SHSC will provide one-stop service to avoid requiring clients to travel long distance to the existing SACs located on Hong Kong Island and in Kowloon.

/*EHC* …..

EHC cum office of the VHTs

(i) EHC

16. EHCs of Elderly Health Service of the DH aim to address the multiple health needs of the elderly by providing them with integrated primary health care services. Preventive, promotive and curative services are provided from a family medicine perspective using a multi-disciplinary team approach. Elders aged 65 or above are eligible for enrolling as members of EHCs. Enrolled members are provided with health assessment, counselling, health education and curative treatment services.

17. Shek Wu Hui EHC (SWHEHC) will be reprovisioned at the proposed building. The existing area of the SWHEHC is inadequate to meet service demand. After reprovisioning of the SWHEHC at the proposed building, a more spacious and comfortable environment with more comprehensive and quality integrated primary care services can be provided to the elderly. The more spacious environment could also facilitate easier manoeuvre within the premises by clients on wheelchairs, provide storage space for the growing number of medical records and accommodate computer facilities. Co-location of the EHC and other healthcare services in the proposed building has a better scope for co-ordination and greater synergy in the provision of curative and preventive services.

(ii) Office of the VHTs

18. The VHTs reach out to the community and residential care settings to provide health promotion activities for the elderly and their carers in collaboration with other elderly services providers. The aim is to increase their health awareness and the self-care ability of the elderly, and to enhance the quality of caregiving. Target service recipients include elders and their carers (e.g. family members, home helpers, domestic helpers, staff working in residential care homes for the elderly and elderly centres, and volunteers providing services to the elderly). Reprovisioning of the North and Tai Po District VHT office at the proposed building could facilitate arrangement of outreach activities and shared use of resources. It will also allow effective and efficient delivery of services to the residential care settings and elderly organisations in the district.

/*Office* …..

Office of the SIT

19. The SIT of the DH provides vaccination services for primary school students to protect them from infectious diseases. The SIT operates at a total of six sub-offices, including the sub-office in the North District Government Offices (NDGO), to provide vaccination services for eligible students who have missed the school immunisation visits and for eligible primary school-aged children who study outside Hong Kong.

20. The sub-office of the SIT at the NDGO will be reprovisioned at the proposed building. Co-locating medical and health facilities in a purpose-built clinic building would allow synergy and facilitate better clinical support to the SIT's immunisation services by the other medical and health services in the proposed building.

SWD

DCCE

21. Having regard to the ageing population, the planned DCCE will reduce the waiting time for subsidised day care services. As announced in the 2015 Policy Address, the Chief Executive has tasked to increase the number of day care and home care places for the elderly to support ageing in place. The setting up of a new DCCE at the proposed North District CHC will help alleviate the service demand and shorten the waiting time for the service.

/*ICCMW* …..

ICCMW

22. Pursuant to the policy objective for the setup of ICCMWs in all 18 districts as announced in the 2009-10 Policy Address, since October 2010, the ICCMW serving the North District has been providing one-stop, district-based community mental health support services for ex-mentally ill persons and persons with suspected mental health problem aged 15 or above, their family members/ carers and local residents. The ICCMW has also extended the service targets to secondary school students with mental health needs living or studying in the North District since October 2019. The core services of the ICCMW include casework counselling, outreaching services, occupational therapy, therapeutic and supportive group, peer support service, clinical psychological service, public education, etc. With well-defined geographical service boundaries, the ICCMW will serve the needy ones living or studying secondary schools in the North District without setting a case service capacity. Having yet secured a permanent accommodation, the ICCMW has been providing services in their temporary bases in commercial premises or other welfare facilities in the neighbourhood; whereas the service operation and development are unavoidably hindered. Given such, the reprovisioning of the ICCMW through incorporation of the facility in the development will enhance the delivery and timely mental health support services to the serving community.

FINANCIAL IMPLICATIONS

23. We estimate the capital cost of the project to be $1,780.4 million in money-of-the-day (MOD) prices[2], broken down as follows –

/**$ million** …..

[2] This figure represents the latest estimate of the capital cost pending tender return. We plan to update the cost estimate before submission to the FC.

			$ million (in MOD prices)
(a)	Site works		8.8
(b)	Demolition		4.1
(c)	Geotechnical works		8.9
(d)	Piling		78.7
(e)	Building[3]		867.5
(f)	Building services[4]		447.1
(g)	Drainage		10.5
(h)	External works[5]		18.4
(i)	Additional energy conservation, green and recycled features		35.3
(j)	Furniture and equipment (F&E)[6]		112.7
(k)	Consultants' fees for		11.2
	(i) contract administration	10.6	
	(ii) management of resident site staff (RSS)	0.6	
(l)	Remuneration of RSS		15.3
(m)	Contingencies		161.9
	Total		$1,780.4

/24. …..

[3] Building works comprise construction of substructure and superstructure of the building.

[4] Building services works cover electrical installation, ventilation and air-conditioning installation, fire services installation, lift installation and other specialist installations.

[5] External works cover external paving, hard and soft landscape.

[6] Based on an indicative list of F&E items and their estimated prices. An indicative list of the major F&E items is at Annex 4 to Enclosure 3.

24. Of the estimated $1,780.4 million total capital cost, about $89.5 million is the apportioned construction cost for the provision of welfare facilities which would first be funded by the Capital Works Reserve Fund under **74MM** and then be reimbursed from the LF after project completion. Funding approval from the LF will be separately sought under the established mechanism.

25. We propose to engage consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 3 to Enclosure 3. The Construction Floor Area (CFA) of the project is about 27 580 m^2. The estimated construction unit cost, represented by the building and building services costs, is $47,665 per m^2 of CFA in MOD prices. We consider this unit cost comparable to that of similar projects built by the Government.

26. Subject to funding approval, we plan to phase the expenditure of the project as follows –

Year	$ million (MOD)
2020 – 2021	15.7
2021 – 2022	187.0
2022 – 2023	450.4
2023 – 2024	739.7
2024 – 2025	137.0
2025 – 2026	106.1
2026 – 2027	81.7
2027 – 2028	62.8
	1,780.4

/27. …..

27. 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 2020 to 2028. The project will be outsourced to and delivered through a design-and-build contract. We intend to award the contract on a lump-sum basis as the scope of the works can be clearly defined in advance. The contract will provide for price adjustment.

28. The HA and DH have assessed the requirements for F&E for the project and estimate the F&E costs to be $112.7 million, including $97.2 million for the HA and $15.5 million for the DH. The proposed F&E provision represents 8.8% of the construction cost of the CHC portion[7]. An indicative list of major F&E items (costing $1 million or above per item) to be procured for the project is at Annex 4 to Enclosure 3.

29. We estimate the annual recurrent expenditure arising from the project to be $308.7 million[8], including $272.8 million for the HA and $35.9 million for the DH.

PUBLIC CONSULTATION

30. The Food and Health Bureau, together with the HA, DH, SWD and ArchSD consulted the Social Services, Labour and Economic Affairs Committee (SSLEAC) of the North District Council (NDC) on 3 July 2018 in respect of the construction of the NDCHC. Members of the SSLEAC of the NDC supported the project. The current project scope has taken into consideration the recommendation made by the SSLEAC.

31. We consulted the Legislative Council Panel on Health Services on 20 March 2020. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

/ENVIRONMENTAL …..

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[7] Represented by building, building services, drainage and external works costs.

[8] Regarding the annual recurrent expenditure in respect of the proposed DCCE and ICCMW, the SWD will arrange to secure the recurrent expenditure under the established practice.

ENVIRONMENTAL IMPLICATIONS

32. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We completed a Preliminary Environmental Review (PER) for the project in April 2019. The PER concluded and the Director of Environmental Protection agreed that the project would not cause long-term adverse environmental impacts. We have included in the project estimates the cost to implement suitable environmental mitigation measures during construction to control short-term environmental impacts.

33. We have also completed an Asbestos Investigation Report (AIR) for the existing building of the site. As the AIR has identified some asbestos containing materials (ACM) inside the existing building, we will remove and dispose of the ACM in accordance with the Asbestos Abatement Plan and the requirements under the Air Pollution Control Ordinance and Waste Disposal Ordinance, prior to the demolition of the existing building.

34. At the planning and design stages, we have considered measures to reduce generation of construction waste wherever 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 (e.g. excavated soil) on site or in other suitable construction sites as far as possible in order to minimise disposal of inert construction waste at public fill reception facilities[9]. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

35. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation measures 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 inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

/36. …..

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[9] Public fill reception facilities are specified in Schedule 4 of 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.

36. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. These measures include the use of Quieter Powered Mechanical Equipment, temporary/movable barriers and adoption of acoustic fabric during noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

37. We estimate that the proposed project will generate in total about 21 560 tonnes of construction waste. Of these, we will reuse about 970 tonnes (4.5%) of inert construction waste on site and deliver about 18 280 tonnes (84.8%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 2 310 tonnes (10.7%) 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 about $1.8 million for the project (based on a 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 IMPLICATIONS

38. 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

39. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

40. The project will adopt various forms of energy efficient features and renewable energy technologies, in particular –

/(a) …..

(a) variable speed drive for chillers;

(b) heat pump for hot water, space heating and dehumidification;

(c) heat energy reclaim of exhaust air;

(d) demand control of supply air;

(e) building energy management system; and

(f) photovoltaic system.

41. For greening features, we will provide green roof, vertical greening as well as planting areas for environmental and amenity benefits.

42. For recycled features, we will adopt rainwater harvesting system for irrigation purpose.

43. The total estimated additional cost for adoption of the above energy conservation measures, greening features and recycled features is around $35.3 million in MOD prices (including $6.1 million in MOD prices for energy efficient features), which has been included in the cost estimate of the project. The energy efficient features will achieve 5.1% energy savings in the annual energy consumption with a payback period of about nine years.

BACKGROUND INFORMATION

44. The construction of the NDCHC is one of the projects covered by the First Ten-year Hospital Development Plan. We upgraded **74MM** to Category B in May 2019 for the HA portion and August 2019 for the DH/SWD portion of the project. We engaged consultants and term contractors to undertake various services and investigation works, including PER, traffic impact assessment, drainage and sewerage impact assessment, geotechnical assessment, utility mapping, tree and topographical survey, asbestos survey, ground investigation works, and quantity surveying services to prepare tender document at a total cost of about $4.6 million. The consultancy services and investigation works were funded under Block Allocations **Subhead 8083MM** "One-off grant to the Hospital Authority for minor works projects". All the above consultancy services and investigation works have been completed.

/45. …..

45. Among the 160 trees of common species within the site of the project and at the proximity of project site boundary, three trees will be preserved and 157 trees will be felled. All trees to be felled are not important trees[10]. We will incorporate planting proposals as part of the project, including the planting of about 58 trees and about 12 500 shrubs/groundcover/climbers.

46. We submitted a paper for discussion of the project (Paper ref.: LC Paper No. CB(2)711/19-20(03)) at the meeting of the Panel on Health Services on 20 March 2020. The reduction in cost estimate is due to refinement of the user's F&E requirements and design development of the project. We consider that the latest estimate has reflected the prevailing situation and is sufficient for the delivery of the project.

47. We estimate that the proposed works will create about 520 jobs (480 for labourers and 40 for professional/technical staff) providing a total employment of 15 400 man-months.

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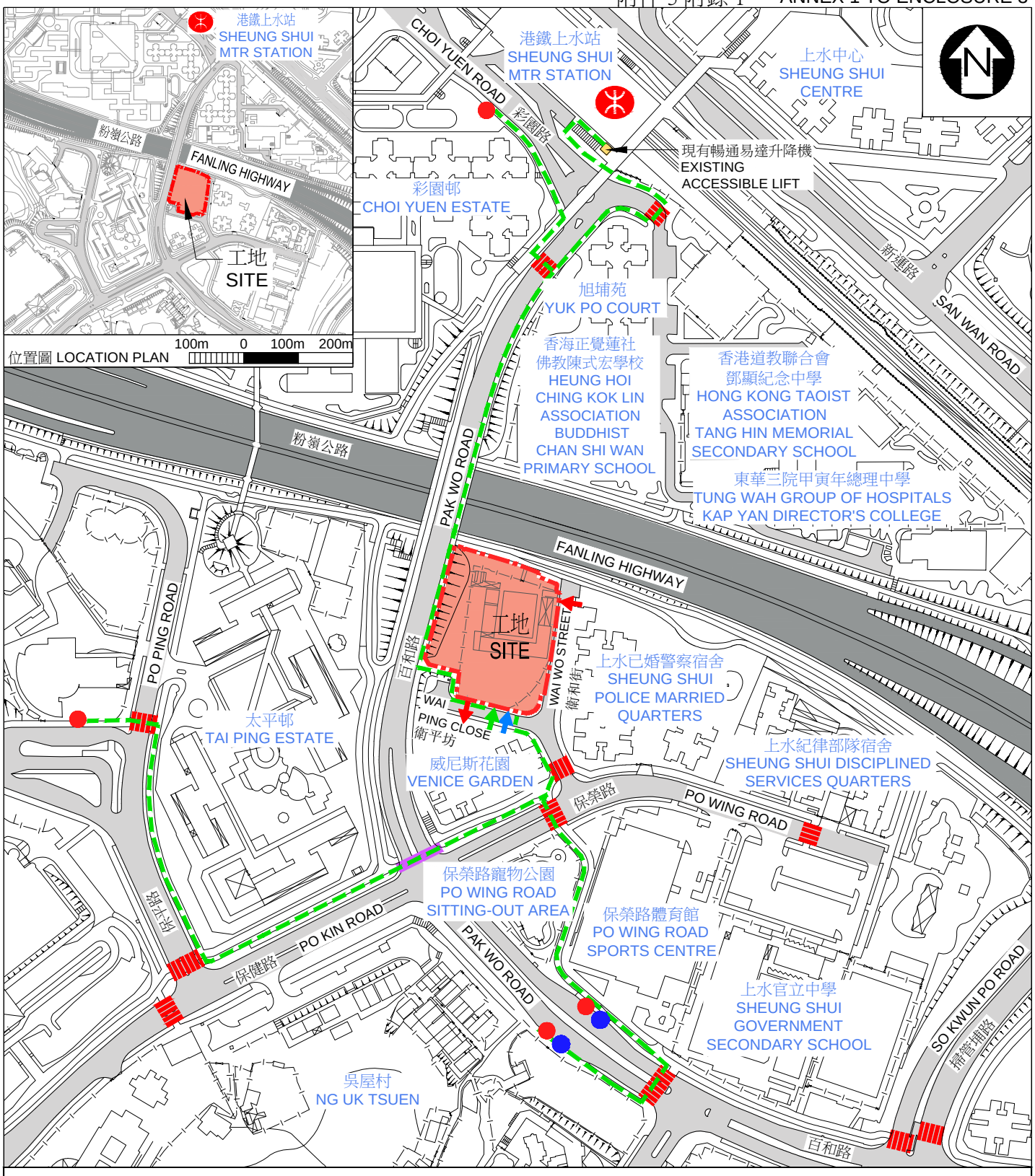
[10] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or events;
(c) trees of precious or rare species;
(d) trees of outstanding forms (taking account of overall tree sizes, shapes and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitats; 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.

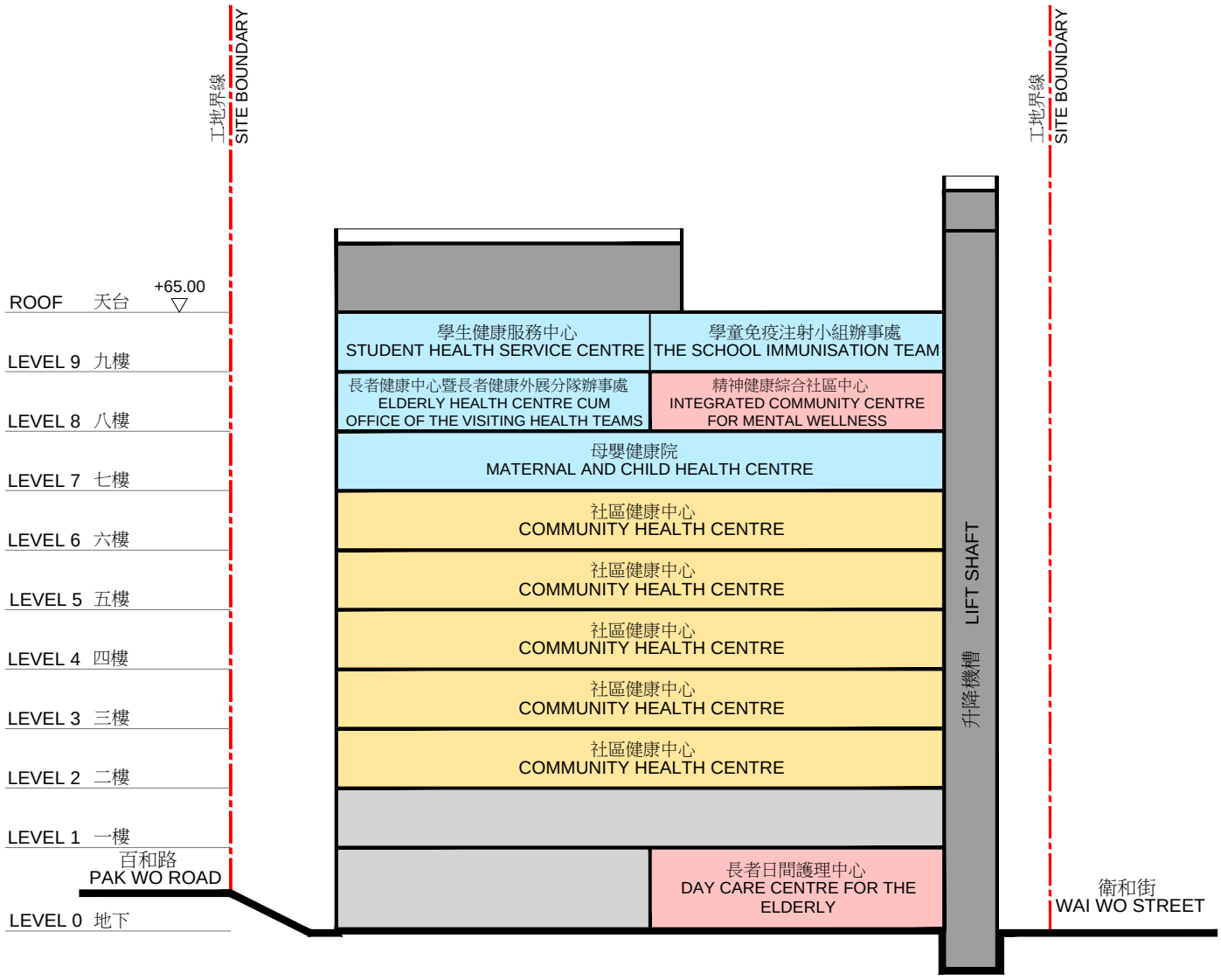


圖例 LEGEND

- 工地界線 SITE BOUNDARY
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 無障礙通道 BARRIER-FREE ACCESS
- 現有地面行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 現有巴士站 EXISTING BUS STOP
- 現有暢通易達升降機 EXISTING ACCESSIBLE LIFT
- 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
- 現有小巴站 EXISTING MINI-BUS STOP
- 現有行人隧道 EXISTING SUBWAY

30m 0 30m 60m 90m

工地平面圖 SITE PLAN	74MM 北區百和路社區健康中心暨社會福利設施 COMMUNITY HEALTH CENTRE CUM SOCIAL WELFARE FACILITIES AT PAK WO ROAD, NORTH DISTRICT	ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND

- 醫院管理局社區健康設施 COMMUNITY HEALTH FACILITIES BY HA
- 衞生署社區健康設施 COMMUNITY HEALTH FACILITIES BY DH
- 社會福利署設施 SOCIAL WELFARE FACILITIES
- 行車通道 / 停車場 VEHICULAR CIRCULATION / CAR PARKING AREA
- 機電房 PLANT ROOMS

5m 0 5m 10m 15m

剖面圖
SECTION

74MM
北區百和路社區健康中心暨社會福利設施
COMMUNITY HEALTH CENTRE CUM SOCIAL WELFARE FACILITIES AT PAK WO ROAD, NORTH DISTRICT

ARCHITECTURAL SERVICES DEPARTMENT 建築署

74MM – Community health centre cum social welfare facilities at Pak Wo Road, North District

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2019 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	–	–	–	5.9
		Technical	–	–	–	2.9
					Sub-total	8.8 #
(b)	Resident site staff (RSS) costs (Note 3)	Professional	20	38	1.6	2.7
		Technical	217	14	1.6	10.5
					Sub-total	13.2
	Comprising -					
	(i) Consultants' fees for management of RSS			0.5#		
	(ii) Remuneration of RSS			12.7#		
					Total	**22.0**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $85,870 per month and MPS salary point 14 = $30,235 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for provision of contract administration and site supervision of **74MM**. The assignment will only be executed subject to the Finance Committee's funding approval to upgrade **74MM** to Category A.

3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.

Remarks

The cost figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 23 of Enclosure 3.

74MM – Community health centre cum social welfare facilities at Pak Wo Road, North District

Indicative list of furniture and equipment items with unit cost of $1 million or above

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Automatic Box Dispensing System	1	5.0	5.0
Automatic Guided Vehicles and Shelving System	1	3.0	3.0
Digital Radiography System	2	2.8	5.6
Robotics Dispensing Machine, Outpatient Department	1	3.4	3.4
Telephone System, Private Automatic Branch Exchange (PABX) system	1	4.3	4.3

85MM – Hospital Authority Supporting Services Centre

PROJECT SCOPE AND NATURE

The project site for the proposed Hospital Authority Supporting Services Centre (HASSC) occupying an area of 13 700 square metres (m^2) is located at Area 22 in Tung Chung next to the North Lantau Hospital (NLTH). The scope of the project comprises the construction of a supporting services building, to accommodate the following facilities –

(a) a laundry of annual production capacity of around 27 500 000 kilograms (kg), representing around 50% of the projected service demands of the Hospital Authority (HA) by 2030;

(b) a central food production unit (CPU) of annual production capacity of around 12 500 000 patient meals, which is equivalent to around 50% of the total projected patient meals requirement of the HA by 2030;

(c) an information technology (IT) corporate data centre that can accommodate 500 IT equipment racks to cater for around 50% of the projected total data centre requirement of the HA; and

(d) central emergency stores for critical personal protective equipment (PPE) and key linen items.

2. A site and location plan and a sectional plan for the project are at Annexes 1 to 2 to Enclosure 4. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed works in the fourth quarter of 2020 for completion in the first quarter of 2024.

/**JUSTIFICATION** …..

JUSTIFICATION

3. To cope with the development and population growth of North Lantau, the Government decided to develop a new hospital in North Lantau in 2009. The NLTH project is carried out in two phases. Phase 1 development of the NLTH was completed in December 2012. To meet the long-term demand for hospital services on Lantau Island, the Government has reserved an adjacent site for future provision of hospital facilities under phase 2 development of the NLTH, which the HA plans to carry out in two stages. Stage 1 of phase 2 development involves the construction of the HASSC, providing laundry, catering, PPE storage, and data centre services to support the NLTH and other public hospitals. Stage 2 of phase 2 development will be planned for capacity growth of the NLTH under the Second Ten-year Hospital Development Plan (HDP).

4. The provision of supporting services and facilities is critical for the HA to support the planned expansion of its clinical services to meet the heavy demand for public healthcare services. The HA's current laundry services requirement is around 45 000 000 kg annually including laundry service provided for various clinics and health centres of the Department of Health. The existing laundry service is provided by ten laundries through four modes of delivery, viz. HA in-house operation, HA laundries operated by contractors, laundries operated by the Correctional Services Department, and commercial contractors. As the service capacity of the existing laundries has reached saturation, it is necessary to have a new central laundry centre to meet the service need and enable the relocation of some existing hospital laundries in order to release the precious hospital space for clinical services.

5. Cook-chill food production for patient meals is currently served by three CPUs located in the Castle Peak Hospital, North District Hospital and Pamela Youde Nethersole Eastern Hospital (PYNEH). It is anticipated that the annual patient meals requirement of the HA will increase from the around 20 000 000 meals currently to 26 700 000 meals by 2030. However, expansion of these CPUs is not possible due to space constraints. Taking into account the long-term service demands and the limited capacity to expand the existing CPUs, a new CPU is necessary to cope with the increasing service demand for patient food service. The new CPU will also allow opportunity for further implementation of cook-chill cum cold-plating technology to improve food safety and hygiene.

/6. …..

6. Apart from the in-house site in PYNEH, the HA's IT corporate data centres are currently co-located in the data centres provided by external service providers for hosting the HA-wide IT applications and services. In view of the expensive service costs for the external data centres and to mitigate the risk of the sole reliance on data centres hosted by external service providers, the HA plans to set up a new in-house corporate data centre which could cater for around 50% of the projected total corporate data centre requirement.

7. The HA seeks to stay vigilant to enhance the monitoring and control during outbreak of infectious diseases. At present, the HA arranges storage of 90-day contingency stock of critical PPE by outside strategic suppliers and individual clusters within the HA. Moreover, all HA hospitals are required to achieve the three-day stock for key linen items to provide urgent back-up or contingency supply in emergency or disaster situations. To fulfil the requirement of provision of critical PPE and key linen items for emergency use, the HA should have a central emergency store as a reliable deployment. With the development of the proposed central stores, more hospital spaces can be released for clinical uses and rental cost of outside warehouse can be reduced.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the project to be $3,788.0 million in money-of-the-day (MOD) prices[1], broken down as follows –

/**$ million** …..

[1] This figure represents the latest estimate of the capital cost pending tender return. We plan to update the cost estimate before submission to the FC.

			$ million (in MOD prices)
(a)	Site works		11.4
(b)	Piling[2]		100.6
(c)	Building[3]		978.3
(d)	Building services[4]		854.8
(e)	Drainage		22.0
(f)	External works		99.7
(g)	Additional energy conservation, green and recycled features		53.2
(h)	Furniture and equipment (F&E)[5]		1,291.4
(i)	Consultants' fees for		12.6
	(i) contract administration	11.9	
	(ii) management of resident site staff (RSS)	0.7	
(j)	Remuneration of RSS		19.7
(k)	Contingencies		344.3
	Total		3,788.0

/9. …..

[2] Piling works cover construction of piles and all related tests and monitoring.

[3] Building works comprise construction of substructure and superstructure of the building.

[4] Building services works cover electrical installation, ventilation and air-conditioning installation, fire services installation, lift installation and other specialist installations.

[5] Based on an indicative list of F&E items and their estimated prices. An indicative list of the major F&E items is at Annex 4 to Enclosure 4.

9. We propose to engage consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 3 to Enclosure 4. The Construction Floor Area (CFA) of the project is about 52 540 m^2. The estimated construction unit cost, represented by the building and building services costs, is $34,890 per m^2 of CFA in MOD prices. We consider this unit cost comparable to that of similar projects built by the Government.

10. Subject to funding approval, we plan to phase the expenditure as follows –

Year	$ million (MOD)
2020 – 2021	56.6
2021 – 2022	298.1
2022 – 2023	831.5
2023 – 2024	1,526.7
2024 – 2025	445.3
2025 – 2026	318.2
2026 – 2027	236.9
2027 – 2028	74.7
	3,788.0

11. 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 2020 to 2028. The project will be outsourced to and delivered through a design-and-build contract. We intend to award the contract on a lump-sum basis as the scope of the works can be clearly defined in advance. The contract will provide for price adjustment.

/12. …..

12. The HA has assessed the requirements for F&E for the project and estimates the F&E costs to be $1,291.4 million. The proposed F&E provision represents 66.1% of the construction cost of the project[6]. An indicative list of major F&E items (costing $1 million or above per item) to be procured for the project is at Annex 4 to Enclosure 4.

13. We estimate the annual recurrent expenditure arising from the project to be $459.7 million.

PUBLIC CONSULTATION

14. The HA consulted the Islands District Council (IsDC) on 4 September 2017 in respect of the construction of the HASSC. Members of the IsDC supported the project.

15. We consulted the Legislative Council Panel on Health Services on 20 March 2020. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

16. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We completed a Preliminary Environmental Review (PER) for the project in November 2019. The PER concluded and the Director of Environmental Protection agreed that the project would not cause long-term adverse environmental impacts. We have included in the project estimates the cost to implement suitable environmental mitigation measures during construction to control short-term environmental impacts.

/17. …..

[6] Represented by building, building services, drainage and external works costs.

17. At the planning and design stages, we have considered measures to reduce generation of construction waste wherever 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 (e.g. excavated soil) on site or in other suitable construction sites as far as possible in order to minimise disposal of inert construction waste at public fill reception facilities[7]. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

18. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation measures 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 inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

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

20. We estimate that the proposed project will generate in total about 56 660 tonnes of construction waste. Of these, we will reuse about 4 160 tonnes (7.3%) of inert construction waste on site and deliver about 47 790 tonnes (84.4%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 4 710 tonnes (8.3%) 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 about $4.3 million for the project (based on a 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)).

/21. …..

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[7] Public fill reception facilities are specified in Schedule 4 of 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

21. 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

22. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

23. The project will adopt various forms of energy efficient features and renewable energy technologies, in particular –

(a) water-cooled chillers with variable speed drive;

(b) heat pump for hot water and dehumidification;

(c) heat energy reclaim of exhaust air;

(d) building energy management system;

(e) photovoltaic system; and

(f) solar powered light fittings.

24. For greening features, we will provide green roof, vertical greening as well as planting areas for environmental and amenity benefits.

25. For recycled features, we will adopt rainwater harvesting system for irrigation purpose.

26. The total estimated additional cost for adoption of the above energy conservation measures, greening features and recycled features is around $53.2 million in MOD prices (including $21.9 million in MOD prices for energy efficient features), which has been included in the cost estimate of the 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** …..

BACKGROUND INFORMATION

27. The construction of HASSC is one of the projects covered by the First Ten-year HDP. We upgraded **85MM** to Category B in November 2019. We engaged consultants and term contractors to undertake various services and investigation works, including PER, traffic impact assessment, drainage and sewerage impact assessment, geotechnical assessment, utility mapping, tree and topographical survey, ground investigation works, and quantity surveying services to prepare tender document at a total cost of about $4.5 million. The consultancy services and investigation works were funded under Block Allocations **Subhead 8083MM** "One-off grant to the Hospital Authority for minor works projects". All the above consultancy services and investigation works have been completed.

28. Among the 143 trees of common species within the site of the project and at the proximity of project site boundary, one tree will be preserved and 142 trees will be felled. All trees to be felled are not important trees[8]. We will incorporate planting proposals as part of the project, including the planting of about 152 trees and about 35 000 shrubs/groundcover/climbers.

29. We estimate that the proposed works will create about 490 jobs (455 for labourers and 35 for professional/technical staff) providing a total employment of 13 750 man-months.

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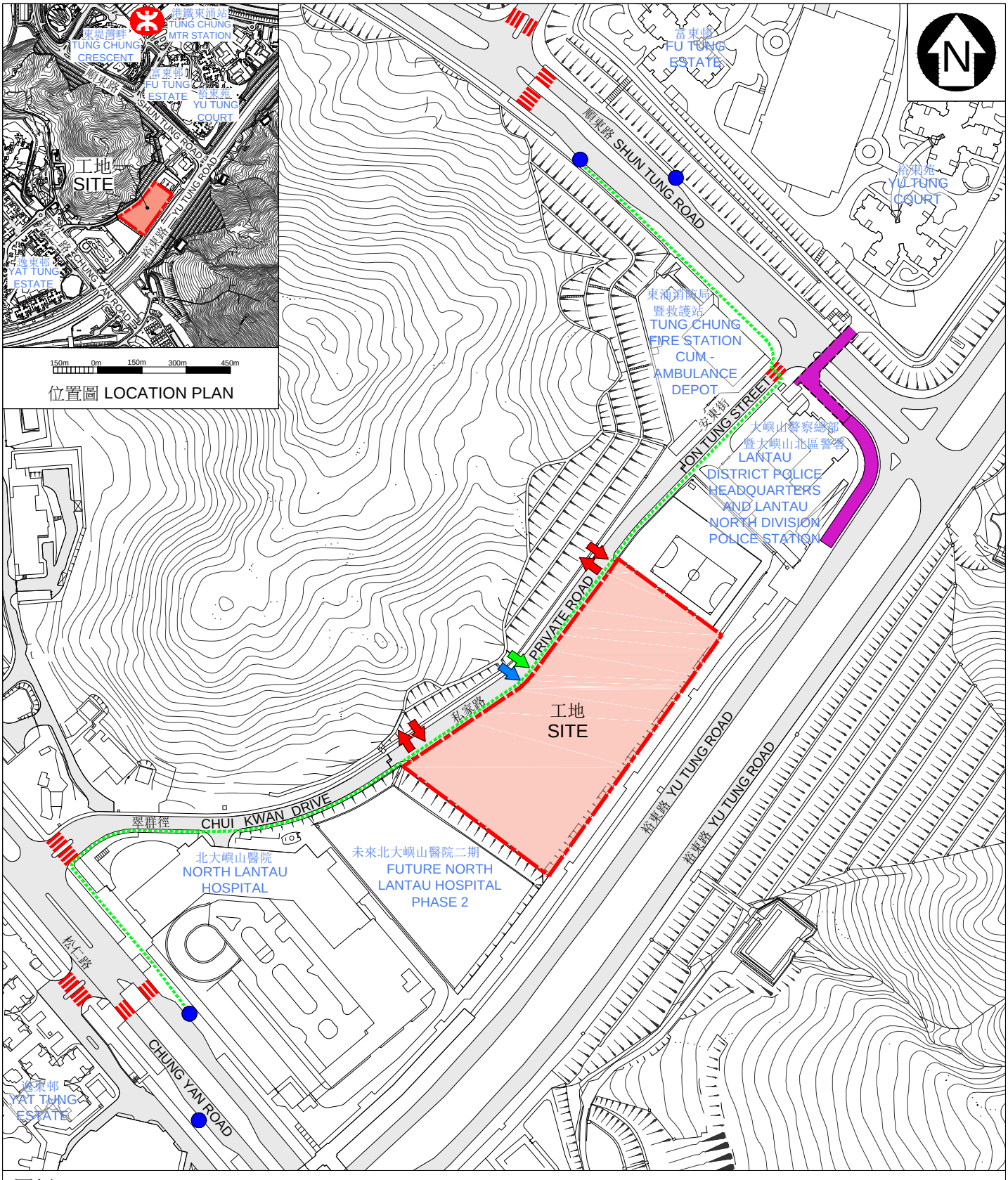
[8] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

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

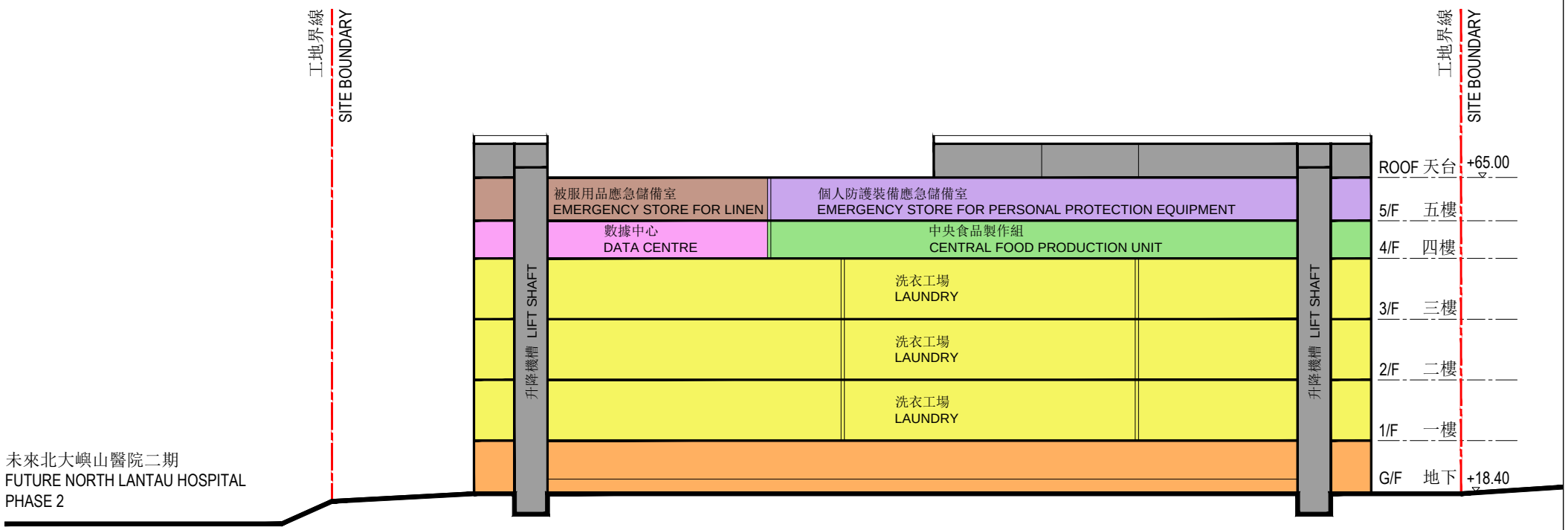


圖例 LEGEND:

- 工地界線 SITE BOUNDARY
- 現有地面行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
- 巴士站 BUS STOP
- 行人 / 無障礙通道 PEDESTRIAN / BARRIER FREE ACCESS
- 行人隧道 TUNNEL

25m 0m 25m 50m 75m

工地平面圖 SITE PLAN	85MM 醫院管理局支援服務中心 HOSPITAL AUTHORITY SUPPORTING SERVICES CENTRE	ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND:

機電房
PLANT ROOMS

其他輔助設施
(包括上落貨區、停車場、物業管理處、廠房維修工場、等)
OTHER ANCILLARY FACILITIES
(INCLUDING LOADING/UNLOADING BAYS, CARPARK, PROPERTY MANAGEMENT OFFICE, PLANT MAINTENANCE WORKSHOPS, ETC.)

10m 0m 10m 20m 30m

剖面圖
SECTION

85MM
醫院管理局支援服務中心
HOSPITAL AUTHORITY SUPPORTING SERVICES CENTRE

ARCHITECTURAL SERVICES DEPARTMENT 建築署

Annex 3 to Enclosure 4

85MM – Hospital Authority Supporting Services Centre

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2019 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	–	–	–	7.8
		Technical	–	–	–	2.0
					Sub-total	9.8 #
(b)	Resident site staff (RSS) costs (Note 3)	Professional	46	38	1.6	6.3
		Technical	217	14	1.6	10.5
					Sub-total	16.8
	Comprising -					
	(i) Consultants' fees for management of RSS			0.6 #		
	(ii) Remuneration of RSS			16.2 #		
					Total	**26.6**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $85,870 per month and MPS salary point 14 = $30,235 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for provision of contract administration and site supervision of **85MM**. The assignment will only be executed subject to the Finance Committee's funding approval to upgrade **85MM** to Category A.

3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.

Remarks

The cost figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 8 of Enclosure 4.

85MM - Hospital Authority Supporting Services Centre

Indicative list of furniture and equipment items with unit cost of $1 million or above

Item description	Quantity	Unit cost ($ million)	Total cost ($ million)
Access Control System	1	4.3	4.3
Air Cooled Condensing Unit	2	1.5	3.0
Automatic Storage and Transportation System	3	14.4	43.2
Autonomous Mobile Robot	1	7.5	7.5
Blast Chiller	4	4.5	18.0
Chemical Dispensing System	3	3.5	10.5
Clean Linen Transportation System	3	13.0	39.0
Closed-circuit Television System (CCTV)	1	6.9	6.9
Continuous Batch Washing System	9	9.5	85.5
Cook/Chill Horizontal Agitator Tilting Mixer Kettle, 200 Gallon	4	2.5	10.0
Cook/Chill Horizontal Agitator Tilting Mixer Kettle, 300 Gallon	3	2.8	8.4
Cook/Chill Pasta Kettle	1	1.8	1.8
Cook/Chill Vertical Tumble Chiller, 300 Gallon	4	2.5	10.0
Cutter	2	1.2	2.4
Dishwasher	1	2.5	2.5
Dishwasher (Container and Utensil)	2	2.5	5.0

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Double Bucks Cabinet Press	9	1.3	11.7
Exhaust hood for 200 Gallon Mixer and Pasta Kettles	2	1.5	3.0
Exhaust hood for 300 Gallon Mixer Kettles	2	1.0	2.0
Flatwork Ironing System	12	11.0	132.0
Ice Builder	2	2.5	5.0
Monorail System Connecting Floors-Clean Linen Transportation Rail	1	20.0	20.0
Pollution Control Unit	2	3.7	7.4
Public Address System	1	1.2	1.2
Rackwasher	2	3.0	6.0
Radio Frequency Identification (RFID) Receiving and Dispatching System	3	5.3	15.9
Shuttle Racking System	1	8.6	8.6
Shuttle Racking System	1	4.7	4.7
Soiled Linen Sorting System with Monorail	3	26.5	79.5
Telephone System	1	12.0	12.0
Trolley Washers	6	2.0	12.0
Tunnel Finishing System	7	11.0	77.0
Turbojet Combination Cook Tank and Chiller (100 gallons) (Chill Tank)	4	3.0	12.0
Utility Distribution System for 300 Gallon Mixer	1	1.6	1.6
Utility Distribution System for Combi Steamers	1	2.5	2.5

Item description	**Quantity**	**Unit cost** ($ million)	**Total cost** ($ million)
Utility Distribution System for Combi Steamers, 200 Gallon Mixer and Pasta Kettles	2	2.3	4.6
Utility Distribution System for Tumble Chiller	1	2.5	2.5
Vegetable Blancher	1	4.5	4.5
Vertical Form-Fill Seal Machine	6	2.5	15.0
Washer Extractor for the Infected Linen	6	1.2	7.2
Washer Extractor System with Four Hygienic Type Washer Extractors	3	9.5	28.5
Water Flooding Alarm System	1	2.9	2.9
X-ray Detector	6	1.1	6.6