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Health Bureau, Government Secretariat
The Government of the Hong Kong Special Administrative Region
The People's Republic of China

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20 March 2025

Clerk to the Public Works Subcommittee
(Attn: Ms Connie HO)
Legislative Council Secretariat
Legislative Council Complex
1 Legislative Council Road
Central, Hong Kong

Dear Ms HO,

Follow-up actions arising from the Public Works Subcommittee Meeting on 21 February 2025 on Reprovisioning of Victoria Public Mortuary

At the Public Works Subcommittee meeting on 21 February 2025, Members requested the Government to provide supplementary information on the agenda item **25NB** - "Reprovisioning of Victoria Public Mortuary" (LegCo PWSC(2024-25)22). In consultation with the Architectural Services Department (ArchSD) and the Department of Health (DH), our consolidated response is as follows –

(I) Reasons for the increase in cost estimate and measures taken to reduce the cost of the proposed project

2. When the Legislative Council (LegCo) Panel on Health Services (the Panel) was consulted on the proposed project in May 2022, the proposed body storage capacity was 358 and with a cost estimate of around $888.9 million. Members supported the proposed project at that time and suggested that the Government to explore the possibility of further increasing the body storage capacity based on the experience of the COVID-19 epidemic to cater for unexpected needs. At the peak of the COVID-19 epidemic, the body storage

capacity of public mortuaries was once up to 3 000.

3. Having regard to Members' views, the Government revised and enhanced the design of the cavern, and proposed the installation of Modular Refrigerated Mortuary Units (MRMUs) in the existing underground cavern area on site for the additional storage of 480 bodies. MRMUs can also be flexibly placed in other suitable spaces of the reprovisioned Victoria Public Mortuary (VPM) store an additional 276 bodies when necessary. Under the above enhanced arrangement, the total body storage capacity of the proposed project will be significantly increased to 1 114, with a total cost estimate (in money-of-the-day prices) of about $1,209.1 million, representing an increase of about 36% over the cost estimate in May 2022. Upon reprovisioning of the VPM, the total body storage capacity of all public mortuaries in Hong Kong will exceed 2 000, which is sufficient to meet the projected caseload up to 2046.

4. After revising the design of the proposed project, the total body storage capacity has increased, with a corresponding upward adjustment of the cost estimate. The main reasons are as follows –

(i) as a result of the increase in the total body storage capacity, the associated construction costs (including costs of additional building and building services in the cavern, installation of MRMUs and other enhancement works, etc.) have resulted in an increase in the cost estimate by about $257.2 million; and

(ii) the increased contingency fees arising from the above adjustments to the scope of works and the associated project costs, as well as the additional consultants' fees and remuneration of resident site staff arising from the increase in the scope of works have increased by about $63 million accordingly.

Please refer to **Annex I** for details (including the breakdown).

5. In the course of revising the project design, the Government has taken the following measures to reduce the cost of the proposed project –

(i) optimising the site formation scheme by reducing the number of soldier piles;

(ii) reducing the use of aluminum cladding and natural stone as building materials for building finishes and external works;

(iii) simplifying the installation method of building services inside the cavern;

(iv) simplifying the hot water supply system inside the cavern and reducing the cost of pipe works; and

(v) optimising the building layout to reduce the areas that require the use of stair pressurisation system, etc.

(II) Impact of site and construction constraints on the increase of the construction unit cost

6. The proposed project is different from the reprovisioning of Fu Shan Public Mortuary (FSPM) in Sha Tin in terms of site topography, scale and scope of works and building services works. Due to a number of factors, the construction unit cost of the proposed project is about 50% higher than that of the Fu Shan Public Mortuary. Among the above-mentioned 50% –

- factors related to site constraints of the proposed project account for about 20%;

- factors related to the additional construction costs incurred owing to the increased body storage capacity account for about 20%; and

- factors related to the use of part of the floor area of the FSPM as car parking facilities account for about 10%.

7. In terms of site constraints, the difference in height of more than 10 meters between the site of the proposed project and Victoria Road restricts the access of construction vehicles. In addition, the smaller site area has resulted in increased construction difficulty and longer construction period. The relatively smaller project scale will also lead to the corresponding increase in construction unit cost. Besides, as the lowest two floors of the proposed project are below the access level of the Victoria Road, they are considered as basements and shall comply with the relevant fire safety requirements for basement. Furthermore, there is a residential care home for the elderly (Chee Sing Kok Social Centre of the Humanity Love) near the proposed project site. To meet the noise control requirements for residential care homes for the elderly, additional noise mitigation works (acoustic louvers and acoustic barriers) need to be installed under the proposed project. The above unique site and construction factors have contributed to the increase in construction unit cost of the proposed project.

8. In order to enhance body storage capacity to meet contingency needs,

the Government needs to store more bodies in relatively small floor areas and caverns, thus requiring more intensive building services works and installation of air-conditioning systems to dissipate the heat of the MRMUs and to provide ventilation for the cavern. To ensure the proper functioning of the MRMUs, an emergency power supply system is adopted so that generators can be used for power supply when necessary. The Government will also need to upgrade the building services systems of the building (such as increasing cooling capacity and power supply) to support cavern operation. Additionally, since more MRMUs (with a maximum storage capacity of an additional 276 bodies) will be installed in the building when necessary, the building services systems (including the air-conditioning and power supply systems) will also need to be upgraded to cater for the proper functioning of the MRMUs. The total construction floor area (CFA) of the FSPM is 18 526 square metres as compared with 11 700 square metres for the proposed project. However, the body storage capacity of the FSPM is 830 while that of the proposed project is 1 114. The density of body storage per hundred square metres of the proposed project is nearly twice that of the FSPM, resulting in correspondingly higher building services requirements and costs.

9. Part of the floor area of the FSPM is used as carparks, accounting for about 10% of the total CFA. As the construction and building services requirements for carparks are generally lower, the overall construction unit cost of the FSPM is also comparatively lower. The construction unit cost may vary due to the uniqueness of each project in terms of site constraints, scope, nature and scale of the project, etc. In view of the above, the Government considers the construction unit cost of the proposed project reasonable.

(III) Supplementary information on MRMUs

10. An MRMU can be built and disassembled at any time, with a capacity of 12 bodies per unit. When not in use, MRMUs can be disassembled and stored in a warehouse, which helps save electricity and make more efficient use of space in the public mortuaries. A maximum of 40 MRMUs can be accommodated in the underground cavern of the proposed project for storage of an additional 480 bodies as and when required.

11. Please refer to **Annex II** for the reference image of MRMU.

12. The materials of MRMUs are certified with a UK fire safety certificate. The thermometres installed in the MRMUs also comply with the international fixed temperature monitoring requirements. Unlike cold rooms, MRMUs can be built or disassembled at any time and do not require electricity when not in use, thus saving operating costs. Hong Kong has extensive experience in the use of MRMUs.

(IV) Reasons for the significant increase in the estimation of overall body storage capacity of the proposed project as compared with the proposal submitted to the Panel in May 2022, and details of the daily maintenance costs of the cavern area

13. When consulting the Panel in May 2022, the Government proposed setting up an emergency response supplies store and a personal protective equipment (PPE) store inside the cavern. At that time, the Panel enquired about the capacity of the VPM in providing cross-district assistance if other public mortuaries were fully occupied, and whether its storage capacity could be further increased to meet unexpected needs. In response to Members' suggestions, and in view of the sudden surge in the number of bodies received by public mortuaries within a two-month period during the fifth wave of the COVID-19 epidemic in early 2022, the Government revised and optimised the design of the cavern after review and proposed that MRMUs be installed inside the existing underground cavern area to further increase additional body storage capacity of 480 so as to cater for the upsurge in demand for body storage spaces amid epidemics. With the reprovisioning of the VPM, the total body storage capacity of all public mortuaries in Hong Kong will exceed 2 000.

14. Under the normal body storage capacity of public mortuaries, certain emergency response supplies and PPE may also be placed inside the cavern to fully utilise the area therein.

15. With reference to the guidelines of the Civil Engineering and Development Department, the lining inside the cavern has to undergo routine maintenance inspection annually as well as engineering inspection once every five years. Depending on whether further maintenance is required, the cost of annual inspection and maintenance is approximately $150,000 per year.

(V) Feasibility of accommodating buildings services in the cavern

16. The width of the cavern ranges from 4 metres to 5 metres, while the minimum dimension of the plant rooms on the two lower ground levels of the mortuary building is about 4 meters. Since the fire safety design of the cavern needs to comply with the *Guide to Fire Safety Design for Caverns* issued by the Buildings Department, including the requirements for the provision of fire services systems (such as smoke extraction system) and means of escape, etc., the available space in the cavern is limited to a certain extent. Moreover, if the building services are relocated into the cavern, more wiring and pipe works are required than just storing MRMUs. The actual working space within the cavern will be further limited, thus rendering enhanced difficulty in carrying out maintenance and replacement works in future due to insufficient working

space inside the cavern.

17. Please refer to **Annex III** for the available space inside the cavern.

18. In view of the above, the Government considers that the suggestion of providing building services (such as electrical plant room and pump room) in the cavern is not feasible.

(VI) Possibility of providing more parking spaces

19. In response to Members' request, the Government has re-examined the feasibility of providing more parking spaces. Under normal circumstances, relatives and friends of the deceased will be arranged to visit public mortuaries at scheduled time slots to go through the procedures such as identifying and claiming the body. The proposed project will designate three lay-bys (including one taxi lay-by and two private car lay-bys) for visitors. Visitors who need to drive to the reprovisioned VPM may contact the staff of the Public Mortuary in advance so that the staff can make flexible arrangements and convert the private car parking spaces to into temporary visitor parking spaces.

20. In addition, the proposed project will also provide a coach drop-off area for visitors. Visitors in need may apply in advance with the public mortuary's staff when making an appointment. The DH will also flexibly arrange for other visitors in need to temporarily park their vehicles at the coach drop-off area when it is not used by coaches.

21. Please refer to **Annex IV** for the locations of parking spaces, vehicle lay-bys and drop-off areas.

22. Apart from the above arrangements, we will also explore with the relevant departments the possibility of utilising the areas in the vicinity of the proposed project to provide more parking spaces.

(VII) Feasibility of sectional operation of various electrical, mechanical and ventilation equipment in the cavern fallback body storage area

23. The fallback body storage area in the cavern is divided into eight zones that can be used in sections. These zones are separated by movable partitions, and relevant building services systems (including cooling, ventilation and lighting systems) can be operated in sections as needed to save operating cost.

(VIII) User-friendly design approach adopted in the proposed project

24. The reprovisioned VPM will provide a more suitable venue and more

comprehensive facilities for families experiencing bereavement, including bereaved family resting lounge, body collection identification viewing room, indoor ceremony hall and environment-friendly joss paper burning system, etc.

Indoor space design

25. In order to provide a more user-friendly public space and working environment, the proposed project has adopted the following design in terms of indoor space –

- the public waiting hall is spacious, overlooking the landscaped garden, and a large amount of natural light is introduced to calm the mood of the bereaved family members. Taking into account the physical and psychological needs of the bereaved family members during the waiting process, the waiting hall is equipped with sufficient seats, and is spatially connected with the reception counter, registration room, toilets (including accessible toilets), bereaved family resting lounge, etc. for convenient use by the bereaved family members;

- to enhance the operation and hygiene standards of the mortuary, the proposed project will have separate clean and dirty zones in terms of layout. In terms of building services provisions, the air change rate will be strictly controlled, and air purification and negative air pressure systems will be provided to reduce odour of indoor air and prevent the spread of bacteria; and

- considering the difficulties in transporting the bodies and to ensure the occupational safety and health of mortuary staff, all major functional facilities in the dirty zone are equipped with automatic doors that can be operated by foot switches. In addition, the main passages for transporting bodies are provided with sufficient space for the maneuvering of mortuary trolleys and for loading and unloading of bodies.

Outdoor space design

26. In order to reduce the visual impact of the reprovisioned VPM on the surrounding environment and public perception while providing a more peaceful and comfortable environment for the bereaved families, the proposed project has made the following outdoor designs –

- creating a calm and comfortable natural space on ground floor with trees and flowers of different heights and colours to soothe

the grief of bereaved families; and

- setting up outdoor trellises on ground floor landscape area to provide a quiet place for those in need to ease the pain of bereavement.

Overall colour / material / lighting

27. The overall colour scheme of the proposed project is mainly warm and natural colours, with natural materials (such as wood grained material) used as embellishments to give a warm effect and soothe the emotions of the bereaved families.

Information and communication technology

28. To continuously enhance the services of public mortuaries, the DH is currently designing a new online system to enable members of the public using public mortuary services to instantly check the progress of the handling of bodies of the deceased persons by entering designated information and passwords and to make enquiries by calling the relevant public mortuaries.

29. The Health Bureau will continue to liaise closely with the relevant departments with a view to reprovisioning the VPM and bringing it into operation as soon as practicable, so as to enhance the overall body storage capacity of public mortuaries in Hong Kong and meet the long-term demand. The Health Bureau would like to thank Members for their interest in and support to the proposed project.

Yours sincerely,

Rex Chan

(Rex CHAN)
for Secretary for Health

cc.
Director of Health (Attn: Mr Paul LI)
Fax: 2573 7392
Director of Architectural Services (Attn: Mr Felix KONG)
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Annex I

Details of cost estimate increase for the proposed project

The difference between the cost estimate when consulting Legislative Council (LegCo) Panel on Health Services in May 2022 and the cost estimate when consulting the LegCo Public Works Subcommittee in February 2025 is $320.2 million (in money-of-the-day (MOD) prices). A breakdown of the difference is as follows –

Item	Difference* $ million (MOD)	Reasons of cost estimate increase
Site works; foundation; building; energy conservation, green and recycled features; drainage; and external works	82.5	• This is mainly due to the increased building works fees arising from enhanced body storage capacity, such as fire-resistant partition materials in the cavern, steel frames in the cavern to support the building services and fire-resistant partitions, and green outdoor spaces for optimising the entrance/exit, etc.
Building services	135.6	• This is mainly due to the redesigned building services systems, arising from the change of use of the cavern, for complying with the Buildings Department's *Guide to Fire Safety Design for Caverns*. Besides, the cavern also requires the installation of air-conditioning systems to dissipate the heat of the Modular Refrigerated Mortuary Units (MRMUs) and provide ventilation in the cavern. In order to ensure the normal operation of MRMUs, an emergency power supply system is also adopted in which generators can be used for power supply when necessary.

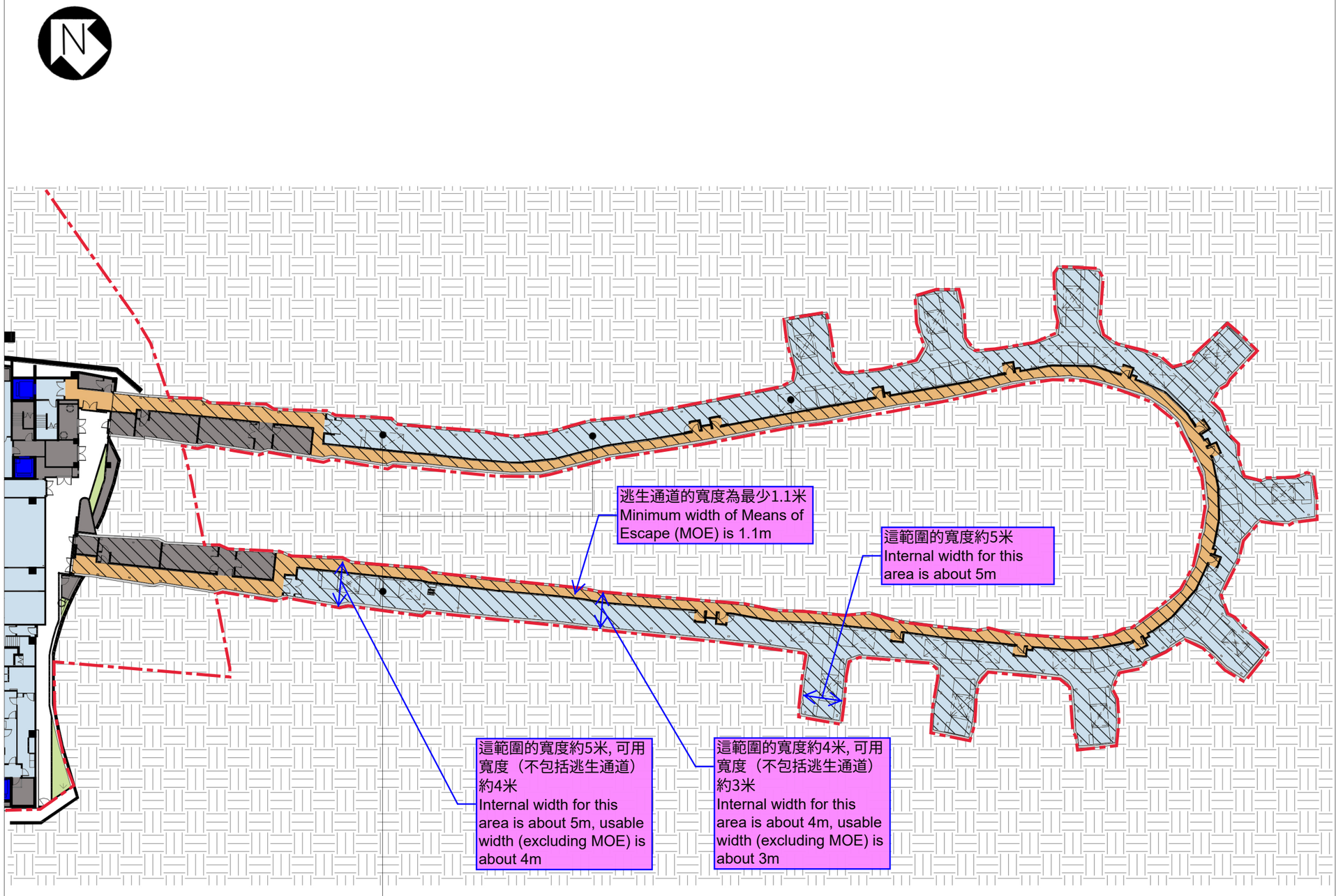
		• Apart from the building services systems of the cavern, the building services of the mortuary building also has to be upgraded (such as cooling capacity and power supply) to support cavern operation. • Additional MRMUs will also be installed in the mortuary building when necessary (with a maximum storage capacity of an additional 276 bodies). Hence, the relevant building services systems (including air-conditioning and power supply systems) also need to be upgraded. • These systems can be turned on according to the needs of the Department of Health to save the operating costs.
Slope and cavern enhancement works	25.3	• Since the cavern will be used for body storage, a drainage system needs to be implemented. Therefore, relevant excavation works in the cavern need to be added, which leads to the increase in the project cost. • In addition, due to the influence of site environment, for example, the small cavern construction site and the limits of height at the top of the cavern, construction works in the cavern is more difficult than general site formation project.
Furniture and equipment (F&E)	13.8	• This is mainly due to the need to purchase additional MRMUs to increase the body storage capacity. The difference in estimates has considered the F&E reduced during the design process.

Consultants' fees and remuneration of resident site staff (RSS) and contingencies	63.0	• The relevant contingency fees rise correspondingly as a result of the additional consultants' fees and remuneration of RSS due to the increase of project scope and costs.
Total construction cost	**320.2**	

* The above cost estimate increase has taken into account factors such as price adjustments for changes in construction industry wages and material costs due to the deferral of project commencement.

Annex II

Reference Image of a Modular Refrigerated Mortuary Unit (MRMU)



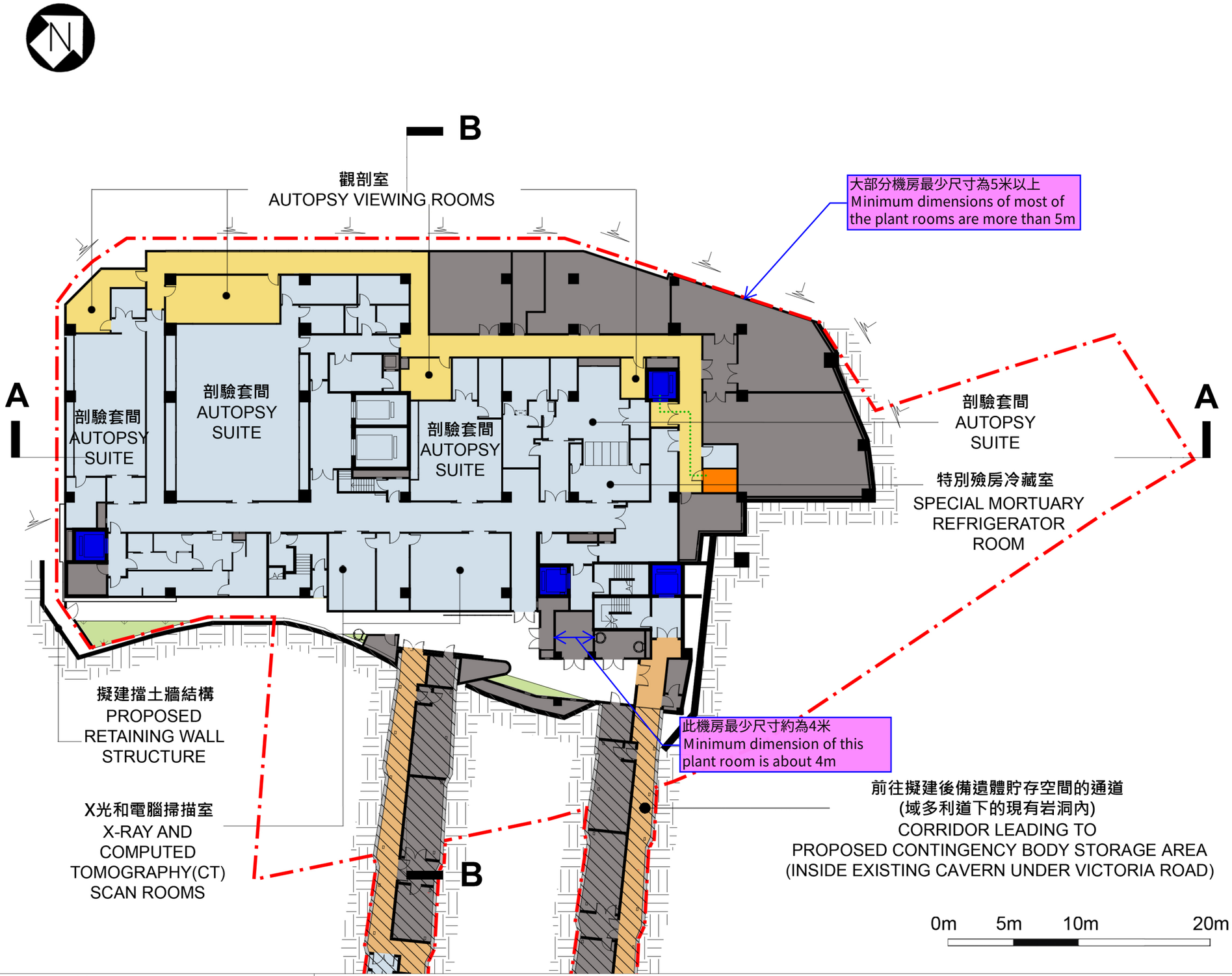
圖例 LEGEND

- 工地界線 SITE BOUNDARY
- 職員範圍 STAFF AREA
- 機房 PLANT ROOM
- 逃生通道 MEANS OF ESCAPE CORRIDOR
- 域多利道下的現有岩洞範圍 AREA INSIDE EXISTING CAVERN UNDER VICTORIA ROAD

現有岩洞平面圖
EXISTING CAVERN FLOOR PLAN

25NB
重置域多利亞公眾殮房
REPROVISIONING OF VICTORIA PUBLIC MORTUARY

ARCHITECTURAL SERVICES DEPARTMENT 建築署



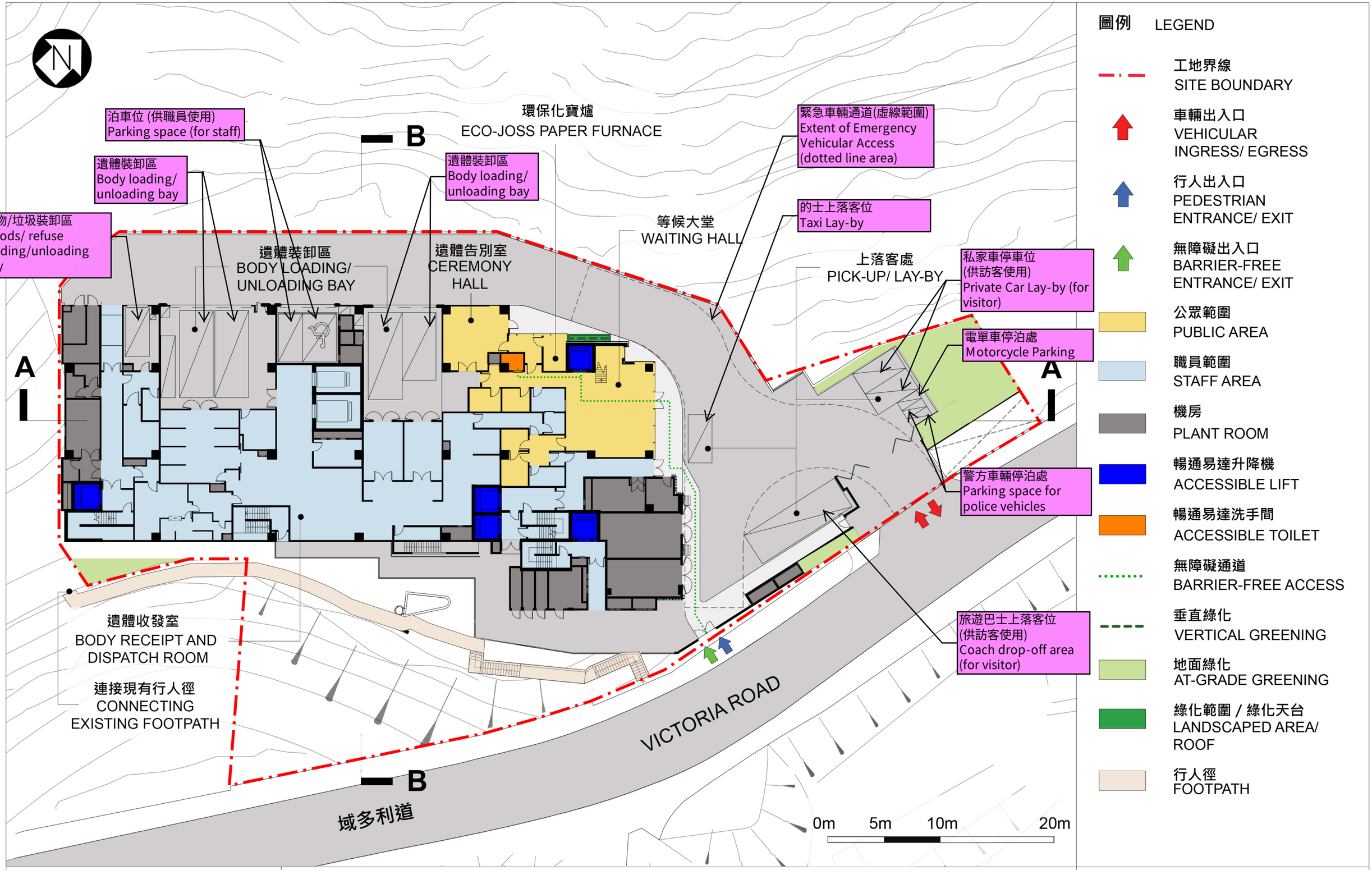
圖例 LEGEND

- 工地界線 SITE BOUNDARY
- 公眾範圍 PUBLIC AREA
- 職員範圍 STAFF AREA
- 機房 PLANT ROOM
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET
- 逃生通道 MEANS OF ESCAPE CORRIDOR
- 地面綠化 AT-GRADE GREENING
- 域多利道下的現有岩洞範圍 AREA INSIDE EXISTING CAVERN UNDER VICTORIA ROAD
- 無障礙通道 BARRIER-FREE ACCESS

地下二樓平面圖
LOWER GROUND
SECOND FLOOR PLAN

25NB
重置域多利亞公眾殮房
REPROVISIONING OF VICTORIA PUBLIC MORTUARY

ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND

- 工地界線 SITE BOUNDARY
- 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
- 公眾範圍 PUBLIC AREA
- 職員範圍 STAFF AREA
- 機房 PLANT ROOM
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET
- 無障礙通道 BARRIER-FREE ACCESS
- 垂直綠化 VERTICAL GREENING
- 地面綠化 AT-GRADE GREENING
- 綠化範圍 / 綠化天台 LANDSCAPED AREA/ ROOF
- 行人徑 FOOTPATH

地下平面圖
GROUND FLOOR PLAN

25NB
重置域多利亞公眾殮房
REPROVISIONING OF VICTORIA PUBLIC MORTUARY

ARCHITECTURAL SERVICES DEPARTMENT 建築署