For information

Legislative Council Panel on Transport

145TB - Extension of footbridge network in Tsuen Wan

PURPOSE

This paper informs Members of our proposal to upgrade part of **145TB** – Extension of footbridge network in Tsuen Wan to Category A in order to construct a footbridge system along Tai Ho Road (THR) and Castle Peak Road (CPR) in Tsuen Wan.

PROJECT SCOPE

2. The full scope of **145TB** includes –

(a) construction of a footbridge system to connect the Tsuen Wan Mass Transit Railway (MTR) Station with the existing elevated walkway system near CPR at the north and Sha Tsui Road at the south (Footbridge A);

(b) construction of a covered footbridge system approximately 530 metres (m) long and 3 m wide along Tai Chung Road and Hoi Shing Road (Footbridge B);

(c) construction of a covered footbridge system approximately 520 m long and 3 m wide along Kwan Mun Hau Street and Luen Yan Street (Footbridge C); and

(d) associated works including road and drainage, electrical and mechanical (E&M) works, landscaping, structural modifications and utility diversions.

3. The scope of the part of 145TB we propose to upgrade to Category A comprises –

(a) construction of Footbridge A as mentioned in paragraph 2(a) above, which includes the provision of –

(i) a covered footbridge about 150 m long and 3 m wide along CPR connecting Fou Wah Centre at the east and Nam Fung Centre at the west with a covered link bridge about 50 m long and 4 m wide connecting the Tsuen Wan MTR Station (Footbridge section along CPR);

(ii) a covered footbridge about 420 m long and 3 m wide along THR connecting the footbridge mentioned in paragraph 3(a)(i) above with an existing elevated walkway near Sha Tsui Road (Footbridge section along THR);

(iii) three lifts and two covered staircases at the Footbridge section along THR; and

(b) associated works including road and drainage, E&M, landscaping, structural modifications and utility diversions.

A layout plan and cross sections of the proposed works are at **Enclosure 1**.

4. We have substantially completed the detailed design for Footbridge A. We plan to commence its construction works in May 2008 for completion in April 2011. We intend to commence the construction works for Footbridges B and C by end 2009.

JUSTIFICATIONS

Footbridge section along CPR

5. The Tseun Wan MTR Station and its two nearby Public Transport Interchanges[1] (PTIs) serve as the transportation pivot of the Tsuen Wan district. However, the existing footbridge system along Sai Lau Kok Road in the vicinity is often congested.

6. According to an assessment conducted by the Transport Department (TD) in 2007, the two-way hourly pedestrian flow of the elevated walkway outside the Tsuen Wan MTR Station along Sai Lau Kok Road is about 5 000

[1] The two public transport interchanges refer to a bus terminus underneath Nam Fung Centre and a public light bus cum taxi terminus underneath the Tsuen Wan Station Multi-storey Carpark Building.

during peak hours, resulting in a bottleneck to the east-west pedestrian movements in the vicinity. Upon completion of a number of developments in the vicinity of Tsuen Wan Town Hall and the West Rail Tsuen Wan West Station (WRTWWS) by 2011, it is expected that the area will have an additional population in-take of about 26 000, commercial and retail floor space of 300 000 square metres (m^2), as well as 1 900 hotel rooms. The east-west pedestrian flow will increase up to about 9 000 per hour.

7. Due to the lack of space to widen the existing footbridge along Sai Lau Kok Road in-situ, it is necessary to construct a new footbridge to link up the existing elevated walkway near Fou Wah Centre with Nam Fung Centre to improve the pedestrian circulation of the area. Upon completion of this new section of the footbridge and a link bridge joining the Tsuen Wan MTR Station along Cheong Lok Mansion, about 50% of the east-west pedestrian flow is expected to be diverted from the existing footbridge outside the Tsuen Wan MTR Station along Sai Lau Kok Road.

8. In addition to the improvement in the east-west pedestrian movements, the proposed link bridge joining the proposed footbridge between Nam Fung Centre and Fou Wah Centre with the Tsuen Wan MTR Station along Cheong Lok Mansion will also share half of the north-south pedestrian flow in 2011, which is expected to reach a two-way hourly flow of about 13 000 in total.

Footbridge section along THR

9. The commissioning of the WRTWWS in 2003 has generated considerable amount of pedestrian movements going to and from the other parts of Tsuen Wan, including the MTR Station and its two nearby PTIs. However, pedestrians travelling between the WRTWWS and the MTR Station could only use the discrete sections of footbridges provided by local developments and at grade facilities. This meandering and indirect route is often congested. The level difference between the elevated walkways and at-grade walkways causes inconvenience to people with disabilities.

10. According to the traffic forecast mentioned in paragraph 6 above, the anticipated two-way hourly pedestrian traffic between the areas surrounding the WRTWWS and the MTR Station during peak hours will reach about 10 000 in 2011 as compared with the current flow of about 6 000 recorded at grade. It is necessary to provide additional grade-separated pedestrian facilities to relieve the

congestion at street level and improve the connection between the WRTWWS and the MTR Station.

11. The proposed footbridge section along THR is expected to divert about 40% of the pedestrians away from the at-grade walkway, carrying about 4 000 pedestrians per hour in 2011. The walking time between the areas surrounding the WRTWWS and the MTR Station will also be shortened from about 12 minutes to 8 minutes upon completion of Footbridge A.

FINANCIAL IMPLICATIONS

12. We estimate the cost of Footbridge A to be $109.6 million in MOD prices, made up as follows –

			$ million
(a)	Footbridge A		82.4
	(i) civil works	80.0	
	(ii) E&M works	2.4	
(b)	Road and drainage, landscaping works, structural modification, utility diversions		2.3
(c)	Electrical and Mechanical Services Trading Fund (EMSTF) charges[2]		0.2
(d)	Consultants' fees		12.3

[2] Since the establishment on 1 August 1996 under the Trading Fund Ordinance, the EMSTF charges government departments for design and technical consultancy services for E&M installations provided by the Electrical and Mechanical Services Department. The services rendered for this project include checking consultants' submissions on all E&M installations and providing technical advice to the Government on all E&M works and their impacts on the project from maintenance and general operation points of view.

			$ million	
	(i)	construction supervision and contract administration	0.8	
	(ii)	resident site staff	11.5	
(e)	Contingencies		9.9	
		Sub-total	107.1	(in September 2007 prices)
(f)	Provision for price adjustment		2.5	
		Total	109.6	(in MOD prices)

PUBLIC CONSULTATION

13. We consulted the Traffic and Transport Committee and the Tsuen Wan Footbridge Network Working Group of the Tsuen Wan District Council on the Footbridge A proposal on 7 March 2006, as well as on 7 April 2006 and 3 July 2006 respectively. Members supported the implementation of the project.

14. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures[3] (ACABAS) on the aesthetic design of Footbridge A on 27 February 2007. The Committee accepted the proposed aesthetic design.

15. We gazetted the proposed works of Footbridge A under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on

[3] The ACABAS, which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, Architectural Services Department, Highways Department, Housing department, Planning Department, and Civil Engineering and Development Department, is responsible for vetting the design of bridges and other structures associated with the public highway system, including noise barriers and semi-enclosures, from the aesthetic and visual impact points of view.

26 January 2007. We received three objections which remained unresolved. Details of the unresolved objections[4] are as follows –

(a) two objectors objected to the proposed alignment of Footbridge A on "Fung Shui" grounds. They opined that the footbridge running in front of their building blocks would not only obstruct their views, but also intrude on their privacy and cause noise pollution. We explained to the objectors that we had located the footbridge away from their premises as far as practicable to minimise visual and air quality impacts and that they would continue to enjoy unobstructed view upon completion of the footbridge as its height will be lower than the residential units of their buildings. Besides, we would install translucent panels on the footbridge facade fronting their blocks to minimise noise nuisance and to ensure that the privacy of the residents would not be compromised. One of the objectors suggested an alternative alignment for Footbridge A running along the eastern side of THR with connection to the Tsuen Wan MTR Station by a new exit near Sai Lau Kok Garden. He was also worried about the blockage of the entrance to his building by the proposed footbridge piers and possible noise nuisance during construction. We replied to him clarifying that the suggestion of an additional MTR station exit was under the jurisdiction of the MTR Corporation Limited (MTRCL) and that we had referred this proposal to MTRCL, which considered the suggested connection unacceptable from the station operation point of view. We also advised the objector that the footbridge piers would be distant from his building and that construction noises would be closely monitored to be within permissible statutory limits. Despite our explanations, the objectors maintained their objections; and

(b) the third objector claimed that the footbridge connection to the existing elevated walkway of his premises would affect the business of the shop operators and the outlook of the premises. He suggested widening the existing elevated walkway in front of the Tsuen Wan MTR Station to relieve the pedestrian traffic pressure instead. We explained to him that the proposed footbridge would form a more comprehensive network in Tsuen Wan and the proposed connection

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[4] Under the Ordinance, an objection that is withdrawn unconditionally is treated as if the objector has not lodged the objection. An objection which is not withdrawn or withdrawn with conditions is treated as an unresolved objection and is then submitted to the Chief Executive-in-Council for consideration.

would improve accessibility to his lot. We assured him that the refurbishment works for connection at the walkway would be kept to a minimum. We also explained to him that his alternative proposal was not feasible from the technical point of view. However, the objector maintained his objection.

16. Having considered the unresolved objections, the Chief Executive-in-Council authorised the proposed works without modifications under the Ordinance on 6 November 2007 and the notice of authorisation was gazetted on 9 November 2007.

ENVIRONMENTAL IMPLICATIONS

17. **145TB** is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499) and will not cause long-term environmental impact. We will include in the construction contract the requirement for implementing suitable mitigation measures to control short-term environmental impacts during the construction of Footbridge A. These measures will include watering of the site, provision of wheel-washing facilities, covering of materials on trucks, use of silenced construction plant and the provision of mobile noise barriers. We estimate the cost of implementing the mitigation measures to be $1.9 million. We have included this cost in the project estimate.

18. We have minimised the number of footbridge columns in the planning and design stages to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. suitable excavated materials and demolition materials) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities[5]. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

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[5] Public Fills reception facilities and sorting facilities are specified in Schedule 4 and Schedule 3 respectively of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.

19. We will also 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 C&D materials. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor whenever practicable to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste, mixed inert and non-inert construction waste and non-inert construction waste to public fill reception facilities, sorting facilities[5] and landfills respectively through a trip-ticket system.

20. We estimate that the project will generate in total about 10 640 tonnes of construction waste. Of these, we will reuse about 6 310 tonnes (59%) of inert construction waste on site, deliver about 3 800 tonnes (36%) to public fill reception facilities for subsequent reuse, and about 340 tonnes (3%) of mixed inert and non-inert construction waste to sorting facilities to separate the inert from the non-inert portion. In addition, we will dispose of about 190 tonnes (2%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites, together with the cost for handling mixed inert and non-inert construction waste at sorting facilities is estimated to be $160,350 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities, $100/tonne at sorting facilities and $125/tonne[6] at landfills).

LAND ACQUISITION

21. The construction of Footbridge A does not require any land acquisition.

WAY FORWARD

22. We intend to seek the funding support of the Public Works sub-committee of the Legislative Council in December 2007 to upgrade part of the project to Category A for construction of Footbridge A. Subject to funding

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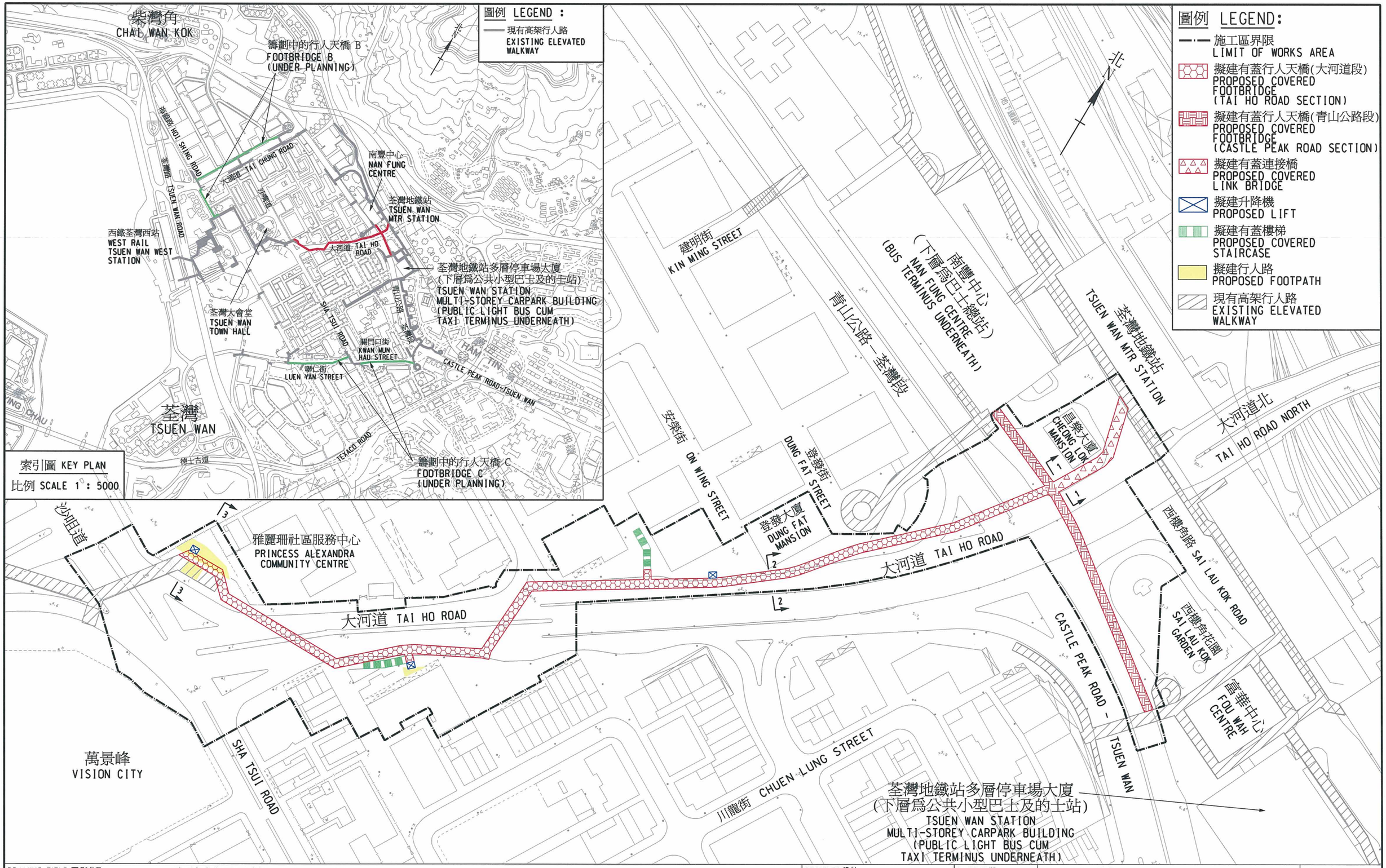
[6] This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90/m^3$), nor the cost to provide new landfills, (which is likely to be more expensive) when the existing ones are filled.

approval, we plan to start construction works in May 2008 for completion in April 2011.

ADVICE SOUGHT

23. Members are invited to note the content of this paper.

Transport and Housing Bureau
November 2007



DRAWING TITLE 圖則名稱

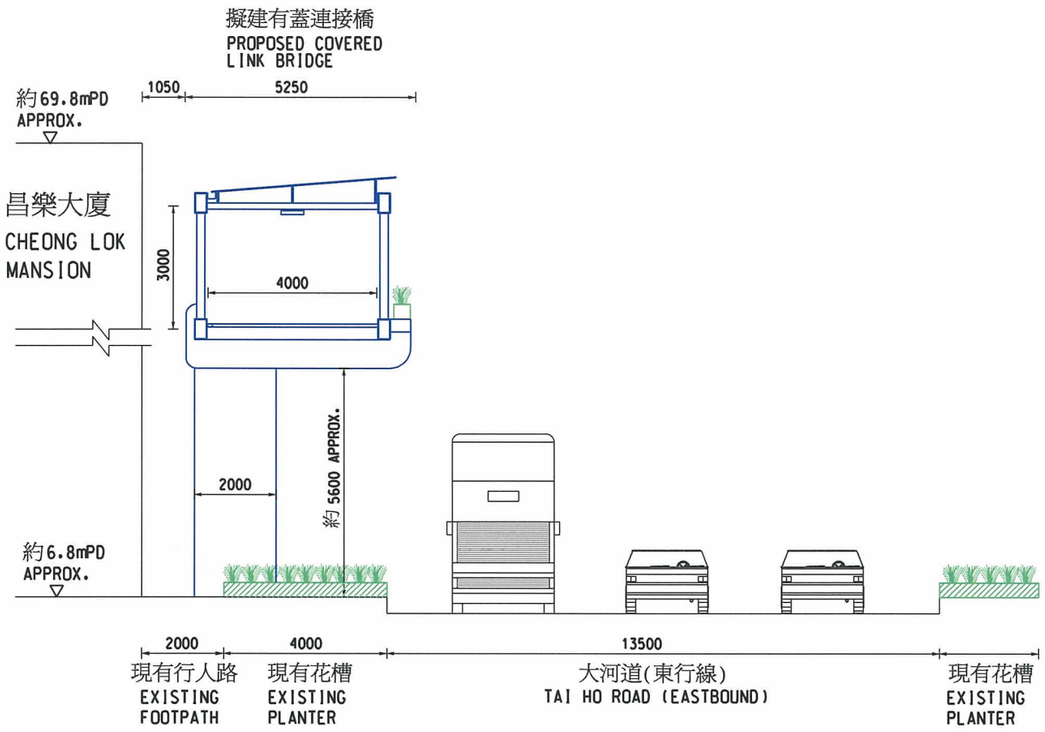
工務計劃項目第145TB號
荃灣行人天橋網絡擴充工程 - 沿大河道行人天橋 A - 平面圖
PWP ITEM No. 145TB
EXTENSION OF FOOTBRIDGE NETWORK IN TSUEN WAN
FOOTBRIDGE A ALONG TAI HO ROAD - LAYOUT PLAN

DESIGNED 設計	ESH	DATE 日期	10/2007
DRAWN 繪圖	NYH	DATE 日期	10/2007
APPROVED 批准	K. K. WONG	DATE 日期	10/2007
OFFICE	路政署 (工程部) HIGHWAYS / WORKS DIVISON		

DRAWING NO. 圖號: 00344 / PWP / 001K

SCALE 比例: 1:1500 (A3) OR AS SHOWN

HIGHWAYS DEPARTMENT HONG KONG 路政署 香港



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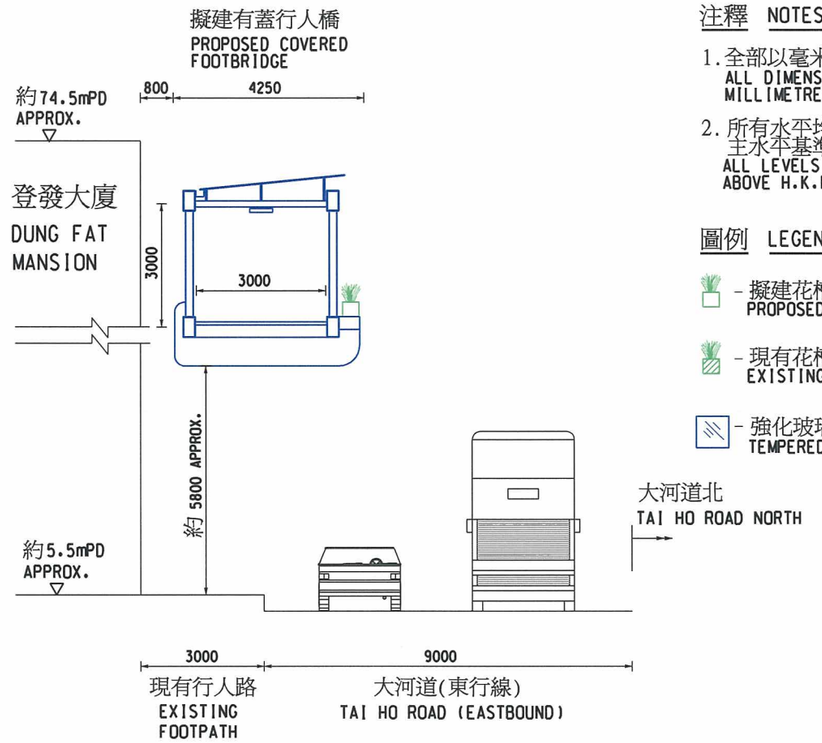

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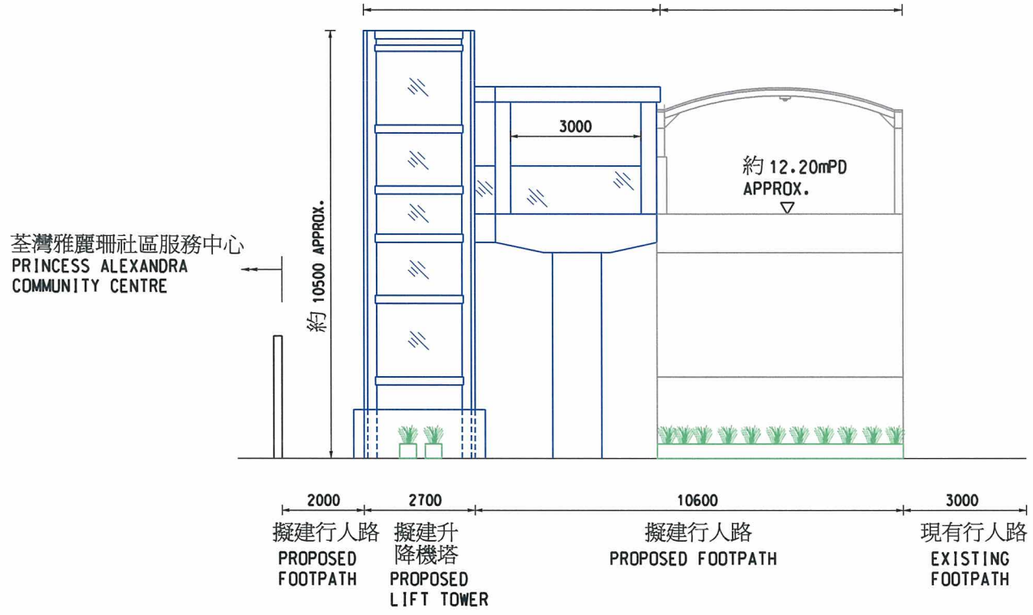
注釋 NOTES:

1. 全部以毫米爲量度單位。
   ALL DIMENSIONS ARE IN MILLIMETRES.
2. 所有水平均以米爲單位並在香港主水平基準以上。
   ALL LEVELS ARE IN METRES ABOVE H.K.P.D.

圖例 LEGEND:

- 擬建花槽 PROPOSED PLANTER
- 現有花槽 EXISTING PLANTER
- 強化玻璃 TEMPERED GLASS



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DRAWING TITLE 圖則名稱	工務計劃項目第145TB號 荃灣行人天橋網絡擴充工程 - 沿大河道行人天橋 A - 切面圖 PWP ITEM No. 145TB EXTENSION OF FOOTBRIDGE NETWORK IN TSUEN WAN FOOTBRIDGE A ALONG TAI HO ROAD - SECTIONS	DESIGNED 設計: ESH / DATE 日期: 10/2007 DRAWN 繪圖: NYH / DATE 日期: 10/2007 APPROVED 批准: K. K. WONG / DATE 日期: 10/2007 OFFICE: 路政署 (工程部) HIGHWAYS / WORKS DIVISON	DRAWING NO. 圖號: 00344 / PWP / 002F SCALE 比例: 1:150 (A3) COPYRIGHT RESERVED 版權所有 HIGHWAYS DEPARTMENT HONG KONG 香港路政署