

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 706 – HIGHWAYS

#### Transport – Railways

#### 55TR – West Island Line – essential public infrastructure works

Members are invited to recommend to Finance Committee the upgrading of **55TR** to Category A at an estimated cost of \$103.6 million in money-of-the-day prices for the essential public infrastructure works for the West Island Line.

### PROBLEM

We need to provide a safe, convenient and barrier free access to the MTR West Island Line (WIL) through enhancement of pedestrian and transport links to the railway line in order to fully realise the consequential social and economic benefits of the WIL which will commence operation by late 2014.

### PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade **55TR** to Category A at an estimated cost of \$103.6 million in money-of-the-day (MOD) prices for the construction of the essential public infrastructure works (EPIW) for the WIL.

/PROJECT.....

**PROJECT SCOPE AND NATURE**

3. The scope of **55TR** comprises –
- (a) construction of a covered pedestrian link at Sands Street (“the Pedestrian Link”), which includes –
    - (i) two lifts of 3.4 square metres (m<sup>2</sup>) in size each in a single lift tower of approximately 15 metres (m) in height at the junction of Sands Street and Rock Hill Street with a link platform at the upper level at Sands Street;
    - (ii) a 800 millimetre wide, 30 m long one-way escalator at the upper reach of Sands Street;
    - (iii) a two metres wide, 20 m long walkway between the link platform and the escalator; and
    - (iv) associated works including road, drainage and geotechnical works;
  - (b) construction of a covered footbridge link to the University of Hong Kong (HKU) Centennial Campus (“the Footbridge Link”), which includes –
    - (i) a four metres wide, 30 m long footbridge across Pok Fu Lam Road linking the proposed University Station (UNV Station) to the HKU Centennial Campus; and
    - (ii) associated works including road, drainage and landscaping works;
  - (c) construction of a public transport interchange with floor area of about 3 100 m<sup>2</sup> at Kennedy Town Station (KET Station) (“the PTI”), which includes –
    - (i) seven bays for the operation of franchised buses and green minibuses (GMB) with passenger shelters;
    - (ii) modification of the junction of the Smithfield and Forbes Street; and

/(iii) .....

- (iii) associated works including road, drainage, street lighting, E&M and landscaping works.

— Drawings showing the proposed EPIW for the WIL are at the Enclosure.

4. We plan to entrust to the MTRCL and construct the EPIW under the WIL contracts and commence the construction of the EPIW in March 2010 for completion in tandem with the WIL in late 2014.

## **JUSTIFICATION**

5. The EPIW items are necessary to enhance the accessibility to the WIL of which the local community has expressed a strong wish to see its early completion. Without the EPIW, the convenient and safe access, as well as the consequential and economic benefits, cannot be fully realised.

### **Pedestrian Link at Sands Street**

6. The section of Sands Street south of Rock Hill Street lies on a raised terrain with a steep stairway connecting it with the remaining section of Sands Street. The raised terrain is mainly on sloping ground with another two shorter flights of stairways. The gradient of this section is 1 on 5.3, which is about two-fold of the maximum gradient for subway ramps as specified in the Transport Department's Transport Planning and Design Manual. The level difference of the upper reach of Sands Street and Rock Hill Street is over 30 m. Currently, access to this neighbourhood is by walking only.

7. At present, about 1 900 households, with a population of 5 600, live alongside the raised terrain. Climbing up and down the long and steep stairway and sloping access, particularly during hot or adverse weather conditions and for the less able pedestrians, is a taxing experience.

8. We need to provide the Pedestrian Link to connect this section of Sands Street to Entrance B of the KET Station at Rock Hill Street. It will offer a convenient and safe access to the locals.

**/Footbridge .....**

### **Footbridge Link to HKU Centennial Campus**

9. To accommodate the additional students under the new academic structure for senior secondary education and higher education ("3+3+4" academic structure) and to relieve the existing campus space shortfall, the HKU is expanding to the west of its existing campus under the HKU Centennial Campus Development project to provide some 42 000 m<sup>2</sup> in net operational floor area to accommodate new facilities for students. Under the WIL, two entrances will be constructed at the UNV Station to connect the HKU, one at the Haking Wong Building of the HKU main campus and the other at the northern footpath of Pok Fu Lam Road ("Entrance C1") opposite to the proposed West Gate of the future Centennial Campus.

10. The students and visitors of the HKU will gain access to the HKU Centennial Campus mainly via the future West Gate conveniently located opposite to Entrance C1. To allow this, we need to provide the Footbridge Link as a direct and grade-separated pedestrian connection between the UNV Station and the Centennial Campus. The Footbridge Link will also serve as a safe road crossing facility to the Centennial Campus for the students and public from the northern footpath of Pok Fu Lam Road, where a bus stop serving many franchised bus/GMB routes originated from the Southern District is located.

### **Public transport interchange at Kennedy Town Station**

11. To facilitate optimum inter-modal coordination between the WIL and other modes of public transport, we need to construct the PTI at the KET Station. The PTI will serve both the local needs in the Kennedy Town area, and those from neighbouring areas including Mount Davis, Sandy Bay and as far as Queen Mary Hospital at Pok Fu Lam.

12. In conjunction with the PTI works, we will modify the existing junction layout of the Smithfield and Forbes Street to support the future operation of the PTI, by re-alignment of the Smithfield.

13. As mentioned in paragraph 4 above, we intend to entrust all the EPIW to the MTR Corporation Limited (the MTRCL) for implementation in conjunction with the WIL project in order to improve the interface between and coordination of the railway project and the EPIW and to enable their synchronised completion. This will ensure that the transport facilities will be available in time to enhance pedestrians' accessibility to the WIL and hence the whole railway network.

**/FINANCIAL .....**

**FINANCIAL IMPLICATIONS**

14. We estimate the cost of the project to be \$103.6 million in MOD prices (see paragraph 15 below), made up as follows –

		<b>\$ million</b>
(a)	Pedestrian Link at Sands Street	35.0
	(i) lift tower, link platform and walkway	18.0
	(ii) lifts and escalator	15.0
	(iii) road, drainage and geotechnical works	2.0
(b)	Footbridge Link to HKU Centennial Campus	21.5
	(i) footbridge	19.0
	(ii) road, drainage and landscaping works	2.5
(c)	PTI at KET Station	17.5
	(i) bus bays and passenger shelters	12.0
	(ii) junction modification	2.5
	(iii) road, drainage, street lighting, E&M and landscaping works	3.0
(d)	On-cost <sup>1</sup> payable to MTRCL	12.2
(e)	Contingencies	8.6

**/\$ million .....**

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<sup>1</sup> An on-cost at 16.5% of the project base cost (i.e. items (a), (b) and (c) of paragraph 14 above) will be payable to MTRCL for undertaking the technical studies, design and construction supervision of the EPIW.

		<b>\$ million</b>	
	Sub-total	94.8	(in September 2008 prices)
(f)	Provision for price adjustment	8.8	
	Total	103.6	(in MOD prices)

15. Subject to approval, we will phase the expenditure as follows –

<b>Year</b>	<b>\$ million (Sep 2008)</b>	<b>Price Adjustment Factor</b>	<b>\$ million (MOD)</b>
2010 – 2011	23.0	1.05570	24.3
2011 – 2012	25.0	1.07681	26.9
2012 – 2013	25.0	1.09835	27.5
2013 – 2014	10.4	1.12032	11.7
2014 – 2015	7.4	1.15113	8.5
2015 – 2016	4.0	1.18566	4.7
	94.8		103.6

16. We have derived the MOD estimate on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2010 to 2016. The MTRCL will tender the EPIW as parts of the railway contracts with provision for price adjustments.

17. We estimate the annual recurrent expenditure arising from the EPIW to be \$1.9 million.

**/PUBLIC .....**

**PUBLIC CONSULTATION**

18. We have been in close liaison with the Central and Western District Council (C&WDC) on the progress of the EPIW along with the WIL project. Representatives of the Transport and Housing Bureau, Highways Department and Transport Department have attended a series of public forums organised by the C&WDC members and various political parties with participation by the local community.

19. We attended the Traffic and Transport Committee of the C&WDC meeting held on 13 November 2008. A motion was passed urging Government for the installation of escalator/lift at Sands Street immediately. We plan to complete the Pedestrian Link at Sands Street in two stages, with the completion of the lifts in December 2012 and the escalator in October 2013 in advance of the operation of the WIL in late 2014.

20. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures<sup>2</sup> (ACABAS) on 16 December 2008, 17 March 2009 and 19 May 2009. The ACABAS accepted the proposed aesthetic design.

21. We gazetted the WIL scheme which comprises the proposed EPIW under the Railways Ordinance (Cap. 519) (the Ordinance) on 26 October 2007 and gazetted an amendment scheme for the part of the WIL not relating to the proposed EPIW under the Ordinance on 12 September 2008. We received 27 objections to the gazetted scheme and the amendment scheme, including two objections relating to the proposed EPIW. Two objectors withdrew their objections unconditionally<sup>3</sup> and the remaining 25 objectors have maintained their objections or have not indicated their withdrawal. Details of the two unresolved objections relating to the proposed EPIW are as follows –

/(a) .....

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<sup>2</sup> The Advisory Committee on the Appearance of Bridges and Associated Structures, which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, an academic institution, Architectural Services Department, Highways Department, Housing 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.

<sup>3</sup> Under the Ordinance, an objection that is withdrawn unconditionally is treated as if the objector had not lodged the objection. An objection which is not withdrawn or withdrawn with conditions is treated as an unresolved objection which is then submitted to the Chief Executive-in-Council for consideration.

- (a) one objector was concerned about potential impacts on vehicular and pedestrian traffic and air pollution arising from the proposed PTI at the KET Station. We explained to him that a PTI was necessary to facilitate not only passenger interchange in an organised manner, but also optimum inter-modal coordination between railway and other modes of public transport. Owing to site constraints and scarce land sources in other areas, the KET Station has been identified as the only suitable location along the WIL alignment for the construction of an open-air PTI. As the size of the proposed PTI is relatively small, we expect that the additional traffic generated from the proposed PTI will not adversely affect the local traffic. As regards the objector's concern over air pollution, we advised him that the proposed PTI would enhance the attractiveness of railway service thereby resulting in a reduction of road traffic and air pollution in the district. We further told him that the limited amount of traffic from the proposed PTI would have minimal impact on the environment. However, the objector maintained his objection; and
- (b) the other objector requested early completion and commenced use of the proposed Pedestrian Link at Sands Street prior to the commissioning of the WIL. The MTRCL responded that they would devise a detailed programme during the detailed design stage of works. The Government and the MTRCL would consider the possibility of early completion of the Pedestrian Link. Despite our explanation, the objector maintained his objection.

22. Having considered the unresolved objections, the Chief Executive-in-Council authorised the WIL scheme without modifications of the EPIW under the Ordinance on 10 March 2009. The notice of authorisation was gazetted on 20 March 2009.



23. We consulted the Subcommittee of Matters relating to Railways of the Legislative Council Panel on Transport on the WIL project including the EPIW on 31 March and 1 June 2009. Members did not object to the funding application for the EPIW.

## ENVIRONMENTAL IMPLICATIONS

24. The proposed EPIW is a non-designated project under the Environmental Impact Assessment Ordinance. The proposed Pedestrian Link and the Footbridge Link belong to the categories that have very limited potential to give rise to adverse environmental impacts. For the proposed PTI at KET Station, we completed a preliminary environmental review (PER) in March 2009. The PER concluded and the Director of Environmental Protection (DEP) agreed that because of the scale and scope of the PTI, no adverse environmental impact is envisaged during its construction and operation. We will implement the standard pollution control measures during the construction of the EPIW as promulgated by the DEP.

25. The MTRCL has considered in the planning and design stages of the EPIW project in conjunction with the WIL project to reduce the generation of construction waste where possible. Such measures include the use of mini-pile instead of spread footing as foundation design for the escalator structure at Sands Street to limit deep excavation works at localised pile cap areas resulting in less amount of excavation materials to be generated; and the adoption of a two-point supported footbridge design and an integrated northern support with the UNV Station entrance structure for the proposed Footbridge Link to eliminate individual footbridge supports and associated excavation work. In addition, the MTRCL will require the contractor to reuse inert construction waste (e.g. excavated rock and soil 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<sup>4</sup>. The MTRCL 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.

/26. ....

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

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

27. The MTRCL estimates that the EPIW project will generate in total about 1 000 tonnes of construction waste. Of these, the MTRCL will reuse about 200 tonnes (20%) of inert construction waste on site and deliver about 700 tonnes (70%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, the MTRCL will dispose of about 100 tonnes (10%) 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 \$31,400 for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne<sup>5</sup> at landfills).

## HERITAGE IMPLICATIONS

28. The proposed EPIW 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

29. The proposed EPIW do not require any land acquisition.

## BACKGROUND INFORMATION

30. We upgraded **55TR** to Category B in February 2009.

/31. ....

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<sup>5</sup> 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<sup>3</sup>), nor the cost to provide new landfills, (which is likely to be more expensive) when the existing ones are filled.

31. The proposed EPIW will not affect any important trees<sup>6</sup> and will involve removal of only one tree which is to be felled. We will incorporate planting proposals as part of the project, including estimated quantities of 23 trees and 1 000 shrubs.

32. We estimate that the works in paragraph 3 will create about 71 jobs (54 for labourers and another 17 for professional/technical staff) providing a total employment of 1 770 man-months.

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Transport and Housing Bureau  
June 2009

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<sup>6</sup> “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 –

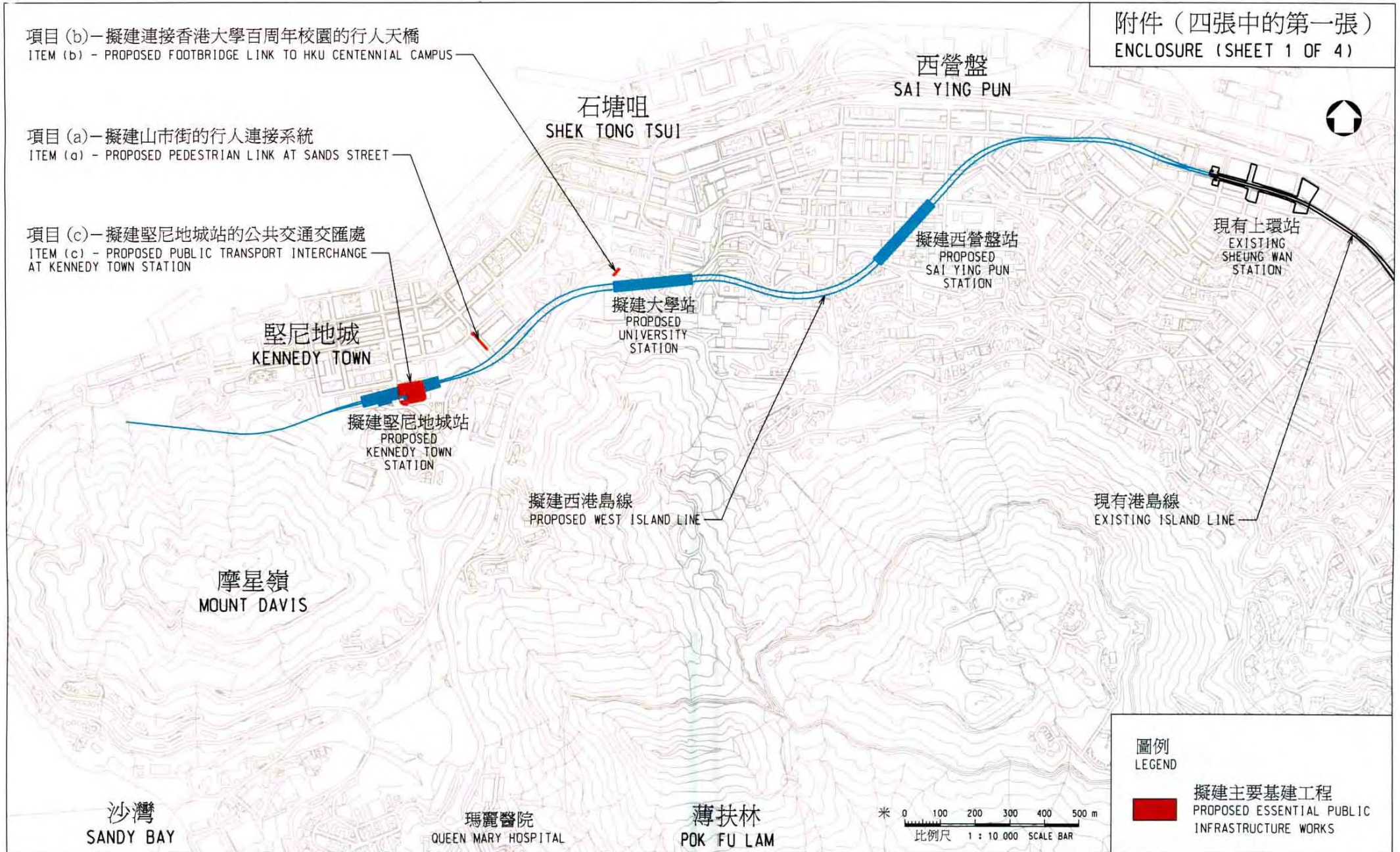
- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking 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 (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.



項目 (b) - 擬建連接香港大學百周年校園的行人天橋  
ITEM (b) - PROPOSED FOOTBRIDGE LINK TO HKU CENTENNIAL CAMPUS

項目 (a) - 擬建山市街的行人連接系統  
ITEM (a) - PROPOSED PEDESTRIAN LINK AT SANDS STREET

項目 (c) - 擬建堅尼地城站的公共交通交匯處  
ITEM (c) - PROPOSED PUBLIC TRANSPORT INTERCHANGE AT KENNEDY TOWN STATION










圖則名稱 drawing title

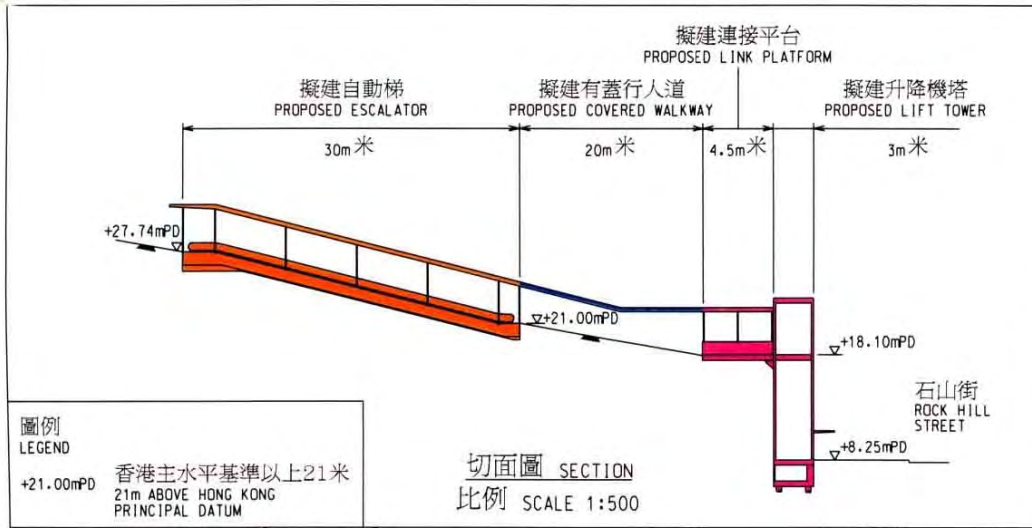
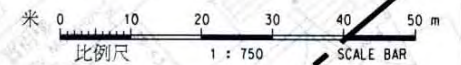
工務計劃項目第55TR號 - 西港島線 - 主要基建工程  
PWP ITEM NO. 55TR - WEST ISLAND LINE - ESSENTIAL PUBLIC INFRASTRUCTURE WORKS

Signed MATTHEW P. K. HO 總工程師 CHIEF ENGINEER	18/5/09 日期 DATE	設計 designed P. CHEUNG	Signed 18/5/09	圖號 drawing no. <b>HRWWIL003-SP0005</b> 版權所有 COPYRIGHT RESERVED 鐵路拓展處 RAILWAY DEVELOPMENT OFFICE 路政署 HIGHWAYS DEPARTMENT
		繪圖 drawn H. K. TSANG	Signed 18/5/09	
		核對 checked P. CHEUNG	Signed 18/5/09	
		核准 approved B. S. LIU	Signed 18/5/09	



附件 (四張中的第二張)  
ENCLOSURE (SHEET 2 OF 4)

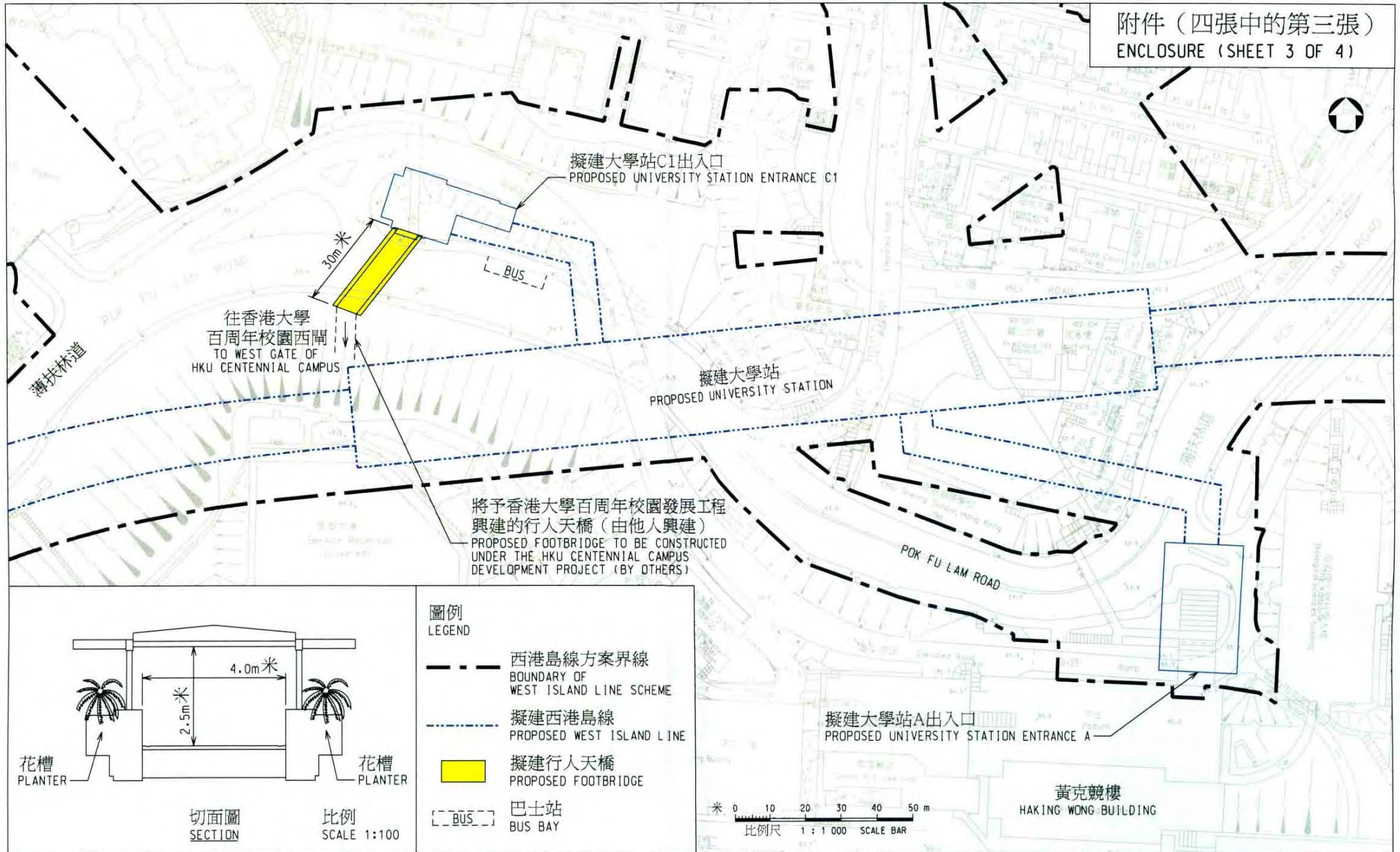
- 圖例  
LEGEND
-  西港島線方案界線  
BOUNDARY OF WEST ISLAND LINE SCHEME
  -  擬建升降機塔兩台升降機及連接平台  
PROPOSED LIFT TOWER 2 NOS. OF LIFTS AND LINK PLATFORM
  -  擬建自動梯  
PROPOSED ESCALATOR
  -  擬建有蓋行人道  
PROPOSED COVERED WALKWAY
  -  將予重鋪的行車道  
CARRIAGEWAY TO BE RE-SURFACED
  -  將予擴闊/重建的行人路  
FOOTPATH TO BE WIDENED/RE-CONSTRUCTED
  -  擬修改的行車道路線  
PROPOSED ROAD RE-ALIGNMENT



圖則名稱 drawing title  
工務計劃項目第55TR號－西港島線－主要基建工程  
項目 (a)－擬建山市街的行人連接系統  
PWP ITEM NO. 55TR - WEST ISLAND LINE - ESSENTIAL PUBLIC INFRASTRUCTURE WORKS  
ITEM (a) - PROPOSED PEDESTRIAN LINK AT SANDS STREET

Signed	18/5/09	設計 designed P. CHEUNG	Signed 18/5/09	圖號 drawing no. HRWWIL003-SP0007
繪圖 drawn H. K. TSANG	Signed 18/5/09	核對 checked P. CHEUNG	Signed 18/5/09	版權所有 COPYRIGHT RESERVED
總工程師 MATTHEW P. K. HO CHIEF ENGINEER	日期 DATE	核准 approved B. S. LIU	Signed 18/5/09	鐵路拓展處 RAILWAY DEVELOPMENT OFFICE
				路政署 HIGHWAYS DEPARTMENT





圖則名稱 drawing title



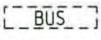

工務計劃項目第55TR號－西港島線－主要基建工程  
項目 (b)－擬建連接香港大學百周年校園的行人天橋

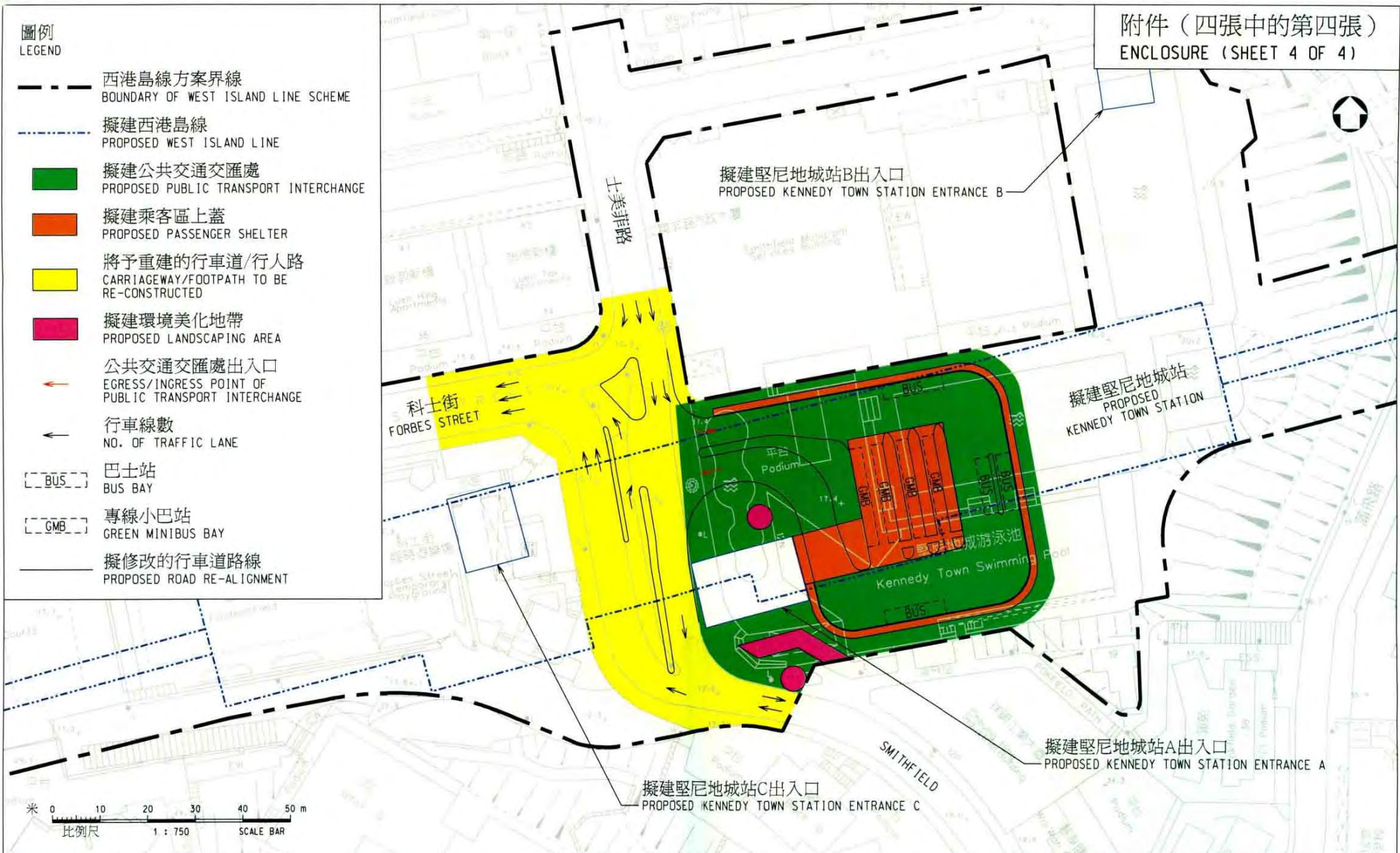
PWP ITEM NO. 55TR - WEST ISLAND LINE - ESSENTIAL PUBLIC INFRASTRUCTURE WORKS  
ITEM (b) - PROPOSED FOOTBRIDGE LINK TO HKU CENTENNIAL CAMPUS

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	繪圖 drawn	Signed 18/5/09	HRWWIL003-SP0008
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日期 DATE	日期 DATE	日期 DATE	路政署 HIGHWAYS DEPARTMENT



圖例  
LEGEND

-  西港島線方案界線  
BOUNDARY OF WEST ISLAND LINE SCHEME
-  擬建西港島線  
PROPOSED WEST ISLAND LINE
-  擬建公共交通交匯處  
PROPOSED PUBLIC TRANSPORT INTERCHANGE
-  擬建乘客區上蓋  
PROPOSED PASSENGER SHELTER
-  將予重建的行车道/行人路  
CARRIAGEWAY/FOOTPATH TO BE RE-CONSTRUCTED
-  擬建環境美化地帶  
PROPOSED LANDSCAPING AREA
-  公共交通交匯處出入口  
EGRESS/INGRESS POINT OF PUBLIC TRANSPORT INTERCHANGE
-  行车線數  
NO. OF TRAFFIC LANE
-  巴士站  
BUS BAY
-  專線小巴士  
GREEN MINIBUS BAY
-  擬修改的行车道路線  
PROPOSED ROAD RE-ALIGNMENT



圖則名稱 drawing title  
工務計劃項目第55TR號－西港島線－主要基建工程  
項目 (c)－擬建堅尼地城站的公共交通交匯處  
PWP ITEM NO. 55TR - WEST ISLAND LINE - ESSENTIAL PUBLIC INFRASTRUCTURE WORKS  
ITEM (c) - PROPOSED PUBLIC TRANSPORT INTERCHANGE AT KENNEDY TOWN STATION

Signed 18/5/09 MATTHEW P. K. HO 總工程師 CHIEF ENGINEER	設計 designed P. CHEUNG	Signed 18/5/09	圖號 drawing no. HRWWIL003-SP0006
	繪圖 drawn H. K. TSANG	Signed 18/5/09	
	校對 checked P. CHEUNG	Signed 18/5/09	版權所有 COPYRIGHT RESERVED
	核准 approved B. S. LIU	Signed 18/5/09	鐵路拓展處 RAILWAY DEVELOPMENT OFFICE 路政署 HIGHWAYS DEPARTMENT