

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 706 – HIGHWAYS

#### Transport – Footbridges and pedestrian tunnels

#### **159TB – Reconstruction of footbridge near Hsin Kuang Centre and extension of bus bays at Lung Cheung Road**

Members are invited to recommend to Finance Committee the upgrading of **159TB** to Category A at an estimated cost of \$83.8 million<sup>1</sup> in money-of-the-day (MOD) prices for the reconstruction of a footbridge near Hsin Kuang Centre and extension of two adjacent bus bays at Lung Cheung Road.

### PROBLEM

We need to reconstruct the existing footbridge across Lung Cheung Road near Hsin Kuang Centre to meet the prevailing design standards and to extend the two bus bays thereat to cope with the traffic demand.

### PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade **159TB** to Category A at an estimated cost of \$83.8 million in MOD prices for the reconstruction of the footbridge near Hsin Kuang Centre and extension of two adjacent bus bays at Lung Cheung Road.

/ **PROJECT**.....

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<sup>1</sup> The cost estimate is updated from \$83.3 million, as stated in the information paper to the Panel on Transport of the Legislative Council issued in June 2009, to \$83.8 million in MOD prices based on updated price adjustment factors for conversion of constant prices to MOD prices taking effect as from October 2009.

**PROJECT SCOPE AND NATURE**

3. The scope of **159TB** comprises –
- (a) demolition of the existing footbridge across Lung Cheung Road near Hsin Kuang Centre;
  - (b) construction of a covered footbridge of approximately 40 metres (m) in length and 4 m in clear width with staircases and four lifts in close proximity to the existing footbridge mentioned in paragraph 3(a) above;
  - (c) extension of two existing bus bays at Lung Cheung Road; and
  - (d) associated road, drainage, landscaping and electrical and mechanical (E&M) works.

\_\_\_\_\_ The layout plan showing the location of the proposed footbridge is at Enclosure.

4. We have substantially completed the detailed design for the proposed footbridge. We plan to commence the construction works in December 2009 for completion in December 2011.

**JUSTIFICATION**

5. The existing footbridge across Lung Cheung Road near Hsin Kuang Centre has been in operation since 1975. It provides a major pedestrian thoroughfare between the Tsz Wan Shan area and the Upper and Lower Wong Tai Sin Estates with pedestrian flow of about 2 100 per hour during morning peaks. The footbridge is also a major route to the Wong Tai Sin Temple which is crowded with visitors during Chinese religious festivals. With new residential developments in the vicinity to be completed in 2009 to 2011, the pedestrian flow of the footbridge is expected to increase. However, the absence of a cover has rendered the footbridge not sufficiently convenient for pedestrians, especially during inclement weather. The footbridge is also aging and its design has no spare structural capacity to cater for improvement works including the installation of a cover and lifts. These improvements would only be made possible through reconstruction of the footbridge.

6. Currently, there are 23 franchised bus routes on Lung Cheung Road. Very often, there are queues of buses awaiting to enter the bus bays on both sides of the road near the existing footbridge. As road space can be released when the proposed footbridge is constructed with lifts replacing the ramps, we propose to take this opportunity to also extend the eastbound bus bay by 12 m to 52 m and the westbound bus bay by 16 m to 61 m. As a result, the eastbound and westbound bus bays would be able to accommodate three and four buses at one time respectively, cutting short the bus queues.

## FINANCIAL IMPLICATIONS

7. We estimate the cost of the project to be \$83.8 million in MOD prices (please see paragraph 8 below), broken down as follows –

		<b>\$ million</b>	
(a)	Demolition of the existing footbridge	2.0	
(b)	Footbridge	66.0	
	(i) civil works	59.3	
	(ii) E&M works	6.7	
(c)	Road, drainage and landscaping works	5.4	
(d)	Electrical and Mechanical Services Trading Fund (EMSTF) <sup>2</sup>	1.0	
(e)	Contingencies	6.3	
	Sub-total	80.7	(in September 2009 prices)

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<sup>2</sup> 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 carrying out the design 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.

		<b>\$ million</b>	
(f)	Provision for price adjustment	3.1	
	Total	83.8	(in MOD prices)

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

Year	\$ million (Sep 2009)	Price Adjustment Factor	\$ million (MOD)
2009 – 10	2.9	1.00000	2.9
2010 – 11	31.0	1.02000	31.6
2011 – 12	26.8	1.04040	27.9
2012 – 13	13.3	1.06121	14.1
2013 – 14	6.7	1.08243	7.3
	80.7		83.8

9. 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 2009 to 2014. We will implement the works under a standard remeasurement contract because the quantity of the foundation works of the footbridge is subject to variation depending on actual ground conditions. We will allow for price adjustments in the contract.

10. We estimate the additional annual recurrent expenditure upon completion of the project to be about \$0.71 million.

/ **PUBLIC.....**

## PUBLIC CONSULTATION

11. We consulted the Traffic and Transport Committee of the Wong Tai Sin District Council (WTSDC) on 6 September 2007. Members supported the implementation of the project. Local consultation with residents was conducted from April to May 2008 and no adverse comments were received. We circulated an information paper on the project to the Legislative Council Panel on Transport on 26 June 2009. Members did not raise any objection.

12. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures<sup>3</sup> (ACABAS) on the aesthetic design of the footbridge on 15 April, 19 August, 21 October 2008 and 21 July 2009. The Committee accepted the proposed design.

13. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 28 November 2008 and received no objection. The Permanent Secretary for Transport and Housing (Transport) authorised the proposed works under the Ordinance on 20 February 2009. The notice of authorisation was gazetted on 27 February 2009.

## TEMPORARY TRAFFIC ARRANGEMENTS

14. Temporary traffic arrangements (TTAs), including lane closures, will be implemented to facilitate the construction works. To minimise likely adverse traffic impact, works that will inevitably require lane closures, will be carried out at night or during non-peak hours as far as practicable. Also, the existing footbridge will be maintained until the proposed footbridge is in operation. A traffic management liaison group comprising representatives of the Highways Department, the Hong Kong Police Force, the Transport Department and other concerned government departments will be set up to assess the TTAs, and the WTSDC will be consulted prior to the implementation of major TTAs.

/ ENVIRONMENTAL.....

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<sup>3</sup> The ACABAS, 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 highways system from the aesthetic and visual impact points of view.

**ENVIRONMENTAL IMPLICATIONS**

15. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term adverse environmental impact. We undertake to implement the standard pollution control measures during construction, as promulgated by the Director of Environmental Protection.

16. We have included in the project estimate the cost to implement suitable mitigation measures to control short-term environmental impacts during the construction stage. These measures include frequent cleaning and watering of the site, use of silenced construction plants, provision of temporary noise screens at works locations, etc.

17. We have considered measures in the planning and detailed design stage to reduce the generation of construction waste where possible. In the footbridge design, we have minimised the number of columns for the staircases and the size of the pile caps in order to reduce the quantity of construction waste from excavation. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated materials and demolition materials as filling materials) on site or in other suitable construction sites as far as practicable, in order to minimise the disposal of inert construction waste to public fill reception facilities<sup>4</sup>. 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.

18. 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. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor 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 and non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

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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.

19. We estimate that the project will generate in total about 7 300 tonnes of construction waste. Of these, we will reuse about 1 100 tonnes (15.1%) of inert construction waste on site and deliver 6 100 tonnes (83.6%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 100 tonnes (1.3%) 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 about \$177,200 for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne<sup>5</sup> at landfills).

## HERITAGE IMPLICATIONS

20. 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

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

## BACKGROUND INFORMATION

22. We upgraded **159TB** to Category B in March 2007. We commenced ground investigation for the project in July 2007 at an estimated cost of \$450,000 in MOD prices under **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme”. We completed the ground investigation works in October 2007.

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

23. The proposed works will involve the removal of 49 trees, including six trees to be felled and 43 trees to be transplanted off-site. All of them are not important trees<sup>6</sup>. We will incorporate planting proposal as part of the project, including the planting of an estimated quantities of about 13 trees and 4 700 shrubs which will produce approximately 840 square metres of planting area in total.

24. We estimate that the proposed works will create about 110 jobs (15 for professional/technical staff and 95 for labourers) providing a total employment of about 1 650 man-months.

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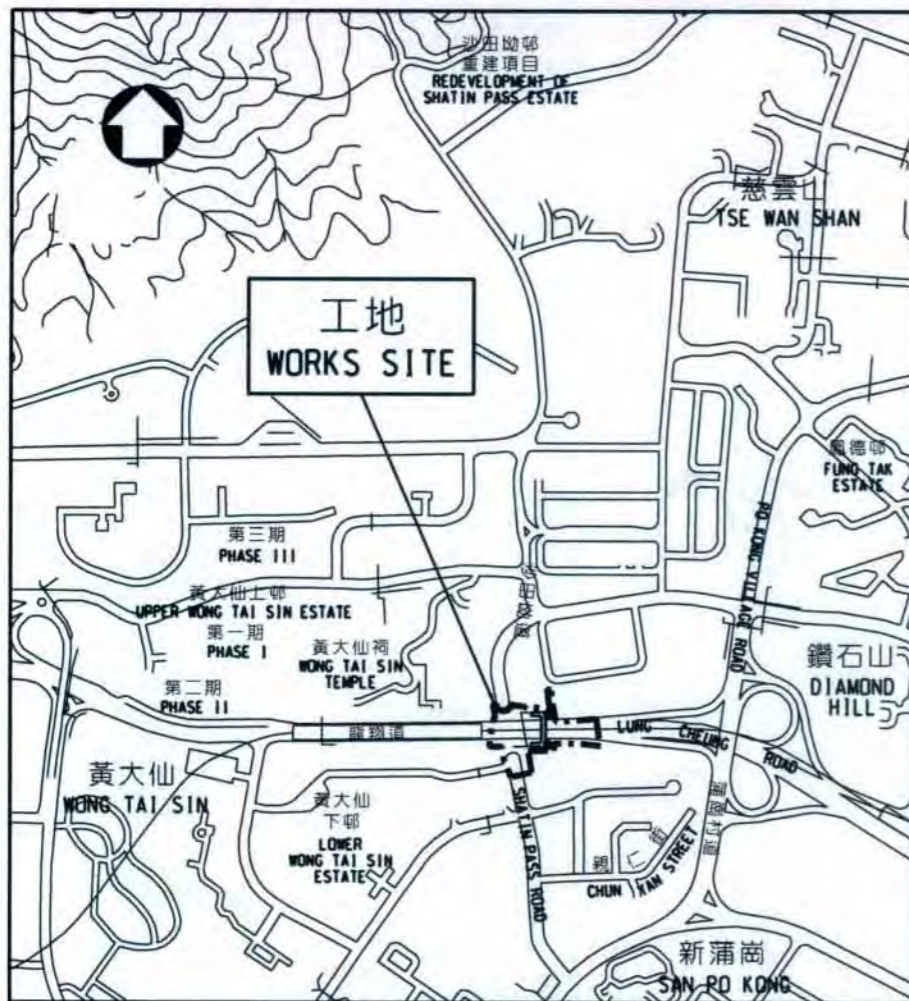
Transport and Housing Bureau  
October 2009

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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 trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons 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 (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.



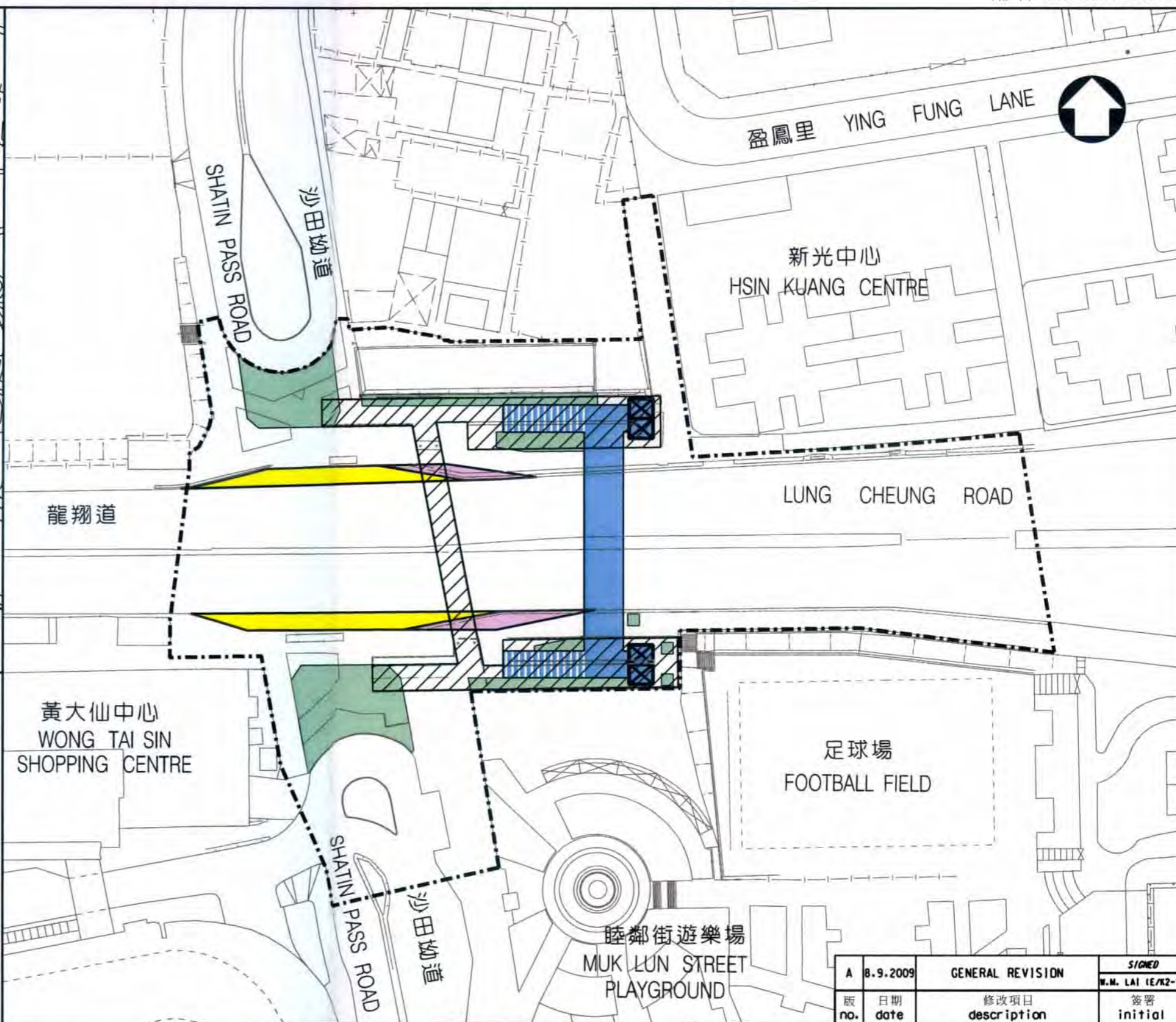


位置圖 LOCATION PLAN

比例 SCALE 1:10000

圖例 LEGEND :

- 施工區界限 LIMIT OF WORKS AREA
- 擬建有蓋行人天橋 PROPOSED COVERED FOOTBRIDGE
- 擬建有蓋樓梯 PROPOSED COVERED STAIRCASE
- 擬建升降機 PROPOSED LIFT
- 將予拆除的現有行人天橋 EXISTING FOOTBRIDGE TO BE DEMOLISHED
- 擬延長的巴士停車處 PROPOSED BUS BAY EXTENSION
- 現有巴士停車處 EXISTING BUS BAY
- 擬建環境美化工程 PROPOSED LANDSCAPING WORKS



圖則名稱 drawing title

工務計劃項目第 159TB 號

重建位於龍翔道近新光中心的行人天橋及延長龍翔道巴士停車處 - 平面圖

PWP ITEM NO. 159TB

RECONSTRUCTION OF FOOTBRIDGE NEAR HSIN KUANG CENTRE AND EXTENSION OF BUS BAYS AT LUNG CHEUNG ROAD - LAYOUT PLAN

	職位 post	姓名 name	簽署 initial	日期 date
設計 designed	E/K2-1	W.M. LAI	SIGNED	8 JUN 2009
繪圖 drawn	TO/5-1	S.P. YIP	SIGNED	8 JUN 2009
核對 checked	E/K2-1	W.M. LAI	SIGNED	9 JUN 2009
批准 approved	SE/K2	Y.K. LAU	SIGNED	9 JUN 2009

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辦事處 office 工程部 WORKS DIVISION		HIGHWAYS DEPARTMENT HONG KONG 路政署	

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A	8.9.2009	GENERAL REVISION	W.M. LAI (E/K2-1)

50 mm SCALE 1 : 1

0 10 20 30 40 50 mm SCALE 1 : 1