For discussion **FCR(2004-05)8**
on 14 May 2004

ITEM FOR FINANCE COMMITTEE

HEAD 706 – HIGHWAYS
Transport – Footbridges and pedestrian tunnels
152TB – Footbridge across Po Kong Village Road at the junction with Tsz Wan Shan Road

Members are invited to approve the upgrading of **152TB** to Category A at an estimated cost of $22 million in money-of-the-day prices for the construction of a footbridge across Po Kong Village Road at the junction with Tsz Wan Shan Road.

PROBLEM

The existing at-grade pedestrian crossing facility across Po Kong Village Road (the Road) at its junction with Tsz Wan Shan Road (TWSR) is unable to cope with the anticipated increase in pedestrian demand from the Po Kong Village Road School Village (the School Village).

PROPOSAL

2. The Director of Highways, with the support of the Secretary for the Environment, Transport and Works (SETW), proposes to upgrade **152TB** to Category A at an estimated cost of $22 million in money-of-the-day (MOD) prices for the construction of a footbridge across the Road at its junction with TWSR (the Junction) to provide a convenient and safe passageway for the pedestrians and cater for the future demand arising from the School Village.

PROJECT SCOPE AND NATURE

3. The scope of **152TB** comprises –

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(a) construction of a four-metre wide covered footbridge of 80 metres in length with two lifts, connecting TWSR Rest Garden at the north and the School Village at the south; and

(b) associated road, drainage, landscaping and electrical and mechanical (E&M) works.

Encl. A site plan with elevation of the proposed footbridge is at the Enclosure.

4. We have substantially completed the detailed design for the project. We plan to commence construction in August 2004 for completion in February 2006.

JUSTIFICATION

5. The Road is a single four-lane carriageway intersecting with TWSR at a signal-controlled junction with at-grade crossing facilities. At present, the road junction is operating close to its capacity, with a reserve capacity[1] (RC) of only 4%.

6. The Road is characterised by a high concentration of schools. Three schools[2], with a total student/staff population of about 3 600, are located along the Road near the Junction. In addition, the School Village consists of five schools[3], including three primary schools, a secondary school and a private independent school. Four of these schools have commissioned since September 2002, though not at full scale, and accumulated a total population of students and staff of around 3 600[4]. Most of the students and other pedestrians have to use the at-grade crossing facilities at the Junction to cross the Road to reach the Tsz Wan Shan (South) Bus Terminus and other bus stops along the Road. In view of the

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[1] The performance of a traffic signal junction is indicated by its RC. A positive RC indicates that the junction is operating with spare capacity. A negative RC indicates that the junction is overloaded, thus resulting in traffic queues and longer delay time.

[2] These three schools are the CCC Heep Woh College, Po Leung Kuk No. 1 W H Cheung College and the Salvation Army William Booth Secondary School.

[3] The five schools in the school village included, namely: Po Leung Kuk Celine Ho Yam Tong College, Po Leung Kuk Grandmont Primary School, Tsz Wan Shan Catholic Primary School, St. Patrick's Catholic Primary School and International Christian Quality Music Secondary and Primary School.

[4] Based on the statistics from the Education and Manpower Bureau as at January 2004.

heavy utilisation of the existing at-grade facilities, we have introduced an interim signalised pedestrian crossing at the Road outside the School Village in September 2002 to ease the pressure on the existing at-grade facilities. However, the pedestrian flow at the Junction remains heavy. According to a recent survey conducted by the Transport Department (TD) in February 2004, the hourly pedestrian flow crossing the Road at the Junction during peak hours is about 1 700 pedestrians.

7. It is expected that with the commissioning of the remaining school in the School Village in September 2004 and the other four schools operating at full scale, the population in the School Village will reach 6 560. TD estimated that the hourly pedestrian flow crossing the Road at the Junction at peak hours will reach 3 000 which will exceed the capacity of the existing at-grade crossing facilities.

8. Providing a safe passageway for pedestrians, and the large number of students in the schools along the Road in particular, is of paramount importance. Taking into account also the anticipated increase in pedestrian flow at the Junction, we need to construct a footbridge, connecting with the School Village, across the Road.

FINANCIAL IMPLICATIONS

9. We estimate the cost of the project to be $22 million in MOD prices (see paragraph 12 below), made up as follows –

		$ million
(a) Footbridge		19.9
(i) civil works	17.3	
(ii) E&M works	2.6	

/(b) .....

(b)	Roadwork, drainage and landscaping works	0.6	
(c)	Electrical and Mechanical Services Trading Fund (EMSTF) charges[5]	0.4	
(d)	Contingencies	2.0	
	Sub-total	22.9	(in September 2003 prices)
(e)	Provision for price adjustment	(0.9)	
	Total:	22.0	(in MOD prices)

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

Year	$ million (Sep 2003)	Price Adjustment Factor	$ million (MOD)
2004 – 2005	5.7	0.97150	5.5
2005 – 2006	13.7	0.95450	13.1
2006 – 2007	2.3	0.95450	2.2
2007 – 2008	1.2	0.96643	1.2
	22.9		22.0

11. 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

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[5] 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 (EMSD). 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.

building and construction output for the period 2004 to 2008. We will tender the proposed civil works under a standard remeasurement contract because the quantities of foundation are subject to variation due to actual site conditions. The contract will not include provision for price adjustments as the contract period will not exceed 21 months. For the E&M installation, EMSD will tender the works under a lump sum contract without price fluctuation.

12. We estimate the annual recurrent expenditure upon completion of the project to be $271,000.

PUBLIC CONSULTATION

13. We first consulted the Traffic and Transport Committee of the Wong Tai Sin District Council (WTS DC) on 22 January 2002. Members supported the project and requested its early completion. We also consulted the representatives of the four schools in the School Village and the three schools located along the Road near the Junction on 23 May 2002. The schools supported the early implementation of the project.

14. The then Regional Highway Engineer/Kowloon, under delegated authority from the SETW, authorised the project under the Roads (Works, Use and Compensation) Ordinance on 6 June 2002.

15. We circulated an information paper to the Legislative Council Panel on Transport in March 2004. Members have no objection to this project.

16. In considering PWSC(2004-05)2 at the meeting on 21 April 2004, Members of the Public Works Subcommittee (PWSC) supported the construction of a footbridge at the location concerned. However, some Members raised doubts on the need for an escalator at the northern end of the proposed footbridge and asked the Administration to consider replacing the escalator by a widened staircase, bearing in mind the Government's intention of encouraging walking for health consideration and the savings in capital and recurrent costs. Members asked the Administration to review the need for the escalator before seeking funding approval for the project from the Finance Committee (FC) on 14 May 2004.

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17. The need for the escalator was first raised by the WTS DC in 2000 on the grounds that an escalator would enhance usage of the proposed footbridge, thereby enhancing the safety of school children crossing the Road. TD noted WTS DC's suggestion and, in the light of the forecast pedestrian flow during peak hours, considered that an escalator would facilitate pedestrian flow. In the light of the concern expressed by PWSC Members on 21 April 2004, TD and Highways Department have reviewed the need for the escalator and concluded that PWSC Members' suggestion to replace the escalator with a widened staircase can be accommodated from both the transport and engineering points of views. We have therefore replaced the proposed escalator by a staircase of four metres wide. The revised design is shown in the Enclosure.

18. The replacement of the escalator with a widened staircase will affect slightly the pedestrian movement during peak hours at the proposed footbridge and TD considers this acceptable. To enhance the utilisation of the footbridge by students, TD will liaise with the Police and the schools concerned to put in place appropriate measures such as the provision of Road Safety Patrol where necessary.

19. We circulated an information paper to the Traffic and Transport Committee of the WTS DC on 28 April 2004 on the proposed replacement of the escalator by a widened staircase. TD also consulted the representatives of the School Village on the proposed changes. The WTS DC members and school representatives have no objection to the proposal.

20. Apart from expressing concern about the need for the originally proposed escalator, Members also requested the Administration to provide information on the following –

(a) changes in the capital and recurrent costs and the project implementation programme if the escalator at the northern end of the proposed footbridge were to be removed and replaced by a widened staircase; and

(b) details of the interim traffic measures to facilitate students and other pedestrians to cross the Road prior to the completion of the project.

21. Replacing the escalator with a widened staircase will reduce the project estimate from $24 million by $2 million to $22 million in MOD prices.

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The annual recurrent cost will be reduced from $380,000 to $271,000. As we originally expected the contractor to carry out the escalator works, the installation of the lifts and finishing works for the footbridge at about the same time, the deletion of the escalator will not affect or shorten the implementation programme.

22. Also, PWSC Members enquired about the interim measures to facilitate pedestrians crossing the Road during construction of the project. For that purpose, we will introduce a temporary signalised pedestrian crossing to the west of the proposed footbridge (as shown in the Enclosure) prior to the commencement of the project. We will remove the temporary signalised pedestrian crossing upon commissioning of the footbridge.

ENVIRONMENTAL IMPLICATIONS

23. The project is a non-designated project under the Environmental Impact Assessment Ordinance and will not cause long-term environmental impact. During construction, we will control the noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contracts. We estimate the cost of implementing the short-term environmental mitigation measures to be $140,000 and have included this cost in the overall project estimate.

24. We estimate that the project will generate about 700 cubic metres (m^3) of construction and demolition (C&D) materials. Of these, we will reuse about 112 m^3 (16%) on site, about 574 m^3 (82%) as fill in public filling areas[6] and dispose of about 14 m^3 (2%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be $1,750 for this project (based on a notional[7] unit cost of $125/$m^3$).

25. We will require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to

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[6] A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering.

[7] This estimate has taken into account the cost of 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 are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

encourage on-site sorting of C&D materials and to minimise, reuse and recycle the C&D materials. We will require the contractor to ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities.

LAND ACQUISITION

26. The proposed works do not require land acquisition.

BACKGROUND INFORMATION

27. We upgraded **152TB** to Category B in December 2001.

28. The proposed footbridge construction works will involve removal of four trees including one tree to be felled and three trees to be transplanted elsewhere. All trees to be removed are not important trees[8]. We will incorporate planting proposals as part of the project, including estimated quantities of seven trees and 900 shrubs.

29. We estimate that the proposed works will create about 38 jobs (31 for labourers and another seven for professional/technical staff) providing a total employment of 500 man-months.

Environment, Transport and Works Bureau
May 2004

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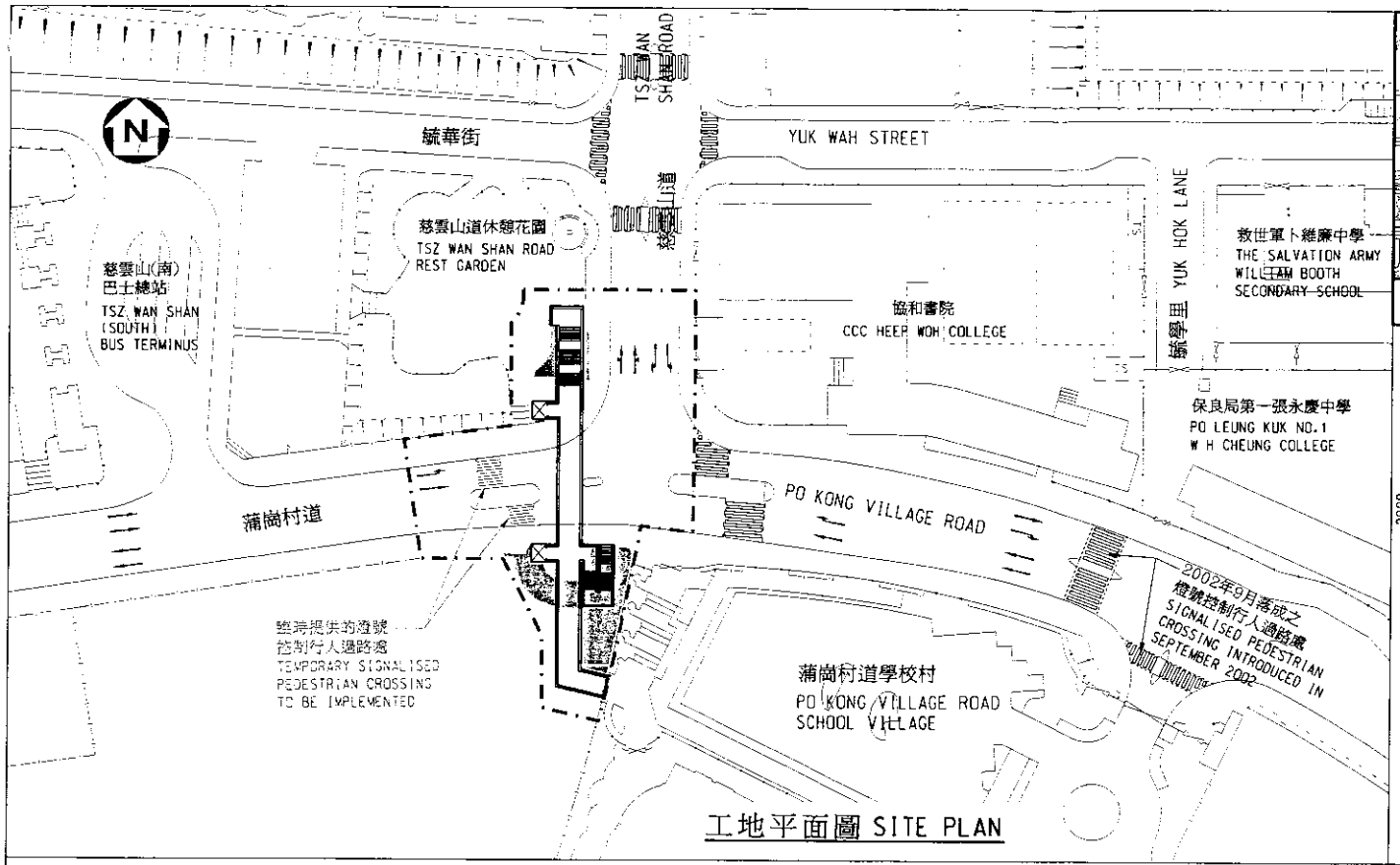
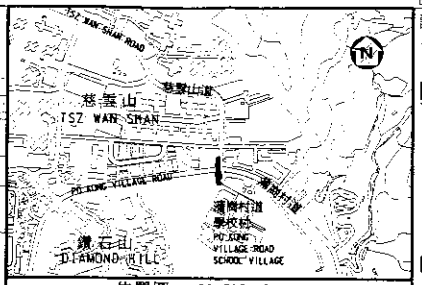
[8] Important trees include trees on the Register of Old and Valuable Trees, and any other trees which meet one or more of the following criteria –

(a) trees over 100 years old;
(b) trees of cultural, historical or memorable significance;
(c) trees of precious or rare species;
(d) trees of outstanding form; or
(e) trees with trunk diameter exceeding one metre (measured at one metre above ground level).

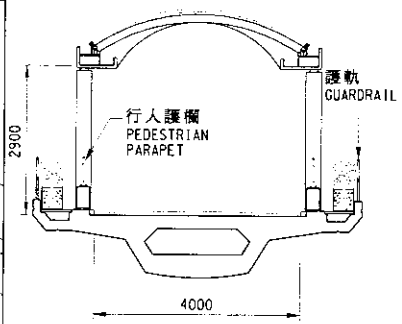
FCR (2004-05)8 附件
ENCLOSURE TO FCR (2004-05)8



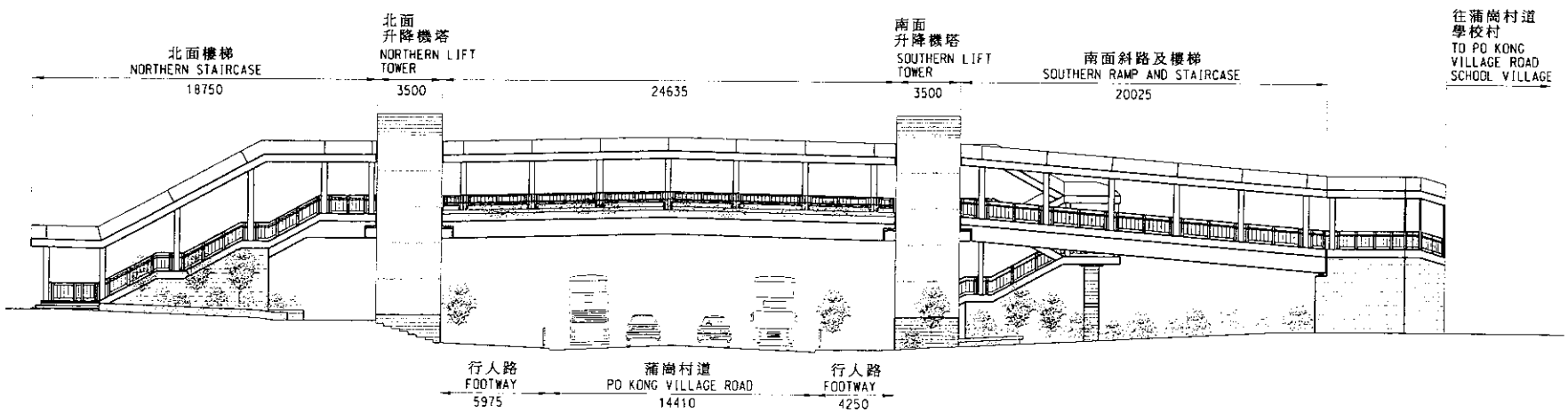
工地平面圖 SITE PLAN



位置圖 LOCATION PLAN
比例 SCALE 1:15000



行人天橋之橋面橫切面
SECTION OF FOOTBRIDGE DECK
比例 SCALE 1:100



行人天橋立視圖 ELEVATION OF FOOTBRIDGE
比例 SCALE 1:250

註釋 NOTES:
1. 所有量度單位皆為毫米
ALL DIMENSIONS ARE IN MILLIMETRES.

圖例 LEGEND :
- 施工區界限 LIMIT OF WORKS AREA
- 擬建的有蓋行人天橋 PROPOSED COVERED FOOTBRIDGE
- 擬建的升降機 PROPOSED LIFT
- 擬建的行人樓梯 PROPOSED STAIRCASE
- 擬建的行人路/現有行人路將予重建 PROPOSED FOOTWAY / EXISTING FOOTWAY TO BE RECONSTRUCTED
- 擬建的園景區 PROPOSED LANDSCAPED AREA
- 行車線數 NO. OF TRAFFIC LANES
- 現有燈號控制行人過路處 EXISTING SIGNALISED PEDESTRIAN CROSSING

no.	description	checked and approved	date
D	一般修改 GENERAL AMENDMENT	SIGNED W.Y. WU	27.04.04
C	一般修改 GENERAL AMENDMENT	SIGNED W.Y. WU	15.03.04
B	一般修改 GENERAL AMENDMENT	SIGNED W.Y. WU	05.03.04
A	一般修改 GENERAL AMENDMENT	SIGNED W.Y. WU	20.11.03

REVISION

	職位 post	姓名 name	簽署 signature	日期 date
設計 designed	E/C1	W.Y. WU	SIGNED	03.11.03
繪圖 drawn	TD(C)	L.T. LAW	SIGNED	03.11.03
檢查 checked	E/C1	W.Y. WU	SIGNED	03.11.03

核准 approved
SIGNED
Y. K. LAU 03.11.03
Senior Engineer / Capital Works (2) Date

圖則名稱 title
工務計劃項目第152TB號
在慈雲山道興建橫跨
蒲崗村道的行人天橋
PWP ITEM NO. 152TB
FOOTBRIDGE ACROSS
PO KONG VILLAGE ROAD
AT JUNCTION WITH
TSZ WAN SHAN ROAD

圖號 drawing no.
HKHD40162-SK0005-D

比例 scale 1:1000 或依標示OR AS SHOWN

辦事處 office
工 程 部
WORKS DIVISION

路 政 署 HIGHWAYS DEPARTMENT HONG KONG

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