

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS

Transport – Roads

323TH – Reconstruction of Causeway Bay Flyover and associated widening of Victoria Park Road

Members are invited to recommend to Finance Committee the upgrading of **323TH** to Category A at an estimated cost of \$141.8 million in money-of-the-day prices for the reconstruction of Causeway Bay Flyover and associated widening of Victoria Park Road.

PROBLEM

The existing Causeway Bay Flyover (CBF) is inadequate to cope with the present and future traffic demand. The existing bottleneck at Victoria Park Road (VPR) westbound outside the Victoria Park has led to traffic congestion at the Island Eastern Corridor (IEC) during peak hours.

PROPOSAL

2. The Director of Highways (D of Hy), with the support of the Secretary for the Environment, Transport and Works (SETW), proposes to upgrade **323TH** to Category A at an estimated cost of \$141.8 million in money-of-the-day (MOD) prices for the reconstruction of the CBF and associated widening of the VPR.

PROJECT SCOPE AND NATURE

3. The scope of **323TH** comprises –

/(a).....

- (a) demolition of the existing CBF and the adjoining footbridge;
- (b) construction of a 210-metre (m) long single two-lane flyover connecting the VPR to Gloucester Road (the new CBF);
- (c) construction of a covered footbridge spanning across the VPR;
- (d) widening and realignment of a 170-m westbound section of the VPR from four to five traffic lanes and realignment of a 225-m eastbound section of VPR;
- (e) landscaping works at the Victoria Park and Causeway Bay Promenade ; and
- (f) associated works including road realignment and rehabilitation, drainage, landscaping, street lighting and electrical and mechanical (E&M) works.

_____ A site plan with typical section of the new CBF and elevation of the proposed footbridge is at Enclosure 1.

4. We have substantially completed the detailed design, working drawings and tender documents of the proposed works. We plan to start the construction works in April 2004 for completion in July 2007.

JUSTIFICATION

5. The VPR is an important urban trunk road linking Causeway Bay with the Cross Harbour Tunnel, Aberdeen Tunnel and the Central/Wan Chai districts. The existing CBF is a single-lane carriageway bringing traffic from the VPR to the section of Gloucester Road outside Victoria Park. The CBF is the most direct route for traffic from the Cross Harbour Tunnel, Central/Wan Chai districts to approach Causeway Bay, Tai Hang and Happy Valley areas.

Reconstruction of the CBF

6. The CBF is currently overloaded with traffic coming from the Cross Harbour Tunnel and Central/Wan Chai districts, especially during peak hours.

/Traffic.....

Traffic congestion is particularly acute when horse-racing takes place at Happy Valley and the traffic queue would tail back to the tunnel tube, affecting the throughput of the Cross Harbour Tunnel. Besides, owing to traffic congestion at the CBF, the queuing traffic along the VPR eastbound leading to the CBF often holds up the onward traffic from Gloucester Road to Hong Kong east.

7. To relieve traffic congestion at the CBF, we need to reconstruct the flyover to provide a single two-lane carriageway, with one lane designated for traffic to Causeway Bay area and the other for traffic heading towards Tai Hang and Happy Valley areas. The location of the new CBF would also be shifted southwards to the right side of the VPR eastbound to allow better redistribution of traffic heading towards Causeway Bay, Happy Valley and Hong Kong east, thereby avoiding the holding up of eastbound traffic along VPR and Gloucester Road. In connection with the reconstruction of the CBF, we will realign a section of the VPR eastbound carriageway to make way for the new CBF approach ramp. The projected traffic volume to capacity (v/c) ratios¹ of CBF during peak hours in 2003, 2007 and 2011, before and after reconstruction of CBF, are as follows:

V/C Ratio of CBF	Year		
	2003	2007	2011
Before Reconstruction	1.06	1.08	1.10
After Reconstruction	-	0.63	0.64

Reprovisioning of a footbridge

8. With the reconstruction of the CBF, the footbridge in conjunction with the CBF has to be reprovisioned. The new footbridge would be built across the VPR, linking up the Victoria Park and Causeway Bay Promenade to serve as a safe and convenient connection for pedestrians. We will also install two lifts at the footbridge to facilitate access for the disabled and elderly.

/Local.....

¹ Volume to capacity (v/c) ratio is an indicator which reflects the performance of a road. A v/c ratio equal to or less than 1.0 means that a road has sufficient capacity to cope with the volume of vehicular traffic under consideration and the resultant traffic will flow smoothly. A v/c ratio above 1.0 indicates the onset of congestion; that above 1.2 indicates more serious congestion with traffic speeds deteriorating progressively with further increase in traffic.

Local widening of the VPR westbound

9. The IEC connects to the VPR outside the Victoria Park. To the south of the IEC, the VPR westbound is a single two-lane carriageway with its fast lane heading to the Cross Harbour Tunnel and Wan Chai/Central districts and the other lane heading towards Causeway Bay. Due to the narrowing of the VPR westbound outside Victoria Park, the fast-lane traffic from the VPR has to merge and compete with the fast moving traffic in the slow lane of IEC. Such arrangement is highly undesirable from a traffic engineering angle and has resulted in traffic queue of some 1.6 kilometres in length along the slow lane of the IEC during peak hours. To alleviate the traffic congestion at the IEC, we need to remove the bottleneck by widening the VPR westbound from four to five traffic lanes.

10. The project will require permanent alienation of 1 162 square metres (m²) of land from the Victoria Park. By demolishing the existing CBF, we will be able to compensate for the alienation with an open space of equal floor area, resulting in negligible net loss in area to the Victoria Park. There will also be temporary alienation of 3 826 m² of land in total from the Victoria Park and Causeway Bay Promenade to cater for the temporary traffic arrangement at VPR. We will reinstate the landscape at the Victoria Park and Causeway Bay Promenade affected by both the permanent and temporary alienation.

FINANCIAL IMPLICATIONS

11. We estimate the cost of the project to be \$141.8 million in MOD prices (see paragraph 12 below), made up as follows –

	\$ million
(a) Demolition works	8.6
(b) CBF	83.3
(c) Footbridge	12.9
(i) civil works	9.0
(ii) E&M works	3.9

/(d).....

(d) Road, drainage and landscaping works		5.2	
(e) Landscaping works at Victoria Park and Causeway Bay Promenade		5.6	
(f) Consultants' fees		18.0	
(i) construction supervision and contract administration	4.7		
(ii) resident site staff costs	13.3		
(g) Contingencies		11.6	
	Sub-total	145.2	(in September 2003 prices)
(h) Provision for price adjustment		(3.4)	
	Total:	141.8	(in MOD prices)

A breakdown of the estimates for consultants' fees is at Enclosure 2.

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

/Year.....

Year	\$ million (Sep 2003)	Price Adjustment Factor	\$ million (MOD)
2004 – 2005	40.4	0.98225	39.7
2005 – 2006	44.3	0.97734	43.3
2006 – 2007	54.1	0.97245	52.6
2007 – 2008	4.4	0.96759	4.3
2008 – 2009	2.0	0.96638	1.9
	145.2		141.8

13. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period 2004 to 2009. We will tender the proposed works under a standard remeasurement contract because the quantities of foundation are subject to variation due to actual site conditions. We will allow for price adjustments in the contract as the construction period will exceed 21 months.

14. At present, the recurrent expenditure for the existing roads concerned is \$212,000. We estimate the annual recurrent expenditure upon completion of the project to be \$547,000.

PUBLIC CONSULTATION

15. We consulted the Transport and Traffic Committees (T&TCs) of the then Wan Chai and Eastern Provisional District Boards on 24 June and 23 October 1997 respectively. Members supported the project. We further consulted the T&TCs of the Eastern and Wan Chai District Councils on 20 September and 4 December 2001 respectively and Members supported the project as well. For the proposed tree transplanting works under the project, we consulted the Food, Environment and Hygiene Committee of the Wan Chai District Council on 20 December 2001. Noting that the Administration had minimised impact on the trees and would transplant the affected ones to the Victoria Park, the Committee had no objection to the project.

16. We gazetted the road scheme under the Roads (Works, Use and Compensation) Ordinance (the Ordinance) on 21 June 2002 and received two objections. Both objectors withdrew their objections unconditionally after the Administration explained the details of the project to them. The Permanent Secretary for the Environment, Transport and Works (Environment and Transport), under delegated authority from SETW, authorised the Project under the Ordinance and the notice of the authorisation was gazetted on 27 June 2003.

17. We circulated an information paper to the Legislative Council Panel on Transport in October 2003.

ENVIRONMENTAL IMPLICATIONS

18. The reconstruction and subsequent operation of the CBF is a designated project under the Environmental Impact Assessment (EIA) Ordinance and an environmental permit is required. Having regard to the project profile, the Director of Environmental Protection (DEP) is satisfied that the impact of the proposed flyover reconstruction and the proposed mitigation measures described in the project profile meet the requirements of the Technical Memorandum on EIA Process. DEP granted permission to D of Hy to apply directly for an environmental permit under the EIA Ordinance on 31 May 2003 with conditions and issued the environmental permit on 16 September 2003. We will implement the mitigation measures set out in the project profile and as required by DEP. We estimate the cost of implementing the environmental mitigation measures to be \$100,000 and have included this cost in the overall project estimate.

19. For the associated local widening of the VPR, DEP has conducted an Environmental Review (ER) and concluded that the proposed road widening works would not cause long-term environmental impact. We will implement appropriate mitigation measures to control short-term environmental impact during construction.

20. At the planning and design stages, we have considered ways to reduce the generation of construction and demolition (C&D) materials. To minimise the generation of C&D materials, we will require the contractor to use metal in all components of site signboards and most of the structural formworks. We estimate that the project will generate about 5 500 cubic metres (m³) of C&D materials. Of these, we will reuse 5 225 m³ (95%) as fill in public filling areas² and dispose of 275 m³ (5%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$34,375 for this project (based on a notional³ unit cost of \$125/m³).

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

22. The proposed works do not require land acquisition.

BACKGROUND INFORMATION

23. We upgraded **323TH** to Category B in September 1996. In October 1996, we engaged consultants to carry out the review and design for the proposed works at an estimated cost of \$2.5 million. We have charged this to **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". The consultants have substantially completed the detailed design in September 2003.

/24.

² 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.

³ 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/m³), 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.

24. To enhance the survival rate of the transplanted trees, we need to carry out the tree transplanting works in winter between October 2003 and March 2004. We included an item under **Subhead 6100TX** at an estimated cost of \$2.4 million in August 2003 for the advance tree transplanting works.

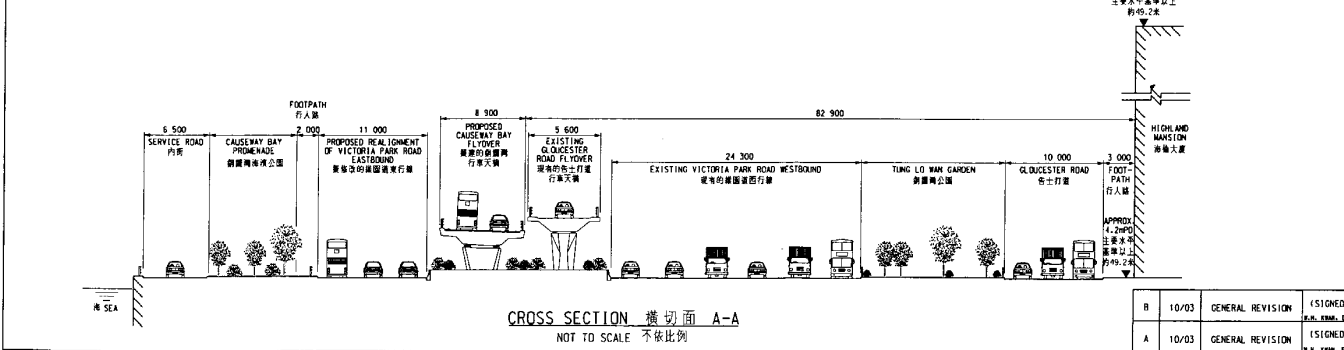
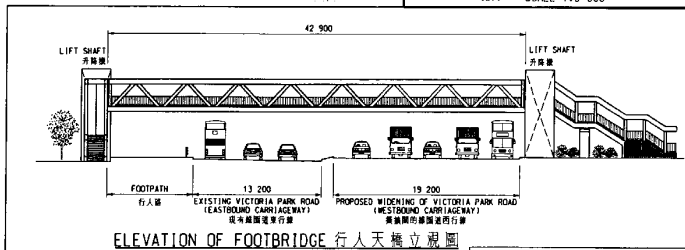
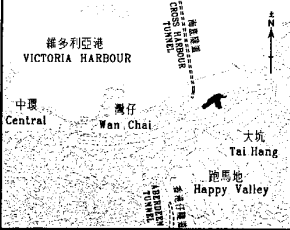
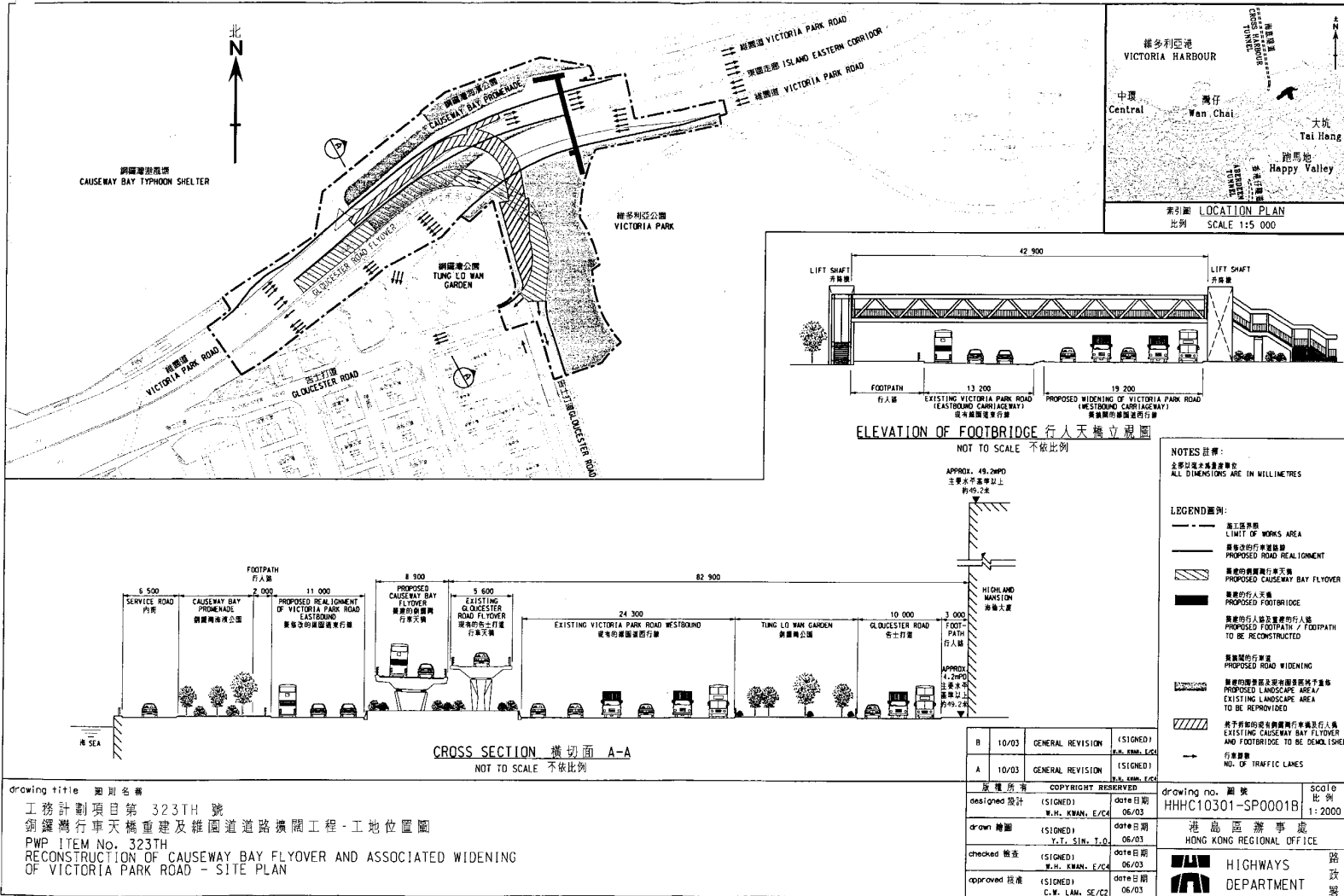
25. The proposed works will involve transplanting 53 trees within the project site. All trees to be transplanted are not important trees⁴. We will incorporate planting proposals as part of the project, including estimated quantities of 100 trees, 200 shrubs and 3 500m² of grassed area.

26. We estimate that the project will generate 134 jobs, comprising 43 professional / technical staff and 91 labourers, totalling about 2 630 man-months.

Environment, Transport and Works Bureau
October 2003

⁴ 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).



NOTES 註釋:
全部尺寸均以毫米為單位
ALL DIMENSIONS ARE IN MILLIMETRES

LEGEND 圖例:

- 施工區界線 LIMIT OF WORKS AREA
- - - 擬議的行人單車道 PROPOSED ROAD REALIGNMENT
- ▨ 擬議的興建行人天橋 PROPOSED CAUSEWAY BAY FLYOVER
- ▩ 擬議的行人天橋 PROPOSED FOOTBRIDGE
- ▨ 擬議的行人單車道及單車徑 PROPOSED FOOTPATH / FOOTPATH TO BE RECONSTRUCTED
- ▨ 擬議的單車道 PROPOSED ROAD WIDENING
- ▨ 擬議的綠化區及現有園藝綠地不予保留 PROPOSED LANDSCAPE AREA / EXISTING LANDSCAPE AREA TO BE REPROVIDED
- ▨ 不予保留的現有園藝綠地及行人天橋 EXISTING CAUSEWAY BAY FLYOVER AND FOOTBRIDGE TO BE DEMOLISHED
- 行車線 NO. OF TRAFFIC LANES

drawing title 圖則名稱
工務計劃項目第 323TH 號
銅鑼灣行人天橋重建及維園道路擴闊工程-工地位置圖
PWP ITEM No. 323TH
RECONSTRUCTION OF CAUSEWAY BAY FLYOVER AND ASSOCIATED WIDENING OF VICTORIA PARK ROAD - SITE PLAN

B	10/03	GENERAL REVISION	(SIGNED) P.L. CHAN, L/C	原稿所有	COPYRIGHT RESERVED	drawing no. 圖號	SCALE 比例
A	10/03	GENERAL REVISION	(SIGNED) P.L. CHAN, L/C	designer 設計	(SIGNED) W.H. KWAN, E/C	HHHC10301-SP0001B	1:2000
				drawn 繪圖	(SIGNED) Y.T. SHU, T.O.	date 日期	06/03
				checked 檢查	(SIGNED) S.H. KWAN, E/C	date 日期	06/03
				approved 批准	(SIGNED) C.M. LAM, SE/C	date 日期	06/03
						HONG KONG REGIONAL OFFICE	HIGHWAYS DEPARTMENT

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**323TH – Reconstruction of Causeway Bay Flyover and
associated widening of Victoria Park Road**

Breakdown of estimate for consultants' fees (in September 2003 prices)

Consultants' staff costs			Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Construction	Professional	-	-	-	3.3
	supervision and contract administration (Note 2)	Technical	-	-	-	1.4
(b)	Resident site staff	Professional	42	38	1.6	3.9
		Technical	306	14	1.6	9.4
Total						18.0

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to arrive at the cost of resident site staff supplied by the consultants. (At 1 October 2002, MPS pt. 38 = \$57,730 per month and MPS pt. 14 = \$19,195 per month)
2. The consultants' fees for construction supervision and contract administration are estimated in accordance with Agreement No. CE 32/95 titled "Design and Construction of Causeway Bay Flyover and Associated Widening of Victoria Park Road and Reconstruction of Victoria Park Road and Gloucester Road between Marsh Road and Hing Fat Street". The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **323TH** to Category A.