

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 706 – HIGHWAYS

#### Transport – Roads

#### 834TH – Hong Kong–Zhuhai–Macao Bridge Hong Kong Boundary Crossing Facilities

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **834TH**, entitled “Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – investigation and preliminary design”, to Category A at an estimated cost of \$86.9 million in money-of-the-day prices; and
- (b) the retention of the remainder of **834TH** in Category B.

### PROBLEM

We need to construct the Hong Kong Boundary Crossing Facilities (HKBCF) under the mode of “separate locations of boundary crossing facilities (BCF)”<sup>1</sup> to serve the Hong Kong-Zhuhai-Macao Bridge (HZMB).

/ PROPOSAL .....

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<sup>1</sup> Under the mode of “separate locations of BCF”, the BCFs of the three governments of Guangdong Province, Hong Kong Special Administrative Region and Macao Special Administrative Region will be separately located within their respective territories.

## PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade part of **834TH** to Category A at an estimated cost of \$86.9 million in money-of-the-day (MOD) prices to engage consultants to undertake the investigation and preliminary design (I&PD) for HZMB HKBCF.

## PROJECT SCOPE AND NATURE

3. The scope of **834TH** (the Project) includes –
- (a) reclamation to provide land for the development of the HKBCF;
  - (b) cargo processing facilities including kiosks for clearance of goods vehicles, customs inspection platforms, X-ray buildings, etc;
  - (c) passenger related facilities including processing kiosks and examination facilities for private cars and coaches, passenger clearance building and halls, etc;
  - (d) accommodation for and facilities of the Government departments providing services in connection with the HKBCF;
  - (e) provision of transport and miscellaneous facilities inside the HKBCF including public transport interchange, transport drop-off and pick-up areas, vehicle holding areas, passenger queuing areas, road networks, footbridges, fencing, sewage and drainage systems, water supply system, utilities, electronic system, and traffic control and information system, etc;
  - (f) provision of road access for connection of the HKBCF to the HZMB Hong Kong Link Road, the Tuen Mun-Chek Lap Kok Link (TMCLKL) and the Airport;
  - (g) reprovisioning of the affected Airport's facilities; and

- (h) provision of other facilities for connection with the Airport such as extension of the existing Automated People Mover to connect the Airport Terminal with the HKBCF.

———— A plan showing the tentative location of HZMB HKBCF is at Enclosure 1.

4. The part of the Project we now propose to upgrade to Category A comprises –

- (a) a review of the findings of previous studies of the HKBCF and examination of the design options of the HKBCF;
- (b) impact assessments on environment, traffic, marine, aviation and other related aspects;
- (c) preliminary design of the works described in paragraph 3 above; and
- (d) associated site investigation and works supervision.

5. We plan to commence the I&PD study in July 2008 for completion in May 2010.

## **JUSTIFICATION**

6. The governments of Guangdong, the Hong Kong Special Administrative Region and Macao Special Administrative Region (Macao SAR) have since 2003 formed an HZMB Advance Work Coordination Group (AWCG) to commence the preparatory work of the HZMB. In 2004, the AWCG commissioned the China Highway Planning and Design Institute (HPDI) to conduct a feasibility study for the HZMB, covering a wide range of topics including navigation clearance, hydrology, environment, traffic, economic benefits and financial viability. A total of eight AWCG meetings and numerous expert group meetings have been held to deliberate on the outcome of the various topical studies.

7. The National Development and Reform Commission (NDRC) also formed the HZMB Task Force in 2007 to push forward the project. The Task

Force was led by the NDRC, with representatives from the Ministry of Communications, the Hong Kong and Macao Affairs Office, and the governments of Hong Kong, Guangdong and Macao as members. At its meeting on 7 January 2007, the Task Force recommended that the BCF of each government should be set up within their own respective territories.

8. In the light of the recommendation of the Task Force, Highways Department commissioned a site selection study in May 2007 for the HKBCF. The study, completed in early 2008, has examined various possible sites, including different reclamation options at the eastern and western waters off the Airport Island, reclamation, land formation and hybrid options at San Shek Wan, an Airport Island option, and a reclamation option at Tai Ho. It finally recommended the preferred location of the HKBCF at the waters off the north-east of the Airport Island. The preferred site would have the least environmental impacts. Also, with the proximity of the preferred site to the Airport, air/land transit of passengers can be facilitated by extending the existing Automated People Mover to connect the Airport Terminal with the HKBCF. Furthermore, this site location would also provide the chance for better integration with the proposed TMCLKL. However, the preferred site would require reclamation and reprovisioning of some affected Airport facilities such as the existing/planned Marine Cargo Terminal.

9. HPDI has substantially completed the feasibility study for the HZMB.

10. At its 8<sup>th</sup> meeting held on 28 February 2008, the AWCG was briefed by the HPDI on the main findings of the HZMB feasibility study and reached a consensus on the project financial arrangement. In particular, it was agreed that the three governments shall be responsible for the construction, operation and maintenance of their own BCFs in their respective territories.

11. In order to provide the HKBCF on time to meet the opening of the HZMB, we need to commence the I&PD study for the HKBCF as soon as possible to determine its location, general layout, land requirement and impacts. Under the I&PD study, we will carry out an environmental impact assessment (EIA) study according to the EIA Ordinance in order to identify the environmental impacts and the mitigation measures required, including those related to heritage preservation. We will also carry out site investigation work to provide geotechnical and geological information for preliminary and subsequent detailed design work. In

view of the multi-disciplinary nature of the Project and the lack of in-house resources, we propose to employ consultants to undertake the I&PD study and supervise the site investigation works.

**FINANCIAL IMPLICATIONS**

12. We estimate the cost of the I&PD study to be \$86.9 million in MOD prices (see paragraph 13 below), made up as follows–

		<b>\$ million</b>	
(a)	Consultants' fees	45.0	
	(i) review of the findings of previous studies, and examination of design options	5.0	
	(ii) impact assessments (environmental, traffic, marine and aviation, etc.)	25.1	
	(iii) preliminary design for (iiia) reclamation work	4.2	
	(iiib) civil and building works	9.1	
	(iv) supervision of site investigation	1.6	
(b)	Site investigation	29.1	
(c)	Contingencies	7.4	
	Sub-total	81.5	(in September 2007 prices)
(d)	Provision for price adjustment	5.4	
	Total	86.9	(in MOD prices)

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

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

<b>Year</b>	<b>\$ million (Sep 2007)</b>	<b>Price Adjustment Factor</b>	<b>\$ million (MOD)</b>
2008 – 2009	19.9	1.02575	20.4
2009 – 2010	36.9	1.06293	39.2
2010 – 2011	<u>24.7</u>	1.10545	<u>27.3</u>
	<u>81.5</u>		<u>86.9</u>

14. 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 2008 to 2011. We will engage consultants to undertake the I&PD study on a lump-sum basis with provision for price adjustment as the duration of the consultancy will exceed 12 months. The consultants will supervise site investigation works under a contract to be awarded through tendering.

15. The proposed I&PD study and its associated site investigation works will have no recurrent financial implication.

## **PUBLIC CONSULTATION**

16. In July 2007, we consulted environmental concern groups and fishermen representatives on their views of the possible HKBCF site locations. Most of the environmental concern groups agreed that a reclamation to the north-east of the Airport would have less environmental impacts than the other options and thus would be worthy of further consideration. Some however expressed objection to reclamation as a matter of principle. The fishermen representatives also expressed their objection to any reclamation for fear that it would affect their fisheries production.

17. We consulted the Islands District Council on the possible options for the location of the HKBCF on 19 September 2007. Some members supported the option of locating the HKBCF at the waters off the north-east of the Airport due to its potential synergy benefits with the Airport and the overall economic benefits to the whole Hong Kong territory. Some members however indicated their preference to locating the HKBCF near San Shek Wan to help boost the local development and economy. Nevertheless, we did not short-list the San Shek Wan option due to their adverse impact on Chinese White Dolphins and their significant adverse noise, air, visual and landscape impacts, including significant hill cutting, removal of woodland with landscape value and clearance of an archaeological site.

18. We consulted the Legislative Council Panel on Transport on 25 April 2008 regarding our plan to submit the funding application for the proposed I&PD study. Upon the request of the Panel on Transport, we have also provided supplementary information on the HZMB economic benefits analysis to the Panel for their discussion on 16 May 2008.

## **ENVIRONMENTAL IMPLICATIONS**

19. The reclamation works, dredging operation, extension of Automated People Mover, and road bridges are designated projects under Schedule 2 of the EIA Ordinance (Cap. 499) and environment permits are required for the construction and operation of these works. We will carry out an EIA study to address the potential environmental impacts of the Project in detail. We will submit the EIA report to the Director of Environmental Protection under the EIA Ordinance for approval and will follow the statutory procedures of making the EIA report available for comment by the public and the Advisory Council on the Environment.

20. The proposed I&PD study and site investigation works will only generate very little construction waste. We will require the consultants to fully consider measures to minimise the generation of construction waste and to reuse/recycle construction waste as much as possible in the future implementation of the construction projects.

## HERITAGE IMPLICATIONS

21. The proposed I&PD study and its associated site investigation works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office. We will investigate in the I&PD study whether the Project will affect any unknown heritage site.

## LAND ACQUISITION

22. The proposed I&PD study and its associated site investigation works do not require any land acquisition.

## BACKGROUND INFORMATION

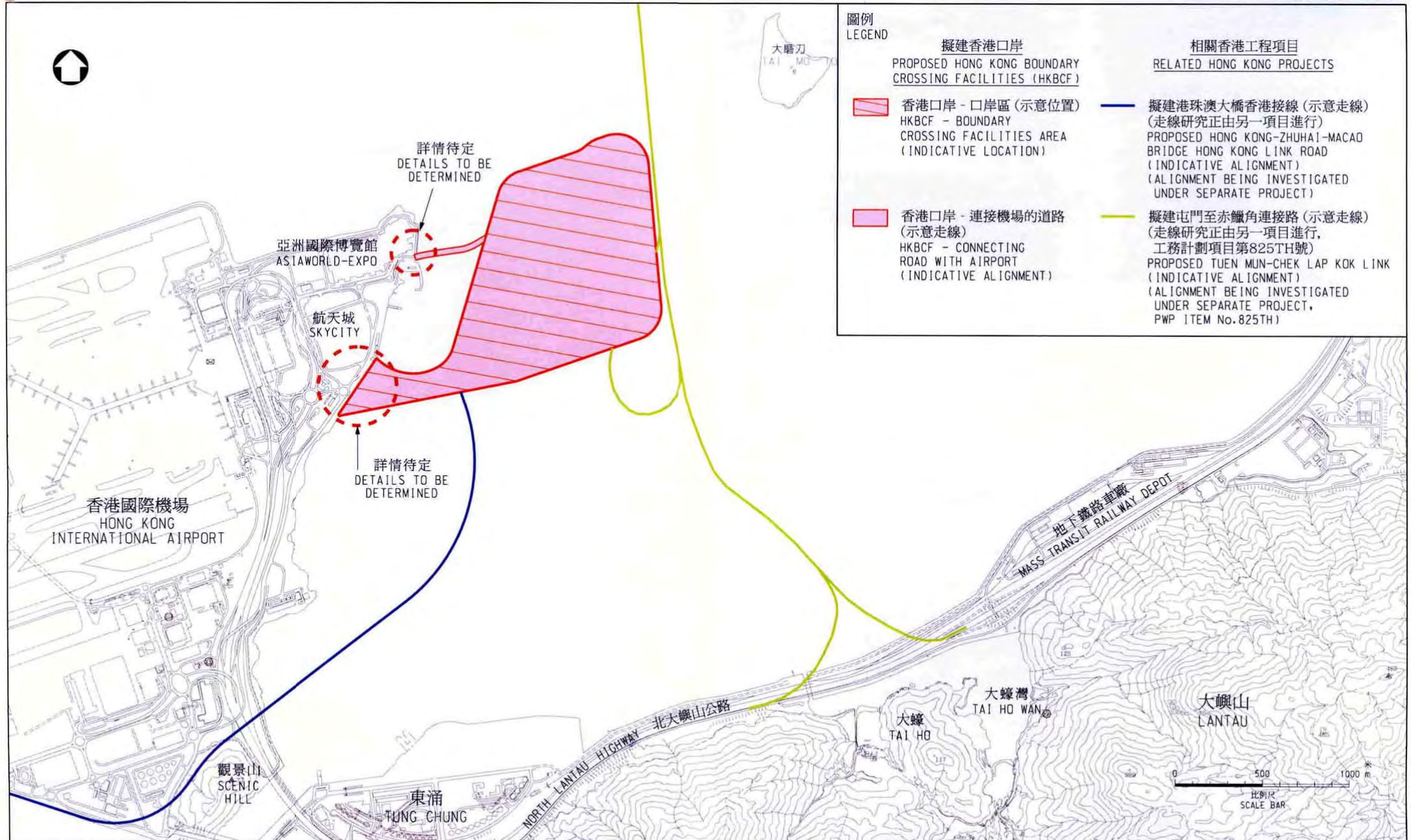
23. In May 2007, we engaged a consultant to undertake the HZMB HKBCF Site Selection Study – Feasibility Study. We charged the total cost of \$3.85 million for the study under the block allocation **Subhead 5101CX** “Civil engineering works, studies and investigations for items in Category D of the Public Works Programme”. The consultant completed the study in March 2008.

24. We included **834TH** in Category B in March 2008.

25. The proposed I&PD study and its associated site investigation works will not involve any tree removal or planting proposals. We will require the consultants to take into consideration the need for the tree preservation during the planning and design stages of the Project. We will also incorporate tree-planting proposals, where possible, in the construction phase.


26. We estimate that the proposed I&PD study and its associated site investigation works will create about 75 jobs (22 for labourers and 53 for professional/technical staff) providing a total employment of about 1 300 man-months.





圖則名稱 drawing title

工務計劃項目第834TH號 - 港珠澳大橋 - 香港口岸  
 PWP ITEM NO. 834TH - HONG KONG-ZHUHAI-MACAO BRIDGE  
 - HONG KONG BOUNDARY CROSSING FACILITIES

設計 designed	SIGNED	繪圖 drawn	SIGNED	圖則編號 drawing no.	比例 scale
K Y HO	25/04/08	Y L SHIU	25/04/08	HZM6834TH-SP0001	1:20000
覆核 checked	SIGNED	批准 approved	SIGNED	© 版權所有 COPYRIGHT RESERVED	
K MA	29/04/08	H C TAM	29/04/08	 <b>HONG KONG</b> 路政署	
港珠澳大橋香港工程管理處 HONG KONG - ZHUHAI - MACAO BRIDGE HONG KONG PROJECT MANAGEMENT OFFICE					

**Enclosure 2 to PWSC(2008-09)10**

**834TH – Hong Kong–Zhuhai–Macao Bridge  
Hong Kong Boundary Crossing Facilities**

**Breakdown of estimates for consultants' fees and site investigation works**

			<b>Estimated man- months</b>	<b>Average MPS* salary point</b>	<b>Multiplier (Note 1)</b>	<b>Estimated fee (\$ million)</b>
<b>Consultants' staff costs</b>						
(a)	Review of the findings of previous studies, and examination of design options	Professional	28	38	2.0	3.2
		Technical	48	14	2.0	1.8
(b)	Impact assessments (environmental, traffic, marine and aviation, etc.)	Professional	153	38	2.0	17.4
		Technical	204	14	2.0	7.7
(c)	Preliminary design for					
	(i) reclamation work	Professional	26	38	2.0	3.0
		Technical	32	14	2.0	1.2
	(ii) civil and building works	Professional	57	38	2.0	6.5
		Technical	70	14	2.0	2.6
(d)	Supervision of site investigation	Professional	10	38	1.6	0.9
		Technical	23	14	1.6	0.7
Total consultants' staff costs						<hr/> 45.0
<b>Out-of-pocket expenses</b>						
<i>(Note 2)</i>						
(a)	Site investigation					<hr/> 29.1
Total						<hr/> 74.1 <hr/>

\* MPS = Master Pay Scale

**Note**

1. A multiplier of 2.0 is applied to the average MPS point to arrive at the full staff costs including the consultants' overheads and profit as the staff will be employed in the consultants' offices. A multiplier of 1.6 is applied to the average MPS point in the case of resident site staff supplied by the consultants. (At 1 April 2007, MPS pt. 38 = \$56,945 per month and MPS pt. 14 = \$18,840 per month).
2. Out-of-pocket expenses are the actual cost to be incurred. The consultants are not entitled to any additional payment for the overheads or profit in respect of these items.
3. The figures given above are based on estimates prepared by the Director of Highways. We will know the actual man-months and fees only after we have selected the consultants through the usual competitive lump-sum fee bid system.