

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 705 - CIVIL ENGINEERING

#### Transport - Roads

#### 739TH - Chok Ko Wan Link Road in North Lantau

Members are invited to recommend to Finance Committee -

- (a) the upgrading of part of **739TH**, entitled "Chok Ko Wan Link Road - Penny's Bay Section" to Category A at an estimated cost of \$241.3 million in money-of-the-day prices; and
- (b) the retention of the remainder of **739TH** in Category B.

### PROBLEM

There is no existing road access to serve the proposed developments<sup>1</sup> in Penny's Bay.

**/PROPOSAL .....**

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<sup>1</sup> The proposed developments include the construction of a Theme Park (Hong Kong Disneyland), hotels, a public water recreation centre, and government, institution or community facilities.

## PROPOSAL

2. The Director of Civil Engineering (DCE), with the support of the Secretary for Transport, proposes to upgrade part of **739TH** to Category A at an estimated cost of \$241.3 million in money-of-the-day (MOD) prices for the construction of the proposed Chok Ko Wan (CKW) Link Road – Penny’s Bay Section.

## PROJECT SCOPE AND NATURE

3. The scope of **739TH** comprises -

- (a) construction of a dual 3-lane CKW Link Road - Pa Tau Kwu Section of about 2.2 kilometres (km) and its associated reclamation works, geotechnical works, drainage works, and electrical and mechanical (E&M) installations;
- (b) construction of a dual 3-lane CKW Link Road - Penny’s Bay Section of about 1.1 km with hard shoulders and associated road and geotechnical works, drainage works and E&M installations;
- (c) landscape softworks and hardworks and associated establishment works; and
- (d) environmental monitoring, audit and mitigation measures for the proposed works.

4. The part of the project we now propose to upgrade to Category A comprises -

- (a) construction of the CKW Link Road - Penny’s Bay Section described in paragraph 3(b) above; and
- (b) associated works described in paragraphs 3(c) and (d) above.

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A site plan showing the proposed works is at Enclosure 1. We intend to commence the proposed works in August 2002 for completion by July 2005.

**/JUSTIFICATION .....**

## JUSTIFICATION

5. The proposed CKW Link Road - Penny's Bay Section is based on the Recommended Outline Development Plan for the Theme Park and Northshore Lantau Development. It will serve an important function of providing the only road access to the proposed developments in Penny's Bay including the Hong Kong Disneyland. The section of the CKW Link Road between Yam O and the roundabout at Road P2 forms part of the road network in the Penny's Bay area and should be in place before the opening of the Hong Kong Disneyland Phase 1 in 2005. To facilitate such opening in 2005, we need to commence the construction works of this section of CKW Link Road in August 2002 to provide the road access for local and tourists to go to the Theme Park which would be a major tourist attraction in Hong Kong.

## FINANCIAL IMPLICATIONS

6. We estimate the cost of the project to be \$241.3 million in MOD prices, made up as follows -

		<b>\$ million</b>	
(a) Roadworks and associated geotechnical works, drainage works and E&M installations		169.8	
(b) Landscaping works		22.8	
(c) Environmental monitoring and mitigation measures		2.1	
(d) Consultants' fees for -		27.7	
(i) construction stage	4.5		
(ii) site staff costs	23.2		
(e) Contingencies		22.9	
	Sub-total	245.3	(in September 2001 Prices)
(f) Provision for price adjustment		(4.0)	
	Total	241.3	(in MOD Prices)
			/Owing .....

Owing to insufficient in-house resources, DCE proposes to employ consultants to supervise construction of the proposed works. A breakdown by man-months of the estimates for consultancy fees is at Enclosure 2.

7. Subject to approval, we will phase the expenditure as follows -

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002-2003	40.6	0.98625	40.0
2003-2004	115.3	0.98378	113.4
2004-2005	53.9	0.98378	53.0
2005-2006	19.7	0.98378	19.4
2006-2007	15.8	0.98378	15.5
	245.3		241.3

8. We have derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period 2002 to 2007. We will tender the proposed works under a re-measurement contract because the quantities of major items such as foundation works, drainage and landscape works cannot be accurately determined at the design stage. The contract will provide for inflation adjustment as the duration of the contract will exceed 21 months.

9. We estimate the annual recurrent expenditure to be \$3.9 million.

## **PUBLIC CONSULTATION**

10. The CKW Link Road project was based on the Recommended Outline Development Plan for the Theme Park and Northshore Lantau Development which was generally supported by the Tsuen Wan District Council (TWDC) and Islands District Council (IsDC) during consultation in March 2000. We presented the proposed roadworks to IsDC on 22 May 2000 and circulated an information paper on the proposed roadworks to TWDC in June 2000. Members of the two District Councils made no comments on the proposal. We then

/presented .....

presented the details of the proposed Penny's Bay Development and land resumption matters to the two District Councils on 25 and 26 September 2000 respectively. Members of the two District Councils expressed no adverse comments on the proposed land resumption for the CKW Link Road – Penny's Bay Section.

11. We gazetted the proposed CKW Link Road and associated road works in North Lantau under the Roads (Works, Use and Compensation) Ordinance on 21 July 2000 and received three objections. One was related to the resumption of land and another was related to the creation of easement and rights affected by the roadworks. The third objection was from the operator of the log ponds at Yam O Wan which is situated outside the limit of the works area of the gazetted scheme. The Chief Executive in Council authorised the proposed road schemes and the notice of authorisation was gazetted on 23 January 2001.

12. We updated the TWDC and IsDC on 26 March 2002 and 8 April 2002 respectively on the progress of the proposed CKW Link Road – Penny's Bay Section. Members of the two District Councils had no objection to the proposed works.

13. We circulated a paper to the Legislative Council Panel of Transport on 26 April 2002. Members noted the proposal and are considering whether they have any questions to raise on the project. Such questions, if any, would be further discussed at a special Panel meeting on 6 May 2002. In the meantime, Members agreed that the project should be submitted to the PWSC for consideration on 8 May 2002.

## **ENVIRONMENTAL IMPLICATIONS**

14. The road project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and an environmental permit is required for the construction and operation of the project. We completed an EIA study in March 2000 under the Northshore Lantau Development Feasibility Study which covered this road project. The EIA study concluded that the proposed works would meet the established environmental standards and legislation after implementation of the recommended mitigation measures during the construction stage. The EIA report was endorsed with conditions by the Advisory Council on the Environment on 17 April 2000 and approved by the Director of Environmental Protection on 28 April 2000 under the EIA Ordinance.

15. All mitigation measures as described in the above EIA report (including their Environmental Monitoring and Audit Manual) will be properly implemented. We have incorporated into the relevant contracts standard measures to control pollution arising during construction. These measures include frequent watering of the site, the provision of wheel-washing facilities to reduce emission of fugitive dust, and the use of silenced construction plant to reduce noise generation. All debris and rubbish on site will also be properly disposed of to avoid entering the water column and causing water quality impacts. Temporary on-site storage of excavated materials will be covered with tarpaulin or similar fabric during rainstorms. Stockpiling of excavated material will be minimized by carefully scheduling the construction programme. The cost of implementing the recommended environmental mitigation measures for the proposed works is estimated to be \$2.1 million and we have included this cost in the overall project estimate.

16. No permanent air or noise mitigation measures are required for the new roads to be constructed under the project in accordance with the findings and recommendations in the EIA report.

17. At the planning and design stages of the project, we have taken due consideration in designing the levels and alignments of the proposed road to minimize the generation of construction and demolition (C&D) materials. To further minimize the generation of C&D materials, we will encourage the contractors to use steel instead of timber in formwork and temporary works.

18. We will require contractors to submit waste management plans (WMPs) for approval. The WMPs will describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste generated from the construction activities, and will include recommended mitigation measures for construction waste management, including designation of areas for segregation and temporary storage of reusable and recyclable materials. We will ensure that the day-to-day operations on site comply with the approved WMPs. We will implement a trip-ticket system to control the proper disposal of C&D materials and will record the reuse, recycling and disposal of C&D materials for monitoring purposes. We estimate that the project will generate about 9,000 cubic metres (m<sup>3</sup>) of C&D materials. Of these, we will reuse about 8,000 m<sup>3</sup> (89%) on site and dispose of 1000 m<sup>3</sup> (11%) at

/landfills. ....

landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$125,000 for this project (based on a notional<sup>2</sup> unit cost of \$125/m<sup>3</sup>).

## LAND ACQUISITION

19. We have acquired about 18.7 hectares of land of former Cheoy Lee Shipyard by voluntary surrender of the shipyard site. We have charged the land acquisition and clearance cost at about \$1,506 million under **Head 701** – Land Acquisition. About 4.6 hectares of land of former Cheoy Lee Shipyard, with acquisition and clearance cost at about \$370 million, was related to the CKW Link Road – Penny’s Bay Section.

## BACKGROUND INFORMATION

20. We upgraded **739TH** to Category B in December 1999.

21. On 12 December 1997, Finance Committee (FC) approved the upgrading of **108AP** to Category A entitled “Northshore Lantau Development Feasibility Study” at an estimated cost of \$62.8 million in MOD prices. We spent \$7.0 million under this study for carrying out an EIA covering the proposed CKW Link Road.

22. On 21 January 2000, FC approved the upgrading of part of **739TH** to Category A as **740TH** entitled “Detailed design for the Chok Ko Wan Link Road in North Lantau” at an estimated cost of \$117.1 million in MOD prices. We commissioned a consultancy in April 2000 and completed the detailed design and site investigation of the CKW Link Road – Penny’s Bay Section in March 2002.

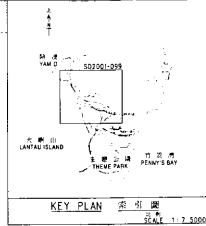
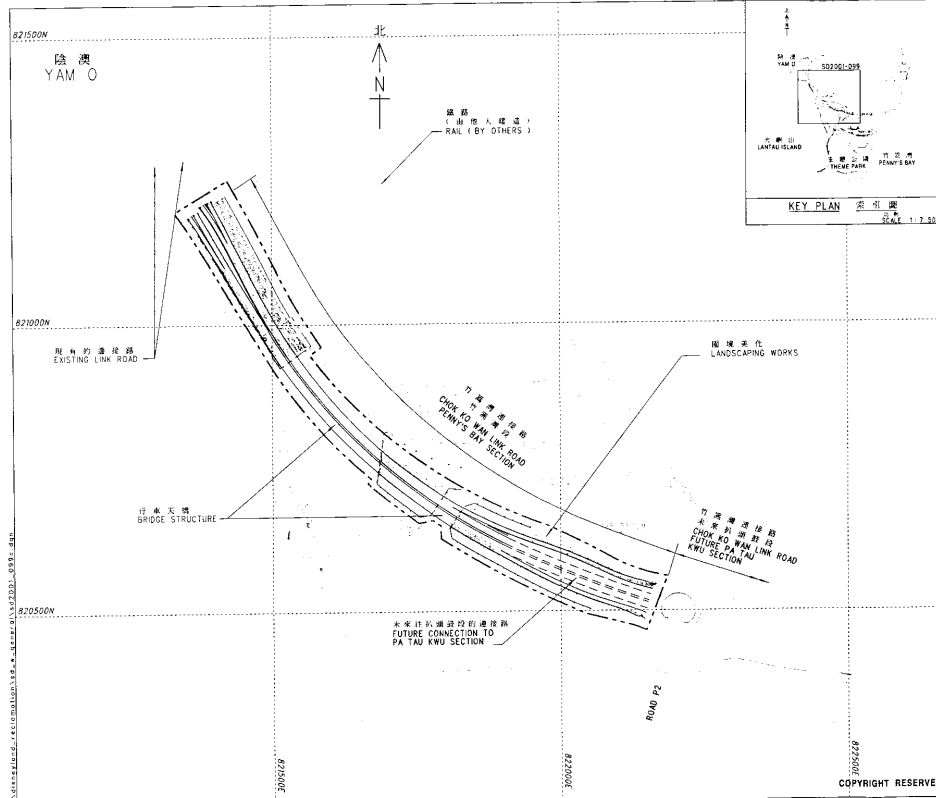
23. We estimate that the project will create some 136 jobs comprising 25 professional/technical staff and 111 labourers, totaling 4 406 man-months.

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 Transport Bureau  
 May

2002

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<sup>2</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 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.



**NOTES**  
1. 所有地籍資料均根據 1980 年大地測量局之測量數據為準。  
ALL CO-ORDINATES REFER TO HONG KONG GEODETIC DATUM (1980) AND ARE IN METRES.

**圖例**  
LEGEND:  
--- 工程範圍  
PROJECT BOUNDARY  
--- 行車天橋  
BRIDGE STRUCTURE  
--- 道路工程  
ROAD WORKS  
--- 園境美化  
LANDSCAPING WORKS

KEY PLAN 港引圖  
比例 1:1,500

**REVISION**

no.	date	description	checked	approved
C 12.5.01		GENERAL REVISION (1 of 1)		(1 of 1)
B 30.4.02		GENERAL REVISION (1 of 1)		(1 of 1)
A 13.4.02		GENERAL REVISION (1 of 1)		(1 of 1)

designed	name	initial	date
drawn			
traced	L. S. TSE	(Signed)	22.3.02
checked	Y. C. NG	(Signed)	22.3.02
approved			
	(Signed)		
	W. S. PANG		
	Senior Engineer		
	date: 27.3.02		
contract no.	CV/2001/10		
file no.			
project no.	5739TH		
project	竹篙灣連接路 竹篙灣段 CHOK KO WAN LINK ROAD PENNY'S BAY SECTION		

drawing no. SD 2001-099C scale 1:5 000

office SPECIAL DUTIES OFFICE

CIVIL ENGINEERING DEPARTMENT HONG KONG

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## Enclosure 2 to PWSC(2002-03)19

### 739TH - Chok Ko Wan Link Road

#### Breakdown of the estimates for consultants' fees

Consultants' staff costs		Estimated man-months	Average MPS* salary point	Multiplier factor	Estimated fee (\$ million)
<b>(a) Consultants' fees for construction stage</b>					
(i) contract administration	Professional	14	38	2.4	2.0
	Technical	26	14	2.4	1.2
(ii) preparation of as-built drawings	Professional	6	38	2.4	0.9
	Technical	8	14	2.4	0.4
<b>(b) Resident site staff</b>	Professional	52	38	1.7	5.3
	Technical	539	14	1.7	17.9
<b>Total consultants' staff costs</b>					<b>27.7</b>

*MPS* = Master Pay Scale

#### Notes

1. A multiplier of 2.4 is applied to the average MPS point to estimate the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. A multiplier factor of 1.7 is applied in the case of site staff supplied by the consultants (At 1.4.2001, MPS pt. 38 = \$60,395 per month, and MPS pt 14 = \$19,510 per month).
2. The above figures are based on the estimates prepared by the Director of Civil Engineering. The Consultancy works in relation to contract administration and provision of resident site staff for this project have been included as optional part of Agreement No. CE68/99 "Infrastructure for Penny's Bay Development – Engineering and Construction" and part of Agreement No. CAO J01 "Landscape Works for Penny's Bay Development". These options will only be exercised subject to Finance Committee's approval for part upgrading of **739TH** to Category A.