

## **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) to upgrade part of **739TH**, entitled “Detailed design for the Chok Ko Wan Link Road in North Lantau” to Category A at an estimated cost of \$117.1 million in money-of-the-day prices; and
- (b) to retain the remainder of **739TH** in Category B.

### **PROBLEM**

There is no alternative external road link to Lantau in case emergency incidents occur on the Lantau Link. There is also no existing road access to serve the proposed developments in North Lantau and Penny’s Bay.

### **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 \$117.1 million in money-of-the-day (MOD) prices to engage consultants to undertake detailed design, prepare tender documents and carry out site investigation for the proposed Chok Ko Wan (CKW) Link Road.

**/ PROJECT .....**

## PROJECT SCOPE AND NATURE

3. The scope of works for **739TH** includes -
- (a) construction of a dual 3-lane carriageway with hard shoulders of about 3.3 km in length including connection with the North Lantau Highway at Yam O, associated site formation / foundation works and slope works;
  - (b) provision of connection to the proposed Road P2;
  - (c) provision of connection to the proposed Route 10 - North Lantau to Yuen Long Highway (R10-NLYLH);
  - (d) construction of associated civil, structural, geotechnical, drainage and landscaping works, and associated facilities including street lighting, traffic aids, traffic control and surveillance system, and E&M installation in connection with the highway;
  - (e) dredging and reclamation for the formation of about 13 hectares of land; and
  - (f) environmental mitigation measures.
4. The part of the project we now propose to upgrade to Category A comprises -
- (a) detailed design of all the proposed works described in paragraph 3(a) to (f);
  - (b) preparation of pre-qualification and tender documents, and assessment of tenders; and
  - (c) associated site investigation and supervision.

A site plan is at Enclosure 1 for Members' reference.

**/ JUSTIFICATION .....**

**JUSTIFICATION**

5. At present the only external road access for Lantau and the Chek Lap Kok Airport is the Lantau Link. In the event that the Lantau Link is closed, there will be no road access between Lantau and the rest of the territory. This is not satisfactory having regard to the strategic importance of the Airport. We are therefore planning the proposed R10-NLYLH and the CKW Link Road to provide an alternative road access to link up Lantau with the rest of the territory. The CKW Link Road is an integral part of this alternative road link which connects the proposed R10-NLYLH with the existing North Lantau Highway.

6. The detailed design work of R10-NLYLH is scheduled to commence in February 2000. It is desirable for the detailed design of CKW Link Road to commence around the same time so that the interface issues between these two projects could be co-ordinated effectively and efficiently.

7. In addition to providing an alternative route to Lantau, the proposed CKW Link Road will also serve the important function of providing access to the future developments in North Lantau and Penny's Bay including the proposed Hong Kong Disneyland. To facilitate the opening of the Hong Kong Disneyland scheduled in 2005, we need to start the construction of the Penny's Bay Section of the CKW Link Road by November 2002.

8. Having regard to the above considerations, DCE needs to commence the detailed design of CKW Link Road in April 2000 for completion in July 2002.

**FINANCIAL IMPLICATIONS**

9. We estimate the cost of this part of the project to be \$117.1 million in MOD prices (see paragraph 10 below) made up as follows -

	<b>\$million</b>
(a) Consultants' fees for	66.9
(i) planning and supervision of site investigation and tests, and interpretation of results	2.1

/ (ii) .....

	<b>\$million</b>	
(ii) detailed design	62.5	
(iii) preparation of pre-qualification and tender documents, and assessment of tenders	2.3	
(b) Associated site investigation	30.0	
(c) Contingencies	9.6	
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Sub-total	106.5	(at December 1998 prices)
(d) Provisions for price adjustment	10.6	
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Total	117.1	(in MOD prices)
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A breakdown by man-months of the estimate for consultants' fees is at Enclosure 2.

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

<b>Year</b>	<b>\$ million (Dec 1998)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
2000 – 2001	43.0	1.05814	45.5
2001 – 2002	45.0	1.11104	50.0
2002 – 2003	18.5	1.16660	21.6
	<hr/>		<hr/>
	106.5		117.1
	<hr/>		<hr/>

11. We have derived the MOD estimate on the basis of Government's latest forecast of trend labour and construction prices for the period 2000 to 2003. We will employ consultants on a lump sum basis with provision for price fluctuation because the duration of the consultancy will exceed 12 months. The consultants will supervise the site investigation works under contract to be awarded through the normal competitive tendering process. The site investigation contract will be awarded on a re-measurement basis due to the uncertainty of the ground conditions and will not provide for price fluctuation as the duration of the contract is less than 21 months.

12. The proposed consultancy and site investigation works have no additional annually recurrent financial implications.

## **PUBLIC CONSULTATION**

13. CKW Link Road is an integral part of the alternative road link to Lantau and is a major transport component of the Penny's Bay reclamation proposed under the Northshore Lantau Development Feasibility Study. We briefed the Islands and the Tsuen Wan Provisional District Boards on 4 and 5 August 1999 respectively on the preliminary findings and recommendations of the Northshore Lantau Development Feasibility Study. Members of the Boards had no dissenting comments on the proposed CKW Link Road.

## **ENVIRONMENTAL IMPLICATIONS**

14. The proposed detailed design, preparation of tender documents and site investigation will not give rise to any adverse environmental implications. We will control the short-term impacts during site investigation works to within established standards and guidelines.

15. The proposed roadworks project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance and is now being studied as part of the Northshore Lantau Development Feasibility Study. We are in the process of finalising the EIA of the project to identify, predict and assess the potential environmental impacts arising from the project. We will submit the EIA report for the Director of Environmental Protection's approval under the EIA Ordinance and will follow the statutory procedures of making the EIA report available for comments by the public and the Advisory Council on the Environment. We shall obtain an environmental permit for the project prior to the commencement of construction.

**/ LAND .....**

**LAND ACQUISITION**

16. The proposed detailed design and site investigation do not require any land acquisition.

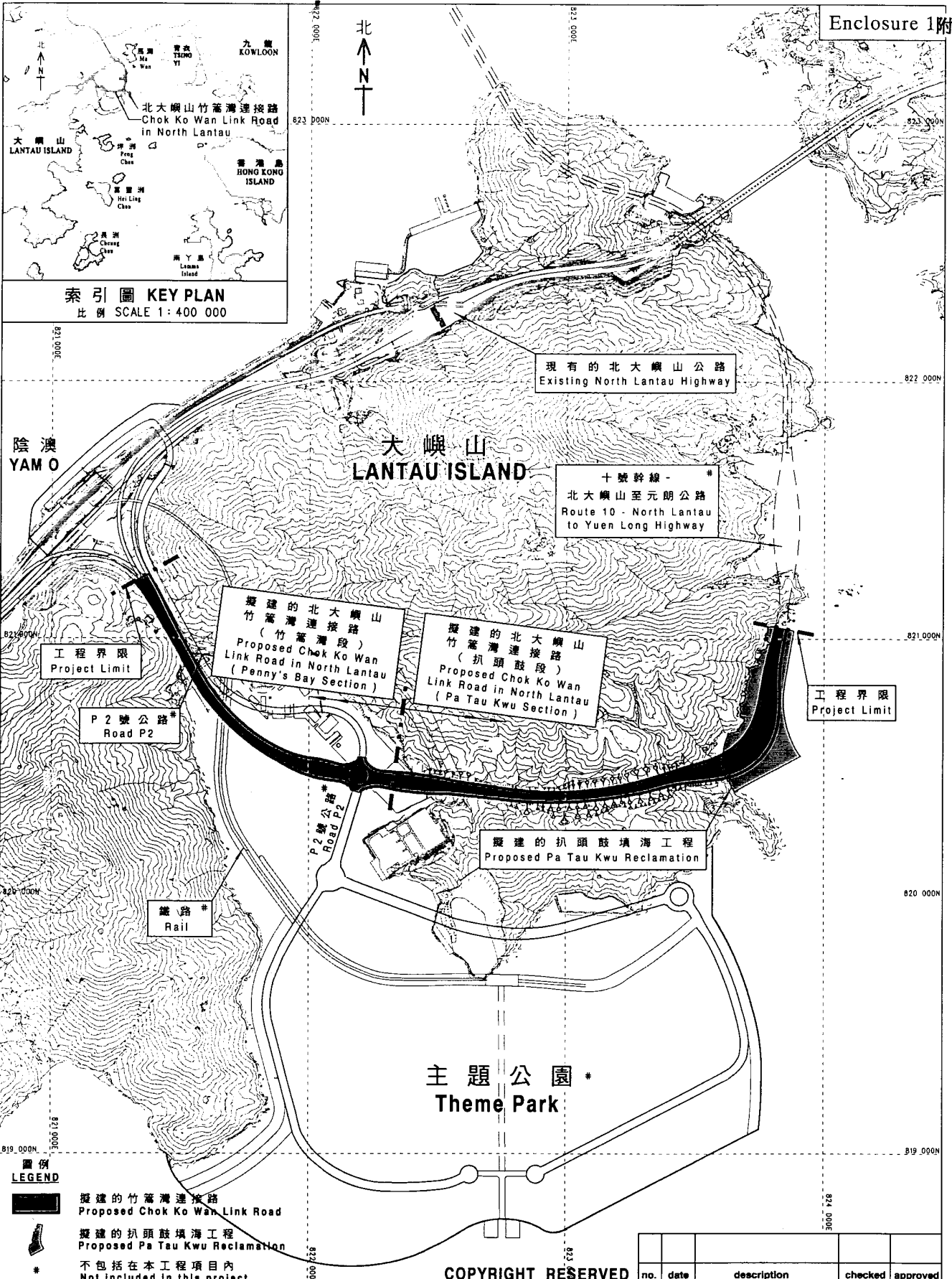
**BACKGROUND INFORMATION**

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

18. We plan to commence the consultancy assignment in April 2000 for completion of detailed design and preparation of tender documents by July 2002. We plan to commence construction works in November 2002 for completion of the Penny's Bay Section of the CKW Link Road in 2005 before the opening of the Hong Kong Disneyland. The whole length of CKW Link Road will be completed in 2007 to tie in with the programme of the proposed R10-NLYLH.

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Transport Bureau  
December 1999



**圖例 LEGEND**

	擬建的竹篙灣連接路 Proposed Chok Ko Wan Link Road
	擬建的扒頭鼓填海工程 Proposed Pa Tau Kwu Reclamation
*	不包括在本工程項目內 Not included in this project

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<b>圖則名稱 title</b>	擬建的北大嶼山竹篙灣連接路 PROPOSED CHOK KO WAN LINK ROAD IN NORTH LANTAU
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	name	initial	date
designed			
drawn	L. S. TSE	<i>L. S. Tse</i>	8.12.99
checked	K. K. CHU	<i>K. K. Chu</i>	8.12.99
approved	W. L. CHAN	<i>W. L. Chan</i>	8.12.99
office	SPECIAL DUTIES OFFICE		

no.	date	description	checked	approved

<b>圖號 drawing no.</b>	PD 2007-037
<b>比例 scale</b>	1: 20 000

**CIVIL ENGINEERING DEPARTMENT HONG KONG**

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**Enclosure 2 to PWSC(1999-2000)79**

**739TH - Chok Ko Wan Link Road**

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

<b>Consultants' staff costs</b>			<b>Estimated man months</b>	<b>Average MPS* salary point</b>	<b>Multiplier factor</b>	<b>Estimated fee (\$ million)</b>
(a)	Planning and supervision of site investigation and tests, and interpretation of results	Professional	8.5	40	2.4	1.3
		Technical	16.5	16	2.4	0.8
(b)	Detailed design of -					
(i)	Earthworks and reclamation	Professional	71.0	40	2.4	10.7
		Technical	138.0	16	2.4	7.0
(ii)	Structural engineering and bridge works	Professional	154.4	40	2.4	23.3
		Technical	303.6	16	2.4	15.3
(iii)	Road works and drainage works	Professional	6.9	40	2.4	1.0
		Technical	13.8	16	2.4	0.7
(iv)	Traffic control and surveillance system	Professional	2.3	40	2.4	0.4
		Technical	4.6	16	2.4	0.2
(v)	Gantry works	Professional	1.7	40	2.4	0.3
		Technical	3.5	16	2.4	0.2
(vi)	Electrical and mechanical installation	Professional	6.9	40	2.4	1.0
		Technical	13.8	16	2.4	0.7
(vii)	Landscaping works	Professional	6.9	40	2.4	1.0
		Technical	13.8	16	2.4	0.7
(c)	Preparation of pre-qualification and tender documents, and assessment of tenders	Professional	9.2	40	2.4	1.4
		Technical	18.4	16	2.4	0.9
Total consultants' staff costs						66.9



\* MPS = Master Pay Scale

**Notes**

1. A multiplier factor of 2.4 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 (at 1.4.98, MPS pt. 40 = \$62,780 p.m., and MPS pt. 16 = \$21,010 p.m.). A multiplier factor of 1.7 is applied in the case of site staff supplied by the consultants.
  
2. The figures given above are based on estimates prepared by the Director of Civil Engineering. We will only know the actual man months and actual fees when we have selected the consultants through the usual competitive lump sum fee bid system.