

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT**

#### **New Territories West Development**

#### **Transport - Roads**

#### **391TH - Completion of Texaco Road/Tsuen Wan By-pass interchange and improvements to Texaco Road, phase I**

Members are invited to recommend to Finance Committee an increase in the approved project estimate of **391TH** from \$170.5 million by \$33 million to \$203.5 million in money-of-the-day prices.

### **PROBLEM**

The approved project estimate of **391TH** is insufficient to cover the cost of works under the project.

### **PROPOSAL**

2. The Director of Territory Development (DTD), with the support of the Secretary for Transport, proposes to increase the approved project estimate of **391TH** from \$170.5 million by \$33 million to \$203.5 million in money-of-the-day (MOD) prices.

### **PROJECT SCOPE AND NATURE**

3. The project **391TH** was planned to improve the traffic flow in the densely populated residential and industrial areas at the interface of Kwai Chung and Tsuen Wan. The scope of works comprises -

/(a) .....

- (a) construction of a single 2-lane flyover running along the existing Texaco Road from its grade-separated intersection at Castle Peak Road/Texaco Road to the junction of Texaco Road and Kwai Fuk Road;
- (b) widening of Texaco Road;
- (c) realignment of a section of Kwai Fuk Road;
- (d) provision of a footbridge system at the junction of Yeung Uk Road and Texaco Road; and
- (e) geotechnical work required in connection with Kwai Fuk Road realignment and Texaco Road widening.

A site plan is at Enclosure 1.

## JUSTIFICATION

4. We started the works under **391TH** in April 1989 and completed the project in April 1993. On 27 June 1997, the contractor for the works served a Notice of Arbitration in which he referred a number of unsettled disputes to arbitration. On the first stage of the arbitration proceedings on five of the more straightforward items under dispute, the arbitrator found three cases<sup>1</sup> under dispute in favour of and two against the Government. Of the latter two cases, one related to an omitted item for insurance of the works and the second related to an omitted item for providing temporary drainage at Tai Wo Hau (TWH) departmental quarters. We claimed that the relevant works had been included in the contract. However, the contractor contended that he was obliged by the contract to execute a policy of insurance for the works, and to provide temporary facilities to maintain utilities to TWH departmental quarters. He claimed that there should have been, but were not, provisions in the contract entitling him to payment for these works.

5. Following completion of the first stage of the arbitration proceedings, we made a detailed assessment of the remaining 16 outstanding disputes. These disputes are of a more difficult and complex nature involving

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<sup>1</sup> The three cases the arbitrator found in favour of the Government related to the inspection scaffolding for examination of exposed slope faces, the concrete ring lining to the caissons at TWH Estate and the rock fall fence at TWH departmental quarters.

claimed sum several times higher than the proposed settlement sum. Taking into account the risk of Government losing some of these disputes and the legal costs involved in proceeding further with the arbitration, we consider that it is in Government's interest to settle the disputes now. A thorough analysis and review of the disputes led us to the conclusion that the contractor is entitled to additional payments on the following three main headings -

- (a) re-measurement under excavation of rock (blasting not permitted) items;
- (b) additional costs arising from disruption to geotechnical works; and
- (c) prolongation costs arising from the extended contract period.

#### **Re-measurement under excavation of rock (blasting not permitted) items**

6. We adopted a re-measurement method of payment for rock excavation. Under the contract, there were items covering excavation either using blasting or non-blasting methods, with the latter being significantly more expensive. Under the terms of the contract, blasting was permitted subject to site constraints and the permission of the Commissioner for Mines. However, some parts of the rock slopes are immediately adjacent to the busy Texaco Road, with high-rise residential blocks on the opposite side of the carriageway. Although rock excavation by blasting was not specifically prohibited under the terms of the contract, the contractor carried out the rock excavation using the non-blasting method whereas the Engineer for the contract only certified payment for rock excavation carried out by means of blasting. Taking into account public safety, we consider that the contractor's excavation of rock using non-blasting methods was appropriate under the circumstances and we believe he should be paid accordingly.

#### **Disruption to geotechnical works**

7. The widening of Texaco Road and the realignment of Kwai Fuk Road involved extensive rock excavations and associated slope stabilisation could only be carried out progressively as the slope faces were exposed. The Engineer could only inspect the rock joints and slope conditions of a section of the excavation and determine the required slope treatment works as the slope face

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became exposed. However, before instructing the contractor to carry out the slope treatment works, we need to submit the details of slope stabilisation works for each section to the Geotechnical Engineering Office for approval. In some complicated cases, it took longer than anticipated to gain approval for these works, and hence the instructions were issued some time after the slopes were inspected.

8. The contractor claimed that he was disrupted in carrying out the slope treatment works as a consequence of delayed instructions. We consider that, depending on the time of issuing the individual site instructions, there could have been some disruption to the progress of the works. As these slope treatment works were not executed under the same conditions as originally envisaged when they were originally priced in the contract, the additional costs arising from carrying out these works should be borne by the Government.

#### **Extended Contract Period**

9. The project included substantial upgrading works along Texaco Road, together with road widening works to accommodate the construction of a flyover along the centre of Texaco Road. Heavy traffic flow through Texaco Road, which connects Tsuen Tsing Interchange to the south to Tsuen Kam Interchange to the north, necessitated extensive traffic diversion schemes and corresponding staging of the works. Restricted by adjacent residential blocks, the widening of the north bound carriageway of Texaco Road had to be accommodated within the existing footpath. Major difficulty was encountered due to inaccurate records of the underground utility installations. The accuracy of these records was poor as most of the utilities were laid more than two or three decades ago when standards of record keeping were less sophisticated. The existing utilities in the area were very complex, and a comprehensive pre-contract underground investigation on site to locate all the utilities was not practical. Detailed investigation works in the heavily trafficked roads would have caused disproportionate inconvenience and disruption to the public even before the permanent works started. This would be unacceptable to local residents.

10. As a result, we could only plan for the diversion of utilities after the contractor had opened up the roads. It was then discovered that the space available in the north bound carriageway between the building foundations and the flyover was insufficient for diverting the existing utilities and laying of the required new utilities. To solve the problem, we re-designed the drainage system. A substantial number of unscheduled utility diversions were also required.

11. The utility companies took longer than expected to complete the diversion works. As a result, a section of the contract was not substantially completed until April 1992, instead of October 1991 as originally envisaged. As the unscheduled utility diversion works could not have been allowed for at the time of tender, all additional overhead costs due to the extended contract period or additional works arising from the utility companies' diversion works are not avoidable.

12. In view of the complexity of the disputes involved, continued arbitration to resolve them would be a very expensive and time consuming process. In these circumstances, based on legal advice, we consider that settling the disputes with the contractor through negotiation represents the most cost effective solution to the Government. It is also fair and reasonable to reimburse the contractor for the additional works carried out. Payment will be made in accordance with the terms of a Supplementary Agreement under which the contractor will agree to drop all arbitration proceedings and further claims against Government.

13. Following a review of the financial position of the project, DTD considers it necessary to increase the approved project estimate of **391TH** from \$170.5 million by \$33 million to \$203.5 million in MOD prices in order to settle the payments relating to the arbitration award and the outstanding disputes. A summary of the proposed increase of \$33 million is as follows -

<b>Factor</b>	<b>Amount (\$ million)</b>	<b>% of the total increased amount</b>
(a) Re-measurement under excavation of rock (blasting not permitted) items	20.2	61.2%
(b) Additional costs arising from disruption to geotechnical works	3.0	9.0%
(c) Prolongation costs arising from extended contract period	6.0	18.2%
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<b>Factor</b>	<b>Amount (\$ million)</b>	<b>% of the total increased amount</b>
(d) Arbitration award (first stage)	2.0	6.1%
(e) Consultants' fees	2.0	6.1%
(f) Contingencies	(0.2)	(0.6%)
Total	<u>33.0</u>	<u>100.0%</u> (in MOD prices)

14. A comparison of the cost breakdowns of the approved and the revised project estimates in MOD prices, together with reasons leading to the proposed increase in the approved project estimate, are set out at Enclosure 2.

#### **FINANCIAL IMPLICATIONS**

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

<b>Year</b>	<b>\$ million (MOD)</b>
Up to 31 March 2000	170.0
2000 - 01	33.5
Total	<u>203.5</u>

16. The proposed increase in the approved project estimate will not give rise to any additional recurrent expenditure.

#### **PUBLIC CONSULTATION**

17. As we have completed the works, public consultation is unnecessary.

/ENVIRONMENTAL .....

## **ENVIRONMENTAL IMPLICATIONS**

18. The proposed increase in the approved project estimate does not have any additional environmental implications. As the works are completed, there will not be any generation of construction or demolition material.

## **LAND ACQUISITION**

19. The proposed increase in the approved project estimate does not require any further land acquisition.

## **BACKGROUND INFORMATION**

20. In June 1988, Finance Committee (FC) approved the upgrading of **391TH** to Category A at an estimated cost of \$138 million for the phase I improvement works to Texaco Road to accommodate the anticipated increase in traffic. We started the works in April 1989 and substantially completed the works in April 1993.

21. In December 1991, FC approved an increase in the approved project estimate from \$138 million by \$14 million to \$152 million to cover price fluctuation payments, the costs for additional roadworks and watermain diversions and the increase in the cost of rock excavation works.

22. In September 1992, the Secretary for the Treasury approved under delegated authority an increase in the approved project estimate from \$152 million by \$7 million to \$159 million to meet price fluctuation payments, to cater for additional road, drainage, slope and site formation works based on actual measurement on site, and to include the reprovisioning of a police vehicle detention compound affected by additional roadworks and the provision of traffic signals.

23. In January 1993, FC approved a further increase in the approved project estimate from \$159 million by \$9.5 million to \$168.5 million to meet price fluctuation payments, and to cater for additional quantities of superstructure and caisson works and re-assessment of earthworks and associated geotechnical slope protective work quantities upon final measurement and survey on site.

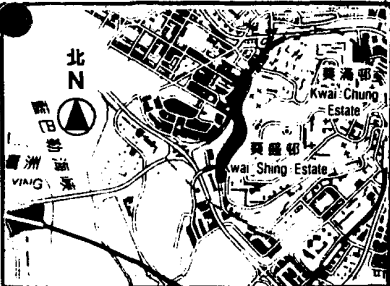
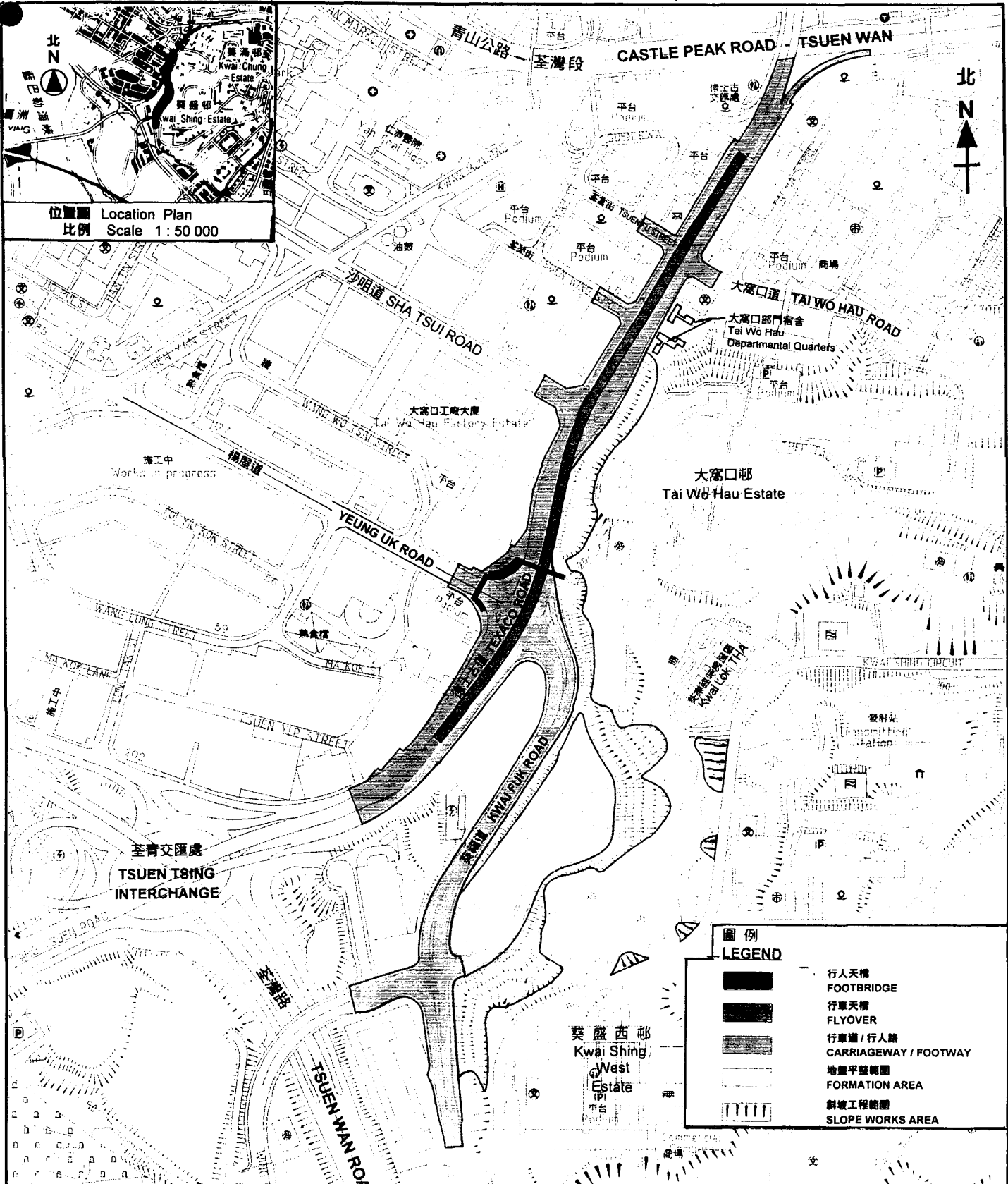
24. In January 1997, the Secretary for the Treasury approved under delegated authority a further increase in the approved project estimate from \$168.5 million by \$2.0 million to \$170.5 million in MOD prices to cover the overhead costs incurred by the contractor due to an extension of the contract period.

25. As we have completed the works, the proposed increase in the approved project estimate will not create any new jobs.

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Transport Bureau  
May 2000





位置圖 Location Plan  
比例 Scale 1 : 50 000

圖例 LEGEND	
	行人天橋 FOOTBRIDGE
	行車天橋 FLYOVER
	行車道 / 行人路 CARRIAGEWAY / FOOTWAY
	地盤平整範圍 FORMATION AREA
	斜坡工程範圍 SLOPE WORKS AREA

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
二〇〇〇年至二〇〇一年度工務小組委員會文件 PWSC SUBMISSION 2000 - 2001				
修訂 REVISION				
圖則名稱 drawing title	繪圖 drawn	簽署 Initial	日期 date	項目編號 Item no.
德士古道/荃灣繞道交匯處完成階段工程 及德士古道改善工程第一期 COMPLETION OF TEXACO ROAD/ TSUEN WAN BYPASS INTERCHANGE AND IMPROVEMENTS TO TEXACO ROAD -- PHASE I	L.S. CHEUNG	<i>Lee</i>	12.5.2000	391TH
	核對 checked	簽署 Initial	日期 date	比例 scale
	C.T. TSE	<i>ct</i>	12.5.2000	1 : 5 000
核准 approved	簽署 Initial	日期 date	圖則編號 drawing no.	拓展署 TERRITORY DEVELOPMENT DEPARTMENT
C.J. CHIVERS	<i>CJ</i>	12.5.2000	NTW 1347	

**391TH - Completion of Texaco Road/Tsuen Wan By-pass interchange and improvements to Texaco Road, phase I**

A comparison of the approved and the revised project estimate in MOD prices is as follows -

		<b>Approved Estimate</b>	<b>Revised Estimate</b>	<b>Difference</b>
<b>\$ million (in MOD prices)</b>				
(a)	Road and drainage works	39.5	45.5	6.0
(b)	Flyover and footbridge	38.8	38.8	0.0
(c)	Slope works and site formation	69.6	92.8	23.2
(d)	Landscaping	5.5	5.5	0.0
(e)	Street lighting	1.0	1.0	0.0
(f)	Reprovisioning of a police vehicle detention compound	1.3	1.3	0.0
(g)	Traffic signals	0.5	0.5	0.0
(h)	Arbitration award	-	2.0	2.0
(i)	Consultants' fees	2.1	4.1	2.0
(j)	Site staff costs	12.0	12.0	0.0
(k)	Contingencies	0.2	0.0	(0.2)
<b>Total</b>		<u>170.5</u>	<u>203.5</u>	<u>33.0</u>

2. **As regards (a) (road and drainage works)**, the increase of \$6 million is to cover the additional overhead costs due to the extended contract period.

3. **As regards (c) (slope works and site formation)**, the increase of \$23.2 million is to cover the re-measurement under excavation of rock (blasting not permitted) items, and disruption to geotechnical works.

4. **As regards (h) (arbitration award)**, \$2 million is to cover the arbitration awarded in favour of the contractor in respect of omitted items.

5. **As regards (i) (consultants' fees)**, the increase of \$2 million is to cover the additional services of the consultants to handle the arbitration proceedings.

6. **As regards (k) (contingencies)**, this has been reduced to zero as the final accounts for the works have been finalised.