

For discussion  
on 3 November 1999

PWSC(1999-2000)69

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

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

**New Territories West Development**

**Transport - Roads**

**696TH - Construction of roads and drains to serve the housing development  
in area 56, Tuen Mun**

Members are invited to recommend to Finance Committee the upgrading of **696TH** to Category A, at an estimated cost of \$165.0 million in money-of-the-day prices.

### **PROBLEM**

The existing So Kwun Wat Road does not have sufficient capacity by 2002 to cope with future traffic demand generated from the housing development in area 56, Tuen Mun. We also need new drains and sewers to serve the proposed housing development there.

### **PROPOSAL**

2. The Director of Territory Development (DTD), with the support of the Secretary for Planning, Environment and Lands, proposes to upgrade **696TH** to Category A at an estimated cost of \$165.0 million in money-of-the-day (MOD) prices for the widening and extension of So Kwun Wat Road and construction of roads, stormwater drains and sewers to serve the housing development in area 56, Tuen Mun.

**/PROJECT .....**

## **PROJECT SCOPE AND NATURE**

3. The scope of the project comprises -
- (a) widening of parts of So Kwun Wat Road (500 metres), Road B1 (250 metres) and Road L56A (150 metres) in areas 55 and 56 of Tuen Mun, from a two-lane carriageway to a 14.6-metre wide four-lane carriageway;
  - (b) extension of Road L56A (a 300-metre long, 14.6-metre wide four-lane carriageway);
  - (c) construction of Road L56B (a 500-metre long, 7.3-metre wide two-lane carriageway);
  - (d) construction of Road L55C (a 70-metre long, 10.3-metre wide two-lane carriageway);
  - (e) construction of a 13.25-metre wide vehicular underpass through Tuen Mun Road;
  - (f) construction of box culverts, stormwater drains and sewers;
  - (g) landscaping works;
  - (h) environmental mitigation measures including the provision of planters as noise barriers and window insulation with air conditioners for existing premises affected by Road B1; and
  - (i) an archaeological survey at the main archaeological deposit area south of Tuen Mun Road.

Construction is scheduled to start in April 2000 for completion in October 2002. A plan showing the proposed works is at the Enclosure.

## **JUSTIFICATION**

4. Tuen Mun area 56 is earmarked for private sector participation scheme (PSPS) development, comprehensive development areas and educational uses. At present, access to area 56 is by So Kwun Wat Road from Castle Peak

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Road near Kar Wo Lei through Tuen Mun Road via a vehicular underpass. The existing So Kwun Wat Road is a single carriageway with two lanes. In 1996, the

Director of Housing engaged consultants to conduct a study on the Traffic and Environmental Impacts in respect of the So Kwun Wat development. The study, which included a traffic impact assessment report, identified the need for the road improvement schemes described in paragraph 3(a) to 3(e) above to cater for the increased population resulting from the planned development in area 56. According to the study, the peak hour traffic flow along So Kwun Wat in 2002 and 2011 will be about 1300 passenger car units per hour (PCU) and 1800 PCU respectively in each direction. Based on such forecast, we estimate that So Kwun Wat Road will not be able to cope with the additional traffic generated from the planned development. Therefore, we need to widen the road to a single four-lane carriageway to meet the anticipated traffic demand. The projected volume/capacity (V/C) ratios<sup>1</sup> of So Kwun Wat Road with and without the proposed widening works are as follows -

	Without widening works	With widening works
1996	0.36	-
2002	1.63	0.54
2011	2.25	0.75

5. In conjunction with the road improvement works at So Kwun Wat Road, we also need to construct an underpass through Tuen Mun Road for the east bound traffic of So Kwun Wat Road while the existing underpass will be used by the west bound traffic.

6. We plan to develop the proposed PSPS site to provide 4 900 flats for accommodation of 14 700 persons in phases between November 2002 and February 2003. To tie in with the PSPS development, we need to commence construction in April 2000 for completion in October 2002.

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7. There is no sewerage system serving the future PSPS development in area 56 of Tuen Mun. We need to provide sewers along So Kwun Wat Road to

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<sup>1</sup> The capacity here refers to the design capacity of the road. A V/C ratio equal to or less than 1.0 means that the road has sufficient capacity to cope with the volume of vehicular traffic under consideration. A V/C ratio above 1.0 indicates the onset of mild congestion; above 1.2 indicates more serious congestion with traffic speeds progressively deteriorating with further increase in traffic.

convey the sewage from the PSPS site to the trunk sewer along Castle Peak Road for treatment at the Tuen Mun Pillar Point Sewage Treatment Works.

8. We have identified a site within the project area as having potential archaeological value. Our preliminary investigation has shown that the site may contain remains from the neolithic period and the remains can be preserved by conducting an archaeological survey prior to the construction works. The survey includes large scale rescue excavation to salvage all the materials with archaeological value at the main archaeological deposit area south of Tuen Mun Road. An archaeological investigation in the project area north of Tuen Mun Road has been conducted to assess its archaeological value. The result of the investigation confirms that large scale rescue excavation within the project area north of Tuen Mun Road will not be required.

## FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$165.0 million in MOD prices (see paragraph 10 below), made up as follows -

	<b>\$ million</b>	
(a) Roadworks	54.5	
(b) Vehicular underpass	26.0	
(c) Box culvert, drains and sewers	43.0	
(d) Environmental mitigation measures	6.0	
(e) Landscaping works	5.5	
(f) Archaeological survey	2.0	
(g) Contingencies	14.0	
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Sub-total	151.0	(at December 1998 prices)
(h) Provision for price adjustment	14.0	
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Total	165.0	(in MOD prices)
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10. Subject to approval, we will phase expenditure as follows -

### Price

Year	\$ million (Dec 1998)	adjustment factor	\$ million (MOD)
2000 – 2001	62.0	1.06217	65.9
2001 – 2002	60.0	1.09934	66.0
2002 – 2003	25.0	1.13782	28.4
2003 – 2004	4.0	1.17765	4.7
	151.0		165.0

11. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices over the period between 2000 and 2004. We will tender the proposed works under a lump-sum contract because we can clearly define the scope of works in advance. The contract will provide for inflation adjustments because the construction period will exceed 21 months.

12. We estimate the annually recurrent expenditure to be \$1.6 million.

## **PUBLIC CONSULTATION**

13. We consulted the Environmental Improvement and District Development Committee of the Tuen Mun Provisional District Board on 12 December 1997. Members supported the proposed works.

14. We gazetted the proposed roadworks under the Roads (Works, Use and Compensation) Ordinance on 17 April 1998 and received 31 objections. The objectors queried the need to construct the new road. They also claimed that there was insufficient time for them to move and the clearance would result in unacceptable hardship. We subsequently explained to the objectors the need for the proposed new roads, the phasing of the whole clearance procedure, and the compensation they would be entitled to. Eventually, all of them withdrew their objections and the Secretary for Transport authorised the proposed roadworks on 29 January 1999.

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15. We gazetted the proposed sewerage works under the Roads (Works, Use and Compensation) Ordinance on 17 April 1998 and received no objection. The Director of Environmental Protection authorized the proposed works on 29 January 1999.

## **ENVIRONMENTAL IMPLICATIONS**

16. The project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and requires an environmental permit for the construction and operation of the project. In March 1998, we completed an Environmental Impact Assessment study for the project which was vetted by the Director of Environmental Protection. The study identified long term noise impact arising from the project and recommended measures to mitigate the impact to within established standards and guidelines. The mitigation measures include direct measure involving construction of 0.8-metre high roadside planter as noise barriers (\$5.3 million) and indirect measures involving provision of appropriate window insulation and air conditioners to the existing premises affected by Road B1 (\$0.7 million). We will implement these measures at an estimated cost of \$6 million. We have included this cost in the overall project estimate.

17. For short term construction impact, we will incorporate relevant clauses in the works contract to control noise, dust and site run-off nuisances to within established standards and guidelines.

## **LAND ACQUISITION**

18. We will resume about 1.4 hectares of agricultural land and 400 square metres of building land, which will affect 48 households involving 135 persons. All affected households are satisfied with our rehousing arrangement and the Director of Housing will re-house eligible cleartees in public housing in accordance with established policy. We will charge the cost of land acquisition and clearance, estimated at \$72 million, to Head 701 – Land Acquisition.

## **BACKGROUND INFORMATION**

19. We upgraded **696TH** to Category B in September 1996.

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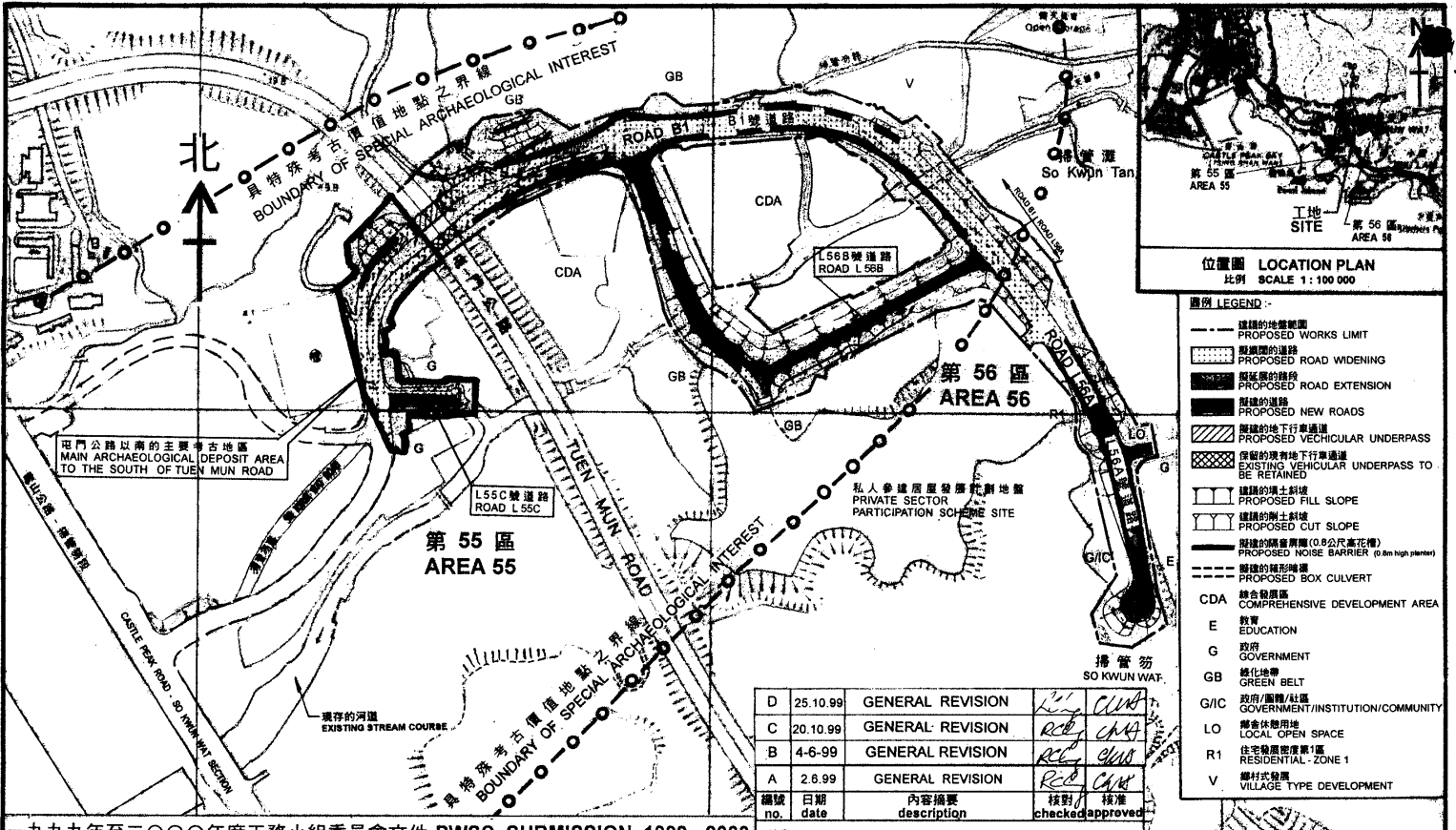
20. We engaged consultants to undertake the EIA study of the project and charged the cost of \$3 million to the block allocation **Subhead 7100CX** “New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme”. The Director of Civil Engineering (DCE) has completed the detailed design and drawings for the proposed works using in-house

resources. We plan to entrust DCE to carry out the construction works, scheduled to start in April 2000 for completion in October 2002.

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Planning, Environment and Lands Bureau  
October 1999

(TH696-05.DOC)



位置圖 LOCATION PLAN  
比例 SCALE 1:100 000

- 圖例 LEGEND -
- 建議的地盤範圍 PROPOSED WORKS LIMIT
  - 擬議的道路 PROPOSED ROAD WIDENING
  - 擬議的道路 PROPOSED ROAD EXTENSION
  - 擬議的道路 PROPOSED NEW ROADS
  - 擬議的地下車道 PROPOSED VEHICULAR UNDERPASS
  - 保留的現有地下車道 EXISTING VEHICULAR UNDERPASS TO BE RETAINED
  - 建議的填土斜坡 PROPOSED FILL SLOPE
  - 建議的削土斜坡 PROPOSED CUT SLOPE
  - 擬議的噪音屏障 (0.8公尺高花欄) PROPOSED NOISE BARRIER (0.8m high planter)
  - 擬議的箱形溝渠 PROPOSED BOX CULVERT
  - CDA 綜合發展區 COMPREHENSIVE DEVELOPMENT AREA
  - E 教育 EDUCATION
  - G 政府 GOVERNMENT
  - GB 綠化地帶 GREEN BELT
  - G/C 政府/團體/社區 GOVERNMENT/INSTITUTION/COMMUNITY
  - LO 開放休憩用地 LOCAL OPEN SPACE
  - R1 住宅發展密度第一區 RESIDENTIAL - ZONE 1
  - V 鄉村式發展 VILLAGE TYPE DEVELOPMENT

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
D	25.10.99	GENERAL REVISION	Red	CMA
C	20.10.99	GENERAL REVISION	Red	CMA
B	4-6-99	GENERAL REVISION	Red	CMA
A	2.8.99	GENERAL REVISION	Red	CMA

一九九九年至二〇〇〇年度工務小組委員會文件 PWSC SUBMISSION 1999 - 2000

圖則名稱 drawing title  
**為屯門第五十六區房屋發展計劃而進行的道路及排水渠的建造工程**  
**CONSTRUCTION OF ROADS AND DRAINS TO SERVE THE HOUSING DEVELOPMENT IN AREA 56, TUEN MUN**

修訂 REVISION			項目編號 item no.	辦事處 office 新界西拓展處 NEW TERRITORIES WEST DEVELOPMENT OFFICE
繪圖 drawn	簽署 initial	日期 date	<b>696 TH</b>	
核對 checked	簽署 initial	日期 date	比例 scale <b>1:5 000</b>	
核准 approved	簽署 initial	日期 date	圖則編號 drawing no. <b>NTW 1324<sup>D</sup></b>	



Enclosure 附件