

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 711 - HOUSING

#### Water Supplies - Combined fresh/salt water supply

#### 82WC - Fresh and flushing water reticulation systems for Tin Shui Wai Reserve Zone - remaining works

Members are invited to recommend to Finance Committee the upgrading of **82WC** to Category A at an estimated cost of \$15.7 million in money-of-the-day prices.

### PROBLEM

There is at present no fresh and flushing water supplies to serve the proposed developments in the Tin Shui Wai (TSW) Reserve Zone.

### PROPOSAL

2. The Director of Water Supplies (DWS), with the support of the Secretary for Housing, proposes to upgrade **82WC** to Category A at an estimated cost of \$15.7 million in money-of-the-day (MOD) prices for the laying of fresh water mains in TSW Reserve Zone.

### PROJECT SCOPE AND NATURE

3. The original scope of **82WC** comprises the laying of fresh and flushing water mains in the TSW Reserve Zone. The scope of **82WC** we now propose to upgrade to Category A comprises the laying of about 1.9 kilometres of fresh water mains of 300 millimetres diameter.

## /JUSTIFICATIONS .....

**JUSTIFICATIONS**

4. The Government has decided to proceed with housing developments in the TSW Reserve Zone with population intake scheduled for October 2000. Upon full development by 2003, the area will accommodate a population of about 138 000 persons, resulting in a fresh water demand of about 38 000 cubic metres per day and a flushing water demand of about 9 600 cubic metres per day. As there are at present no water mains in the TSW Reserve Zone, it is necessary to extend the existing fresh and flushing water reticulation systems<sup>1</sup> from the TSW Development Zone to the TSW Reserve Zone to provide adequate fresh and flushing water to the area.

5. Subject to funding, the Director of Territory Development (DTD) is about to begin a site formation and roadworks project under **561CL**<sup>2</sup> Tin Shui Wai further development - remaining engineering infrastructure and site formation works which includes roadworks inside the Reserve Zone. The mainlaying works described in paragraph 3 above fall within the project boundaries of **561CL**. To avoid unnecessary road opening and interface problems arising from two contractors working on the same site, we will incorporate the mainlaying works under this project into the roadworks contract under **561CL**.

**FINANCIAL IMPLICATIONS**

6. We estimate the capital cost of the project to be \$15.7 million in MOD prices (see paragraph 7 below), made up as follows -

	<b>\$ million</b>
(a) Pipe materials	2.4

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<sup>1</sup> A reticulation system is a water supply network system serving a particular area. The system in this project covers mainlaying works within the TSW Reserve Zone. Water will be provided by the Tan Kwai Tsuen north fresh water reservoir which commenced construction works in April 1998 under **270WF** (approved by Finance Committee on 12 December 1997).

<sup>2</sup> We upgraded **561CL** to Category B in July 1997. A related paper, PWSC (1999-2000)35, for the upgrading of **561CL** under **Head 711** to Category A has also been submitted for Members endorsement at this meeting.

(b)	Mainlaying	9.5	
			/(c) .....
		<b>\$ million</b>	
(c)	Consultants fees	0.1	
(d)	Resident site staff costs	1.1	
(e)	Contingencies	1.3	
	Sub-total	14.4	(at December 1998 prices)
(f)	Provision for price adjustment	1.3	
	Total	15.7	(in MOD prices)

A breakdown by man months of the estimate for consultants fees and the resident site staff costs is at the Enclosure.

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

Year	\$ million (Dec 1998)	Price Adjustment Factor	\$ million (MOD)
1999 - 2000	0.1	1.02625	0.1
2000 - 2001	5.5	1.06217	5.8
2001 - 2002	6.1	1.09934	6.7
2002 - 2003	2.4	1.13782	2.7
2003 - 2004	0.3	1.17765	0.4
	14.4		15.7

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

/1999 .....

1999 to 2004. We will incorporate the proposed mainlaying works into DTD's roadworks contract. This will be let on a remeasurement basis because the works involve extensive earthworks, the quantities of which are subject to variation during construction to suit the actual site conditions. We will provide for price adjustments in the contract as the programmed construction period will exceed 21 months.

9. We estimate the additional annual recurrent expenditure to be \$141,110.

10. This project by itself will lead to an increase in water charges by a maximum of 0.01% in real terms by 2004<sup>3</sup>.

## **PUBLIC CONSULTATION**

11. We consulted the Environmental Improvement Committee of the Yuen Long Provisional District Board on 27 November 1997. The Committee supported the project.

## **ENVIRONMENTAL IMPLICATIONS**

12. The Director of Environmental Protection completed an environmental review of the project in June 1995 and concluded that the works would have no adverse long term environmental impact and no Environmental Impact Assessment would be required. We will control noise, dust and site run-off nuisances to comply with established standards and guidelines through

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<sup>3</sup> The increase in water charges is calculated on the assumption that the water demand remains static during the period from 1998 to 2004 and the amount of Government subsidy into waterworks operations is to be contained at the present level.

implementation of mitigation measures in the works contract. We have included in the project estimates the cost to implement suitable mitigation measures to control short term environmental impacts.

## LAND ACQUISITION

13. The project does not require land acquisition.

/BACKGROUND .....

## BACKGROUND INFORMATION

14. We upgraded **82WC** to Category B in September 1995. In February 1998, Finance Committee approved the upgrading of part of **82WC** to Category A as **125WC** 煇resh and flushing water reticulation systems for Tin Shui Wai Reserve Zone, stage 1 at an estimated cost of \$73.0 million in MOD prices. The works under **125WC** started in October 1998 to tie in with the roadworks programme under **563CL**<sup>4</sup>. The works are now under construction for completion in end 2001.

15. We entrusted the detailed design for the proposed mainlaying works under this project as well as those under **125WC** at a cost of \$1.4 million to the Territory Development Department (TDD) and charged this amount to block allocation **Subhead B100HX** 煇minor housing development related works, studies and investigations for items in Category D of the Public Works Programme . We plan to start the proposed mainlaying works in October 1999 for completion in mid 2003 to tie in with the roadworks programme under **561CL**.

Housing Bureau

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<sup>4</sup> In February 1998, Finance Committee approved the upgrading of **563CL** Tin Shui Wai further development - road junction improvement, site formation and main engineering infrastructure to Category A.

May 1999

(PWSC0129/WIN)

## Enclosure to PWSC(1999-2000)34

**82WC - Fresh and flushing water reticulation systems for  
Tin Shui Wai Reserve Zone - remaining works**

**Breakdown of estimates for consultants fees**

<b>Consultants</b>	<b>staff costs</b>		<b>Estimated man months</b>	<b>Average MPS* salary point</b>	<b>Multiplier factor</b>	<b>Estimated fee (\$ million)</b>
(a)	Contract administration	Professional	0.4	40	2.4	0.06
		Technical	0.2	16	2.4	0.01
(b)	Preparation of as- built drawings	Professional	0.1	40	2.4	0.02
		Technical	0.2	16	2.4	0.01
(c)	Site supervision by resident site staff employed by consultants	Professional	4.5	40	1.7	0.48
		Technical	17.3	16	1.7	0.62
<b>Total consultants' staff costs</b>						1.20

\* 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 to the average MPS in the case of site staff supplied by the consultants.
2. The figures given above are based on estimates prepared by the Director of Water Supplies. The consultancy works for this project will be included as part of the overall consultancy agreement for the Tin Shui Wai further

development. We will share the actual consultants fees with TDD on a pro-rata basis.

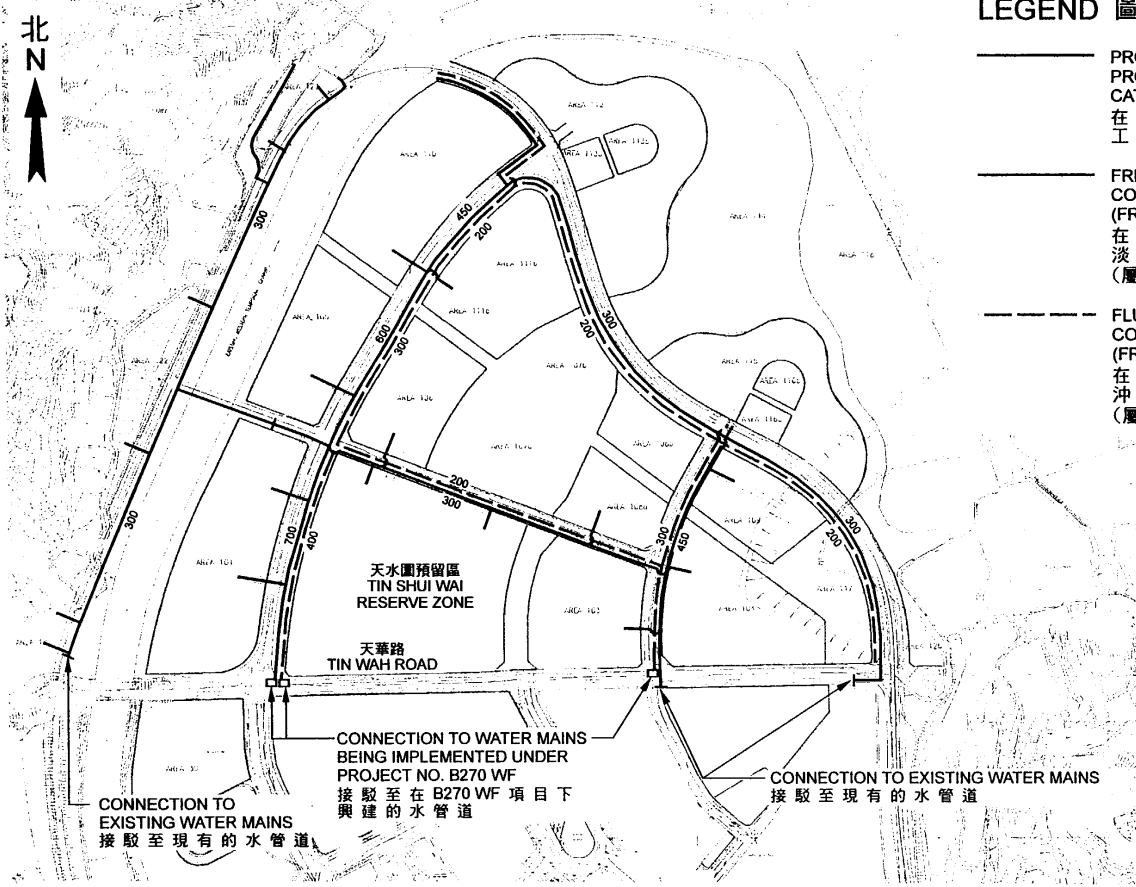
(PWSC0129/WIN5)






LEGEND 圖例：

- PROPOSED FRESH WATER MAINS UNDER PROJECT 82WC TO BE UPGRADED TO CATEGORY 'A'  
在 82WC 項目下擬提升為甲級工程的淡水管道
- FRESH WATER MAINS BEING CONSTRUCTED UNDER PROJECT 125WC (FROM PART UPGRADING OF 82WC)  
在 125WC 項目下正在敷設的淡水管道  
(屬 82WC 提升的部份工程)
- FLUSHING WATER MAINS BEING CONSTRUCTED UNDER PROJECT 125WC (FROM PART UPGRADING OF 82WC)  
在 125WC 項目下正在敷設的沖廁水管道  
(屬 82WC 提升的部份工程)



SCALE 比例尺 1 : 10 000

APPROVED  
  
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P.W.P. ITEM NO. B082WC — FRESH AND FLUSHING WATER RETICULATION SYSTEMS FOR TIN SHUI WAI RESERVE ZONE-REMAINING WORKS  
 工務計劃項目第 B082WC 號 — 天水圍預留區食水及沖廁用水網狀供水系統-餘下工程

WATER SUPPLIES DEPT.  
 HONG KONG  
 SKETCH NO. 03799 / 013