Discussion Paper for Legislative Council LegCo Panel on Planning, Lands and Works Meeting on 5 March 2001

85 WC - Water Supply to South East Kowloon Development, Stage 1 - Works

INTRODUCTION

This paper informs Members on the background to the project **85WC** for the water supply to meet the fresh and salt water demands generated from the South East Kowloon Development (SEKD). We plan to seek PWSC's approval in June 2001 for upgrading **85WC** to Category A, entitled "Water Supply to South East Kowloon Development, Stage 1- Works", for the works to proceed.

BACKGROUND

2. After the relocation of the Hong Kong International Airport at Kai Tak (Kai Tak Airport) in July 1998, the Kai Tak Airport site with reclamation at Kai Tak Approach Channel, Kwun Tong Typhoon Shelter and Kowloon Bay would be used for urban development.

3. Territory Development Department (TDD) commissioned the Comprehensive Feasibility Study for the Revised Scheme of South East Kowloon in November 1999. Stage 1 of the study was completed in May 2000 and a Prelimiarny Layout Plan (PLP) of SEKD was produced. A public consultation exercise on the PLP was completed in July 2000.

4. The PLP was generally supported by the concerned District Councils, the Town Planning Board and the residents' associations. TDD briefed the Panel on 4 December 2000 on the outcome of the public consultation exercise.

5. Under the current proposal, the SEKD together with some adjacent areas will be developed in phases to accommodate a total population of about 270,000 upon full development by 2016.

6. In February 1998, we upgraded part of **85WC** to Category A to engage consultants for the detailed design of Stage 1 of the proposed works to supply fresh and salt water to the SEKD.

SCOPE OF WORKS

7. The full scope of works under **85WC** that we propose to upgrade to Category A comprises-

(a) Construction of Diamond Hill No. 2 Fresh Water Service Reservoir (Diamond Hill No. 2 FWSR) at Diamond Hill with a storage capacity of 76,500 cubic metres;

(b) Laying of about 3.4 kilometres of fresh water mains of 1,000 millimetres diameter from Wang Tau Hom to the proposed Diamond Hill No. 2 FWSR;

(c) Laying of about 1.2 kilometres of fresh water mains of 1,200 millimetres diameter from the proposed Diamond Hill No. 2 FWSR to the northern boundary of the SEKD;

(d) Uprating of the existing Tai Wan Salt Water Pumping Station (Tai Wan SWPS) at Tai Wan, Hung Hom, by an additional pumping capacity of 40,000 cubic metres per day; and

(e) Laying of about 5.8 kilometres of salt water mains of 800 millimetres diameter from the existing Tai Wan SWPS and Diamond Hill Salt Water Service Reservoir to the SEKD.

8. The scope of the proposed works is shown on the attached sketch no. SK 62000/162.

JUSTIFICATION

9. We forecast that the planned SEKD will ultimately generate additional daily fresh water and salt water demands of about 120,000 cubic metres and 33,000 cubic metres respectively when the estimated total population of 270,000 for the SEKD and some adjacent areas is in place by

2016.

10. The existing fresh water service reservoirs in the Kowloon East metropolitan area do not have spare storage capacity to cater for the SEKD. It is necessary to construct the Diamond Hill No. 2 FWSR and the associated water mains under the project **85WC**. The maximum capacity of the service reservoir that can be constructed on the site at Diamond Hill is 76,500 cubic metres, which can cope with a mean daily demand of 90,000 cubic metres for a population of about 220,000 (about 80% of the ultimate population) anticipated by 2013. We will implement further enhancements under future projects to cope with the fresh water demand beyond 2013.

11. At present, sea water is abstracted at the existing Tai Wan SWPS and pumped direct to supply the eastern Kowloon areas. The existing pumps at Tai Wan SWPS have no spare capacity to provide salt water to the SEKD but there are two spare bays for additional pumps. We propose to install additional pumps of capacity 40,000 cubic metres per day to cope with the ultimate salt water daily demand for the SEKD. We also propose to use the existing Diamond Hill Salt Water Service Reservoir for the provision of storage to balance the daily fluctuations in demand. Hence, no additional salt water service reservoir is required.

CONSEQUENCES OF DELAY

12. The first intake of population for SEKD is anticipated by mid-2005 but the existing fresh and salt water supply systems do not have sufficient spare capacity to cope with the water demands generated from the SEKD. It is necessary to complete the construction of the proposed Diamond Hill No. 2 FWSR, installation of additional pumps at Tai Wan SWPS and laying of the associated fresh and salt water mains before the first population intake date.

COST

13. We estimate the cost of the works to be $ 668.0 million in money-of-the-day (MOD) prices made up as follows-

		$ million
(a)	Pipe materials	38.0
(b)	Mainlaying	219.7
(c)	Service Reservoir	182.2
(d)	Electrical & Mechanical Equipment	41.7
(e)	Consultants' fees	

			$ million	
	(i)	construction stage	2.0	
	(ii)	Resident site staff cost	63.0	
(f)		Environmental mitigation measures	5.0	
(g)		Contingencies	55.0	
		Subtotal	606.6	(in September 2000 prices)
(h)		Provision for price adjustment	61.4	
		Total	668.0	(in MOD prices)

A breakdown by man-months of the estimates for consultants' fees and resident site staff costs is at **Annex**.

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

Year	$million (Sept 2000)	Price adjustment factor	$million (MOD)
2001 – 02	7.8	1.02550	8.0
2002 – 03	145.5	1.05627	153.7
2003 – 04	184.5	1.08795	200.7
2004 – 05	158.8	1.12059	177.9
2005 – 06	90.0	1.15421	103.9
2006 – 07	20.0	1.18884	23.8
	606.6		668.0

15. We derived the MOD estimates on the basis of Government's forecast of trend labour and construction prices for the period 2001 to 2007. We will invite tenders for the works under standard remeasurement contracts because the quantities of the mainlaying works and bulk excavation for the service reservoir may vary with actual ground conditions. We will allow provision for price adjustment in the contracts as the construction period will exceed 21 months.

PUBLIC CONSULTATION

16. We have consulted Kowloon City District Council on 28 December 2000 and Wong Tai Sin District Council on 6 February 2001. Both District Councils supported the project.

PROGRAMME OF WORKS

17. Upon approval of upgrading **85WC** to Category A by Finance Committee, we will proceed to call for tenders and commence the works by December 2001 for completion by early-2005.

Works Bureau
February 2001

Annex

85WC – Water Supply to South East Kowloon Development, Stage 1 - Works

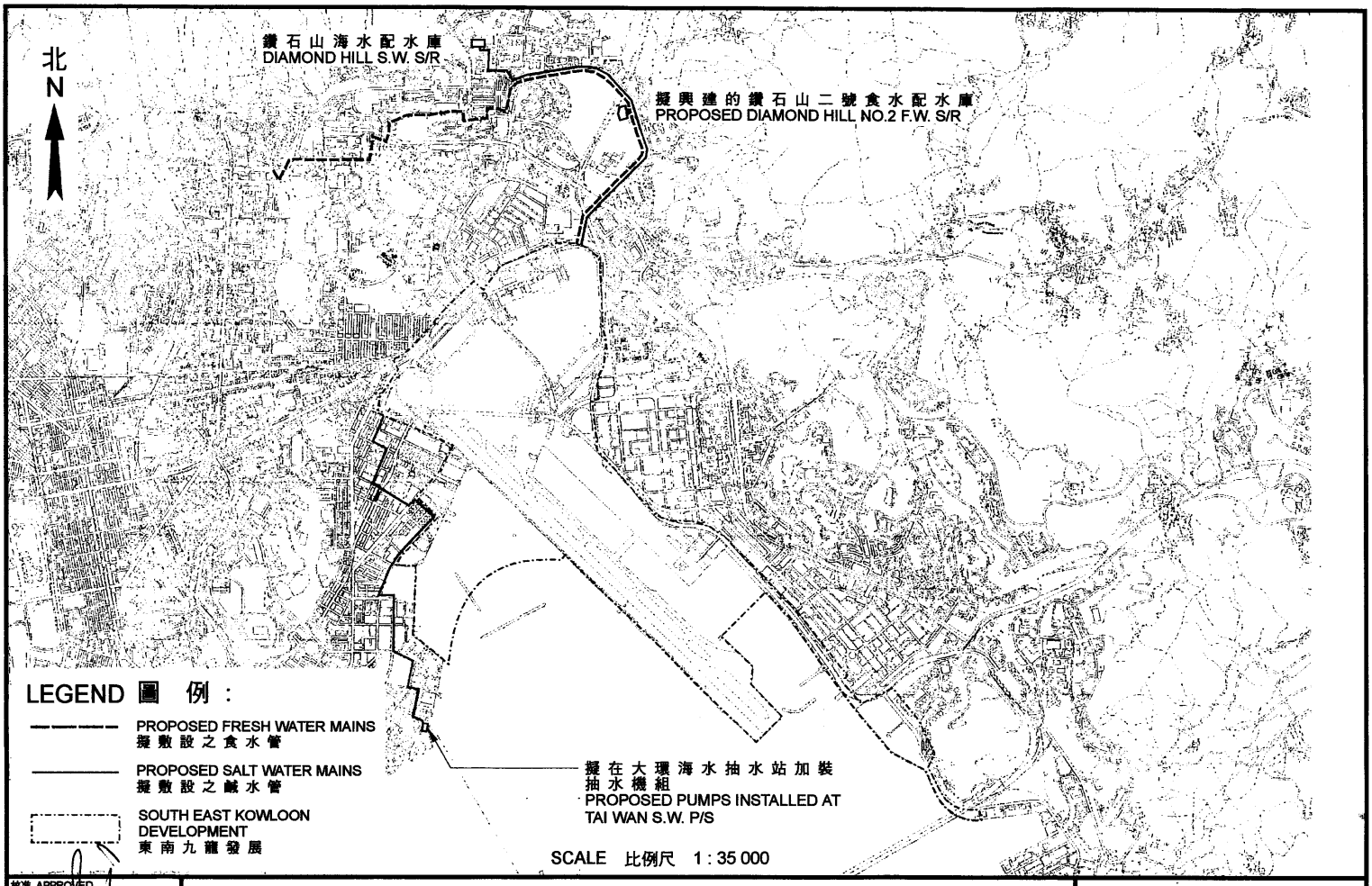
Breakdown of estimates for consultants' fees

Consultants' staff costs		Estimated man months	Average MPS Salary point	Multiplier factor	Estimated Fee ($million)
(a) Consultants' fees for construction stage	Professional	11	38	2.4	1.52
	Technical	11	14	2.4	0.51
(b) Site supervision by resident site staff employed by consultants	Professional	207	38	1.7	20.20
	Technical	1321	14	1.7	42.80
		Total consultants' staff cost			65.03

Notes:

1. A multiplier factor of 2.4 is applied to the average MPS points to arrive at the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices (at 1.4.2000, MPS pt. 38 = $57,525 per month and MPS pt. 14 = $19,055 per month). 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 Water Supplies. The consultancy works for this project will be included as part of the Consultancy Agreement No. CE 21/98 "Water Supply to South East Kowloon Development, Stage 1 – Design and Construction". The assignment will only be triggered subject to Finance Committee's approval to upgrade **85WC** to Category A as proposed.



核准 APPROVED

總工程師/工程管理部 CE / PM

13 / 2 / 2001

（甲級工程）
(CAT 'A' Submission)

工務計劃項目第9085WC號 — 東南九龍第一期發展供水系統計劃之施工

P.W.P. ITEM NO. 9085WC — WATER SUPPLY TO SOUTH EAST KOWLOON DEVELOPMENT, STAGE 1 - WORKS

水務署 WATER SUPPLIES DEPT.

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