

**For discussion  
on 16 May 2001**

**PWSC(2001-02)23**

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

### **HEAD 711 – HOUSING**

**Water Supplies – Combined fresh/salt water supply**

**126WC – Water supply to housing developments at Anderson Road, near  
Choi Wan Road and Jordan Valley**

Members are invited to recommend to Finance  
Committee –

- (a) the upgrading of part of **126WC**, entitled  
“Mainlaying within development near Choi  
Wan Road and Jordan Valley”, to Category A at  
an estimated cost of \$79.9 million in money-of-  
the-day prices; and
- (b) the retention of the remainder of **126WC** in  
Category B.

### **PROBLEM**

We need to carry out water mainlaying works to provide water  
supply to the development near Choi Wan Road and Jordan Valley.

**/PROPOSAL .....**

## PROPOSAL

2. The Director of Water Supplies (DWS), with the support of the Secretary for Housing, proposes to upgrade part of **126WC** to Category A at an estimated cost of \$79.9 million in money-of-the-day (MOD) prices for the laying of water mains to serve the housing development near Choi Wan Road and Jordan Valley.

## PROJECT SCOPE AND NATURE

3. The scope of **126WC** aims at providing water supply to both the development near Choi Wan Road and Jordan Valley and that at Anderson Road. The part of the project we now propose to upgrade to Category A is mainly designed to deal with the development near Choi Wan Road and Jordan Valley. It comprises laying of about 5.7 kilometres of fresh water mains of diameters ranging from 150 millimetres to 600 millimetres and about 5 kilometres of salt water mains of diameters ranging from 100 millimetres to 300 millimetres within the said development.

4. The remainder of **126WC** will deal with the development at Anderson Road and provide other necessary facilities to complete the water supply system to both developments. It comprises construction of two fresh water service reservoirs, two salt water service reservoirs, a fresh water pumping station and a salt water pumping station, uprating of the existing Cha Kwo Ling Salt Water Pumping Station, and laying of about 8.3 kilometres of fresh water mains of diameters ranging from 300 millimetres to 900 millimetres and about 10 kilometres of salt water mains of diameters ranging from 200 millimetres to 400 millimetres.

## JUSTIFICATIONS

5. Government will be responsible for implementing the site formation and the associated infrastructure under **564CL** "Development near Choi Wan Road and Jordan Valley" and **566CL** "Development at Anderson Road". The development near Choi Wan Road and Jordan Valley provides public and private housing of about 11 120 flats (6 560 public housing flats and 4 560 private housing flats) for a population of 35 100, in phases between March 2007 and April 2009. The development at Anderson Road provides public and private housing of about 11 070 flats (7 210 public housing flats and 3 860 private housing flats) for a population of 34 478 in 2008-09. To meet the demand for water arising from the proposed developments, we plan to construct the water supply facilities described in paragraphs 3 and 4 above.

/6. ....

6. We now propose to upgrade part of the works under **126WC** for water mainlaying works to serve the development near Choi Wan Road and Jordan Valley. The water mainlaying works described in paragraph 3 above fall mainly within the project boundary of **564CL** "Development near Choi Wan Road and Jordan Valley"<sup>1</sup>. To avoid interface problems arising from having two contractors working on the same site, we will incorporate the proposed mainlaying works into the site formation and associated infrastructure contract to be awarded under **564CL**.

7. According to the latest programme of project **564CL**, the site formation and associated infrastructure works will commence in September 2001 for completion by mid 2006. The water mainlaying works will commence in October 2002 for completion in December 2005. Site plans showing the proposed water mainlaying works are at Enclosure 1.

## FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the proposed water mainlaying works to be \$79.9 million in MOD prices (see paragraph 9 below), made up as follows -

	<b>\$ million</b>	
(a) Pipe materials	9.4	
(b) Mainlaying	54.7	
(c) Environmental mitigation measures	0.6	
(d) Consultants' fees	8.3	
(i) for construction stage	1.1	
(ii) site staff cost	7.2	
(e) Contingencies	7.3	
	80.3	(in September 2000 prices)
Sub-total	80.3	

/(f) .....

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<sup>1</sup> A related paper, PWSC(2000-01)99, for the upgrading of **564CL** under **Head 711** to Category A was approved by the Finance Committee on 9 March 2001.

	<b>\$ million</b>	
(f) Provision for price adjustment	(0.4)	
	<hr/>	
Total	79.9	(in MOD prices)
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Owing to insufficient in-house staff resources, DWS proposes to engage consultants to carry out the construction supervision. A breakdown of the estimate for consultants' fees by man-months is at Enclosure 2.

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9. Subject to approval, we will phase the expenditure as follows –

Year	\$ million (Sept 2000)	Price adjustment factor	\$ million (MOD)
2001 - 2002	0.2	0.98000	0.2
2002 - 2003	6.7	0.97976	6.6
2003 - 2004	22.4	0.98759	22.1
2004 - 2005	23.7	0.99549	23.6
2005 - 2006	22.7	1.00346	22.8
2006 - 2007	3.3	1.01149	3.3
2007 - 2008	1.3	1.01958	1.3
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	80.3		79.9
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10. We have derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period 2001 to 2008. We will tender the works, as part of a larger contract covering site formation and associated infrastructure for the development near Choi Wan Road and Jordan Valley, on a remeasurement basis because the quantities of works may vary with actual ground conditions. We will provide price adjustment in the contract because the contract period will exceed 21 months.

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11. We estimate the annually recurrent expenditure arising from the proposed works to be \$244,000.

12. The project by itself would lead to an increase in water charges by about 0.04% in real terms by 2008<sup>2</sup>.

## **PUBLIC CONSULTATION**

13. We consulted the Kwun Tong District Council on the proposed water mainlaying works in February 2001. The District Council supported the proposed works.

## **ENVIRONMENTAL IMPLICATIONS**

14. We completed a Preliminary Environmental Review (PER) for 126WC in December 1999. The PER concluded that the project would not have long term adverse environmental impacts. The Director of Environmental Protection has agreed that an Environmental Impact Assessment will not be required and has agreed to the environmental mitigation measures recommended in the PER. These, which include frequent watering of the site, provision of wheel washing facilities to reduce emission of fugitive dust and the use of silenced construction plant to reduce noise generation, will contain the short-term environmental impacts within established standards and guidelines. We have included \$0.6 million in the project estimate for implementation of these mitigation measures.

15. At the planning and design stages, we have considered measures to reduce the generation of construction and demolition (C&D) materials. We have optimised the design of the levels and alignments of the proposed water mains and will reuse suitable excavated material for filling within site to minimise off-site disposal. We estimate that the proposed water mainlaying works will generate about 7 400 cubic metres (m<sup>3</sup>) of C&D materials. Of these, about 6 470 m<sup>3</sup> (87.4%) will be reused on site, 900 m<sup>3</sup> (12.2%) will be reused in other construction project sites and 30 m<sup>3</sup> (0.4%) will be disposed of at landfills.

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<sup>2</sup> The increase in water charges is calculated on the assumption that the water demand remains static during the period from 2001 to 2008 and the amount of government subsidy to the waterworks operations is to be contained at the present level.

16. We will require the contractor to submit a waste management plan for approval. The waste management plan will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will ensure that the day-to-day operations on site comply with the approved waste management plan. To further minimize the generation of C&D materials, we will encourage the contractor to use non-timber formwork and recyclable material for temporary works. We will control the disposal of reusable materials and C&D waste to other designated construction project sites and landfills respectively through a trip-ticket system. The contractor will be required to separate reusable materials from C&D waste for disposal at appropriate facilities. We will record the disposal, re-use and recycling of C&D materials for monitoring purposes.

## LAND ACQUISITION

17. The proposed works do not require any land acquisition.

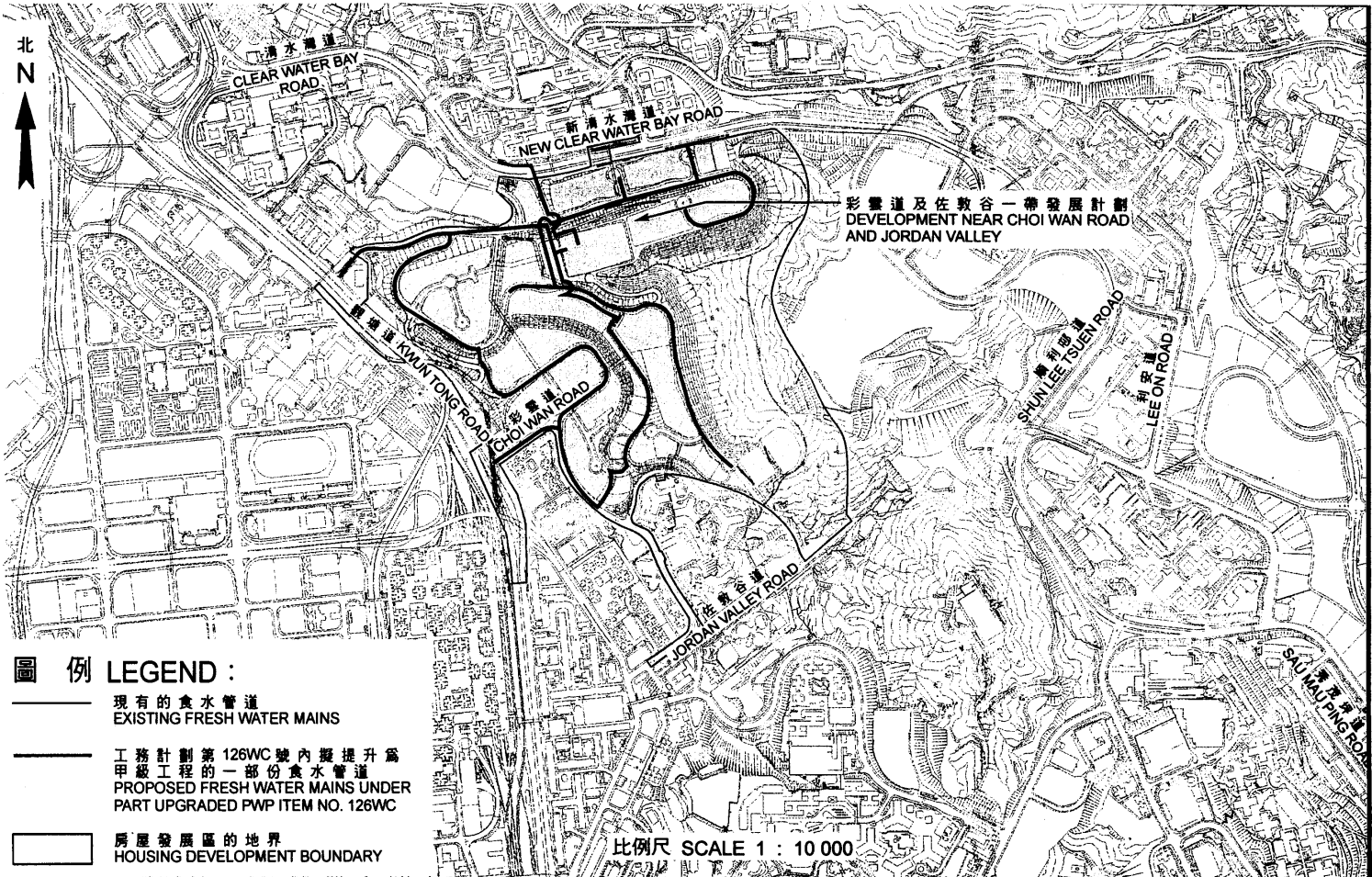
## BACKGROUND INFORMATION

18. We upgraded **126WC** to Category B in September 2000.

19. We have engaged consultants to carry out the detailed design of the proposed water mains within the development near Choi Wan Road and Jordan Valley for the part of **126WC** to be upgraded at a cost of \$1.6 million and charged the costs to the block allocation **Subhead B100HX** "Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme". We have now completed the detailed design for the proposed works.

20. We plan to engage consultants to carry out the investigation study and site investigations for the remainder of **126WC** under the block allocation **Subhead B100HX** "Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme". We aim to start the construction works in 2002 for completion in stages by 2007.

21. We estimate that the proposed works will create some 30 new jobs comprising 5 professional/technical staff and 25 labourers, totalling 940 man-months.

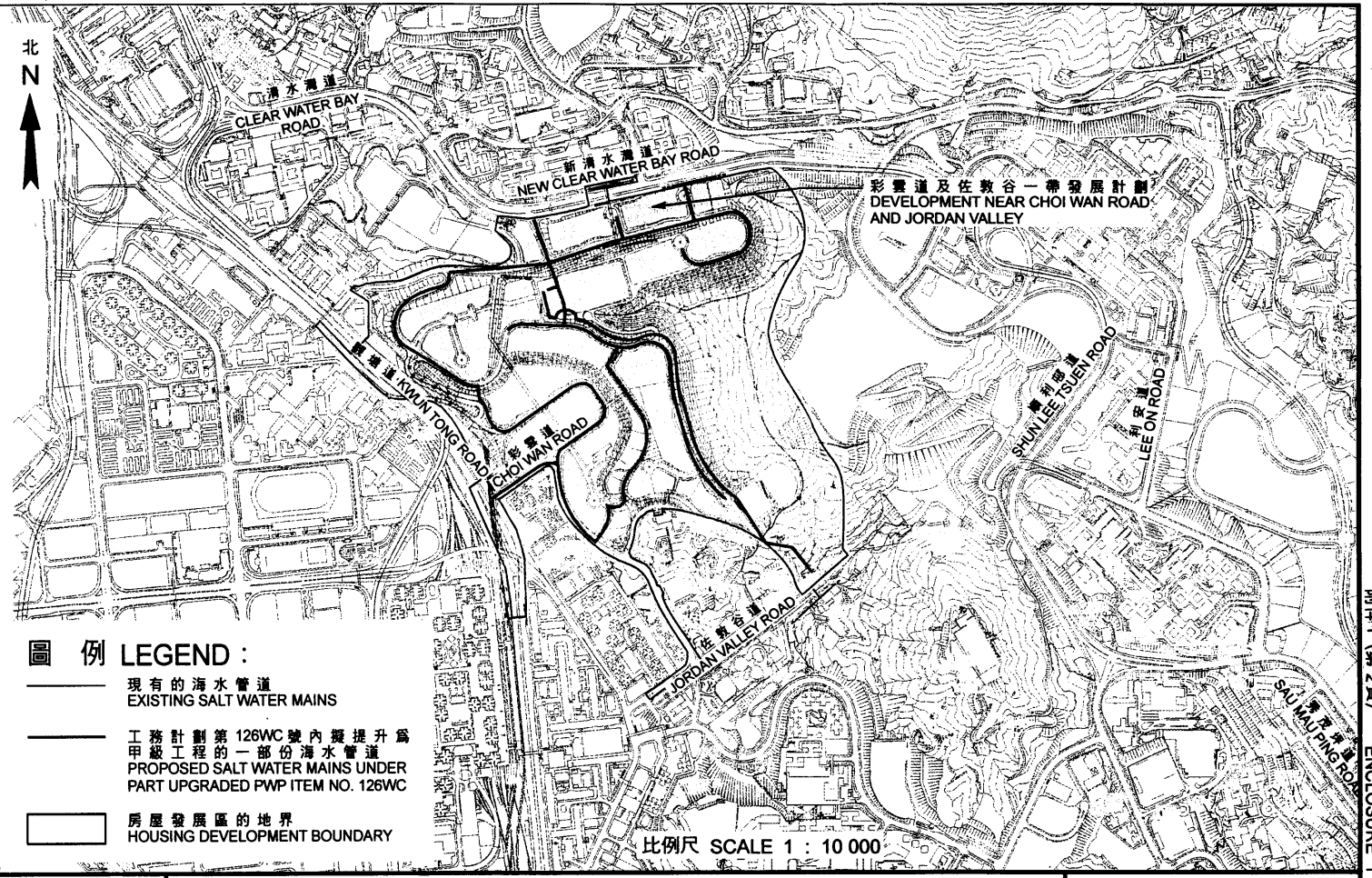


檢閱 APPROVED  
  
 總工程師/總機工程經理  
 CE/CM  
 5 / 5 / 2001

工務計劃項目第 126 WC 號 — 彩雲道及佐敦谷一帶水管敷設工程  
 PWP ITEM NO.126 WC — MAINLAYING WITHIN DEVELOPMENT NEAR CHOI WAN ROAD AND JORDAN VALLEY

水務署  
 WATER SUPPLIES DEPT.  
 草圖編號 SK 62000 / 163 / 01  
 (二二) SHEET 1 OF 2

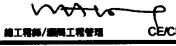
附件 1 (第一頁) ENCLOSURE 1 (SHEET 1)



**圖例 LEGEND :**

-  現有的海水管道  
EXISTING SALT WATER MAINS
-  工務計劃第126WC號內擬提升為甲級工程的一部份海水管道  
PROPOSED SALT WATER MAINS UNDER PART UPGRADED PWP ITEM NO. 126WC
-  房屋發展區的地界  
HOUSING DEVELOPMENT BOUNDARY

比例尺 SCALE 1 : 10 000

核准 APPROVED  
  
 總工程師/總機工程師 CE/CM  
 5/5/2001

工務計劃項目第126 WC 號 — 彩雲道及佐敦谷一帶水管敷設工程  
 PWP ITEM NO.126 WC — MAINLAYING WITHIN DEVELOPMENT NEAR CHOI WAN ROAD AND JORDAN VALLEY  
 (甲級工程)  
 (CAT 'A' Submission)

水務署 WATER SUPPLIES DEPT.  
 草圖編號 SK 62000 / 163 / 02  
 (二二二)  
 (SHEET 2 OF 2)

附件1 (第2頁) ENCLOSURE 1 (SHEET 2)



**126WC - Water supply to housing developments at Anderson Road,  
near Choi Wan Road and Jordan Valley**

**Breakdown of estimate for consultants' fees**

			Estimated man- months	Average MPS* salary point	Multiplier factor	Estimated fee (\$ million)
Consultants' staff costs						
(a)	Contract administration	Professional	6.0	38	2.4	0.83
		Technical	6.0	14	2.4	0.27
(b)	Site supervision by resident site staff of the consultants	Professional	41.0	38	1.7	4.01
		Technical	98.0	14	1.7	3.17
<b>Total consultants' staff costs</b>						8.28

\* 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 profits, as the staff will be employed in the consultants' offices. A multiplier factor of 1.7 is applied in the case of site staff supplied by the consultants. (At 1.4.2000, MPS pt. 38 = \$57,525 per month and MPS pt. 14 = 19,055 per month).
2. The above figures are based on estimates prepared by the Director of Water Supplies. The consultancy works for this project have been included as part of the Agreement No. CE94/98 "Development near Choi Wan Road and Jordan Valley – Design and Construction". The assignment will only be triggered subject to Finance Committee's approval for upgrading of part of **126WC** to Category A.