

For information

**Legislative Council Panel on Planning, Lands and Works
244WF – Water supply to Sha Tin development Area 56A**

PURPOSE

This paper briefs Members on the Administration's proposal to upgrade **244WF** - "Water supply to Sha Tin development Area 56A" to Category A, at an estimated cost of about \$103 million in money-of-the-day (MOD) prices, to provide fresh water supply to the planned housing developments in Area 56A in Kau To, Sha Tin.

PROPOSAL

2. The proposed works aims at providing fresh water supply to the planned low-density private housing developments located at high level in Area 56A in Kau To, Sha Tin.

3. The scope of the proposed works comprises -

- (a) construction of a fresh water service reservoir with a capacity of 2 300 cubic metres (m³);
- (b) construction of a fresh water pumping station with an output of 4 000 m³ per day; and
- (c) laying of about 4.3 kilometres long fresh water mains ranging from 150 millimetres (mm) to 400 mm in diameter.

A site plan showing the location of the proposed works is at **Enclosure 1**. Artist's impressions of the proposed works are shown at **Enclosure 2**.

4. We engaged consultants to undertake the detailed design and site investigation for the proposed works described in paragraph 3 above, which have been substantially completed. We plan to commence the construction of the proposed works in January 2006 for completion in November 2008. We propose to engage consultants to supervise the construction of the service reservoir and pumping station under paragraph 3(a) and (b) owing to insufficient in-house staff resources. The proposed mainlaying works fall within the site boundaries of another project **177CL** - “Sha Tin New Town – remaining engineering works”¹ which was recommended for upgrading to Category A by the Public Works Subcommittee on 11 May 2005. To avoid repetitive road openings and interface problems arising from two contractors working on the same site, we will incorporate the proposed mainlaying works under paragraph 3(c) into the roadworks contract under **177CL**.

JUSTIFICATION

5. In September 1998, the then Territory Development Department completed the “Feasibility Study for Housing Sites in Sha Tin District” which established, amongst others, the feasibility of planned housing developments located at high levels in Area 56A in Kau To, Sha Tin, where there is currently no water supply. We propose to upgrade **244WF** for constructing the water supply facilities described in paragraph 3 above to meet the fresh water demand, which includes the water for flushing, for a planned population of about 6 300 by the year 2016 in this area. We need to construct and commission the new water system to tie in with the completion of infrastructure **under 177CL** by 2008.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the proposed waterworks to be \$103 million in money-of-the-day (MOD) prices, made up as follows -

¹ **177CL** includes the construction of roadworks at Areas 34 and 52 in Shui Chuen O and Area 56A in Kau To, Sha Tin, re-construction and widening of To Shek Street and section of Shui Chuen Au Street, improvement of Lai Ping Road and Tai Po Road (Ma Liu Shui Section), and the construction of associated stormwater and sewerage works in the areas.

	\$ million	
(a) Fresh water service reservoir	15	
(b) Fresh water pumping station	20	
(c) Mainlaying	47	
(d) Environmental mitigation measures	1	
(e) Consultants' fees		
(i) contract administration	1	
(ii) site supervision	10	
(f) Contingencies	9	
	Total	103 (in MOD prices)

7. We estimate the annual recurrent expenditure arising from the proposed works to be about \$1.4 million.

PUBLIC CONSULTATION

8. We consulted the Sha Tin District Council on the proposed works in February 2005. The District Council supported the proposed works.

ENVIRONMENTAL IMPLICATIONS

9. We completed a Preliminary Environmental Review (PER) for **244WF** in April 1999, which 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. The implementation of noise control measures into the pumping station design as recommended in the PER, e.g. provision of acoustic louvres, silencers, dampers and noise absorptive lining and limiting the sound power level of the equipment, will reduce the operational noise impact to within acceptable level. We have included \$1 million in the project estimate for implementation of these mitigation measures.

10. During the planning and design stages, we have taken due consideration of the need to minimise the generation of construction and demolition (C&D) materials. We have optimised the design of site levels and layouts of the proposed works and will re-use suitable excavated material for filling within site to minimise off-site disposal. We estimate that the proposed works will generate about 9 200 m³ of C&D materials. Of these, we will re-use about 5 400 m³ (58.7%) on site, 3 700 m³ (40.2%) as fill in public filling areas² and dispose of 100 m³ (1.1%) at landfills. The notional cost³ of accommodating C&D waste at landfill sites is estimated to be \$12,500 for these works (based on a notional unit cost of \$125/m³).

11. We will require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials, including the allocation of areas for waste segregation. The contractor will be required to carry out on-site sorting of C&D materials to recover the inert portion, reusable and recyclable materials. We will ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip-ticket system. We will record the disposal, reuse and re-cycling of C&D materials for monitoring purposes.

12. The proposed works will involve removal of 59 no. of trees including 46 no. of trees to be felled, 13 no. of trees to be transplanted. All trees to be removed are not

² A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering and Development.

³ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/m³), nor the cost to provide new landfills (which are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

important trees.⁴ We will incorporate planting proposals as part of the project, including estimated quantities of 46 trees, 1 660 shrubs and 875 square metres of grassed area.

TRAFFIC IMPLICATIONS

13. To eliminate repetitive road openings and interface problems arising from two contractors working on the same site, we will incorporate the proposed mainlaying works under paragraph 3(c) into the roadworks contract under **177CL**. We have carried out traffic impact assessment which shows that there will be no significant impact on the traffic. Temporary traffic arrangements will be implemented to minimise impacts on traffic during construction. Moreover, trenchless⁵ method will be used to lay the watermains across Tolo Highway thereby avoiding disruption to the busy route.

LAND ACQUISITION

14. The project does not require any land acquisition.

WAY FORWARD

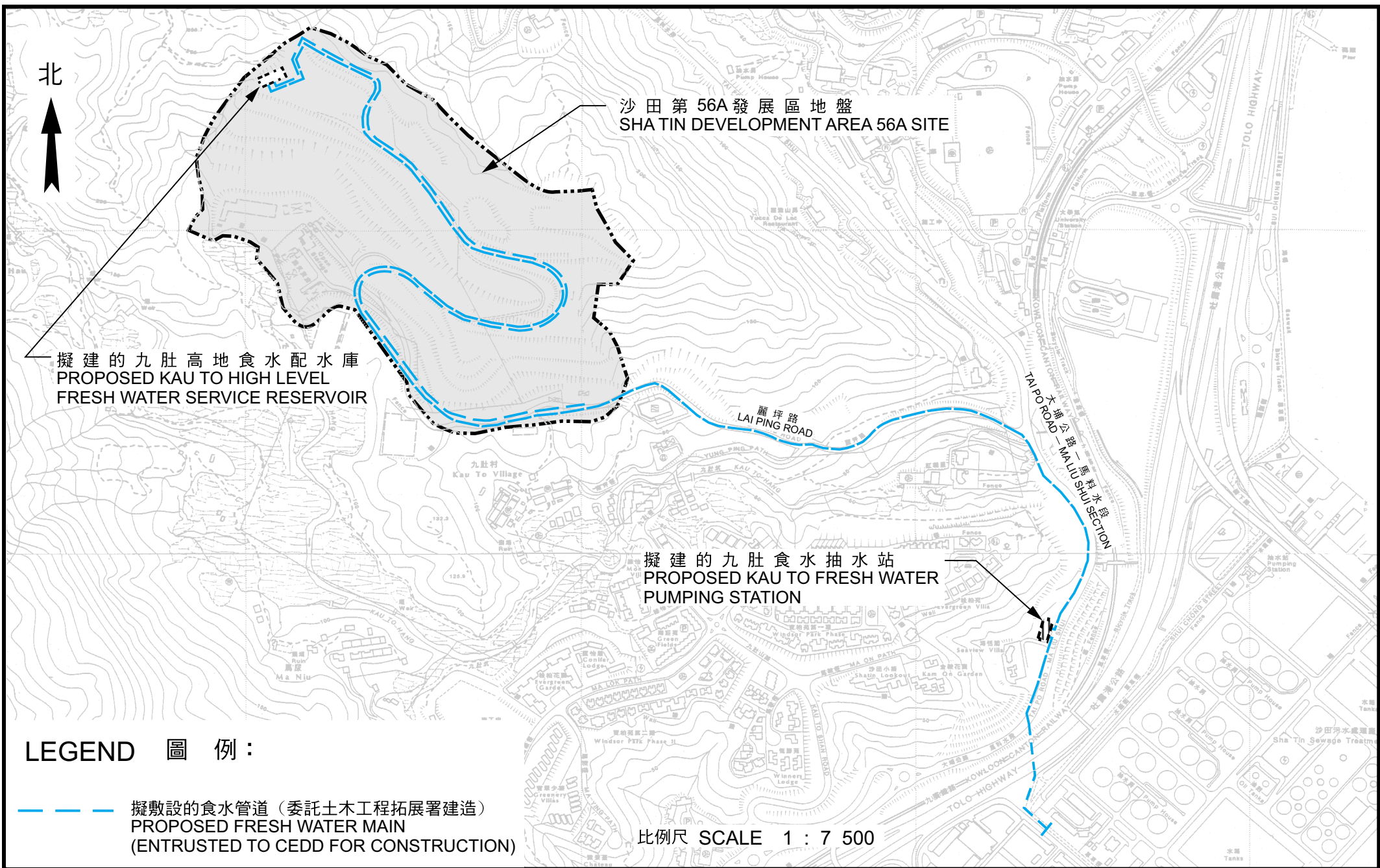
15. We intend to submit our proposal of upgrading **244WF** for consideration by the Public Works Subcommittee in June 2005 with a view to seeking funding approval of the Finance Committee in the same month.

Environment, Transport and Works Bureau May 2005

⁴ Important trees include trees on the Register of Old and Valuable Trees, and any other trees which meet one or more of the following criteria:

- (a) trees over 100 years old;
- (b) trees of cultural, historical or memorable significance;
- (c) trees of precious or rare species;
- (d) trees of outstanding form; or
- (e) trees with trunk diameter exceeding one metre (measured at one metre above ground level).

⁵ Trenchless method refers to the use of pipe-jacking, micro-tunnelling or boring techniques to construct underground pipelines without opening up the road surface along the alignment of the pipelines.



沙田第 56A 發展區地盤
SHA TIN DEVELOPMENT AREA 56A SITE

擬建的九肚高地食水配水庫
PROPOSED KAU TO HIGH LEVEL
FRESH WATER SERVICE RESERVOIR

擬建的九肚食水抽水站
PROPOSED KAU TO FRESH WATER
PUMPING STATION

LEGEND 圖例：

—— 擬敷設的食水管道 (委託土木工程拓展署建造)
PROPOSED FRESH WATER MAIN
(ENTRUSTED TO CEDD FOR CONSTRUCTION)

比例尺 SCALE 1 : 7 500

核准 APPROVED

 總工程師/顧問工程管理 CE/CM
 13 / 05 / 2005

工務計劃項目第 9244WF 號 — 沙田第 56A 發展區供水計劃
 P.W.P. ITEM NO. 9244WF — WATER SUPPLY TO SHA TIN DEVELOPMENT AREA 56A
 (甲級工程)
 (CAT 'A' Submission)

 水務署
 WATER SUPPLIES DEPT.
 草圖編號 SK 62002 / 140 / 001A
 SKETCH NO.

附件一 ENCLOSURE 1



畫家筆下擬建的九肚高地食水配水庫
 ARTIST'S IMPRESSION OF THE PROPOSED KAU TO HIGH LEVEL FRESH WATER SERVICE RESERVOIR

核准 APPROVED

 總工程師/顧問工程管理 CE/CM

11 / 05 / 2005

(甲級工程)
 (CAT 'A' Submission)

工務計劃項目第 9244WF 號 — 沙田第 56A 發展區供水計劃
 P.W.P. ITEM NO. 9244WF — WATER SUPPLY TO SHATIN DEVELOPMENT AREA 56A

 水務署
 WATER SUPPLIES DEPT.

草圖編號
 SKETCH NO. SK 62002 / 140 / 002



畫家筆下擬建的九肚食水抽水站

ARTIST'S IMPRESSION OF THE PROPOSED KAU TO FRESH WATER PUMPING STATION

核准 APPROVED


總工程師/顧問工程管理 CE/CM

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(甲級工程)
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