

For information**Legislative Council Panel on Planning, Lands and Works
36WS - Ring Mains for Cha Kwo Ling
Salt Water Supply System****PURPOSE**

This paper briefs Members on the Administration's proposal to upgrade **36WS** – “Ring mains for Cha Kwo Ling salt water supply system” to Category A at an estimated cost of about \$81 million in money-of-the-day (MOD) prices to improve the reliability of salt water supply to the residents in the eastern Kowloon areas.

BACKGROUND

2. The Cha Kwo Ling salt water supply system was commissioned in 1960 to supply salt water to a population of about 800,000 in the eastern Kowloon areas. The system comprises the Cha Kwo Ling salt water pumping station, Sau Mau Ping salt water pumping station, four salt water service reservoirs¹, trunk mains and distribution mains. Salt water is delivered via the trunk mains from the pumping station to service reservoirs and via the distribution mains to customers for flushing. Since the system is operated on a single-line configuration, shut down of the trunk mains for operation and maintenance will lead to widespread suspension of the salt water supply.

3. **36WS** was included in Category B in August 1997. We upgraded part of the project to Category A as **42WS** entitled “Ring mains for Cha Kwo Ling salt water supply system – advance mainlaying in Cha Kwo Ling Road” in June 2002. The works under **42WS** were entrusted to the Housing Authority and are in progress for completion in June 2006.

PROPOSAL

4. The scope of works under **36WS** comprises the laying of about 6 kilometres of salt water trunk mains ranging from 600 to 1 200 millimetres in diameter. A site plan showing the alignment² of the proposed water mains is at **Enclosure 1**. The proposed works will turn the Cha Kwo Ling salt water supply system from a single-line configuration into a ring configuration.

¹ The four service reservoirs are Jordan Valley salt water service reservoir, Kwun Tong high level salt water service reservoir, Sau Mau Ping salt water service reservoir and Ma Yau Tong salt water service reservoir.

² The proposed water mains will go along Cha Kwo Ling Road, Tseung Kwan O Road, Sau Mau Ping Road, Kai Lim Road, Tsui Ping Road, Hip Wo Street, Hong Ning Road and Chun Wah Road.

5. We plan to start the proposed mainlaying works in October 2005 for completion in September 2009. The works will be supervised by in-house staff.

JUSTIFICATION

6. The eastern Kowloon areas are currently supplied with salt water for flushing via trunk mains in a single-line configuration. There is risk that the salt water supply will be interrupted if a trunk main has to be isolated for maintenance such as when a main bursts or leaks. This may cause considerable inconvenience to the public. To enhance the reliability of the supply system, we plan to implement the works under **36WS** to turn the single-line configuration into a ring configuration. When the works are completed, either side of the ring main system will be able to deliver salt water to the consumers even if the other side is shut down.

7. Upon completion of the proposed works, the reliability of the salt water supply system in the eastern Kowloon areas will be improved.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works to be \$81 million in MOD prices, made up as follows –

	\$ million
(a) Mainlaying	73
(b) Environmental mitigation measures	1
(c) Contingencies	7
Total	<hr style="width: 100px; margin-left: auto; margin-right: 0;"/> 81 (in MOD prices)

9. We estimate the annual recurrent expenditure arising from this project to be \$350,000.

ENVIRONMENTAL IMPLICATIONS

10. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We carried out a Preliminary Environmental Review (PER) in 1996 and agreed the findings with the Director of Environmental Protection. The PER has concluded that the project would not have adverse long-term environmental impacts and the short-term construction impacts could be

mitigated through the implementation of standard pollution control measures. Due to the proximity of the proposed salt water mains to several landfill sites, we will follow the standard guidelines for development close to landfills during construction to avoid the landfill gas hazard. We have included about \$1 million in the project estimate to implement environmental mitigation measures and will incorporate these requirements into the works contract for implementation.

11. We will require the contractor to submit for approval waste management plans (WMP) with appropriate mitigation measures to avoid, reduce, reuse and recycle construction and demolition (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 recycling of C&D materials for monitoring purposes.

12. We have taken due consideration of the need to minimise C&D materials when planning and designing the alignments of the proposed water mains. To further minimise C&D materials, we will encourage the contractor to use non-timber formwork and recyclable materials for temporary works. We estimate that about 13 900 cubic metres (m³) of C&D materials will be generated by the project. Of these, about 8 070 m³ (58.1%) will be reused on site, 5 690 m³ (40.9%) will be reused as fill in public filling areas³ and 140 m³ (1.0%) will be disposed of at landfills.

13. When working out the alignment, we have tried our best to keep the felling of trees to a minimum. However, a section of water main will run along a slope heavily planted with trees. Having considered different options, it is still necessary to remove two trees which are not important trees⁴. It is not feasible to transplant these two trees or provide compensatory planting in the mist of trees on the same slope without disturbing other existing trees.

³ 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.

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).

TRAFFIC IMPLICATIONS

14. We have carried out traffic impact assessment (TIA) for the proposed works. The TIA has concluded that the proposed works would not cause unacceptable traffic impacts. We will impose temporary traffic arrangement to minimise impacts on traffic during construction. Furthermore, trenchless method will be used to install water mains across busy roads, e.g. Kwun Tong Road and Wai Fat Road.

PUBLIC CONSULTATION

15. We consulted the Kwun Tong District Council on 18 November 2004. The Council supported the proposed works.

LAND ACQUISITION

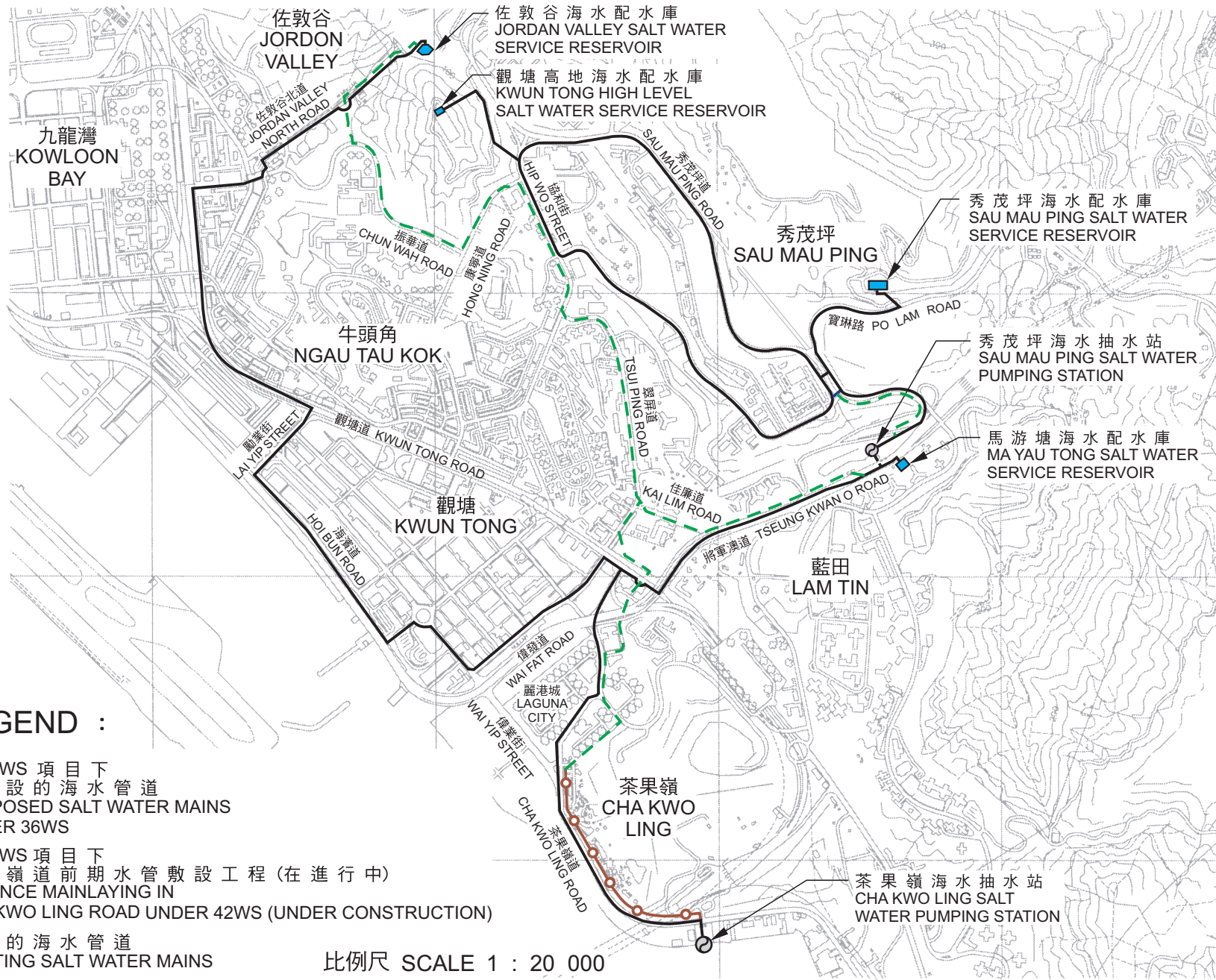
16. The project does not require any land acquisition.

WAY FORWARD

17. We intend to submit our proposal of upgrading **36WS** to Category A for consideration by the Public Works Subcommittee in March 2005 with a view to seeking funding approval of the Finance Committee in May 2005.

*Environment, Transport and Works Bureau
February 2005*

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圖例 LEGEND :

- 在 36WS 項目下
擬敷設的海水管
PROPOSED SALT WATER MAINS
UNDER 36WS
- 在 42WS 項目下
茶果嶺道前期水管敷設工程 (在進行中)
ADVANCE MAINLAYING IN
CHA KWO LING ROAD UNDER 42WS (UNDER CONSTRUCTION)
- 現有的海水管道
EXISTING SALT WATER MAINS

比例尺 SCALE 1 : 20 000

核准 APPROVED

CE/Des
總工程師/設計 CE / Des

28 / 1 / 2005

工務計劃項目第36WS號 — 茶果嶺海水供應系統環形總水管敷設工程
P.W.P. ITEM NO. 36WS — RING MAINS FOR CHA KWO LING SALT WATER SUPPLY SYSTEM



水務署
WATER SUPPLIES DEPT.

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