

For information

Legislative Council Panel on Development

**96WC – Water supply to Pak Shek Kok reclamation area,
Tai Po – stage 2**

PURPOSE

This paper briefs Members on the proposal to upgrade the remaining part of **96WC** to Category A, entitled “Water supply to Pak Shek Kok reclamation area, Tai Po – stage 2 phase 2”, at an estimated cost of \$162.7 million in money-of-the-day (MOD) prices, for carrying out mainlaying works to cope with the anticipated fresh water demand arising from developments in the Pak Shek Kok (PSK) reclamation area.

PROPOSAL

2. The proposed upgrading of the remaining part of **96WC** to Category A comprises the laying of about 2.1 kilometres (km) of fresh water mains of 600 millimetres (mm) in diameter between Pun Chun Yuen and Shan Tong New Village in Tai Po. The location of the proposed works is shown on the plan at **Enclosure**.

3. The design of the proposed work has been completed. Subject to the funding approval of the Finance Committee (FC), we plan to commence the proposed works in November 2013 for completion in December 2016.

JUSTIFICATION

4. The major developments in the PSK reclamation area include the Science Park and private housing. In order to provide fresh water and salt water supply to the PSK reclamation area, the Director of Water Supplies has undertaken works funded under **96WC**¹ to extend the nearby water supply systems to cope with the anticipated demand arising from developments in the PSK reclamation area.

¹ Funded under **180WC** (part-upgraded to Category A from **96WC** in December 2001), about 5.2 km of fresh water mains and 2.4 km of salt water mains were laid between 2002 and 2006 to build the necessary water supply network in pace with the roadworks and developments in the area. Funded also under **192WC** (part-upgraded to Category A from **96WC** in July 2011), the PSK fresh water service reservoir extension is under construction and scheduled for completion in December 2014 to meet the projected water demand in the area.

5. With the latest anticipated rate of population intake in the PSK reclamation area provided by the Planning Department, we estimate that the daily fresh water demand will increase from 5 600 m³ in 2013 to 10 900 m³ in 2016 with an ultimate demand of 13 200 m³ at full development. As a result, the transfer capacity of the existing fresh water supply system between Pun Chun Yuen and CARE Village will not be adequate to meet the projected demand by late 2016. We need to carry out the proposed works to provide adequate fresh water supply to the developments in the PSK reclamation area.

FINANCIAL IMPLICATIONS

6. We estimate the cost of the proposed works to be \$162.7 million in MOD prices, broken down as follows –

| | \$ million |
|---------------------------------------|-------------------------------------|
| (a) Mainlaying by | 115.9 |
| (i) conventional method ² | 71.9 |
| (ii) trenchless method ³ | 44.0 |
| (b) Environmental mitigation measures | 1.4 |
| (c) Contingencies | 11.7 |
| | <hr/> |
| Sub-total | 129.0 (in September 2012 prices) |
| (d) Provision for price adjustment | 33.7 |
| | <hr/> |
| Total | 162.7 (in MOD prices) |

7. We estimate the additional annual recurrent expenditure arising from the proposed works to be \$140,000.

² Mainlaying by conventional method refers to laying of new water mains in trench. It involves opening up road surface for the whole lengths of the pipelines. For budgetary purpose, we have allowed around 88% of water mains to be laid by conventional method. The actual percentage will depend on site conditions.

³ Mainlaying by trenchless methods (sometimes referred to as 'minimum dig' or 'reduced dig' methods) refers to the use of pipe jacking, micro-tunnelling or boring techniques to construct underground pipelines without opening up road surface/river bed for the whole lengths of the pipelines. For budgetary purpose, we have allowed around 12% of water mains to be laid by trenchless methods under river bed and at busy road junctions. The actual percentage will depend on site conditions.

PUBLIC CONSULTATION

8. We consulted the Tai Po Rural Committee on 15 February 2011. Members supported the proposed works.

9. We also consulted the Environment, Housing and Works Committee of the Tai Po District Council on 13 March 2013. Members supported the proposed works.

ENVIRONMENTAL IMPLICATIONS

10. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have completed the Preliminary Environmental Review for the proposed works, which concluded that the works would not have any long-term environmental impact. We have included in paragraph 6(b) above a sum of \$1.4 million (in September 2012 prices) in the project estimates for the implementation of standard pollution control measures to mitigate short-term environmental impacts during construction stage. These measures include the use of movable noise barriers and silenced construction plant for noisy construction activities, frequent cleaning and watering of the site to prevent dust nuisance.

11. At the planning and design stages, we have considered the alignment of the water mains to reduce the generation of construction waste where practicable. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities⁴. We will encourage the contractor to maximise the use of recycled / recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

12. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert and non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

⁴ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

13. We estimate that the project will generate in total about 21 000 tonnes of construction waste. Of these, we will reuse about 18 600 tonnes (88.6%) of inert construction waste on site and deliver 2 000 tonnes (9.5%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 400 tonnes (1.9%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$104,000 for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne⁵ at landfills).

HERITAGE IMPLICATIONS

14. The proposed works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

TRAFFIC IMPLICATIONS

15. We have completed the Traffic Impact Assessments (TIA) for the proposed works. The TIA concluded that laying of the water mains will not cause significant traffic impact through implementation of appropriate temporary traffic management schemes. We will display information boards on site and set up telephone hotlines for public enquiries and complaints. Trenchless methods will be adopted as needed for laying of water mains at busy road junctions.

LAND ACQUISITION

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

BACKGROUND INFORMATION

17. We upgraded **96WC** to Category B, entitled “Water supply to Pak Shek Kok reclamation area, Tai Po”, in October 1999. We engaged consultants to carry out the detailed design of the waterworks in PSK reclamation area at a total cost of \$200,000 under block allocation of **Subhead 9100WX** “Waterworks, studies and investigations for items in Category D of the Public Works Programme”. The consultancy contract was completed. Separately, the design of the mainlaying works between Pun Chun Yuen and CARE Village was

⁵ 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 per m³), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

undertaken by in-house staff resources.

18. In December 2001, FC approved the upgrading of part of **96WC** to Category A as **180WC** “Water supply to Pak Shek Kok reclamation area, Tai Po – stage 1” at an approved project estimate of \$47.3 million in MOD prices for the laying of water mains between Shan Tong New Village and CARE Village and in the PSK reclamation area. The works under **180WC** were completed in December 2006.

19. In April 2010, we engaged consultants to undertake the traffic impact assessment study for the mainlaying works between Pun Chun Yuen and Shan Tong New Village at a total cost of \$350,000 under block allocation of **Subhead 9100WX** “Waterworks, studies and investigations for items in Category D of the Public Works Programme”. The consultancy contract has been substantially completed.

20. In February 2011, we engaged consultants to carry out the landscape design for the PSK fresh water service reservoir (FWSR) extension and also for the mainlaying works between Pun Chun Yuen and Shan Tong New Village at a total cost of \$750,000 under block allocation of **Subhead 9100WX** “Waterworks, studies and investigations for items in Category D of the Public Works Programme”. The consultancy contract has been substantially completed.

21. In July 2011, FC approved the upgrading of another part of **96WC** to Category A as **192WC** “Water supply to Pak Shek Kok reclamation area, Tai Po – stage 2 phase 1” at an approved project estimate of \$79.8 million in MOD prices for the construction of an extension to the existing PSK FWSR to serve the fresh water demand arising from developments in the PSK reclamation area. The works under 192WC are anticipated to complete in December 2014.

22. Of the 210 trees within the project boundary, 202 trees will be preserved. The proposed works will involve the felling of eight trees, none of which are important trees⁶. The trees to be felled are in poor form. We will

⁶ “Important trees” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria:

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

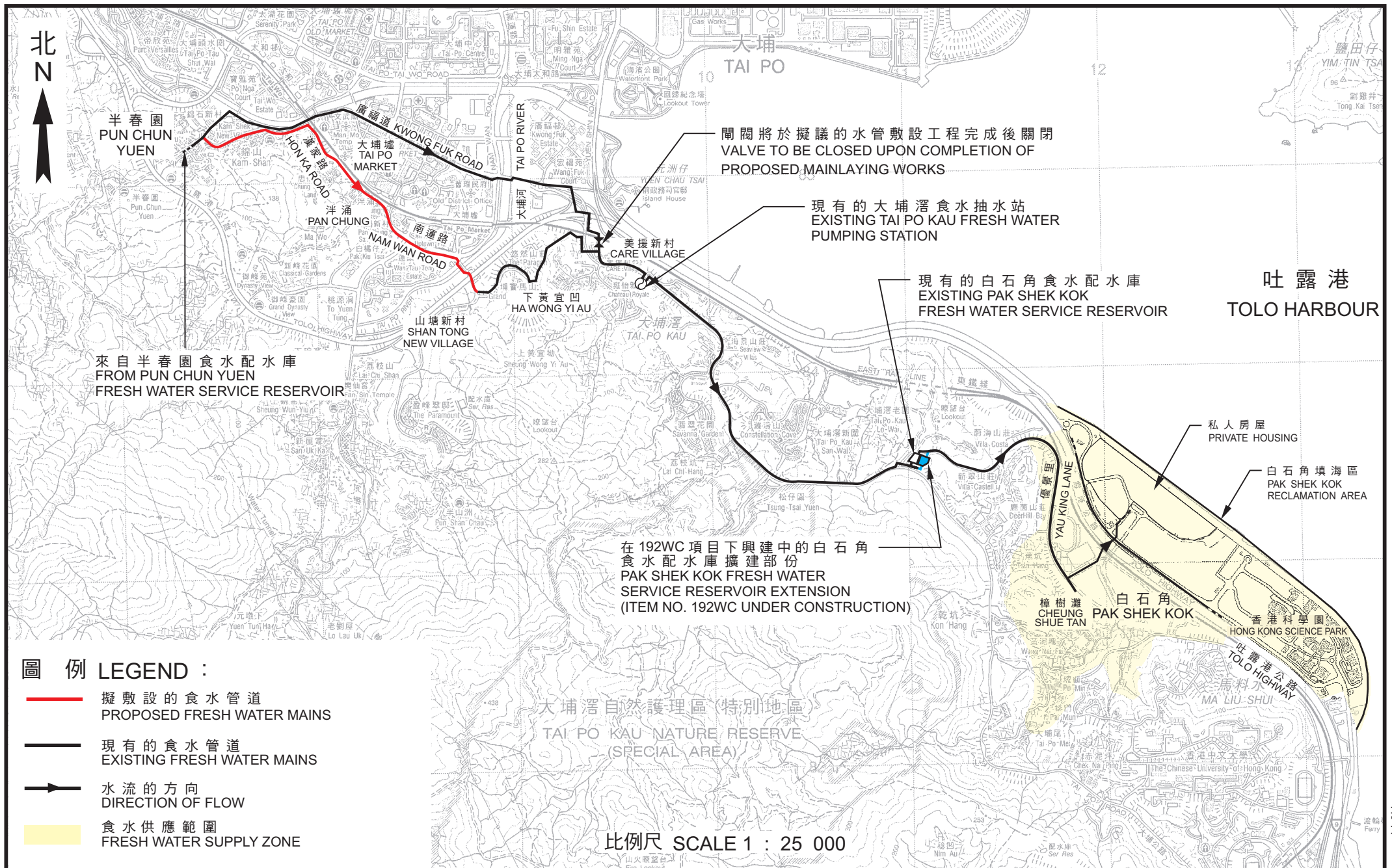
incorporate planting proposals as part of the project, including estimated quantities of eight trees.

23. We estimate that the proposed works will create about 50 jobs (43 for labourers and another seven for professional/technical staff) providing a total employment of 1 670 man-months.

WAY FORWARD

24. We plan to seek the support of the Public Works Subcommittee for the proposed upgrading of **96WC** to Category A in June 2013 with a view to seeking funding approval from the FC in July 2013.

**Development Bureau
Water Supplies Department
April 2013**



- 圖例 LEGEND :**
- 擬敷設的食水管道
PROPOSED FRESH WATER MAINS
 - 現有的食水管道
EXISTING FRESH WATER MAINS
 - ➔ 水流的方向
DIRECTION OF FLOW
 - 食水供應範圍
FRESH WATER SUPPLY ZONE

工務計劃項目第96WC號 — 大埔白石角填海區供水計劃 - 第2階段
 P.W.P. Item No. 96WC — Water supply to Pak Shek Kok reclamation area, Tai Po - stage 2

水務署
WATER SUPPLIES DEPARTMENT

草圖編號 SKETCH NO. **FIGURE 1**

附件 ENCLOSURE