

**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 part of **96WC** to Category A, entitled “Water supply to Pak Shek Kok reclamation area, Tai Po – stage 2 phase 1”, at an estimated cost of \$79.8 million in money-of-the-day (MOD) prices, for expanding the capacity of the existing service reservoir for supplying fresh water to the Pak Shek Kok (PSK) reclamation area.

#### **PROJECT SCOPE**

2. The part of **96WC** that we propose to upgrade to Category A comprises the construction of an extension to the existing PSK fresh water service reservoir (FWSR) with a capacity of 6 000 cubic metres (m<sup>3</sup>), the associated electrical and mechanical works, and implementation of environmental and mitigation measures.

3. Subject to the approval of the Finance Committee (FC), we plan to start the construction of the proposed works in December 2011 for completion in December 2014.

4. We will retain the remainder of **96WC**, which covers the laying of approximately 3 kilometres (km) of fresh water mains in diameter of 600 millimetres (mm), between Pun Chun Yuen and Ha Wong Yi Au, in Category B. Funding for the remainder of **96WC** will be sought after we have completed the design of the water mains so as to cater for the estimated fresh water demand beyond 2016.

5. A site plan of the proposed works under **96WC** is at **Enclosure 1**. A layout plan and a photomontage of the proposed FWSR extension are at **Enclosures 2 and 3** respectively.

## JUSTIFICATION

6. 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 (DWS) has undertaken works funded under **96WC**<sup>1</sup> to extend the nearby water supply system to cope with the anticipated demand arising from developments in the PSK reclamation area.

7. With the latest anticipated rate of population intake in the PSK reclamation area provided by Planning Department, we estimate that the daily fresh water demand will increase from 2 920 m<sup>3</sup> in 2011 to 9 960 m<sup>3</sup> in 2014, further to 11 170 m<sup>3</sup> in 2016 and thereafter to 13 200 m<sup>3</sup>. The capacity of the existing fresh water supply system will not be adequate to meet the projected demand beyond 2014. We need to expand the capacity of the existing PSK FWSR as described in paragraph 2 above by 2014 in order to maintain a reliable supply of fresh water to the area.

## FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works under the project to be \$79.8 million in MOD prices, broken down as follows –

	<b>\$ million</b>
(a) Construction of PSK FWSR extension	60.0
(i) civil works	59.0
(ii) electrical and mechanical works	1.0
(b) Environmental mitigation measures	1.0
(c) Contingencies	6.0
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Sub-total	67.0 (in September 2010 prices)

<sup>1</sup> About 5.2 km of fresh water mains and 2.4 km of salt water mains were laid between 2002 and 2006 and funded under **96WC** so as to build up the necessary water supply network in pace with the roadworks and developments in the area.

	<b>\$ million</b>
(d) Provision for price adjustment	12.8
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Total	79.8 (in MOD prices)
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9. We estimate the annual recurrent expenditure arising from this project to be about \$0.1 million.

## **PUBLIC CONSULTATION**

10. We consulted the Environment, Housing and Works Committee of the Tai Po District Council on 12 January 2011. Members supported the proposed works.

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

## **ENVIRONMENTAL IMPLICATIONS**

12. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap 499). The project does not have any long-term environmental impact. We have included \$1.0 million (in September 2010 prices) in the proposed works for the implementation of standard pollution control measures to mitigate short-term construction impacts in the works contracts. These measures include the use of movable noise barriers and silenced construction plant for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities to prevent dust nuisance.

13. At the planning and design stages, we have considered the layout and founding level of the proposed service reservoir extension to reduce the generation of construction waste where possible. 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 facilities<sup>2</sup>. We will encourage the

<sup>2</sup> 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.

contractors to maximise the use of recycled / recyclable inert construction waste, as well as the use of non-timber formwork to further reduce the generation of construction waste.

14. 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.

15. We estimate that the proposed works will generate in total about 14 300 tonnes of construction waste. Of these, we will reuse about 4 600 tonnes (32.2%) of inert construction waste on site and deliver 9 100 tonnes (63.6%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 600 tonnes (4.2%) 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 \$320,700 for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne<sup>3</sup> at landfills).

## **HERITAGE IMPLICATIONS**

16. The project 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.

## **LAND ACQUISITION**

17. The project does not require any land acquisition.

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<sup>3</sup> 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 m<sup>3</sup>), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

## BACKGROUND INFORMATION

18. We first included **96WC** in Category B entitled “Water supply to PSK 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 \$0.2 million under the block allocation **Subhead 9100WX** “Waterworks, studies and investigations for items in Category D of the Public Works Programme”. The consultancy service has been completed.

19. 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 5.2 km of fresh water mains and 2.4 km of salt water mains in Ha Wong Yi Au and in the PSK reclamation area. The remainder of **96WC** was retained in Category B and was retitled as “Water supply to Pak Shek Kok reclamation area, Tai Po – stage 2”. The works under **180WC** were completed in December 2006.

20. In early 2011, we engaged a landscape consultant to undertake the landscape design for the PSK FWSR extension at an estimated cost of \$0.3 million. We have charged this amount to block allocation **Subhead 9100WX** “Waterworks, studies and investigations for items in Category D of the Public Works Programme”. The detailed design of the proposed works using in-house staff resources has been substantially completed.

21. Of the 42 trees within the project boundary, 27 trees will be preserved. The proposed works will involve the removal of 15 trees, none of which are important trees<sup>4</sup>. We will incorporate planting proposals as part of the project, including about 28 trees, shrubs, ground covers and hydroseeding as appropriate.

22. We estimate that the proposed works will create about 46 jobs (40

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<sup>4</sup> “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:

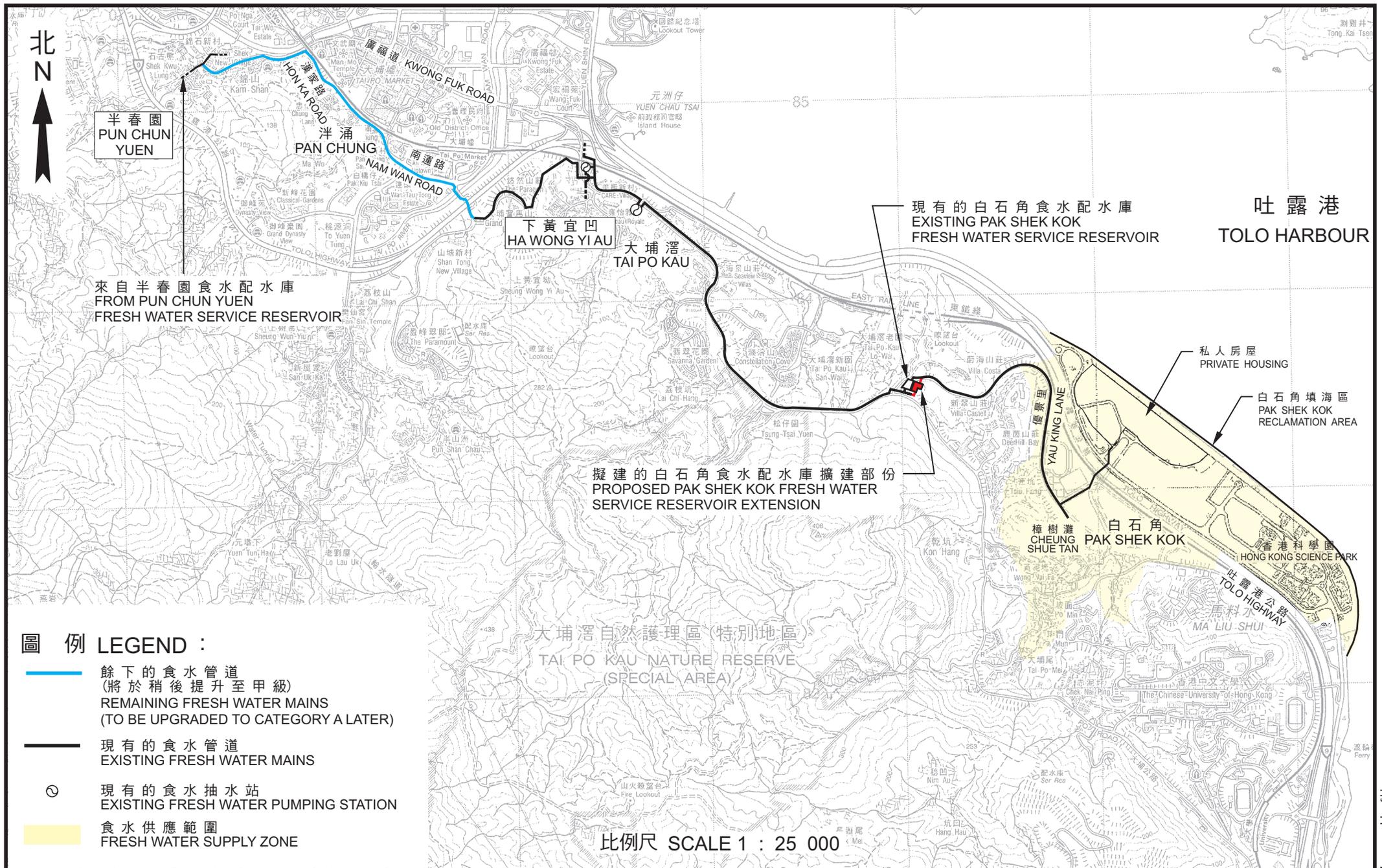
- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (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.

for labourers and another 6 for professional/technical staff) providing total employment of 1 130 man-months.

## **WAY FORWARD**

23. We intend to seek the support of the Public Works Subcommittee for upgrading part of **96WC** to Category A in June 2011 for the construction of the PSK FWSR extension, with a view to seeking funding approval from the FC in July 2011.

**Development Bureau**  
**Water Supplies Department**  
**May 2011**



半春園  
PUN CHUN  
YUEN

潘涌  
PAN CHUNG

下黃宜凹  
HA WONG YI AU

大埔滘  
TAI PO KAU

來自半春園食水配水庫  
FROM PUN CHUN YUEN  
FRESH WATER SERVICE RESERVOIR

現有的白石角食水配水庫  
EXISTING PAK SHEK KOK  
FRESH WATER SERVICE RESERVOIR

吐露港  
TOLO HARBOUR

擬建的白石角食水配水庫擴建部份  
PROPOSED PAK SHEK KOK FRESH WATER  
SERVICE RESERVOIR EXTENSION

私人房屋  
PRIVATE HOUSING

白石角填海區  
PAK SHEK KOK  
RECLAMATION AREA

圖例 LEGEND :

- 餘下的食水管道  
(將於稍後提升至甲級)  
REMAINING FRESH WATER MAINS  
(TO BE UPGRADED TO CATEGORY A LATER)
- 現有的食水管道  
EXISTING FRESH WATER MAINS
- 現有的食水抽水站  
EXISTING FRESH WATER PUMPING STATION
- 食水供應範圍  
FRESH WATER SUPPLY ZONE

大埔滘自然護理區(特別地區)  
TAI PO KAU NATURE RESERVE  
(SPECIAL AREA)

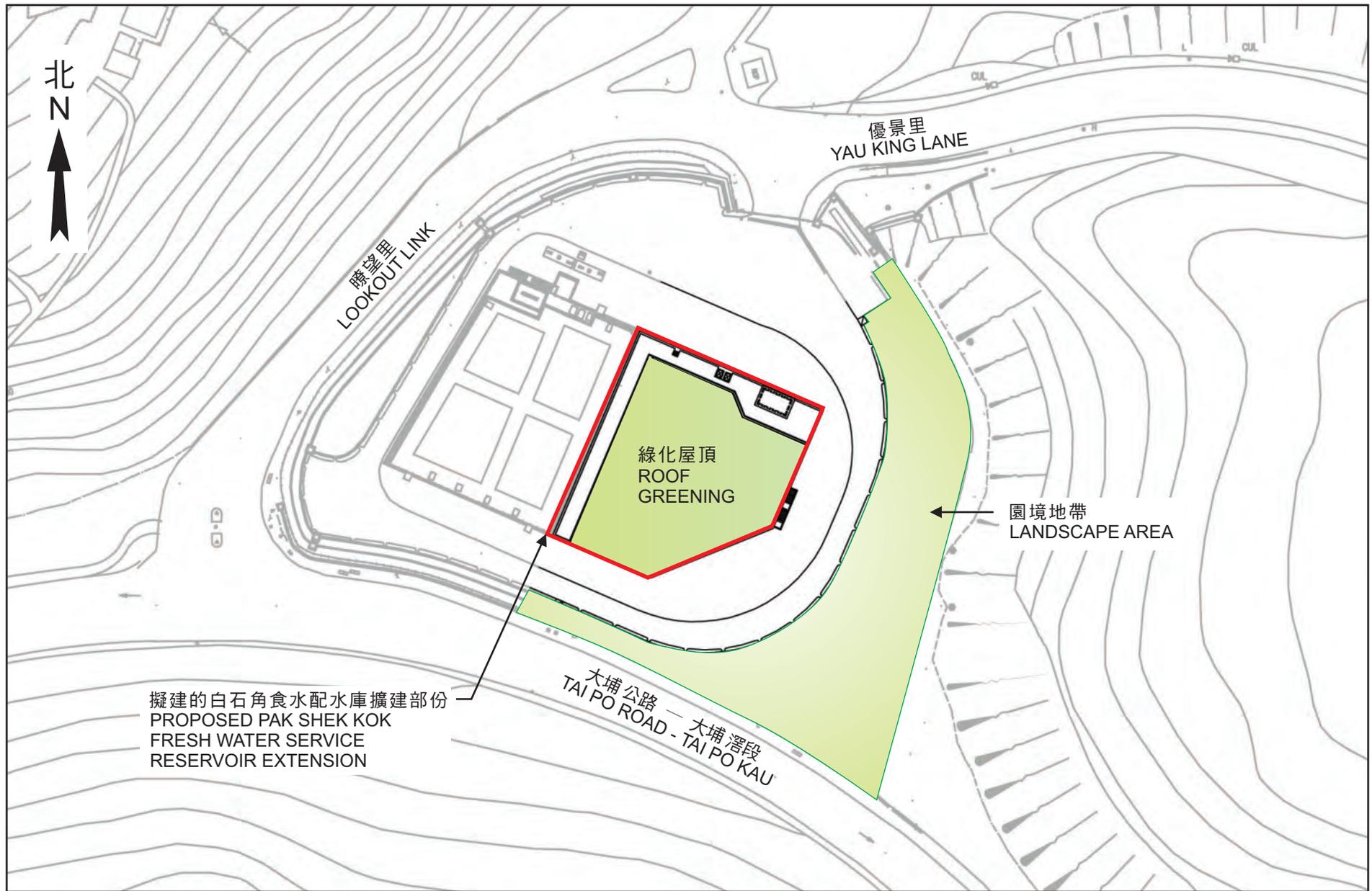
比例尺 SCALE 1 : 25 000

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

附件一 Enclosure 1



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  
 擬建的白石角食水配水庫擴建部份(平面圖)  
 P.W.P. Item No. 96WC — Water supply to Pak Shek Kok reclamation area, Tai Po - stage 2  
 Proposed Pak Shek Kok fresh water service reservoir extension (Layout plan)



現有的白石角食水配水庫  
EXISTING PAK SHEK KOK  
FRESH WATER  
SERVICE RESERVOIR

擬建的白石角食水配水庫擴建部份  
PROPOSED PAK SHEK KOK  
FRESH WATER SERVICE  
RESERVOIR EXTENSION



VIEW 'A'

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  
擬建的白石角食水配水庫擴建部份 (集成照片)  
P.W.P. Item No. 96WC — Water supply to Pak Shek Kok reclamation area, Tai Po - stage 2  
Proposed Pak Shek Kok fresh water service reservoir extension (Photomontage)

 水務署  
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草圖編號 SKETCH NO. **FIGURE 3**