**For discussion**
**on 25 March 2013**

**Legislative Council Panel on Economic Development**

**PWP Item No. 114AP**

**Providing Sufficient Water Depth for Kwai Tsing Container Basin and Its Approach Channel**

## PURPOSE

This paper seeks Members' views on a proposal to dredge the sea-bed of Kwai Tsing Container Basin and portions of the Northern Fairway and Western Fairway with a view to providing sufficient water depth for ultra large container ships (ULCS) to navigate through the Kwai Tsing Container Basin and its approach channel.

## BACKGROUND

2. The sea-bed of Kwai Tsing Container Basin and its approach channel (covering an area of about 428 hectares) are currently maintained at a depth of 15 m below Chart Datum. This level is sufficient for the safe navigation of most container ships which are currently in service, but not for the new generation of ULCS having a maximum design draught of 15.5 m, which has come on stream since 2006. With the water depth of 15 m below Chart Datum, ULCS have to make use of tidal allowances to access the Kwai Tsing Container Terminals.

3. To enable ULCS to navigate in and out the Kwai Tsing Container Terminals at all tides, a design sea-bed level of 17.5 m below Chart Datum is required.

## PROJECT SCOPE

4. The scope of the proposed project comprises the following major elements -

(a) dredging and disposal of dredged sediments;

(b) modifying and demolishing existing submarine sewerage outfalls; and

(c) implementing the environmental mitigation measures and the Environmental Monitoring and Audit (EM&A) programme.

5. Subject to funding approval of the Finance Committee (FC), we plan to commence the proposed project within 2013 for completion by 2016. A site plan showing the locations of the proposed dredging works and the submarine sewerage outfalls is at **Annex**.

6. Individual container terminal operators will be required to proceed with the deepening of their own berthing boxes to cater for the berthing needs of ULCS at those berths. We will work closely with the operators concerned to ensure that the works are well-coordinated and dovetailed with one another. In addition, to suit the design sea-bed level, part of the existing Tsing Yi submarine sewerage outfall has to be modified and part of the abandoned Kwai Chung submarine sewerage outfall has to be demolished.

## JUSTIFICATION

### *Need for the Proposed Project*

7. It is the trend in international shipping that ULCS are deployed in international voyages, especially long-haul routes, with a view to attaining economy of scale and reducing marine emissions. In 2012, there were 216 arrivals of container ships with a draught over 15 m. With the present water depth of the Kwai Tsing Container Basin and its approach channel, such ships have to make use of tidal allowances to access the Kwai Tsing Container Terminals.

8. To meet the growing number of ULCS in international voyages, there is a need to take forward the project as soon as possible, otherwise more ULCS would be diverted to neighbouring ports, such as Singapore Port, Busan Port and Ningpo Port which have the capacity to handle ULCS. In particular, the international transhipment cargo currently handled by the Hong Kong Port, amounting to 7.3 million Twenty-foot Equivalent Units in 2011 or about 30% of our total container throughput in the same year, might be lost to our competitors in the region if the channels are not dredged. In the long run, this may have adverse impact on Hong Kong’s status as a regional hub port as

well as on the employment in the port and logistics sectors.

## FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the proposed project to be $488.2 million in MOD prices[1]. Due to insufficient in-house resources, we propose to engage consultants to undertake contract administration and site supervision of the dredging works. The breakdown of costs will be provided in the Public Works Subcommittee paper.

## PUBLIC CONSULTATION

10. The Hong Kong Port Development Council [2] and Port Operations Committee[3] were consulted in 2008. They expressed support for the proposed dredging works to take place at Kwai Tsing Container Basin and its approach channel to meet the operational needs of the ULCS in order to maintain the competitiveness of Hong Kong as a leading hub port in the region.

### *First round of public consultation in 2009*

11. We completed two rounds of public consultation in 2009 and 2012. In the first round of consultation in 2009, we consulted the Kwai Tsing District Council (K&TDC), the Tourism, Agriculture, Fisheries and Environmental Hygiene Committee (TAFEHC) of the Islands District Council (IsDC) and, by circulation of an information paper, the Southern District Council (SDC). Members of the aforesaid councils and committee did not raise objection to the project but expressed concern on the potential impact to the environment during dredging and handling of the dredged sediment and requested us to minimize the impact to the fisheries industry.

12. We also consulted the Tsuen Wan District Council (TWDC) on 24 November 2009. Members raised concern, among others, about the potential impact to the beaches in Tsuen Wan and the fish culture zone in Ma

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[1] This figure represents the latest estimates of the capital cost. We will finalise the cost estimates before making submission to the Public Works Subcommittee.

[2] The Hong Kong Port Development Council is an advisory body chaired by the Secretary for Transport and Housing. It advises the Government on the port development strategy and port facilities planning to meet future demands. It also assists the Government in the promotion of Hong Kong as a regional hub port and a leading container port in the world.

[3] The Port Operations Committee is an advisory body chaired by the Director of Marine. It advises the Director of Marine on all matters affecting the efficient operations of the port of Hong Kong.

Wan. Members considered that we should not gazette the project under the Foreshore and Sea-bed (Reclamations) Ordinance (FS(R)O) (Cap 127) until the consultation process had been completed. Members also considered that the project would pose possible risk to the business of mariculturists and requested ex-gratia allowance (EGA) for the mariculturists.

13. We conducted an Environmental Impact Assessment (EIA) study in 2010 to address the concerns raised in the first round of public consultation. We also discussed with the affected fishermen and mariculturists issues regarding the EGA payment (please refer to paragraphs 25 to 26 below). The application for an Environmental Permit (EP) for the proposed project had been temporarily suspended for a while pending the judicial review on the Environmental Impact Assessment (EIA) report for the Hong Kong–Zhuhai–Macao Bridge project. Upon settlement of that judicial review, the EP was issued in October 2011. Subsequently, the EGA proposal was approved in April 2012. The consultation exercise for the proposed project then resumed.

***Second round of public consultation in 2012***

14. In the second round of consultation in 2012, we consulted TWDC, SDC and K&TDC (by circulation of information papers), as well as the TAFEHC of IsDC. No objections were received except one suggestion that all vessels involved in the works and/or using the East Lamma Channel should use low sulphur fuel so that a low emission zone could be effectively created to safeguard the health of nearby residents. We take note of this suggestion and will accordingly require our contractors to, as far as practicable, engage marine vessels powered by environmental green fuel available in the market for transporting the sediments generated by the project to disposal sites. We will also encourage the marine vessels working for project to reduce vessel emissions by using cleaner fuels or adopting appropriate emission control measures.

15. We consulted relevant fisheries associations and mariculturists on the proposed project in March 2012. They all supported the project.

16. At the detailed design stage, we consulted the container terminal operators, the Hong Kong Pilots Association Limited and the affected local ferry companies and cross-boundary ferry services operators on the potential marine traffic impact. They all supported the project. We have formed a marine traffic management liaison group with these parties and will continue to liaise with them on the temporary marine traffic management for the affected area during the construction period.

17. We gazetted the proposed dredging works under FS(R)O

(Cap 127) on 27 July and 3 August 2012. We did not receive any objection during the statutory two-month objection notification period. The authorization of the proposed dredging works was gazetted on 9 November 2012.

## ENVIRONMENTAL IMPLICATIONS

18. The proposed project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499) and an Environmental Permit (EP) is required. An EIA was conducted for the project to address potential environmental impacts arising from both construction and operational phases of the project, including potential impacts on water quality, waste management, marine ecology, fisheries, hazard to life, landscape, visual and glare, cultural heritage, noise and air quality.

19. The EIA report concluded that, with the implementation of mitigation measures mentioned in paragraph 20 below, the environmental impact of the project would be controlled to within the criteria under EIAO and the Technical Memorandum on EIA Process. In particular, no adverse water quality impact is predicted for the identified water sensitive receivers including gazetted bathing beaches, coral communities and fish culture zones. With the provision of mitigation measures including silt curtain at the grab dredger and silt screens at the sea water intakes, the Water Supplies Department's water quality criterion for flushing water at sea water intakes can also be achieved. In October 2010, the EIA report for the project was approved with conditions under EIAO and an EP was issued in October 2011.

20. We shall adopt good site management practices, implement the mitigation measures and the Environmental Monitoring and Audit (EM&A) programme as recommended in the approved EIA report, and comply with the EP conditions. The key environmental mitigation and monitoring measures include the use of closed grab dredger, the deployment of silt curtains enclosing the grabs of the dredging plants and silt screens at sea water intakes, the limitation of the number of dredgers, the control of daily dredging rate of each dredger, the implementation of 24-hour water quality monitoring at chosen sensitive receivers, and the setting up of community liaison group. The cost of implementing the environmental mitigation measures and the EM&A programme is estimated to be about $101.3 million, which has been included in the project estimate.

21. At the planning and design stages, we estimate that the project will generate in total about 4 million cubic metres of marine sediments. The marine sediments will be disposed of at designated sediment disposal facilities to be allocated by the Marine Fill Committee according to their

chemical and biological contamination level.

22. The modification of part of the existing Tsing Yi submarine sewerage outfall and the demolition of part of the abandoned Kwai Chung submarine sewerage outfall will generate rock and rubble above the design dredging level surrounding the submarine sewerage outfall. These materials will be re-used on site for forming the new surrounds. Meanwhile, we estimate that the project will generate about 160 tonnes of rubble and concrete material which is classified as inert construction waste and will be delivered to public fill reception facilities for subsequent reuse. The demolished components of the submarine sewerage outfall including steel pipes and rubber diffuser ports and other construction waste (e.g. worn-out silt curtains) of about 20 tonnes are classified as non-inert construction waste and will be disposed of at landfill sites.

23. At the construction stage, we will require the contractor to submit a Waste Management Plan and an Environmental Management Plan for approval and implement the approved plans with the aim to minimize the generation of construction and demolition material, and to avoid pollution during dredging and disposal of marine sediments. We will ensure that the day-to-day operations on site comply with the approved plans.

## LAND ACQUISITION

24. The project does not require any land acquisition.

25. Under the existing criteria, EGA will be granted to the fishermen affected by marine works projects in Hong Kong waters who may suffer from a reduction of income and may incur extra expenses in relocating their activities to fishing grounds elsewhere. The project is expected to give rise to about 240 hectares of temporary loss of fishing ground. The estimated amount of EGA payable to eligible fishermen is about $3.3 million. Funds will be made available under **Head 701 - Land Acquisition**.

26. Separately, FC approved on 27 April 2012 that a one-off special EGA be payable to the mariculturists of the Cheung Sha Wan, Ma Wan and Sok Kwu Wan fish culture zones (FCZs) in view of the almost unprecedented circumstances that there will be six large-scale marine works projects (including the concerned dredging project) commencing within three years in the Western waters where the three FCZs are located. FC also approved the extension of applicability of the proximity criterion to cover large-scale mud dredging operation, under which mariculturists at Lo Tik Wan FCZ, which is 4.3 km away from the Kwai Tsing Container Basin dredging site, would also be eligible for the EGA. The estimated maximum amount of the one-off

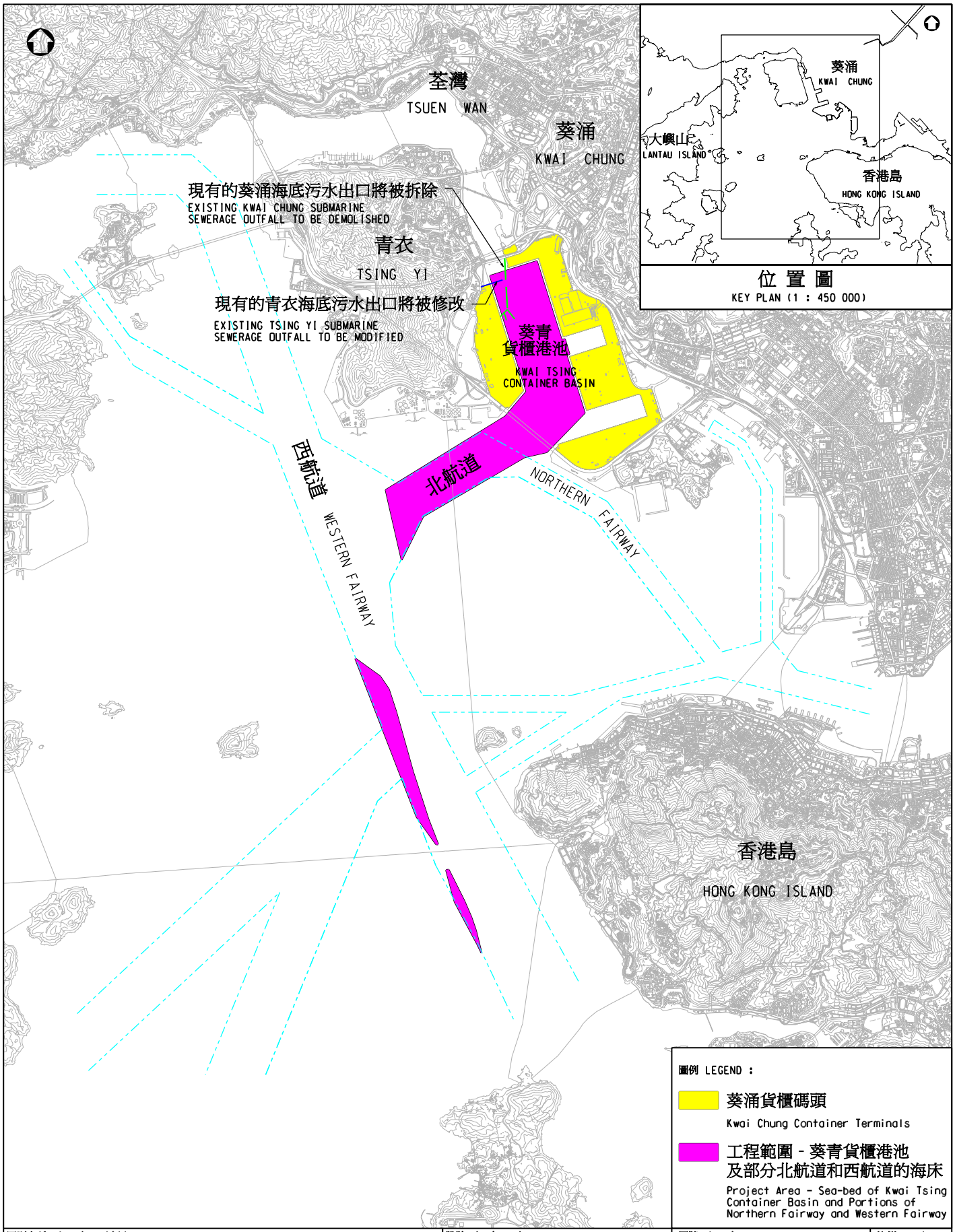
special EGA payable to mariculturists of the three FCZs is $83 million, whereas the estimated maximum amount payable to affected mariculturists of Lo Tik Wan is about $33.2 million. Funds will be made available under **Head 701 - Land Acquisition**.

## ADVICE SOUGHT

27. Members are invited to comment on the proposed project. Subject to Members' support, we will seek the support of the Public Works Subcommittee for upgrading the proposed project to Category A in May 2013 with a view to seeking funding approval from the FC in June 2013.

**Transport and Housing Bureau**
**March 2013**

附件
Annex




圖則名稱 drawing title

工務計劃項目第 5114AP 號
為葵青貨櫃港池及其進港航道提供足夠水深

PUBLIC WORKS PROGRAMME ITEM NO. 5114AP
PROVIDING SUFFICIENT WATER DEPTH FOR KWAI TSING CONTAINER BASIN AND ITS APPROACH CHANNEL

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|---|---|
| 設計 designed | K. L. CHAN |
| 繪圖 drawn | K. Y. CHAN |
| 核對 checked | H. S. WONG |
| 核准 approved | K. S. CHAN |



圖號 drawing no. SD2012-001

比例 scale 1:75 000

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