

## **LOCAL VESSELS ADVISORY COMMITTEE**

### **Tung Chung New Town Extension**

#### **Purpose**

1. The purpose of this paper is to brief members on the proposed reclamation for Tung Chung New Town Extension ('TCNTE'). A feasibility study-stage Marine Traffic Impact Assessment ('MTIA') has been undertaken to evaluate the marine traffic impacts associated with the construction and operation of the TCNTE project. The findings of the MTIA are presented in this paper.

#### **Background**

2. The Civil Engineering and Development Department ('CEDD') and the Planning Department jointly commissioned the "Planning and Engineering Study on the Remaining Development in Tung Chung – Feasibility Study" ('the P&E Study') in 2012 to review the remaining development of Tung Chung New Town ('TCNT') and to increase land supply. Following a three-stage public engagement process completed in October 2014<sup>2</sup>, we have formulated the development proposal of TCNTE.

3. The proposed TCNTE will cover areas on the eastern and western flanks of the existing TCNT (i.e. Tung Chung East ('TCE') and Tung Chung West). The planning area of TCE including the proposed Road P1 of about 130 hectares is to be formed by reclamation.

4. TCNTE will provide about 49,400 residential flats which will accommodate a population of about 144,400 as proposed under the P&E Study. Upon full development of TCNTE, the total population of Tung Chung will reach about 268,400.

#### **Proposed Reclamation**

5. The proposed reclamation in TCE, in triangular shape on plan, stretches

---

<sup>1</sup> Same as Port Operations Committee Paper No. 6/2015.

<sup>2</sup> See <http://www.tung-chung.hk/>

from the north of Tung Chung Phase 3A to Tai Ho Inlet Bay. One of the reclamation edges will be in parallel with the Tung Chung Channel. The reclamation extent is shown in *Figure 1*. The reclamation works is scheduled for commencement in late 2017 and for completion in 2023 respectively.

6. A marina is proposed at the northeast tip of the TCE reclamation area. The proposed marina will make use of the adjacent Tung Chung Channel for direct access. The tentative number of berthing spaces for pleasure boats is 95. The operation and implementation programme of the marina will be subject to further study in the detailed design stage of the TCNTE project.

### **Existing Marine Traffic in Tung Chung Channel**

7. The existing width of Tung Chung Channel is about 200m. The channel and the vicinity waters are frequented by construction related vessels ('including fast-launches to transport site staff and workers') under the Hong Kong – Zhuhai – Macao Bridge ('HZMB') projects including Hong Kong Link Road and Hong Kong Boundary Crossing Facilities ('HKBCF') and Tuen Mun-Chek Lap Kok Link ('TMCLKL'). However, this construction related marine traffic is showing a diminishing trend as the marine works of the HZMB projects have already passed its peak.

8 The alignment of Southern Viaduct of TMCLKL will cross the existing Tung Chung Channel at the southeast side of the HKBCF. A bridge with span length of 160m is proposed which gives a net navigable width and height of 110m and 21.3m respectively. This navigation envelope will be sufficient for two-way marine traffic for the regular users of the navigation channel.

9 A licensed ferry service is currently operated by Fortune Ferry Co. Ltd providing transit service between Tuen Mun and Tai O via Tung Chung. There are seven round-trips travelling through Tung Chung Channel between 7 a.m. and 8 p.m. each day. In addition, other existing regular users of Tung Chung Channel include fishing vessels, the fireboats of Fire Services Department ('FSD') and launches of Hong Kong Police Force ('HKPF').

### **Marine Impact in Operation Phase**

10. Subject to detailed design of the seawall, the Tung Chung Channel will be maintained at a minimum width of about 200m as far as possible as shown in *Figure 2*. Navigation aids will be provided / re-provisioned as appropriate. As for the proposed marina, the operation, including the number of berthing space,

inlet design and any necessary control measures, will be subject to further studies. Such studies, including navigation simulation to confirm the navigation safety, will be carried out in the detailed design stage of the TCNTE project.

### **Marine Impact in Construction Phase**

11. The reclamation works will take about 5.5 years to complete. A working zone of 150m offset from the reclamation edge would be required for ground treatment works and seawall construction. Construction vessels will be restricted to navigate within the 150m working zone so as to minimize the marine impact to existing marine users. As such, a portion of Tung Chung Channel at the southwest of TMCLKL is proposed to be temporarily re-aligned and narrowed to 110m in width during the reclamation for TCE. Most of the seabed level of the temporarily re-aligned channel is at -4.5mCD to -6mCD, with some local areas near the northwest edge of the realigned channel shallower at about -3.8mCD. A desktop study reveals that the re-aligned channel, having regard to the channel width, water depth and bending radius, would be adequate for two-way traffic by existing marine users. The proposed arrangement is shown in *Figure 3*. The existing marine users of Tung Chung Channel including Fortune Ferry ('the licensed ferry service operator'), Airport Authority Hong Kong, Transport Department, FSD and HKPF were consulted. There was no adverse comment on the proposed re-alignment of Tung Chung Channel from stakeholders.

12. In addition to the desktop study, a navigation simulation with respect to the proposed temporary re-alignment has been carried out at the Maritime Services Training Institute. A shipmaster was engaged to steer the simulated pilot vessel under scenarios of poor weather conditions and with a high density of construction vessels navigating within the re-aligned channel. Simulation result concurred with the desktop findings that no major navigation risk would result from the re-aligned navigation channel for existing marine users of Tung Chung Channel.

13. Notwithstanding the above, we will implement further appropriate marine traffic management measures to ensure that navigation safety would not be impaired. Measures include provision of guard boats to be manned by the site supervisory staff near the gateway of TMCLKL to control the traffic flow of construction vessels and the conduct of trial runs by the contractor to fine-tune the necessary control measures. Furthermore, a Marine Management Working Group ('MMWG') will be established during construction phase to coordinate marine activities in the vicinity of the site, and the relevant stakeholders will be invited to join the MMWG.

14. The reclamation works will encroach upon the existing pier at Pak Mong. A set of permanent landing step will be re-provided in the vicinity after completion of the works. During construction phase, a temporary floating pontoon or other appropriate facilities will be provided for public use.

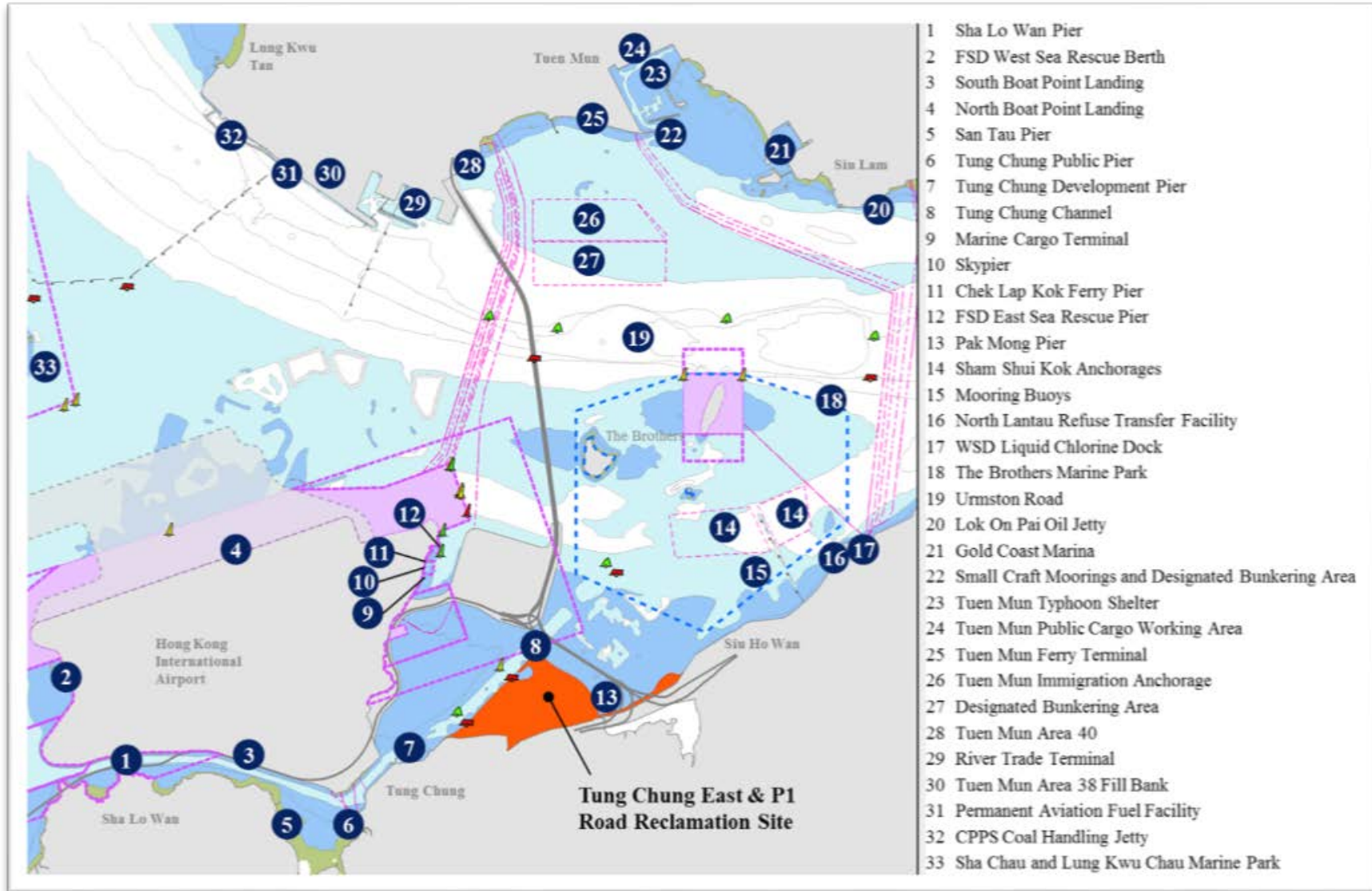
### **Way Forward**

15. The reclamation works is scheduled for gazettal under Foreshore Sea-bed (Reclamations) Ordinance (Cap. 127) in December 2015 / January 2016. CEDD will engage consultants to proceed with detailed design of TCNTE, including the reclamation and the operation of the marina. A detailed MTIA will be carried out to further assess the navigation safety in both construction and operation phases according to the reclamation design and construction method. Further navigation simulations will also be carried out to support the assessment.

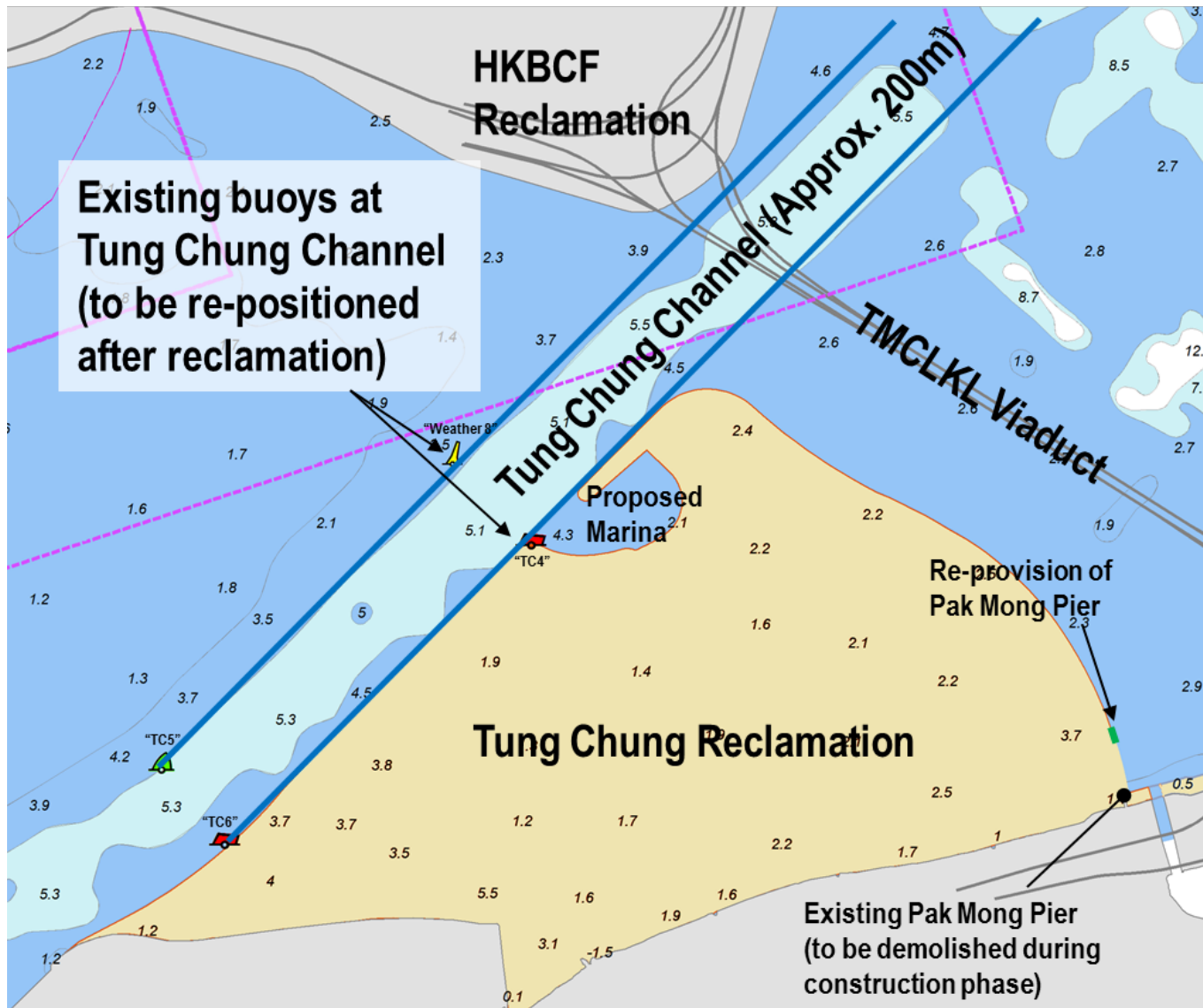
### **Advice Sought**

16. Members are invited to express their views on the proposed arrangement.

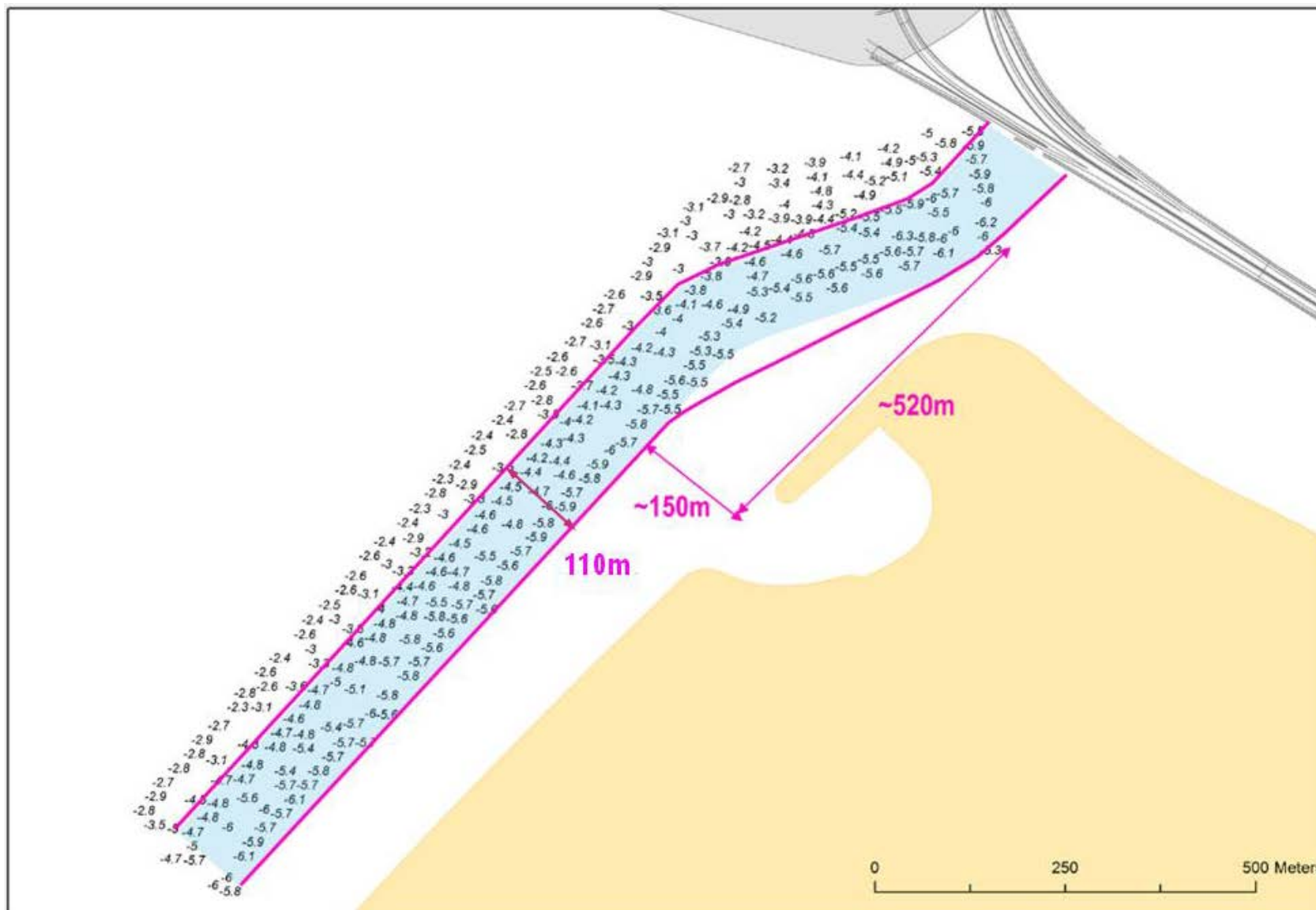
Hong Kong Island and Islands Development Office  
Civil Engineering and Development Department  
December 2015



**Figure 1 - Proposed Reclamation for Tung Chung New Town Extension and Existing Marine Facilities**



**Figure 2 - Tung Chung Reclamation and Tung Chung Channel in Operation Phase**



**Figure 3 - Proposed Temporary Re-alignment of Tung Chung Channel**