

PORT OPERATIONS COMMITTEE

Tung Chung New Town Extension

PURPOSE

The purpose of this paper is to brief members on the progress of the proposed reclamation for Tung Chung New Town Extension (TCNTE). The findings and recommended mitigation measures of the Marine Traffic Impact Assessment are also presented in this paper.

BACKGROUND

2. The Stage 3 Public Engagement for TCNTE¹ was completed in 2014 for formulation of the Recommended Outline Development Plan. According to the Outline Zoning Plans (OZPs), TCNTE will provide about 49,400 residential flats for a population of about 144,400. It will also provide about 800,000 square metres of gross floor area for commercial use. TCNTE is one of the key initiatives to increase land supply to meet the housing and other development needs of the community.

3. Civil Engineering and Development Department (CEDD) consulted Port Operations Committee (POC) and Local Vessels Advisory Committee (LVAC) via POC Paper No. 6/2015 “Tung Chung New Town Extension” in December 2015. CEDD then conducted a briefing session on 22 December 2015 to brief members of POC and LVAC and seek their advice on the proposed reclamation works and the marine traffic impact. Attendees in principle had no objection to the proposed reclamation and the temporary marine traffic arrangement and would like CEDD to optimise the design of TCNTE to further mitigate the impact to the industry.

¹ <http://www.tung-chung.hk/>

4. The Environmental Impact Assessment Report² and Environmental Permit were approved in April and issued in August 2016 respectively by the Director of Environmental Protection. The OZPs for TCNTE and the proposed reclamation for Tung Chung East (TCE) have been approved by government recently. We are currently undertaking the detailed design for the associated reclamation and infrastructure works.

SCOPE OF WORKS

5. The TCE reclamation area is about 129 hectares including about 4.9 kilometres long seawall. The extent of reclamation as well as that of the affected foreshore and seabed are shown in **Figure 1**. The reclamation contract is anticipated to commence in end 2017. The associated marine works are anticipated to commence in 2018 for completion in 2023. Moreover, a proposed marina with about 95 berthing spaces will be located at the northeast corner of the reclamation area and is anticipated to be in operation by 2030.

MARINE FACILITIES IN THE VICINITY AND EXISTING MARINE TRAFFIC

6. The marine facilities in the vicinity of TCE reclamation area are shown in **Figure 2**. The facilities that are affected by the reclamation works include the Tung Chung Buoyed Channel (TCBC) and Pak Mong Pier. The construction vessels for the works would enter the works site through the gateway of Tuen Mun-Chek Lap Kok Link (TMCLKL). They would avoid travelling within the proposed Brothers Marine Park as far as practicably possible.

7. At present, there is a licensed ferry service travelling through TCBC. The service is operated by the Fortune Ferry Co. Ltd providing service from 07:00 to 19:30 daily. The service is operating at 7 and 9 round trips per day on weekdays and weekends/holidays respectively between Tuen Mun and Tai O via Tung Chung. In addition, there are other existing regular users of TCBC including fishing boats and government vessels providing emergency and patrolling services.

8. The existing width of TCBC is about 200 metres (m). TCBC and the vicinity waters are frequently used by the construction vessels for the Hong Kong – Zhuhai – Macao

² http://www.epd.gov.hk/eia/register/report/eiareport/eia_2332015/cover.html

Bridge (HZMB) related projects (including the Hong Kong Link Road (HKLR) and Hong Kong Boundary Crossing Facilities (HKBCF) and TMCLKL projects). Nevertheless, the marine works of these HZMB related projects are anticipated to be completed substantially in 2018. Then, TCBC and the vicinity waters will be mainly frequented by the construction vessels for the TCE reclamation works.

9. The southern viaduct of TMCLKL will span over TCBC near the southeast corner of HKBCF. The bridge spanning over TCBC has a navigable width and height of 110m and 21m respectively. This navigation envelope is sufficient for two-way navigation for general vessels.

MARINE TRAFFIC IMPACT ASSESSMENT (MTIA)

10. Typical construction vessels to be deployed for the TCE reclamation works include derrick lighters, flat-top barges, pelican barges and tug boats. Based on the current estimate, about 32 round trips per day would travel through TCBC during the peak construction period, which is less than the maximum of 56 round trips per day as stipulated in the Environmental Permit. During the operation phase when the TCE reclamation works are completed, there will be no construction vessels travelling through TCBC. However, the operation of the proposed marina will lead to an increase in marine traffic volume. An MTIA have been conducted for the construction and operation phases to assess the marine traffic risks arising from the increase in marine traffic volume using navigation simulations, and to recommend appropriate mitigation measures. The results of the assessment are as follows:

MARINE TRAFFIC IMPACT DURING CONSTRUCTION PHASE

11. To facilitate the reclamation works, a working zone of 150m wide offset from the reclamation edge will be required. The construction vessels will be restricted to work within the 150m working zone so as to minimize the disturbances to other existing marine users. As such, a portion of TCBC at the southwest of TMCLKL will be required to be re-aligned temporarily and narrowed to 110m in width during the reclamation works (see **Figure 3**). According to the results of the latest geophysical survey, the seabed level of the temporarily re-aligned channel is at -4.3mCD to -6.2mCD.

12. We have conducted navigation simulations for the proposed temporary re-alignment. The simulations include scenarios during day time, night time, poor visibility and under strong wind conditions with background traffic including the construction vessels, fill transport barges and other local vessels travelling through the navigation channel regularly (including the Fortune Ferry and small crafts).

13. The results of the simulations have shown that with the implementation of appropriate marine traffic management measures, the reclamation works will not have any major navigation risk to other existing users of TCBC. The recommended measures include provision of guard boats to be manned by the site supervisory staff near the gateway to control the traffic and imposing one-way traffic control on the construction vessels passing through the gateway of TMCLKL. The construction vessels are also required to navigate into the works site right after passing through the gateway of TMCLKL without entering the 110m wide temporarily re-aligned channel. In order to provide clear indication for the re-alignment, existing buoys TC4, TC5, TC6 and Weather 8 will be relocated along the re-aligned channel together with the installation of additional marker buoys MB1 and MB2 (see **Figure 3**).

14. Furthermore, a Marine Management Working Group will be established during the construction phase to communicate with relevant stakeholders regularly and coordinate marine activities in the vicinity of the site.

MARINE TRAFFIC IMPACT DURING OPERATION PHASE

15. The TCE reclamation works is anticipated to complete in 2023. The proposed seawall has been designed to avoid causing impact to the existing TCBC. The width between the seawall and the edge of TCBC will be maintained at about 200m. TCBC will be in parallel with the new coastline. The buoys of TC4 and TC6 will be removed which with buoys of TC4 and Weather 8 will be reinstated to their original positions.

16. The proposed marina is located adjacent to TCBC. The vessels from the proposed marina will access via TCBC. The scale of the marina is relatively small with about 95 berthing spaces. It is anticipated that the peak daily traffic of the vessels will take place

during weekends and public holidays in which most of vessels are of 15m or less in length. Therefore no major navigation risk to TCBC is anticipated. However, a marine traffic risk assessment on the increased traffic volume has been conducted. The assessment revealed that the width of the marina entrance/exit should be maximised (about 140m) to provide adequate sightline and manoeuvring space. Navigation aids of major lights should be provided on both sides of the entrance/exit (see **Figure 4**) to reduce the risk of vessel collisions.

17. The existing Pak Mong Pier will be occupied by the reclamation works. A set of permanent landing step will be re-provided in the vicinity after completion of the works. A temporary floating pontoon with a temporary access connecting to the existing Pak Mong Pedestrian Subway will be provided near the Tai Ho for public use during construction from 2018Q1 to 2023Q1. The locations of the temporary pontoon and new landing step are shown in **Figure 5**.

WAY FORWARD

18. We will consult Development Panel of Legislative Council (LegCo) in late April 2017 and plan to seek funding application from Public Works Subcommittee and Finance Committee of LegCo in mid-2017 with a view to commencing the TCE reclamation contract in end 2017 as scheduled.

ADVICE SOUGHT

19. Members are invited to express their view on this paper.

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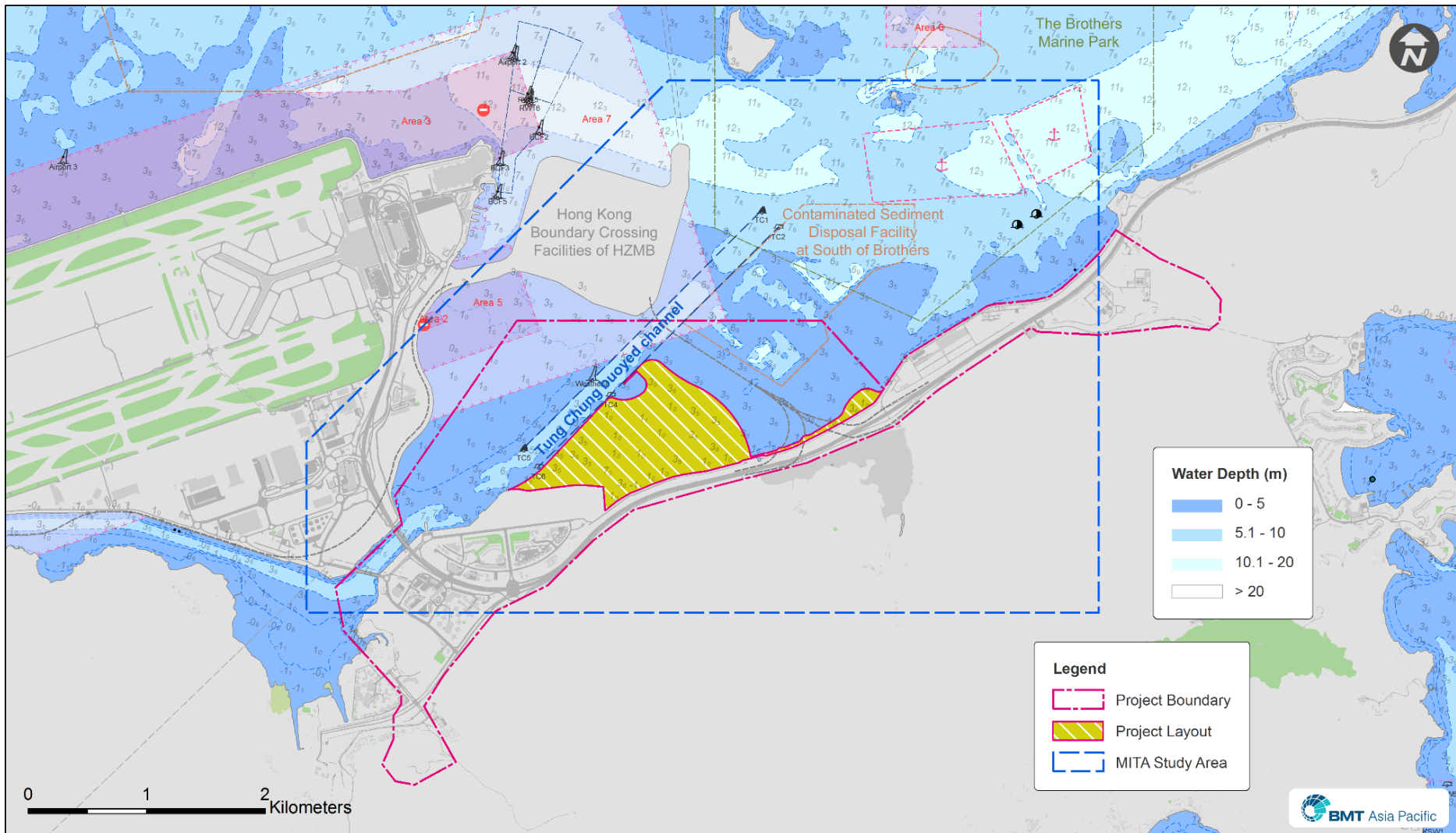


Figure 1

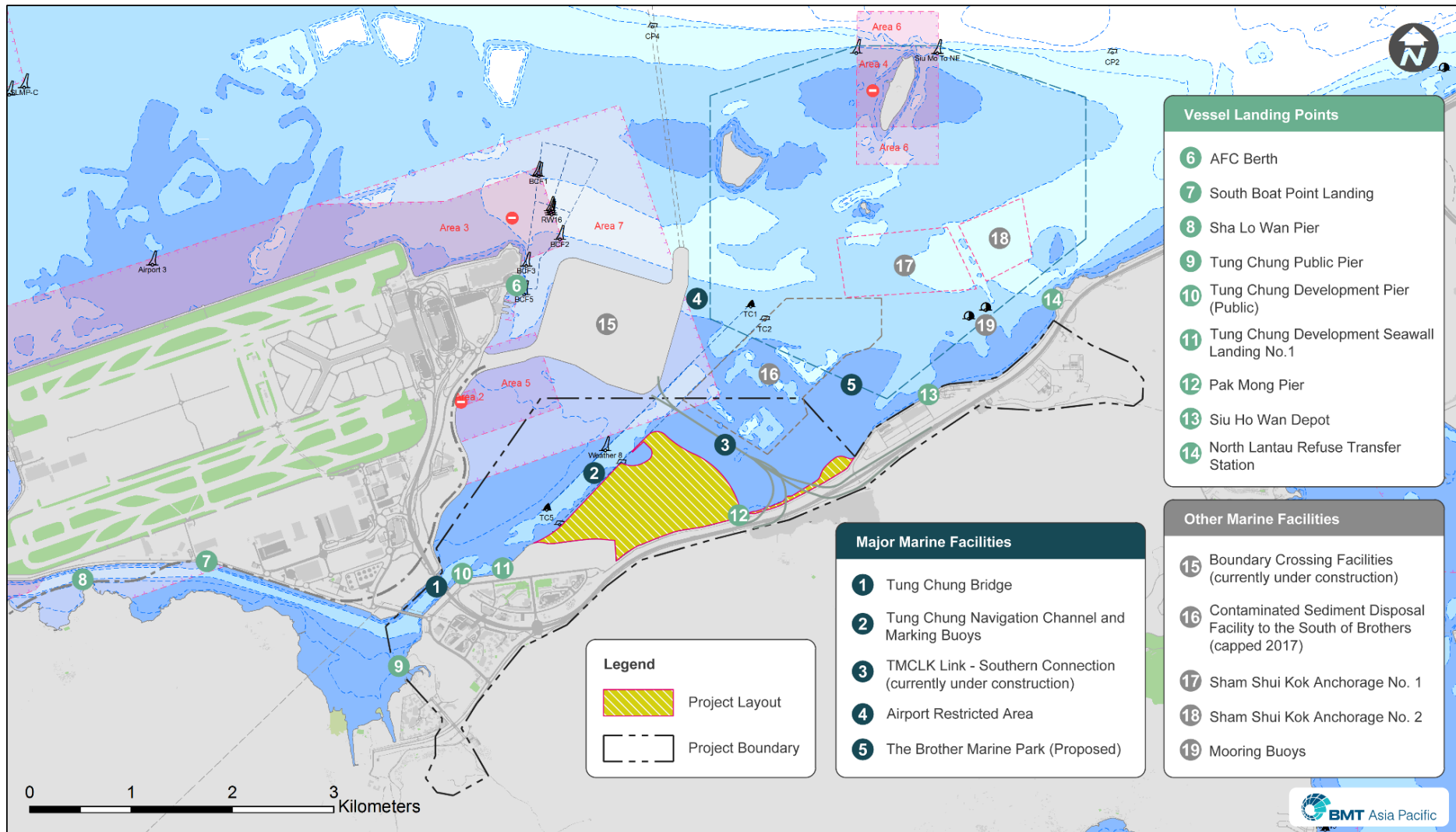


Figure 2

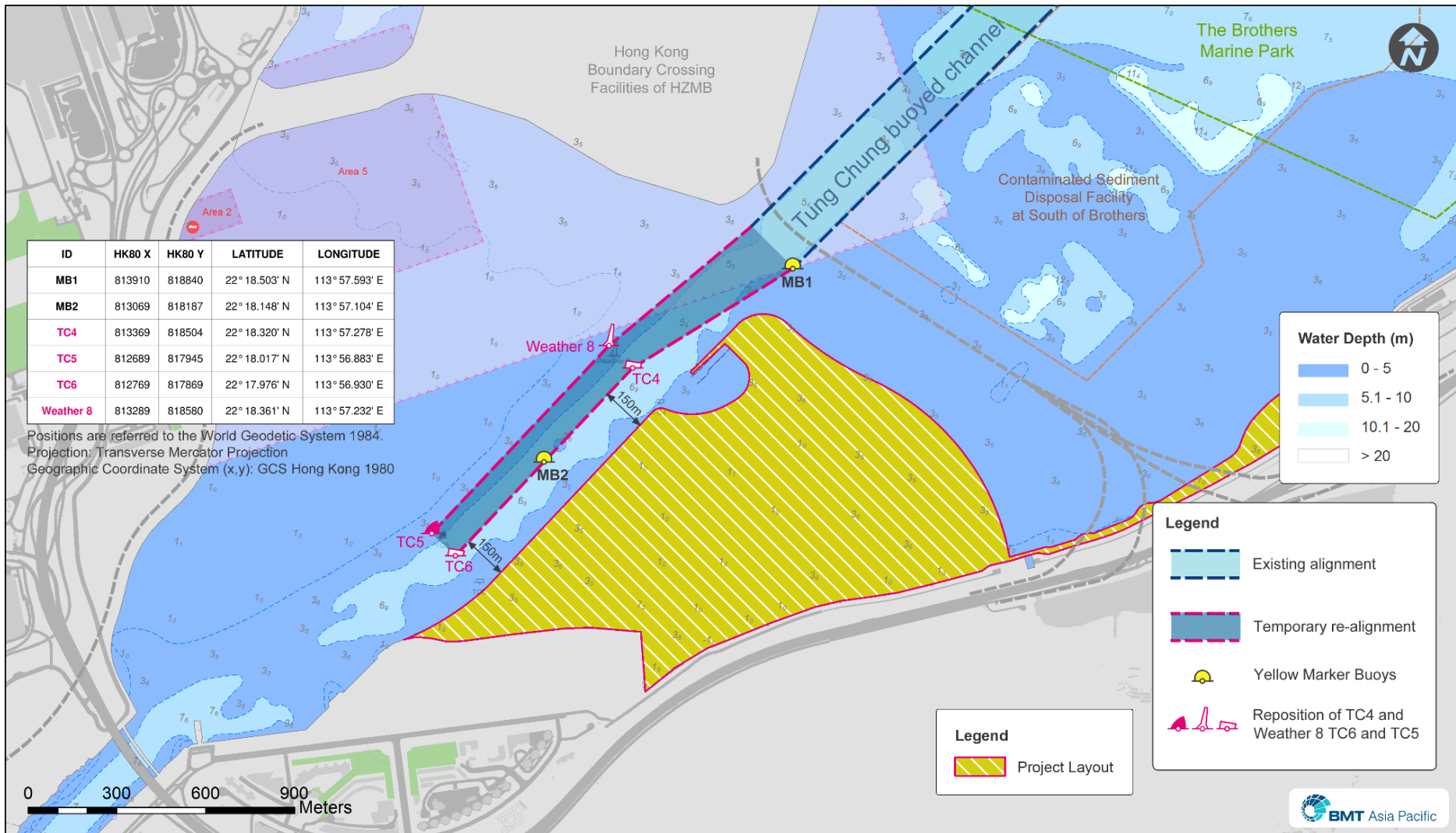


Figure 3

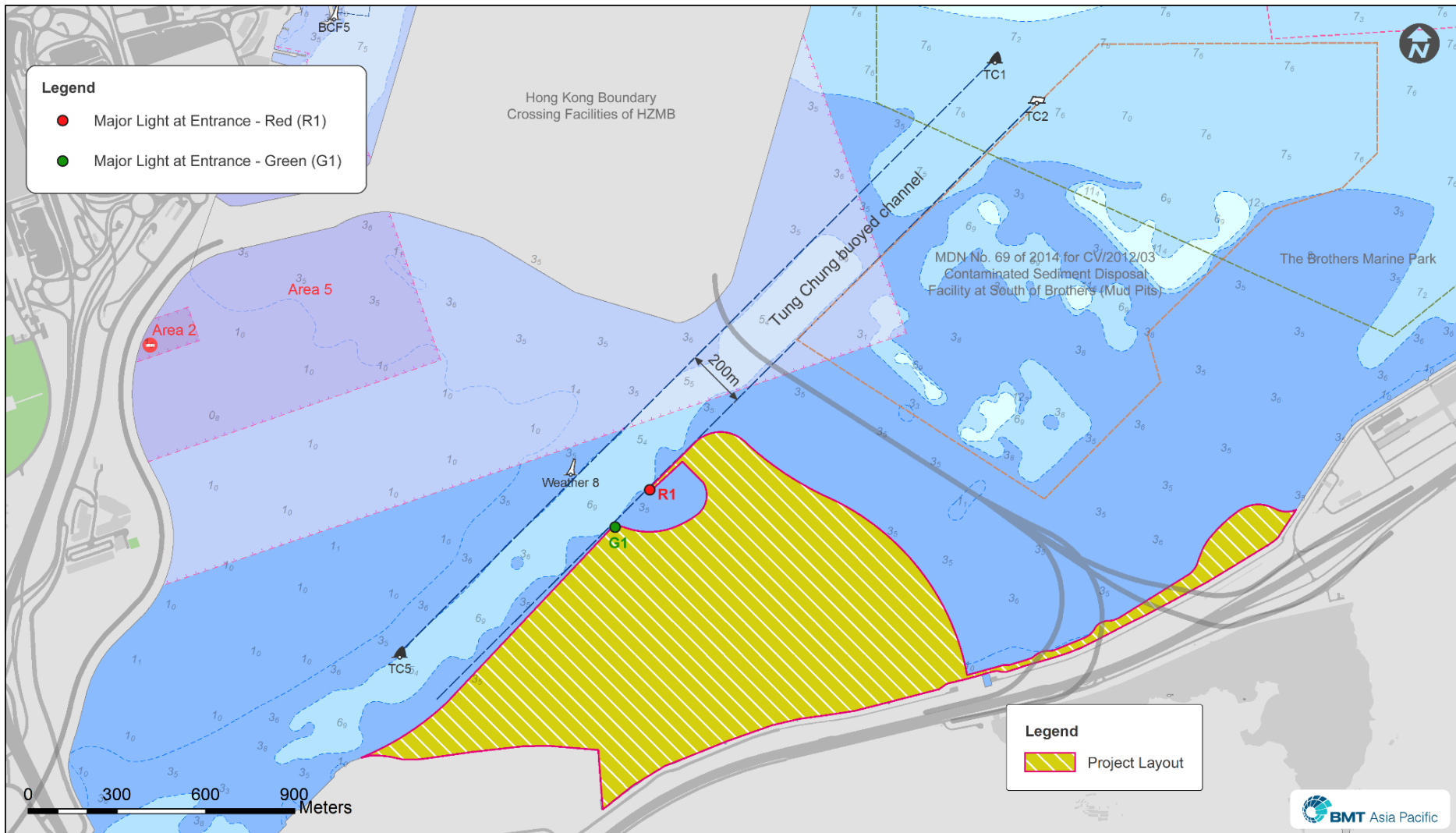


Figure 4

Pak Mong Pier



Permanent – from Q1 2023
Re-provision with landing steps

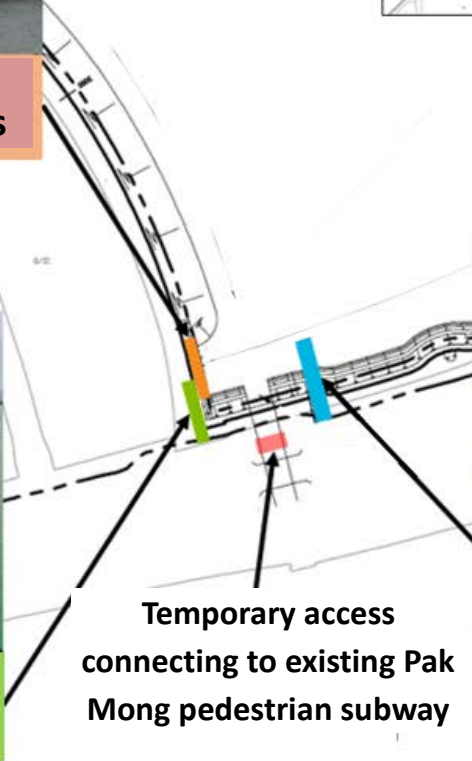
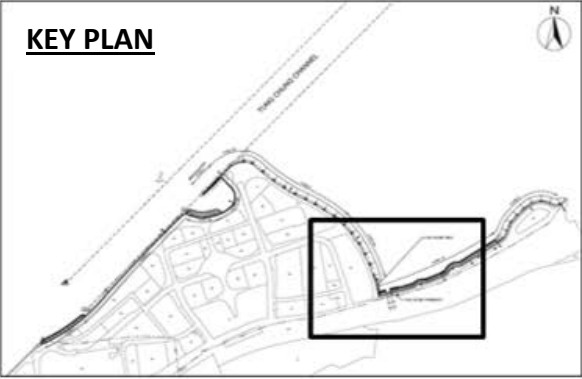


Figure 5