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**Environmental Protection Department**  
**Environmental Compliance Division**  
**Regional Office (South)**  
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17 May 2017

Chief Council Secretary (1)1  
Council Business Division 1  
Legislative Council Secretariat  
Legislative Council Complex  
1 Legislative Council Road, Central  
Hong Kong  
Attn: Ms. Angel Shek

Dear Ms. Shek,

**Panel on Environmental Affairs**  
**List of follow-up actions**

When discussing “Issues arising from the collapse of seawalls in the Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road project”, Members requested the Administration to provide follow-up information. Please find our response at Annex.

If you have any query, please contact the undersigned at 2516 1800.

Yours sincerely,

( Joe FONG )

for Director of Environmental Protection

Encl.

cc. D of Highways Department (Attn.: Mr. Sam SW LAM)

**a) provide information on whether the incident of alleged collapse of seawalls in the Hong Kong-Zhuhai-Macao Bridge ("HZMB") Hong Kong Link Road ("HKLR") project in October and November 2014 had any adverse impact on the environment and the Chinese white dolphin habitat in nearby waters**

The Environmental Protection Department (EPD) has been vetting the monitoring results of the two marine water monitoring stations (i.e. IS(Mf)6 and IS7) closest to the reclamation area as reported in the Environmental Monitoring and Audit Reports submitted by the Highways Department (HyD) regularly. No exceedance of the water quality monitoring levels due to the Project has been observed during and after the period when the concerned incidents emerged.

On marine ecological impact, the Environmental Impact Assessment (EIA) Report has confirmed that the seabed around the reclamation area along the Eastern coast of the Airport Island is of low ecological value, and no sighting of Chinese White Dolphins (CWDs) has been recorded. As regards the concern on the decrease in number of CWDs sighted in North-Eastern waters of Lantau, i.e. the marine waters from the HZMB-Boundary Crossing Facilities reclamation to Ma Wan, EPD has received advice from Agriculture, Fisheries and Conservation Department (AFCD) that current information and data cannot establish a causal relationship between the decrease and the incidents.

**b) explain, with reference to and provision of the relevant parts of the Environmental Permit ("EP")/Environmental Impact Assessment ("EIA") Report, gazetted project plans and/or other related documents of the HKLR project, whether and how the areas of permanent and temporary seabed loss, as well as permanent and temporary reclamation works, under the project are defined, approved/legitimated, and reflected in the EP, EIA Report and gazetted project plans where applicable, and address members' concerns on:**

- (i) whether the relevant requirements of the EIA Report have been fulfilled in carrying out the HKLR reclamation works;**

The EIA Report of the HKLR Project approved under the EIA Ordinance in October 2009 proposed to use a dredged method for the HKLR reclamation along the southeast shore of the Airport Island. The Environmental Permit (EP) granted by EPD to HyD in November 2009 was based on this particular dredged method for reclamation.

As mentioned in Section 10.7.2.7 of the approved EIA Report, 37 hectares (ha) of sea area (27 ha of reclamation footprint and 10 ha of works area) will be lost during construction due to the HKLR reclamation along the southeast shore of Airport Road. The relevant section is highlighted on the attached copy of page 10-115 of the approved EIA Report (see **Appendix A**).

HyD submitted an application for variation of the Environmental Permit (VEP) in October 2011, proposing to change to a non-dredged method for reclamation. This involved the construction of a layer of rockfill on top of the seabed surface for construction of seawall foundation, which would avoid dredging and disposal of marine deposit, minimise the impact to water quality and the environment, and reduce marine construction traffic. HyD Consultant's assessment is that under this new method, the area of the seabed affected (both permanent and temporary) would not be larger than that under the dredged method originally proposed in the EIA Report. In view of the environmental benefits under this non-dredged method, EPD granted a VEP to HyD in November 2011.

HyD estimated that the actual area of the temporary rockfill platform in front of the seawall consequent to the seawall lateral extension incident in end 2014 was about 9.8 ha, which was within the allowable 10 ha of temporary seabed loss as mentioned in the EIA Report. HyD also confirmed that the temporary rockfill platform will be removed upon satisfactory completion of the reclamation works.

- (ii) whether the relevant HKLR reclamation works and the temporary rockfill platform are constructed within the gazetted boundary for the foreshore and/or seabed affected**

**by the reclamation works;**

HyD would like to point out that, the concerned roadworks and corresponding reclamation and seawall works were gazetted and authorized under the Roads Ordinance (Cap. 370) in August 2009 and October 2011 respectively. The reclamation limits bounded by the proposed seawall, extent of Government foreshore and/or seabed to be affected by the construction of the proposed seawall and the limits of works area have been shown clearly on the relevant Gazette Plans. Copies of Gazette Notice No. G.N.4890 and the relevant Gazette Plan No. 24037/GZ/016 of HKLR are attached at **Appendix B**.

**(iii) the legitimacy of the temporary reclamation works carried out by the relevant contractor for the HKLR project; and**

HyD would like to clarify that, the rockfill platform is part of the temporary works, which has to be constructed in compliance with both the EP requirements and gazette limits. Since the temporary rockfill platform has been constructed within the boundary limits of the extent of Government foreshore and/or seabed to be affected by the construction of the proposed seawall as shown on the Gazette Plans and its total area (9.8 ha) is less than the 10 ha of temporary seabed loss as stipulated in the EIA Report, the temporary rockfill platform is considered in full compliance with the statutory requirements

After careful review of all the information provided by the HyD including the regular Environmental and Monitoring and Audit Reports, EPD as the EIA Authority confirmed that there is currently no evidence to suggest that the temporary rockfill platform has contravened the EP conditions or any pollution control law. EPD will continue to monitor the HKLR project and is seeking additional information from HyD and the relevant contractors to further verify its current findings.

**c) provide a copy of the relevant page(s) of the EIA Report referred to by the Administration at the meeting in explaining the permanent and temporary seabed loss and calculation of worst-case habitat loss during construction and after completion of the HKLR project.**

EPD has attached at **Appendix A** a copy of page 10-115 of the EIA Report regarding Habitat Loss during Construction (Marine).

**Environmental Protection Department  
Highways Department**

May 2017

### **Habitat Loss during Construction (Marine)**

- 10.7.2.5 No mitigation is required for the loss of shallow subtidal hard substrate seabed. This habitat type is of low to moderate ecological value and is abundant in Airport Island and North Lantau coastlines. More similar habitat will be provided after reclamation. No mitigation is required for the loss of soft substrate seabed. This habitat type is of low ecological value and is abundant in the Hong Kong western waters.
- 10.7.2.6 The marine waters to the west of the Airport Island are of moderate to high ecological value due to the close proximity to West Lantau waters, but the habitat loss caused by the marine bridge piers of HKLR to the west of Airport Island is small and scattered, the impact is thus ranked as **Minor** and no mitigation measure is required. The habitat loss caused by the marine bridge pier construction of HKLR inside Airport Channel is similar in nature, but the marine waters there are of low ecological value due to the low occurrence of CWD. The impact is thus ranked as **Minor**. No mitigation measure is required. The habitat loss due to construction would largely be carried forward to the operational phase and become permanent habitat loss, mitigation measures for operation phase (see **Section 10.7.4**) will mitigate this impact as well.
- 10.7.2.7 37 ha of sea area (27 ha of reclamation footprint and 10 ha of works area) will be lost during construction due to the reclamation for HKLR along the southeast shore of Airport Island. Compensation for this seabed loss is not required as the impact is **Minor** for dolphins. The ecological value of this area is low as it is not utilized by CWD.
- 10.7.2.8 164 ha of sea area (138 ha of reclamation footprint and 26 ha of works area) will be lost during construction due to the HKBCF reclamation near the northeast Airport Island. Although the sea area is only utilized by limited number of CWD, it is of moderate ecological value due to the close proximity with dolphin hotspot. **Moderate** impact is anticipated and mitigation measure is required. As the habitat loss due to construction would largely be carried forward to the operational phase and become permanent habitat loss, mitigation measures for operation phase (see **Section 10.7.4**) will mitigate this impact as well.
- 10.7.3 Mitigation on Construction Phase – Indirect Impacts

### **Water Quality**

- 10.7.3.1 Low disturbance construction method: Any significant changes in water quality or turbidity should be avoided. This could be mitigated through construction methods. Closed-grab dredges and silt curtains around the work areas (wherever feasible) should be used in all dredging activities.
- 10.7.3.2 Piles of piers would be bored rather than driven. The Shenzhen Western Corridor project demonstrated that bored-piling construction, besides less noisy, caused limited water quality impacts even inside the sheltered Deep Bay area. The potential for sediment resuspension during the pier construction of HKLR is predicted to be very low, since only limited dredging would be required for pier construction, closed-grab dredges would be used, and piles would be bored inside casings that are in turn contained within cofferdams, that were built using closed-grab dredges, surrounded by silt curtains. These measures could effectively prevent any significant deterioration of water quality.
- 10.7.3.3 Every attempt should be made to avoid resuspension of solids/contaminants back into the water column during dredging and dumping operations. For reclamation, the seawall should be constructed prior to the filling works where possible. Using pipes that bring the sediment directly to the sea bottom during dumping, and conducting operations preferentially at slack tide (when feasible).
- 10.7.3.4 Reduce dredging scale – The amount to be dredged has been minimized as far as practicable. Details of this effort are provided in **Section 3**.

G.N. 4890

ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (Chapter 370)  
(Notice under section 8(2))

PWP ITEM NO. 844TH  
HONG KONG-ZHUHAI-MACAO BRIDGE HONG KONG LINK ROAD

Notice is hereby given that under powers delegated by the Secretary for Transport and Housing under section 3(3) of the Roads (Works, Use and Compensation) Ordinance (Chapter 370), the Permanent Secretary for Transport and Housing (Transport) proposes to execute the road works within the limit of works area as shown on Plans Nos. 24037/GZ/001 to 24037/GZ/019 (the 'Plans') and described in the scheme annexed thereto, which the Plans and scheme have been deposited in the Land Registry.

The general nature of the proposed works is as follows:—

- (i) construction of a tunnel of approximately 1 kilometre (km) long at Scenic Hill;
- (ii) construction of an elevated expressway of approximately 9.4 km long connecting the proposed Hong Kong-Zhuhai-Macao Bridge (HZMB) Main Bridge with the proposed tunnel at Scenic Hill;
- (iii) construction of an at-grade expressway of approximately 1.6 km long connecting the proposed tunnel at Scenic Hill with the proposed internal roads of the proposed HZMB Hong Kong Boundary Crossing Facilities;
- (iv) construction of ventilation facilities and associated tunnel operation and maintenance facilities to the proposed tunnel at Scenic Hill;
- (v) construction of a seawall of approximately 2.3 km long and Government foreshore and sea-bed to be reclaimed to form approximately 17 hectares of land for the construction of the proposed HZMB Hong Kong Link Road and the proposed associated tunnel operation and maintenance facilities to the proposed tunnel at Scenic Hill and the ancillary works;
- (vi) Government foreshore and sea-bed to be reclaimed for the construction of foundations of the proposed elevated expressway, and the proposed seawall;
- (vii) temporary closure of sections of the existing carriageways, footpaths, central medians/ refuge islands and amenity areas; and
- (viii) ancillary works including site formation, slope, drainage, water supplies, utilities, landscaping, and electrical and mechanical works; re-provision of the existing weather station; and construction of maintenance subway, anemometers and central reserves/ refuge islands.

The lot where land is to be resumed is listed below:—

Lot where land is to be resumed
Lot No.
The Remaining Portion of Chek Lap Kok Lot No. 1 and the Extension Thereto (Portion)

The lot where easements and other permanent rights are to be created is listed below:—

Lot where easements and other permanent rights are to be created
Lot No.
The Remaining Portion of Chek Lap Kok Lot No. 1 and the Extension Thereto (Portion)

The lot where rights of temporary occupation of land are to be created is listed below:—

Lot where rights of temporary occupation of land are to be created
Lot No.
The Remaining Portion of Chek Lap Kok Lot No. 1 and the Extension Thereto (Portion)

The Plans and scheme may be inspected by members of the public free of charge at the following places and during the following hours when those offices are normally open to the public:—

<i>Places</i>	<i>Opening Hours (except on public holidays)</i>
Central and Western District Office, Public Enquiry Service Centre, Unit 5, The Center, 99 Queen's Road Central, Hong Kong	Monday to Friday 9.00 a.m. to 7.00 p.m.
Islands District Office, 20th Floor, Harbour Building, 38 Pier Road, Central, Hong Kong	Monday to Friday 8.45 a.m. to 6.00 p.m.
Islands District Office, Tung Chung Sub-office, Public Enquiry Service Centre, 1st Floor, Tung Chung Post Office Building, 6 Mei Tung Street, Tung Chung, Lantau Island, Hong Kong	Monday to Friday 9.00 a.m. to 7.00 p.m.
Islands District Office, Mui Wo Sub-office, Public Enquiry Service Centre, Ground Floor, Mui Wo Government Offices 2 Ngan Kwong Wan Road, Mui Wo, Lantau Island, Hong Kong	Monday, Wednesday, and Friday 9.00 a.m. to 6.00 p.m.
Islands District Office, Cheung Chau Sub-office, Public Enquiry Service Centre, Ground Floor, 22 San Hing Street, Cheung Chau, Hong Kong	Monday to Friday 8.45 a.m. to 6.45 p.m.
District Lands Office, Islands, 19th Floor, Harbour Building, 38 Pier Road, Central, Hong Kong	Monday to Friday 8.45 a.m. to 12.30 p.m. and 1.30 p.m. to 5.30 p.m.

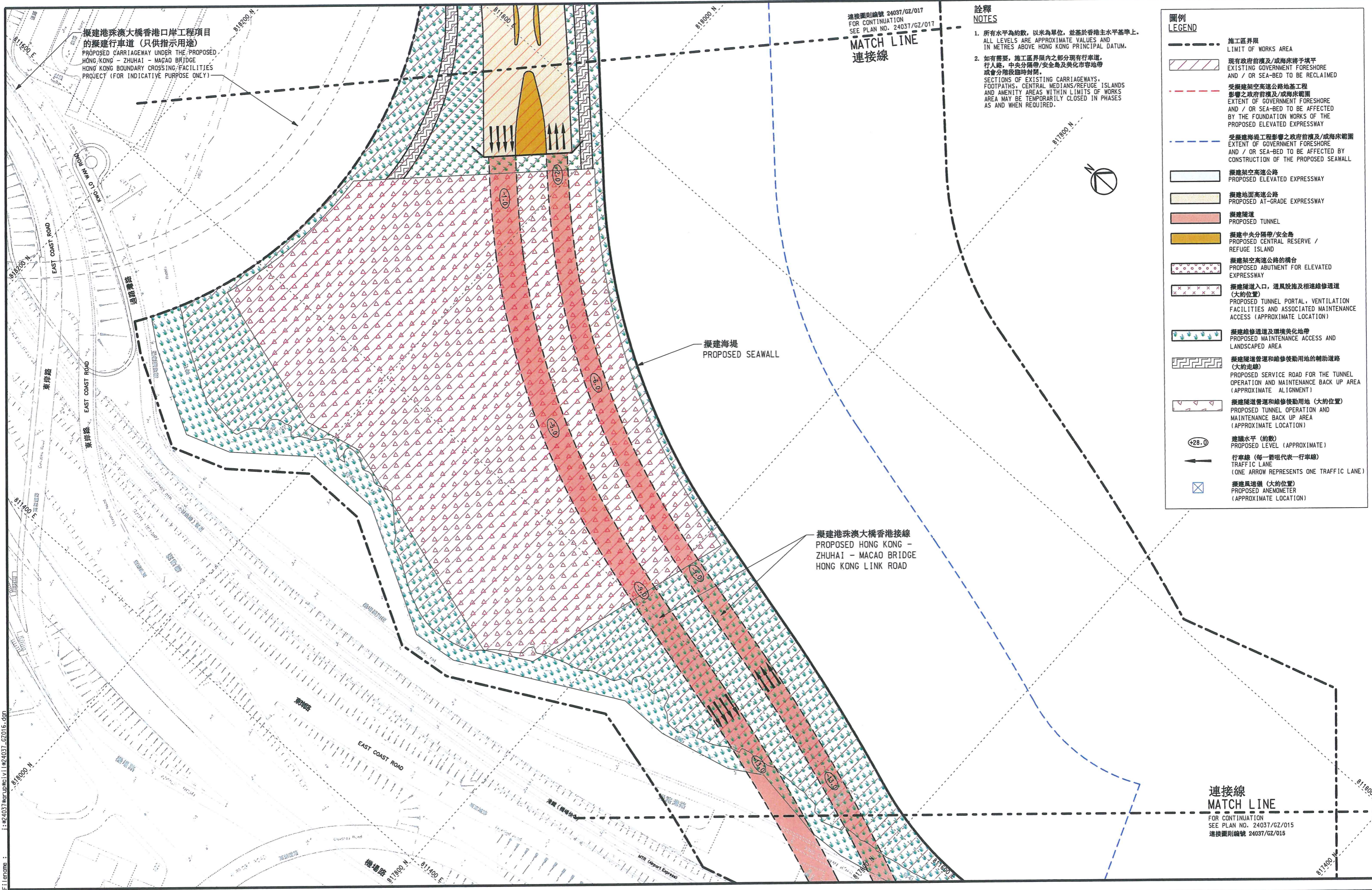
Further enquiries regarding the proposed works can be addressed to Hong Kong-Zhuhai-Macao Bridge Hong Kong Project Management Office, Highways Department, 4th Floor, Ho Man Tin Government Offices, 88 Chung Hau Street, Ho Man Tin, Kowloon and at telephone number 2762 4977.

Any person who wishes to object to the works or the use, or both, is required to address his objection in writing to the Secretary for Transport and Housing, 16th Floor, Murray Building, Garden Road, Hong Kong so as to reach the office of the Secretary not later than the 6th day of October 2009, describing his interest and the manner in which he alleges that he will be affected by the works or the use. Objectors are requested to provide contact details to the Secretary to facilitate communication.

3 August 2009

Francis HO *Permanent Secretary for Transport and  
Housing (Transport)*





連接圖則編號 24037/GZ/017  
FOR CONTINUATION  
SEE PLAN NO. 24037/GZ/017  
MATCH LINE  
連接線

註釋  
NOTES

- 所有水平均為約數，以米為單位，並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要，施工區界限內之部分現有行車道、行人路、中央分隔帶/安全島及美化市容地帶或會分階段臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS, FOOTPATHS, CENTRAL MEDIANS/REFUGE ISLANDS AND AMENITY AREAS WITHIN LIMITS OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

圖例  
LEGEND

	施工區界限 LIMIT OF WORKS AREA
	現有政府前填及/或海床將予填平 EXISTING GOVERNMENT FORESHORE AND / OR SEA-BED TO BE RECLAIMED
	受擬建架空高速公路地基工程影響之政府前填及/或海床範圍 EXTENT OF GOVERNMENT FORESHORE AND / OR SEA-BED TO BE AFFECTED BY THE FOUNDATION WORKS OF THE PROPOSED ELEVATED EXPRESSWAY
	受擬建海堤工程影響之政府前填及/或海床範圍 EXTENT OF GOVERNMENT FORESHORE AND / OR SEA-BED TO BE AFFECTED BY CONSTRUCTION OF THE PROPOSED SEAWALL
	擬建架空高速公路 PROPOSED ELEVATED EXPRESSWAY
	擬建地面高速公路 PROPOSED AT-GRADE EXPRESSWAY
	擬建隧道 PROPOSED TUNNEL
	擬建中央分隔帶/安全島 PROPOSED CENTRAL RESERVE / REFUGE ISLAND
	擬建架空高速公路的橋台 PROPOSED ABUTMENT FOR ELEVATED EXPRESSWAY
	擬建隧道入口、通風設施及相連維修通道(大約位置) PROPOSED TUNNEL PORTAL, VENTILATION FACILITIES AND ASSOCIATED MAINTENANCE ACCESS (APPROXIMATE LOCATION)
	擬建維修通道及環境美化地帶 PROPOSED MAINTENANCE ACCESS AND LANDSCAPED AREA
	擬建隧道營運和維修後用地的輔助道路(大約走線) PROPOSED SERVICE ROAD FOR THE TUNNEL OPERATION AND MAINTENANCE BACK UP AREA (APPROXIMATE ALIGNMENT)
	擬建隧道營運和維修後用地的(大約位置) PROPOSED TUNNEL OPERATION AND MAINTENANCE BACK UP AREA (APPROXIMATE LOCATION)
	建議水平(約數) PROPOSED LEVEL (APPROXIMATE)
	行車線(每一箭頭代表一行車線) TRAFFIC LANE (ONE ARROW REPRESENTS ONE TRAFFIC LANE)
	擬建風速儀(大約位置) PROPOSED ANEMOMETER (APPROXIMATE LOCATION)

連接線  
MATCH LINE  
FOR CONTINUATION  
SEE PLAN NO. 24037/GZ/015  
連接圖則編號 24037/GZ/015

辦事處 office

**路政署  
HIGHWAYS DEPARTMENT**  
港珠澳大橋香港工程管理局  
Hong Kong - Zhuhai - Macao Bridge  
Hong Kong Project Management Office

工程名稱 project title  
工務計劃項目第844TH號  
港珠澳大橋香港接線  
PWP ITEM NO. 844TH HONG KONG - ZHUHAI - MACAO BRIDGE HONG KONG LINK ROAD

圖則名稱 plan title  
根據道路(工程、使用及補償)條例(第370章)  
而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

圖則編號 plan no.  
24037/GZ/016 (十九張之第十六張)  
(SHEET 16 OF 19)  
比例 scale  
A1 1:1000