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11 September 2014

Ms. Miranda Hon  
Clerk to Panel on Environmental Affairs  
Legislative Council Secretariat  
Legislative Council Complex,  
1 Legislative Council Road, Central, Hong Kong

(By Email and by Fax : 3529 2837)

Dear Ms Hon,

**Legislative Council Panel on Environmental Affairs**

**Supplementary Information on Impact of Construction Works on  
Important Species, Marine Ecology and the Fisheries industry**

Further to the Environmental Affairs Panel meeting held on 25 June 2014, we write to provide further information on the issues raised at that meeting.

Yours sincerely,

(Miss Sian LI)

for Director of Environmental Protection

## Legislative Council Panel on Environmental Affairs

### Supplementary Information on Impact of Construction Works on Important Species, Marine Ecology and the Fisheries industry

At the Environmental Affairs Panel meeting held on 25 June 2014, Members requested the Administration to provide supplementary information to the following issues:

(a) Applications for fishing permit under Marine Parks Ordinance (Cap. 476)

2. Number of applications for fishing permits for fishermen in the past 5 years (in 2009-2013)

Application Category	Total No. of Application (2009-2013)	Approved	Rejected
Renewal	1228	1083	145
New Application	0	NA	NA
Inheritance	12	6	6

The main reasons for rejecting the application of permit renewal as follows:

- fishing permit invalid for a long period of time

The main reasons for rejecting the application of permit inheritance as follows:

- applicant was not the authorized person listed in the fishing permit (i.e. person authorized to assist the permit holder in fishing) or not used to fish for living
- fishing permit invalid for a long period of time

(b) Planned marine works projects in the western waters of Hong Kong

3. Information on the programme of works, affected waters, mitigation measures and restoration works in respect of the following planned marine works projects in the western waters of Hong Kong are provided in the table at **Annex A** and relevant indicative map at **Annex B**.

- Integrated Waste Management Facilities Phase 1 in Shek Kwu Chau;

- Three-Runway System project at the Hong Kong International Airport;
- Construction works relating to the Hong Kong-Zhuhai-Macao Bridge including the Hong Kong Link Road, the Hong Kong Boundary Crossing Facilities, and the Tuen Mun-Chek Lap Kok Link;
- Reclamation in the northern waters of Lantau Island (including Lung Kwu Tan, Siu Ho Wan and Sunny Bay); and
- Artificial islands in the central waters; and
- Tung Chung New Town Extension

(c) Conservation of green turtles

4. Green Turtle (*Chelonia mydas*) is the only sea turtle species that regularly breeds in Hong Kong. They are protected under the Wild Animals Protection Ordinance (Cap. 170) and the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586). Agriculture, Fisheries and Conservation Department (AFCD) implemented various measures to conserve this species including the designation of the nesting beach in Sham Wan of Lamma Island as a Restricted Area during the nesting period from June to October each year, regular patrols to protect and monitor any nesting turtles and their eggs and public education about sea turtle conservation in Hong Kong. With a view to understanding the movement of Green Turtles and locating their foraging grounds in the South China Sea, satellite tracking is performed on nesting turtles and those turtles that are received following reports from the public and subsequently released to the wild by AFCD.

**Environment Bureau**

**Development Bureau**

**Transport and Housing Bureau**

**Environmental Protection Department**

**Agriculture, Fisheries and Conservation Department**

**September 2014**

## Planned Marine Works Projects in Western Waters of Hong Kong (as at 31 August 2014)

Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
Integrated Waste Management Facilities (IWMF) Phase 1 in Shek Kwu Chau	<p>The proposed project is for the construction of the integrated waste management facilities phase 1 at an artificial island near Shek Kwu Chau comprising reclamation and breakwater of about 16 hectares;</p> <p>The construction is tentatively scheduled to commence in Q2 2017 for commissioning the facility in 2022.</p>	Southern Water	<ol style="list-style-type: none"> <li>1. The breakwaters and seawalls should be constructed using cofferdam method to minimise the footprint and to minimize the quantity of marine sediment to be dredged;</li> <li>2. The reclamation should be conducted within the enclosed seawalls and silt curtain should be used to surround the cellular cofferdam during the filling to prevent the loss of sediment;</li> <li>3. No dredging should be carried out within 100 m to the nearest non-translocatable coral community;</li> <li>4. To protect Finless Porpoise construction works that may produce underwater acoustic disturbance should be restricted to June to November to avoid peak season of Finless Porpoise occurrence;</li> <li>5. To implement a fisheries enhancement programme to enhance the fisheries resources in the vicinity of the project area;</li> </ol>

Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
			6. A marine park of 700ha is to be designated between Soko Island and Shek Kwu Chau to compensate for the ecological impacts and to enhance the fisheries resources.
Three-Runway System project at the Hong Kong International Airport	<p>This is for construction and operation of a third runway and the associated facilities at HKIA with reclamation of some 650 hectares (ha), and 11kV submarine cable and fuel pipeline diversions.</p> <p>Subject to the relevant approvals, reclamation works is scheduled to commence in early 2016 for completion by 2020.</p>	North Lantau waters (between the existing HKIA and the Sha Chau and Lung Kwu Chau Marine Park)	<p>According to the 3RS Environmental Impact Assessment report, the following techniques/mitigation measures will be put in place –</p> <p><b><u>Engineering Techniques</u></b></p> <ol style="list-style-type: none"> <li>1. The use of non-dredge land formation methods such as “deep cement mixing” for foundation improvement;</li> <li>2. Diversion of submarine aviation fuel pipelines by horizontal directional drilling through the deep sub-sea bedrock stratum; and</li> <li>3. Diversion of submarine electricity cables by water jetting.</li> </ol> <p><b><u>Commencement of Construction (i.e. around 2016)</u></b></p> <ol style="list-style-type: none"> <li>1. All the high speed ferries operating at Skypier to and from Zhuhai and Macao will navigate through the waters north of Sha Chau and Lung Kwu Chau Marine Park when they travel to and</li> </ol>

Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
			<p>from Hong Kong, with a speed limit of 15 knots while travelling through the waters north of Sha Chau and Lung Kwu Chau where CWDs are frequently sighted;</p> <ol style="list-style-type: none"> <li>2. Avoidance of bored piling during the peak Chinese White Dolphins (CWD) calving season (i.e. March to June);</li> <li>3. Establishing a 250-metre 24-hour dolphin exclusion zone in the peripheral areas of the marine works. Relevant works will be suspended immediately upon sighting of any CWDs in the vicinity of the reclamation works;</li> <li>4. Restricting the maximum speed of all construction vessels passing through the works area to 10 knots, which is same as the statutory speed limit in a marine park; and</li> <li>5. Acoustic decoupling of the construction equipment mounted on barges to minimise the impacts on CWDs.</li> </ol> <p><b><u>Following the full commissioning of the 3RS</u></b></p> <ol style="list-style-type: none"> <li>1. Designation of a new marine park of size of some 2 400 ha, linking with the planned</li> </ol>

Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
			<p>Brothers Marine Park, the existing Sha Chau and Lung Kwu Chau Marine Park, and the marine exclusion zone of the 3RS and forming an expanded marine protected area as large as 5 200 ha in total.</p>
<p>Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road (HKLR)</p>	<p>Construction works involve reclamation along the east coast of the Airport Island.</p> <p>Commencement Date: 31 May 2012</p> <p>Anticipated Completion Date: End 2016</p> <p>It also involves the design and construction of a dual 3-lane viaduct, connecting the Hong Kong – Zhuhai – Macao Bridge (HZMB) Main Bridge from the HKSAR boundary to Scenic Hill on the Airport Island.</p> <p>Commencement Date: 31 May 2012</p>	<p>About 23 hectares of reclamation area along the east coast of the Airport Island</p> <p>The western waters of Hong Kong and Airport Channel</p>	<p><b><u>Mitigation Measures which need to be adopted by the Hong Kong-Zhuhai-Macao Bridge related Hong Kong Projects</u></b></p> <ol style="list-style-type: none"> <li>1. Non-dredged reclamation method is adopted: adopting non-dredging methods for reclamation and seawall construction to reduce the amount of dredging and marine disturbance.</li> <li>2. No underwater percussive piling is allowed.</li> <li>3. Formation of underwater sockets into rock shall not be carried out for the marine bored piles construction in May and June which is the peak calving season of CWD, except within the Airport Channel.</li> <li>4. Acoustic decoupling measures are adopted: noisy equipment mounted on construction</li> </ol>

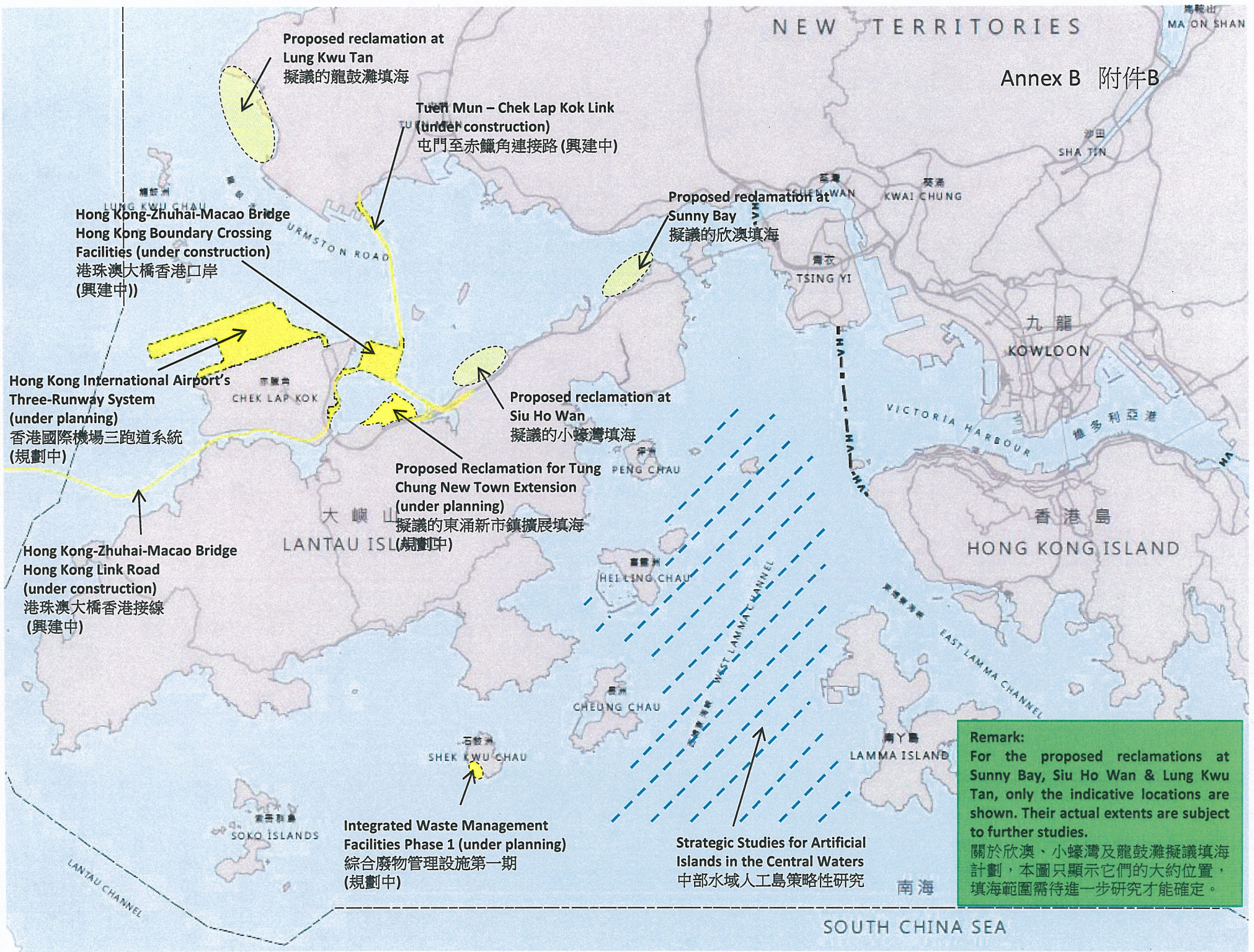
Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
	Anticipated Completion Date: End 2016		vessels is acoustically decoupled to minimize underwater noise.
Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF)	Construction works involve reclamation and construction of seawall. Commencement Date: 30 November 2011  Anticipated Completion Date: End 2016	About 130 hectares of reclamation area at the waters off the northeast of the Hong Kong International Airport.	5. Marine vessels need to follow pre-defined regular marine travel routes: construction vessel will follow regular marine travel routes and avoid CWD active areas.  6. Marine vessel speed control is adopted: <10 knots in work site, marine park and proposed marine park.
Tuen Mun-Chek Lap Kok Link (TM-CLKL)	Construction works involve the reclamation of the southern landfall and northern landfall of the TM-CLKL sub-sea tunnel, construction of the sub-sea tunnel and sea viaduct (for the southern connection).  Commencement Date: 30 November 2011  Anticipated Completion Date: End 2016 (Southern Connection)	The western water of Hong Kong  About 16.5 hectares of reclamation area at Tuen Mun South and 20 hectares of reclamation area beside the HKBCF reclamation area.	7. Skipper training is adopted: captains of construction vessels have undergone training on local dolphins and porpoises.  8. Dolphin Exclusion Zone (DEZ) is implemented: a dolphin exclusion zone of 250 meters radius is implemented during the silt curtain installation and bored pile casing installation works. Works will be suspended if a dolphin is found within the DEZ.



Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
	End 2018 (Northern Connection)		<p>9. Dolphin Watching Plan (DWP) is implemented: silt curtain and its enclosed areas are regularly checked and works will be suspended if a dolphin is found within the enclosed area.</p> <p>10. Regular monitoring of CWD population in the north-western waters of Hong Kong is adopted.</p> <p>11. Best construction practices are adopted: say, for instance, by employing silt curtain and Y-shaped funnel, etc. to minimise the sediment dispersal during works, and to avoid impact on water quality.</p> <p><b><u>Restoration Works</u></b></p> <p>1. Affected corals shall be trans-located whenever possible.</p> <p>2. Artificial reef shall be reprovioned.</p> <p>3. Fish fry shall be released.</p> <p>4. The waters around The Brothers shall be designated as a Marine Park.</p>

Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
Reclamation in the northern waters of Lantau Island (including Lung Kwu Tan, Siu Ho Wan and Sunny Bay)	<p><b>Lung Kwu Tan and Siu Ho Wan</b></p> <p>Potential nearshore reclamation at Lung Kwu Tan and Siu Ho Wan</p> <p>Programme of technical studies to be drawn up in 2015</p>	The waters near the shoreline of Lung Kwu Tan and Siu Ho Wan	The extent of reclamation, impacts on the environment and mitigation measures will be ascertained in the technical studies.
	<p><b><u>Sunny Bay</u></b></p> <p>About 60 to 100 hectares of nearshore reclamation at Sunny Bay</p> <p>We aim to commence a planning and engineering study in early 2015 for completion in early 2017.</p>	The waters near the shoreline of Sunny Bay	To be ascertained in the planning and engineering study.
Artificial Islands in the Central Waters	We will conduct strategic studies to explore the feasibility of constructing artificial islands in the central waters between Hong Kong Island and	<p>The central waters between Hong Kong Island and Lantau</p> <p>The location and extent of</p>	Environmental implications will be broadly evaluated in the strategic studies. Mitigation measures will be drawn up in future through more detailed technical studies.

Name of Project	Brief Description and Programme of works	Affected Waters	Mitigation Measures and Restoration Works
	<p>Lantau, including development of an East Lantau Metropolis.</p> <p>We aim to commence the strategic studies in early 2015 for completion in early 2018.</p>	<p>reclamation for the artificial islands are yet to be ascertained.</p>	
Tung Chung New Town Extension	<p>About 120 ha reclamation being considered at Tung Chung East</p> <p>Reclamation works to be commenced in 2017/2018 for completion in 2023/2024 tentatively.</p>	<p>Part of waters between Tai Ho and Tung Chung Bay</p>	<ol style="list-style-type: none"> <li>1. Avoiding blockage at Tai Ho Wan Inlet due to reclamation</li> <li>2. Avoiding encroachment on mudflats and mangroves</li> <li>3. Adoption of non-dredged method for the reclamation as much as possible</li> <li>4. Installation of silt curtains for inevitable dredging</li> <li>5. Confinement of all reclamation filling works in areas enclosed by seawalls</li> </ol>



Proposed reclamation at Lung Kwu Tan  
擬議的龍鼓灘填海

Tuen Mun - Chek Lap Kok Link (under construction)  
屯門至赤鱸角連接路 (興建中)

Proposed reclamation at Sunny Bay  
擬議的欣澳填海

Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (under construction)  
港珠澳大橋香港口岸 (興建中))

Hong Kong International Airport's Three-Runway System (under planning)  
香港國際機場三跑道系統 (規劃中)

Proposed reclamation at Siu Ho Wan  
擬議的小蠔灣填海

Proposed Reclamation for Tung Chung New Town Extension (under planning)  
擬議的東涌新市鎮擴展填海 (規劃中)

Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road (under construction)  
港珠澳大橋香港接線 (興建中)

Integrated Waste Management Facilities Phase 1 (under planning)  
綜合廢物管理設施第一期 (規劃中)

Strategic Studies for Artificial Islands in the Central Waters  
中部水域人工島策略性研究

**Remark:**  
For the proposed reclamations at Sunny Bay, Siu Ho Wan & Lung Kwu Tan, only the indicative locations are shown. Their actual extents are subject to further studies.  
關於欣澳、小蠔灣及龍鼓灘擬議填海計劃，本圖只顯示它們的大約位置，填海範圍需待進一步研究才能確定。