

China State Construction Engineering (Hong Kong) Ltd.
27/F, China Overseas Building,
139 Hennessy Road,
Hong Kong

Attn: Mr. Xavier Lam – Environmental Officer

**Contract No. HY/2013/04 Hong Kong-Zhuhai-Macao Bridge (HZMB)
Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II
(Southern Portion)**

Our Reference

JFP/GC/bw/T355861/02/
02/L067

Dolphin Watching Plan (Revision 2)

20/F AIA Kowloon Tower
Landmark East
100 How Ming Street
Kwun Tong
Kowloon
Hong Kong

8 March 2017

By Email

Dear Sir,

T +852 2828 5757
F +852 2827 1823
mottmac.hk

In accordance with Condition 2.6 of the Environmental Permit (EP-353/2009/K) covering the captioned contract, we hereby certify the captioned Dolphin Watching Plan (Revision 2) for your onward submission.

Yours faithfully

For MOTT MACDONALD HONG KONG LIMITED



Gary Chow
Environmental Team Leader

Encl.

cc.

AECOM – Mr. Alfred Cheng (By Email)

Ramboll Environ Hong Kong Limited – Mr. Raymond Dai (By Email)

9 March 2017

By Fax (3468 2076) and By Post

AECOM Asia Co. Ltd.
The PRE's Office
5 Ying Hei Road, Tung Chung, Lantau
Hong Kong

Attention: Mr. Alfred Cheng

Dear Sir,

**Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities,
and Tuen Mun-Chek Lap Kok Link – Investigation**

**Contract No. HY/2013/04 – HZMB HKBCF – Infrastructure Works Stage II
(Southern Portion)
Dolphin Watching Plan**

Reference is made to the Environmental Team's submission of the Dolphin Watching Plan certified by the ET Leader (ET's ref.: "JFP/GC/bw/T355861/02/02/L067" dated 8 March 2017) and provided to us via e-mail on 9 March 2017.

We are pleased to inform you that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 2.6 of the Environmental Permit No. EP-353/2009/K.

With respect to no anticipated night-time marine works for this contract stated in this plan, please be reminded that this plan shall be revised to include the necessary arrangement for satisfying Condition 3.1 of the EP regarding the implementation of Passive Acoustic Monitoring for the detection of dolphin prior to any execution of marine works outside the daylight hours considered to be inevitable.

Please be reminded that it is the Contractor's/ET's responsibility to ensure a suitably qualified dolphin specialist be proposed for approval by AFCD and EPD as per Section 10.3.7 of the approved EM&A Manual, and be accepted by relevant authorities one month prior to the commencement of marine works as per Section 2.0 of this plan.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,
For and on behalf of
Ramboll Environ Hong Kong Limited



Raymond Dai
Independent Environmental Checker

c.c.	HyD	Mr. Vico Cheung	(By Fax: 3188 6614)
	HyD	Mr. Horace Hong	(By Fax: 3188 6614)
	MMHK	Mr. Gary Chow	(By Fax: 2827 1823)
	CSCE	Mr. Eddie Tang	(By Fax: 2459 4336)

Internal: DY, YH, ENPO Site



**Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing Facilities -
Infrastructure Works Stage II (Southern Portion)
Contract No. HY/2013/04**

Dolphin Watching Plan

Revision: 2

Prepared by: Environmental Officer, Xavier Lam	Approved By: Site Agent, Eddie Tang
	
Date: 8 March 2017	Date: 8 March 2017

This document contains confidential information of China State Construction Engineering (Hong Kong) Limited and shall not be copied or amended without the approval of the Project Director



Revision Status Sheet

Revision	Summary of Revision	Submission	
		By	Date
0	For comment and approval	GN/SL	2 September 2015
1	For comment and approval	RH/KHT	18 October 2016
2	For comment and approval	XL/KHT	8 March 2017



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Appendix A – Site Location Plan

Appendix B – Emergency Communication Channel



1.0 Introduction

Pursuant to Environmental Permit (Permit no. EP-353/2009/K) Condition 2.6, China State Construction Engineering (Hong Kong) Ltd. (the Contractor) shall prepare and submit Dolphin Watching Plan at least 2 weeks prior to commencement of marine works. The plan shall include inspection of the silt curtains, visual inspection of the waters surrounded by the curtains, and an action plan shall be devised to cope with any unpredicted incidents such as the case that Chinese White Dolphin is found within the water surrounded by the silt curtains.

The Contract (HY/2013/04) is part of the “Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities Project. The scope of works of the Contract is construction of infrastructure works at southern portion of the Hong Kong Boundary Crossing Facilities (HKBCF), which includes, but not limited to, construction of vehicular bridge and at-grade roads, drainage box culverts and outfalls, sewerage.

The Site is located at the southern part of the artificial island of HKBCF for Hong Kong – Zhuhai – Macao Bridge, which is approximate 200 m west to the Brothers Marine Park and approximate 6 km southeast to the Sha Chau and Lung Kwu Chau Marine Park (refer to **Appendix A**). Both locations are known as hotspots for Chinese White Dolphin. With such a close distance between the Site and the hotspots for Chinese White Dolphin, it is anticipated that Chinese White Dolphin may potentially enter the site area and stranded within the marine works area enclosed by silt curtain. The silt curtain enclosed the Site shall be installed at southern side of the Box Culvert C and D prior to the commencement of the construction of the outfall of the box culvert (refer to **Appendix A**



for the locations). The waters at Box Culvert C are currently enclosed by the silt curtain under Contract No. HY/2010/02.

The marine works of the Contract mainly focuses on the construction of outfalls of the box culverts. Based on the Master Construction Programme of the Contract, it is anticipated that the commencement of outfalls construction will be in May 2017. It is planned that no night marine works will be involved in this Contract.

2.0 Dolphin Watching Plan

Dolphin Watching Plan (DWP) shall be implemented for the installation of silt curtain, which enclosed the marine works area. With reference to the approved DWP for HY/2013/04 as uploaded to ENPO website, DWP monitoring, in the form of visual observation, shall be performed by trained marine mammal observer (MMO). Specific training shall be provided to the MMO and shall be refreshed for every 6 months. The specific training will be provided by qualified specialist as per the EM&A Manual. The qualification of the qualified specialist shall be accepted by the Engineer Representative and relevant authorities 1 month prior to the commencement of works. Relevant information shall be submitted to EPD and AFCD once the dolphin specialist is confirmed. During the period of silt curtain deployment, one trained MMO shall be on site full time to provide specialist instruction, advice or intervention for any situations, regardless of whether there are marine works or not, in addition to the initial 30 minutes of daily works commencement. In case of dolphin(s) is/are found being trapped in the enclosed works area, the qualified specialist shall be on site to provide specialist support.



3.0 Silt Curtain Inspection for Dolphin Intrusion into the Enclosed Area

- 3.1 In the event that the silt curtain under Contract No. HY/2010/02 is removed prior to the removal of silt curtain of this Contract No. HY/2013/04, the silt curtain of this Contract shall be considered as the perimeter silt curtain. A dolphin exclusion zone of 250 m shall be implemented during installation or re-deployment of silt curtain. The indicative dolphin exclusion zone is shown in **Appendix A**. Prior to the start of works, MMO shall scan the exclusion zone for at least 30 minutes. If dolphins are observed in the exclusion zone, the installation or re-deployment works shall be delayed until they have left the area.
- 3.2 Marine mammal observer(s) shall stand at a high spot within the Site. The location of the observation point shall provide unobstructed visibility to the enclosed area for MMO to search for the appearance of dolphin. The exact observation point will vary according to the construction activities within the Site. MMO shall remain alert at all times during the entire observation period.
- 3.3 Observation by MMO shall be conducted by searching with binoculars, scanning the area with the naked eye and occasional binocular check and compass shall be used to positioning the dolphin. If dolphins are observed in the enclosed area, the MMO shall notify the Construction Manager and/or construction superintendent.
- 3.4 Prior to the start of installation of silt curtain, the MMO shall scan around the enclosed area for at least 30 minutes. If dolphins are observed in the enclosed area, the construction works within the enclosed area shall be delayed until the observed dolphins have left the area. Such construction works shall not be commenced until the MMO confirm that the enclosed area has been continuously clear of dolphins



for a period of 15 minutes and notify the dolphin specialist.

- 3.5 In case of any dolphins spotted by MMO within the enclosed area enclosed during related marine construction works, such construction works shall be ceased. No works shall be resumed until MMO confirm that the enclosed area has been continuously clear of dolphins for a period of 15 minutes.
- 3.6 The occurrence of dolphins within the enclosed area during the monitoring period and the effectiveness of the measures (i.e. occurrence of the dolphins after works cease) shall be recorded. The monitoring record shall be submitted to the RSS and IEC/ENPO within 24 hours of the end of the monitoring day.
- 3.7 For each monitoring, the following information shall be recorded:
- i. Approximate location;
 - ii. Time of first/last sighting of marine mammal;
 - iii. Direction of dolphin movement;
 - iv. Recorded data of marine mammal; and
 - v. Other relevant information.

4.0 Silt Curtain integrity Check

Inspection for the silt curtain shall be implemented by the Contractor to ensure the silt curtain is properly functioned upon the first establishment of the silt curtain. The boundary of silt curtain shall be visually inspected to ensure that the silt curtain is properly intact. The ends of the silt curtain shall also be properly overlapped to form an enclosed area.



After each typhoon event, an immediate inspection shall be conducted to check the condition of silt curtain and repair any of the damages may have occurred. All marine related construction works within the enclosed area shall not be commenced until the post typhoon inspection has been performed.

5.0 Action Plan for Discovering Dolphin within Enclosed Area

5.1 In the event of dolphin being observed within the area enclosed by the silt curtain, the MMO shall report to the site supervisor immediately. The site supervisor shall then report to Construction Manager and Environmental Officer. The Construction Manager shall instruct the staff to suspend all of the marine works. Dolphin Specialist shall be informed and arrive the site to provide specialist instruction within 30 minutes of dolphin being trapped. Detailed communication flow chart and emergency contact list shall refer to **Appendix B**. The site staff shall open the silt curtain to allow dolphin to leave, meanwhile, the MMO shall track the movement and behaviour of the enclosed dolphin. If dolphin is trapped for 20 minutes and seems to have difficulty in leaving the enclosed area, the Environmental Officer shall report to Environmental Team Leader (ETL), Agriculture, Fisheries and Conservation Department (AFCD) and Environmental Protection Department (EPD) for seeking advice for methods to encourage the dolphin to leave the enclosed area. The approximate location and time of appearance/disappearance shall also be recorded by the MMO.

5.2 If dolphin is observed near the silt curtain but not being trapped, the MMO shall



informed the Construction Manager to review if the works are disturbing the dolphin and take necessary action including slower or suspension of works until the dolphin leave the area.

- 5.3 After the dolphin left the area enclosed by silt curtain, the silt curtain shall be inspection for any damage or opening. Construction works within the enclosed area shall only be resumed after the dolphin is clear for 30 minutes and the confirmation of integrity of silt curtain. During the course of the action plan implementation, a CWD intrusion record, including the date, time, group size, behavior, location and movement pattern of the CWD within the enclosed silt curtain shall be recorded in details, and shall be submitted to RSS and IEC/ENPO within 3 working days for reference. Environmental Team shall also be included in record submission.
- 5.4 In case of injured or trapped dolphin or other marine mammal found within the area enclosed by silt curtain, the Contractor shall call the government 24 hour hotline (1823) for seeking assistance from the corresponding responsible team of AFCD.



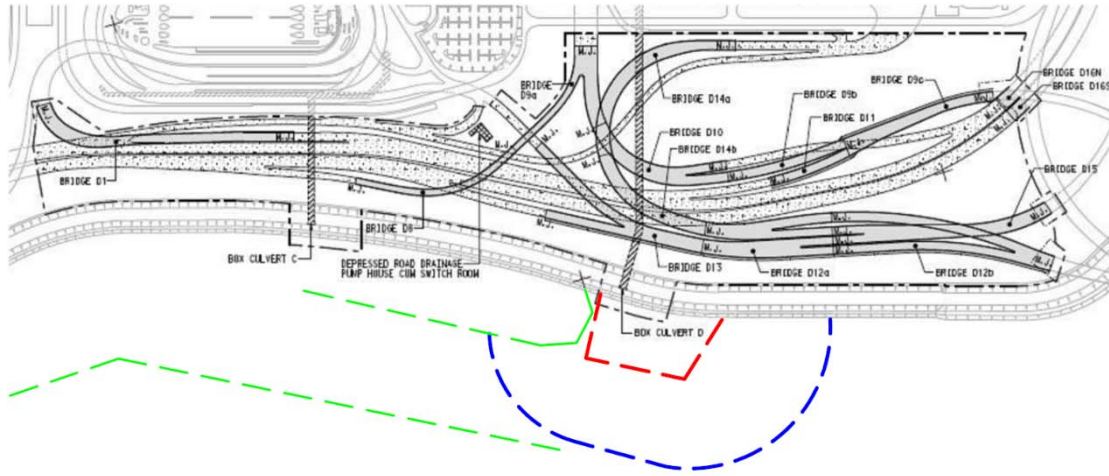
中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.

Contract No. HY/2013/04
Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing Facilities –
Infrastructure Works Stage II (Southern Portion)
Dolphin Watching Plan




Appendix A

Site Location Plan

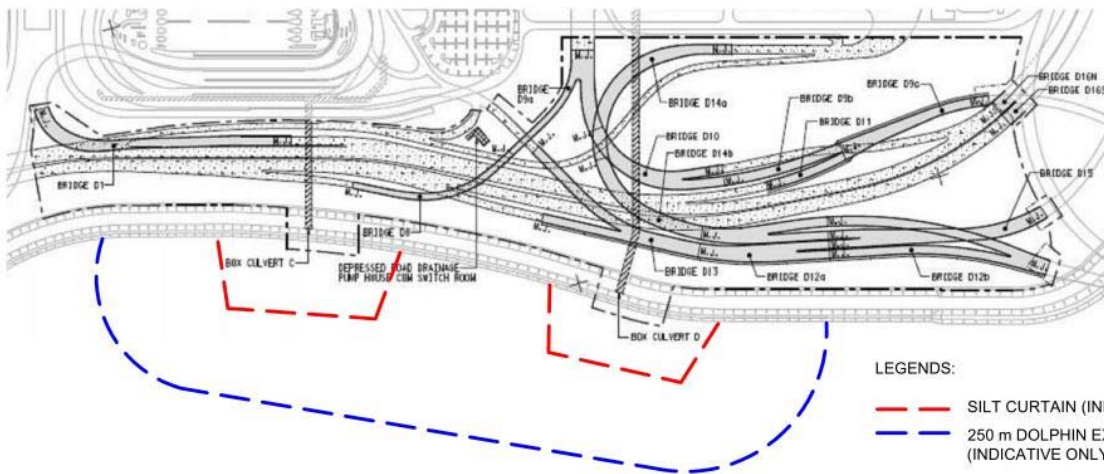






LEGENDS:

-  SILT CURTAIN (INDICATIVE ONLY)
-  SILT CURTAIN UNDER CONTRACT NO. HY/2010/02 (INDICATIVE ONLY)
-  250 m DOLPHIN EXCLUSION ZONE (INDICATIVE ONLY)

Silt Curtain Arrangement for Box Culvert D before removal of Silt Curtain of Contract No. HY/2010/02



LEGENDS:

-  SILT CURTAIN (INDICATIVE ONLY)
-  250 m DOLPHIN EXCLUSION ZONE (INDICATIVE ONLY)

Silt Curtain Arrangement for Box Culvert C & D after removal of Silt Curtain of Contract No. HY/2010/02



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CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.

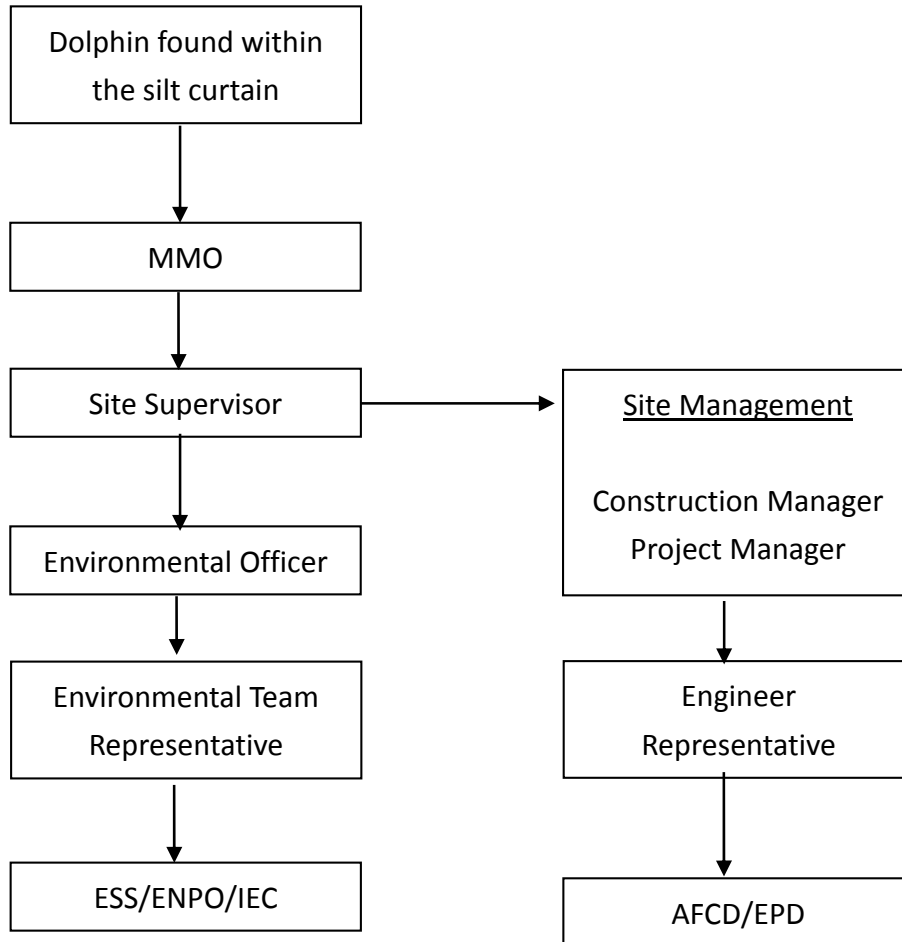
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Hong Kong Boundary Crossing Facilities –
Infrastructure Works Stage II (Southern Portion)
Dolphin Watching Plan

Appendix B

Emergency Communication Channel



Emergency Communication Flow Chart





Emergency Telephone List

緊急應變電話表

緊急應變小組			緊急聯絡電話表	
地盤經理	周蒲章	6746 4151	地盤熱線	6138 8990
地盤代表	鄧元雄	9863 7686	路政署	2926 6411
工程師	孫鵬	5605 9526	漁護署	1823
建造經理(R&D)	洪家健	9226 8238	中建寫字樓	2492 8029
環保主任	韓俊輝	9100 7509		
環境督導員	高浩賢	9209 4571		
環境督導員	陳韋然	6708 8505		
地盤總管	葉錦彪	9032 8187		
急救員	趙國強	9048 7948		
急救員	楊曉彤	9263 9578		
Environmental Team Leader	Gary Chow	2828 5874		
Environmental Team	Brandon Wong	2828 5875		
Dolphin Specialist	TBC	TBC		
Independent Environmental Checker	Raymond Dai	5181 8401		

AECOM Asia Limited		
CRE	Alfred Cheng	6086 4801
SRE (S&E)	PK Lee	6329 8443
RE	Dominic Mow	6274 0909