

7 September 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. Michael Tovey

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/2013/01 – HZMB HKBCF – Passenger Clearance Building  
Dolphin Watching Plan (Revision 5)**

Reference is made to the Environmental Team's submission of Dolphin Watching Plan (Revision 5) certified by the ET Leader (ET's ref.: "5126871/19.10/OC099/KC/EK" dated 6 September 2017) and provided to us via e-mail on 6 September 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.

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	Ms. Lowell Chiu	(By Fax: 3188 6614)
	Atkins	Mr. Keith Chau	(By Fax: 2890 6343)
	LCWJV	Mr. Owen Leung	(By Fax: 3621 0180)

Internal: DY, YH, PSC, ENPO Site

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Your ref.  
Our ref. 5126871/19.10/OC099/KC/EK

Date: 6 September 2017

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Facsimile (852) 2890 6343

www.atkinsglobal.com

**By Post and e-mail (Michael.Lee@lcwjb.com)**

Leighton – Chun Wo Joint Venture  
39/F Sun Hung Kai Centre  
30 Harbour Road  
Hong Kong

**Attn: Mr. Michael Lee**

Dear Mr. Lee,

**Contract No. HY/2013/01  
Hong Kong – Zhuhai – Macao Bridge  
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building  
Dolphin Watching Plan (Revision 5)**

Atkins China Limited certifies, in the capacity of Environmental Team Leader, that the Dolphin Watching Plan (Revision 5) conforms the requirements provided in Condition 2.6 of the Environmental Permit No. EP-353/2009/K.

**Yours faithfully,  
for and on behalf of  
Atkins China Limited**



**Keith Chau  
Environmental Team Leader**

**cc.**

1. AECOM – Mr. Michael Tovey (By Fax.: 3468 2076)
2. ENPO/IEC – Mr. Y.H. Hui & Mr. Raymond Dai (By Fax.: 3465 2899)



**Contract No. HY/2013/01**

**Hong Kong-Zhuhai-Macao Bridge  
Hong Kong Boundary Crossing Facilities – Passenger Clearance  
Building**

**Dolphin Watching Plan**

**Rev. 5**

24 August 2017

**Main Contractor**



Leighton - Chun Wo  
Joint Venture

**Environmental Team**

**ATKINS**

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Figure 2 – Layout of Silt Curtain and Location of Viewing Platform

Figure 3 – Communication Line of Action Plan

## 1 Dolphin Watching Plan

### 1.1 Introduction

- 1.1.1 This Dolphin Watching Plan (DWP) is prepared for Contract No. HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) – Passenger Clearance Building (hereafter referred to as “the Contract”) for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to Leighton – Chun Wo Joint Venture (hereafter referred to as “the Contractor”) and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.
- 1.1.2 This Dolphin Watching Plan is required under Condition 2.6 of Environmental Permit No. EP-353/2009/K. The DWP must be submitted to EPD prior to the commencement of marine works. Section 2.6 of Environmental Permit No. EP-353/2009/K is specified below:
- “The Permit Holder shall deposit with the Director prior to the commencement of marine works of the Project, three hard copies and one electronic copy of a Dolphin Watching Plan. The plan shall include regular 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.”*
- 1.1.3 The ordinances and regulations that are relevant to dolphin conservation include the following:-
- Wild Animals Protection Ordinance (Cap. 170);
  - Marine Parks Ordinance (Cap. 476);
  - Environmental Impact Assessment Ordinance (Cap. 499) and the associated TM; and
  - Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and its subsidiary legislation.

### 1.2 Site Characteristics

- 1.2.1 Cofferdam installation, construction of seawater intake, construction of box culvert and dismantling of temporary loading and unloading point under the Contract will be conducted at Work Area WA1 which is located to the east of the Hong Kong International Airport. Construction of seawater outfall will be conducted at Work Area WA1 which is located at the northern edge of HKBCF. Silt curtains shall be installed around the work areas of abovementioned works for the Contract and the Contractor will implement this DWP. The location of the work area and the layout of silt curtain are shown in **Figures 1 and 2** respectively.

### 1.3 Dolphin Watching Plan and Provisions for Implementation

- 1.3.1 The DWP was developed based on the characteristics of the Site as described in Section 1.2, and shall be implemented after the silt curtains are in place. The DWP includes inspection of the silt curtains, visual inspection of the waters surrounded by the silt curtains prior to the start of works each day, and an action plan in case Chinese White Dolphin (CWD) is found within the water surrounded by the silt curtains.
- 1.3.2 Inspection of the silt curtains will be conducted by a construction team of the Contractor, while visual inspection of the silt curtains enclosed waters will be conducted by a team of trained dolphin watchers who shall receive specific training.
- 1.3.3 Two trained dolphin watchers will be full-time on site and will conduct the visual inspection of the waters surrounded by the silt curtains during the daily inspection prior to the start of works each day. All dolphin watchers will be trained by an AFCD approved dolphin specialist. A refreshment training will be provided to the dolphin watchers by the trainer every year.
- 1.3.4 A briefing will be provided by the trained dolphin watchers for site staff and other relevant personnel (e.g. foremen, superintendents and engineers) employed by the Contractor for opportunistic scanning of CWD within the waters surrounded by silt curtains. This is to ensure that the area enclosed by the silt curtain can be observed from the active works side on an opportunistic basis. A briefing will be provided for all site staff during induction training and refreshment briefing will be provided by trained dolphin watchers for site staff every 6 months. The briefing/training records will be provided to Resident Site Staff (RSS) and Independent Environmental Checker (IEC)/ Environmental Project Office (ENPO) at monthly interval.
- 1.3.5 A small vessel will be available at all times to support the implementation of DWP and other related activities (e.g. inspection of silt curtains, implementing the action plan).
- 1.3.6 A clear view of the waters surrounded by the silt curtains shall be made available as a viewing platform for the implementation of visual inspection of the waters surrounded by the silt curtains. The proposed viewing platforms are shown in **Figure 2**. Should other nearer location with easy access and can provide clear view of the waters surrounded by the silt curtains be available, it will also be considered for use as viewing platform.
- 1.3.7 It is anticipated that no night-time marine works for cofferdam installation and construction of seawater intake will be conducted for the Contract.

### 1.4 Inspection of Silt Curtains

- 1.4.1 The layout of silt curtain is shown in **Figure 2**. A construction team shall conduct daily inspections of the silt curtain prior to the start of works on each day and monthly dive inspections on the silt curtain shall also be conducted as agreed by the ER.
- 1.4.2 The silt curtain inspection will be carried out by a small vessel to visually inspect the integrity of the silt curtains. Both the inside and the outside of the silt curtains will be inspected. If significant damage is found during the inspection, the silt curtain shall be repaired before construction works can be commenced.
- 1.4.3 In the event of a typhoon, the silt curtain will remain deployed. Once the typhoon signal is lowered, an immediate inspection shall be made by the construction team to check and repair any damage that may have occurred as damage to the silt curtain resulting in an opening which would allow the dolphin to enter. No works shall commence until the post typhoon inspection has been made.

## 1.5 Visual Inspection of the Waters Surrounded by the Silt Curtains

- 1.5.1 Prior to the start of works on each day, the waters enclosed by the silt curtain will be watched by two trained dolphin watchers. Two trained dolphin watchers will be full-time on site and will scan the area visually (naked eye/ binoculars) from the viewing platform for at least 30 minutes prior to the commencement of marine works each day. Marine works will not start until the area enclosed by the silt curtains has been inspected and confirmed clear of CWD for a period of at least 30 minutes.
- 1.5.2 In the event of CWD being seen within the area enclosed by the silt curtain during the morning inspection or during the work day, all marine works shall be suspended, and the action plan should be implemented immediately.

## 1.6 Action Plan in Event that CWD is seen within the Enclosed Waters

- 1.6.1 In the event of CWD being seen within the area enclosed by the silt curtain, the dolphin watcher will report the event to the Construction Manager immediately and all marine works shall be suspended. The Construction Manager will notify RSS, the Environmental Team and gather the dolphin watchers readily available on-site to watch the position of the CWD and guide the CWD leave the Site. The Construction Manager will also gather the construction team to provide a shortest path for the CWD to leave the site. The RSS will notify the RSS of Contract no. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Reclamation work.
- 1.6.2 One (or more) trained dolphin watcher shall track the movement of the enclosed CWD from the elevated viewing platform, while a small vessel will be deployed with the second trained dolphin watcher and personnel from the marine team of the Contractor on board. The small vessel with the second dolphin watcher on board will be guided by the first dolphin watcher on the viewing platform as to the CWD movements with communication through a set of walkie-talkie or mobile phones, so that the small vessel can be positioned to the silt curtain portion nearest to the CWD.
- 1.6.3 The construction team on board will then dismantle the silt curtain to provide a opening for the dolphin to leave the enclosed area. The small vessel will guide the CWD to leave the Site by this shortest path cleared for the CWD. The small vessel will slowly approach the CWD in such a manner to encourage the CWD towards the opening. Once the CWD has cleared the enclosed area, observations shall continue and works will only resume when the dolphin(s) has been clear of the area for 15 minutes.
- 1.6.4 During the course of the action plan implementation, a CWD intrusion record, including the date, time, group size, behaviour, location and movement pattern of the CWD within the enclosed area of silt curtain shall be recorded in details, and shall be submitted to RSS and IEC/ENPO within 3 working days for reference.
- 1.6.5 In the event that CWD cannot be removed from the enclosed area for an extended period of time (e.g. 30 minutes), the Environmental Team's dolphin specialist should be consulted immediately, and AFCD should also be informed for the situation.
- 1.6.6 **Table 1** shows the contact list of emergency team member. **Figure 3** shows the communication line of this action plan.

**Table 1 – Contact list of Emergency Team Member**

Post	Name	Contact No.
Construction Manager	Dan Lam	9040 7118
Construction Manager	Eric Kwok	5508 6344
Senior Site Agent	Ryan Ku	5508 6346
Site Agent	Jeffrey Yuen	9109 9178
Superintendent	Choi Kwok Hang	9864 4607
Graduate Engineer	Alex Siu	5508 6342
Environmental Team Leader	Keith Chau	2972 1721
Dolphin Specialist	Dr Samuel Hung	9800 8652
Resident Site Staff	Lee Ping Kuen	6329 8443
Resident Site Staff	Ernest Wong	6329 8428

- 1.6.7 This action plan shall be practiced after the first silt curtain area is enclosed so that the procedure can be fine tuned and relevant staff will be familiar with their roles. Any changes to this action plan shall be in consultation with the relevant management authorities.
- 1.6.8 A communication channel between RSS, Construction Team, ET and the dolphin watchers under the Contract No. HY/2013/01 and Contract no. HY/2010/02 will be set up to notify each other in case of dolphin instruction within the enclosed water.

## 1.7 In the Event of Injury or of Stranded Cetaceans within the Enclosed Area

- 1.7.1 Currently, AFCD (the authority responsible for marine mammals) collaborates with the Ocean Park Conservation Foundation (OPCF) to investigate and responds to all marine mammal strandings in Hong Kong. In the event that a CWD, or other marine mammal, is found injured or dead within the enclosed area of the silt curtain, it is advised by AFCD that the government 24 hour hotline (i.e. 1823) shall be called to seek assistance from the corresponding responsible team of AFCD (who will notify and form joint-investigation with OPCF when necessary). Existing AFCD/OPCF procedures may then proceed.





路政署  
**HIGHWAYS DEPARTMENT**

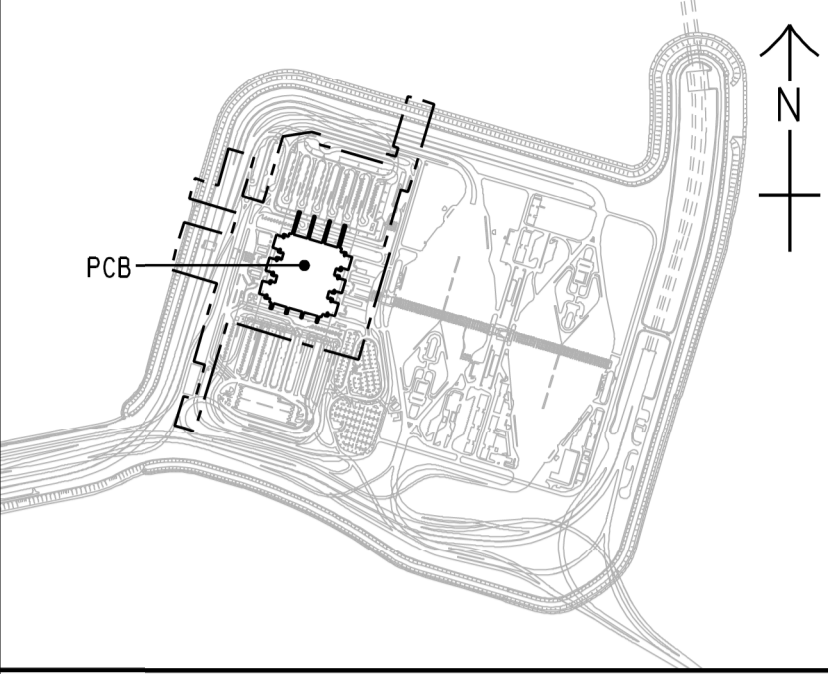
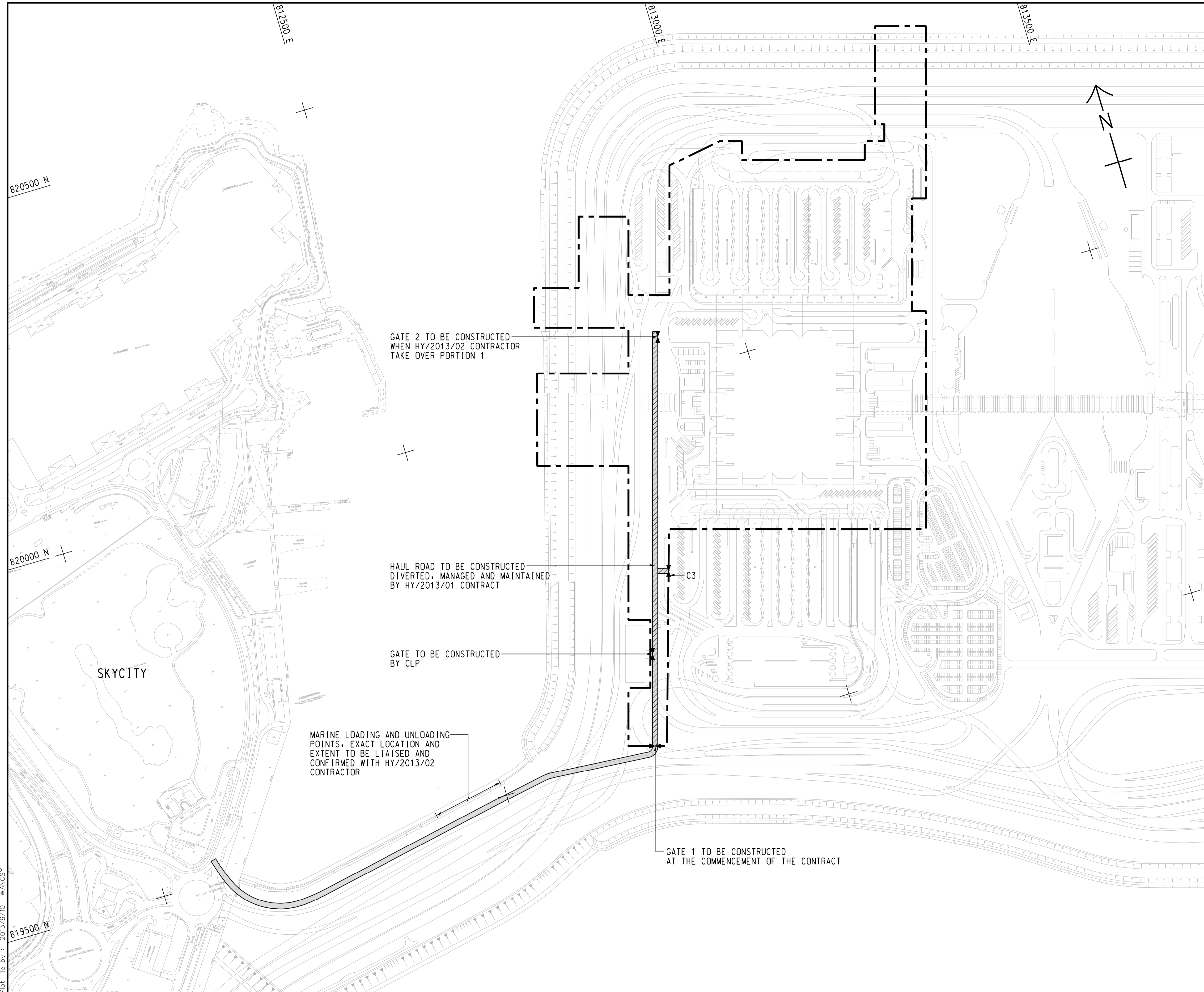
港珠澳大橋香港工程管理處  
Hong Kong - Zhuhai - Macao Bridge  
Hong Kong Project Management Office

Contract No. HY/2013/01  
Hong Kong-Zhuhai-Macao Bridge  
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building  
Dolphin Watching Plan (Rev.5)

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## FIGURES

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- NOTES:**
- COORDINATES ARE BASED ON HONG KONG METRIC GRID (1980) UNLESS OTHERWISE NOTED.
  - LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE NOTED.
  - DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
  - SETTING OUT, DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRONICALLY FROM THE DRAWINGS OR FILES.
  - SITE ACCESS SHALL BE HARD PAVED WITH PROPER DRAINAGE PROVIDED. IT SHALL BE KEPT UNOBSTRUCTED AND UNDISRUPTED AT ALL TIMES.

- LEGEND:**
- SITE BOUNDARY
  - [Hatched Box] 7.3m CLEAR WIDTH CONSTRUCTION HAUL ROAD
  - [Grey Box] INDICATIVE 20m WIDE VEHICULAR ACCESS BY RECLAMATION CONTRACT HY/2010/02

- TENDER DRAWING		BWCW SCI	SEP.13
REV. 修改	DESCRIPTION 工程圖號	CHECKED 審核	DATE 日期

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

HONG KONG-ZHUHAI-MACAO BRIDGE  
 HONG KONG BOUNDARY CROSSING FACILITIES  
 - PASSENGER CLEARANCE BUILDING  
 Figure 1  
 WORKS AREA WA1

**AECOM** +  
 Rogers Stirk Harbour + Partners  
 BURO HAPPOLD ATKINS ADI +  
**Aedas**

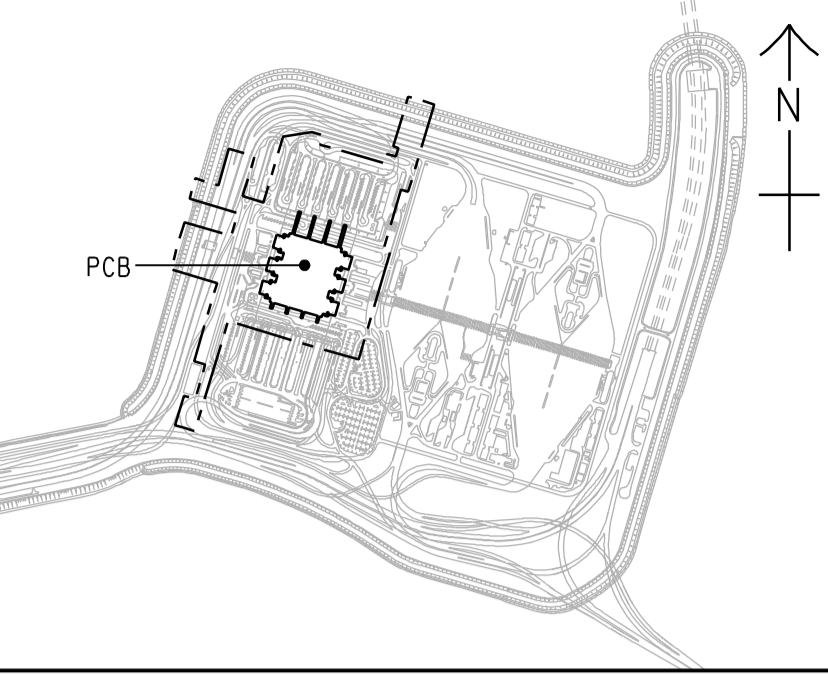
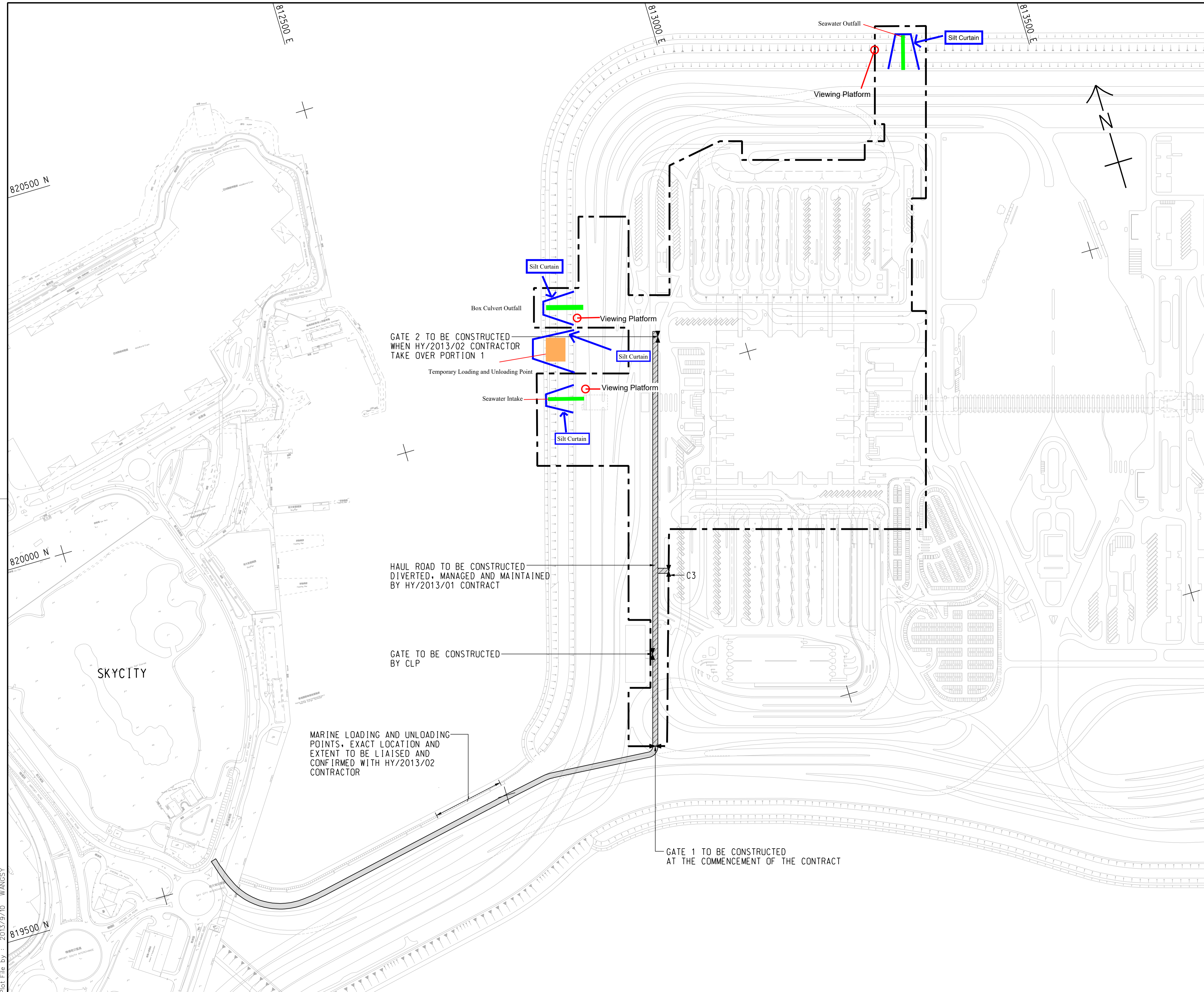
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 圖紙編號

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2013/01	P. Dir. APPROVED 批准人	EMSC
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DRAWN BY 繪圖	WSY	STATUS 階段	
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SCALE 比例 1 : 2500  
 DIMENSIONS ARE IN 尺寸單位 METRES  
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**LOCATION PLAN**  
SCALE 1 : 20000

- NOTES:**
- COORDINATES ARE BASED ON HONG KONG METRIC GRID (1980) UNLESS OTHERWISE NOTED.
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  - SITE ACCESS SHALL BE HARD PAVED WITH PROPER DRAINAGE PROVIDED. IT SHALL BE KEPT UNOBSTRUCTED AND UNDISRUPTED AT ALL TIMES.

- LEGEND:**
- SITE BOUNDARY
  - 7.3m CLEAR WIDTH CONSTRUCTION HAUL ROAD
  - INDICATIVE 20m WIDE VEHICULAR ACCESS BY RECLAMATION CONTRACT HY/2010/02

GATE 2 TO BE CONSTRUCTED WHEN HY/2013/02 CONTRACTOR TAKE OVER PORTION 1

HAUL ROAD TO BE CONSTRUCTED DIVERTED, MANAGED AND MAINTAINED BY HY/2013/01 CONTRACT

GATE TO BE CONSTRUCTED BY CLP

MARINE LOADING AND UNLOADING POINTS, EXACT LOCATION AND EXTENT TO BE LAIASED AND CONFIRMED WITH HY/2013/02 CONTRACTOR

GATE 1 TO BE CONSTRUCTED AT THE COMMENCEMENT OF THE CONTRACT

- TENDER DRAWING		BWCW SCI	SEP.13
REV. 修改	DESCRIPTION 內容變更	D.C. 校核 審核	DATE 日期

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

HONG KONG-ZHUHAI-MACAO BRIDGE  
 HONG KONG BOUNDARY CROSSING FACILITIES  
 - PASSENGER CLEARANCE BUILDING  
**Figure 2**

**AECOM** +  
 Rogers Stirk Harbour + Partners  
**Aedas**  
 BURO HAPPOLD ATKINS ADI +

DRG.NO. 60191048/C1/000/C00/1044  
 圖紙編號

DESIGNED BY 設計 BWCW	CONTRACT NO. 合約編號 HY/2013/01	P. Dir. APPROVED 批准人 EMSC
DRAWN BY 繪圖 WSY	STATUS 階段	

SCALE 比例 A1 1 : 2500  
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Figure 3 Communication Line of Action Plan

