



**Contract No. HY/2011/03**

**Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road  
Section between Scenic Hill and Hong Kong Boundary Crossing  
Facilities**

**Dolphin Watching Plan**

**Rev. 6**

18 October 2012

**Main Contractor**



**Designer**

**ATKINS**



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## 1 Dolphin Watching Plan

### 1.1 Introduction

- 1.1.1 The HZMB Hong Kong Link Road (HKLR) serves to connect the Hong Kong-Zhuhai-Macao Bridge (HZMB) Main Bridge at the Hong Kong Special Administrative Region (HKSAR) Boundary and the HZMB Hong Kong Boundary Crossing Facilities (HKBCF) located at the north eastern waters of the Hong Kong International Airport (HKIA).
- 1.1.2 China State Construction Engineering (Hong Kong) Ltd. was awarded by Highways Department as the Contractor to undertake the construction works of Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and Hong Kong Boundary Facilities (“the Contract”) for the Highways Department of HKSAR.
- 1.1.3 This Dolphin Watching Plan is required under Section 2.5 of Environmental Permit No. EP-352/2009/A. The Dolphin Watching Plan must be submitted to EPD prior to the commencement of marine works. Section 2.5 of Environmental Permit No. EP-352/2009/A is specified below:
- 1.1.4 “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.”
- 1.1.5 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 The site area of the Hong Kong-Zhuhai-Macao Bridge (HKZMB) Hong Kong Link Road (HKLR) – Section between Scenic Hill and Hong Kong Boundary Crossing Facilities – Reclamation Works is located along the east coast of the Hong Kong International Airport (HKIA). The location of the Site is shown in **Figure 1** for reference.
- 1.2.2 According to the long-term monitoring data collected by Hong Kong Cetacean Research Project commissioned by Agriculture, Fisheries and Conservation Department (AFCD), in the past dolphins rarely occurred near the work site of the Hong Kong Link Road Reclamation Works between Scenic Hill and HKBCF. In fact, during the ten-year period of 2002-12, only one sighting of two Chinese white dolphins (CWD) were made near the work site (just to the north of Tung Chung Public Pier), and they were generally absent in the vicinity of the work site.

### 1.3 Dolphin Watching Plan and Provisions for Implementation

- 1.3.1 The Dolphin Watching Plan (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(s) (CWD) is found within the water surrounded by the silt curtains.
- 1.3.2 Inspection of the silt curtains will be conducted by a maintenance team of the Contractor, while visual inspection of the silt curtains enclosed waters will be conducted by a team of dolphin watchers who shall receive specific training.
  - 1.3.3 A team of two dolphin watchers 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.
  - 1.3.4 Briefing shall 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. Briefing will be provided to all site staff during induction training, and refreshment briefing will be provided every 6 months. The briefing/training records will be provided to SOR and IEC/ENPO at monthly interval.
  - 1.3.5 A small vessel shall 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 Elevated platform which can provide 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. A proposed viewing platform (level at approximately 6 mPD near Dragonair Tower) is 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.

#### 1.4 Inspection of Silt Curtains

- 1.4.1 The proposed layout of silt curtain is shown in **Figure 2**. A maintenance 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 SOR.
- 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 marine works can be commenced.
- 1.4.3 In the event of a typhoon, the silt curtain will remain deployed. Once all typhoon signals are lowered, an immediate inspection shall be made by the maintenance team to check and repair any damage that may have occurred as damage to the silt curtain may result in an opening which would allow the dolphin to enter. No works shall commence until this 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. The trained dolphin watchers will scan the area visually (naked eye/ binoculars) from the viewing platform for at least 30 minutes prior to marine works commencement. 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 Thereafter, frontline staff of foremen, superintendents and engineers will look out for dolphin opportunistically from the active work fronts within the water surrounded by the silt curtains throughout the work period.

- 1.5.3 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 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 marine team to provide a shortest path for the CWD to leave the site.
- 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 marine team on board will then dismantle the silt curtain to provide a 50 meter wide 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 SOR and IEC/ENPO 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 **Figure 3** showed the communication line of this action plan.
- 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.

## 1.7 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 Corporation (OPC) 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 OPC when necessary). Existing AFCD/OPC procedures may then proceed.



路政署  
**HIGHWAYS DEPARTMENT**  
港珠澳大橋香港工程管理處  
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Hong Kong Project Management Office

Contract No. HY/2011/03 : Hong Kong-Zhuhai-Macao Bridge  
Hong Kong Link Road - Section between Scenic Hill  
and Hong Kong Boundary Crossing Facilities  
Dolphin Watching Plan (Rev.6)

## FIGURES


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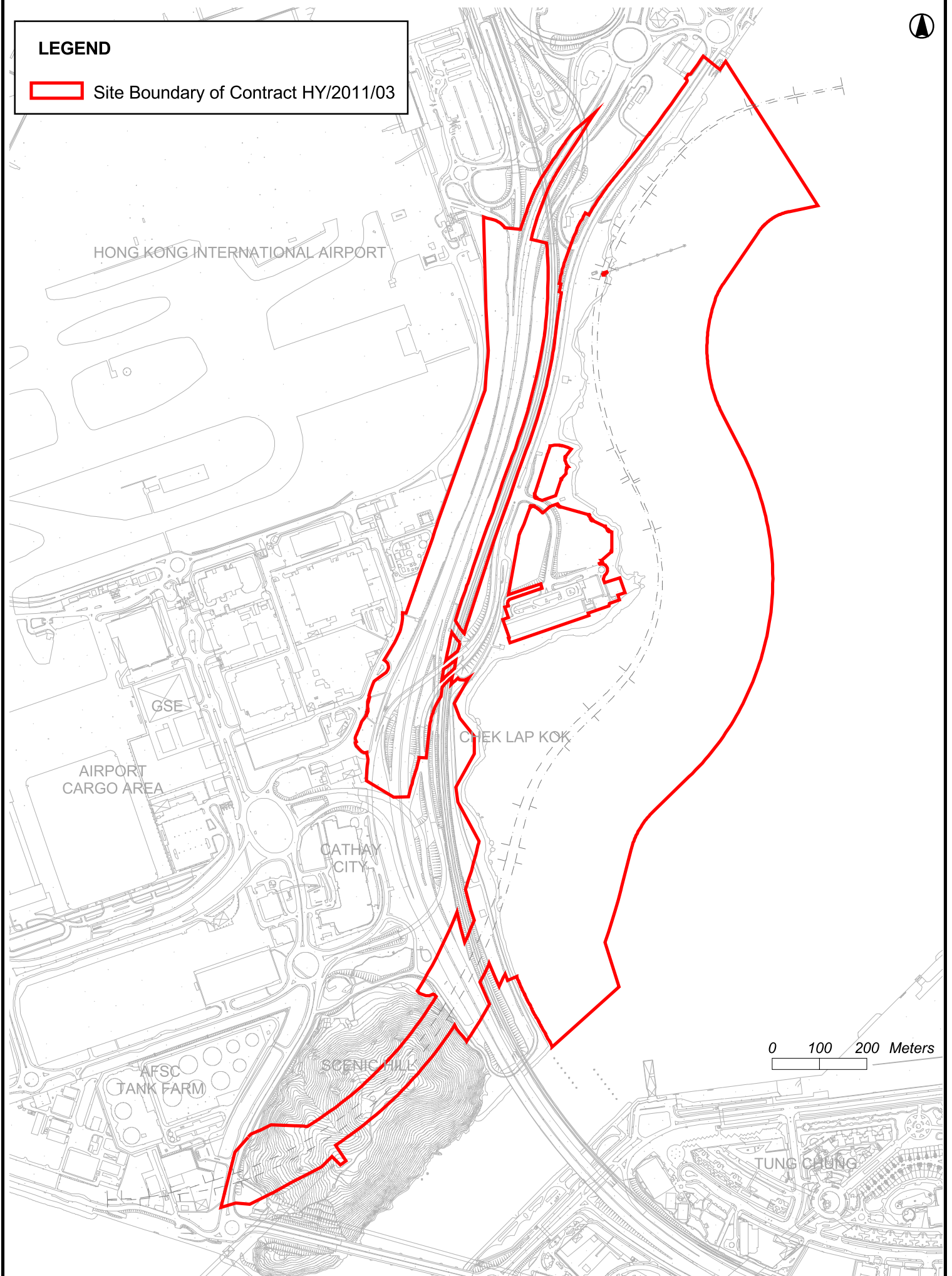


中國建築工程(香港)有限公司  
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.



**LEGEND**

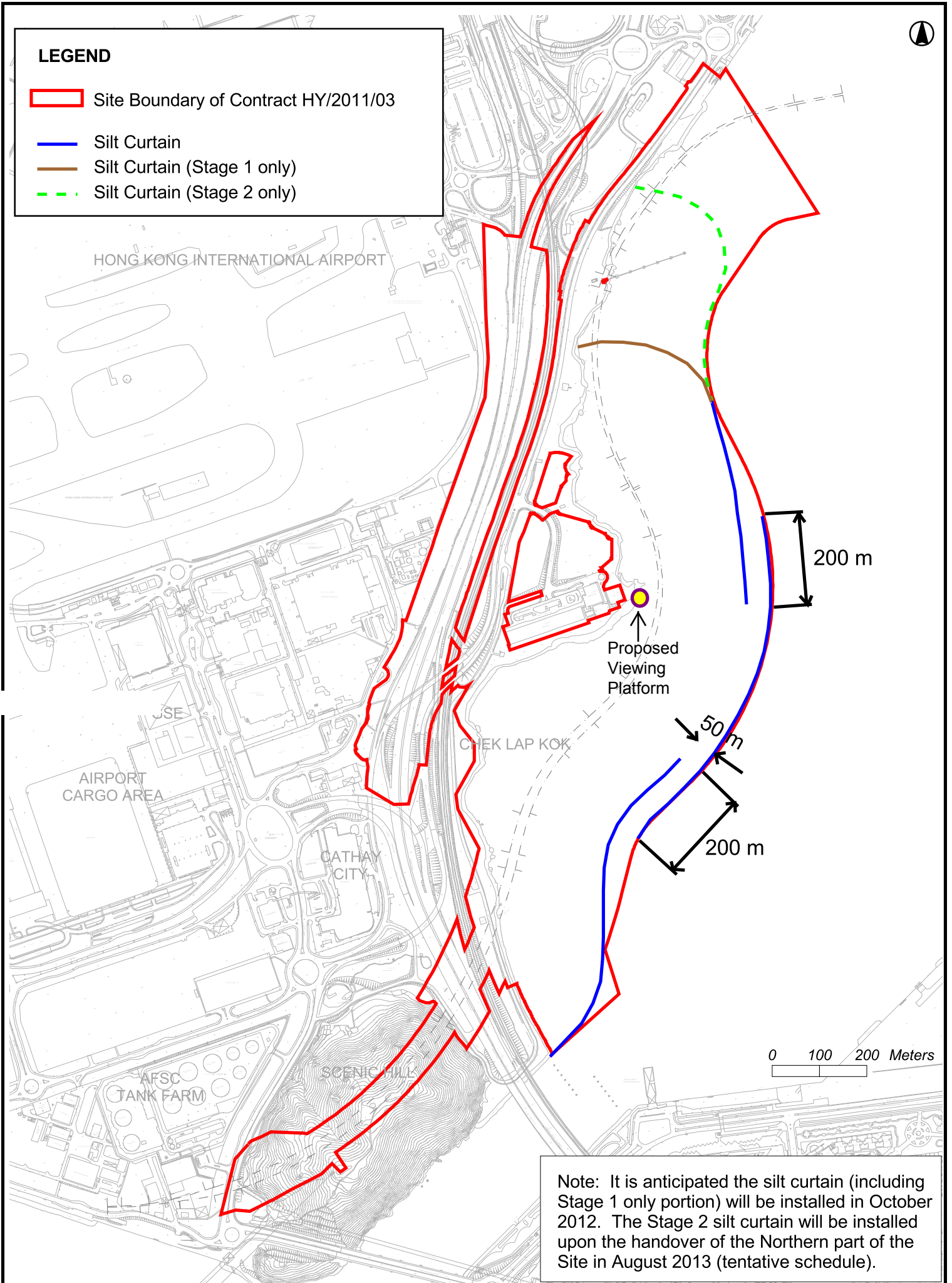
 Site Boundary of Contract HY/2011/03



**Location of the Site**

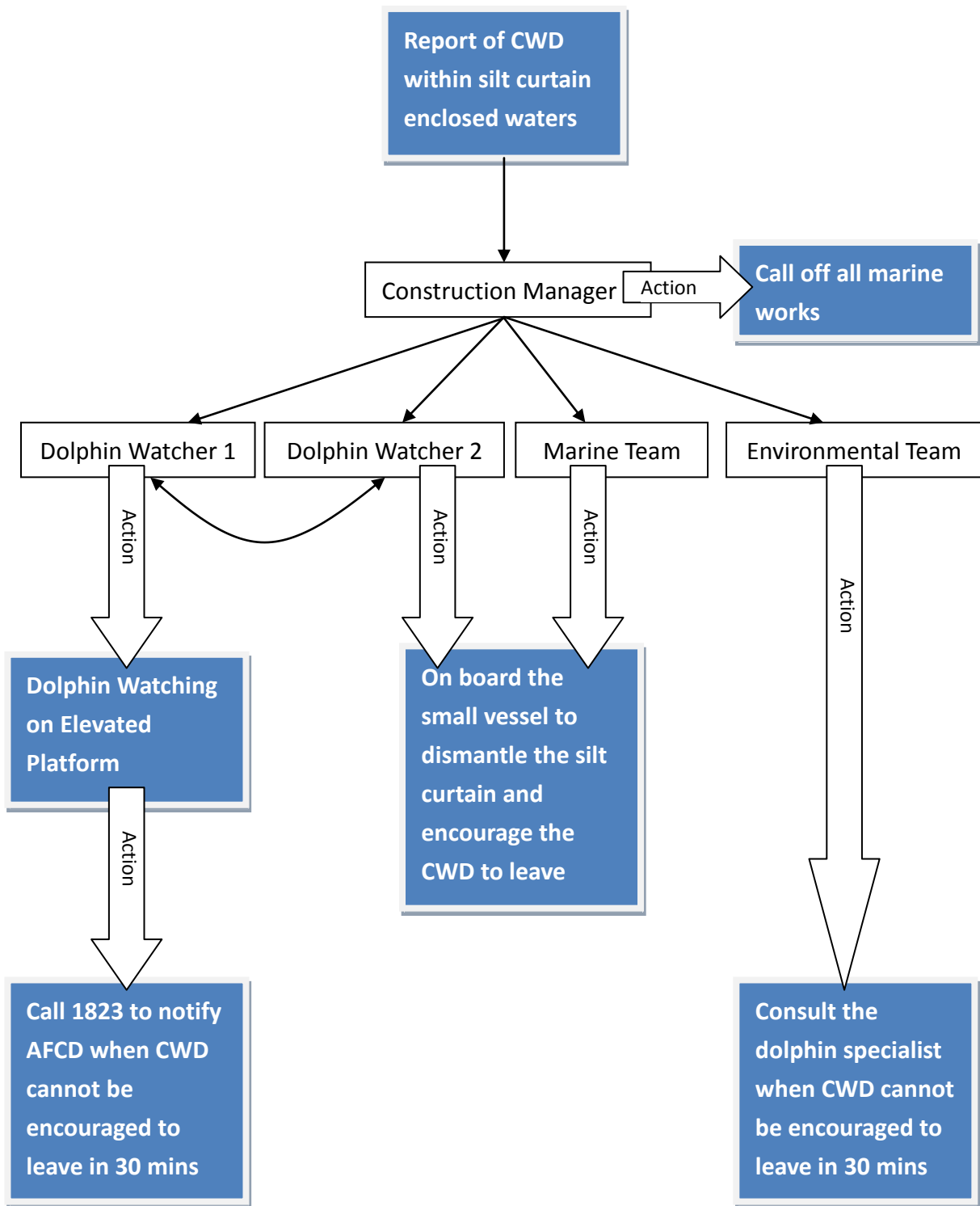
**LEGEND**

- ▭ Site Boundary of Contract HY/2011/03
- Silt Curtain
- Silt Curtain (Stage 1 only)
- - - Silt Curtain (Stage 2 only)



**Figure 2 - Proposed Layout of Silt Curtain**





→ Line of Communication

**Figure 3: Event and Action Plan**