



**CONTRACT NO: HK/2015/01**

**WANCHAI DEVELOPMENT PHASE II AND CENTRAL  
WANCHAI BYPASS  
SAMPLING, FIELD MEASUREMENT AND TESTING WORKS  
(STAGE 3)**

**ENVIRONMENTAL PERMIT NO. EP-356/2009,  
FURTHER ENVIRONMENTAL PERMIT NOS. FEP-02/356/2009,  
FEP-03/356/2009, FEP-04/356/2009 , FEP-06/356/2009 AND  
FEP-07/356/2009**

**MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT**

**- MAY 2016 -**

**CLIENTS:**

**Civil Engineering and Development  
Department**

**and**

**Highways Department**

**PREPARED BY:**

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**CERTIFIED BY:**

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**DATE:**

13 June 2016

Ref.: AACWBIECEM00\_0\_8181L.16.docx

14 June 2016

AECOM Asia Company Limited  
Engineer's Representative's Office  
25 Hung Hing Road,  
Causeway Bay,  
Hong Kong

By Post and Fax (3912 3010)

Attention: Mr. Peter Poon

Dear Mr. Poon,

**Re: Contract No. HK/2015/01  
Wan Chai Development Phase II - Central-Wan Chai Bypass  
Sampling, Field Measurement and Testing Works (Stage 3)**

**Monthly Environmental Monitoring and Audit Report (May 2016)  
for EP-356/2009, FEP-02/356/2009, FEP-03/356/2009, FEP-  
04/356/2009, FEP-06/356/2009 and FEP-07/356/2009**

Reference is made to the Environmental Team's submission of the captioned Monthly Environmental Monitoring and Audit (EM&A) Report for May 2016 received by e-mail on 13 June 2016 for our review and comment.

Please be informed that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 in the captioned Environmental Permits.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,



David Yeung  
Independent Environmental Checker

Encl.

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**EXECUTIVE SUMMARY**

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – **May 2016** for the Project of Wan Chai Development Phase II and Central-Wanchai Bypass under Environmental Permit no. EP-356/2009 and Further Environmental permit nos. FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009, FEP-06/356/2009 and FEP-07/356/2009. This report presents the environmental monitoring findings and information recorded during the period of **27<sup>th</sup> April 2016 to 26<sup>th</sup> May 2016**. The cut-off date of reporting is at 26<sup>th</sup> of each reporting month.

Construction Activities for the Reported Period

- ii. During this reporting period, the major work activities for Contract no. HK/2009/01 included:
- Nil
- iii. During this reporting period, the major work activities for Contract no. HK/2009/02 included:
- Inspection / trimming of rockfill profile in front of seawall
  - Rock armor installation
- iv. During this reporting period, the major work activities for Contract no. HY/2009/15 included:
- Reinstatement of vertical seawall at TPCWAE
  - Removal of temporary reclamation at TPCWAW
- v. During this reporting period, the major work activities for Contract no. HY/2009/19 included:
- Nil
- vi. During this reporting period, the major work activities for Contract no. HK/2012/08 included:
- Precast unit construction for Box 1 inside Dry dock
  - Construction of culvert L Bay 8
  - Pre-bored H-pile installation for culvert L1/FRP-L Bay 12 and Bay 13
- vii. During this reporting period, the major work activities for Contract no. HY/2010/08.
- Diversion pipe maintenance
  - Diaphragm Wall Removal Works

Noise Monitoring

- viii. Two limit level exceedances were recorded at noise monitoring station M1a – Harbour Road Sports Center on 04 and 24 May 2016. The exceedances were concluded as non-project related
- ix. Noise monitoring during daytime and restricted hour were conducted at the stations M1a, M2b, M3a, M4b, M5b and M6 on a weekly basis in the reporting month.



### Air Quality Monitoring

- x. Due to interruption of electricity supply, the 24hr and 1hr TSP was rescheduled as follows:  
1hr TSP at CMA2a monitoring station was rescheduled from 5 May 2016 to 7 May 2016  
24hr TSP at CMA5b monitoring station was rescheduled from 20 May 2016 to 21 May 2016
- xi. Due to closure of major road and pedestrian access to monitoring station, 1hr TSP monitoring at CMA5b monitoring station was rescheduled from 17 May 2016 to 20 May 2016
- xii. No action or limit level exceedance was recorded in this reporting month.
- xiii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted at CMA1b – Oil Street Site Office; CMA2a – Causeway Bay Community Center; CMA3a – CWB PRE Site Office Area; CMA4a – Society for the Prevention of Cruelty to Animals; CMA5b – Pedestrian Plaza; CMA6a – WDII PRE Site Office in the reporting month.

### Water Quality Monitoring

- xiv. As advised by WDII RSS, the works under Contract HK/2009/01, HK/2009/02 (at WCRIII area) and HK/2012/08 were suspended from 16 May 2016 to 19 May 2016, WQM event at WQM station WSD19, P1, P3, P4, P5 and C1 were temporary suspended on 17 May 2016 and 19 May 2016.
- xv. As advised by the Contractor of HK/2009/01, all silt screen remains removal works at P1, P3, P4, P5 and C1 water quality monitoring stations were completed on 8 May 2016.
- xvi. With respect to the silt screen remains removal works at P1, P3, P4, P5 and C1 water quality monitoring stations conducted by Contractor of HK/2009/01, the water quality monitoring at associated station was temporary suspended as follows:  
P1 monitoring station was temporary suspended on 3 May 2016 during flood tide and ebb tide  
C1 monitoring station was temporary suspended on 5 May 2016 during ebb tide  
P4 and P5 monitoring stations were temporary suspended on 7 May 2016 during flood tide
- xvii. With respect to the marine works undertaken at WCR3 by Contract HK/2009/02, the respective water quality monitoring station C1 associated with Contract HK/2009/01 was updated as in association with Contract HK/2009/01 and Contract HK/2009/02.
- xviii. With respect to the marine works undertaken at CBTS by Contract HY/2010/08, the respective water quality monitoring station C7 associated with Contract HY/2009/15 was updated as in association with Contract HY/2009/15 and Contract HY/2010/08.
- xix. With respect to the marine works undertaken at HKCEC2 by Contract HK/2012/08, the respective water quality monitoring station WSD19, P1, P3, P4, and P5 were associated with Contract HK/2012/08.



**Table I Summary of Water Quality Monitoring Exceedances in Reporting Month**

| Contract no.            | Water quality monitoring Station | Mid-flood |    |           |    |    |    | Mid-ebb |    |           |    |    |    |
|-------------------------|----------------------------------|-----------|----|-----------|----|----|----|---------|----|-----------|----|----|----|
|                         |                                  | DO        |    | Turbidity |    | SS |    | DO      |    | Turbidity |    | SS |    |
|                         |                                  | AL        | LL | AL        | LL | AL | LL | AL      | LL | AL        | LL | AL | LL |
| HK/2009/01 & HK/2009/02 | C1                               | 0         | 0  | 1         | 1  | 0  | 0  | 0       | 0  | 1         | 0  | 0  | 0  |
| HK/2012/08              | WSD19                            | 0         | 0  | 1         | 2  | 0  | 0  | 0       | 0  | 1         | 2  | 0  | 0  |
|                         | P1                               | 0         | 0  | 1         | 0  | 0  | 0  | 0       | 0  | 0         | 0  | 0  | 0  |
|                         | P3                               | 0         | 0  | 1         | 1  | 0  | 0  | 0       | 0  | 1         | 0  | 0  | 0  |
|                         | P4                               | 0         | 0  | 0         | 2  | 0  | 0  | 0       | 0  | 1         | 0  | 0  | 0  |
|                         | P5                               | 0         | 0  | 2         | 0  | 0  | 0  | 0       | 0  | 0         | 0  | 0  | 0  |
| HK/2009/02              | RW21-P789                        | 0         | 0  | 1         | 2  | 0  | 0  | 0       | 0  | 0         | 0  | 0  | 0  |
| HY/2009/15 & HY/2010/08 | C7                               | 0         | 0  | 0         | 1  | 1  | 0  | 0       | 1  | 0         | 1  | 0  |    |
| <b>Total</b>            |                                  | 0         | 0  | 7         | 9  | 1  | 0  | 0       | 0  | 5         | 2  | 1  | 0  |

- Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011 and the water quality monitoring at C6 was then terminated since 17 May 2011.
- 4-week post construction water quality monitoring at WSD9, WSD10, WSD15 and WSD17 were completed on 6 Feb 2012 and the water quality monitoring at WSD 10 and WSD15 were temporarily suspended since 8 Feb 2012, and WSD9 and WSD17 was implemented with respect to HK/2009/02 from 8 Feb 2012 onwards.
  - C8 and C9 were implemented with respect to HY/2009/19 from 28 Jan 2012.
  - C8 & C9 were temporary suspended since 4 March 2013.
  - WSD7 and WSD20 water quality monitoring were temporarily suspended from 27 Apr 2012.
  - C2, C3 C4e and C4w water quality monitoring station was temporarily suspended since 22 Apr 2013
  - P1, P3, P4 and P5 were commenced since 24 Apr 2013
  - C5e and C5w water quality monitoring station was temporarily suspended since 29 Jul 2013.
  - WSD21 water quality monitoring station was temporarily suspended since 12 Mar 2014
  - WSD9 and WSD17 water quality monitoring station was temporarily suspended since 8 Sep 2014 flood tide.
  - The water quality monitoring station C1 shall be associated with Contract No. HK/2009/02 upon commencement of marine works under DP3 at WCR3 area.

- xx. There were 12 action level and 11 limit level of turbidity exceedances and 1 action level and 1 limit level of suspended solid exceedances recorded in the reporting month.
- xxi. Investigation found that 1 action level and 1 limit level of turbidity exceedances recorded at monitoring station C7 on 29 April 2016 in this reporting month was concluded as related to Project works.
- xxii. Investigation found that 10 action level and 10 limit level of turbidity exceedances and 1 action level and 1 limit level of suspended solid exceedances recorded in this reporting month were not related to Project works. The details of the recorded exceedance can be referred to the **Section 6.4**.
- xxiii. Enhanced DO monitoring at 4 monitoring stations in Causeway Bay Typhoon Shelter and Ex-Public Cargo Works Area was conducted three days per week during the reporting period. The action and limit level exceedances of water quality monitoring are summarized in **Table II**.

**Table II Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Month**

| Contract no.            | Water quality monitoring Station | Mid-flood |    | Mid-ebb |    |
|-------------------------|----------------------------------|-----------|----|---------|----|
|                         |                                  | DO        |    | DO      |    |
|                         |                                  | AL        | LL | AL      | LL |
| HY/2009/15 & HY/2010/08 | C6                               | 0         | 0  | 0       | 0  |
| HY/2009/15              | Ex-WPCWA SW                      | 0         | 0  | 0       | 4  |
|                         | Ex-WPCWA SE                      | 0         | 0  | 2       | 0  |
| Total                   |                                  | 0         | 0  | 2       | 4  |

Remarks:

- Enhanced DO monitoring at Windsor House Cooling (Station Ref: C7) was temporarily suspended since 22 October 2014 with respect to the formation of temporary reclamation zone TS3 and to be resumed upon removal of the respective temporary reclamation zone.
- Enhanced DO monitoring at Monitoring station at Ex-PCWAE was temporarily suspended from 31 August 2015 with respect to seawall reinstatement works and formation of active works area, to be resumed upon completion of seawall reinstatement works

- xxiv. [There was 2 action level and 4 limit level exceedances recorded for enhanced dissolved oxygen monitoring in this reporting month. Investigation found that the exceedance was not related to Project works. The details of the recorded exceedances can be referred to the \*\*Section 6.4.\*\*](#)

Complaints, Notifications of Summons and Successful Prosecutions

- xxv. No environmental complaint was received in this reporting month.

Site Inspections and Audit

- xxvi. The Environmental Team (ET) conducted weekly site inspections for Contract nos. HK/2009/01, HK/2009/02, HY/2009/15, HY/2009/19, HK/2012/08 and HY/2010/08 under EP no. EP-356/2009 in the reporting month. Major observations and recommendations made during the audit sessions were rectified by the Contractors. No non-conformance was identified during the site inspections.

Future Key Issues

- xxvii. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

[Contract no. HK/2009/01 – Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC](#)

- Nil

[Contract no. HK/2009/02 – Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East](#)

- Nil



Contract no. HY/2009/15 – Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- Removal of temporary reclamation at TPCAWW

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- Nil

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Precast unit construction for Box 1 inside Dry dock
- Construction of culvert L Bay 8

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

- Diversion pipe maintenance
- Diaphragm Wall Removal works

## 1 Introduction

### 1.1 Scope of the Report

- 1.1.1. Lam Geotechnics Limited (LGL) has been appointed to work as the Environmental Team (ET) under Environmental Permit no. EP-356/2009 and Further Environmental permit nos. FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009, FEP-06/356/2009 and FEP-07/356/2009 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) and in the EM&A Manual of the approved EIA Report for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001).
- 1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 10.3 of EM&A Manual and “*Environmental Monitoring and Audit Requirements*” under Particular Specification Section 27.
- 1.1.3. This report documents the finding of EM&A works for Environmental Permit no. EP-356/2009, Further Environmental Permit no. FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009, FEP-06/356/2009 and FEP-07/356/2009 during the period of **27<sup>th</sup> April 2016 to 26<sup>th</sup> May 2016**. The cut-off date of reporting is at 26<sup>th</sup> of each reporting month.

### 1.2 Structure of the Report

- Section 1**     **Introduction** – details the scope and structure of the report.
- Section 2**     **Project Background** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.
- Section 3**     **Status of Regulatory Compliance** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4**     **Monitoring Requirements** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5**     **Monitoring Results** – summarizes the monitoring results obtained in the reporting period.
- Section 6**     **Compliance Audit** – summarizes the auditing of monitoring results, all exceedances environmental parameters.
- Section 7**     **Cumulative Construction Impact due to the Concurrent Projects** – summarizes the relevant cumulative construction impact due to the concurrent activities of the concurrent Projects.



- Section 8**     **Environmental Site Audit** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.
- Section 9**     ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution
- Section 10**    ***Conclusion***

## 2 Project Background

### 2.1 Background

- 2.1.1. “Wan Chai Development phase II and Central-Wan Chai Bypass” and “Central-Wan Chai Bypass and Island Eastern Corridor Link” (hereafter called “the Project”) are Designed Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Environmental Impact Assessment (EIA) Reports for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001) and Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) have been approved on 31 August 2001 and 11 December 2008 respectively.
- 2.1.2. The key purpose of Wan Chai Development Phase II (WDII) is to provide land at Wan Chai North and North Point for construction of the Central-Wan Chai Bypass and Island Eastern Corridor Link (CWB). Land formed under the project will be developed as a world-class waterfront promenade joining that at the new Central waterfront for public enjoyment.
- 2.1.3. There is a compelling and present need for the CWB to provide relief to the very congested east-west Connaught Road Central/Harcourt Road / Gloucester Road Corridor (the Corridor) which is currently operating beyond its capacity. The CWB will provide relief to the existing congestion along the Corridor and cater for the anticipated growth of traffic on Hong Kong Island. Without the CWB and its access roads, there will not be sufficient capacity to serve the heavy traffic demands at both strategic and local levels.

### 2.2 Scope of the Project and Site Description

- 2.2.1. The Project is located mainly in Wan Chai North, Causeway Bay and North Point, and is demarcated by Gloucester Road and Victoria Park Road to the south, Fenwick Pier Street to the west and Tong Shui Road Interchange to the east, as shown in **Figure 2.1**.
- 2.2.2. The study area encompasses existing developments along the Wan Chai, Causeway Bay and North Point shorelines. Major land uses include the Hong Kong Convention & Exhibition Centre (HKCEC) Extension, the Wan Chai Ferry Pier, the ex-Wan Chai Public Cargo Working Area (ex-PCWA), the Royal Hong Kong Yacht Club (RHKYC), the Police Officers’ Club, the Causeway Bay Typhoon Shelter (CBTS) and commercial and residential developments.
- 2.2.3. The scope of the Project comprises:
- Land formation for key transport infrastructure and facilities, including the Trunk Road (i.e. CWB) and the associated slip roads for connection to the Trunk Road and for through traffic from Central to Wan Chai and Causeway Bay. The land formed for the above transport infrastructure will provide opportunities for the development of an attractive waterfront promenade for the enjoyment of the public
  - Reprovisioning / protection of the existing facilities and structures affected by the land formation works mentioned above
  - Extension, modification, reprovisioning or protection of existing storm water drainage outfalls, sewerage outfalls and water mains affected by the revised land use and land formation works mentioned above

- Upgrading of hinterland storm water drainage system and sewerage system, which would be rendered insufficient by the land formation works mentioned above
- Provision of the ground level roads, flyovers, footbridges, necessary transport facilities and the associated utility services
- Construction of the new waterfront promenade, landscape works and the associated utility services
- The Trunk Road (i.e. CWB) within the study area and the associated slip roads for connection to the Trunk Road.

2.2.4. The project also contains various Schedule 2 DPs that, under the EIAO, require Environmental Permits (Eps) to be granted by the DEP before they may be either constructed or operated. **Table 2.1** summarises the five individual DPs under this Project. [Figure 2.1](#) shows the locations of these Schedule 2 DPs.

**Table 2.1 Schedule 2 Designated Projects under this Project**

| Item | Designated Project   | EIAO Reference                   | Reason for inclusion   |
|------|--|----------------------------------|--|
| DP1  | Central-Wanchai Bypass (CWB) including its road tunnel and slip roads              | Schedule 2, Part I, A.1 and A.7  | Trunk road and road tunnel more than 800 m in length   |
| DP2  | Road P2 and other roads which are classified as primary/district distributor roads | Schedule 2, Part I, A.1          | Primary / district distributor roads   |
| DP3  | Reclamation works including associated dredging works                              | Schedule 2, Part I, C.1 and C.12 | Reclamation more than 5 ha in size and a dredging operation less than 100 m from a seawater intake point   |
| DP5  | Wan Chai East Sewage Outfall   | Schedule 2, Part I, F.5 and F.6  | Submarine sewage pipelines with a total diameter more than 1,200 mm and include a submarine sewage outfall |
| DP6  | Dredging for the Cross-harbour Water Mains from Wan Chai to Tsim Sha Tsui          | Schedule 2, Part I, C.12         | A dredging operation less than 100 m from a seawater intake point  |

### 2.3 Division of the Project Responsibility

2.3.1. Due to the multi-contract nature of the Project, there are a number of contracts sub-dividing the whole works area into different work areas to be commenced. Contractors of individual contracts will be required by the EP holder to apply Further Environmental Permits (FEP) such that the impact monitoring stations are sub-divided accordingly to facilitate the implementation of EM&A programme and to streamline the EM&A reporting for individual FEP holders correspondingly.

2.3.2. The details of individual contracts are summarized in **Table 2.2**.



**Table 2.2 Details of Individual Contracts under the Project**

| Contract No. | Contract Title   | Associated DP(s) | Construction Commencement Date |
|--------------|--|------------------|--------------------------------|
| HK/2009/01   | Wan Chai Development Phase II – Central –Wanchai Bypass at Hong Kong Convention and Exhibition Centre                  | DP3, DP6         | 23 July 2010                   |
|              |  | DP1, DP2         | 25 August 2011                 |
| HK/2009/02   | Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East  | DP3, DP5         | 5 July 2010                    |
|              |  | DP1              | 26 April 2011                  |
| HY/2009/11   | Wan Chai Development Phase II and Central – Wan Chai Bypass – North Point Reclamation                                  | DP3              | 17 March 2010<br>(Completed)   |
| HY/2009/15   | Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)   | DP3              | 10 November 2010               |
|              |  | DP1              | 13 July 2011                   |
| HK/2010/06   | Wan Chai Development Phase II-Central-Wan Chai Bypass over MTR Tsuen Wan Line  | DP3              | 22 March 2011<br>(Completed)   |
| 04/HY/2006   | Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street  | DP1              | September 2010<br>(Completed)  |
| HY/2009/17   | Central – Wan Chai Bypass (CWB) at FEHD Whitfield Depot – Advanced piling works.                                       | DP1              | 5 October 2010<br>(Completed)  |
| HY/2009/18   | Central – Wan Chai Bypass (CWB) – Central Interchange  | DP1              | 21 April 2011                  |
| HY/2009/19   | Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link                                 | DP1              | 24 March 2011                  |
| HK/2012/08   | Wan Chai Development Phase II Central-Wan Chai Bypass at Wan Chai West   | DP1,DP2, DP3     | 10 March 2014                  |
| HY/2010/08   | Central- Wanchai Bypass Tunnel – Tunnel (Slip Road 8)  | DP1, DP2, DP3    | 21 March 2013                  |
| HY/2011/08   | Central-Wan Chai Bypass (CWB) – Tunnel Buildings, Systems and Fittings, and Works Associated with Tunnel Commissioning | DP1              | 8 October 2014                 |

## 2.4 Project Organization and Contact Personnel

- 2.4.1. Civil Engineering and Development Department and Highways Department are the overall project controllers for the Wan Chai Development Phase II and Central-Wan Chai Bypass respectively. For the construction phase of the Project, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.
- 2.4.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in **Figure 2.2**. Key personnel and contact particulars are summarized in **Table 2.3**:

**Table 2.3 Contact Details of Key Personnel**

| Party  | Role                                     | Post  | Name              | Contact No. | Contact Fax |
|--|--|---|-------------------|-------------|-------------|
| AECOM  | Engineer's Representative for WDII       | Principal Resident Engineer                   | Mr. Frankie Fan   | 2587 1778   | 2587 1877   |
|  | Engineer's Representative for CWB        | Principal Resident Engineer                   | Mr. Peter Poon    | 3912 3388   | 3912 3010   |
| Chun Wo – Leader Joint Venture                 | Contractor under Contract no. HK/2009/01 | Project Manager                               | Mr. Simon Liu     | 9304 8355   | 2587 1878   |
|  |  | Site Agent                                    | Mr. Andy Yu       | 9648 4896   |             |
|  |  | Construction Manager                          | Mr. Terry Wong    | 9757 9846   |             |
|  |  | Construction Manager                          | Mr. Wyman Wong    | 9627 2467   |             |
|  |  | Construction Manager                          | Mr. Terry Tsang   | 6683 9394   |             |
|  |  | Environmental Officer                         | Ms. Wendy Ng      | 9803 0057   |             |
|  |  | Assistant Environmental Engineer              | Miss. Connie Chan | 6157 7057   |             |
| Chun Wo – CRGL Joint Venture                   | Contractor under Contract no. HK/2009/02 | Project Manager                               | Mr. Paul Yu       | 3658-3085   | 2827 9996   |
|  |  | Quality & Environmental Manager               | Mr. C.P. Ho       | 9191 8856   |             |
| China State Construction Engineering (HK) Ltd. | Contractor under Contract no. HY/2009/15 | Project Director                              | Chris Leung       | 3557 6393   | 2566 2192   |
|  |  | Site Manager                                  | Y Huo             | 3557 6368   |             |
|  |  | Contractor's Representative                   | Rex Lau           | 3557 6405   |             |
|  |  | Environmental Officer                         | Andy Mak          | 3557 6347   |             |
| Chun Wo – CRGL – MBEC Joint Venture            | Contractor under Contract no. HY/2009/19 | Project Manager                               | Rayland Lee       | 3758 6788   | 2570 8013   |
|  |  | Site Agent                                    | David Lau         | 3758 8879   |             |
|  |  | Deputy Site Agent                             | Eric Fong         | 6191 9337   |             |
|  |  | Environmental Manager / Environmental Officer | M.H. Isa          | 9884 0810   |             |
|  |  | Construction Manager (Marine)                 | Andy Chan         | 9879 4325   |             |
|  |  | Construction Manager (Land)                   | Bear Ding         | 6483 6198   |             |
|  |  | Operation Manager (Land)                      | Yung Kwok Wah     | 9834 1010   |             |
| China State- Leader JV                         | Contractor under Contract no. HK/2012/08 | Project Director                              | C. N. Lai         | 9106 5806   | 2877 1522   |
|  |  | Project Manager                               | Eddie Chung       | 9189 8118   |             |
|  |  | Site Agent                                    | Keith Tse         | 9037 1839   |             |

| Party                             | Role                                     | Post                                    | Name              | Contact No. | Contact Fax |
|-----------------------------------|--|---|-------------------|-------------|-------------|
|                                   |  | Environmental Officer                   | James Ma          | 9130 9549   |             |
|                                   |  | Environmental Supervisor                | Y. L. Ho          | 9856 5669   |             |
| China State                       | Contractor under Contract no. HY/2010/08 | Project Director                        | Chris Leung       | 3467 4299   | 2566 8061   |
|                                   |  | Project Manager                         | Chan Ying Lun     | 3418 3001   |             |
|                                   |  | Site Agent                              | Andrew Wong       | 3467 4371   |             |
|                                   |  | Environmental Officer                   | Gabriel Wong      | 35576466    |             |
|                                   |  | Environmental Supervisor                | Desmond Ho Tsz Ho | 3557 6466   |             |
| Leighton Joint Venture            | Contractor under Contract no. HY/2011/08 | Project Manager                         | Paul Evans        | 2823 1111   | 21406799    |
|                                   |  | Site Agent                              | Colman Wong       | 9730 0806   |             |
|                                   |  | Environmental Officer                   | David Hung        | 9765 6161   |             |
|                                   |  | Environmental Supervisor                | Penny Yiu         | 2214 7738   |             |
| Ramboll Environ Hong Kong Limited | Independent Environmental Checker (IEC)  | Independent Environmental Checker (IEC) | Mr. David Yeung   | 3465 2888   | 3465 2899   |
| Lam Geotechnics Limited           | Environmental Team (ET)                  | Environmental Team Leader (ETL)         | Mr. Raymond Dai   | 2882 3939   | 2882 3331   |

2.4.3. For Contract no. HK/2009/01, the principal work activities in this reporting month included:

- Nil

2.4.4. For Contract no. HK/2009/02, the principal work activities in this reporting month included:

- Inspection / trimming of rockfill profile in front of seawall
- Rock armour installation

2.4.5. For Contract no. HY/2009/15, the principal work activities in this reporting month included:

- Reinstatement of vertical seawall at TPCWAE
- Removal of temporary reclamation at TPCWAW

2.4.6. For Contract no. HY/2009/19, the principal work activity in this reporting month included:

- Nil

2.4.7. For Contract no. HK/2012/08, the principal work activity in this reporting month included:

- Precast unit construction for Box 1 inside Dry dock
- Construction of culvert L Bay 8

2.4.8. For Contract no. HY/2010/08, no principal work activities this reporting month.

- Diversion pipe maintenance
- Diaphragm Wall Removal Works

2.4.9. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

Contract no. HK/2009/01 – Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

- Nil

Contract no. HK/2009/02 – Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East

- Nil

Contract no. HY/2009/15 – Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- Removal of temporary reclamation at TPCWAW

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- Nil

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Precast unit construction for Box 1 inside Dry dock
- Construction of culvert L Bay 8



Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

- [Diversion pipe maintenance](#)
- [Diaphragm Wall Removal Works](#)

### 3 Status of Regulatory Compliance

#### 3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1**.

**Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project**

| Permits and/or Licences      | Reference No.     | Issued Date  | Status      |
|------------------------------|-------------------|--------------|-------------|
| Environmental Permit         | EP-356/2009       | 30 Jul 2009  | Valid       |
| Environmental Permit         | EP-364/2009       | 17 Aug 2009  | Superseded  |
| Environmental Permit         | EP-364/2009/A     | 4 Aug 2010   | Superseded  |
| Environmental Permit         | EP-364/2009/B     | 20 Sep 2012  | Superseded  |
| Environmental Permit         | EP-364/2009/C     | 11 Jul 2014  | Superseded  |
| Environmental Permit         | EP-364/2009/D     | 24 Nov 2016  | Valid       |
| Environmental Permit         | EP-376/2009       | 13 Nov 2010  | Valid       |
| Further Environmental Permit | FEP-01/356/2009   | 18 Feb 2010  | Surrendered |
| Further Environmental Permit | FEP-02/356/2009   | 24 Mar 2010  | Valid       |
| Further Environmental Permit | FEP-03/356/2009   | 24 Mar 2010  | Valid       |
| Further Environmental Permit | FEP-04/356/2009   | 22 Nov 2010  | Valid       |
| Further Environmental Permit | FEP-05/356/2009   | 24 Mar 2011  | Surrendered |
| Further Environmental Permit | FEP-01/364/2009   | 24 Mar 2010  | Valid       |
| Further Environmental Permit | FEP-02/364/2009   | 21 Apr 2010  | Valid       |
| Further Environmental Permit | FEP-03/364/2009   | 12 Jul 2010  | Surrendered |
| Further Environmental Permit | FEP-04/364/2009/A | 14 Oct 2010  | Surrendered |
| Further Environmental Permit | FEP-05/364/2009/A | 15 Nov 2010  | Valid       |
| Further Environmental Permit | FEP-06/364/2009/A | 22 Nov 2010  | Valid       |
| Further Environmental Permit | FEP-07/364/2009/B | 20 Sep 2012  | Surrendered |
| Further Environmental Permit | FEP-07/364/2009/D | 24 Nov 2015  | Valid       |
| Further Environmental Permit | FEP-08/364/2009/A | 15 Jun 2012  | Surrendered |
| Further Environmental Permit | FEP-06/356/2009   | 5 Mar 2013   | Valid       |
| Further Environmental Permit | FEP-07/356/2009   | 26 July 2013 | Valid       |

| Permits and/or Licences      | Reference No.     | Issued Date  | Status |
|------------------------------|-------------------|--------------|--------|
| Further Environmental Permit | FEP-09/364/2009/B | 5 March 2013 | Valid  |
| Further Environmental Permit | FEP-10/364/2009/B | 26 July 2013 | Valid  |
| Further Environmental Permit | FEP-11/364/2009/B | 2 May 2014   | Valid  |

3.1.2. Due to the multi-contract nature of the Project, the status of permits and/or licences under the individual contract(s) are presented as below:

Contract no. HK/2010/06 – Wan Chai Development Phase II – Central – Wan Chai Bypass over MTR Tsuen Wan Line under FEP-05/356/2009

3.1.3. The construction works were completed and the FEP-05/356/2009 was surrendered by the Contractor on 3 October 2014.

Contract no. HK/2009/01 – Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

3.1.4. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2009/01 under FEP-02/356/2009 are shown in **Table 3.2** and **Table 3.3**.

**Table 3.2 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/01**

| Permits and/or Licences                                  | Reference No.   | Issued Date | Valid Period/<br>Expiry Date | Status                     |
|--|-----------------|-------------|------------------------------|----------------------------|
| Further Environmental Permit                             | FEP-02/356/2009 | 24 Mar 2010 | N/A                          | Valid                      |
|  | FEP-02/364/2009 | 21 Apr 2010 | N/A                          | Valid                      |
| Notification of Works Under APCO                         | 313088          | 06 Jan 2010 | N/A                          | Valid                      |
| Construction Noise Permit (CNP) for non-piling equipment | GW-RS1134-15    | 23 Oct 2015 | 08 Nov 2015 to 07 May 2016   | Superseded by GW-RS0435-16 |
|  | GW-RS1135-15    | 23 Oct 2015 | 26 Nov 2015 to 25 May 2016   | Expired                    |
|  | GW-RS1228-15    | 13 Nov 2015 | 16 Nov 2015 to 13 May 2016   | Expired                    |
|  | GW-RS1309-15    | 27 Nov 2015 | 30 Nov 2015 to 26 May 2016   | Expired                    |
|  | GW-RS1338-15    | 11 Dec 2015 | 1 Jan 2016 to 30 June 2016   | Superseded by GW-RS0492-16 |



| Permits and/or Licences                        | Reference No.        | Issued Date | Valid Period/<br>Expiry Date | Status                     |
|--|----------------------|-------------|------------------------------|----------------------------|
|  | GW-RS0041-16         | 22 Jan 2016 | 25 Jan 2016 to 23 Jul 2016   | Superseded by GW-RS0482-16 |
|  | GW-RS0089-16         | 05 Feb 2016 | 20 Feb 2016 to 19 July 2016  | Superseded by GW-RS0495-16 |
|  | GW-RS0093-16         | 05 Feb 2016 | 22 Feb 2016 to 21 July 2016  | Superseded by GW-RS0493-16 |
|  | GW-RS0152-16         | 18 Feb 2016 | 25 Feb 2016 to 24 Aug 2016   | Superseded by GW-RS0488-16 |
|  | GW-RS0243-16         | 11 Mar 2016 | 14 Mar 2016 to 13 Sep 2016   | Superseded by GW-RS0486-16 |
|  | GW-RS0384-16         | 19 Apr 2016 | 22 Apr 2016 to 19 Oct 2016   | Valid                      |
|  | GW-RS0435-16         | 03 May 2016 | 08 May 2016 to 07 Nov 2016   | Valid                      |
|  | GW-RS0482-16         | 17 May 2016 | 19 May 2016 to 18 Nov 2016   | Valid                      |
|  | GW-RS0486-16         | 17 May 2016 | 19 May 2016 to 18 Nov 2016   | Valid                      |
|  | GW-RS0488-16         | 17 May 2016 | 19 May 2016 to 18 Nov 2016   | Valid                      |
|  | GW-RS0492-16         | 20 May 2016 | 23 May 2016 to 22 Nov 2016   | Valid                      |
|  | GW-RS0493-16         | 20 May 2016 | 23 May 2016 to 22 Nov 2016   | Valid                      |
|  | GW-RS0495-16         | 20 May 2016 | 19 May 2016 to 18 Nov 2016   | Valid                      |
| Discharge Licence                              | WT00021138-2015      | 13 Apr 2015 | 31 Mar 2020                  | Valid                      |
|  | WT00009641-2011      | 24 Jul 2011 | 31 Jul 2016                  | Valid                      |
| Billing account under Waste Disposal Ordinance | 7010069              | 21 Jan 2010 | N/A                          | Valid                      |
| Registration as a Chemical Waste Producer      | WPN5213-134-C3585-01 | 21 Jan 2010 | N/A                          | Valid                      |

| Permits and/or Licences  | Reference No. | Issued Date | Valid Period/<br>Expiry Date | Status |
|--|---------------|-------------|------------------------------|--------|
| Dumping Permit (Type 1 – Open Sea Disposal)  | -             | -           | -                            | -      |
| Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) | -             | -           | -                            | -      |

**Table 3.3 Summary of submission status under FEP-02/356/2009 Condition**

| EP Condition           | Submission  | Date of Submission |
|------------------------|---|--------------------|
| Condition 2.6          | Management Organization of Main Construction Companies  | 13 Apr 2010        |
| Condition 2.7          | Works Schedule and Location Plan  | 8 Apr 2010         |
| Condition 2.8          | Silt Curtain Deployment Plan (Rev. 5)   | 24 Aug 2012        |
|                        | Silt Curtain Deployment Plan (Rev. 4)   | 12 July 2012       |
|                        | Silt Curtain Deployment Plan (Rev. 3)   | 27 June 2012       |
|                        | Silt Curtain Deployment Plan  | 19 Apr 2010        |
| Condition 2.9          | Silt Screen Deployment Plan (Rev. 9)  | 5 Nov 2015         |
|                        | Silt Screen Deployment Plan (Rev. 8)  | 7 Sep 2015         |
|                        | Silt Screen Deployment Plan (Rev. 7)  | 21 Nov 2014        |
|                        | Silt Screen Deployment Plan (Rev. 6)  | 20 Aug 2014        |
|                        | Silt Screen Deployment Plan (Rev.5)   | 24 Jul 2013        |
|                        | Silt Screen Deployment Plan (Rev.4)   | 15 Nov 2012        |
|                        | Silt Screen Deployment Plan   | 19 Apr 2010        |
| Conditions 2.8 and 2.9 | Supplementary Document on Silt Curtain and Silt Screen Deployment Plan                        | 19 Jul 2010        |
|                        | Report on Field Testing for Silt Curtain  | 26 Aug 2010        |
|                        | Report on Field Testing for Silt Curtain (Rev. A)   | 15 Nov 2010        |
| Condition 2.12(d)      | Alternative Proposal on Concurrent Dredging for Sewage Pipeline and Cross Harbour Water Mains | 15 Apr 2011        |
| Condition 2.17         | Noise Management Plan   | 23 Apr 2010        |

| EP Condition         | Submission  | Date of Submission |
|----------------------|---|--------------------|
| Condition 2.18       | Landscape Plan (Erection of Decorative Screen Hoarding along Construction Site around Hong Kong Exhibition and Convention Centre) | 15 May 2010        |
|                      | Landscape Plan (Night-time Lighting)  | 22 Oct 2010        |
|                      | Landscape Plan (Rev. B)   | 15 Nov 2010        |
| Condition 1.12       | Notification of Commencement Date   | 20 Jun 2011        |
| Condition 2.6 to 2.8 | Management Organization, Works Schedule and Location Plan   | 18 May 2011        |
| Condition 2.9        | Silt Screen Deployment Plan   | 10 Jun 2011        |
| Condition 2.18       | Landscape Plan  | 31 Oct 2013        |

Contract no. HK/2009/02 – Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- 3.1.5. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2009/02 under FEP-03/356/2009 are shown in **Table 3.4** and **Table 3.5**.

**Table 3.4 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/02**

| Permits and/or Licences                                  | Reference No.   | Issued Date | Valid Period/<br>Expiry Date | Status    |
|--|-----------------|-------------|------------------------------|-----------|
| Further Environmental Permit                             | FEP-03/356/2009 | 24 Mar 2010 | N/A                          | Valid     |
|  | FEP-01/364/2009 | 24 Mar 2010 | N/A                          | Valid     |
| Notification of Works Under APCO                         | 313962          | 2 Feb 2010  | N/A                          | Valid     |
| Construction Noise Permit (CNP) for non-piling equipment | GW-RS1150-15    | 26 Oct 2015 | 28 Oct 2015 to 27 Apr 2016   | Expired   |
|  | GW-RS1187-15    | 28 Oct 2015 | 30 Oct 2015 to 27 Apr 2016   | Expired   |
|  | GW-RS0083-16    | 1 Feb 2016  | 3 Feb 2016 to 1 Aug 2016     | Cancelled |
|  | GW-RS0311-16    | 24 Mar 2016 | 25 Apr 2016 to 24 May 2016   | Expired   |
|  | GW-RS0310-16    | 24 Mar 2016 | 27 Apr 2016 to 30 Apr 2016   | Expired   |
|  | GW-RS0321-16    | 1 Apr 2016  | 5 Apr 2016 to 5 Jul 2016     | Valid     |
|  | GW-RS0390-16    | 22 Apr 2016 | 27 Apr 2016 to 26 Oct 2016   | Valid     |

| Permits and/or Licences                                 | Reference No.            | Issued Date | Valid Period/<br>Expiry Date   | Status  |
|---|--------------------------|-------------|--------------------------------|---------|
|   | GW-RS0399-16             | 27 Apr 2016 | 27 Apr 2016 to<br>26 Oct 2016  | Valid   |
|   | GW-RS0403-16             | 27 Apr 2016 | 30 Apr 2016 to<br>24 Sept 2016 | Valid   |
|   | GW-RS0516-16             | 20 May 2016 | 23 May 2016 to<br>22 Nov 2016  | Valid   |
| Discharge Licence                                       | WT00008982-2011          | 26 Apr 2011 | 30 April 2016                  | Expired |
|   | WT00009691-2011          | 1 Aug 2011  | 31 July 2016                   | Valid   |
|   | WT00022295-2015          | 12 Aug 2015 | 31 July 2020                   | Valid   |
| Billing Account under Waste Disposal Ordinance (Land)   | 7010255                  | 10 Feb 2010 | N/A                            | Valid   |
| Billing Account under Waste Disposal Ordinance (Marine) | 7011496                  | 6 Oct 2010  | N/A                            | Valid   |
| Registration as Chemical Waste Producer (Wan Chai)      | WPN5213-135-C3<br>593-01 | 10 Mar 2010 | N/A                            | Valid   |
| Registration as Chemical Waste Producer (TKO 137)       | WPN5213-839-C3<br>593-02 | 22 Sep 2010 | N/A                            | Valid   |
| Dumping Permit (Type 1 – Open Sea Disposal)             | EP/MD/16-146             | 24 Dec 2015 | 1 Jan 2016 to 30<br>Jun 2016   | Valid   |

**Table 3.5 Summary of submission status under FEP-03/356/2009 Condition**

| EP Condition   | Submission   | Date of Submission |
|----------------|--|--------------------|
| Condition 1.12 | Commencement Date of Construction of Marine Works      | 8 April 2010       |
| Condition 2.6  | Management Organization of Main Construction Companies | 10 April 2010      |
| Condition 2.7  | Works Schedule and Location Plans                      | 8 April 2010       |
| Condition 2.8  | Silt Curtain Deployment Plan (Revision A)              | 20 April 2010      |
|                | Silt Curtain Deployment Plan (Revision B)              | 25 May 2010        |
|                | Silt Curtain Deployment Plan (Revision C)              | 14 Jun 2010        |
|                | Silt Curtain Deployment Plan (Revision H)              | 15 Feb 2011        |
|                | Silt Curtain Deployment Plan (Revision I)              | 17 Nov 2011        |
|                | Silt Curtain Deployment Plan (Revision J)              | 15 Feb 2012        |
|                | Silt Curtain Deployment Plan (Revision K)              | 3 May 2012         |
|                | Silt Curtain Deployment Plan (Revision L)              | 25 Oct 2012        |
|                | Silt Curtain Deployment Plan (Revision M)              | 30 Nov 2012        |
| Condition 2.9  | Silt Screen Deployment Plan                            | 21 April 2010      |

| EP Condition   | Submission   | Date of Submission |
|----------------|--|--------------------|
|                | Supplementary Information for Existing WSD Salt Water Intakes at Quarry Bay and Sai Wan Ho | 5 Oct 2010         |
|                | Silt Screen Deployment Plan (Revision B)   | 15 Feb 2012        |
|                | Silt Screen Deployment Plan (Revision C)   | 3 May 2012         |
|                | Silt Screen Deployment Plan (Revision D)   | 10 Dec 2012        |
| Condition 2.17 | Noise Management Plan  | 6 May 2010         |
| Condition 2.18 | Landscape Plan (Decorative Screen Hoarding)  | 11 May 2010        |
|                | Landscape Plan (Control of Night Time Lighting)  | 2 June 2010        |
|                | Landscape Plan (Combined Version)  | 20 July 2011       |
|                | Landscape Plan (Combined Version)  | 5 Aug 2011         |
| -----          | Acknowledge of Submission  | 22 Aug 2011        |

Contract no. HY/2009/15 – Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

3.1.6. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HY/2009/15 under FEP-04/356/2009 are shown in **Table 3.6** and **Table 3.7**.

**Table 3.6 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/15**

| Permits and/or Licences  | Reference No.            | Issued Date | Valid Period/<br>Expiry Date | Status    |
|--|--------------------------|-------------|------------------------------|-----------|
| Further Environmental Permit   | FEP-04/356/2009          | 22 Nov 2010 | N/A                          | Valid     |
| Notification of Works Under APCO   | 321822                   | 24 Sep 2010 | N/A                          | Valid     |
| Construction Noise Permit (CNP) for concreting works at Eastern Breakwater of CBTS | GW-RS0233-16             | 14 Mar 2016 | 14 Mar 2016 to 10 Sep 2016   | Valid     |
| Construction Noise Permit (CNP) for reclamation and d-wall works at Ex-PCWA        | GW-RS1160-15             | 26 Oct 2015 | 28 Oct 2015 to 25 Apr 2016   | Cancelled |
| Construction Noise Permit (CNP) for reclamation and d-wall works at Ex-PCWA        | GW-RS0235-16             | 10 Mar 2016 | 12 Mar 2016 to 8 Sep 2016    | Valid     |
| Registration as a Chemical Waste Producer  | WPN5213-147-C116<br>9-35 | 15 Nov 2010 | N/A                          | Valid     |

| Permits and/or Licences  | Reference No. | Issued Date | Valid Period/<br>Expiry Date | Status  |
|--|---------------|-------------|------------------------------|---------|
| Billing Account under Waste Disposal Ordinance   | 7011553       | 30 Sep 2010 | 27 Sep 2010 to 27 Jun 2016   | Valid   |
| Billing Account under Waste Disposal Ordinance (Disposal by Vessel)                                | 7011761       | 14 Apr 2016 | 17 Apr 2016 to 16 Jul 2016   | Valid   |
| Dumping Permit (Type 1 – Open Sea Disposal (Dedicated Site) and Type 2 – Confined Marine Disposal) | EP/MD/16-206  | 29 Mar 2016 | 2 Apr 2016 to 1 May 2016     | Expired |
|  | EP/MD/17-012  | 28 Apr 2016 | 2 May 2016 to 1 Jun 2016     | Valid   |

**Table 3.7 Summary of submission status under FEP-04/356/2009 Condition**

| FEP Condition  | Submission   | Date of Submission |
|----------------|--|--------------------|
| Condition 2.6  | Management Organization of Main Construction Companies               | 30 Sep 2010        |
|                | Amendment for Management Organization of Main Construction Companies | 16 May 2011        |
| Condition 2.7  | Works Schedule and Location Plans                                    | 27 Oct 2010        |
|                | Amendment for Works Schedule and Location Plans                      | 12 Nov 2010        |
| Condition 2.8  | Silt Curtain Deployment Plan   | 30 Nov 2010        |
|                | Amendment for Silt Curtain Deployment Plan                           | 24 Feb 2011        |
|                | Amendment for Silt Curtain Deployment Plan                           | 11 May 2011        |
|                | Amendment for Silt Curtain Deployment Plan                           | 11 Sep 2012        |
|                | Amendment for Silt Curtain Deployment Plan                           | 30 Oct 2012        |
| Condition 2.9  | Silt Screen Deployment Plan  | 19 Oct 2010        |
|                | Amendment for Silt Screen Deployment Plan                            | 18 Feb 2011        |
|                | Amendment for Silt Screen Deployment Plan                            | 15 Jun 2011        |
| Condition 2.18 | Proposal for the Removal of Odorous Sediment and Slime               | 13 Jan 2011        |
|                | Amendment for Proposal for the Removal of Odorous Sediment and Slime | 8 Mar 2011         |
|                | Amendment for Proposal for the Removal of Odorous Sediment and Slime | 2 Aug 2011         |
| Condition 2.21 | Landscape Plan   | 18 Feb 2011        |
| Condition 2.23 | Noise Management Plan  | 20 Oct 2010        |
|                | Amendment for Noise Management Plan                                  | 27 Jan 2011        |

3.1.7. Implementation status of the recommended mitigation measures during this reporting period is presented in **Appendix 3.1**.

Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

3.1.8. Summary of the current status on licences and/or permits on environmental protection pertinent for contract no. HY/2009/19 is shown in **Table 3.8**

**Table 3.8 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/19**

| Permit / Licence / Notification / Approval              | Reference No.     | Issued Date  | Valid Period / Expiry date | Status |
|---|-------------------|--------------|----------------------------|--------|
| Further Environmental Permit                            | FEP-07/364/2009/D | 24 Nov 2015  | Granted                    | Valid  |
| Notification of Works Under APCO                        | 326160            | 24 Jan 2011  | Notified                   | Valid  |
| Construction Noise Permit (CNP) (For Portion Vi Marine) | -                 | -            | -                          | -      |
| Discharge License (Sea)                                 | WT00010865-2011   | 03 Nov 2011  | 30-Nov-16                  | Valid  |
| C&D Waste Disposal                                      | 7012306           | 10 Feb 2011  | Registered                 | -      |
| Vessel Disposal   | 7013285           | 21 July 2011 | Registered                 | -      |
| Registration as Chemical Waste Producer                 | 5213-151-C3654-01 | 24 Mar 2011  | Registered                 | -      |

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

3.1.9. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2012/08 under FEP-06/356/2009 are shown in **Table 3.9** and **Table 3.10**.

**Table 3.9 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2012/08**

| Permits and/or Licences                        | Reference No.     | Issued Date | Valid Period/ Expiry Date | Status                         |
|--|-------------------|-------------|---------------------------|--------------------------------|
| Further Environmental Permit                   | FEP-06/356/2009   | 5 Mar 2013  | N/A                       | Valid                          |
| Notification of Works Under APCO               | 355439            | 4 Feb 2013  | N/A                       | Valid                          |
| Registration as a Chemical Waste Producer      | 5213-134-C3790-01 | 8 Mar 2013  | N/A                       | Valid                          |
| Billing Account under Waste Disposal Ordinance | 7016883           | 18 Feb 2013 | 18 Jul 2017               | Valid                          |
| Water Discharge Licence                        | WT00018223-2014   | 28 Jan 2014 | 31 Jan 2019               | Superseded by WT0002059 4-2014 |



| Permits and/or Licences  | Reference No.   | Issued Date | Valid Period/<br>Expiry Date | Status  |
|--|-----------------|-------------|------------------------------|---------|
|  | WT00020594-2014 | 22 Dec 2014 | 31 Jan 2019                  | Valid   |
| Construction Noise Permit  | GW-RS0079-16    | 1 Feb 2016  | 3 Feb 2016 to 2 Aug 2016     | Valid   |
|  | GW-RS0064-16    | 1 Feb 2016  | 2 Feb 2016 to 1 Aug 2016     | Valid   |
|  | GW-RS0286-16    | 24 Mar 2016 | 27 Mar 2016 to 26 Sep 2016   | Valid   |
|  | GW-RS0212-16    | 8 Mar 2016  | 10 Mar 2016 to 8 Sep 2016    | Valid   |
|  | GW-RS0192-16    | 4 Mar 2016  | 9 Mar 2016 to 8 Sep 2016     | Valid   |
|  | GW-RS0386-16    | 20 Apr 2016 | 22 Apr 2016 to 19 Oct 2016   | Valid   |
| Dumping Permit (Type 1 – Open Sea Disposal)  | EP/MD/16-211    | 13 Apr 2016 | 18 Apr 2016 to 30 Jun 2016   | Valid   |
| Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal) | EP/MD/16-210    | 6 Apr 2016  | 9 Apr 2016 to 8 May 2016     | Expired |

**Table 3.10 Summary of submission status under EP-356/2009 and FEP-06/356/2009 Condition**

| FEP Condition  | Submission                            | Date of Submission                                     |
|----------------|---------------------------------------|--|
| Condition 2.8  | Silt Curtain Deployment Plan (Rev. 3) | Submitted on 25 Nov 2013 was returned to CSLJV by EPD. |
| Condition 2.9  | Silt Screen Deployment Plan (Rev. 2)  | Generally in order as commented by EPD on 19 Sep 2013  |
| Condition 2.23 | Noise Management Plan (Rev. 2)        | Generally in order as commented by EPD on 15 Aug 2013  |
| Condition 2.24 | Landscape Plan (Rev. 3)               | Generally in order as commented by EPD on 31 Oct 2013  |

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

- 3.1.10. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HY/2010/08 under FEP-07/356/2009 are shown in Table 3.11 and **Table 3.12**.

**Table 3.11 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2010/08**

| Permits and/or Licences  | Reference No.            | Issued Date | Valid Period/<br>Expiry Date  | Status  |
|--|--------------------------|-------------|-------------------------------|---------|
| Further Environmental Permit   | FEP-07/356/2009          | 26 Jul 2013 | NA                            | Valid   |
|  | FEP-10/364/2009/B        | 26 Jul 2013 | NA                            | Valid   |
| Notification of Works Under APCO   | 357176                   | 2 Apr 2013  | NIL                           | Valid   |
| Registration as a Chemical Waste Producer  | WPN5213-147-C11<br>69-44 | 27 Mar 2013 | NIL                           | Valid   |
| Billing Account under Waste Disposal Ordinance   | 7017170                  | 27 Mar 2013 | NIL                           | Valid   |
| Billing Account under Waste Disposal Ordinance (Dumping by Vessel)                               | 7020947                  | 22 Dec 2014 | NIL                           | Valid.  |
| Water Discharge Licence  | WT00020753-2015          | 3 Feb 2015  | 28 Feb 2017                   | Valid   |
| Construction Noise Permit  | GW-RW0061-16             | 2 Feb 2016  | 23 Mar 2016 to<br>30 Apr 2016 | Expired |
|  | GW-RW0061-16             | 2 Feb 2016  | 2 Feb 2016 to<br>31 Jul 2016  | Valid   |
| Dumping Permit (Type 1 – Open Sea Disposal)  | EP/MD/16-176             | 23 Mar 2016 | 23 Mar 2016 to<br>30 Jun 2016 | Valid   |
| Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal) | EP/MD/16-175             | 1 Apr 2016  | 1 Apr 2016 to 30<br>Apr 2016  | Expired |

**Table 3.12 Summary of submission status under EP-356/2009 and FEP-07/356/2009 Condition**

| FEP Condition  | Submission                           | Date of Submission |
|----------------|--------------------------------------|--------------------|
| Condition 2.8  | Silt Curtain Deployment Plan (rev03) | 24 Dec 2014        |
| Condition 2.9  | Silt Screen Deployment Plan (rev02)  | 18 Feb 2015        |
| Condition 2.23 | Noise Management Plan (rev02)        | 25 Mar 2014        |
| Condition 2.24 | Landscape Plant (rev04)              | 23 ep 2014         |

## 4 Monitoring Requirements

### 4.1 Noise Monitoring

#### NOISE MONITORING STATIONS

- 4.1.1. The noise monitoring stations for the Project are listed and shown in **Table 4.1** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.1 Noise Monitoring Station**

| Station | Description                                  |
|---------|--|
| M1a     | Harbour Road Sports Centre                   |
| M2b     | Noon Gun Area                                |
| M3a     | Tung Lo Wan Fire Station                     |
| M4b     | Victoria Centre                              |
| M5b     | City Garden                                  |
| M6      | HK Baptist Church Henrietta Secondary School |

#### NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.1.2. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).  $L_{eq(30\text{ minutes})}$  shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods,  $L_{eq(5\text{ minutes})}$  shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L10 and L90 shall also be obtained for reference.
- 4.1.3. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:
- One set of measurements between 0700 and 1900 hours on normal weekdays.
- 4.1.4. If construction works are extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring shall be carried out during respective restricted hours periods. Applicable permits under NCO shall be obtained by the Contractor.

#### MONITORING EQUIPMENT

- 4.1.5. As referred to in the Technical Memorandum <sup>TM</sup> issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level

at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.

- 4.1.6. Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

**4.2 Air Monitoring**

AIR QUALITY MONITORING STATIONS

- 4.2.1. The air monitoring stations for the Project are listed and shown in **Table 4.2** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.2 Air Monitoring Station**

| Station ID | Monitoring Location                              | Description  |
|------------|--|--------------|
| CMA1b      | Oil Street Site Office**                         | North Point  |
| CMA2a      | Causeway Bay Community Centre                    | Causeway Bay |
| CMA3a      | CWB PRE Site Office *                            | Causeway Bay |
| CMA4a      | Society for the Prevention of Cruelty to Animals | Wan Chai     |
| CMA5b      | Pedestrian Plaza***                              | Wan Chai     |
| CMA6a      | WDII PRE Site Office *                           | Wan Chai     |

Remarks\*: As per the ENPC meeting in March 2011, the monitoring stations CMA3a – Future CWB site office at Wanchai Waterfront Promenade was renamed as remark.

Remarks\*\*: The location ID of monitoring station CMA1b was updated as “Oil Street Site Office” in April 2013.

Remarks\*\*\*: The station ID and monitoring location was updated in December 2014 with respect to monitoring station relocation.

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.
- 4.2.3. All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail.
- 4.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP

monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

#### SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.2.5. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:

- 0.6 – 1.7 m<sup>3</sup> per minute adjustable flow range;
- equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
- installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- capable of providing a minimum exposed area of 406 cm<sup>2</sup>;
- flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
- equipped with a shelter to protect the filter and sampler;
- incorporated with an electronic mass flow rate controller or other equivalent devices;
- equipped with a flow recorder for continuous monitoring;
- provided with a peaked roof inlet;
- incorporated with a manometer;
- able to hold and seal the filter paper to the sampler housing at horizontal position;
- easily changeable filter; and
- capable of operating continuously for a 24-hour period.

4.2.6. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The concern parties such as IEC shall properly document the calibration data for future reference. All the data should be converted into standard temperature and pressure condition.

#### LABORATORY MEASUREMENT / ANALYSIS

4.2.7. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.

4.2.8. An alternative non-HOKLAS accredited laboratory was set-up for carrying out the laboratory analysis, the laboratory equipment was approved by the ER on 8 February 2011 and the measurement procedures were witnessed by the IEC. Any measurement performed by the laboratory was demonstrated to the satisfaction of the ER and IEC. IEC shall regularly audit to the measurement performed by the laboratory to ensure the accuracy of measurement results.

4.2.9. Filter paper of size 8" x 10" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.

4.2.10. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

4.2.11. All the collected samples shall be kept in a good condition for 6 months before disposal.

#### IMPACT MONITORING FOR ODOUR PATROL

4.2.12. Odour patrols along the shorelines of Causeway Bay Typhoon Shelter and ex-Wan Chai Public Cargo Working Area when there is temporary reclamation in Causeway Bay Typhoon Shelter and/or in the ex-Wan Chai Public Cargo Working Area, or when there is dredging of the odorous sediment and slime at the south-western corner of the Causeway Bay Typhoon Shelter. Odour patrols will be carried out at bi-weekly intervals during July, August and September by a qualified person of the ET who shall:

- be at least 16 years of age;
- be free from any respiratory illnesses; and
- not be allowed to smoke, eat, drink (except water) or use chewing gum or sweets 30 min before and during odour patrol

4.2.13. Odour patrol shall be conducted by independent trained personnel / competent persons patrolling and sniffing around the shore as shown in **Figure 4.1** to detect any odour at the concerned hours (afternoon is preferred for higher daily temperature).

4.2.14. The qualified person will use the nose (olfactory sensor) to sniff odours at different locations. The main odour emission sources and the areas to be affected by the odour nuisance will be identified.

4.2.15. The perceived odour intensity is to be divided into 5 levels which are ranked in the descending order as follows:

- 0 – Not detected. No odour perceived or an odour so weak that it cannot be easily characterized or described;
- 1 – Slight Identifiable odour, and slight chance to have odour nuisance;
- 2 – Moderate Identifiable odour, and moderate chance to have odour nuisance;
- 3 – Strong Identifiable, likely to have odour nuisance;
- 4 – Extreme Severe odour, and unacceptable odour level.

4.2.16. The findings including odour intensity, odour nature and possible odour sources, and also the local wind speed and direction at each location will be recorded. In addition, some relevant meteorological and tidal data such as daily average temperature, and daily average humidity, on that surveyed day will be obtained from the Hong Kong Observatory Station for reference. The Action and Limit levels for odour patrol are shown in **Appendix 4.1**.

4.2.17. The qualified odour patrol member has individual n-butanol thresholds complied with the requirement of European Standard Method of Air Quality – Determination of Odour Concentration by Dynamic Olfactometry (EN13725) in the range of 20 to 80 ppb.

### 4.3 Water Quality Monitoring

- 4.3.1. The EIA Report has identified that the key water quality impact would be associated with the dredging works during the construction phase. Marine water quality monitoring for dissolved oxygen (DO), suspended solid (SS) and turbidity is therefore recommended to be carried out at selected WSD flushing water intakes. The impact monitoring should be carried out during the proposed dredging works to ensure the compliance with the water quality standards.
- 4.3.2. The updated EM&A Manual for EP-356/2009 (Version in March 2011) is approval by EPD on 29 April 2011. As such, the Action Level and Limit Level for the wet season (April – September) will be effected and applied to the water quality monitoring data from 30 April 2011.

#### Water Quality Monitoring Stations

- 4.3.3. Water quality monitoring was undertaken at 8 monitoring stations for WSD salt water intakes and cooling water intakes along the seafront of the Victoria Harbour in the reporting month. The proposed water quality monitoring stations of the Project are shown in **Table 4.3** and **Figure 4.1**. [Appendix 4.1](#) shows the established Action/Limit Levels for the monitoring works.

**Table 4.3 Marine Water Quality Stations for Water Quality Monitoring**

| Station Ref.  | Location  | Easting  | Northing |
|---|---|----------|----------|
| <b>WSD Salt Water Intake</b>                        |   |          |          |
| WSD19   | Sheung Wan  | 833415.0 | 816771.0 |
| <b>Cooling Water Intake</b>                         |   |          |          |
| C1  | HKCEC Extension   | 835885.6 | 816223.0 |
| C7  | Windsor House   | 837193.7 | 816150.0 |
| P1  | HKCEC Phase I   | 835774.7 | 816179.4 |
| P3  | The Academy of performing Arts  | 835824.6 | 816212.0 |
| P4  | Shui on Centre  | 835865.6 | 816220.0 |
| P5  | Government Buildings<br>(Wanchai Tower / Revenue Tower / Immigration Tower)                       | 835895.2 | 816215.2 |
| <b>Cooling Water Intake / WSD Salt Water Intake</b> |   |          |          |
| RW21-P789   | Great Eagle Centre/ Sun Hung Kai Centre/ WSD Wanchai salt water intake / China Resources Building | 836268.0 | 816020.0 |

- Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011 and the water quality monitoring at C6 was then terminated since 17 May 2011.
- 4-week post construction water quality monitoring at WSD9, WSD10, WSD15 and WSD17 were completed on 6 Feb 2012 and the water quality monitoring at WSD 10 and WSD15 were temporarily suspended since 8 Feb 2012, and WSD9 and WSD17 was implemented with respect to HK/2009/02 from 8 Feb 2012 onwards.
  - C8 and C9 were implemented with respect to HY/2009/19 from 28 Jan 2012.
  - C8 & C9 were temporary suspended since 4 March 2013.
  - WSD7 and WSD20 water quality monitoring were temporarily suspended from 27 Apr 2012.
  - C2, C3 C4e and C4w water quality monitoring station was temporarily suspended since 22 Apr 2013
  - P1, P3, P4 and P5 were commenced since 24 Apr 2013
  - C5e and C5w water quality monitoring station was temporarily suspended since 29 Jul 2013.



- WSD21 water quality monitoring station was temporarily suspended since 12 Mar 2014
- WSD9 and WSD17 water quality monitoring station was temporarily suspended since 8 Sep 2014 flood tide.
- The water quality monitoring station C1 shall be associated with Contract No. HK/2009/02 upon commencement of marine works under DP3 at WCR3 area.

WATER QUALITY PARAMETERS

- 4.3.4. Monitoring of dissolved oxygen (DO), turbidity and suspended solids (SS) shall be carried out at WSD flushing water intakes and cooling water intakes. DO and Turbidity are measured in-situ while SS is determined in laboratory.
- 4.3.5. In association with the water quality parameters, other relevant data shall also be measured, such as monitoring location/position, time, sampling depth, water temperature, pH, salinity, dissolved oxygen (DO) saturation, weather conditions, sea conditions, tidal stage, and any special phenomena and work underway at the construction site etc.

SAMPLING PROCEDURES AND MONITORING EQUIPMENT

- 4.3.6. The interval between two sets of monitoring should not be less than 36 hours except where there are exceedances of Action and/or Limit Levels, in which case the monitoring frequency will be increased. **Table 4.4** shows the proposed monitoring frequency and water quality parameters. Duplicate in-situ measurements and water sampling should be carried out in each sampling event. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should be not less than 0.5m.

**Table 4.4 Marine Water Quality Monitoring Frequency and Parameters**

| Activities                                    | Monitoring Frequency <sup>1</sup>                   | Parameters <sup>2</sup>  |
|---|---|--|
| During the 4-week baseline monitoring period  | Three days per week, at mid-flood and mid-ebb tides | Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity |
| During marine construction works              | Three days per week, at mid-flood and mid-ebb tides | Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity |
| After completion of marine construction works | Three days per week, at mid-flood and mid-ebb tides | Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity |

Notes:

1. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should be not less than 0.5m.
2. Turbidity should be measured in situ whereas SS should be determined by laboratory.

DISSOLVED OXYGEN AND TEMPERATURE MEASURING EQUIPMENT

- 4.3.7. The instrument should be a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and use a DC power source. It should be capable of measuring:
- a dissolved oxygen level in the range of 0-20 mg/l and 0-200% saturation
  - a temperature of 0-45 degree Celsius



- 4.3.8. It should have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables should be available for replacement where necessary. (e.g. YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).
- 4.3.9. Should salinity compensation not be build-in in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

#### TURBIDITY MEASUREMENT INSTRUMENT

- 4.3.10. The instrument should be a portable, weatherproof turbidity-measuring instrument complete with comprehensive operation manual. The equipment should use a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU and be complete with a cable (e.g. Hach model 2100P or an approved similar instrument).

#### SAMPLER

- 4.3.11. A water sampler comprises a transparent PVC cylinder, with a capacity of not less than 2 litres, and can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (e.g. Kahlsico Water Sampler or an approved similar instrument).

#### SAMPLE CONTAINER AND STORAGE

- 4.3.12. Water samples for suspended solids measurement should be collected in high-density polythene bottles, packed in ice (cooled to 4°C without being frozen), and delivered to ALS Technichem (HK) Pty Ltd. as soon as possible after collection for analysis.

#### WATER DEPTH DETECTOR

- 4.3.13. A portable, battery-operated echo sounder shall be used for the determination of water depth at each designated monitoring station. This unit can either be handheld or affixed to the bottom of the workboat, if the same vessel is to be used throughout the monitoring programme.

#### SALINITY

- 4.3.14. A portable salinometer capable of measuring salinity in the range of 0-40 ppt shall be provided for measuring salinity of the water at each of monitoring location.

#### MONITORING POSITION EQUIPMENT

- 4.3.15. A hand-held or boat-fixed type digital Global Positioning System (GPS) with waypoint bearing indication or other equivalent instrument of similar accuracy shall be provided and used during monitoring to ensure the monitoring vessel is at the correct location before taking measurements.

#### CALIBRATION OF IN-SITU INSTRUMENTS

- 4.3.16. All in-situ monitoring instrument shall be checked, calibrated and certified by a laboratory accredited under HOKLAS or equivalent before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb

calibration for a DO meter shall be carried out before measurement at each monitoring location.

- 4.3.17. For the on site calibration of field equipment by the ET, the BS 127:1993, "Guide to Field and on-site test methods for the analysis of waters" should be observed.
- 4.3.18. Sufficient stocks of spare parts should be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring can proceed uninterrupted even when some equipment is under maintenance, calibration, etc.
- 4.3.19. Current calibration certificates of equipments are presented in [Appendix 4.2](#).

LABORATORY MEASUREMENT / ANALYSIS

- 4.3.20. Analysis of suspended solids has been carried out in a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd. Water samples of about 1L shall be collected at the monitoring stations for carrying out the laboratory SS determination. The SS determination work shall start within 24 hours after collection of the water samples. The SS determination shall follow APHA 19ed or equivalent methods subject to the approval of IEC and EPD.

ENHANCED WATER QUALITY MONITORING IN THE EX-WAN CHAI PUBLIC CARGO WORKING AREA AND THE CAUSEWAY BAY TYPHOON SHELTER

- 4.3.21. The enhanced water quality monitoring and audit programme is to avoid aggravation of odour nuisance from seawater arising from temporary reclamation in the ex-Wan Chai Public Cargo Working Area and the Causeway Bay Typhoon Shelter.
- 4.3.22. Dissolved oxygen monitoring at the intakes C6 and C7 in Causeway Bay Typhoon Shelter when there is temporary reclamation in Causeway Bay Typhoon Shelter and at the south-western and south-eastern corners of the ex-Wan Chai Public Cargo Working Area. The proposed water quality monitoring stations of the Project are shown in [Table 4.5](#) and [Figure 4.1](#).

**Table 4.5 Marine Water Quality Stations for Enhanced Water Quality Monitoring**

| Station     | Location   |
|-------------|--|
| C6          | Excelsior Hotel  |
| C7          | Windsor House  |
| Ex-WPCWA-SW | South-western of the ex-Wan Chai Public Cargo Working Area |
| Ex-WPCWA-SE | South-eastern of the ex-Wan Chai Public Cargo Working Area |

Remarks:

1. Enhanced DO monitoring at Windsor House Cooling (Station Ref: C7) was temporarily suspended since 22 October 2014 with respect to the formation of temporary reclamation zone TS3 and to be resumed upon removal of the respective temporary reclamation zone.
2. Enhanced DO monitoring at Monitoring station at Ex-PCWAE was temporarily suspended from 31 August 2015 with respect to seawall reinstatement works and formation of active works area, to be resumed upon completion of seawall reinstatement works

- 4.3.23. The monitoring of dissolved oxygen are to be carried out 3 days per week, at mid-flood and mid-ebb tides for 3 water depths (1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth may be omitted. If the water depth be equal to or less than 3m, only the mid-depth will be monitored).

#### DAILY SS MONITORING AND 24 HOURS TURBIDITY MONITORING SYSTEM

- 4.3.24. During dredging of the sediment at the south-western corner of the Causeway Bay Typhoon Shelter, daily monitoring of suspended solids and 24 hour monitoring of turbidity at the cooling water intakes (C6 and C7) shall be conducted.
- 4.3.25. The 24 hours monitoring of turbidity at the cooling water intakes (C6 and C7) shall be established by setting up a continuous water quality monitoring station in front of the intakes during the dredging activities. The monitoring system include the turbidity sensor and data logger which is capable of data capturing at every 5 minutes. The data shall be downloaded daily and compared with the Action and Limit level determined during the baseline water quality monitoring at the cooling water intake locations.

#### ADDITIONAL DISSOLVED OXYGEN MONITORING FOR CULVERT L WATER DISCHARGE FLOW

- 4.3.26. In response to the Condition 2.18 of the Environmental Permit no. EP-356/2009 requiring that a silt curtain / impermeable barrier system be installed to channel water discharge flow from Culvert L to locations outside the embayment area, a proposed replacement of the requirement with additional dissolved oxygen monitoring has been conducted at three monitoring stations, namely A, B and C between the eastern seawall of Central Reclamation Phase III and the HKCEC Extension since November 2011 under EP-356/2009 so that DO level between the eastern seawall of Central Reclamation Phase II and the HKCEC extension could be continuously monitored.
- 4.3.27. With respect to the commencement of dredging works under HK/2012/08 and the installation of MTR precast protection unit, the enhanced water quality monitoring for Culvert L was temporarily suspended since 24 July 2013
- 4.3.28. The monitoring of dissolved oxygen are to be carried out once per week, at mid-flood and mid-ebb tides for 3 water depths (1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth may be omitted. If the water depth be equal to or less than 3m, only the mid-depth will be monitored).

**5. Monitoring Results**

5.0.1. The environmental monitoring will be implemented based on the division of works areas of each designed project managed under different contracts with separate FEP applied by individual contractors. Overall layout showing work areas of various contracts, latest status of work commencement and monitoring stations is shown in **Figure 2.1** and **Figure 4.1**. The monitoring results are presented in according to the Individual Contract(s).

5.0.2. In the reporting month, the concurrent contracts are as follows:

- Contract no. HK/2009/01 – Wan Chai Development Phase II – Central-Wan Chai Bypass at Hong Kong Convention and Exhibition Centre; and
- Contract no. HK/2009/02 Wan Chai Development Phase II – Central-Wan Chai Bypass at Wan Chai East
- Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)
- Contract no. HY/2009/19- Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link
- Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West
- Contract no. HY/2010/08 – Central- Wanchai Bypass Tunnel (Slip Road 8 Section)

5.0.3. The environment monitoring schedules for reporting month and coming month are presented in **Appendix 5.1**.

**5.1 Noise Monitoring Results**

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC, Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

5.1.1. The proposed division of noise monitoring stations are summarized in **Table 5.1** below.

**Table 5.1 Noise Monitoring Station for Contract nos. HK/2009/01 and HK/2009/02**

| Station | Description                |
|---------|----------------------------|
| M1a     | Harbour Road Sports Centre |

5.1.2. Two limit level exceedances were recorded at M1a- Harbour Road Sports Centre on 04 and 24 May 2016 in this reporting month.

5.1.3. Breaking works at Ex- Wan Chai Swimming Pool (adjacent to Harbour Road Sports Centre directly opposite to the monitoring station) under non WDII-CWB Contractor was observed as the major noise contribution during monitoring on 04 May 2016 while operation of Hydromil Trench Cutter at Ex- Wan Chai Swimming Pool (adjacent to Harbour Road Sports Centre directly opposite to the monitoring station) under non WDII-CWB Contractor as major noise contribution during monitoring on 24 May 2016. As such, the exceedances were considered as non-Project related.

- 5.1.4. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.1.5. The noise monitoring for HY/2009/15 was commenced on 10 November 2010. The proposed division of noise monitoring stations are summarized in **Table 5.2** below.

**Table 5.2 Noise Monitoring Station for Contract no. HY/2009/15**

| Station | Description              |
|---------|--------------------------|
| M2b     | Noon Gun Area            |
| M3a     | Tung Lo Wan Fire Station |

- 5.1.6. No action or limit level exceedance was recorded in this reporting month.
- 5.1.7. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**.

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 5.1.8. The proposed division of noise monitoring stations are summarized in **Table 5.3** below.

**Table 5.3 Noise Monitoring Station for Contract no. HY/2009/19**

| Station | Description                                  |
|---------|--|
| M4b     | Victoria Centre                              |
| M5b     | City Garden                                  |
| M6      | HK Baptist Church Henrietta Secondary School |

- 5.1.9. No action or limit level exceedance was recorded in this reporting month.
- 5.1.10. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**.

Contract no. HY/2010/08-Central-Wanchi Bypass Tunnel (Slip Road 8 Section)

- 5.1.11. The proposed division of noise monitoring stations are summarized in **Table 5.4** below.

**Table 5.4 Noise Monitoring Station for Contract no. HY/2010/08**

| Station | Description              |
|---------|--------------------------|
| M2b     | Noon Gun Area            |
| M3a     | Tung Lo Wan Fire Station |

5.1.12. No action or limit level exceedance was recorded in this reporting month.

5.1.13. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**.

## 5.2 Air Monitoring Results

### Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

- 5.2.1 Air monitoring was commenced on 1 April 2011 in response to the commencement of the land-filling work for Contract no. HK/2009/01. The proposed divisions of air monitoring stations are summarized in **Table 5.5** below.

**Table 5.5 Air Monitoring Stations for Contract no. HK/2009/01**

| Station | Description          |
|---------|----------------------|
| CMA5b   | Pedestrian Plaza     |
| CMA6a   | WDII PRE Site Office |

- 5.2.2 No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.

### Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- 5.2.3 Air monitoring was commenced in mid-January 2011 for the land-filling work for Contract no. HK/2009/02. The proposed division of air monitoring stations are summarized in **Table 5.6** below.

**Table 5.6 Air Monitoring Station for Contract no. HK/2009/02**

| Station | Description                                      |
|---------|--|
| CMA4a   | Society for the Prevention of Cruelty to Animals |

- 5.2.4 No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.

### Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.2.5 Air monitoring was commenced on 15 March 2011 for the land filling work for Contract no. HY/2009/15. The proposed division of air monitoring stations are summarized in **Table 5.7** below.

**Table 5.7 Air Monitoring Station for Contract no. HY/2009/15**

| Station | Description         |
|---------|---------------------|
| CMA3a   | CWB PRE Site Office |

5.2.6 No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

5.2.7 The proposed division of air monitoring stations are summarized in **Table 5.8** below.

**Table 5.8 Air Monitoring Stations for Contract no. HY/2009/19**

| Station | Description                   |
|---------|-------------------------------|
| CMA1b   | Oil Street Site Office        |
| CMA2a   | Causeway Bay Community Centre |

5.2.8 No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.

Contract no. HK/2012/08- Wan Chai Development Phase II – Central-Wan Chai Bypass at Wan Chai West

5.2.9 The proposed division of air monitoring stations are summarized in **Table 5.9** below.

**Table 5.9 Air Monitoring Stations for Contract no. HK/2012/08**

| Station | Description      |
|---------|------------------|
| CMA5b   | Pedestrian Plaza |

5.2.10 No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.

Contract no. HY/2010/08- Central-Wanchai Bypass Tunnel (Slip Road 8 Section)

The proposed division of air monitoring stations are summarized in **Table 5.10** below.

**Table 5.10 Air Monitoring Stations for Contract no. HY/2010/08**

| Station | Description         |
|---------|---------------------|
| CMA3a   | CWB PRE Site Office |

5.2.11 No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.



### 5.3 Water quality monitoring Results

- 5.3.1. As advised by WDII RSS, the works under Contract HK/2009/01, HK/2009/02 (at WCRIII area) and HK/2012/08 were suspended from 16 May 2016 to 19 May 2016, WQM event at WQM station WSD19, P1, P3, P4, P5 and C1 were temporary suspended on 17 May 2016 and 19 May 2016.
- 5.3.2. As advised by the Contractor of HK/2009/01, all silt screen remains removal works at P1, P3, P4, P5 and C1 water quality monitoring stations were completed on 8 May 2016.
- 5.3.3. With respect to the silt screen remains removal works at P1, P3, P4, P5 and C1 water quality monitoring stations conducted by Contractor of HK/2009/01, the water quality monitoring at associated station was temporary suspended as follows:  
P1 monitoring station was temporary suspended on 3 May 2016 during flood tide and ebb tide  
C1 monitoring station was temporary suspended on 5 May 2016 during ebb tide  
P4 and P5 monitoring stations were temporary suspended on 7 May 2016 during flood tide
- 5.3.4. With respect to the marine works undertaken at WCR3 by Contract HK/2009/02, the respective water quality monitoring station C1 associated with Contract HK/2009/01 was updated as in association with Contract HK/2009/01 and Contract HK/2009/02.
- 5.3.5. With respect to the marine works undertaken at CBTS by Contract HY/2010/08, the respective water quality monitoring station C7 associated with Contract HY/2009/15 was updated as in association with Contract HY/2009/15 and Contract HY/2010/08.
- 5.3.6. With respect to the marine works undertaken at HKCEC2 by Contract HK/2012/08, the respective water quality monitoring station WSD19, P1, P3, P4, and P5 were associated with Contract HK/2012/08.

**Table 5.11 Water quality Monitoring Stations for contracts with respect to remaining DP3 work areas after the completion of DP5 & DP6 in 2012 and intake diversion in 2013**

| Contract No. | Remaining DP3 and work area(s) | Relevant Water quality monitoring Stations,                                  | Division of WQM w.r.t tentative works commenced / to be commenced |
|--------------|--------------------------------|--|---|
| HK/2009/01   | WCR3                           | C1 <sup>1</sup>  | Apr 2013  |
| HK/2009/02   | WCR3, WCR4, TWCR4              | RW21-P789 <sup>2</sup> , C1 <sup>1</sup>                                     | Apr 2013  |
| HK/2012/08   | HKCEC2W, HKCEC2E               | WSD19, P1 <sup>3</sup> , P3 <sup>3</sup> , P4 <sup>3</sup> , P5 <sup>3</sup> | Aug 2013  |
| HY/2009/15   | TGBR2, TGBR3,                  | C6 <sup>4</sup> , C7, Ex-WPCWA SW,   | Nov 2010  |

|            |                        |  |          |
|------------|------------------------|--|----------|
|            | TCBR1W, TPCWAE, TPCWAW | Ex-WPCWA SE (plus enhanced DO monitoring)          |          |
| HY/2010/08 | TCBR3, TCBR4           | C6 <sup>4</sup> , C7 (plus enhanced DO monitoring) | Mar 2014 |

Remarks:

1. The water quality monitoring station C1 shall be associated with Contract No. HK/2009/02 upon commencement of marine works under DP3 at WCR3 area.
2. 4 intakes (re-provisioned Wanchai WSD intake, Great Eagle Centre, China Resources Centre & Sun Hung Kai Centre constructed adjacent to each other) taken as a single group for silt screen protection and monitoring. Re-provisioned intake reference: P1: HKCEC Phase 1; P3: APA, P4: Shui On; P5: Government Buildings (Wanchai Tower / Revenue Tower / Immigration Tower)
3. The water quality monitoring stations for WSD19, P1, P3, P4, P5 shall be associated with Contract No. HK/2009/01 prior to their transition to Contract HK/2012/08.
4. Enhanced DO Monitoring at C6 since the intake abandon in May 2011.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

5.3.4. Water quality monitoring for Contract no. HK/2009/01 was commenced on 23 July 2010. The proposed division of water quality monitoring stations are summarized in **Table 5.12** below.

**Table 5.12 Water quality monitoring Stations for Contract no. HK/2009/01**

| Station Ref.                | Location        | Easting  | Northing |
|-----------------------------|-----------------|----------|----------|
| <b>Cooling Water Intake</b> |                 |          |          |
| C1                          | HKCEC Extension | 835885.6 | 816223.0 |

- 5.3.5. There were 2 action and 1 limit level turbidity exceedances recorded at C1 on 5, 7 and 9 May 2016 in this reporting month.
- 5.3.6 Despite silt screen removal works was conducted on 5 May 2016, removal works including silt screen’s frame cutting and lifting works were observed conducted orderly and contractor clarified the cooling intake water supplies was temporary suspended during removal works. Low SS level was recorded during the monitoring period. In view of the above, the turbidity exceedance was considered not related to project works.
- 5.3.7 Despite silt screen removal was conducted at P4 & P5 monitoring stations on 7 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level was recorded during the monitoring period. In view of the above and no turbidity exceedance was recorded on the subsequent monitoring, the turbidity exceedance was considered not related to project works.
- 5.3.8 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potentially in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to project works.

5.3.9 Water quality monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in **Appendix 5.4.**

Contract no. HK/2009/02 - Wan Chai Development Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

5.3.10 Water quality monitoring for Contract no. HK/2009/02 was commenced on 8 July 2010. The proposed division of water quality monitoring stations are summarized in **Table 5.13** below.

**Table 5.13 Water quality Monitoring Stations for Contract no. HK/2009/02**

| Station Ref.  | Location   | Easting  | Northing |
|---|--|----------|----------|
| <b>Cooling Water Intake</b>                         |  |          |          |
| C1  | HKCEC Extension  | 835885.6 | 816223.0 |
| <b>Cooling Water Intake / WSD Salt Water Intake</b> |  |          |          |
| RW21-P789   | Great Eagle Centre/ Sun Hung Kai Centre/WSD Wanchai salt water intake / China Resources Building | 836268.0 | 816020.0 |

- 5.3.11 There were 2 action and 1 limit level turbidity exceedances recorded at C1 on 5, 7 and 9 May 2016 in this reporting month.
- 5.3.12 No marine activity was conducted on 5 and 9 May 2016. In view of no marine activity was conducted during monitoring period, the exceedances were considered not related to project works.
- 5.3.13 Despite seawall trimming works were conducted on 7 May 2016, contractor mitigation measures including the use of silt curtain was in place. In view of the above, it is considered that the exceedance was not related to project works.
- 5.3.14 There were 1 action and 2 limit level turbidity exceedances recorded at RW21-P789 on 29 April 2016, 5 and 9 May 2016 in this reporting month.
- 5.3.15 Despite rock armour placing works at seawall near Expo Drive East was conducted on 29 April 2016, contractor mitigation measures include the use of silt curtain was in place, and installed silt screen was generally in order. Location of the construction area was downstream of RW21-P789 monitoring station during monitoring period. In view of the above and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not project related.
- 5.3.16 No marine activity was conducted on 5 and 9 May 2016. In view of no marine activity was conducted and no exceedance was recorded on the subsequent monitoring, it is considered that the exceedances were not project related.
- 5.3.17 Water quality monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in **Appendix 5.4.**

Contract no. HK/2012/08 - Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

5.3.18 Water quality monitoring for Contract no. HK/2012/08 was commenced on 5 March 2013. The proposed division of water quality monitoring stations are summarized in **Table 5.14** below.

**Table 5.14 Water quality Monitoring Stations for Contract no. HK/2012/08**

| Station Ref.                 | Location   | Easting  | Northing |
|------------------------------|--|----------|----------|
| <b>WSD Salt Water Intake</b> |  |          |          |
| WSD19                        | Sheung Wan   | 833415.0 | 816771.0 |
| <b>Cooling Water Intake</b>  |  |          |          |
| P1                           | HKCEC Phase I  | 835774.7 | 816179.4 |
| P3                           | The Academy of performing Arts   | 835824.6 | 816212.0 |
| P4                           | Shui on Centre   | 835865.6 | 816220.0 |
| P5                           | Government Buildings (Wanchai Tower / Revenue Tower / Immigration Tower) | 835895.2 | 816215.2 |

5.3.19 There were 2 action level and 4 limit level turbidity exceedances at WSD19 recorded on 29 April 2016, 3, 5, 7 and 9 May 2016 in this reporting month.

5.3.20 No marine activity was conducted on 29 April 2016, 3, 5, 7 and 9 May 2016. In view of no marine activity was conducted, it is considered that the exceedances were not project related.

5.3.21 There was 1 action level turbidity exceedance at P1 recorded on 9 May 2016 in this reporting month.

5.3.22 No marine activity was conducted on 9 May 2016. The location of the construction area was downstream of P1 monitoring station during the monitoring period. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.

5.3.23 There were 2 action and 1 limit level turbidity exceedances at P3 recorded on 7 and 9 May 2016 in this reporting month.

5.3.24 No marine activity was conducted on 7 May 2016. In view of no marine activity conducted, it is considered that the exceedance was not related to project works. Despite silt screen removal was conducted by Contract HK/2009/01 on 7 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level was recorded during monitoring period. In view of the above, the turbidity exceedances were not related to project works.

5.3.25 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no

exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.

- 5.3.26 There were 1 action level and 2 limit level turbidity exceedance recorded at P4 on 5, 7 and 9 May 2016 in this reporting month.
- 5.3.27 No marine activity was conducted on 5 and 7 May 2016. In view of no marine activity conducted, it is considered that the exceedances were not related to project works. Despite silt screen removal was conducted by Contract HK/2009/01 on 5 and 7 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level were recorded on 5 and 7 May 2016. In view of the above, the turbidity exceedances were not related to project works.
- 5.3.28 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.
- 5.3.29 There were 2 action level turbidity exceedances recorded at P5 on 5 and 9 May 2016 in this reporting month.
- 5.3.30 No marine activity was conducted on 5 May 2016. In view of no marine activity conducted, it is considered that the exceedance was not related to project works. Despite silt screen removal was conducted by Contract HK/2009/01 on 5 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level was recorded during monitoring period. In view of the above, the turbidity exceedance was not related to project works.
- 5.3.31 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.
- 5.3.32 Water quality monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in [Appendix 5.4](#).

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.3.33 Due to the commencement of the maintenance dredging on 10 November 2010, water quality monitoring for Contract no. HY/2009/15 was commenced on 9 November 2010. The proposed division of water quality monitoring stations are summarized in **Table 5.15** and **Table 5.16** below.

**Table 5.15 Water quality monitoring Stations for Contract no. HY/2009/15**

| Station Ref.         | Location | Easting | Northing |
|----------------------|----------|---------|----------|
| Cooling Water Intake |          |         |          |

| Station Ref. | Location      | Easting  | Northing |
|--------------|---------------|----------|----------|
| C7           | Windsor House | 837193.7 | 816150.0 |

Remarks:

- The cessation of seawater intake operation for C6 was confirmed on 17 May 2011, the water quality monitoring at C6 was then terminated since 17 May 2011.

**Table 5.16 Enhance Dissolved Oxygen Monitoring Stations for Contract no. HY/2009/15**

| Station Ref. | Location   |
|--------------|--|
| C6           | Excelsior Hotel  |
| Ex-WPCWA SW  | South-western of the ex-Wan Chai Public Cargo Working Area |

Remarks:

1. Enhanced DO monitoring at Windsor House Cooling (Station Ref: C7) was temporarily suspended since 22 October 2014 with respect to the formation of temporary reclamation zone TS3 and to be resumed upon removal of the respective temporary reclamation zone.
2. Enhanced DO monitoring at Monitoring station at Ex-PCWAE was temporarily suspended from 31 August 2015 with respect to seawall reinstatement works and formation of active works area, to be resumed upon completion of seawall reinstatement works

- 5.3.34 There were 4 limit level DO exceedances recorded at Ex-WPCWA SW on 3, 7, 9 and 25 May 2016 in the reporting month.
- 5.3.35 After checking with contractor, despite backfilling works was conducted at TPCWAW on 3 and 9 May 2016, contractor mitigation measures include the use of tarpaulin sheet between barge and land and provision of bunding for site runoff control was generally in place. Meanwhile, upstream discharge from nearby culvert was noted. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to the Project works.
- 5.3.36 No marine activity was conducted on 7 and 25 May 2016. Upstream discharge nearby culvert was noted. In view of no marine activity and no exceedance was recorded on the subsequent monitoring, the exceedances were considered not related to the Project works.
- 5.3.37 There were 2 action level DO exceedances recorded at Ex-WPCWA SE on 23 and 25 May 2016 in the reporting month.
- 5.3.38 No marine activity was conducted on 23 and 25 May 2016. Upstream discharge nearby culvert was noted. In view of no marine activity and no exceedance was recorded on the subsequent monitoring, the exceedances were considered not related to the Project works.
- 5.3.39 There were 2 action level of suspended solids exceedances recorded at C7 on 27 April 2016 in the reporting month.
- 5.3.40 No marine activity was conducted at Causeway Bay Typhoon Shelter on 27 April 2016. In view of no marine activity conducted, it is considered that the exceedances were not related to Project works.
- 5.3.41 There were 1 action level and 1 limit level of turbidity exceedances recorded at C7 on 29 April 2016 in the reporting month.
- 5.3.42 No marine activity was conducted at Causeway Bay Typhoon Shelter on 29 April 2016. In view of no marine activity conducted, it is considered that the exceedances were not related to Project works.

5.3.43 Water quality monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in [Appendix 5.4](#).

Contract no. HY/2010/08- Central-Wanchai Bypass Tunnel (Slip Road 8 Section)

5.3.44 The proposed division of water quality monitoring stations are summarized in **Table 5.17** and **Table 5.18** below:

**Table 5.17 Water quality monitoring Stations for Contract no. HY/2010/08**

| Station Ref.                | Location      | Easting  | Northing |
|-----------------------------|---------------|----------|----------|
| <b>Cooling Water Intake</b> |               |          |          |
| C7                          | Windsor House | 837193.7 | 816150.0 |

**Table 5.18 Enhance Dissolved Oxygen Monitoring Stations for Contract no. HY/2010/08**

| Station Ref. | Location        |
|--------------|-----------------|
| C6           | Excelsior Hotel |

Remarks:

- Enhanced DO monitoring at Windsor House Cooling (Station Ref: C7) was temporarily suspended since 22 October 2014 with respect to the formation of temporary reclamation zone TS3 and to be resumed upon removal of the respective temporary reclamation zone.

5.3.45 There were 2 action level suspended solids exceedance recorded at C7 on 27 April 2016 in this reporting month.

5.3.46 After checking with the Contractor, despite temporary reclamation removal works were conducted on 27 April 2016, contractor mitigation measures including the use of impermeable barrier and silt curtain was in place. In view of the above, it was considered that the exceedances were not related to project works. Nevertheless, contractor was reminded to maintain the deployed impermeable barrier to safeguard the water quality to nearby water intake.

5.3.47 There were 1 action level and 1 limit level turbidity exceedances recorded at C7 on 29 April 2016 in this reporting month.

5.3.48 Underwater excavation works for TS3(E) temporary reclamation removal works was conducted on 29 April 2016 during both flood tide and ebb tide and muddy dispersion was observed around a portion TS3(E) works area during monitoring sampling at flood tide, and it was observed that the impermeable barrier deployed around the temporary reclamation removal area was not fully extended to seabed level and not fully unclosing the underwater excavation area during monitoring sampling at both ebb and flood tides. In addition, it was observed that the outer layer of silt curtain deployed was incomplete at the concerned location. As such, it was considered that the turbidity exceedance was related to Project works and the contractor was immediately advised to take immediate action to rectify the defects observed. Rectification measures including deployment of impermeable barriers and silt curtain to enclose the concerned works area by contractor was implemented on 30 April 2016 and no further turbidity exceedance was recorded during additional monitoring conducted on 30 April 2016. Nevertheless, the contractor was reminded to maintain regular checking of the installed silt screen at WQM station C7 for safeguarding the water quality to nearby intake.



5.3.49 Water quality monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in **Appendix 5.4**.



#### 5.4 Waste Monitoring Results

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

5.4.1. No inert C&D waste and non- inert C&D waste disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.19**.

**Table 5.19 Details of Waste Disposal for Contract no. HK/2009/01**

| Waste Type   | Quantity this month  | Cumulative Quantity-to-Date | Disposal / Dumping Grounds |
|--|----------------------|-----------------------------|----------------------------|
| Inert C&D materials disposed, m <sup>3</sup>   | NIL                  | 62116.405                   | TKO137, TM38               |
| Inert C&D materials recycled, m <sup>3</sup>   | NIL                  | 5856.5                      | N/A                        |
| Non-inert C&D materials disposed, m <sup>3</sup>   | NIL                  | 1673.69                     | SENT Landfill              |
| Non-inert C&D materials recycled, kg   | NIL                  | 203993                      | N/A                        |
| Chemical waste disposed, kg  | NIL                  | 10250                       | N/A                        |
| Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>   | NIL<br>(Bulk Volume) | 97428.2<br>(Bulk Volume)    | South of Cheung Chau       |
| Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup> | NIL<br>(Bulk Volume) | 52250<br>(Bulk Volume)      | East of Cha Chau           |
| Dredged Sediment Requiring Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers              | NIL<br>(Bulk Volume) | 6773<br>(Bulk Volume)       | East of Cha Chau           |

5.4.2. There were no marine sediment Type 1- Open Sea Disposal and no marine sediments Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal disposed in this reporting month.

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East

5.4.3. No inert C&D waste and Non-inert C&D waste disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.20**.

**Table 5.20 Details of Waste Disposal for Contract no. HK/2009/02**

| Waste Type   | Quantity this month | Cumulative Quantity-to-Date | Disposal / Dumping Grounds |
|--|---------------------|-----------------------------|----------------------------|
| Inert C&D materials disposed, m <sup>3</sup>   | NIL                 | 276075.1                    | TKO137 / TM 38             |
| Inert C&D materials recycled, m <sup>3</sup>   | NIL                 | 18161                       | N/A                        |
| Non-inert C&D materials disposed, m <sup>3</sup>   | NIL                 | 1515.103                    | SENT Landfill              |
| Non-inert C&D materials recycled, m <sup>3</sup>   | N/A                 | N/A                         | N/A                        |
| Chemical waste disposed, kg  | NIL                 | 13860                       | SENT Landfill              |
| Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>   | NIL                 | 240222<br>(Bulk volume)     | South of Cheung Chau       |
| Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup> | NIL                 | 146445<br>(Bulk volume)     | East of Sha Chau           |

- 5.4.4. There were no marine sediment Type 1 – Open Sea Disposal and no Type 1 Open Sea Disposal (Dedicate Sties) & Type 2 – Confined Marine Disposal disposed in this reporting month.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.4.5. No Inert C&D waste and no non- inert C&D waste disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.21**

**Table 5.21 Details of Waste Disposal for Contract no. HY/2009/15**

| Waste Type                                       | Quantity this month | Cumulative Quantity-to-Date | Disposal / Dumping Grounds | Remarks |
|--|---------------------|-----------------------------|----------------------------|---------|
| Inert C&D materials disposed, m <sup>3</sup>     | NIL                 | 141579.2                    | Tuen Mun Area 38           | NIL     |
|  | NIL                 | 65216                       | TKO137 FB                  | NIL     |
| Inert C&D materials recycled, m <sup>3</sup>     | NIL                 | 304                         | Ex-PCWA                    | NIL     |
|  | NIL                 | 111.9                       | TS4                        | NIL     |
| Non-inert C&D materials disposed, m <sup>3</sup> | NIL                 | 252.2                       | SENT Landfill              | NIL     |
| Non-inert C&D materials recycled, kg             | NIL                 | 299361.5                    | N/A                        | NIL     |

| Waste Type   | Quantity this month  | Cumulative Quantity-to-Date | Disposal / Dumping Grounds               | Remarks   |
|--|----------------------|-----------------------------|--|---|
| Chemical waste disposed, kg  | NIL                  | 8,200                       | N/A                                      | NIL   |
| Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>   | NIL<br>(Bulk Volume) | 156909<br>(Bulk Volume)     | Cheung Chau South                        | Dredging from TCBR1E / TCBR1W / TCBR2/ TCBR3 / TCBR4 / Maintenance dredging |
| Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup> | NIL<br>(Bulk Volume) | 322796<br>(Bulk Volume)     | East of Sha Chau / South of the Brothers | Dredging from TCBR1E / TCBR1W / TCBR2/ TCBR3 / TCBR4 / Maintenance dredging |
| Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers) m <sup>3</sup>        | NIL<br>(Bulk Volume) | 12640<br>(Bulk Volume)      | East of Sha Chau / South of the Brothers | Dredging from TCBR1W / Maintenance dredging                                 |
| Marine Sediment (Type 2 – Confined Marine Disposal), m <sup>3</sup>  | NIL                  | 9350<br>(Bulk Volume)       | East of Sha Chau                         | Dredging from Eastern Breakwater of CBTS                                    |
| Marine Sediment (Type 1 – Open Sea Disposal) , m <sup>3</sup>  | NIL<br>(Bulk Volume) | 600<br>(Bulk Volume)        | East Sha Chau / South of The Brothers    | Dredging from Phase 3 Mooring Re-arrangement                                |
| Marine Sediment (Type 2– Confined Marine Disposal) , m <sup>3</sup>  | NIL<br>(Bulk Volume) | 14,780<br>(Bulk Volume)     | South of The Brothers                    | Dredging from Phase 3 Mooring Re-arrangement                                |
| Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynehetic Containers) , m <sup>3</sup>      | NIL<br>(Bulk Volume) | 2,760<br>(Bulk Volume)      | South of The Brothers                    | Dredging from Phase 3 Mooring Re-arrangement                                |

5.4.6. There were no Type 1 Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal disposed, and no Type 1 Open Sea Disposal disposed in this reporting month.

Contract no. HY/2009/19 –Central- WanChai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

5.4.7. No inert C&D waste and non-inert C&D waste disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.22**.

**Table 5.22 Details of Waste Disposal for Contract no. HY/2009/19**

| Waste Type  | Quantity this month | Cumulative Quantity-to-Date | Disposal / Dumping Grounds |
|---|---------------------|-----------------------------|----------------------------|
| Inert C&D materials disposed, m <sup>3</sup>  | NIL                 | 355921.04                   | TM38                       |
| Inert C&D materials recycled, m <sup>3</sup>  | NIL                 | 59367                       | N/A                        |
| Non-inert C&D materials disposed, m <sup>3</sup>  | NIL                 | 1068.6                      | N/A                        |
| Non-inert C&D materials recycled, kg  | NIL                 | 333.14                      | N/A                        |
| Chemical waste disposed, L  | NIL                 | 2.12                        | N/A                        |
| Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>  | NIL                 | 162                         | South Cheung Chau          |
| Marine Sediment (Type 2 – Confined Marine Disposal), m <sup>3</sup>   | NIL                 | 681                         | East Sha Chau              |
| Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal), m <sup>3</sup> | NIL                 | 4976.00                     |                            |

5.4.8. There was no marine sediment Type1- Open Sea Disposal and there was no Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal generated were disposed in this reporting month.

Contract no. HK/2012/08 –Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

5.4.9. There was no Inert C&D waste and no non-inert C&D waste disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.23**.

**Table 5.23 Details of Waste Disposal for Contract no. HK/2012/08**

| Waste Type   | Quantity this month  | Cumulative Quantity-to-Date | Disposal / Dumping Grounds |
|--|----------------------|-----------------------------|----------------------------|
| Inert C&D materials disposed, m <sup>3</sup>                 | NIL                  | 4131                        | TM38                       |
| Inert C&D materials recycled, m <sup>3</sup>                 | NIL                  | NIL                         | N/A                        |
| Non-inert C&D materials disposed, m <sup>3</sup>             | NIL                  | 315                         | N/A                        |
| Non-inert C&D materials recycled, kg                         | NIL                  | NIL                         | N/A                        |
| Chemical waste disposed, L                                   | NIL                  | NIL                         | N/A                        |
| Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup> | NIL<br>(Bulk volume) | 31759<br>(Bulk volume)      | South of Cheung Chau       |

| Waste Type   | Quantity this month  | Cumulative Quantity-to-Date | Disposal / Dumping Grounds                          |
|--|----------------------|-----------------------------|---|
| Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m3 | NIL<br>(Bulk volume) | 108542<br>(Bulk volume)     | South of The Brothers<br>(from 27 Aug 2013 onwards) |

Remarks: The details of waste disposal is updated and recorded in calendar month period.

- 5.4.10. There was no Marine Sediment Type 1 – Open Sea Disposal (Delicate Sites) & Type 2 – Confined Marine Disposal and Marine Sediment Type 1 – Open Sea Disposal disposed in this reporting month.

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

- 5.4.11. Inert C&D waste was disposed in this reporting month and no non-inert C&D waste disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.24**

**Table 5.24 Details of Waste Disposal for Contract no. HY/2010/08**

| Waste Type  | Quantity this month | Cumulative Quantity-to-Date | Disposal / Dumping Grounds            |
|---|---------------------|-----------------------------|---------------------------------------|
| Inert C&D materials disposed, m <sup>3</sup>  | 9336.4              | 18528.7                     | TM38                                  |
|   | 8210.3              | 12179.2                     | TKO137                                |
| Inert C&D materials recycled, m <sup>3</sup>  | NIL                 | NIL                         | N/A                                   |
| Non-inert C&D materials disposed, m <sup>3</sup>  | NIL                 | NIL                         | N/A                                   |
| Non-inert C&D materials recycled, kg  | NIL                 | NIL                         | N/A                                   |
| Chemical waste disposed, L  | NIL                 | NIL                         | N/A                                   |
| Marine Sediment (Type 1 – Open Sea Disposal)  | 3631                | 66190.4                     | South Cheung Chau / Brothers Island * |
| Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal) | NIL                 | 28309.2                     | Brothers Island                       |
| Marine Sediment (Type 3 – Special Treatment)  | NIL                 | 7780                        | Brothers Island                       |

Remarks: Contractor has clarified the Inert C&D materials disposed to TM38 and TKO 137 was 9192.3 and 3968.9m<sup>3</sup> respectively in April reporting month. The cumulative quantity has updated in this reporting month.

- 5.4.12. There were Type 1 – Open Sea Disposal disposed in this reporting month. No Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal disposed in this reporting month, and no Type 3- Special Treatment disposed in this reporting month.

## 6. Compliance Audit

- 6.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in [Appendix 6.1](#).

### 6.1 Noise Monitoring

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

- 6.1.1 Two limit level exceedances were recorded at M1a- Harbour Road Sports Centre on 04 and 24 May 2016 in this reporting month.

- 6.1.2 Breaking works at Ex- Wan Chai Swimming Pool (adjacent to Harbour Road Sports Centre directly opposite to the monitoring station) under non WDII-CWB Contractor was observed as the major noise contribution during monitoring on 04 May 2016 while operation of Hydromil Trench Cutter at Ex- Wan Chai Swimming Pool (adjacent to Harbour Road Sports Centre directly opposite to the monitoring station) under non WDII-CWB Contractor as major noise contribution during monitoring on 24 May 2016. As such, the exceedances were considered as non-Project related.

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- 6.1.3 Two limit level exceedances were recorded at M1a- Harbour Road Sports Centre on 04 and 24 May 2016 in this reporting month.

- 6.1.4 Breaking works at Ex- Wan Chai Swimming Pool (adjacent to Harbour Road Sports Centre directly opposite to the monitoring station) under non WDII-CWB Contractor was observed as the major noise contribution during monitoring on 04 May 2016 while operation of Hydromil Trench Cutter at Ex- Wan Chai Swimming Pool (adjacent to Harbour Road Sports Centre directly opposite to the monitoring station) under non WDII-CWB Contractor as major noise contribution during monitoring on 24 May 2016. As such, the exceedances were considered as non-Project related.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 6.1.5 No exceedance was recorded in the reporting month.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 6.1.6. No exceedance was recorded in the reporting month.

Contract no. HY/2010/08 – Central-Wanchai Bypass – Tunnel (Slip Raod 8 Section)

- 6.1.7. No exceedance was recorded in the reporting month.

### 6.2 Air Monitoring

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

- 6.2.1 No exceedance was recorded in the reporting month.

Contract no. HK/2009/02 – Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East (CWB Tunnel)

6.2.2 No exceedance was recorded in the reporting month.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

6.2.3 No exceedance was recorded in the reporting month.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

6.3.4. No exceedance was recorded in the reporting month.

Contract no. HK/2012/08 Wan Chai Development Phase II - Central-Wan Chai Bypass at Wan Chai West

6.3.5. No exceedance was recorded in the reporting month.

Contract no. HY/2010/08 – Central-Wanchai Bypass – Tunnel (Slip Raod 8 Section)

6.3.6. No exceedance was recorded in the reporting month.

### 6.3 Water Quality Monitoring

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

6.3.1 There were 2 action and 1 limit level turbidity exceedances recorded at C1 on 5, 7 and 9 May 2016 in this reporting month.

6.3.2 Despite silt screen removal works was conducted on 5 May 2016, removal works including silt screen's frame cutting and lifting works were observed conducted orderly and contractor clarified the cooling intake water supplies was temporary suspended during removal works. Low SS level was recorded during the monitoring period. In view of the above, the turbidity exceedance was considered not related to project works.

6.3.3 Despite silt screen removal was conducted at P4 & P5 monitoring stations on 7 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level was recorded during the monitoring period. In view of the above and no turbidity exceedance was recorded on the subsequent monitoring, the turbidity exceedance was considered not related to project works.

6.3.4 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potentially in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to project works.

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- 6.3.5 There were 2 action and 1 limit level turbidity exceedances recorded at C1 on 5, 7 and 9 May 2016 in this reporting month.
- 6.3.6 No marine activity was conducted on 5 and 9 May 2016. In view of no marine activity was conducted during monitoring period, the exceedances were considered not related to project works.
- 6.3.7 Despite seawall trimming works were conducted on 7 May 2016, contractor mitigation measures including the use of silt curtain was in place. In view of the above, it is considered that the exceedance was not related to project works.
- 6.3.8 There were 1 action and 2 limit level turbidity exceedances recorded at RW21-P789 on 29 April 2016, 5 and 9 May 2016 in this reporting month.
- 6.3.9 Despite rock armour placing works at seawall near Expo Drive East was conducted on 29 April 2016, contractor mitigation measures include the use of silt curtain was in place, and installed silt screen was generally in order. Location of the construction area was downstream of RW21-P789 monitoring station during monitoring period. In view of the above and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not project related.
- 6.4 No marine activity was conducted on 5 and 9 May 2016. In view of no marine activity was conducted and no exceedance was recorded on the subsequent monitoring, it is considered that the exceedances were not project related.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 6.4.1 There were 4 limit level DO exceedances recorded at Ex-WPCWA SW on 3, 7, 9 and 25 May 2016 in the reporting month.
- 6.4.2 After checking with contractor, despite backfilling works was conducted at TPCWAW on 3 and 9 May 2016, contractor mitigation measures include the use of tarpaulin sheet between barge and land and provision of bunding for site runoff control was generally in place. Meanwhile, upstream discharge from nearby culvert was noted. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to the Project works.
- 6.4.3 No marine activity was conducted on 7 and 25 May 2016. Upstream discharge nearby culvert was noted. In view of no marine activity and no exceedance was recorded on the subsequent monitoring, the exceedances were considered not related to the Project works.
- 6.4.4 There were 2 action level DO exceedances recorded at Ex-WPCWA SE on 23 and 25 May 2016 in the reporting month.
- 6.4.5 No marine activity was conducted on 23 and 25 May 2016. Upstream discharge nearby culvert was noted. In view of no marine activity and no exceedance was recorded on the subsequent monitoring, the exceedances were considered not related to the Project works.



- 6.4.6 There were 2 action level of suspended solids exceedances recorded at C7 on 27 April 2016 in the reporting month.
- 6.4.7 No marine activity was conducted at Causeway Bay Typhoon Shelter on 27 April 2016. In view of no marine activity conducted, it is considered that the exceedances were not related to Project works.
- 6.4.8 There were 1 action level and 1 limit level of turbidity exceedances recorded at C7 on 29 April 2016 in the reporting month.
- 6.4.9 No marine activity was conducted at Causeway Bay Typhoon Shelter on 29 April 2016. In view of no marine activity conducted, it is considered that the exceedances were not related to Project works.
- Contract no. HY/2009/19- Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link
- 6.4.10 No exceedance was recorded in this reporting month.
- Contract no. HK/2012/08- Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West
- 6.4.11 There were 2 action level and 4 limit level turbidity exceedances at WSD19 recorded on 29 April 2016, 3, 5, 7 and 9 May 2016 in this reporting month.
- 6.4.12 No marine activity was conducted on 29 April 2016, 3, 5, 7 and 9 May 2016. In view of no marine activity was conducted, it is considered that the exceedances were not project related.
- 6.4.13 There was 1 action level turbidity exceedance at P1 recorded on 9 May 2016 in this reporting month.
- 6.4.14 No marine activity was conducted on 9 May 2016. The location of the construction area was downstream of P1 monitoring station during the monitoring period. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.
- 6.4.15 There were 2 action and 1 limit level turbidity exceedances at P3 recorded on 7 and 9 May 2016 in this reporting month.
- 6.4.16 No marine activity was conducted on 7 May 2016. In view of no marine activity conducted, it is considered that the exceedance was not related to project works. Despite silt screen removal was conducted by Contract HK/2009/01 on 7 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level was recorded during monitoring period. In view of the above, the turbidity exceedances were not related to project works.
- 6.4.17 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no

- exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.
- 6.4.18 There were 1 action level and 2 limit level turbidity exceedance recorded at P4 on 5, 7 and 9 May 2016 in this reporting month.
- 6.4.19 No marine activity was conducted on 5 and 7 May 2016. In view of no marine activity conducted, it is considered that the exceedances were not related to project works. Despite silt screen removal was conducted by Contract HK/2009/01 on 5 and 7 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level were recorded on 5 and 7 May 2016. In view of the above, the turbidity exceedances were not related to project works.
- 6.4.20 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.
- 6.4.21 There were 2 action level turbidity exceedances recorded at P5 on 5 and 9 May 2016 in this reporting month.
- 6.4.22 No marine activity was conducted on 5 May 2016. In view of no marine activity conducted, it is considered that the exceedance was not related to project works. Despite silt screen removal was conducted by Contract HK/2009/01 on 5 May 2016, only welding works and lifting works was involved and no particular effect on water quality was considered. In addition, only low suspended solid level was recorded during monitoring period. In view of the above, the turbidity exceedance was not related to project works.
- 6.4.23 No marine activity was conducted on 9 May 2016. Territory wide water quality variation was observed across Wan Chai East to Sheung Wan at both upstream and downstream locations of works area potential in related to seasonal tide changes. In view of the above and no exceedance was recorded on the subsequent monitoring, the exceedance was considered not related to Project works.

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

- 6.4.24 There were 2 action level suspended solids exceedance recorded at C7 on 27 April 2016 in this reporting month.
- 6.4.25 After checking with the Contractor, despite temporary reclamation removal works were conducted on 27 April 2016, contractor mitigation measures including the use of impermeable barrier and silt curtain was in place. In view of the above, it was considered that the exceedances were not related to project works. Nevertheless, contractor was reminded to maintain the deployed impermeable barrier to safeguard the water quality to nearby water intake.
- 6.4.26 There were 1 action level and 1 limit level turbidity exceedances recorded at C7 on 29 April 2016 in this reporting month.

6.4.27 Underwater excavation works for TS3(E) temporary reclamation removal works was conducted on 29 April 2016 during both flood tide and ebb tide and muddy dispersion was observed around a portion TS3(E) works area during monitoring sampling at flood tide, and it was observed that the impermeable barrier deployed around the temporary reclamation removal area was not fully extended to seabed level and not fully unclosing the underwater excavation area during monitoring sampling at both ebb and flood tides. In addition, it was observed that the outer layer of silt curtain deployed was incomplete at the concerned location. As such, it was considered that the turbidity exceedance was related to Project works and the contractor was immediately advised to take immediate action to rectify the defects observed. Rectification measures including deployment of impermeable barriers and silt curtain to enclose the concerned works area by contractor was implemented on 30 April 2016 and no further turbidity exceedance was recorded during additional monitoring conducted on 30 April 2016. Nevertheless, the contractor was reminded to maintain regular checking of the installed silt screen at WQM station C7 for safeguarding the water quality to nearby intake.

## **6.5 Review of the Reasons for and the Implications of Non-compliance**

6.5.1 There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Section 8.

6.5.2 There were 1 action level and 1 limit level turbidity exceedances recorded at C7 on 29 April 2016 in the reporting month. Underwater excavation works for TS3(E) temporary reclamation removal works was conducted under Contract HY/2010/08 during the monitoring period on 29 April 2016 during both flood and ebb tide and muddy dispersion was observed around at portion TS3(E) works area during monitoring sampling at flood tide, and it was observed that the impermeable barrier deployed under Contract HY/2010/08 around the temporary reclamation removal area was not fully extended to seabed level and not fully enclosing the underwater excavation area during monitoring at both ebb and flood tides. In addition, it was observed that the outer layer of silt curtain deployed by Contract HY/2010/08 was incomplete at the concerned location. As such, it was considered that the turbidity exceedance was related to HY/2010/08 Project works and the Contractor of HY/2010/08 was immediately advised to take immediate action to rectify the defects observed.

## **6.6 Summary of action taken in the event of and follow-up on non-compliance**

6.6.1 Immediate repeat in-site measurement has confirmed the 1 action level and 1 limit level turbidity exceedances recorded at C7 on 29 April 2016. The Contractor of HY/2010/08 was immediately advised to take remedial action to rectify the defects observed. Rectification measures including deployment of impermeable barriers and silt curtain to enclose the concerned works area by Contractor of HY/2010/08 was implemented on 30 April 2016 and no further turbidity exceedance was recorded during additional monitoring conducted on 30 April 2016. Nevertheless, the Contractor of HY/2010/08 was reminded to maintain regular checking of the installed silt screen at WQM station C7 for safeguarding the water quality to nearby intake.

## 7. Cumulative Construction Impact due to the Concurrent Projects

- 7.0.1. According to Condition 3.4 of the EP-356/2009, this section addresses the relevant cumulative construction impact due to the concurrent activities of the current projects including the Central Reclamation Phase III, Central-Wanchai Bypass and Island Eastern Corridor Link projects.
- 7.0.2. According to the Final EM&A Report of Central Reclamation Phase III (CRIII) for Contract HK 12/02, the major construction activities were completed by end of January 2014 and no construction activities were undertaken thereafter and the water quality monitoring was completed in October 2011 and no Project-related exceedance was recorded for air and noise monitoring. It can be concluded that cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) was insignificant.
- 7.0.3. According to the construction programme of Central-Wanchai Bypass at Wanchai West at the Central Reclamation Phase III area include structural works for tunnel construction, road works and drainage works, removal of bulkhead wall and seawall modification were performed in May 2016 reporting month. As no project related exceedance were recorded during the reporting period, cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) was considered as insignificant.
- 7.0.4. According to the construction programme of Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activities under Wan Chai Development Phase II were tunnel works, D-wall construction at Wan Chai East and culvert construction, tunnel construction and ELS works at Wan Chai West. The major construction activities under Central-Wan Chai Bypass and Island Eastern Corridor Link Projects were road works at Central Interchange, backfilling works at Ex-PCWAW, ELS works and retaining wall construction at Victoria Park, ELS works and tunnel works at TS3; bridge construction, piling and tunnel works at North Point area in the reporting month. In addition, other non-Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects was observed undertaken at Wan Chai North area.
- 7.0.5. No significant air impact from construction activities was anticipated in the reporting month. Besides, no project related exceedance was recorded during the air and noise environmental monitoring events in the reporting month. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Central Reclamation Phase III (CRIII), Wan Chai Development Phase II (WDII), Central-WanChai Bypass (CWB), Island Eastern Corridor Link projects (IECL) was insignificant.

**8. Environmental Site Audit**

8.0.1. During this reporting month, weekly environmental site audits were conducted for Contracts no. HK/2009/01, HK/2009/02, HY/2009/15, HY/2009/19, HK/2012/08 and HY/2010/08. No non-conformance was identified during the site audits.

8.0.2. Five site inspections for Contract no. HK/2009/01 were conducted on 27 April 2016, 4, 11, 20 and 26 May 2016 in reporting month. There was no particular findings observed in this reporting month.

8.0.3. Five site inspections for Contract no. HK/2009/02 were carried out on 28 April 2016, 5, 12, 20 and 25 May 2016 in reporting month. Results of these inspections and outcomes are summarized in **Table 8.2**.

**Table 8.2 Summary of Environmental Inspections for Contract no. HK/2009/02**

| Item      | Date        | Observations   | Action taken by Contractor  | Outcome                               |
|-----------|-------------|--|---|---------------------------------------|
| 160428_01 | 28 Apr 2016 | Drip trays shall be provided for all oil containers at Portion 3&4                             | Drip tray were provided for oil containers at Portion 3&4   | Completion as observed on 5 May 2016  |
| 160428_02 | 28 Apr 2016 | Leaked oil from plant shall be properly collected as soon as possible at Portion 5.            | Leaked oil was cleaned at Portion 5.  | Completion as observed on 5 May 2016  |
| 160512_01 | 12 May 2016 | Silt screen at RW21-P789 station shall be properly maintain                                    | Silt screen at RW21-P789 was deployed at seabed level.  | Completion as observed on 20 May 2016 |
| 160512_02 | 12 May 2016 | Stagnant water in the drip tray shall be cleaned to maintain adequate capacity in Portion 3&4  | Stagnant water have been removed  | Completion as observed on 20 May 2016 |
| 160520_01 | 20 May 2016 | The gap of the silt screen at RW21-P789 station shall be minimized and enclose the intake area | The deployed silt screen has enclosed the intake area and the gap between silt curtains were minimized. | Completion as observed on 25 May 2016 |
| 160520_01 | 20 May 2016 | Drip tray shall be provided for oil container at Portion 5.                                    | Drip tray was provided for oil container at Portion 5.  | Completion as observed on 25 May 2016 |

8.0.4. Four site inspections for Contract no. HY/2009/15 were carried out on 3, 10, 17 and 24 May 2016 in reporting month. The results of these inspections and outcomes are summarized in **Table 8.3**.

**Table 8.3 Summary of Environmental Inspections for Contract no. HY/2009/15**

| Item     | Date       | Observations                                  | Action taken by Contractor                | Outcome                               |
|----------|------------|---|---|---------------------------------------|
| 160503_1 | 3 May 2016 | Leaked oil shall be cleaned as chemical waste | Leaked oil was cleared as chemical waste. | Completion as observed on 10 May 2016 |

| Item     | Date        | Observations   | Action taken by Contractor               | Outcome                               |
|----------|-------------|--|--|---------------------------------------|
| 160510_1 | 10 May 2016 | Muddy seepage between the seawall block bunding was observed The Contractor was advised to check and rectify the boundary section and provide necessary pumping and collection for muddy effluent. | No further muddy seepage was observed.   | Completion as observed on 17 May 2016 |
| 160517_1 | 17 May 2016 | Contraction shell provide regular cleaning to drainage system to avoid potential contaminated discharge(EX-PCWA North)   | Cleaning was provided to drainage system | Completion as observed on 24 May 2016 |

8.0.5. Four site inspections for Contract no. HY/2009/19 were carried out on 30 March 2016, 6, 13 and 20 April 2016 in reporting month. There was no particular findings observed in this reporting month.

8.0.6. Four site inspections for Contract no. HK/2012/08 were carried out on 3, 10, 20 and 26 May 2016 in this reporting period. The results of these inspections and outcomes are summarized in **Table 8.5**

**Table 8.5 Summary of Environmental Inspections for Contract no. HK/2012/08**

| Item      | Date        | Observations  | Action taken by Contractor                                  | Outcome                               |
|-----------|-------------|---|---|---------------------------------------|
| 160520_01 | 20 May 2016 | A valid NRMM label on generator at Zone B shall be provided.    | A valide and proper NRMM label was placed on the generator. | Completion as observed on 26 May 2016 |
| 160526_01 | 26 May 2016 | Drip tray shall be provided for chemical containers at MVB area | Oil containers were provided with drip tray at MVB area.    | Completion as observed on 31 May 2016 |

8.0.7. Four site inspections for Contract no. HY/2010/08 were carried out on 5, 12, 19 and 26 May 2016 in this reporting period. The results of these inspections and outcomes are summarized in **Table 8.6**

**Table 8.6 Summary of Environmental Inspections for Contract no. HY/2010/08**

| Item     | Date       | Observations   | Action taken by Contractor              | Outcome                               |
|----------|------------|--|---|---------------------------------------|
| 160505_1 | 5 May 2016 | Drip tray shall be provided to oil container                       | Drip tray was provided to oil container | Completion as observed on 12 May 2016 |
| 160505_2 | 5 May 2016 | Watering or covering shall be provided to stockpile stored on-site | Stockpile has been cleaned              | Completion as observed on 12 May 2016 |



|          |             |  |   |                                       |
|----------|-------------|--|---|---------------------------------------|
| 160512_1 | 12 May 2016 | Protection shall be provided to drainage system using impermeable material as soon as possible | Protection was provided to drainage system        | Completion as observed on 19 May 2016 |
| 160519_1 | 19 May 2016 | Watering or covering shall be provided to avoid dust emission                                  | Covering was provided to stockpile stored on-site | Completion as observed on 26 May 2016 |
| 160526_1 | 26 May 2016 | Contractor shall cover the stockpile stored on-site  | Covering was provided to stockpile stored on-site | Completion as observed on 2 June 2016 |

**9. Complaints, Notification of Summons and Prosecution**

- 9.0.1. No environmental complaint received in this reporting month.
- 9.0.2. The details of cumulative complaint log and updated summary of complaints are presented in **Appendix 9.1**
- 9.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in **Table 9.1** and **Table 9.2** respectively.

**Table 9.1 Cumulative Statistics on Complaints**

| Reporting Period                                      | No. of Complaints |
|---|-------------------|
| Commencement works (Mar 2010) to last reporting month | 45                |
| May 2016  | 0                 |
| <b>Total</b>  | <b>45</b>         |

**Table 9.2 Cumulative Statistics on Successful Prosecutions**

| Environmental Parameters | Cumulative No. Brought Forward | No. of Successful Prosecutions this month (Offence Date) | Cumulative No. Project-to-Date |
|--------------------------|--------------------------------|--|--------------------------------|
| Air                      | -                              | 0  | 0                              |
| Noise                    | -                              | 0  | 0                              |
| Water                    | -                              | 0  | 0                              |
| Waste                    | -                              | 0  | 0                              |
| <b>Total</b>             | <b>-</b>                       | <b>0</b>   | <b>0</b>                       |



**10. Conclusion**

10.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

10.0.2. The scheduled construction activities and the recommended mitigation measures for the coming month are listed in **Table 10.1**.

**Table 10.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting Month**

| Contract No. | Key Construction Works   | Recommended Mitigation Measures   |
|--------------|--|---|
| HK/2009/01   | <ul style="list-style-type: none"> <li>Nil</li> </ul>  | <ul style="list-style-type: none"> <li>Nil</li> </ul>   |
| HK/2009/02   | <ul style="list-style-type: none"> <li>Nil</li> </ul>  | <ul style="list-style-type: none"> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly.</li> <li>Implement silt curtain in accordance with the associated plans submitted to EPD.</li> </ul>   |
| HY/2009/15   | <ul style="list-style-type: none"> <li>Removal of temporary reclamation at TPCWAW</li> </ul>   | <ul style="list-style-type: none"> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> <li>Implement silt curtain in accordance with the associated plans submitted to EPD.</li> </ul>  |
| HY/2009/19   | <ul style="list-style-type: none"> <li>Nil</li> </ul>  | <ul style="list-style-type: none"> <li>Nil</li> </ul>   |
| HK/2012/08   | <ul style="list-style-type: none"> <li>Precast unit construction for Box 1 inside Dry dock</li> <li>Construction of culvert L Bay 8</li> </ul> | <ul style="list-style-type: none"> <li>To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> <li>To space out noisy equipment and position as far as possible from sensitive receiver.</li> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> </ul> |
| HY/2010/08   | <ul style="list-style-type: none"> <li>Diversion pipe maintenance</li> <li>Diaphragm Wall Removal Works</li> </ul>                             | <ul style="list-style-type: none"> <li>To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> </ul>  |