

#### **CONTRACT NO: HY/2019/18**

### WANCHAI DEVELOPMENT PHASE II AND CENTRAL WANCHAI BYPASS SAMPLING, FIELD MEASUREMENT AND TESTING WORK (STAGE 4)

#### **ENVIRONMENTAL PERMIT NO. EP-122/2002/E**

#### FINAL ENVIRONMENTAL MONITORING & AUDIT REPORT

CLIENTS: PREPARED BY:

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**CERTIFIED BY:** 

Raymond Dai

**Environmental Team Leader** 

DATE:

22 October 2021



Ref.: AACWBIECEM00\_0\_12897L.21

22 October 2021

By Post and Fax (2691 2649)

AECOM Asia Company Limited 11/F, Tower 2 Grand Central Plaza 138 Shatin Rural Committee Road Shatin, New Territories Hong Kong

Attention: Mr. Conrad Ng

Dear Mr. Ng,

#### Re: Wan Chai Development Phase II and Central-Wan Chai Bypass Verification of Final EM&A Report under EP-122/2002/E

Reference is made to the Environmental Team's submission of the Final EM&A Report under EP-122/2002/E received by e-mail on 22 October 2021.

Please be informed that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Section 8.5.3 of the EM&A Manual.

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

c.c. CEDD Mr. Jimmy Ling by fax: 2301 1277
AECOM Mr. S. K. Lo by fax: 2587 1877
AECOM Mr. Francis Leong / Mr. Stephen Lai by fax: 2691 2649
Lam Mr. Raymond Dai by fax: 2882 3331



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#### **EXECUTIVE SUMMARY**

- Civil Engineering and Development Department (CEDD), the Project Proponent, has been granted EP-122/2002/E for the construction and operation of Central Reclamation Phase III Project (CRIII).
- ii. Lam Geotechnics Limited (LGL) was appointed to take up the role as the ET to undertake the EM&A programme described in the approved EM&A Manual under EP-122/2002/E for the remaining CRIII works since May 2015, four stages of ET contract were involved; Contract HK/2011/07 Wan Chai Development Phase II and Central Wan Chai Bypass Sampling, Field Measurement and Testing works (Stage 2), HK/2015/01 Wan Chai Development Phase II and Central Wan Chai Bypass Sampling, Field Measurement and Testing works (Stage 3) and HY/2019/18 Wan Chai Development Phase II and Central Wan Chai Bypass Sampling, Field Measurement and Testing works (Stage 4).

Works Contracts and corresponding major construction undertaken during construction phase monitoring programme

- iii. Contract HY/2009/18 was responsible for the remaining CRIII works involving road works at CRIII area.
- iv. Contract HY/2010/08 was responsible for the remaining CRIII works involving junction modification works at CRIII area.
- v. Contract HK/2012/08 was responsible for construction works involving designated project work I (DP1) and designated project work II (DP2).
- vi. The principle construction activities undertaken by the above contracts during the monitoring period are listed as follows:
  - Central Reclamation Phase III
  - Roads P1, Road P2 and D11
- vii. With confirmation from Engineer Representative that construction of remaining CRIII Works involving Contract no. HY/2009/18, HY/2010/08 and HK/2012/08 were completed on 01 November 2018, 15 August 2019 and 21 October 2019 respectively. Environmental Monitoring and Audit (EM&A) Programme fulfilled the termination criteria set out in Section 8.5.1 of the EM&A Manual, therefore termination of EM&A programme is proposed under EP-122/2002/E condition 4.1.
- viii. This Final EM&A Report for remaining CRIII works is prepared in accordance with EM&A manual Section 8.5.3 under Environmental Permit no. EP-122/2002/E. This report presents the environmental monitoring and audit findings and information recorded during the period of May 2013 to October 2021.



#### Noise Monitoring

- ix. Continuous noise monitoring station was conducted at ACL3 City Hall during the construction period.
- x. No project related exceedance was recorded during the construction period.

#### Air Quality Monitoring

- xi. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted on every six days basis at ACL1 City Hall and ACL2a Contractor HK/2012/08 Site Office during the construction period.
- xii. No project related exceedance was recorded during the construction period.

#### Water Quality Monitoring

- xiii. Water quality monitoring at M5B and Culvert J were conducted three days per week during construction period.
- xiv. No project related exceedance was recorded during the construction period.

#### <u>Implementation of Environmental Measures</u>

- xv. The Contractor's implementation of mitigation measures were audited by weekly site inspections.
- xvi. No non-compliance or outstanding follow-up action recorded during the construction period.

#### Landscape Maintenance Period

- xvii. The Contractor's landscape maintenance on planting works were audited during quarterly landscape monitoring for 12-month period.
- xviii. No non-compliance or outstanding follow-up action recorded during the maintenance period.

#### Complaints, Notifications of Summons and Successful Prosecutions

- xix. Total 5 environmental complaints were received, among which 2 cases were project-related.

  The required follow-up actions were taken by Contractor. All complaint cases were closed.
- xx. No notification of summons or successful prosecution was recorded throughout the construction stage.



#### 1 INTRODUCTION

#### 1.1 Scope of the Report

1.1.1. This is the Final EM&A Review Report submitted under EM&A manual Section 8.5.3 specific for CRIII remaining works under EP-122/2002/E. This report presents the environmental monitoring and audit findings and information recorded during the period of May 2013 to October 2021.

#### 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 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 4 Summary of Monitoring Results and Exceedances** summarizes the monitoring results and exceedances recorded throughout the monitoring programme.
- **Section 5 Review on Site Environmental and Compliance** summarizes the auditing of monitoring results, all exceedances of environmental parameters.
- Section 6 Summary of Complaints, Notification of summons and Prosecution summarizes the cumulative statistics on complaints, notification of summons and prosecution
- Section 7 Review on EIA Predictions, EIA Process, Monitoring Methodology, EM&A

  Programme and Environmental Acceptability review the validity of EIA

  predictions, effectiveness of the environmental management system.
- Section 8 Conclusion



#### 2 PROJECT BACKGROUND

- 2.1.1 Central Reclamation Phase III Studies, Site Investigation, Design and Construction (hereafter called "the Project") are Designated Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). Civil Engineering and Development Department (CEDD) as the Project Proponent of the Central Reclamation Phase III Project (CRIII) has been granted Environment Permit EP-122/2002/E for the construction and operation of the designated project.
- 2.1.2 The Main Works undertaken by Contract HK 12/02 and Contract HK 16/03 for CRIII commenced on 28<sup>th</sup> February 2003 and were completed in January 2014. Corresponding EM&A programme and the Final EM&A Summary Report (July 2003 to January 2014) were completed by Atkins China Limited (ACL).
- 2.1.3 The remaining CRIII works undertaken by HK/2012/08 were commenced on 27 May 2013 and were completed on 21 October 2019.

Major construction works undertaken during construction phase monitoring programme

- · Central Reclamation Phase III
- Roads P1, Road P2 and D11
- 2.2.1. Outstanding works undertaken by HY/2009/18 were commenced in 7 July 2015 and were completed on 1 November 2018.
- 2.2.2. Junction modification works undertaken by HY/2010/08 were commenced in July 2018 and were completed on 15 August 2019.
- 2.2.3. Project Organization and contact particulars for the remaining CRIII works construction phase involving the Project Proponent, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are summarized in Table 2.1.



Table 2.1 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax
CEDD	Project Proponent / Permit Holder	Engineer	Mr. Jimmy Ling	3842 7046	2369 4980
AECOM	Engineer's Representative for WDII	Senior Resident Engineer	Mr. S.K. Lo	2587 1778	2587 1877
AECOM	Engineer's Representative for CWB	Chief Resident Engineer	Ms. Lydia Lee	3762 2760	2142 5577
China State-	Contractor Contractor under Contract no. HK/2012/08	Project Director	C. N. LAI	9106 5806	2877 1522
Build King JV		Site Agent	Mr. George Cheung	9268 1918	
China State	Contractor under Contract no. HY/2010/08	Project Director	Mr. Chris Leung	3467 4299	2566 8061
Offina State		Site Agent	Mr. Danny Chan	3557 6452	2500 0001
Leighton Contractors (Asia) Limited	Contractor under Contract no. HY/2009/18	Site Agent	Mr. Jimmy Chu	3973 0803	2140 6799
Ramboll 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



#### 3 MONITORING REQUIREMENTS

3.0.1 Appendix 3.1 shows the established Action/Limit Levels for the monitoring works.

#### 3.1 Noise Monitoring

#### NOISE MONITORING STATIONS

3.1.1 The continuous noise monitoring station for the Project is listed and shown in *Table 3.1* and *Figure 3.1* 

**Table 3.1 Continuous Noise Monitoring Stations** 

District Station		Description
Central	ACL3	City Hall

#### NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

- 3.1.2 Continuous 24-hour noise monitoring shall be carried out at the designated monitoring stations.
  The following is an initial guide on the regular monitoring frequency for each station on a 24 hours daily basis when noise generating activities are underway:
  - One set of measurements between 0700 and 1900 hours on normal weekdays.
  - One set of measurements between 1900 and 2300 hours on normal weekdays and 0700 and 2300 hours on public holidays.
  - One set of measurements between 2300 and 0700 hours on next day on every day.
- 3.1.3 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.

#### 3.2 Air Quality Monitoring

#### **AIR QUALITY MONITORING STATIONS**

3.2.1 The air quality monitoring stations for the Project are listed and shown in *Table 3.2* and *Figure 3.1*.

Table 3.2 Air Quality Monitoring Stations

Station ID	Description
ACL1	City Hall
ACL2	People's Liberation Army Headquarter
ACL2a	Contractor HK/2012/08 Site Office



Remark: Due to the large-scale renovation works at People's Liberation Army Headquarter, ACL2 - People's Liberation Army Headquarter was relocated to ACL2a - Contractor HK/2012/08 Site Office. According to approved relocation proposal, the ACL2a baseline, action and limit level shall adopt the reference monitoring result at CMA6 of EP-356/2009 Baseline Environmental Monitoring Report.

#### AIR QUALITY MONITORING PARAMETERS, FREQUENCY AND DURATION

- 3.2.2 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.
- 3.2.3 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.

#### 3.3 **Water Quality Monitoring**

3.3.1 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.

#### WATER QUALITY MONITORING STATIONS

The water quality monitoring stations for the Project are listed and shown in Table 3.3 and 3.3.2 Figure 3.1.

**Table 3.3 Water Quality Monitoring Stations** 

Station ID	Description	Easting	Northing			
Cooling Water	Cooling Water Intakes					
M5B	Swire / Government Headquarters/ Tamar Development/ MTRCL and HSBC Headquarters	835169	816052			
Culverts (Reference Station)						
Culvert J	Culvert J Outfall Location	835082	816071			

#### WATER QUALITY PARAMETERS



- 3.3.3 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 insitu while SS is determined in laboratory.
- 3.3.4 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

3.3.5 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 3.4* 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 3.4 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 a 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:

- 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.



### SUMMARY OF MONITORING RESULTS AND EXCEEDANCES

#### 4.1 Summary of Noise Monitoring Results

- 4.1.1 The noise monitoring according to EM&A manual requirement was commenced since 1 May 2013.
- 4.1.2 Due to safety concerned, the location of the continuous noise monitoring station at City Hall was finely adjusted to the roof of the City Hall, Low Block on 1 May 2013.
- 4.1.3 The continuous noise monitoring stations is summarized in *Table 4.1* below.

**Table 4.1 Continuous Noise Monitoring Stations** 

Location ID	District	Description
ACL3	Central	City Hall

4.1.4 The major construction activities involved site preparation and utilities / cooling mains diversion in 2013.

During the monitoring period, the construction noise level was generally below the baseline noise level while limit level exceedance was recorded occasionally. After the investigation, the exceedance recorded was concluded as non-project related and contributed by City Hall's renovation work and nearby traffic.

4.1.5 The major construction activities involved culvert diversion, seawall modification, diaphragm wall, guide wall and pipe pile construction in 2014.

During the monitoring period, the construction noise level was generally below the baseline noise level while limit level exceedance was recorded occasionally. After the investigation, the exceedance recorded was concluded as non-project related and contributed by City Hall's renovation work, public activities at the area opposite to monitoring station and adverse weather.

4.1.6 The major construction activities involved seawall modification, road works, drainage works, socket H-pile construction, ELS construction and pipe pile wall construction in 2015.

During the monitoring period, the construction noise level was generally below the baseline noise level while limit level exceedance was recorded occasionally. After the investigation, the exceedance recorded was concluded as non-project related and contributed by public activities at the area opposite to monitoring station.

4.1.7 The major construction activities involved tunnel construction, road works, drainage work and seawall modification in 2016.

During the monitoring period, the construction noise level was generally below the baseline noise level while limit level exceedance was recorded occasionally. After the investigation, the



exceedance recorded was concluded as non-project related and contributed by public activities at the area opposite to monitoring station.

4.1.8 The major construction activities involved backfilling, road works, drainage work, culvert reinstatement, cooling mains reinstatement and seabed trimming in 2017.

During the monitoring period, the construction noise level was generally below the baseline noise level while elevated noise level was observed in June, November and December 2017. According to the site record, City Hall's renovation works at the roof top was conducted in June 2017 and increasing number of public activities held at the area opposite to the monitoring station (Central Harbourfront) was observed in November and December 2017. As such, the elevated noise level was considered as non-Project related. Limit level exceedance was recorded occasionally. After the investigation, the exceedance recorded was concluded as non-project related and contributed by public activities at the area opposite to monitoring station, renovation works at the City Hall roof top and adverse weather.

4.1.9 The major construction activities involved culvert reinstatement, road works, drainage works, and seabed trimming and seawall reinstatement in 2018.

During the monitoring period, the major construction activities was started to scale down while the construction noise level recorded above baseline level was due to the increasing number of public activities held at the area opposite to the monitoring station (Central Harbourfront) in 2018. As such, the elevated noise level was considered as non-Project related. Limit level exceedance was recorded occasionally. After the investigation, the exceedance recorded was concluded as non-project related and contributed by public activities at the area opposite to monitoring station and adverse weather.

4.1.10 The major construction activities involved road works, drainage works, and seawall reinstatement in 2019.

During the monitoring period, the major construction activities was significantly scale down while the construction noise level recorded above baseline level was due to the increasing number of public activities held at the area opposite to the monitoring station (Central Harbourfront) in 2019. Limit level exceedance was recorded occasionally. After the investigation, the exceedance recorded was concluded as non-project related and contributed by public activities at the area opposite to monitoring station and adverse weather.

- 4.1.11 As WDII RSS confirmation of construction works completion at CRIII area on 21 October 2019 and agreed with IEC on 1 November 2019, the continuous noise monitoring at ACL3 City Hall was suspended from 1 November 2019 onward.
- 4.1.12 Considered that the construction works under Contract HK/2012/08 was conducted in daytime and significantly scale down from the quarter of August to October 2019, the average L<sub>Aeq, 30 min, 0700-1900</sub> on normal week day from the quarter of August to October 2019 would be compared



with baseline level to demonstrate the narrow down of monitoring exceedances due to construction activities and the return of ambient environmental conditions.

4.1.13 The comparison of L<sub>Aeq, 30min, 0700-1900</sub> baseline level and average L<sub>Aeq, 30min, 0700-1900</sub> from August to October 2019 of ACL3 – City Hall are summarized in *Table 4.2*.

Table 4.2 Comparison of L<sub>Aeq. 30min. 0700-1900</sub>

Monitoring	Baseline Level	August to October 2019 Average	
Location	L <sub>Aeq, 30min, 0700-1900</sub> dB(A)	L <sub>Aeq, 30min, 0700-1900</sub> dB(A)	
ACL3	64.4	63.0	

Remark 1: The average Baseline Level of L<sub>Aeq, 30min, 0700-1900</sub> shall refer to Noise Monitoring Station – City Hall in Baseline Environmental Monitoring Report for CRIII.

- 4.1.14 Comparing the baseline level with the quarterly average level from August to October 2019, it indicated that the noise level returned to baseline condition.
- 4.1.15 Details of graphical presentation of noise monitoring result can referred to *Appendix 4.1*.

#### 4.2 Summary of Air Quality Monitoring Results

- 4.2.1 The air quality monitoring according to EM&A manual requirement was commenced since 1 May 2013.
- 4.2.2 The air quality monitoring station at People's Liberation Army Headquarter (ACL2) was handover from ACL (ET of CRIII Contract No. HK 12/02 and HK 16/03) to LGL (ET of CRIII Contract HK/2012/08) since May 2013. Due to the large-scale renovation works at People's Liberation Army Headquarter, a proposal for relocation of air quality monitoring station at People's Liberation Army Headquarter (ACL2) was formally submitted to EPD on 4 November 2013 and was approved on 27 November 2013. According to the approved proposal, the air quality monitoring station ACL2 was relocated to Contractor HK/2012/08 Site Office. The Action and Limit levels of ACL2a had adopted the monitoring result (Monitoring Station CMA6) from the baseline air monitoring report under EP-356/2009.
- 4.2.3 The air quality monitoring stations are summarized in *Table 4.3* below.

Table 4.3 Air Quality Monitoring Station and corresponding Action and Limit Levels

Station ID	1-hour TSP (µg/m³)		24-hour TSP (μg/m³)	
	Action Level	Limit Level	Action Level	Limit Level
ACL1	460	500	163	260
ACL2	432	500	154	260
ACL2a	300.1	500	187.3	260

Remark 1: The 24-hr TSP and 1-hr TSP action levels and limit level for ACL1 and ACL2 shall refer to Baseline Environmental Monitoring Report prepared by ACL.



Remark 2: ACL2 - People's Liberation Army Headquarter was relocated to ACL2a - Contractor HK/2012/08 Site Office. The 24-hr TSP and 1-hr TSP action and limit level of ACL2a shall refer to baseline monitoring result at CMA6 from Baseline Environmental Monitoring Report under EP-356/2009.

4.2.4 The major construction activities involved site preparation and utilities / cooling mains diversion in 2013.

In general, the monitoring results indicated that a reduction in TSP level during wet season from April to September.

No exceedance was recorded during the monitoring period.

4.2.5 The major construction activities involved culvert diversion, seawall modification, diaphragm wall, quide wall and pipe pile construction in 2014.

In general, the monitoring results indicated that a reduction in TSP level during wet season from April to September.

No exceedance was recorded during the monitoring period.

4.2.6 The major construction activities involved seawall modification, road works, drainage works, socket H-pile construction, ELS construction and pipe pile wall construction in 2015.

In general, the monitoring results indicated that a reduction in TSP level during wet season from April to September.

Total one action level exceedance of 24hr TSP was recorded at ACL1 – City Hall and one action level exceedance of 24hr TSP was recorded at ACL2a – Contractor HK/2012/08 Site Office during the monitoring period. After the investigation, the exceedance was considered as non-Project related and contributed by air pollution level of ambient air quality.

4.2.7 The major construction activities involved tunnel construction, road works, drainage work and seawall modification in 2016.

In general, the monitoring results indicated that a reduction in TSP level during wet season from April to September.

No exceedance was recorded during the monitoring period.

4.2.8 The major construction activities involved backfilling, road works, drainage work, culvert reinstatement, cooling mains reinstatement and seabed trimming in 2017.

In general, the monitoring results indicated that a reduction in TSP level during wet season from April to September.

Total one limit level exceedance of 24hr TSP was recorded at ACL1 – City Hall during the monitoring period. After the investigation, the exceedance was considered as non-Project related and contributed by air pollution level of ambient air quality.

4.2.9 The major construction activities involved culvert reinstatement, road works, drainage works, and seabed trimming and seawall reinstatement in 2018.



In general, the monitoring results indicated that a reduction in TSP level during wet season from April to September.

No exceedance was recorded during the monitoring period.

4.2.10 The major construction activities involved road works, drainage works, and seawall reinstatement in 2019.

In general, the monitoring results indicated that a reduction in TSP level during wet season from April to September.

Total one action level exceedance of 1hr TSP was recorded at ACL2a – Contractor HK/2012/08 Site Office during the monitoring period. After the investigation, the exceedance was considered as non-Project related and contributed by air pollution level of ambient air quality.

- 4.2.11 As WDII RSS confirmation of construction works completion at CRIII area on 21 October 2019 and agreed with IEC on 1 November 2019, the air quality monitoring at ACL1 City Hall and ACL2a Contractor HK/2012/08 Site Office was suspended from 1 November 2019 onward.
- 4.2.12 Considered that the construction works under Contractor HK/2012/08 was significantly scale down from the quarter of August to October 2019, the average TSP level from the quarter of August to October 2019 would be compared with baseline level to demonstrate the narrow down of monitoring exceedances due to construction activities and the return of ambient environmental conditions.
- 4.2.13 The comparison of TSP baseline level and average TSP level from August to October 2019 of ACL1 City Hall and ACL2a Contractor HK/2012/08 Site Office are summarized in *Table 4.4.*

Table 4.4 Comparison of 24-hr TSP and 1-hr TSP

	24-hr TSP (μg/m³)		1-hr TSP (μg/m³)		
Station ID	Baseline August to October level 2019 average		Baseline level	August to October 2019 average	
ACL1	51	45.4	324	69.3	
ACL2	37	-	280	-	
ACL2a	88.2	57.4	77.1	89.4	

Remark 1: The 24-hr TSP and 1-hr TSP baseline level for ACL1 and ACL2 shall refer to Air Quality Monitoring Station - City Hall and PLA Site in Baseline Environmental Monitoring Report for CRIII.

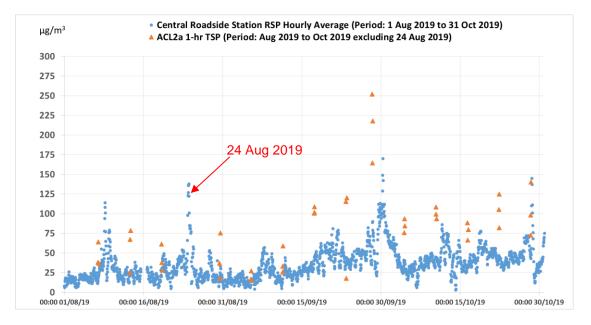
Remark 2: ACL2 - People's Liberation Army Headquarter was relocated to ACL2a - Contractor HK/2012/08 Site Office. Baseline level of ACL2a shall refer to monitoring result at CMA6 in Baseline Environmental Monitoring Report under EP-356/2009.

4.2.14 Comparing the baseline level with the quarterly average level of 24-hr TSP and 1-hr TSP, it indicated that the 24-hr TSP level at ACL1, ACL2a and 1-hr TSP level at ACL1 were generally



- returned to baseline condition. No project related exceedance was recorded during the latest quarter.
- 4.2.15 Comparing the baseline level with the latest quarterly average level of 1-hr TSP level at ACL2a, it shows that latest quarterly average level of 1-hr TSP level at ACL2a was slightly higher than baseline level.
- 4.2.16 It shall be taken into account that the elevated Air Quality Health index (AQHI) (From Level 5 to Level 7) was recorded on 24 August 2019 at EPD Central/Western General Station, Central Roadside Station and Causeway Bay Roadside Station. Chart 4.1 showed that high RSP hourly average at Central Roadside Station was recorded on 24 August 2019 as well. The average level of 1-hr TSP between August and October 2019 excluding 24 August 2019 at ACL2a was 79.95 μg/m3, which was very close to the baseline level (77.1μg/m3). Comparing the RSP hourly average recorded between August to October 2019 at Central roadside station with 1-hr TSP recorded between August to October 2019 excluding 24 August 2019 at ACL2a in Chart 4.1, it showed that the fluctuation of 1-hr TSP level at ACL2a was similar with hourly average RSP level at Central Roadside Station. Therefore, it can be concluded that the air quality was generally return to baseline condition.

Chart 4.1 Comparison between Central Roadside Station RSP Hourly Average and ACL2a 1-hr TSP



- 4.2.17 Details of graphical presentation of air quality monitoring result can be referred to *Appendix* **4.2**.
- 4.2.18 The notification of exceedance can referred to *Appendix 5.2*



#### 4.3 Summary of Water Quality Monitoring Results and Exceedances

- 4.3.1 As confirmed by WDII RSS, the dredging works, seawall modification works and other associated works undertaken at Central Reclamation Phase III by Contractor HK/2012/08 was commenced in late September 2014. The water quality monitoring according to EM&A manual requirement was commenced since 26 September 2014.
- 4.3.2 The water quality monitoring stations are summarized in *Table 4.5* below.

**Table 4.5 Water Quality Monitoring Station** 

Station ID	Description			
Cooling Wate	r Intakes			
M5B	Swire / Government Headquarters/ Tamar Development/ MTRCL and HSBC Headquarters			
Culverts (Reference Station)				
Culvert J	Culvert J Outfall Location			

Remark 1: No action or limit level are not applicable to reference station Culvert J.

Remark 2: Turbidity measurement are reported as reference.

4.3.3 The action and limit level exceedance of water quality monitoring are summarized in *Table 4.6*.

Table 4.6 Summary of Water Quality Monitoring exceedance in the reporting period

Ctation	Monitoring period	Mid-flood			Mid-ebb				
Station ID		DO		SS		DO		SS	
		AL	LL	AL	LL	AL	LL	AL	LL
	2014	1	0	3	2	0	0	0	0
	2015	4	1	5	1	8	0	1	0
M5B	2016	9	0	6	2	9	0	1	0
IVIOD	2017	5	1	2	5	8	0	3	0
	2018	6	0	7	3	5	0	1	1
	2019	0	0	4	0	0	0	1	1
	Total	25	2	27	13	30	0	7	2

4.3.4 The major marine construction activities involved culvert diversion and seawall modification in 2014.



consumption.

In general, the monitoring result indicated that a decreasing DO level during wet season from April to September in relate to increased temperature cause possibly enhanced DO

Discharge from Culvert J outfall location could potential affect the water quality monitoring result recorded at M5B.

Total 1 action level DO exceedance, 3 action level SS exceedances and 2 limit level SS exceedances were recorded in 2014. After the investigation, the exceedances were concluded as non-Project related and contributed by nearby culvert discharge.

4.3.5 The major marine construction activities involved seawall modification in 2015.

In general, the monitoring result indicated that a decreasing DO level during wet season from April to September in relate to increased temperature cause possibly enhanced DO consumption.

Discharge from Culvert J outfall location could potential affect the water quality monitoring result recorded at M5B.

Total 12 action level DO exceedances, 1 limit level DO exceedance, 6 action level SS exceedances and 1 limit level SS exceedance were recorded in 2015. After the investigation, the exceedance were concluded as non-Project related and contributed by nearby culvert discharge.

4.3.6 The major marine construction activities involved seawall modification in 2016.

In general, the monitoring result indicated that a decreasing DO level during wet season from April to September in relate to increased temperature cause possibly enhanced DO consumption.

Discharge from Culvert J outfall location could potential affect the water quality monitoring result recorded at M5B.

Total 18 action level DO exceedances, 7 action level SS exceedances and 2 limit level SS exceedances were recorded in 2016. After the investigation, the exceedance were concluded as non-Project related and contributed by nearby culvert discharge.

4.3.7 The major marine construction activities involved seabed trimming in 2017.

In general, the monitoring result indicated that a decreasing DO level during wet season from April to September in relate to increased temperature cause possibly enhanced DO consumption.

Discharge from Culvert J outfall location could potential affect the water quality monitoring result recorded at M5B.



Total 13 action level DO exceedances, 1 limit level DO exceedance, 5 action level SS exceedances and 5 limit level SS exceedances were recorded in 2017. After the investigation, the exceedance were concluded as non-Project related and contributed by nearby culvert discharge.

4.3.8 The major marine construction activities involved seabed trimming and seawall reinstatement in 2018.

In general, the monitoring result indicated that a decreasing DO level during wet season from April to September in relate to increased temperature cause possibly enhanced DO consumption.

Discharge from Culvert J outfall location could potential affect the water quality monitoring result recorded at M5B.

Total 11 action level DO exceedances, 8 action level SS exceedances and 4 limit level SS exceedances were recorded in 2018. After the investigation, the exceedance were concluded as non-Project related and contributed by nearby culvert discharge.

4.3.9 The major marine construction activities involved seawall reinstatement in 2019.

In general, the monitoring result indicated that a decreasing DO level during wet season from April to September in relate to increased temperature cause possibly enhanced DO consumption.

Discharge from Culvert J outfall location could potential affect the water quality monitoring result recorded at M5B.

Total 5 action level SS exceedances and 1 limit level SS exceedance were recorded in 2019. After the investigation, the exceedance were concluded as non-Project related and contributed by nearby culvert discharge.

- 4.3.10 As confirmed by WDII RSS, the marine works associated was completed on 18 July 2019. The water quality monitoring at M5B and Culvert J was temporarily suspended from 23 August 2019 onward after completion of 4-weeks post-construction monitoring from 18 July 2019 to 15 August 2019 and agreed with IEC.
- 4.3.11 Considered that the marine works under Contractor HK/2012/08 was completed on 18 July 2019, the average DO and SS at M5B from the period of 1 June 2019 to 23 August 2019 (include the 4-weeks post-construction period) would be compared with baseline level to demonstrate the narrow down of monitoring exceedances due to construction activities and the return of ambient environmental conditions.
- 4.3.12 The comparison of baseline level and average level from 1 June to 23 August 2019 at monitoring station M5B are *summarized in Table 4.7*.



Table 4.7 Comparison of DO and SS

Monitoring	Tidal	Baseline Level <sup>1</sup>		Average level	
Location	Condition	DO SS		DO	SS
		Unit: mg/L			
M5B	Mid-Flood	5.48	3	5.89	7
	Mid-Ebb	5.52 7 6.29 6			

Remark 1: The DO and SS baseline level for M5B shall refer to Water Quality Monitoring Station - M5 in Baseline Environmental Monitoring Report for CRIII.

- 4.3.13 Comparing the DO baseline level with the average level from the period of 1 June 2019 to 23 August 2019, it shows that the DO level returned to baseline condition during both flood and ebb tide.
- 4.3.14 Comparing the SS baseline level with the average level from the period of 1 June 2019 to 23 August 2019, it shows that the SS level during flood tide was slightly higher than baseline level while SS level during ebb tide returned to baseline condition.
- 4.3.15 The EPD routine monitoring data at nearby station Victoria Harbour VM6 between August and October 2019 was shown in Table 4.8. The average level of the suspended solid between August and October 2019 at VM6 was 7.5mg/L, which was similar with that at M5B (7mg/L). Therefore, natural variation of water quality was expected and it was considered that the water quality was generally returned to baseline condition.

Table 4.8 EPD Routine Monitoring Data at Victoria Harbour (VM6) - Suspended Solid

Date	Suspended Solid (mg/L)	Depth Code
03/06/2019	1.7	Surface Water
03/06/2019	2.9	Middle Water
03/06/2019	3.2	Bottom Water
25/07/2019	14	Surface Water
25/07/2019	10	Middle Water
25/07/2019	15	Bottom Water
08/08/2019	2.9	Surface Water
08/08/2019	4.2	Middle Water
08/08/2019	14	Bottom Water

4.3.16 Details of graphical presentation of water quality monitoring result can referred to *Appendix* **4.3**.

4.3.17 The notification of exceedance can be referred to *Appendix 5.2* 

#### 4.4 Construction Waste Summary

4.4.1 Inert C&D waste and Non-inert C&D wastes were disposed during the construction period of the Project. Details of the waste flow table are summarized in *Table 4.9*.

Table 4.9 Details of Waste Disposal

Waste Type	Cumulative amount of waste generated	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	8,005 51,779	TM38 TKO137
Inert C&D materials recycled, m <sup>3</sup>	NIL	NIL
Non-inert C&D materials disposed, m <sup>3</sup>	1,925	SENT Landfill
Non-inert C&D materials recycled, m <sup>3</sup>	NIL	NIL
Chemical waste disposed, kg	NIL	NIL
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	NIL	South of Cheung Chau
Marine Sediment (Type 2) , m <sup>3</sup>	NIL	South of The Brothers

#### 4.5 Landscape and Visual

- 4.5.1 During the monitoring and auditing with regard to landscaping works, tree protection and preservation measures and implementation of temporary landscape treatments were implemented during the construction period. The observations and recommendations made during the audit sessions had been summarized in each of the Monthly EM&A Report.
- 4.5.2 According to EM&A manual clause 6.2.2, landscape contractor shall provide 12 months maintenance on the landscaping works. The landscape maintenance works were monitored through quarterly landscape maintenance inspection by ET as agreed with IEC on 01 November 2019, email record is shown in *Appendix 4.4*.
- 4.5.3 Contract HY/2009/18 is responsible for the landscape works under CRIII area as indicated in *Figure 4.1*. The maintenance works were completed on 01 November 2018 as showed in *Appendix 4.5*. The date of quarterly monitoring for 12 months landscape maintenance is summarized in *Table 4.10*.



Table 4.10 Monitoring Summary for HY/2009/18 in Landscape Maintenance Period

NO.	Date	
1 <sup>st</sup> Quarter	11, 14 and 18 December 2017	
2 <sup>nd</sup> Quarter	15, 19, 23 March 2018	
3 <sup>rd</sup> Quarter	11, 12, 25 June 2018	
4 <sup>th</sup> Quarter	13, 14, 24 September 2018	

4.5.4 Contract HK/2012/08 is responsible for the landscape works as indicated in *Figure 4.2*. The landscape works were completed on 21 October 2019 as showed in *Appendix 4.5*. The date of quarterly monitoring for 12 months landscape maintenance is summarized in *Table 4.11*.

Table 4.11 Monitoring Summary for HK/2012/08 in Landscape Maintenance Period

NO.	Date
1 <sup>st</sup> Quarter	21 November 2019
2 <sup>nd</sup> Quarter	20 February 2020
3 <sup>rd</sup> Quarter	25 May 2020
4 <sup>th</sup> Quarter	21 August 2020

- 4.5.5 Tree and shrub planting to road corridor were established to mitigate visual impact of the operation of primary and district distributor roads. Quarterly Landscape Monitoring for 12-month Maintenance Period was completed and no follow-up action required by Contractor.
- 4.5.6 In general, the soft landscape was maintained in good conditions during the quarterly monitoring and had been handed over to maintenance party (LCSD).



#### 5 REVIEW ON ENVIRONMENTAL IMPLEMENTATION AND COMPLIANCE

5.0.1 The Event Action Plan for construction noise, air and water quality are presented in *Appendix* 5.1.

#### 5.1 Noise Monitoring

5.1.1. No project related exceedances were recorded during the construction period. No remedial action was therefore required.

#### 5.2 Air Quality Monitoring

5.2.1 No project related exceedances were recorded during the construction period. No remedial action was therefore required.

#### 5.3 Water Quality Monitoring

5.3.1 No project related exceedances were recorded during the construction period. No remedial action was therefore required.

#### 5.4 Site Implementation and Compliance Audit

5.4.1 The observations and recommendations made in each individual site audit had been rectified and followed. No non-compliance from the site audits was recorded throughout the monitoring programme.

#### SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION 6

- 6.0.1 Total five environmental complaints were received throughout the reporting period. All complaints case were closed.
- 6.0.2 The details of cumulative complaint log and updated summary of complaints are presented in Appendix 6.1
- 6.0.3 No notification of summons or prosecution was received throughout the monitoring programme. Cumulative statistic on complaints and successful prosecutions are summarized in Table 6.1 and Table 6.2 respectively.

Table 6.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints	
May 2013 – October 2021	5	

Table 6.2 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	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0



### 7 REVIEW ON EIA PREDICTIONS, EIA PROCESS, MONITORING METHODLOGY, EM&A PROGRAMME AND ENVIRONMENTAL ACCEPTABILITY

#### 7.1 Review on the EIA predictions and EIA Process

#### **Construction Noise**

- 7.1.1. Referring to AEIAR-040/2001 Section 7.7.1, EIA predicted that with the provision of noise mitigation measures in the form of limiting equipment sound power levels (i.e. use of quiet equipment) and movable noise barriers (in the form of purpose built site hoarding) will effectively mitigate against high noise levels, particularly at the Central Barracks and City Hall. Although noise levels after mitigation slightly exceed this 75dB(A) guideline, all affected buildings are, however, provided with air-conditioning and therefore adverse noise impact is not expected at the indoor areas of these buildings.
- 7.1.2. During the construction period of the Project, the noise mitigation measures as recommended in the EIA report were generally implemented. No project related exceedance was recorded during the reporting period. In general, no cumulative construction noise impact was recorded with concurrent project in place within the area with mitigation measures in place.
- 7.1.3. Compare with EIA prediction and EM&A monitoring result, the discrepancy may related to the improvement of construction method and result in lower noise level recorded during the EM&A monitoring period.

#### **Construction Air Quality**

- 7.1.4. Referring to AEIAR-040/2001 Section 9.8.2, the EIA modelling results showed that with the implementation of practicable mitigation measures, dust levels at sensitive receivers would comply with the 1-hour average total suspended particulates (TSP) guideline and 24-hour average AQOs (Air Quality Objectives effective from 1987 to 2013).
- 7.1.5. During the construction period of the Project, the dust mitigation measures as recommended in the EIA report during marine and land based construction activities were generally implemented. No project related exceedance was recorded during the reporting period. In general, no cumulative construction air impact was recorded with concurrent project in place within the area with mitigation measures in place.
- 7.1.6. Compare with EIA prediction and EM&A monitoring result, the EM&A result generally be the same as EIA prediction.

#### **Water Quality**

7.1.7. Referring to AEIAR-040/2001 Section 10.10.1.5, the EIA model results indicated that for all the water quality parameters simulated, there was no obvious deterioration in water quality in any local area of the proposed reclamation. It is therefore concluded that the intermediate layout of the proposed reclamation would not result in any significant deterioration in water quality

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- compared to present day conditions. Model results also predicted that current expedient connections would not generate water quality problems in relation to the proposed reclamation.
- 7.1.8. During the construction period of the Project, the water quality mitigation measures as recommended in the EIA report were generally implemented. No project related exceedance was recorded during the reporting period. Variation in water quality parameters were mainly influenced by environmental factors such as culvert discharge and natural variation in water quality. In addition, based on the post construction water quality monitoring, it was confirmed that there was no deterioration in water quality after completion of marine construction works. In general, no cumulative construction water impact was recorded with concurrent project in place within the area with mitigation measures in place.
- 7.1.9. Compare with EIA prediction and EM&A monitoring result, the EM&A result generally be the same as EIA prediction.

#### Landscape and Visual

- 7.1.10. With the implementation of site mitigation measures during construction period, no adverse environmental impact on landscape and visual aspect was identified during regular site inspection throughout the course of the construction work.
- 7.1.11. Quarterly Landscape Monitoring for 12-month Maintenance Period was completed and no follow-up action required by Contractor.

#### **EIA Process**

7.1.12. During the EIA Process, sufficient modeling data, monitoring data or survey result shall be obtained in order to predict the associated environmental impact contributed by the Project in different scenarios. Public concern and comment shall also be addressed thought out the EIA process. During the period between EIA process and Construction phase of the Project, the construction method, technology as well as equipment would be improved. As such, the discrepancy similar to Section 7.1.3 mentioned would likely to occur. Despite discrepancy of EIA prediction and EM&A monitoring results may occur, the EIA process could still predicted the associated environmental impact contributed by the Project in the worst case scenarios.

#### 7.3 Review on Monitoring Methodology

7.3.1. In general, the environmental monitoring methodology could monitoring the associated environmental impact as well as the performance and effectiveness of environmental mitigation measure implemented throughout the construction period.

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7.4

**Review on EM&A Programme** 

- 7.4.1. The Contractor generally implemented the mitigation measures as recommended in the EIA report to alleviate for any potential environmental impacts to the surroundings. No exceedances related to the Project works was recorded. Despite environmental complaints were received during the construction period, remedial and preventative measures were implemented in order to address public concern and all the complaint case were closed. In general, it could be concluded that no adverse environmental impact was caused to the surrounding environment and sensitive receivers. The mitigation measures recommended are therefore considered to be effective and efficient in terms of overall environmental impact control throughout the construction period.
- 7.4.2. As evidenced by the no project related exceedances was received throughout the monitoring programme, the overall EM&A programme was considered to be effective in overall environmental impact control. No particular modification to the EM&A programme was considered necessary.

#### 7.5 Review on Environmental Acceptability of the Project

7.5.1. Throughout the construction period, occasionally exceedances for air quality, noise and water quality were recorded. None of the exceedances were considered as Project related. This indicated that the construction works of the Project in general comply with the relevant environmental requirement and environmentally acceptable.



#### 8 CONCLUSION

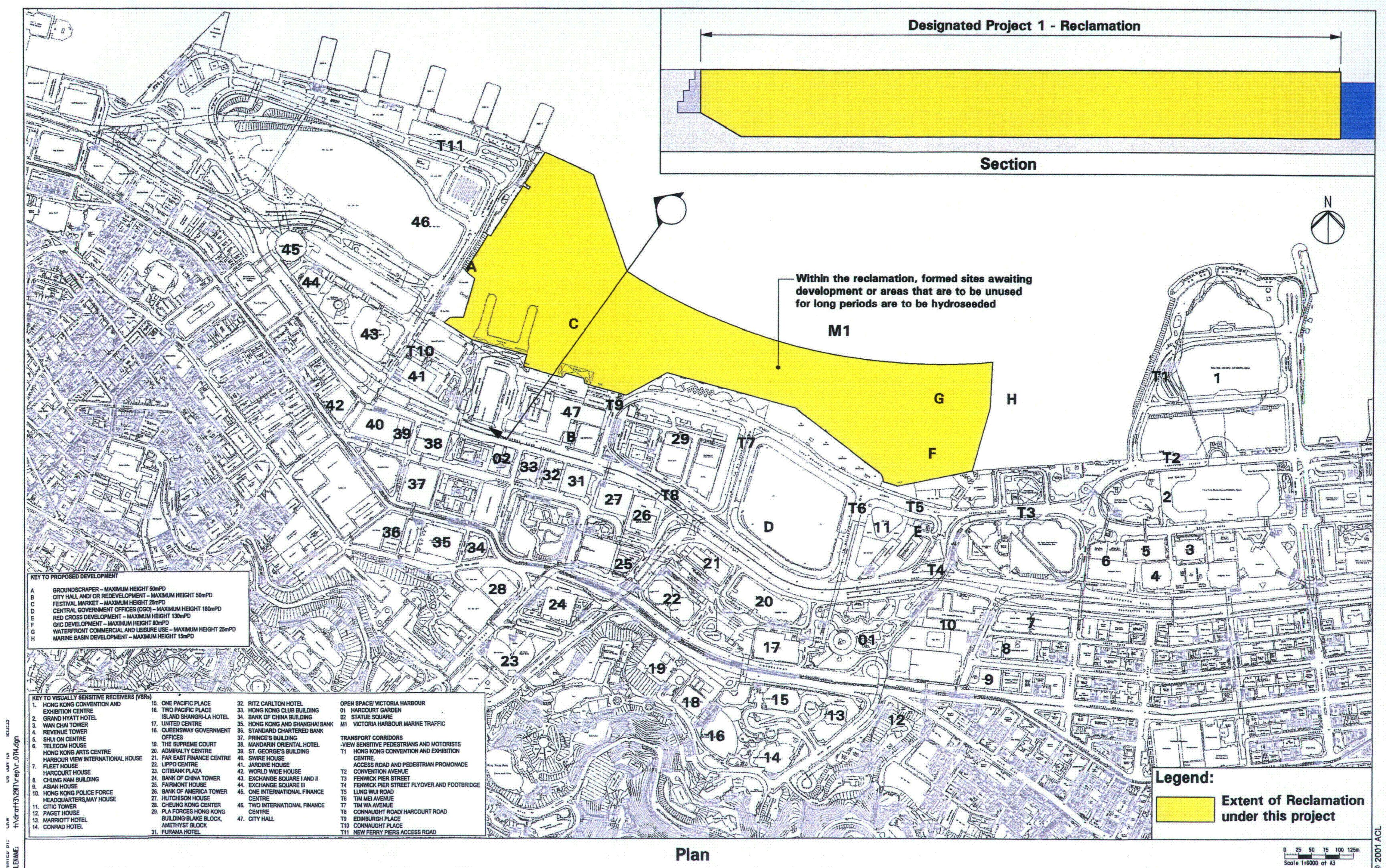
- 8.0.1. The construction phase of the Project was substantially completed in October 2019. No critical environmental deficiency and no project related exceedances were identified throughout the reporting period. All complaint cases received were closed and no summons and prosecution were received throughout the reporting period. This report summarizes the monitoring findings throughout the construction period programme.
- 8.0.2. Monitoring works had been undertaken at two air quality monitoring stations, one continuous noise monitoring station and two water quality monitoring stations for the EM&A programme. All exceedance recorded were concluded as non-Project related. All environmental monitoring parameter were generally return to ambient level.
- 8.0.3. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alternations to the programme proposed were made in response to change of circumstances and site condition.
- 8.0.4. Environmental audit inspection were conducted by the Environmental Team and the Independent Environmental Checker throughout the construction period to ensure the proper implementation of site mitigation measures during construction period of the Project. The Contractor have rectified for site observations and recommendations made during the audit sessions and no cumulative environmental impact was identified during the construction period of the Project. No site audit non-compliance was recorded throughout the construction period of the Project.
- 8.0.5. As evidenced by the no project related exceedances was received throughout the construction period of the Project, the implementation of EM&A programme was considered effective in overall environmental impact control.

Figure 2.1

Project Layout

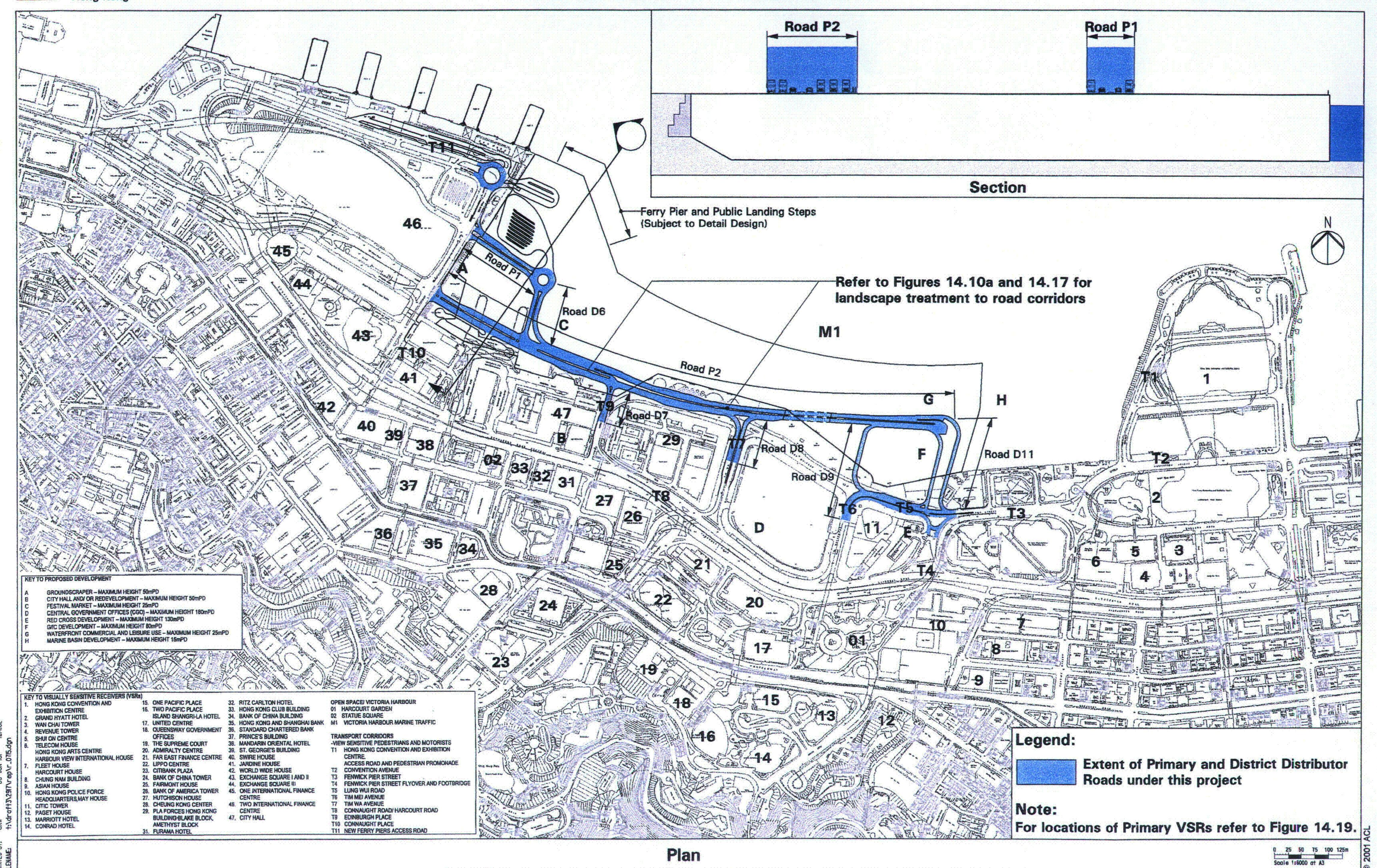
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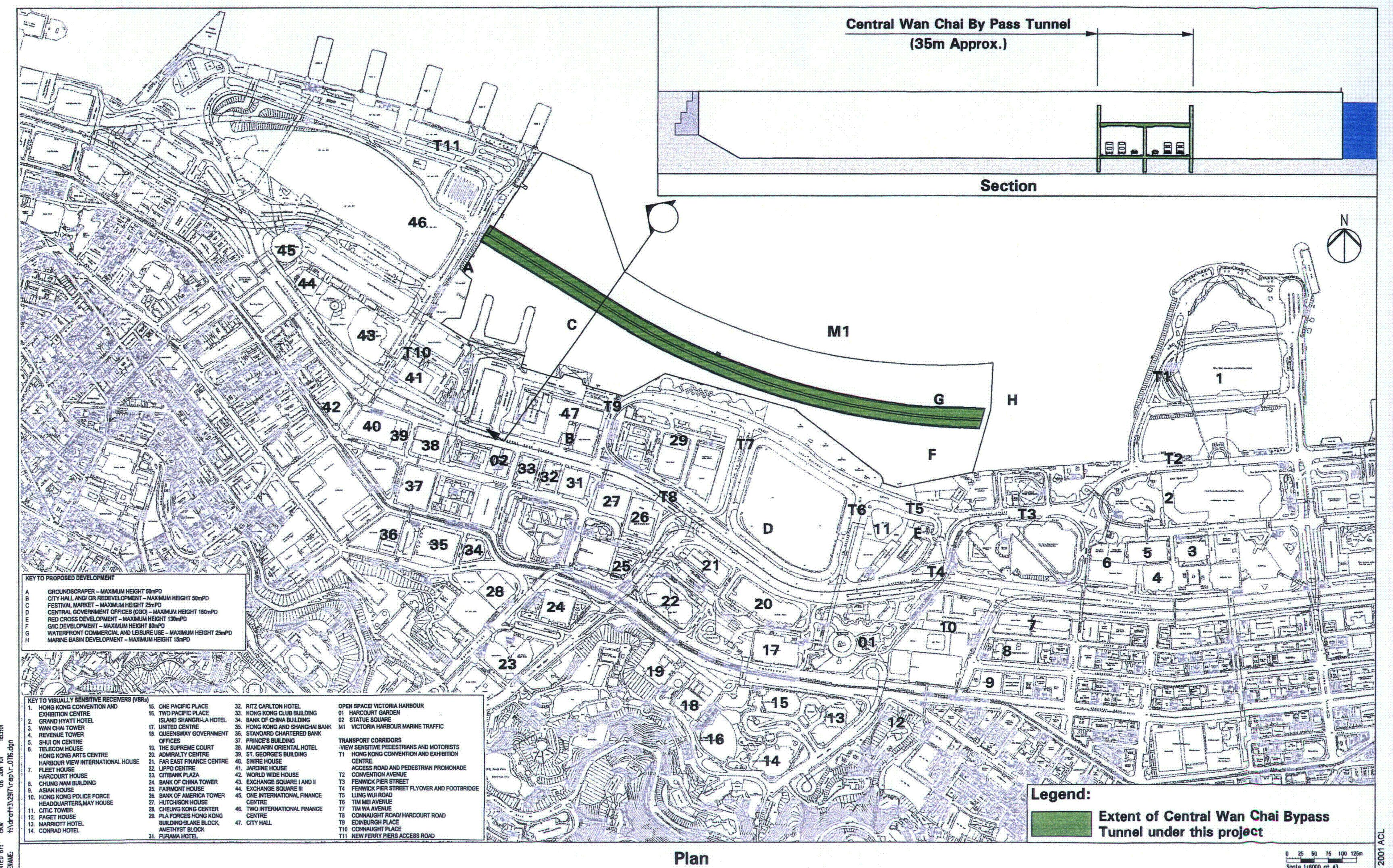


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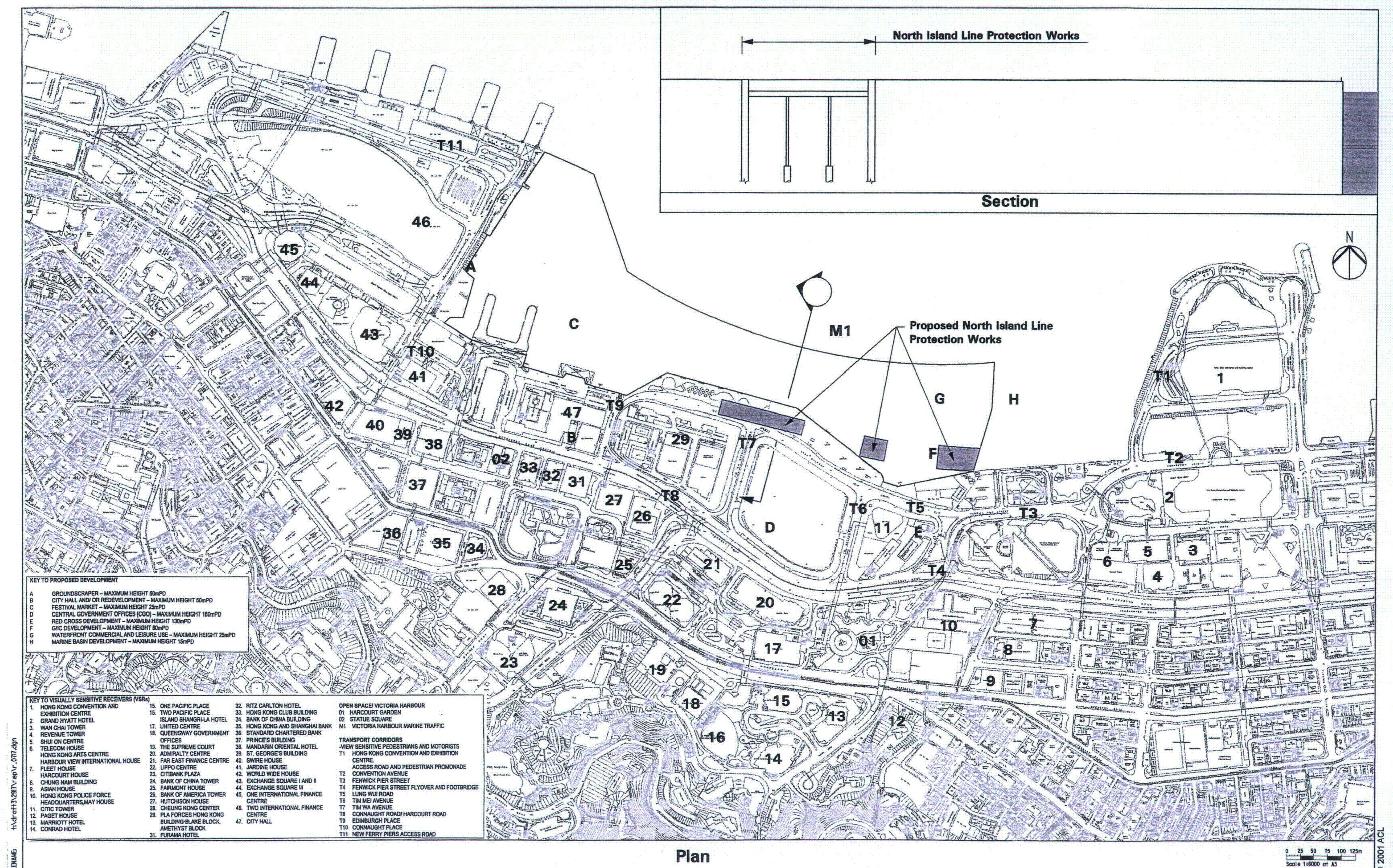
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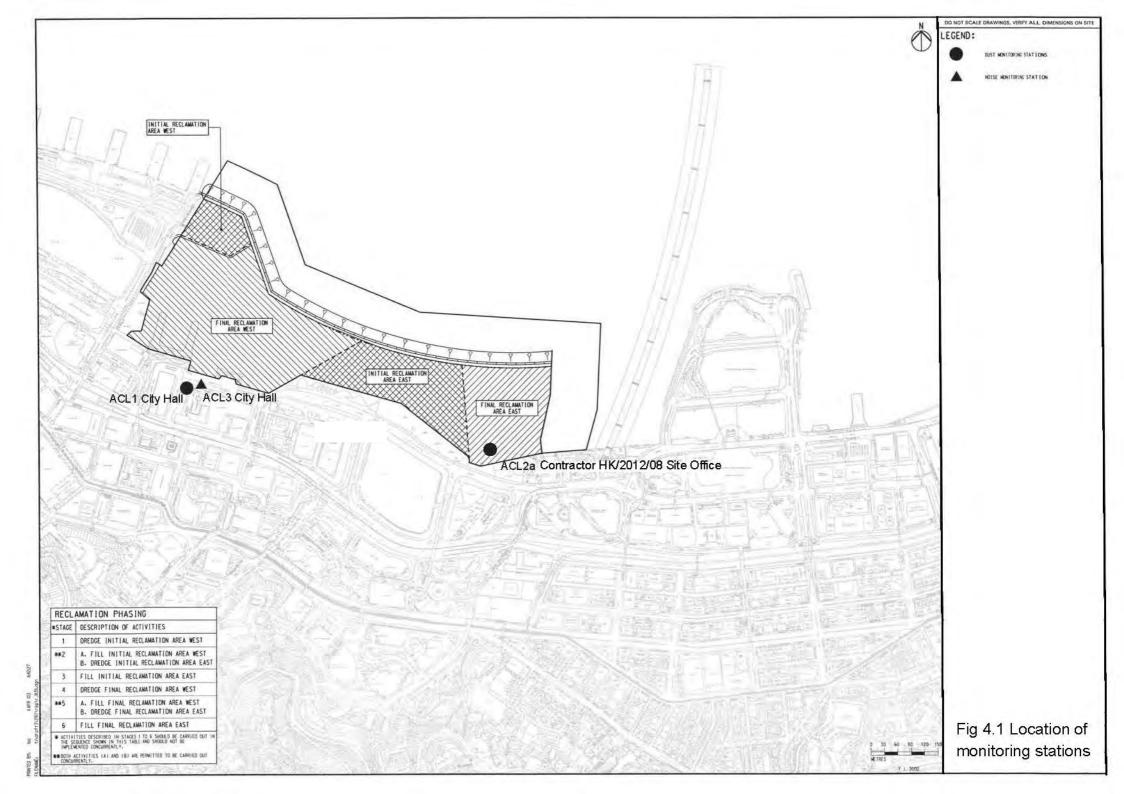


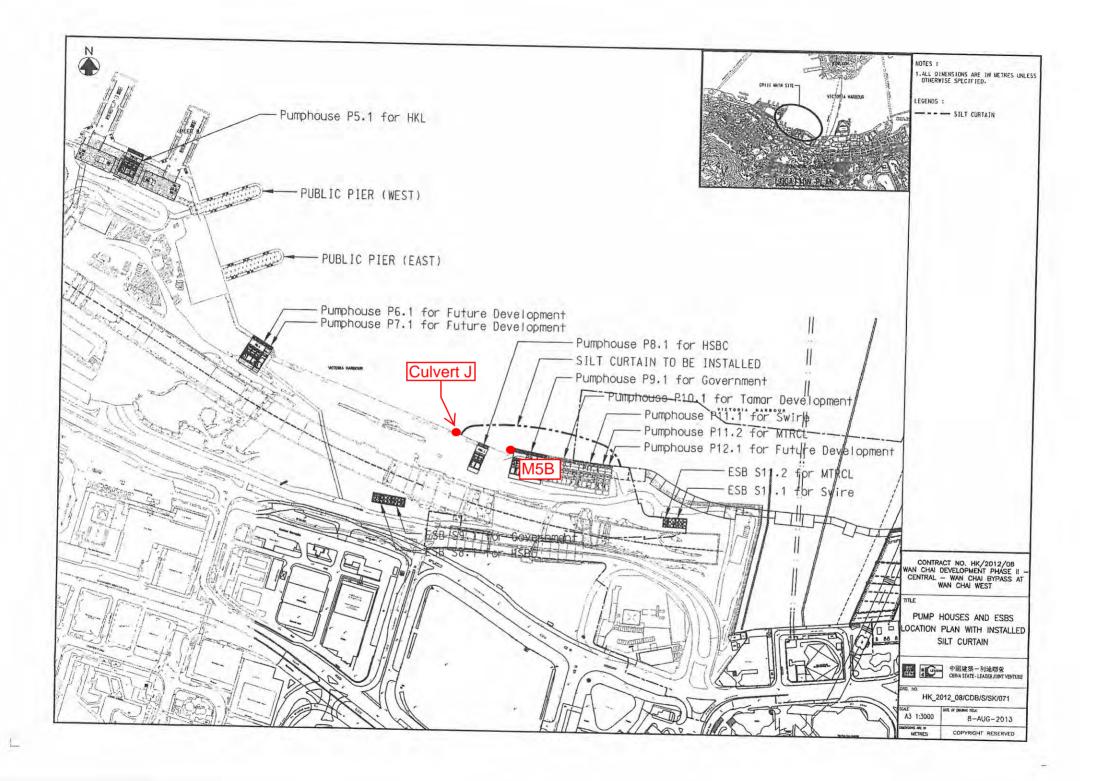
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### Figure 3.1

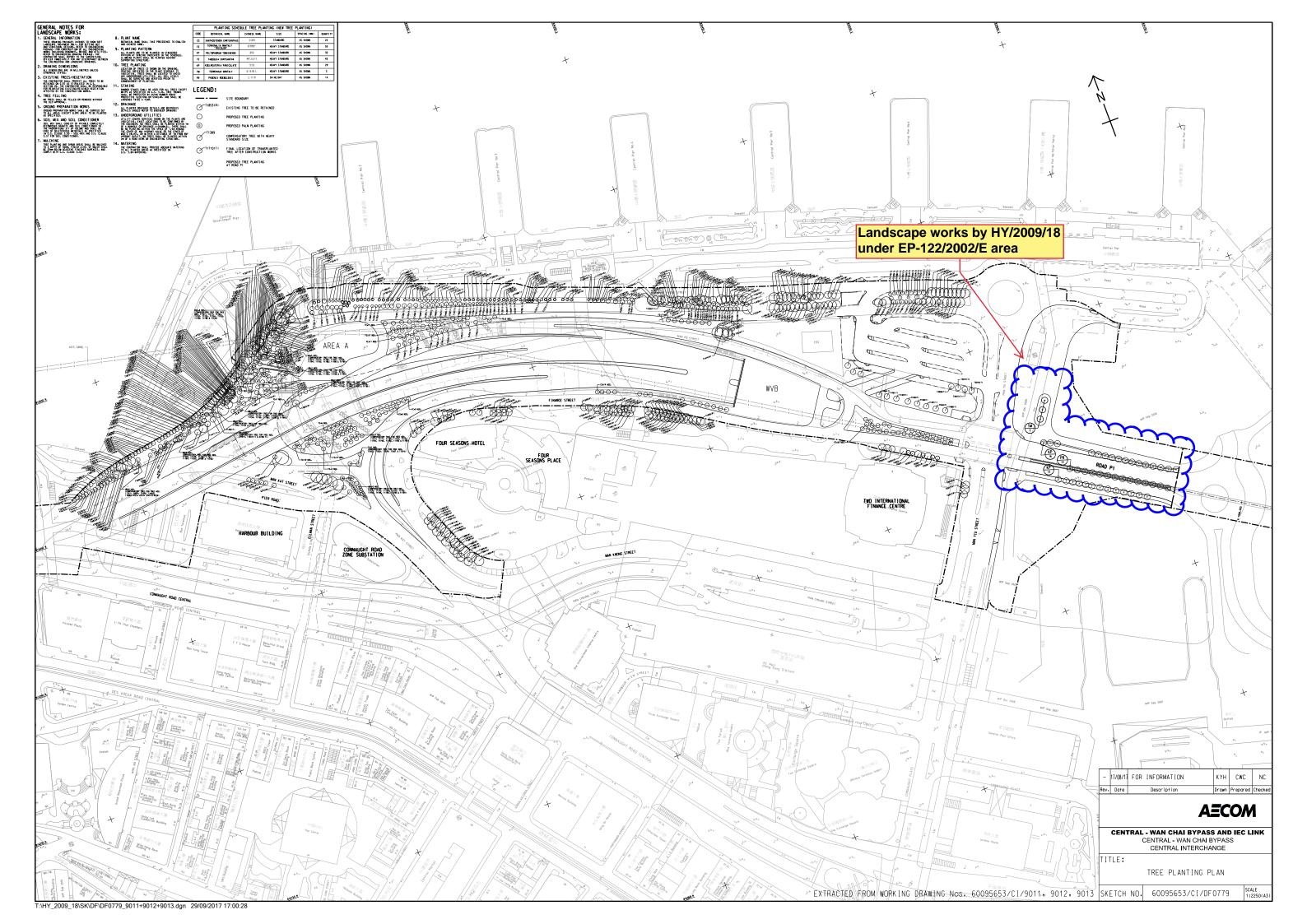
Locations of Monitoring Stations





# Figure 4.1

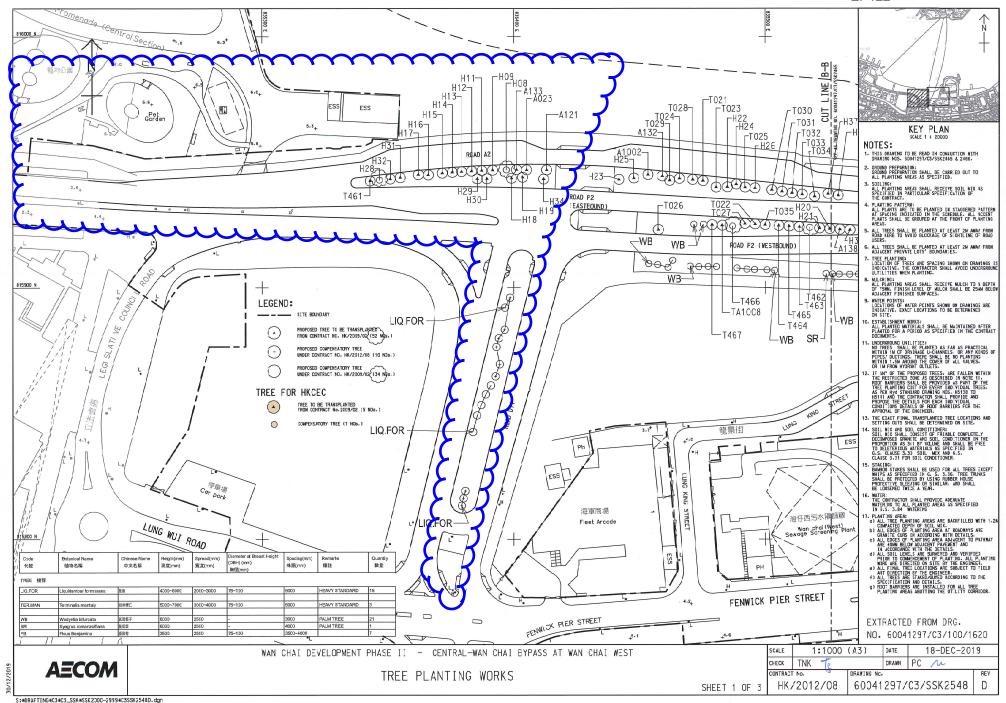
HY/2009/18 Landscape Area under EP-122/2002/E



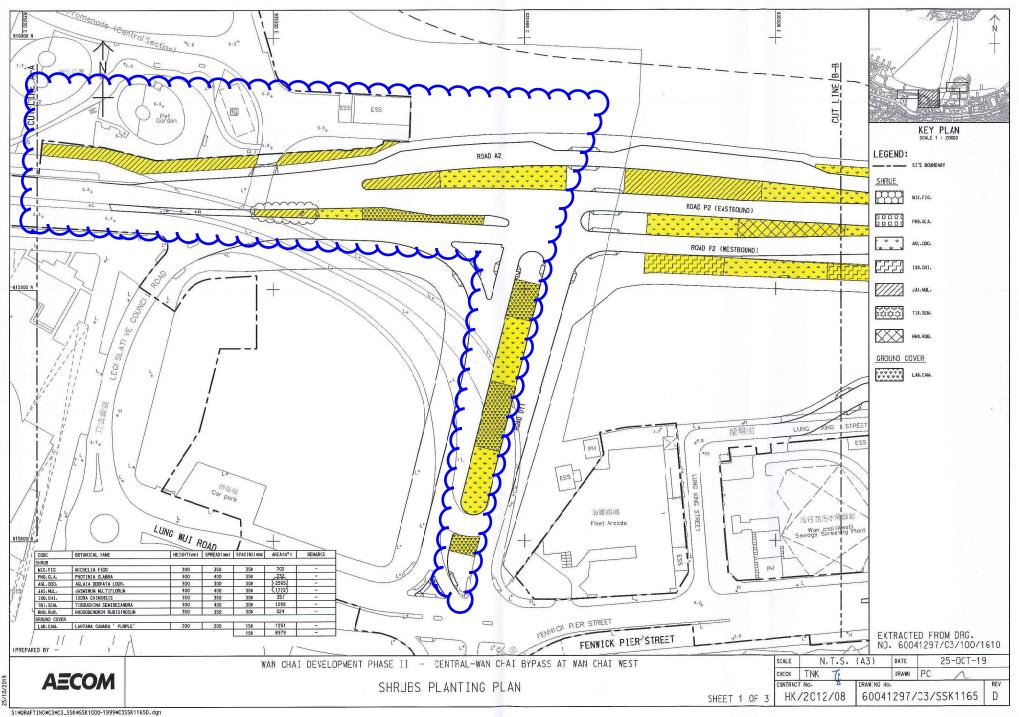
## Figure 4.2

HK/2012/08 Landscape Area under EP-122/2002/E









## Appendix 2.1

**Environmental Mitigation Implementation Schedule** 

## IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES

No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
1	Operational Traffic Noise*	The openings of ventilation buildings or ventilation shafts should be placed carefully and ideally should be such that they are not facing directly onto any NSR.	Various	Area Wide, Proposals at design stage for Implementation during construction	D/C	N/A	
2	Operational Air Quality	Air intakes for commercial/G/IC buildings should be placed such that they are at locations where contours indicate AQOs are met.	ArchSD/Private sector +	CRIII During development of sites Completion of CRIII	Development of CRIII	Carry forward to design stage	6
3	Operational Water Quality	Provision of grit traps for surface drainage	TDD's Contractor	New roads and paved areas  During construction  End of construction	С	P, R, A, C	7
4	Operational Landscape and Visual	Operational stage landscape and visual mitigation measures should include +					
		· Implementation of the Waterfront Promenade, Statue Square Corridor, Historic Corridor, Civic Corridor, Arts and Entertainment Corridor, Streetscape Network, Landscape Decks, and Supplementary Landscape Spaces;	Various	Area wide, proposals at design stage for implementation during construction	D/C	Р	
		provision of a legible, integrated pedestrian circulation system linking major activity nodes, reinforcing links with adjoining areas, and providing an international quality hard and soft landscape treatment;					
		· provision of a grade separated pedestrian system to minimise vehicular/ pedestrian conflict;					
		· provision of an integrated network of local and regional open spaces for passive and active recreation;					
		preservation of selected architectural features;     preservation insitu of existing significant vegetation, principally the two Banyan Trees flanking the Tamar Site;					
		· new roads to incorporate suitable streetscape amenity and landscape planting to minimise visual and environmental impacts;					



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
		<ul> <li>existing roads upgraded to 'marry' with the proposed landscape framework;</li> <li>Hydroseeding of reclamation if there is no immediate use of the site, periphery of the reclamation;</li> <li>Designated service corridors beneath footpaths to prevent potential impacts upon vegetation during services maintenance;</li> <li>Sensitively designed colour themes to footpath paving areas; and</li> <li>Sensitively designed seawall to enhance the recreational value of the future promenade can be included.</li> </ul>	Various	Area wide, proposals at design stage for implementation during construction	D/C	Р	1
5	Construction Noise Control Requirements	Use of the following quiet mechanical equipment for construction works: -air compressor; paver; hand held breaker; breaker, excavator mounted; bulldozer; concrete lorry mixer; concrete pump; crane; dump truck; excavator/ loader; grader; lorry; poker; road roller; vibratory roller;	TDD's Contractor	Works Area During construction End of construction	С	P, R, A, C	1
		Use of noise barriers (in the form if purpose built site hoarding of 3 - 5 m height and surface density of at least 7 kgm² with cranked top) for the following works:  · Hong Kong Station Extended Overrun Tunnels to north of Central Barracks.  · North Island Line Protection Works to north of Central Barracks;  · Road/Drainage Works to north of Central Barracks;  · Culvert F Piling Works to north of City Hall.	TDD's Contractor	Work Sites as stated Start of activity stated End of activity stated	С	P, A	
		· Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	4
		· Silencers or mufflers on construction equipment shoud be utilised and should be properly maintained during the construction programme.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	4
		· Mobile plant, if any, should be sited as far away from noise sensitive facilities as possible.	TDD's Contractor	Works Area  During construction  End of construction	С	P,R,A,C	4

No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
		$\cdot$ Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	4
		· Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from nearby noise sensitive facilities.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	4
		· Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activites.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	4
6	Construction Air Quality Control Requirements	· Strictly limit truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	6,7
		· Twice daily watering of the site with active operations when the weather and the work site are dry.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	6,7
		· Watering during excavation and material handling.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	6,7
		· Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	6,7
		·Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	6,7
		· Covers for dusty stockpiles	TDD's Contractor	Works Area During construction End of construction	С	P,R,A,C	6
		· All plant shall be maintained ot prevent any undue air emmissions	TDD's Contractor	Works Area	С	P,R,A,C	6

No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location  Duration completion  of measures  During construction	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
				End of construction			
7	Construction W ater Quality Control Requirements	Specific Measures Associated with Dredging Works  the use of closed clamshell (water-tight) grab dredgers to remove seriously contaminated material such that the amount of SS and other pollutants released from the marine mud and pore water can be minimised;  the prohibition of stockpiling of any moderately or seriously contaminated marine sediment, and careful control of stockpiling of any uncontaminated sediment to prevent runoff, resuspension and odour nuisances; and  the control of dredging and bulk reclamation filling rates within acceptable limits. Based upon the construction sequence developed for this study the maximum dredging and filling rates adopted for Final Reclamation Area East were:  Maximum Dredging Rate: 184 m²/hour  Maximum Daily Filling Rate: 17,727 m³/day  (for bulk reclamation filling)  Maximum dredging and filling rates for other reclamation sites should take account of information contained in Table 10.14 of the EIA Report and envisaged construction	TDD's Contractor	Whole reclamation area During reclamation works End of reclamation works	С	R	7
		sequence.  · no dredging should take place under very bad weather conditions.					
		silt curtain around dredging sites to be provided as necessary.  Specific Measure for Marine Disposal of Dredged Materials and Maine Sand Filling Works all vessels should be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;	TDD's Contractor	Whole reclamation area During reclamation works End of reclamation works	С	R	7
		<ul> <li>all hopper barges and dredgers should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</li> <li>loading of hopper barges should be controlled to prevent splashing of dredged or filling material to the surrounding water, and barges or hoppers should not be filled to a level which will cause the overflow of materials or polluted water during loading or</li> </ul>					



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
		transportation;					
		the works should cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds;      bulk filling should be carried out, where feasible, behind completed seawall to above high	TDD's Contractor	Whole reclamation area During reclamation works End of reclamation works	С	R	7
		water mark. In general and where physically practical, filling should not be carried out without the seawall having been substantially completed for a distance of 100m – 200m ahead of filling; and					
		· fill materials should comply with technical specification requirements and be taken from approved sources only. The maximum fines content of marine sand should be limited to 5% as assumed in the water quality assessments.					
		· transport of contaminated mud (or filling material) to the marine disposal site (or works site) should, wherever possible, be by split barge of not less than 750 m³ capacity, well maintained and capable of rapid opening and discharge at the disposal site;					
		<ul> <li>the dredged material should be disposed in the pit by bottom dumping, at a location within the pit specified by the MFC;</li> </ul>					
		· discharge should be undertaken rapidly and the hoppers should then immediately be closed. Material adhering to the sides of the hopper should not be washed out of the hopper and the hopper should remain closed until the barge next return to the disposal site;					
		<ul> <li>the dumping vessel is not required to station but will be guided by the site staff managing the disposal facility. The vessel crew should be familiar with such operational procedures;</li> <li>monitoring of the barge loading to ensure that loss of material does not take place during</li> </ul>					
		transportation; and  Transport barges or vessels shall be equipped with automatic self-monitoring devices.					



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
		Specific Measures Associated with Dredging and Filling Works when CRIII Dredging and Filling Works are being constructed concurrently with WDII Dredging and Filling Works · deployment of silt curtains around the dredging and fill release points to contain SS within the construction site during dredging and filling; · deployment of silt screens at the cooling water intakes and WSD salt water intakes to further minimise the intake of SS within the sea water.	TDD's Contractor	Reclamation Areas as appropriate When CRIII and WDII - Dredging and Filling Works occur concurrently End of Concurrent Works	С	R	-
		Specific Measures Associated with Floating Debris  The result of the floating debris simulation has shown that the intermediate layout of the proposed reclamation has potential to trap floating rubbish. Monitoring and control of the construction activities should be taken to prevent the release of construction waste and rubbish from the construction site. Collection of floating debris should be carried out at least once every day by the CRIII Contractor, and more frequently (two or three times per day) at the water body south of the Initial Reclamation Area West and near the cooling water intakes where large substances could block the screens and filter pipes of the intakes and reduce their efficiency. Debris should be collected and taken to landfill sites for disposal.	TDD's Contractor	Whole reclamation area During construction At end of construction	С	R	-
		Specific Measures for Dealing with Culvert L Outfall at Completion of CRIII Eastern Seawall  As a mitigation measure, to avoid the accumulation of water borne pollutants within a temporary embayment to the east of CRIII, an impermeable barrier, suspended from a floating boom on the water surface and extending down to the seabed, will be erected by the CRIII Contractor on completion of the CRIII eastern seawall. The barrier will channel the stormwater discharge flows from Culvert L to the outside of the embayment. The CRIII Contractor will maintain this barrier until the WDII Contractor takes possession of this site, whereupon the WDII Contractor will takeover the maintenance of this barrier until the reclamation works in this area are carried out and the new Culvert L extension is constructed.	TDD's Consultant	Culvert L Outfall During Construction To handover to WDII Contractor	С	R	



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
		Construction Run-off and Drainage					
		· Control of Site Surface Runoff:	TDD's Contractor	Works Area	С	P,R,A,C	7
		- Surface run-off from construction sites should be discharged into storm drains via		During construction			
		adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment		End of construction			
		basins. Channels or earth bunds or sand bag barriers should be provided on site to					
		properly direct stormwater to such silt removal facilities. Perimeter channels at site					
		boundaries should be provided where necessary. Catchpits and perimeter channels					
		should be constructed in advance of site formation works and earthworks.					
		- Silt removal facilities, channels and manholes should be maintained.					
		- Construction works should be programmed to minimise soil excavation works in rainy					
		seasons (April to September). If excavation in soil cannot be avoided, temporarily exposed					
		slope surfaces should be covered and temporary access roads should be protected by					
		crushed stone or gravel, as excavation proceeds. Intercepting channels should be					
		provided.					
		- Earthworks final surfaces should be well compacted and the subsequent permanent work					
		or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage such as intercepting					
		channels should be provided where necessary.					
		- Measures should be taken to minimise the ingress of rainwater into trenches. If					
		excavation of trenches in wet seasons is necessary, they should be dug and backfilled in					
		short sections. Rainwater pumped out from trenches or foundation excavations should be					
		discharged into storm drains via silt removal facilities.					
		- Open stockpiles of construction materials should be covered.					
		- Manholes should be adequately covered and temporarily sealed.					
		Groundwater					
		- Groundwater pumped out of tunnels or caverns should be discharged into storm drains					
		after the removal of silt.					



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
		<ul> <li>Boring and Drilling Water</li> <li>Water used in ground boring and drilling for site investigation or rock/soil anchoring should as far as practicable be recirculated after sedimentation. Wastewater should be discharged into storm drains via silt removal facilities.</li> <li>Wastewater from Concrete Batching and Precast Concrete Casting</li> <li>Wastewater generated from the washing down of mixer trucks and drum mixers and similar equipment should wherever practicable be recycled. The discharge of wastewater should be kept to a minimum.</li> <li>To prevent pollution from wastewater overflow, the pump sump of any water recycling system should be provided with an on-line standby pump of adequate capacity and with automatic alternating devices.</li> <li>Under normal circumstances, surplus wastewater may be discharged into foul sewers after treatment in silt removal and pH adjustment facilities (to within the pH range of 6 to 10). Disposal of wastewater into storm drains will require more elaborate treatment. Surface run-off should be segregated from the concrete mixing and casting yard area as much as possible, and diverted to the stormwater drainage system. Surface run-off contaminated by materials in a concrete mixing area or casting yard should be adequately treated before disposal into stormwater drains.</li> </ul>	TDD's Contractor	Work Area During construction End of construction	С	P,R,A,C	7
		Wheel Washing Water     All vehicles and plant should be cleaned before they leave the construction site. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.  Bentonite Slurries Bentonite slurries should be reconditioned and reused wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil site subject to obtaining a marine dumping licence from EPD (on a case-by-case basis).	TDD's Contractor	Work Area During construction End of construction	С	P,R,A,C	7



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
		- If the used bentonite slurry is intended to be disposed of through the public drainage system, it should be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the WPCO Technical Memorandum on Effluent Standards.					
		Wastewater from Building Construction     Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand etc. from entering public sewers/drains.      Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as necessary.					
		·Licensing of Construction Site Discharges within Water Control Zones -All discharges into any drainage or sewerage systems, or inland or coastal waters, or into the ground (e.g. from septic tanks) within a Water Control Zone are controlled under the Water Pollution control Ordinance (WPCO), except the discharge of domestic sewage into foul sewers or the discharge of unpolluted water into storm drains or into the waters of Hong Kong. Construction site discharges are controlled under the WPCODischarges controlled under the WPCO must comply with the terms and conditions of a valid WPCO licence.					



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
8.	Construction Waste Control Requirements	Specific Measures Associated with Marine sediments					
		In accordance with the WBTC No. 3/2000, the seriously contaminated material must be dredged and transported with great care. Mitigation measures, includeding the use of close-grab dredgers, shall be incorporated.  The dredged contaminated sediment must be effectively isolated from the environment upon final disposal and shall be disposed of at the East Sha Chau Contaminated Mud Pits.	TDD's Contractor	Whole Reclamation Area During Reclamation Works End of Reclamation Work	С	R	7
		Segregation and Disposal of Wastes  · inert demolition/construction waste material when deemed suitable for reclamation or	TDD's Contractor	Works Areas	С	P, R, A, C	1,8, 9
		land formation should be re-used on-site;		During Construction End of Construction			
		Storage, Collection and Transport of Waste  · wastes should be handled and stored in a manner which ensures that they are held securely without loss or leakage thereby minimising the potential for pollution. Release of these potential pollutants into marine waters during storage, handling or barge transportation should not be permitted as introduction of polluted waters is likely to have detrimental effects on water quality and water sensitive receivers;  · only reputable waste hauliers authorised to collect the specific category of waste concerned should be employed;  · appropriate measures should be employed to minimise windblown litter and dust during transportation by using enclosed bins, covering trucks or transporting wastes in enclosed containers;  · the necessary waste disposal permits and registrations should be obtained from the appropriate authorities, if they are required, in accordance with the Waste Disposal	TDD's Contractor	Works Areas During Construction End of Construction	С	P, R, A, C	1, 8, 9



No.	Activity	Mitigation/EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage C : Construction D : Design	Permit Conditions apply to	Relevant Guidelines Legislation
9	Construction Landscape and Visual Control Requirements	Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and the Crown Land Ordinance;  · collection of general refuse should be carried out frequently, preferably daily;  · waste should only be disposed of at licensed sites and the civil engineering contractor should develop procedures to ensure that illegal disposal of wastes does not occur;  · waste storage areas should be well maintained and cleaned regularly;  · records should be maintained of the quantities of wastes generated, recycled and disposed, determined by weighing each load or other method; and  · A "trip ticket" system should be implemented, if required by Government.  Construction stage landscape and visual mitigation measures should include:  · Minimising contractors accesses and working areas as far as possible;  · Protection and retention of existing vegetation where possible in accordance with the Hong Kong Government "A Guide to Tree Planting and Maintenance in Urban Hong Kong, Section 5" Care of Trees on Development Sites' and the Country Parks Ordinance  · Transplanting of trees where appropriate;	TDD's design consultant	Area wide during design and contract preparation	D	P, R, A, C	11, 12, 13,14
		<ul> <li>Advance planting and visual screening;</li> <li>Conservation of top soil;</li> <li>Design of the temporary works areas so as to optimise eventual use as promenade and public open space; and</li> <li>Sensitively designed site hoarding.</li> </ul>					
10	Monitoring and Audit	To be carried out in accordance with the Schedule in the EM and A Manual	TDD*/Contractor/ RSS	Works areas  During construction  End of construction and within one year of operational phase	C/O	P, R, A, C	1
			TDD's design consultant	Area wide during design and contract preparation	D	P, R, A, C	11,12,13,14



#### **Relevant Guidelines Legislation**

- 1. Environmental Impact Assessment Ordinance Technical Memorandum (EIAO)
- 2. HKPSG
- 3. ExCo Criteria for ITR
- 4. Noise Control Ordinance
- 5. The ProPECC Note PN2/93 (Construction Noise daytime limits)
- 6. Air Pollution Control Ordinance (APCO)
- 7. Water Pollution Control Ordinance (WPCO)(Cap. 358)
- 8. Waste Disposal Ordinance (Cap 354)
- 9. Waste Disposal (Chemical Waste)(General) Regulation (Cap 354)
- 10. Land Ordinance (Cap 28)
- 11. WBTC 25/92 Allocation of Space for Urban Trees
- 12. WBTC 25/93 Control of Visual Impact of Slopes
- 13. WBTC 18/94 Management and Maintenance of both Natural Vegetation and Landscape Works
- 14. WBTC 24/94 and PELBTC 3/94 "Tree Preservation"
- 15. Antiquities and Monuments Ordinance (Cap 53)

#### Permit Conditions apply to

- P Primary and District Distributor Roads
- R Reclamation
- A North Island Line Protection Works
- C Central and Wanchai Bypass
- + These items should be excluded from any Environmental Permit conditions as these refer to future development of the area (which is not designated under the EIAO), and are not related to reclamation and dredging activities which are designated, and can hence be controlled through EP conditions.
- \* Normally undertaken by a specialist monitoring team employed directly by the proponent and audited by the Environmental Works Checker.

# Appendix 3.1

Action and Limit Level

## **Action and Limit Level**

## Action and Limit Level for Noise Monitoring

Time Period	Action Level	Limit Level
07:00 - 19:00 hours on normal weekdays	When one documented complaint is received.	70 dB(A)

## Action and Limit Level for Air Quality Monitoring

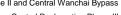
Monitoring Locations	1-hour TSP Le	vel in µg/m3	24-hour TSP Level in µg/m3	
	Action Level	Limit Level	Action Level	Limit Level
ACL1 - City Hall	460	500	163	260
ACL2 - People's Liberation Army Headquarter	432	500	154	260
ACL2a - Contractor HK/2012/08 Site Office	300.1	500	187.3	260

## Action and Limit Level for Water Quality Monitoring

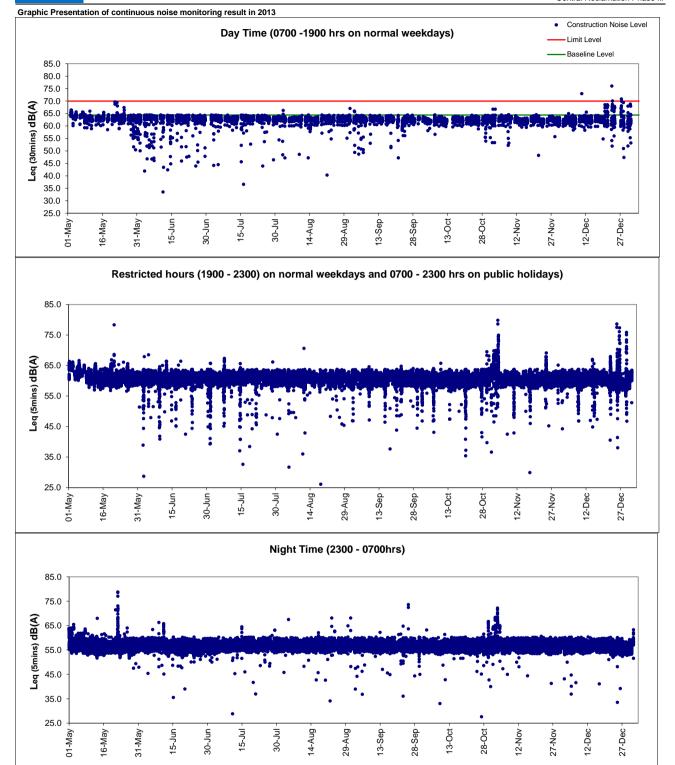
Parameters	Action Level	Limit Level			
M5B – Central Cooling Water Intake Group					
SS in mg/L	12.00	17.00			
DO in mg/L	4.60	3.00			

# Appendix 4.1

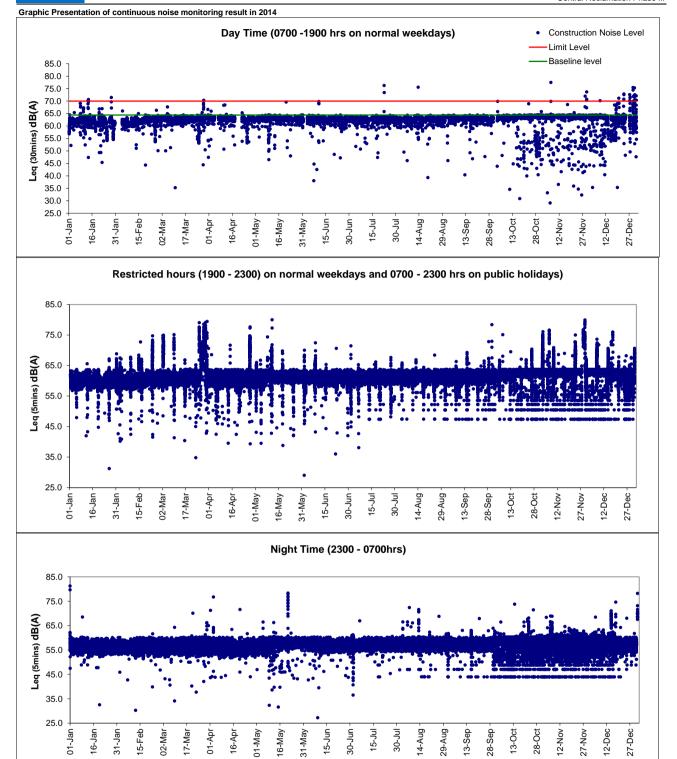
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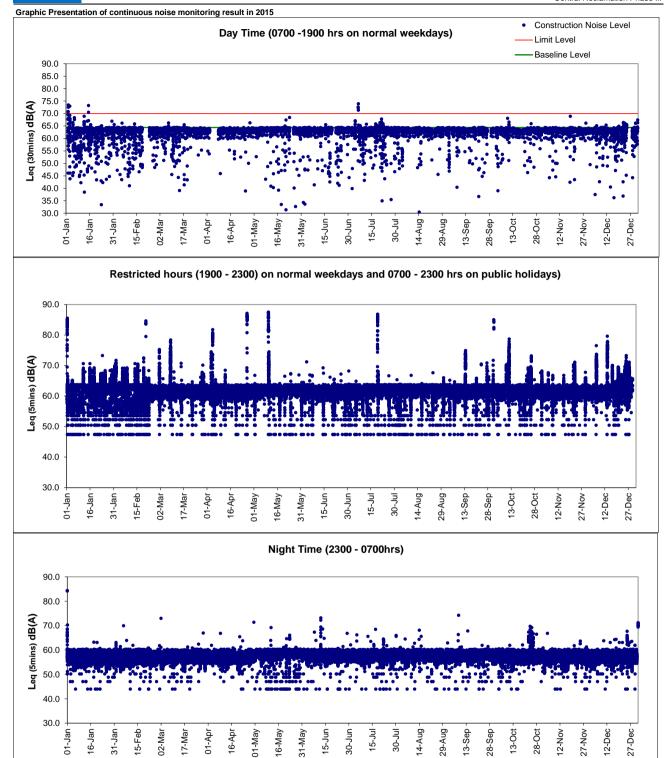




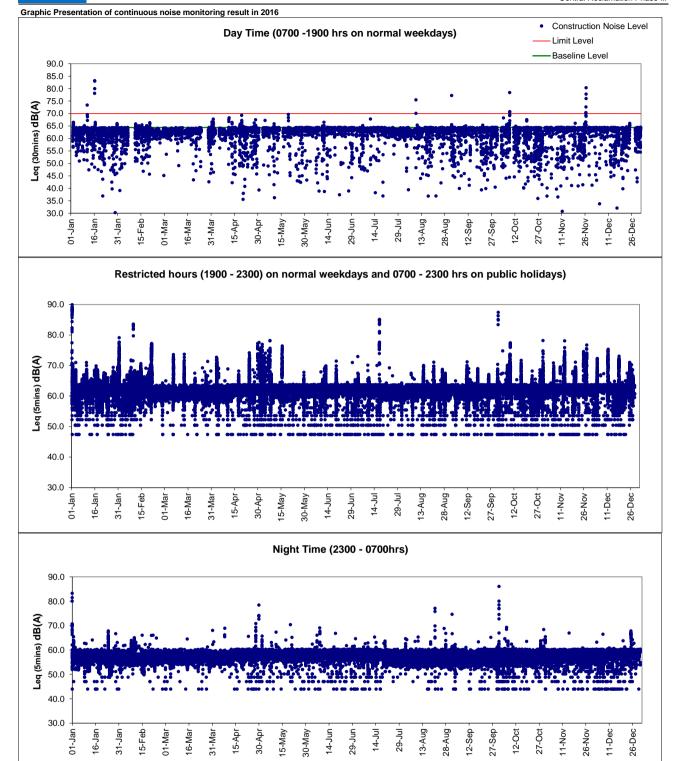




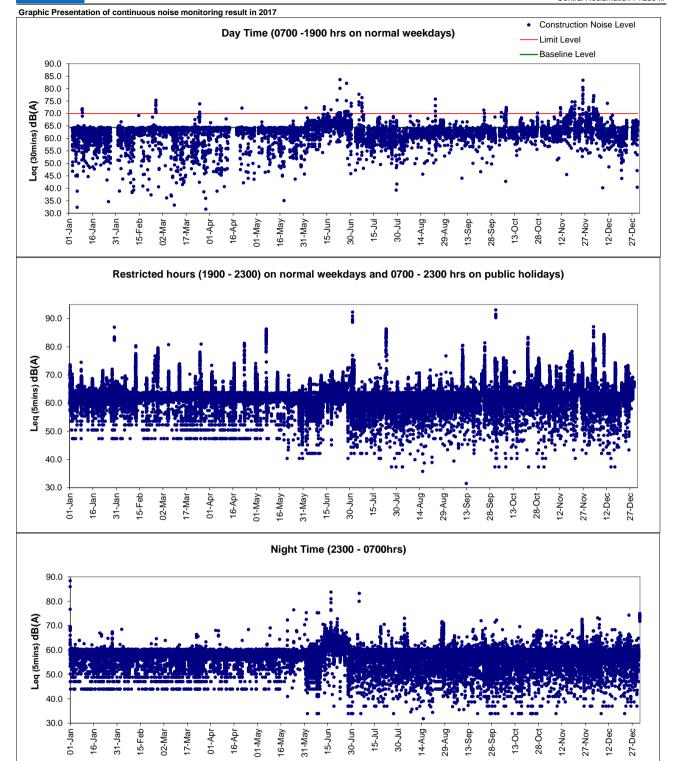








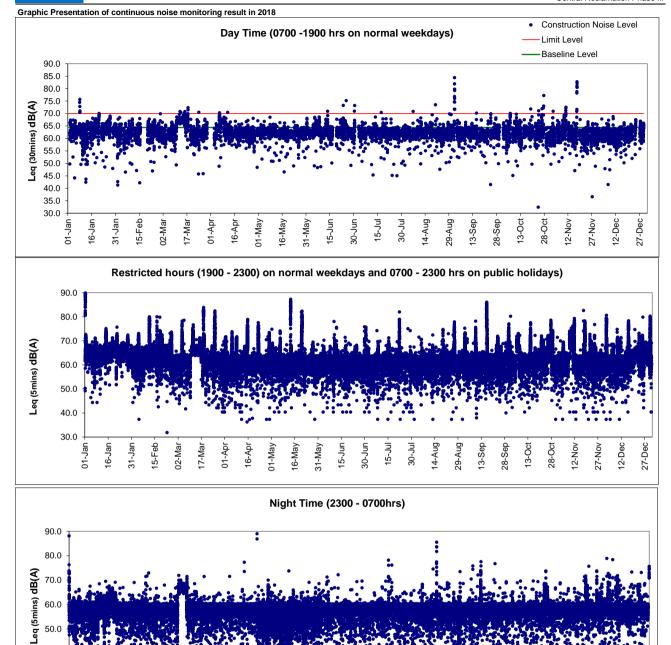




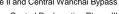


40.0 30.0

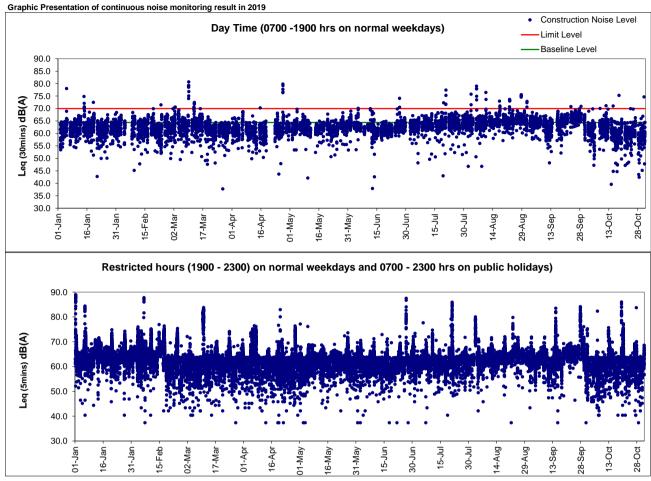
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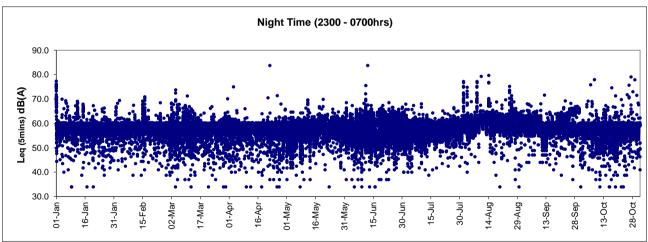


15-Jul







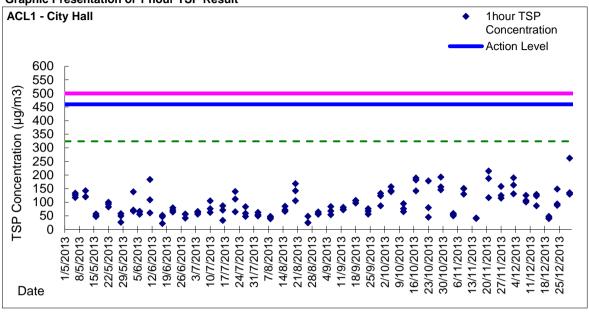


## Appendix 4.2

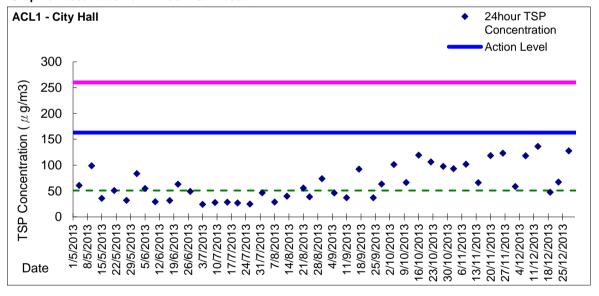
Air Quality Monitoring



**Graphic Presentation of 1 hour TSP Result** 

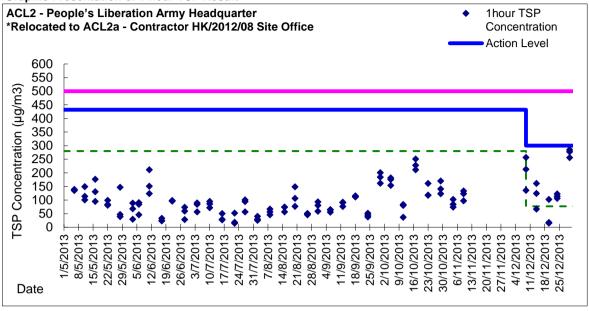


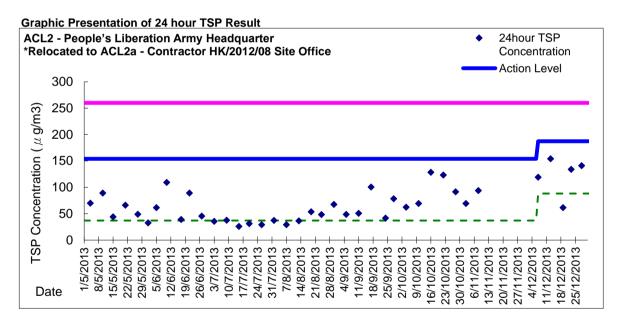
### **Graphic Presentation of 24 hour TSP Result**





**Graphic Presentation of 1 hour TSP Result** 

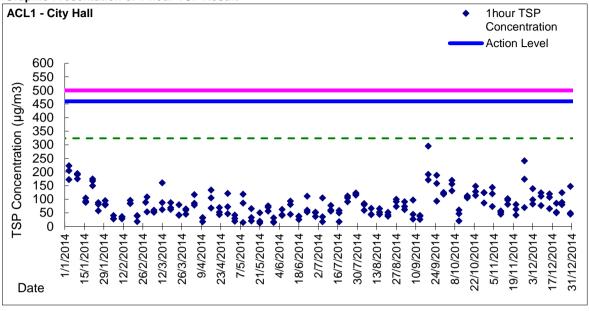




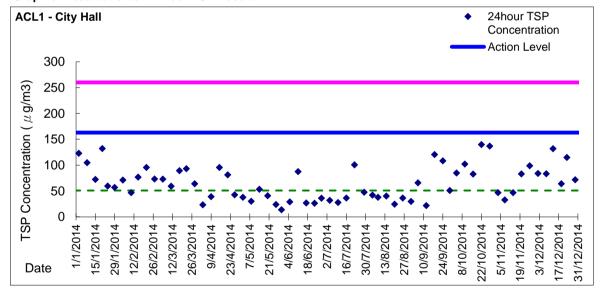
Remark: due to large scale renovation works at People's Liberation Army Headquarter (ALC2), the AQM at ACL2 was suspended from 14 Nov 2013 to 03 Dec 2013, and relocated to Contractor HK/2012/08 Site Office ACL2a from 07 Dec 2013.



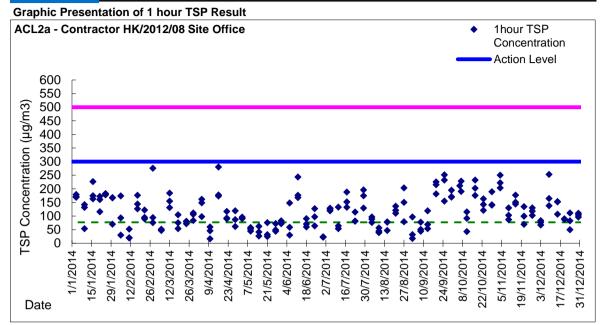
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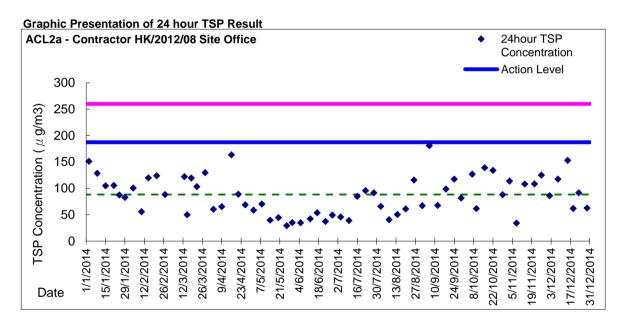


### **Graphic Presentation of 24 hour TSP Result**



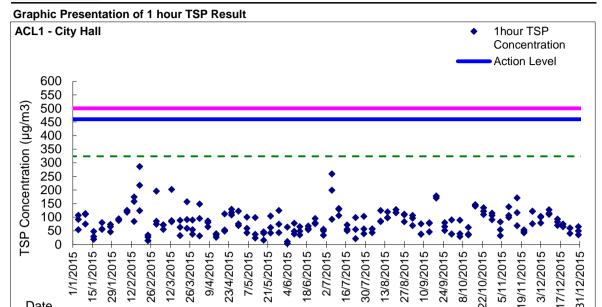




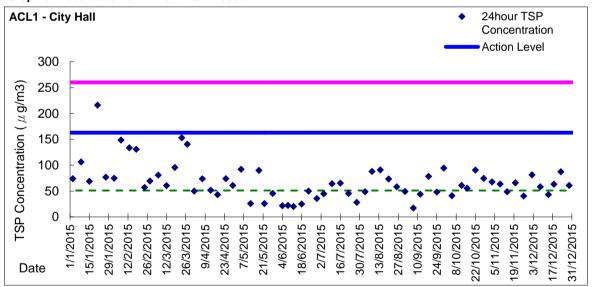




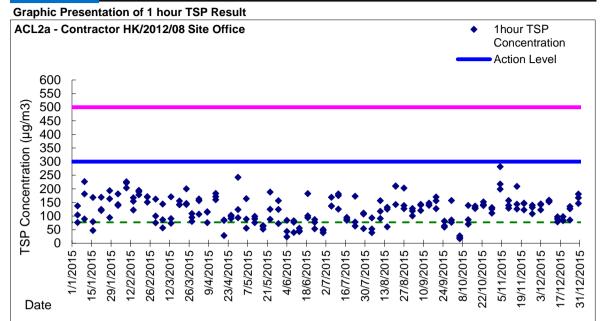
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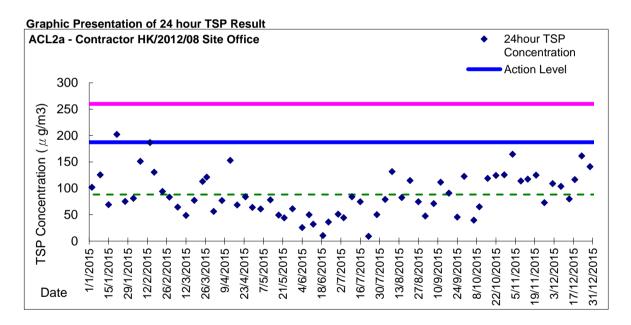


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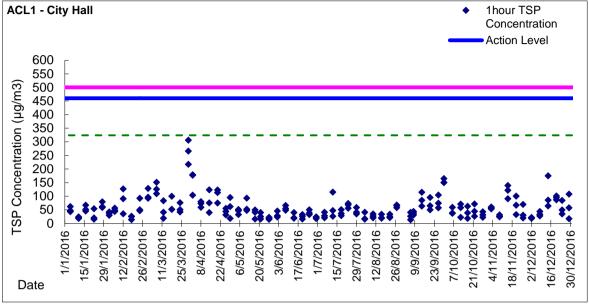




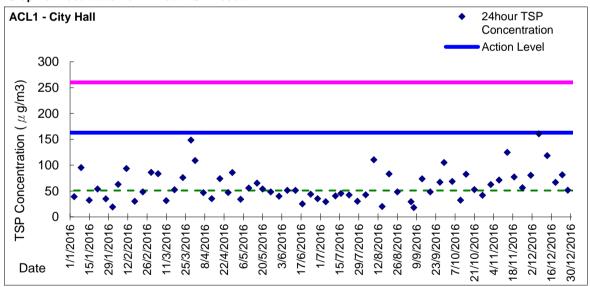




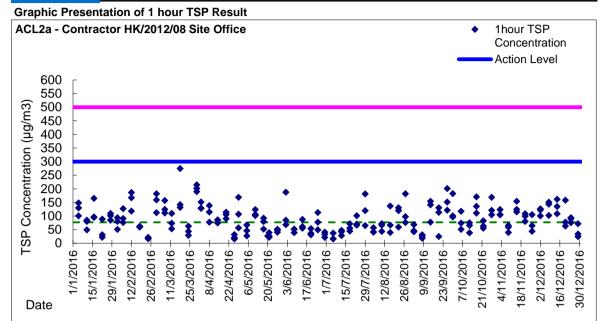
**Graphic Presentation of 1 hour TSP Result ACL1 - City Hall** 

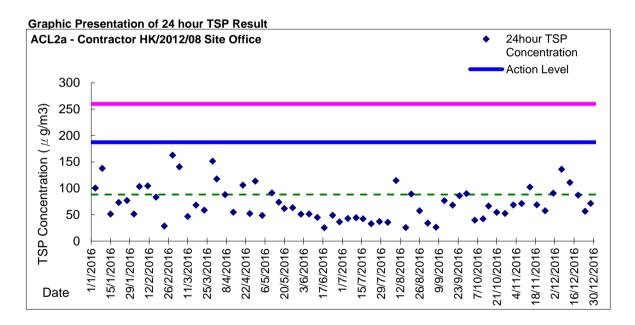


#### **Graphic Presentation of 24 hour TSP Result**



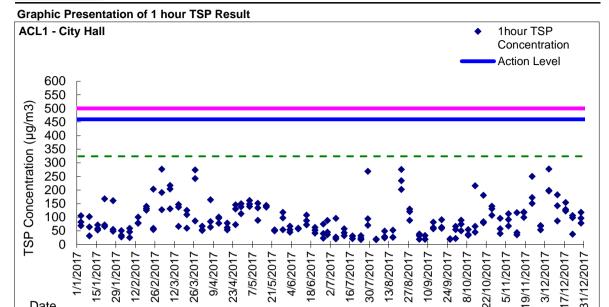




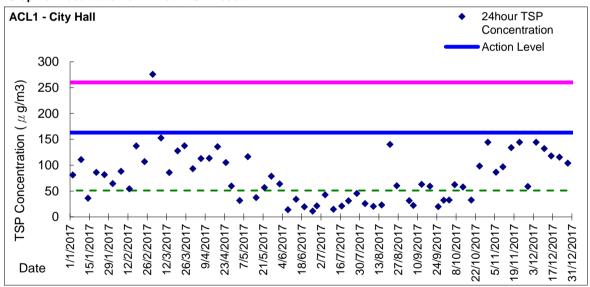




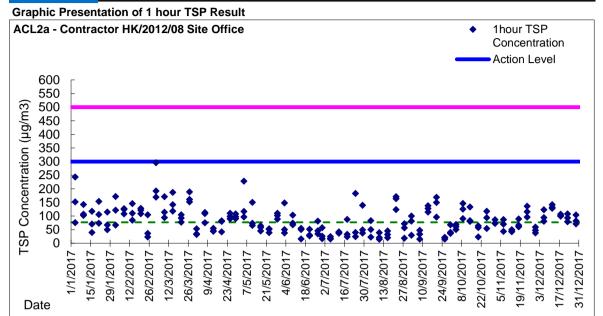
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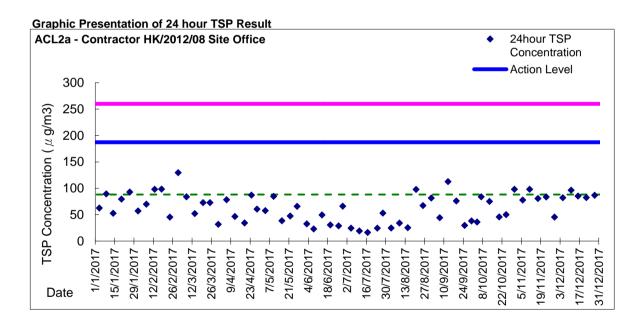


#### **Graphic Presentation of 24 hour TSP Result**



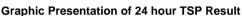


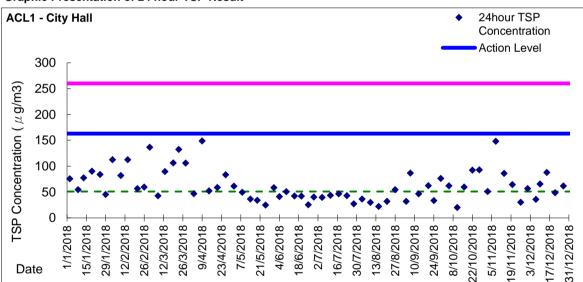


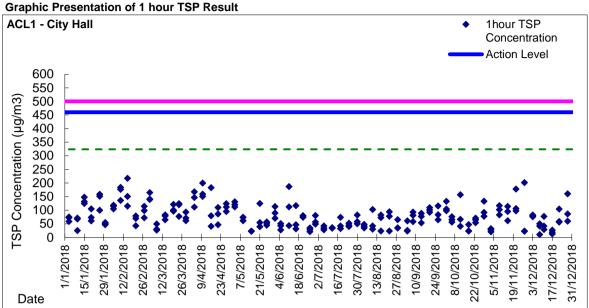




**ACL1 - City Hall** 600 550 500 450

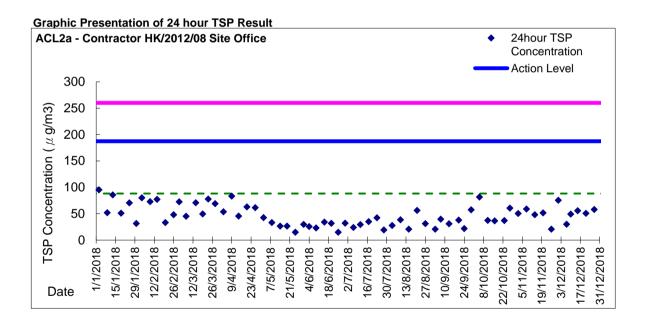




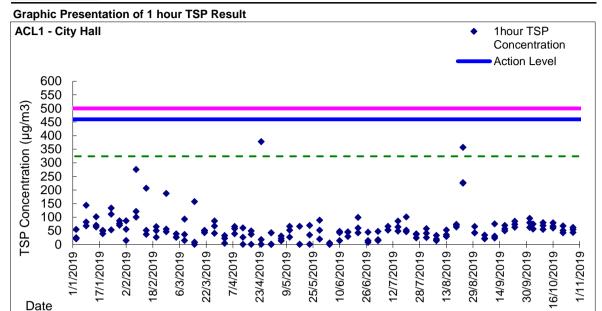




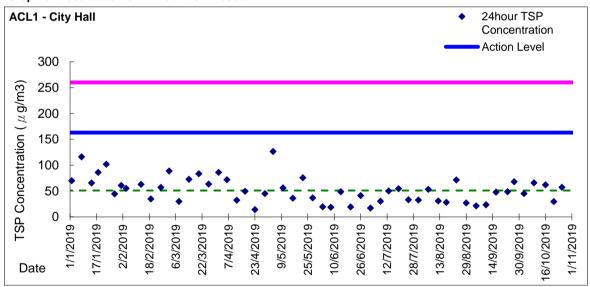
**Graphic Presentation of 1 hour TSP Result** ACL2a - Contractor HK/2012/08 Site Office 1hour TSP Concentration Action Level 600 550 **ISP Concentration (µg/m3)** 500 450 400 350 300 250 200 150 100 50 0 30/7/2018 -13/8/2018 -1/1/2018 -27/8/2018 -21/5/2018 4/6/2018 18/6/2018 2/7/2018 3/12/2018 12/3/2018 26/3/2018 7/5/2018 6/7/2018 10/9/2018 24/9/2018 9/11/2018 5/1/2018 29/1/2018 12/2/2018 26/2/2018 9/4/2018 23/4/2018 8/10/2018 22/10/2018 5/11/2018 7/12/2018 31/12/2018 Date



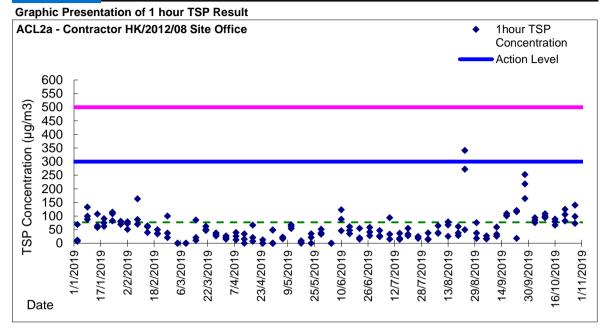


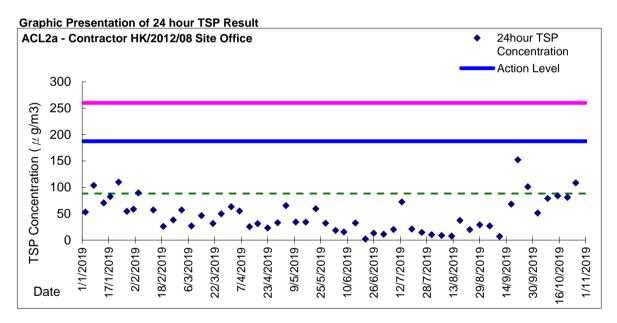


### **Graphic Presentation of 24 hour TSP Result**



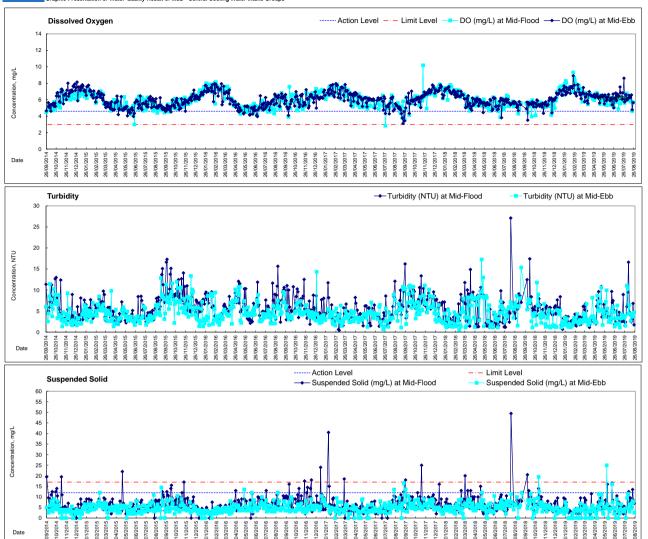


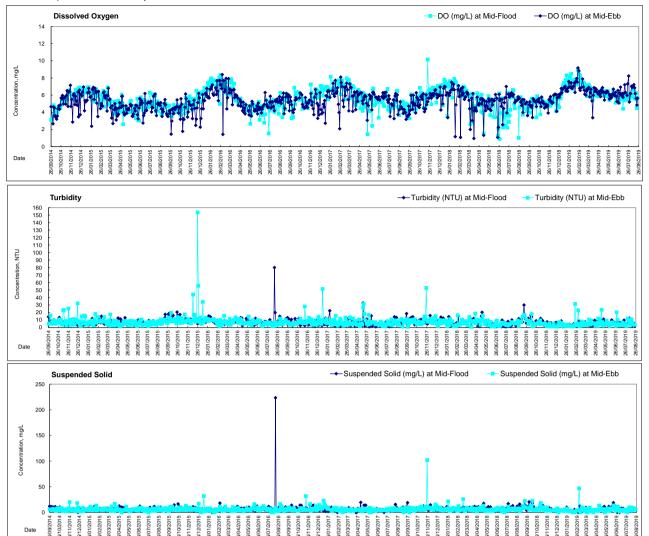




### Appendix 4.3

Water Quality Monitoring





### Appendix 4.4

Monitoring for Landscape Maintenance Period

### **Penny Yiu**

From: Ray Yan <ryan@ramboll.com>
Sent: 2019年11月1日星期五 12:51
To: Chan Ka Chun; 'Raymond Dai'

Cc: 'Gloria'; 'Eliot Liu'; 'Jacob Tsui'; David Yeung; F C Tsang; Rachel Wong; 'Penny Yiu';

'xinyihuang'; yuseilo@lamenviro.com

**Subject:** Re: Update EM&A arrangement for Contract HK/2012/08 under EP-122 {Disarmed}

{Disarmed} {Disarmed} {Disarmed}

Categories: Important Information

Dear Ka Chun/Raymond,

Thank you for your prompt reply and further clarification.

Please be informed that we have no further comments on the updated EM&A arrangements for Contract No. HK/2012/08 under EP-122.

Thank you.

Kind regards

#### Ray Yan

**Environmental Consultant** 

D +852 34652836

F +852 34652899

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Ramboll

21st Floor BEA Harbour View Centre 56 Gloucester Road Wan Chai Hong Kong

MailScanner has detected a possible fraud attempt from "webmail.ramboll.com" claiming to be https://ramboll.com

Ramboll Hong Kong Limited

From: Chan Ka Chun < kcchan@lamenviro.com>

Sent: 01 November 2019 12:34
To: Ray Yan <ryan@ramboll.com>

**Cc:** 'Gloria' <cre@wd2-aecom.com>; 'Eliot Liu' <re07@wd2-aecom.com>; 'Jacob Tsui' <sre12@wd2-aecom.com>; David Yeung <dyeung@ramboll.com>; F C Tsang <fctsang@ramboll.com>; Rachel Wong <RWONG@ramboll.com>; 'Raymond Dai' <raymonddai@lamenviro.com>; 'Penny Yiu' <pennyyiu@lamenviro.com>; 'xinyihuang'

<xinyihuang@lamenviro.com>; yuseilo@lamenviro.com <yuseilo@lamenviro.com>

**Subject:** 回覆: Update EM&A arrangement for Contract HK/2012/08 under EP-122 {Disarmed} {Disarmed} {Disarmed}

Dear Ray,

Thank you for your promptly follow-up. Please find our clarification for your comment 1 below:

- 1. Under EM&A manual section 6.2.2, it only mentioned monitoring of landscape work shall be conducted through site inspection and the landscape contractor will provide on-site maintenance for 12 months in normal;
- 2. Landscape site inspection frequency during typical 12 months maintenance period was not mentioned in Section 6 (Landscape and Visual) or Section 9 (Schedule of mitigation from EIA) in the EM&A manual;
- 3. Considered that the construction works was completed, there should not be major change / damage of landscape works on-site. The Contractor of HK/2012/08 will also provide regular maintenance to landscape works in according to their contract requirement;
- 4. With reference to the landscape establishment monitoring requirement / frequency under EM&A manual of CWB and WDII, the landscape site inspection during 12 months maintenance period for CRIII was proposed to carry out in quarterly interval.

Please find below the EM&A manual of CWB and WDII projects for your easy reference (Section 6 refers).

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<a href="mailto:cwb.com/documents/manual/Updated%20EM&%20A%20manual%20for%20EP%20364%202009">cwb.com/documents/manual/Updated%20EM&%20A%20manual%20for%20EP%20364%202009</a> A%20Dec% 202010.pdf

Feel free to contact us if you have further concern and comment.

Regards, Chan Ka Chun Lam Geotechnics Limited Lam Environmental Services Limited Tel: (852) 2839 5639 / 64100425

Fax: (852) 2882 3331

寄件者: Ray Yan [mailto:ryan@ramboll.com]

寄件日期: Friday, 1 November, 2019 11:24 AM

收件者: Chan Ka Chun < kcchan@lamenviro.com>

副本: 'Gloria' <cre@wd2-aecom.com>; 'Eliot Liu' <re07@wd2-aecom.com>; 'Jacob Tsui' <sre12@wd2-aecom.com>; David Yeung <dyeung@ramboll.com>; F C Tsang <fctsang@ramboll.com>; 'Raymond Dai' <raymonddai@lamenviro.com>; 'Penny Yiu' <pennyyiu@lamenviro.com>; 'xinyihuang' <xinyihuang@lamenviro.com>; Rachel Wong <RWONG@ramboll.com>

主旨: Re: Update EM&A arrangement for Contract HK/2012/08 under EP-122 {Disarmed} {Disarmed}

Dear Ka Chun,

Thank you for your reply and clarification.

Please find further comments on your responses as follows:

- RtC #1: As per your response, site inspection for landscape maintenance period is recommended to be conducted on a quarterly basis rather than other a more frequent basis (e.g., weekly, bi-weekly, or monthly, etc.). As such, please clarify further what criteria on which a less frequent basis is recommended for such monitoring.
- 2. RtC #2: No further comments.

Thank you.

Kind regards

Ray Yan

**Environmental Consultant** 

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Ramboll 21st Floor BEA Harbour View Centre 56 Gloucester Road Wan Chai Hong Kong

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Ramboll Hong Kong Limited

From: Chan Ka Chun < kcchan@lamenviro.com >

Sent: 28 October 2019 18:47
To: Ray Yan <ryan@ramboll.com>

**Cc:** 'Gloria' < <a href="mailto:cre@wd2-aecom.com">cre@wd2-aecom.com</a>; 'Eliot Liu' < <a href="mailto:re07@wd2-aecom.com">re07@wd2-aecom.com</a>; 'Jacob Tsui' < <a href="mailto:ser12@wd2-aecom.com">re12@wd2-aecom.com</a>; David Yeung < <a href="mailto:dyennygenemboll.com">dyennygenemboll.com</a>; 'Raymond Dai' < <a href="mailto:raymonddai@lamenviro.com">raymonddai@lamenviro.com</a>; 'Penny Yiu' < <a href="mailto:ser12@wd2-aecom.com">pennygenemboll.com</a>; 'xinyihuang <a href="mailto:ser12@wd2-aecom.com">ser12@wd2-aecom.com</a>; 'yinyihuang <a href="mailto:ser12@wd2-aecom.com">ser12@wd2-aecom.com</a>; 'yinyihuang <a href="mailto:ser12@wd2-aecom.com">ser12@wd2-aecom.com</a>; 'yinyihuang <a href="mailto:ser12@wd2-aecom.com">ser12@wd2-aecom.com</a>; 'yinyihuang <a href="mailto:ser12@wd2-aecom.com">ser12@wd2-aecom.com</a>; 'xinyihuang <a href="mailto:

Subject: 回覆: Update EM&A arrangement for Contract HK/2012/08 under EP-122 {Disarmed} {Disarmed}

Dear Ray,

Thank you for your comment. We would like to clarify to following:

- 1. The quarterly site inspection was proposed for HK/2012/08 landscape work under EP-122 during 12 month landscape maintenance period.
- 2. The termination of EM&A programme was purposed to submit in two stage (Construction Period and Maintenance Period)
  - First stage of termination of EM&A programme for Construction Period will be submit after the completion of construction EM&A;
  - Second stage of termination of EM&A programme for Maintenance Period will be submit after the 12-month landscape maintenance period;

Hence, the Final EM&A Summary Report will be submitted in two stage as well (Construction Period and Maintenance Period).

Regards,

Chan Ka Chun

Lam Geotechnics Limited

Lam Environmental Services Limited

Tel: (852) 2839 5639 / 64100425

Fax: (852) 2882 3331

寄件者: Ray Yan [mailto:ryan@ramboll.com]

寄件日期: Saturday, 26 October, 2019 4:05 PM

收件者: Chan Ka Chun < kcchan@lamenviro.com>

副本: 'Gloria' <cre@wd2-aecom.com>; Eliot Liu <re07@wd2-aecom.com>; Jacob Tsui <sre12@wd2-

aecom.com>; David Yeung <dyeung@ramboll.com>; F C Tsang <fctsang@ramboll.com>; 'Raymond

Dai' <raymonddai@lamenviro.com>; Penny Yiu <pennyyiu@lamenviro.com>; xinyihuang

<xinyihuang@lamenviro.com>; Rachel Wong <RWONG@ramboll.com>

主旨: Re: Update EM&A arrangement for Contract HK/2012/08 under EP-122 {Disarmed}

Dear Ka Chun,

Thank you for the updates on the EM&A arrangements for Contract No. HK/2012/08 under the Environmental Permit (EP-122/2002) (the permit) including the associated variations of the permit.

Please find the comments on the EM&A arrangements as follows:

- 1. Landscape and Visual Monitoring (2<sup>nd</sup> bullet point) Please be advised to clarify further the rationale on which site inspection on a quarterly basis is proposed for landscape and visual monitoring during the 12-month maintenance period.
- 2. Reporting (2<sup>nd</sup> bullet point) With respect to the fact that the landscape and visual monitoring during the 12-month maintenance period is one of the monitoring and audit requirements under the EM&A programme being governed by the EM&A manual, please be advised to clarify further if the proposal for termination of EM&A programme will be submitted to the IEC, ER and project proponent for endorsement prior to final approval from the DEP either before or upon completion of such monitoring during the 12-month maintenance period.

Kind regards

#### Ray Yan

**Environmental Consultant** 

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Ramboll 21st Floor BEA Harbour View Centre 56 Gloucester Road MailScanner has detected a possible fraud attempt from "webmail.ramboll.com" claiming to be https://ramboll.com

Ramboll Hong Kong Limited

From: Chan Ka Chun < kcchan@lamenviro.com>

Sent: 22 October 2019 18:10

To: Ray Yan < ryan@ramboll.com >; Rachel Wong < RWONG@ramboll.com >

**Cc:** 'Gloria' < <a href="mailto:cre@wd2-aecom.com">cre@wd2-aecom.com</a>; David Yeung < <a href="mailto:dyeung@ramboll.com">dyeung@ramboll.com</a>; F C Tsang < <a href="mailto:fctsang@ramboll.com">fctsang@ramboll.com</a>; 'Raymond Dai' < <a href="mailto:raymonddai@lamenviro.com">raymonddai@lamenviro.com</a>;

Penny Yiu pennyyiu@lamenviro.com; xinyihuang xinyihuang@lamenviro.com

Subject: Update EM&A arrangement for Contract HK/2012/08 under EP-122

Dear Ray and Rachel,

In view of WDII RSS confirmation of the construction work completion at EP-122 area (Attached email refer), we would like to propose the update EP-122 EM&A arrangement as follow:

### EM&A Arrangement for HK/2012/08 under EP-122

### **Monitoring**

- The water quality monitoring at M5B and Culvert J was temporary suspended from 23 August 2019 onward after completion of 4 weeks post-construction monitoring;
- The noise monitoring at ACL3 City Hall, air quality monitoring at ACL1 City Hall and ACL2a HK/2012/08 – Contractor HK/2012/08 Site Office was proposed to suspend from 23 October 2019 onwards.

#### Site Environmental Audit

- The weekly environmental site audit for HK/2012/08 under EP-122 was proposed to suspend from 23 October 2019.

### Landscape and Visual Monitoring

- Under EM&A manual section 6.2.2, monitoring of landscaping works to be undertaken as part of the CRIII project will to a large extent be conducted through site inspections to ensure that works are implemented in accordance with specifications. In addition, it is normal for the landscape contractor to provide on-site maintenance for 12 months following completion of works;
- In view of the above, landscape and visual monitoring through site inspection was proposed to conduct in quarterly interval starting from October 2019 for 12 months landscape maintenance period;
- The site area, landscape work to be inspected and draft checklist are attached for reference;

#### Reporting

- The findings of proposed landscape and visual monitoring for 12 months maintenance period will report to Contractor, IEC, ER, Project Proponent / Permit Holder, maintenance parties and DEP for their follow-up action or information;
- Proposal of termination of EM&A Programme under EM&A manual Section 8.5.1 will be submitted to IEC, ER and Project Proponent for their review and endorsement prior to final approval from DEP;
- Final EM&A Summary Report for this project under EM&A Manual section 8.5.3 will be submitted within 10 working days of the end of termination of EM&A Programme;

### ET and IEC duty

- After termination of EM&A Programme, submission of Final EM&A Summary Report and 12-month landscape maintenance, the ET/IEC role was not required to remain.

Please noted that the EM&A arrangement under EP-356, EP-364 and EP-376 will be proposed separately.

Grateful if you could advise your comment on the above proposed arrangement and feel free to contact us if you have any concern.

Regards, Chan Ka Chun Lam Geotechnics Limited Lam Environmental Services Limited Tel: (852) 2839 5639 / 64100425

Fax: (852) 2882 3331

### Appendix 4.5

Confirmation of work completion

### Xinyi Huang

From:felixpoon@cedd.gov.hkSent:06 November 2020 15:34To:raymonddai@lamenviro.com

**Cc:** mancheung@lamenviro.com; xinyihuang@lamenviro.com; are26@wd2-aecom.com;

sstchan@cedd.gov.hk

**Subject:** Re: FW: Proposal on Termination of EM&A programme under EP-122/2002 **Attachments:** 2016\_02\_19 Atkins [HK 1202--Maintenance Certificate].pdf; DP Plans - Completion

by HK 12\_02.pdf

### Dear Raymond,

Please note that DP1 (Reclamation) and DP3 (CWB Tunnel) under EP-122/2002/E were completed under Contract No. HK 12/02. The relevant part of DP2 (please see the attached plan) was also completed under Contract No. HK 12/02. The completion record of Contract No. HK 12/02 (Maintenance Certificate) is attached. For the remaining part of DP2, I understand that you have the relevant completion record.

Having checked our record, the North Island Line Protection Works (DP4) was longer required under CRIII project and was excised from Contract No. HK 12/02 in 2003.

### Regards,

Felix Poon SE/8, SDO, CEDD Tel: 3842 7013

From: "Penny Yiu" <pennyyiu@lamenviro.com>

To: <felixpoon@cedd.gov.hk>

Cc: "Raymond Dai" <raymonddai@lamenviro.com>, "Cheung Man Kit, Man" <mancheung@lamenviro.com>, "xinyihuang"

<xinyihuang@lamenviro.com>, "'Tat Lau" <are26@wd2-aecom.com>

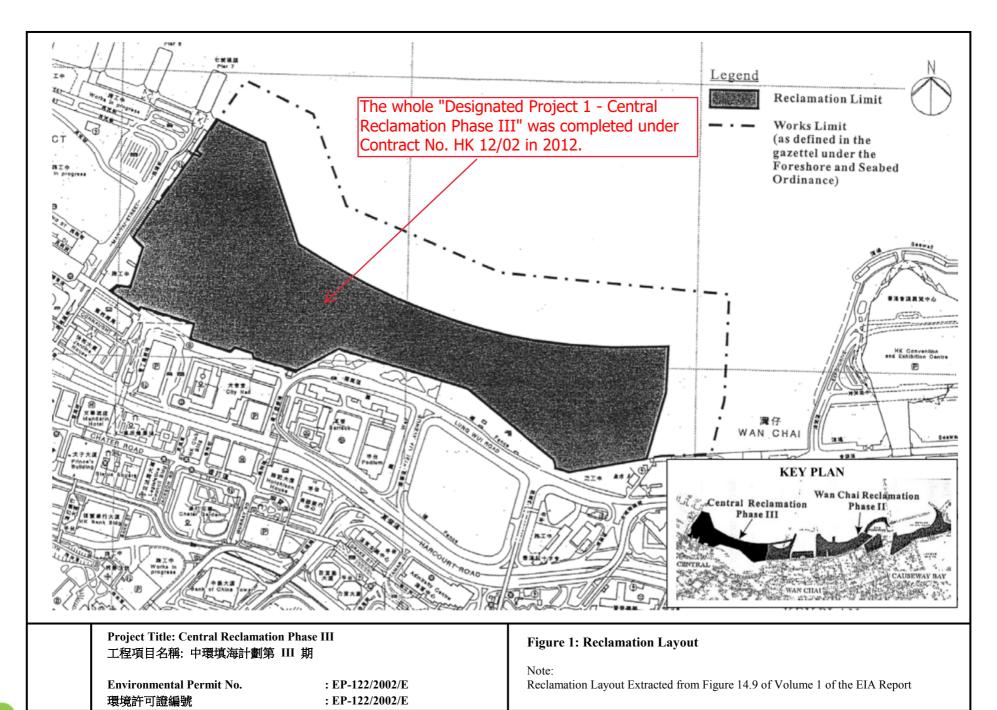
Date: 05/10/2020 10:00

Subject: FW: Proposal on Termination of EM&A programme under EP-122/2002

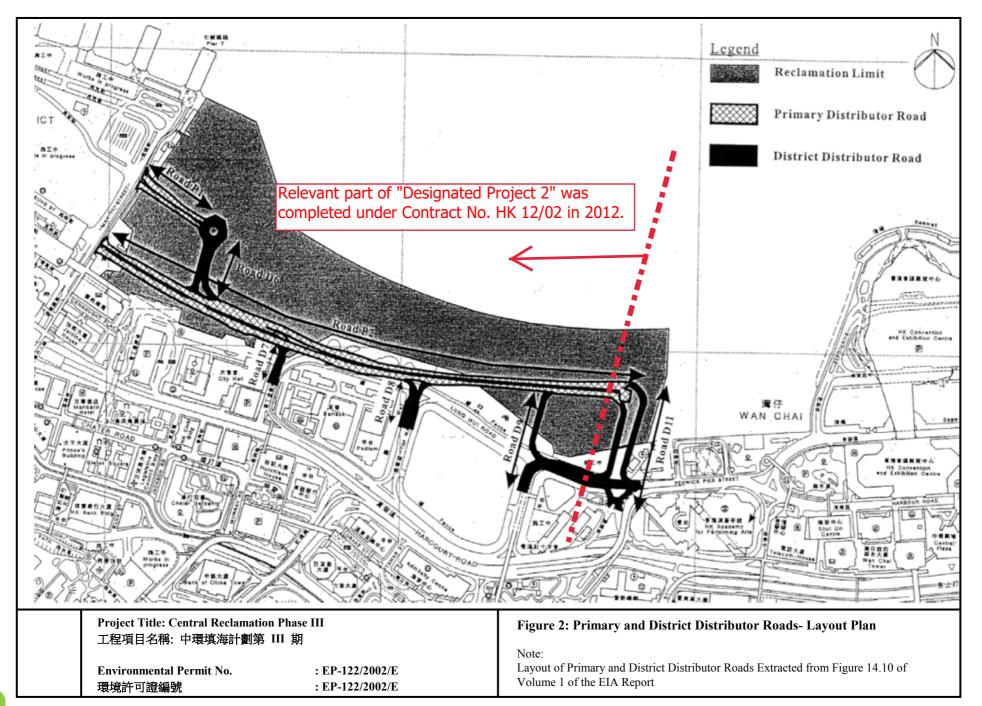
### Dear Felix,

We have received EPD (ken Tsui) comment on the captioned proposal (see below email), while I will address most of the comment, I will need your confirmation that ALL the construction activities relating to the EP-122/2002/E have been completed, and your confirmation will be included in the proposal.

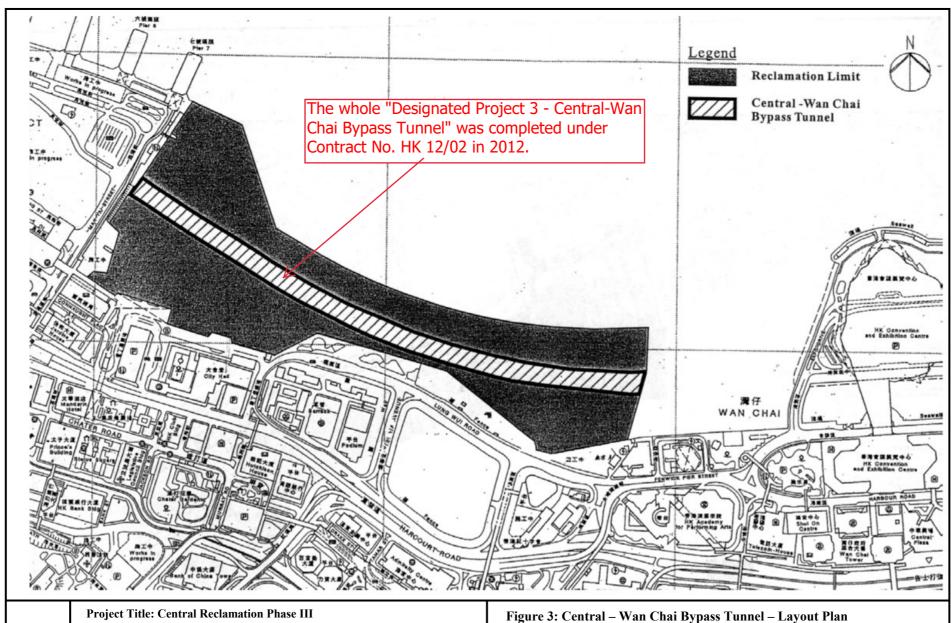
Thanks.











工程項目名稱: 中環填海計劃第 III 期

**Environmental Permit No.** : EP-122/2002/E : EP-122/2002/E 環境許可證編號

Layout of Central – Wan Chai Bypass Tunnel Extracted from Figure 14.11 of Volume 1 of the EIA Report



# **ATKINS**

our ref.

Our ref.

3128/M15/910/OC14854/TN/DL/TM/fl

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HKI&I Dev. Office

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Telephone (852) 2972 1000 Facsimile (852) 2890 6343

www.atkinsglobal.com

By Hand

Date:

Leighton-China State-Van Oord Joint Venture 39/F, Sun Hung Kai Centre 30 Harbour Road Wanchai, Hong Kong

19 February 2016

Attn: Mr. Norman Croker, Project Director

11/4 2/4/110 CC

Dear Sir,

Contract No. HK 12/02 Central Reclamation Phase III - Engineering Works **Maintenance Certificate of the Works** 

In accordance with Clause 80 of the General Conditions of Contract, I hereby certify that you, as the Contractor for the above Contract, have completed your obligation to execute the Works on 12 February 2016, but not continuing obligations under the Contract including without limitation those under Special Conditions of Contract SCC48A (1) for Professional Indemnity Cover.

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

Tommy Na

The Engineer for the Contract

Response Required : No, Thank you

**Due Date** 

: Not Applicable

Attachments

: Not Applicable

CC

D of A

CTA(F), DEVB

PM/HKI&I

**STA** 

SE/CA

ER ACL Mr. Dickson Law

Works completion record for HK/2012/08 under EP-122/2002/E

Chan Ka Chun

寄件者: Jacob Tsui <sre12@wd2-aecom.com> 寄件日期: Monday, 21 October, 2019 2:12 PM

收件者: Chan Ka Chun

副本: Gloria Tang; Eliot Liu; Terry Lau; 'FC Tsang'; Ray Yan; Rachel Wong (Ramboll); 'Raymond Dai'; Penny

Yiu; xinyihuang

主旨: RE: Remaining construction activates under HK/2012/08 at EP-122 and EP-364 area

附件: FEP-12-364-2009-D Figure 1b.pdf; FEP-12-364-2009-D Figure 1a.pdf; EP-122 Figure 2.pdf; EP-122

Figure 1.pdf

#### Dear Ka Chun,

Works under HK/2012/08 at EP-122 and EP-364 areas, including tree planting, are completed.

Regards, Jacob

From: Chan Ka Chun [mailto:kcchan@lamenviro.com]

Sent: Thursday, October 17, 2019 5:32 PM

To: Jacob Tsui

Cc: Gloria Tang; Eliot Liu; Terry Lau; 'FC Tsang'; Ray Yan; Rachel Wong (Ramboll); 'Raymond Dai'; Penny Yiu;

xinyihuang

Subject: Remaining construction activates under HK/2012/08 at EP-122 and EP-364 area

Dear Jacob,

As discuss, we would like to review the EM&A programme under EP-122 and EP-364. Grateful if you could advise the remaining construction works programme under HK/2012/08 at EP-122 and FEP-12/364/2009D area for our review and discussion with IEC.

Attached please find the project layout for EP-122 and FEP-12/364/2009D for your easy reference.

Regards, Chan Ka Chun Lam Geotechnics Limited Lam Environmental Services Limited Tel: (852) 2839 5639 / 64100425

Fax: (852) 2882 3331

Works completion record for HY/2010/08 under EP-122/2002/E

### **Penny Yiu**

From: Ip Chi Fung, Donald <donald.ip@cwbaecom.com>

**Sent:** 2020年8月10日星期一 10:58

To: 'Penny Yiu'

Cc: Wong Kam Keung, Eric; Raymond L.M. Dai - Lam Environmental Services; 'Cheung Man Kit, Man'

Subject: RE: Completion of junction modification works by HY/2010/08 under EP-122 area

**Attachments:** RE: HY/2010/08 junction modification works progress (31.8 KB)

### Dear Penny,

Further to the attached email on the EM&A arrangement for the junction modification works by HY/2010/08 under EP-122, the completion date of the captioned works was 15 August 2019.

### Regards,

Donald Ip RE(Env) AECOM, CWB Tel: 3912 3213

**From:** Penny Yiu [mailto:pennyyiu@lamenviro.com]

**Sent:** Wednesday, July 15, 2020 11:14 AM

**To:** Ip Chi Fung, Donald

Cc: Raymond L.M. Dai - Lam Environmental Services; 'Cheung Man Kit, Man'

Subject: Completion of junction modification works by HY/2010/08 under EP-122 area

#### Dear Donald,

After reviewing the email record (as attached) regarding the captioned matter, it can be understood that remaining works of junction modification under EP 122 area was not considered as DP works, thereby, EM&A programme was not required as agreed with IEC on 9 September 2019 with effective on 15 August 2019. It still reminds unclear on the actual date on the completion of junction modification works by HY/2010/08 under EP-122 area.

Could you please advise the date of completion of junction modification works by HY/2010/08 under EP-122 area.

Best Regards, Penny YIU

Lam Environmental Services Limited

Tel: (852) 2839 5689 Fax: (852) 2882 3331 http://www.lamenviro.com Works completion record for HY/2009/18 under EP-122/2002/E

**AECOM** 

8/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, Hong Kong 香港新界沙田鄉事會路 138 號

新城市中央廣場第2座8樓

www.aecom.com



F:DK:ttmk:60095653/C6/M15/905/18B009400-2015007099T

17 August 2015

Leighton Contractors (Asia) Ltd. 39/F., Sun Hung Kai Centre, 30 Harbour Road, Wan Chai, Hong Kong

Attn.: Mr. Jimmy Chu

Dear Sir,

Contract No. HY/2009/18 Central - Wan Chai Bypass - Central Interchange

### Certificate of Completion in Respect of Section 3 of the Works

In accordance with Clause 53 of the General Conditions of Contract, as amended Clause SCC 59 of the Special Conditions of Contract, we hereby certify that Section 3 of the Works was substantially completed on 7 July 2015.

This certificate is issued following the receipt of your letter ref. LCAL-CS-LE-7212 dated 10 August 2015 requesting the issue of the certificate of completion for the said Section of the Works and of your undertaking to carry out any outstanding works, including but not limited to the outstanding works listed in the attached "Appendix 1 - Section 3 of the Works - Outstanding Works as at 7 July 2015", during the Maintenance Period.

Yours faithfully, For and on behalf of AECOM Asia Co. Ltd.

Conrad Ng

**Executive Director** 

Encl.

C.C.

CE3/MW, HyD

CRE/CWB(HY/2009/18)

Caldwell Limited

D of A

STA, HyD, HQ

SE/CA(MW), HyD

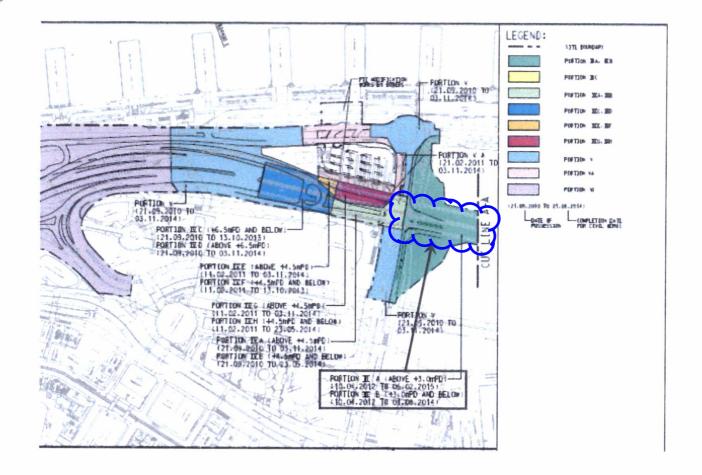
CTA(F), DEVB

- Attn.: Mr. Chiu Cheuk Siu

- Attn.: Mr. David Kwan

- Attn.: Mr. Peter Scott Caldwell

Appendix 1
Section 3 of the Works
Outstanding Works as at 7 July 2015



## Outstanding works under Section 3 of the Works as of 7 July 2015:

- 1. Concrete paving blocks footpath at Man Yiu Street
- 2. Irrigation system installation at P1 Road
- 3. Vertical stone planter wall and trees and shrubs planting works
- 4. Type II railing
- 5. Traffic signs and directional signs
- 6. Root barriers at P1 Road
- 7. Drainage works at Man Yiu Street
- 8. Watermains installation
- 9. U-channel construction work
- 10. Civil works for street lights installation
- 11. Road marking at P1 Road

AECOM 8/F Grand Central Plaza, Tower 2 138 Shatin Rural Committee Road Shatin, Hong Kong 香港新界沙田鄉事會路 138 號

新城市中央廣場第2座8樓 www.aecom.com +852 3922 9000 tel +852 3922 9797 fax 0 6 NOV 2018



Your Ref.:

Our Ref. : CWN:ALCF:DK:wcsw:60095653/C6/M15/910/18B011871-2018012878T

6 November 2018

Leighton Contractors (Asia) Ltd. 39/F., Sun Hung Kai Centre, 30 Harbour Road, Hong Kong

Attn.: Mr. Norman Croker

Dear Sir,

Contract No. HY/2009/18 Central – Wan Chai Bypass – Central Interchange

### Maintenance Certificate of the Works

In accordance with Clause 80 of the General Conditions of Contract, we hereby certify that you, as the Contractor for the above Contract, have completed your obligation to execute the Works on 1 November 2018.

In accordance with Clause 79(6) of the General Conditions of Contract [as amended by the Special Conditions of Contract Clause SCC 68(6)(c)], you are reminded to submit a statement of the account and supporting documentation, within 90 days after the issue of this certificate, showing in detail the value of the work done in accordance with the Contract together with all further sums which you consider to be due to you under the Contract up to the date of this certificate.

- Attn.: Mr. Chow Chun Pong

Yours faithfully, For and on behalf of AECOM Asia Co. Ltd.

Conrad Ng

Vice President, Major Project Delivery

Transportation, Hong Kong

c.c. D of A

CTA(F), DEVB

CE3/MW, HyD

STA, HyD, HQ

SE/CA(MW), HyD

CRE/CWB(HY/2009/18) - Attn.: Mr. David Kwan

### Appendix 5.1

**Event and Action Plans** 

Central Reclamation Phase III: Environmental Monitoring and Audit - Event and Action Plan for Air and Noise Quality

Event and Action Plan for Air Quality				
Event	Action			
	ET Leader	IC(E)	ER	Contractor
Action Level - Exceedance for one sample	Identify source     Inform IC(E) and ER     Repeat measurement to confirm finding     Increase monitoring frequency to daily	Check monitoring data submitted by ET     Check Contractor's working method	Notify Contractor	Rectify any unacceptable practice     Amend working methods if appropriate
Action Level - Exceedance for two or more consecutive samples	Identify source     Inform IC(E) and ER     Repeat measurement to confirm finding     Increase monitoring frequency to daily     Discuss with IC(E) and Contractor on remedial actions     If exceedance continues, arrange meeting with IC(E) and ER     If exceedance stops cease additional monitoring	Check monitoring data submitted by ET     Check Contractor's working method     Discuss with ET and Contractor on possible remedial measures     Advise the ER on the effectiveness of the proposed remedial measures     Supervise the implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Ensure remedial measures properly implemented	Submit proposals for remedial actions to IC(E) within 3 working days of notification     Implement the agreed proposals     Amend proposal if appropriate
Limit Level - Exceedance for one sample	Identify source     Inform ER and EPD     Repeat measurement to confirm findings     Increase monitoring frequency to daily     Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results	Check monitoring data submitted by ET     Check Contractor's working method     Discuss with ET and Contractor on possible remedial measures     Advise the ER on the effectiveness of the proposed remedial measures     Supervise the implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Ensure remedial measures properly implemented	Take immediate action to avoid further exceedance     Submit proposal for remedial actions to IC(E) within 3 working days of notification     Implement the agreed measures
Limit Level - Exceedance for two or more consecutive samples	Notify IC(E), ER, Contractor and EPD     Identify source     Repeat measurements to confirm findings     Increase monitoring frequency to daily     Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented     Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken     Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results     If exceedance stops, cease additional monitoring	Discuss amongst ER, ET, and Contractor on the potential remedial actions     Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly     Supervise the implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     In consultation with the IC(E), agree with the Contractor on the remedial measures to be implemented     Ensure remedial measures properly implemented     If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	Take immediate action to avoid further exceedance     Submit proposals for remedial actions to IC(E) within 3 working days of notification     Implement the agreed proposals     Resubmit proposals if problem still not under control     Stop the relevant portion of works as determined by the ER until the exceedance is abated

Central Reclamation Phase III: Environmental Monitoring and Audit - Event and Action Plan for Air and Noise Quality

Event and Action Plan for Noise Quality												
Event	Action											
	ET Leader	IC(E)	ER	Contractor								
Action Level is reached	Notify IC(E) and Contractor     Carry out investigation     Report the results of the investigation to the IC(E) and Contractor     Discuss with the Contractor and formulate remedial measures	Discuss amongst ER, ET and Contractor on the potential remedial actions     Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly     Supervise the implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Require Contractor to propose remedial measures for the analyzed noise problem     Ensure remedial measures are properly implemented	Submit noise mitigation proposal to IC(E     Implement noise mitigation proposals								
Limit Level is reached	Notify IC(E), ER, EPD and Contractor     Identify source     Repeat measurement to confirm findings     Carry out analysis of Contractor's     working procedures to determine     possible mitigation to be implemented     Inform IC(E), ER and EPD the causes &     actions taken for the exceedances     Assess effectiveness of Contractor's     remedial actions and keep IC(E), EPD     and ER informed of the results     If exceedance stops cease additional     monitoring	Discuss amongst ER, ET and Contractor on the potential remedial actions     Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly     Supervise the implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Require Contractor to propose remedial measures for the analyzed noise problem     Ensure remedial measures are properly implemented     If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion or work until the exceedance is abated	Take immediate action to avoid further exceedance     Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control     Stop the relevant portion of works as determined by the ER until the exceedance is abated								

Central Reclamation Phase III: Environmental Monitoring and Audit - Event and Action Plan for Water Quality

	Reclamation Phase III: Environmental Monitoring and Audit - Event and Action Plan for Water Quality										
EVENT		ACTIO	DN								
	ET	IEC	ER	CONTRACTOR							
Action level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)							
Action level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next working day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)							

Central Reclamation Phase III: Environmental Monitoring and Audit - Event and Action Plan for Water Quality

Event			tion	
	ET	IEC	ER	Contractor
Limit level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Limit level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3working days; Implement the agreed mitigation measures; As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. (The above actions should be taken within 1 working day after the exceedance is identified)

# Appendix 5.2

Summary for Notification of Exceedance



Ref. No.	Date	Time	Location	Measured TSP Level	Unit	Action Level	Limit Level	Follow-up action	
X_15A006	21-Jan-15	08:00	ACL1- City Hall	216.3	24hr TSP (ug/m <sup>3</sup> )	163.0	260	Possible reason:	High ambient air pollution level was observed during monitoring and was considered as the major
									contribution for air quality impact.
								Action taken / to be	Reviewed the trend of air quality measurement across monitoring stations. Analysis of contractor's
								taken:	working procedures. Mitigation measures including water spraying for haul road and dust screen was
								Damarka / Other Oher	implemented by contractor of HK/2012/08.  Although D-wall construction and socket-H piling works was conducted under HK/2012/08 during
								Remarks / Other Obs:	monitoring, the air pollution level of ambient air quality was considered as the major contribution to air
									quality impact. The Air Quality Health Index (AQHI) recorded by EPD at Central/Western District during
									the monitoring period was ranged from 4 to 10+ indicating a severly high concentration of air
									pollutants. In addition, similar construction activitities and mitigation measures were undertaken in
									previous monitoring, no exceedance was recorded. As such, the implemeted measures were
									considered effective and exceedance was considered as non-project related.
X_15A007	21-Jan-15	08:00	ACL2a - Contractor	201.6	24hr TSP (ug/m³)	187.3	260	Possible reason:	High ambient air pollution level was observed during monitoring and was considered as the major
			HK/2012/08 Site Office						contribution for air quality impact.
								Action taken / to be	Reviewed the trend of air quality measurement across monitoring stations. Analysis of contractor's
								taken:	working procedures. Mitigation measures including water spraying for haul road was implemented by contractor of HK/2012/08.
								Remarks / Other Obs:	Although D-wall construction and socket-H piling works was conducted under HK/2012/08 during monitoring, the air pollution level of ambient air quality was considered as the major contribution to air
									quality impact. The Air Quality Health Index (AQHI) recorded by EPD at Central/Western District during
									the monitoring period was ranged from 4 to 10+ indicating a severly high concentration of air pollutants. In addition, similar construction activitities and mitigation measures were undertaken in
							1		previous monitoring, no exceedance was recorded. As such, the implemeted measures were
									considered effective and exceedance was considered as non-project related.



Ref. No.	Date	Time	Location	Measured TSP Level	Unit	Action Level	Limit Level	Follow-up action	
X_16A041	02-Mar-17	08:00	ACL1- City Hall	275.9	24hr TSP (ug/m³)	163.0	260	Possible reason:	Elevated TSP level potentially in relate to ambient air quality
			·		(3)			Action taken / to be taken:	Reviewed the trend of air quality measurement across monitoring stations. Analysis of contractor's working procedures.
								Remarks / Other Obs:	No construction works under EP-122/2002/E was conducted during the monitoring date around the monitoring station under Contractor of HY/2009/18.
									Meanwhile, severe smog was reported observed across the period on 01 March 2017 and it is considered that exceedance was potentially in relate to the residual effect of the severe smog observed (AQHI at Central/ Western District Station across monitoring period on 02 March 2017 was recorded as ranged from 5 to 6) and elevated TSP level was observed at other monitoring station on the same monitoring date. In view of the above, the exceedance was considered to be non-project related and potentially contributed by ambient air quality. Nevertheless, the Contractor of HY/2009/18 was reminded to maintain regularly dust suppression measures for any potential dusty surface and dust generating operation around the concerned location to avoid any potential cumulative air quality impact.
X_16A042	02-Mar-17	08:00	ACL1- City Hall	275.9	24hr TSP (ug/m <sup>3</sup> )	163.0	260	Possible reason: Action taken / to be taken:	Elevated TSP level potentially in relate to ambient air quality  Reviewed the trend of air quality measurement across monitoring stations. Analysis of contractor's working procedures.
								Remarks / Other Obs:	No construction works under EP-122/2002/E was conducted during the monitoring date around the monitoring station under Contractor of HK/2012/08. Meanwhile, severe smog was reported observed across the period on 01 March 2017 and it is considered that exceedance was potentially in relate to the residual effect of the severe smog observed (AQHI at Central/ Western District Station across monitoring period on 02 March 2017 was recorded as ranged from 5 to 6) and elevated TSP level was observed at other monitoring station on the same monitoring date. In view of the above, the exceedance was considered to be non-project related and potentially contributed by ambient air quality. Nevertheless, the Contractor of HK/2012/08 was reminded to maintain regularly dust suppression measures for any potential dusty surface and dust generating operation around the concerned location to avoid any potential cumulative air quality impact.



Ref. No.	Date	Time	Location	Measured TSP Level	Unit	Action Level	Limit Level	Follow-up action	
X_19A001	24-Aug-19	10:42	ACL2a - Contractor HK/2012/08 Site Office	358.6	1hr TSP (ug/m <sup>3</sup> )	300.1	500	Possible reason:	TSP level potentially in relate to ambient condition around the monitoring station at the time of monitoring.
			THV201200 Site Office					Action taken / to be taken: Remarks / Other Obs:	Reviewed the trend of air quality measurement across monitoring stations. Analysis of contractor's working procedures.  No construction works was undertaken under Contract HK/2012/08 around the monitoring location on the monitoring date and no particular observation regarding dust emission was observed during sampling periods. Mitigation measure including water spraying for haul road and dusty surface were generally implemented by the Contractor of HK/2012/08.  Meanwhile, elevated Air Quality Health index (AQHI) (From Level 5 to Level 7) was recorded at EPD Central/Western General Station, Central Roadside Station and Causeway Bay Roadside Station. Elevated PM2.5 (Range from 74.95µg/m3 to 96.95µg/m3) and PM10 (Ranged from 62.5µg/m3 to 122.8µg/m3) level were also recorded at the above mentioned monitoring station. In addition, similar elevation in TSP level were recorded across the same period on 24 August 2019 at other AQM station at Central area  In view of the above, the exceedance was considered to be not related to the Project works under Contract HK/2012/08 and potentially contributed by ambient air quality condition.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
		Mid-flood	M5B	DO (mg/L)	4.48			Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	19.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checked with Contractor works.
								Remarks/ Other Obs:	Rock armour removal works was conducted during the period (from 16:05 to 18:00) on 26 September 2014, Contractor mitigation measures were in place and silt screen installed around intake monitoring station was in order. Elevated SS level was noted at the same monitoring event at reference station (Culvert J). In view of no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related but due to the dispersion and accumulation of particles araised from nearby culvert discharge.
X_CR002	13-Oct-14	Mid-flood	M5B	DO (mg/L)	4.92	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	12.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checked with Contractor works.
								Remarks/ Other Obs:	Rock armour removal works was conducted during the monitoring date on 13 October 2014, Contractor mitigation measures were in place and silt screen installed around intake monitoring station was in order. Elevated SS level was noted at the same monitoring event at reference station (Culvert J). In view of no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related but due to particles araised from nearby culvert discharge.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
		Mid-flood	M5B	DO (mg/L)	4.90	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	12.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checked with Contractor works.
								Remarks/ Other Obs:	No marine works was conducted during the monitoring date on 24 October 2014. Elevated SS level was noted at the same monitoring event at reference station (Culvert J). In view of no marine works was carried out on the monitoring date and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related but due to particles araised from nearby culvert discharge.
X_CR004	27-Oct-14	Mid-flood	M5B	DO (mg/L)	5.20	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	14.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checked with Contractor works.
								Remarks/ Other Obs:	No marine works was conducted during the monitoring date on 27 October 2014. Elevated SS level was noted at the same monitoring event at reference station (Culvert J). In view of no marine works was carried out on the monitoring date and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related but due to particles araised from nearby culvert discharge.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_CR005	10-Nov-14	Mid-flood	M5B	DO (mg/L)	7.19	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	20.00	12.00	17.00		Immediate repeated in-situ measurement to confirm the exceedance. Checking with Contractor works and review previous monitoring data.
									No marine works was conducted under contract HK/2012/08 on the monitoring date, silt curtain installed around intake monitoring station was generally in order. In view of no marine activities conducted on the monitoring date and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	04-May-15	Mid-ebb	M5B	DO (mg/L)	4.19	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	3.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite transfer of rockfill from derrick barge to land was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was in place and silt curtain installed around intake monitoring station was generally in order and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.
X_CR007	15-May-15	Mid-flood	M5B	DO (mg/L)	4.86	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	22.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite placing of rockfill was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was generally in place and silt curtain installed around intake monitoring station was generally in order. In view of the above and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related. Nevertheless, the contractor of HK/2012/08 was reminded to maintain the minimal opening of the silt curtain for marine access and implement localize mitigation measure as appropriate.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	01-Jun-15	Mid-ebb	M5B	DO (mg/L)	4.04			Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	5.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite placing of rockfill was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was in place and silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of the above and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.
X_CR009	08-Jun-15	Mid-ebb	M5B	DO (mg/L)	4.36	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	3.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite slope trimming was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was generally in place and silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of the above and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
		Mid-ebb	M5B	DO (mg/L)	4.41		3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	7.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite placing of rockfill was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was in place and silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of the above and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.
X_CR011	12-Jun-15	Mid-flood	M5B	DO (mg/L)	4.21	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	3.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine works was conducted under Contract HK/2012/08 on the monitoring date. Silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of no marine activity was conducted and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.



	•	•	•	•	1	•			
	Date	Tidal			Measured			Follow-up action	
X_CR012	19-Jun-15	Mid-ebb	M5B	DO (mg/L)	3.96	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	3.50	12.00	17.00		Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
									No marine works was conducted under Contract HK/2012/08 on the monitoring date. Silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of no marine activity was conducted and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.
X_CR013	22-Jun-15	Mid-flood	M5B	DO (mg/L)	2.98	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	3.50	12.00	17.00		Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite placing of geotextile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was generally in place and silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of the above, it was considered that the exceedance was not project related.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_CR014	22-Jun-15	Mid-ebb	M5B	DO (mg/L)	4.35	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	4.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite placing of geotextile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was in place and silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of the above and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.
X_CR015	31-Aug-15	Mid-flood	M5B	DO (mg/L)	4.40	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	6.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement to confirm the exceedance. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine activity was conducted under Contract HK/2012/08 on the monitoring date. Mitigation measures including the use of silt curtain was in place and silt curtain installed around intake monitoring station was generally in order while nearby culvert discharge was consistently observed. In view of no marine activity was conducted and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
		Mid-ebb	M5B	DO (mg/L)	5.30	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	14.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall block by derrick barge under Contract HK/2012/08 was conducted on the monitoring date. Mitigation measures including the use of silt curtain was in place and silt screen installed around intake monitoring station was generally in order while nearby culvert discharge was observed. In view of no further exceedance was recorded in the subsequent monitoring, it was considered that the exceedance was not project related.
X_CR017	14-Sep-15	Mid-flood	M5B	DO (mg/L)	4.82	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	12.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall block by derrick barge under Contract HK/2012/08 was conducted on the monitoring date. Mitigation measures including the use of silt curtain was in place and silt screen installed around intake monitoring station was generally in order during monitoring while nearby culvert discharge was observed. Despite opening of the silt curtain was observed during ebb tide on the same monitoring date, no exceedance was recorded and Contractor has taken immediate action to rectify the silt curtain condition. In view of the above and no further exceedance was recorded in the subsequent monitoring, it was considered that the exceedance was not project related.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	_
		Mid-flood	M5B	DO (mg/L)	4.44			Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	3.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall block by derrick barge under Contract HK/2012/08 was conducted on the monitoring date. Mitigation measures including the use of silt curtain was in place and silt screen installed around intake monitoring station was generally in order while nearby culvert discharge was observed. In view of no further exceedance was recorded in the subsequent monitoring, it was considered that the exceedance was not project related.
X_CR019	26-Sep-15	Mid-ebb	M5B	DO (mg/L)	4.57	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	4.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of stones by derrick barge under Contract HK/2012/08 was conducted on the monitoring date. Mitigation measures including the use of silt curtain was in place and silt screen installed around intake monitoring station was generally in order while nearby culvert discharge was observed. In view of no further exceedance was recorded in the subsequent monitoring, it was considered that the exceedance was not project related.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	I imit I evel	Follow-up action	
		Mid-flood	M5B	DO (mg/L)	4.70			Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge
				SS (mg/L)	12.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine activity was conducted under Contract HK/2012/08 on the monitoring date. Mitigation measures including the use of silt curtain was in place and silt screen installed around intake monitoring station was generally in order while nearby culvert discharge was observed. In view of no marine activity was conducted and no further exceedance was recorded in subsequent monitoring, it was considered that the exceedance was not project related.
X_CR021	06-Oct-15	Mid-flood	M5B	DO (mg/L)	4.53	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge.
				SS (mg/L)	4.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall block was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures such as the use of silt curtain was in place and silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of no exceedance recorded on the subsequent monitoring, it was considered that the exceedance was not project related.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	10-Oct-15	Mid-flood	M5B	DO (mg/L)	4.94			Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge.
				SS (mg/L)	14.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall block was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures such as the use of silt curtain was in place and silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of the above, it was considered that the exceedance was not project related.
X_CR023	12-Oct-15	Mid-flood	M5B	DO (mg/L)	5.04	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge.
				SS (mg/L)	15.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall block was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures such as the use of localised silt curtain was in place and silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of the above, it was considered that the exceedance was not project related. Nevertheless, Contractor was reminded to properly maintain the outer layer silt curtain



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_CR024	12-Oct-15	Mid-ebb	M5B	DO (mg/L)	4.53	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station in relate to nearby culvert discharge.
				SS (mg/L)	9.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall block was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures such as the use of silt curtain was in place and silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of the above and the location of construction area was located at downstream of M5B during monitoring period, it was considered that the exceedance was not project related.
X_CR025	19-Nov-15	Mid-flood	M5B	DO (mg/L)	5.11	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	17.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-situ measurement had conducted to confirm the exceedances. Checking with contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of grade 400 rock bedding was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of silt curtain was provided. Silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of the above and no exceedance recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	25-Apr-16		M5B	DO (mg/L)	5.42	4.60	3.00	Possible reason:	Changes of water quality in the vicnity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of Grade 400 rock mound profile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of localized silt curtain was in place. Silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of the above and no exceedance recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.
X_16CR002	07-May-16	Mid-ebb	M5B	DO (mg/L)	4.51	4.60	3.00	Possible reason:	Changes of water quality in the vicnity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	4.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of Grade 400 rock mound profile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of localized silt curtain was in place. Silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. Location of construction area was located at downstream of M5B monitoring station during monitoring period. In view of the above and no exceedance recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	7
X_16CR003			M5B	DO (mg/L)	4.27	4.60	3.00	Possible reason:	Changes of water quality in the vicnity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	6.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of Grade 400 rock mound profile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of localized silt curtain was in place. Silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of the above and no exceedance recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.
X_16CR004	21-May-16	Mid-ebb	M5B	DO (mg/L)	4.29	4.60	3.00	Possible reason:	Changes of water quality in the vicnity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine works was conducted under Contract HK/2012/08 on the monitoring date. Silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of no marine activity was conducted and no turbiidty and SS exceedances were recorded on the subsequent monitoring, it was considered that the exceedances were not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	23-May-16		M5B	DO (mg/L)	4.45	4.60	3.00	Possible reason:	Changes of water quality in the vicnity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	3.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of Grade 400 rock mound profile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of localized silt curtain was in place. Silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. Location of construction area was located at downstream of M5B monitoring station during monitoring period. In view of the above and no exceedance recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.
X_16CR006	30-May-16	Mid-flood	M5B	DO (mg/L)	4.48	4.60	3.00	Possible reason:	Changes of water quality in the vicnity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	5.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of Grade 400 rock mound profile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including the use of localized silt curtain was in place. Silt screen installed around the intake monitoring station was generally in order while nearby culvert discharge was observed. In view of the above and no exceedance recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR007	08-Jun-16	Mid-ebb	M5B	DO (mg/L)	4.15	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	7.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine works was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. Low SS level was recorded during monitoring period. In view of no marine activity was conducted and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedances were not related to Project.
X_16CR008	10-Jun-16	Mid-ebb	M5B	DO (mg/L)	4.16	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	4.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine works was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. Low SS level was recorded during monitoring period. In view of no marine activity was conducted and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedances were not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR009	18-Jun-16	Mid-ebb	M5B	DO (mg/L)	4.26	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	5.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Removal of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date. Contractor mitigation measures including deployment of localized silt curtain was in place. The construction area was located at downstream at M5B monitoring station. Low SS level was recorded during monitoring period. In view of the above, it was considered that the exceedance was not related to Project.
X_16CR010	18-Jun-16	Mid-flood	M5B	DO (mg/L)	4.50	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	6.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Removal of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date. Contractor mitigation measures including deployment of localized silt curtain was in place. Low SS level was recorded during monitoring period. In view of the above and no exceedance was recorded on subsequent monitoring, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
			M5B	DO (mg/L)	4.08	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality
X_10CK011	30-3dii-10	IVIIQ-EDD	IVIOD	DO (mg/L)	4.00	4.00	3.00	r ossible reason.	monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	4.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Handling of rockfill by derrick barge was conducted under Contract HK/2012/08 on the monitoring date. Contractor mitigation measures including deployment of localized silt curtain was in place. The construction area was located at downstream at M5B monitoring station. Low SS level was recorded during monitoring period. In view of the above, it was considered that the exceedance was not related to Project.
X_16CR012	30-Jun-16	Mid-flood	M5B	DO (mg/L)	4.12	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	6.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Handling of rockfill by derrick barge was conducted under Contract HK/2012/08 on the monitoring date. Contractor mitigation measures including deployment of localized silt curtain was in place. Low SS level was recorded 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 related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR013	02-Jul-16	Mid-ebb	M5B	DO (mg/L)	3.95	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	5.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place. Low SS level was recorded during monitoring period. Location of construction area was at the downstream of monitoring station M5B. In view of the above, it was considered that the exceedance was not related to Project.
X_16CR014	02-Jul-16	Mid-flood	M5B	DO (mg/L)	4.16	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	10.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place. In view of the above and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR015	27-Jul-16	Mid-ebb	M5B	DO (mg/L)	5.43	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of rockbed profile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place. Location of construction area was at the downstream of monitoring station M5B. In view of the above and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.
X_16CR016	03-Aug-16	Mid-flood	M5B	DO (mg/L)	4.53	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	6.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite installation of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place. Low SS level was recorded 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 related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	08-Aug-16		M5B	DO (mg/L)	4.54	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	6.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite installation of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place. Low SS level was recorded 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 related to Project.
X_16CR018	22-Aug-16	Mid-flood	M5B	DO (mg/L)	4.32	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	7.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite transfer of rockfill from land to the derrick was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place and on-site runoff control was in order. Low SS level was recorded 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 related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR019	05-Oct-16	Mid-flood	M5B	DO (mg/L)	3.89	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	16.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. In view of no marine construction activity, it was considered that the exceedance was not related to Project.
X_16CR020	05-Oct-16	Mid-ebb	M5B	DO (mg/L)	4.09	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	8.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. The location of the construction area is at downstream of monitoring station M5B. Low SS level was recorded during monitoring period. In view of no marine construction activity, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 8 October 2016 ebb tide.



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	Date	Tidal		Parameters (Unit)	Measured		Limit Level	Follow-up action	
X_16CR021	04-Nov-16	Mid-flood	M5B	DO (mg/L)	6.00	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	14.00	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. In view of no marine construction activity and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 7 November 2016 ebb tide.
X_16CR022	21-Nov-16	Mid-flood	M5B	DO (mg/L)	5.60	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	17.50	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. In view of no marine construction activity and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 23 November 2016 ebb tide.



Dofno	Doto	Tidal	Location	Doromotoro (Linit)	Magaurad	Action Lovel	LimitLoval	Eallow up action	
	Date 30-Nov-16	Tidal Mid-flood	Location		Measured 6.69	Action Level 4.60	3.00	Follow-up action	Changes of water quality in the visinity of water availty
X_16CR023	30-NOV-16	IVIIa-TIOOa	INIOR	DO (mg/L)	6.69	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	14.50	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of rock mound profile was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures such as the use of silt curtain was generally in place. No particular observation regarding water quality impact was observed during sampling. In view of the above, the exceedance was considered not related to Project works. No exceedance was recorded on the subsequent monitoring on 1 December 2016 ebb tide.
X_16CR024	09-Dec-16	Mid-flood	M5B	DO (mg/L)	6.12	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	14.00	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Trimming of rock mound profile was conducted under Contract HK/2012/08 on the monitoring date. Contractor mitigation measures including the use of silt curtain was in place while no particular observation regarding water quality impact was observed during sampling. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 12 December 2016 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR025	12-Dec-16	Mid-flood	M5B	DO (mg/L)	6.66	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	18.00	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Trimming of rock mound profile was conducted under Contract HK/2012/08 on the monitoring date. Contractor mitigation measures including the use of silt curtain was in place while no particular observation regarding water quality impact was observed during sampling. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 14 December 2016 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR026	09-Jan-17	Mid-flood		DO (mg/L)	6.97		3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	24.00	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 11 January 2017 ebb tide.
X_16CR027	02-Feb-17	Mid-flood	M5B	DO (mg/L)	6.70	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	40.50	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of rock mound profile was conducted under Contract HK/2012/08 on the monitoring date, Contractor mitigation measure including the use of silt curtain was in place while elevated turbidity level was recorded at nearby culvert discharge (22.32NTU). Hence, it is considered the exceedance is potentially contributed by nearby culvert discharge affecting the water quality next to the monitoring station M5B and the exceedance was considered not related to Project. No exceedance was recorded on the subsequent monitoring on 2 February 2017 ebb tide.



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Ref no.	Date	Tidal		Parameters (Unit)	Measured			Follow-up action	1
X_16CR028	04-Feb-17	Mid-flood	M5B	DO (mg/L)	6.52	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	15.00	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 4 February 2017 ebb tide.
X_16CR029	22-Mar-17	Mid-flood	M5B	DO (mg/L)	5.76	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	18.50	12.00	17.00	Action taken/ to be taken:	Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite removal of existing concrete blocks near Culvert K was conducted under Contract HK/2012/08 on the monitoring date, Contractor mitigation measures including the use of localized silt curtain was generally in place, and no particular observation regarding water quality impact was observed during sampling. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 22 March 2017 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR030			M5B	DO (mg/L)	2.84	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	5.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite installation of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place. Low SS level was recorded during monitoring period and no particular observation regarding water quality impact was observed during sampling. In view of the above and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.
X_16CR031	28-Jul-17	Mid-ebb	M5B	DO (mg/L)	4.32	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	2.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite installation of seawall blocks was conducted under Contract HK/2012/08 on the monitoring date, contractor mitigation measures including deployment of localized silt curtain was in place. The location of the construction area was located at downstream of monitoring station M5B while low DO level was recorded at nearby upstream culvert. In view of the above and no exceedance was recorded on the subsequent monitoring, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR032			M5B	DO (mg/L)	4.28	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	2.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 9 August 2017 flood tide.
X_16CR033	21-Aug-17	Mid-ebb	M5B	DO (mg/L)	4.64	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 25 August 2017 flood tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	11-Sep-17	Mid-flood		DO (mg/L)	4.58	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	11.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 11 September 2017 ebb tide.
X_16CR035	13-Sep-17	Mid-flood	M5B	DO (mg/L)	4.35	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	6.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project.



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	Date	Tidal	Location	Parameters (Unit)	Measured			Follow-up action	
X_16CR036	15-Sep-17	Mid-ebb	M5B	DO (mg/L)	4.30	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	7.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project.
X_16CR037	18-Sep-17	Mid-ebb	M5B	DO (mg/L)	3.77	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	3.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR038	18-Sep-17	Mid-flood		DO (mg/L)	3.77		3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	5.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project.
X_16CR039	20-Sep-17	Mid-ebb	M5B	DO (mg/L)	3.12	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	16.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance of dissolved oxygen and suspended solid recorded were not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR040	20-Sep-17	Mid-flood	M5B	DO (mg/L)	5.79	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	12.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project.
X_16CR041	23-Sep-17	Mid-ebb	M5B	DO (mg/L)	4.55	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	7.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR042			M5B	DO (mg/L)	3.55	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	18.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedances of dissolved oxygen and suspended solid were not related to Project.
X_16CR043	25-Sep-17	Mid-ebb	M5B	DO (mg/L)	3.43	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedances of turbidity and suspended solid were not related to Project. No dissolved oxygen and suspended solid exceedances were recorded on the subsequent monitoring on 28 September 2017 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_16CR044		Mid-flood		DO (mg/L)	4.13		3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	8.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance of dissolved oxygen was not related to Project.
X_16CR045	09-Oct-17	Mid-ebb	M5B	DO (mg/L)	4.33	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	7.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance of dissolved oxygen was not related to Project. No dissolved oxygen exceedance was recorded on the sequent monitoring on 11 October 2017 flood tide.



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	Date			\ /	Measured			Follow-up action	
X_16CR046	13-Nov-17	Mid-flood	M5B	DO (mg/L)	5.18	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	25.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of rock level was conducted under Contract HK/2012/08 on the monitoring date, Contractor mitigation measure including the use of silt curtain was in place while elevated turbidity (10.21NTU) and SS (12.50mg/L) level was recorded at nearby culvert discharge. Hence, it is considered that the exceedance is potentially contributed by nearby culvert discharge affecting the water quality next to the monitoring station M5B and the exceedance was considered not related to Project. No exceedance was recorded on the subsequent monitoring on 15 November 2017 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	05-Jan-18		M5B	DO (mg/L)	7.16	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	16.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of rock level was conducted under Contract HK/2012/08 on the monitoring date, Contractor mitigation measures including the use of silt curtain was in place while no particular observation regarding water quality impact was observed during sampling. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 6 January 2018 ebb tide.
X_18CR002	14-Mar-18	Mid-flood	M5B	DO (mg/L)	6.29	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	Despite trimming of rock level was conducted under Contract HK/2012/08 on the monitoring date, Contractor mitigation measure including the use of silt curtain was in place while elevated turbidity (10.85NTU) and SS (10.00mg/L) level was recorded at nearby culvert discharge. Hence, it is considered that the exceedance was potentially contributed by nearby culvert discharge affecting the water quality next to the monitoring station M5B and the exceedance was considered not related to Project. No exceedance was recorded on the subsequent monitoring on 14 March 2018 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_18CR003	26-Mar-18	Mid-flood	M5B	DO (mg/L)	6.60	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	20.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 26 March 2018 ebb tide.
X_18CR004	03-Apr-18	Mid-flood	M5B	DO (mg/L)	6.30	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 3 April 2018 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_18CR005	12-Apr-18	Mid-flood	M5B	DO (mg/L)	4.63	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	13.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 12 April 2018 ebb tide.
X_18CR006	12-May-18	Mid-flood	M5B	DO (mg/L)	5.95	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	15.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 14 May 2018 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_18CR007	23-May-18	Mid-ebb	M5B	DO (mg/L)	4.44	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	4.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 25 May 2018 ebb tide.
X_18CR008	16-Jul-18	Mid-flood	M5B	DO (mg/L)	3.86	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	9.83	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of no marine construction activity conducted, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 16 July 2018 ebb tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_18CR009	20-Jul-18	Mid-ebb	M5B	DO (mg/L)	3.81	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	4.61	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. Location of construction area was located at downstream of M5B monitoring station during monitoring period. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 21 July 2018 flood tide.
X_18CR010	15-Aug-18	Mid-flood	M5B	DO (mg/L)	5.57	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	49.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 15 August 2018 during ebb tide.



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	Date	Tidal		Parameters (Unit)	Measured		Limit Level	Follow-up action	
X_18CR011	07-Sep-18	Mid-flood	M5B	DO (mg/L)	4.29	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	8.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 10 September 2018 during ebb tide.
X_18CR012	02-Oct-18	Mid-flood	M5B	DO (mg/L)	5.60	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS (mg/L)	20.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 4 October 2018 during ebb tide.



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Ref no.	Date	Tidal		Parameters (Unit)	Measured			Follow-up action	
X_18CR013	06-Oct-18	Mid-ebb	M5B	DO(mg/L)	3.51	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	6.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while location of construction area was located at downstream of M5B monitoring station during monitoring period. In view of the above, it was considered that the exceedance was not related to Project.
X_18CR014	06-Oct-18	Mid-flood	M5B	DO(mg/L)	4.44	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	13.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date while nearby culvert discharge was observed. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 8 October 2018 during ebb tide.



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	Date	Tidal		Parameters (Unit)	Measured		Limit Level	Follow-up action	
X_18CR015	18-Oct-18	Mid-flood	M5B	DO(mg/L)	3.95	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	6.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 20 October 2018 during ebb tide.
X_18CR016	30-Oct-18	Mid-flood	M5B	DO(mg/L)	4.12	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	6.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 on the monitoring date. In view of the above, it was considered that the exceedance was not related to Project. No exceedance was recorded on the subsequent monitoring on 30 October 2018 during flood tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	05-Nov-18	Mid-ebb	M5B	DO(mg/L)	5.88	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge. Drainage Service Department sewage bypass from 5 to 16 November 2018.
				SS(mg/L)	19.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date while the location of the construction area was at downstream of monitoring station M5B during monitoring period. In addition, it is understanded that Drainage Service Department sewage bypass due to maintenance work was conducted from 5 to 16 November 2018. In view of the above, it is considered that the exceedance was not related to Project works.
X_18CR018	05-Nov-18	Mid-flood	M5B	DO(mg/L)	5.61	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge. Drainage Service Department sewage bypass from 5 to 16 November 2018.
				SS(mg/L)	14.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date and it is understanded that Drainage Service Department sewage bypass due to maintenance work was conducted from 5 to 16 November 2018. In view of the above, it is considered that the exceedance was not related to Project works.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_18CR019			M5B	DO(mg/L)	5.37	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge. Drainage Service Department sewage bypass from 5 to 16 November 2018.
				SS(mg/L)	12.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date while the location of the construction area was at downstream of monitoring station M5B during monitoring period. In addition, it is understanded that Drainage Service Department sewage bypass due to maintenance work was conducted from 5 to 16 November 2018. In view of the above, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 7 November 2018 flood tide.
X_18CR020	23-Nov-18	Mid-ebb	M5B	DO(mg/L)	4.35	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	6.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date while nearby culvert discharge was observed and the location of the construction area was at downstream of monitoring station M5B during monitoring period. In view of the above, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 23 November 2018 flood tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_18CR021	17-Dec-18	Mid-flood	M5B	DO(mg/L)	4.13	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	4.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date. In view of no marine construction activity conducted on the monitoring date, it is considered that the exceedance was not related to Project works.
X_18CR022	19-Dec-18	Mid-ebb	M5B	DO(mg/L)	4.41	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	4.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date while nearby culvert discharge was observed and the location of the construction area was at downstream of monitoring station M5B during monitoring period. In view of the above, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 19 December 2018 flood tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
	01-Jun-19		M5B	DO(mg/L)	6.30	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	25.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date while nearby culvert discharge was observed and the location of the construction area was at downstream of monitoring station M5B during monitoring period. In view of the above, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 1 June 2019 flood tide.
X_19CR002	03-Jun-19	Mid-flood	M5B	DO(mg/L)	5.66	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station.
				SS(mg/L)	16.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date. In view of no marine works, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 5 June 2019 flood tide.



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
X_19CR003			M5B	DO(mg/L)	6.17	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station possibly in relate to nearby culvert discharge.
				SS(mg/L)	16.00	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date while nearby culvert discharge was observed and the location of the construction area was at downstream of monitoring station M5B during monitoring period. In view of the above, it is considered that the exceedance was not related to Project works.
X_19CR003	17-Jun-19	Mid-flood	M5B	DO(mg/L)	5.35	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station.
				SS(mg/L)	16.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date. In view of no marine works, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 19 June 2019 flood tide.



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	Date			Parameters (Unit)	Measured		Limit Level	Follow-up action	
X_19CR004	07-Aug-19	Mid-flood	M5B	DO(mg/L)	6.18	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station.
				SS(mg/L)	12.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date. In view of no marine works, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 7 August 2019 ebb tide.
X_19CR005	19-Aug-19	Mid-flood	M5B	DO(mg/L)	5.77	4.60	3.00	Possible reason:	Changes of water quality in the vicinity of water quality monitoring station.
				SS(mg/L)	13.50	12.00	17.00	Action taken/ to be taken:	Immediate repeated in-site measurement had conducted to confirm the exceedance. Checking with the contractor works and review previous monitoring data.
								Remarks/ Other Obs:	No marine construction activity was conducted under Contract HK/2012/08 was conducted on the monitoring date. In view of no marine works, it is considered that the exceedance was not related to Project works. No exceedance was recorded in the subsequent monitoring on 19 August 2019 ebb tide.

Appendix 6.1

Complaint Log

# **Environmental Complaints Log**

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
150211	21/1/2015	EPD complaint (EPD Ref.: H04/RS/000171 6-15) received by ET on 11 February 2015	Construction site opposite to CITIC Tower	Construction dust was emitted from a construction site opposite to CITIC Tower	According to the relevant site records, trench grabbing for D-wall construction and socket H-pile construction were conducted at the concerned location on 21 January 2015. Dust screen for socket H-pile construction, maintenance of site haul road in wet condition and water spraying at vehicle entrance/exit points of HK/2012/08 Contractor site office and Portion I were implemented by the Contractor of HK/2012/08 near the concerned location on 21 January 2015.	Closed
					In addition, no environmental deficiency related to dust	
					mitigation was identified at the concerned location during	
					weekly environmental inspections conducted on 27 Jan, 3 and 10 Feb 2015 and dust mitigation measures including water spraying for dusty haul road and provision of wheel washing were in place and no dust related impact from the construction works at the concerned location was observed.	
					Meanwhile, the Air Quality Health Index (AQHI) recorded by EPD across Western District and Eastern District on 21 January 2015 was ranged from 4 to 10+ indicating a severely high concentration of ambient air pollutants.	
					Based on reviewing relevant impact monitoring data,	
					elevated TSP were recorded at monitoring stations across Central to Wan Chai West area despite a non-Project related exceedance was recorded at nearby monitoring station ACL2a (Contractor HK/2012/08 Site Office) on 21 January 2015 and was considered to be contributed by ambient air pollutant.	
					The site condition under Contract HK/2012/08 at the concerned location was considered to be generally satisfactory and no non-conformity related to cumulative air quality impact was observed at the concerned location.	
					Nevertheless, in view of the public concern, the contractor was reminded to enhance the dust mitigation measures implemented to minimize potential nuisance to nearby public.	



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
150703	3/7/2015	EPD complaint (EPD Ref.: H05/RS/000162 15-15) received by ET on 03 July 2015	West of HKCEC outside Lung King Street	Dark smoke was observed from a derrick barge in yellow color for reclamation work at location to the west of HKCEC outside Lung King Street	According to the relevant site records under Contract HK/2012/08, one derrick barge (Chang Sheng 306) in yellow color was conducting material transfer at a near shore location opposite to Fleet Arcade on 30 June 2015 around noon-time under HK/2012/08 and the concerned derrick barge was towed away for maintenance on the same date.	Closed
					Follow-up inspection was conducted during weekly environmental inspection on 7 July 2015, no dark smoke was observed from the concerned derrick barge (Chang Sheng 306). Nevertheless, the Contractor was reminded to conduct regular checking on the condition of the all derrick barges deployed on site to ensure only well maintained equipment are used to avoid potential dark smoke emission affecting nearby public.	
					Based on the review on relevant record and follow up site inspection, the condition of the concerned derrick barge was considered generally in order and no dark smoke was observed. In view of the public concern, the Contractor was reminded to conduct regular checking on the condition of derrick barges deployed on site to ensure only well maintained equipment are used on site to avoid potential dark smoke emission affecting nearby public.	

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
150917	17/9/2015	A public complaint regarding water quality referred by EPD was received by ET on 17 September 2015	Central and Wan Chai Reclamation coastline (between LUNG WUI ROAD to LUNG WO ROAD, Central & Wan Chai, Hong Kong)	Silt from Central and Wan Chai Reclamation was spotted along the coastline (between LUNG WUI ROAD to LUNG WO ROAD, Central & Wan Chai, Hong Kong)	Based on the site records confirmed by RSS, removal of seawall blocks by derrick barge was undertaken by Contract HK/2012/08 at Central Reclamation Phase III works area while mitigation measures including provision of silt curtain implemented by the Contractor of HK/2012/08 during the seawall block removal works. According to relevant record, muddy dispersion at HKCEC2W (area opposite to Lung King Street) was observed by the Environmental Team on 14 September 2015 afternoon. The muddy patch was observed dispersing outside the outer layer silt curtain deployed by the Contractor of HK/2012/08 towards the Central Reclamation Phase III area while the outer layer silt curtain was observed partially opened.  In view of the above observations, the Contractor was advised to rectify any environmental deficiencies such that adequate protection such as silt curtain shall be provided for exposed soil slope to mitigate for potential runoff related water quality impact to the surrounding waters; outer layer silt curtain deployed shall be entirely closed during works to safeguard the surrounding water quality. Any opening for marine vessel shall be closed promptly after passage and localized silt curtain deployed on site shall be properly maintained to avoid any gap or opening to effectively safeguard the nearby waters.	Closed

Complaint Log No.	Date of Complaint	Received From and Received By		Nature of Complaint	Outcome	Status
160804	4/8/2016	A public complaint referred by EPD was received by ET on 04 August 2016 (Case Ref.: H05/RS/0001 9364-16).	Temporary Barging Facility outside Lung Wo Road	Muddy water discharge was found at the temporary barging facility outside Lung Wo Road on 03 August 2016.	Based on the site records confirmed by RSS, the concerned temporary barging facility outside Lung Wo Road was maintained and operated by non- WDII Project and no construction activity was conducted by the Contractor of HK/2012/08 at the location around the concerned temporary barging facility on 03 August 2016.  Nevertheless, in view of the public concern, the Contractor of HK/2012/08 was reminded to maintain the bunding along site boundary for protection against potential surface runoff and maintain proper site drainage collection of construction effluent to avoid any potential water quality concern.	Closed.

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
180625	5/6/2018	A public complaint referred by EPD was received by	at the site outside Lung Wo Road or	Muddy water discharge was found at the site outside Lung Wo Road on 5 June 2018 afternoon.	Based on the site records confirmed by RSS, installation of metal formwork at seawall was carried out on 5 June 2018 afternoon and mitigation measure including placing rock fill material on slope surface was implemented at the concerned location to reduce surface runoff.	Closed.
		ET on 25 June 2018 (Case Ref.: H05/RS/0000 15459-18).			Follow up site inspection was conducted by the Environmental Team on 26 June 2018, no muddy water discharge or surface runoff related water quality impact was observed at construction area under HK/2012/08 near the concerned area	
					Nevertheless, in view of the public concern, the Contractor of HK/2012/08 was reminded to provide addition tarpaulin covering to the slope surface along the seawall around the concerned location to reduce the potential surface runoff and maintain regular checking on the embankment condition to ensure no gap / void to avoid potential seepage / surface runoff to nearby water.	