



PROJECT No.: TCS/00553/11

**CONTRACT NO. DC/2010/02**  
**DRAINAGE IMPROVEMENT WORKS IN SHUEN WAN**  
**AND SHEK WU WAI**

**MONTHLY ENVIRONMENTAL MONITORING AND**  
**AUDIT REPORT FOR OPERATION PHASE-**  
**FEBRUARY 2016**

PREPARED FOR  
**KWAN LEE-KULY JOINT VENTURE**

Quality Index

Date	Reference No.	Prepared By	Certified by
16 March 2016	TCS00553/11/600/R0479v2	 Ben Tam (Environmental Consultant)	 T.W. Tam (Environmental Team Leader)

Ver.	Date	Description
1	11 March 2016	First submission
2	16 March 2016	Amended against the IEC's comments on 16 March 2016

This report has been prepared by Action-United Environmental Services & Consulting with all reasonable skill, care and diligence within the terms of the Agreement with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

Ref.: DSDSHUWNEM00\_0\_0724.16.docx

16 March 2016

Drainage Services Department  
Drainage Projects Division  
44 & 45/F., Revenue Tower  
5 Gloucester Road,  
Wan Chai, Hong Kong

By Fax (2827 8700) and Post

Attention: Mr. H.K.Chan and Mr. Max Tai

Dear Sirs,

**Re: Agreement No. DP 01/2010  
Services as Independent Environmental Checker for the Drainage  
Improvement Works in Sha Tin and Tai Po under Contract No.  
DC/2009/22 & DC/2010/02  
Monthly Environmental Monitoring and Audit Report for February 2016**

Reference is made to Environment Team's submission of the Monthly Environmental Monitoring and Audit Report for February 2016 by Email on 16 March 2016 (entitled "DC/2009/22 & DC/2010/02 - Monthly EM&A Report for Operation Phase - February 2016").

Please be informed that we have no comment on the captioned report. We write to verify the captioned submission in accordance with Condition 5.4 of EP-303/2008.

Thank you very much for your kind attention and please do not hesitate to contact Mr. Tony Cheng (3465-2822) should you have any queries.

Yours faithfully,



Tony Cheng  
Independent Environmental Checker

c.c.

AUES  
Kwan Lee-Kuly JV

Attn: Mr. T. W. Tam  
Attn: Mr. W. K. Chan

By Fax: 2959 6079  
By Fax: 2674 6688

Q:\Projects\DSDSHUWNEM00\Corr\Out\DSDSHUWNEM00\_0\_0724.16.docx

## EXECUTIVE SUMMARY

ES.01. This is the Monthly Environmental Monitoring and Audit (EM&A) Report for DSD Contract No. DC/2010/02 (hereafter “Contract 2”) for Drainage Improvement in Shuen Wan under Environmental Permit No.EP-303/2008, covering the Operation Phase period from **1 to 29 February 2016** (hereinafter ‘the Reporting Period’).

ES.02. The Works at Tung Tsz Road Shuen Wan was divided two DSD Contracts i.e. DC/2009/22 (hereinafter called the “Contract 1”) and DC/2010/02 (hereinafter called the “Contract 2”). The construction works of Contract 1 was commenced in **August 2010** and the Operation Phase was commenced on **4 December 2014** and terminated on **4 December 2015**. For Contract 2, the construction works was commenced in **May 2011** and the Operation Phase was commenced on **1 April 2015**.

### ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES.03. In the Reporting Period, environmental monitoring activities for the Operation Phase of the Project under the of EM&A programme are summarized in the following table.

Environmental Aspect	Monitoring Parameters / Inspection	Contract 2
		Operation Phase
Water Quality	Hydrological characteristics measurement – H1, H2, H3 and H4	4 events
Ecological	Ecological Monitoring	0 event
Landscape & Visual	Inspection by a registered Landscape Architect	0 event

ES.04. Operation phase ecological monitoring for Contracts 2 should be undertaken on a quarterly basis and it was not carried out in the Reporting Period.

ES.05. Operation phase Landscape and visual inspection of the Contracts 2 should be undertaken on a quarterly basis and it was not carried out in the Reporting Period.

ES.06. The hydrological characteristics of water depth and water flow rate as compared baseline monitoring period, the currently water depth and volumetric flow rate has insignificant change.

### ENVIRONMENTAL COMPLAINT

ES.07. No written or verbal complaint was recorded in this Reporting Period.

### NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.08. No environmental summons or successful prosecutions were recorded in this Reporting Period.

### REPORTING CHANGE

ES.09. In the Reporting Period, no reporting change was made.

**TABLE OF CONTENTS**

<b>1.0</b>	<b>INTRODUCTION</b>	<b>1</b>
	PROJECT BACKGROUND	1
	REPORT STRUCTURE	1
<b>2.0</b>	<b>PROJECT ORGANIZATION AND SUBMISSION</b>	<b>2</b>
	PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE	2
	SUMMARY OF ENVIRONMENTAL SUBMISSIONS	2
<b>3.0</b>	<b>EM&amp;A PROGRAM REQUIREMENT</b>	<b>3</b>
	MONITORING PARAMETERS	3
	MONITORING LOCATIONS	3
	MONITORING FREQUENCY OF OPERATION PHASE	3
	MONITORING EQUIPMENT	4
	MONITORING METHODOLOGY	4
	OTHERS MONITORING IMPLEMENTATION FOR THE PROJECT	4
	DETERMINATION OF ACTION/LIMIT (A/L) LEVELS	4
<b>4.0</b>	<b>MONITORING RESULTS OF CONTRACT 1 AND 2 FOR OPERATION PHASE</b>	<b>5</b>
	RESULTS OF HYDROLOGICAL CHARACTERISTICS MONITORING	5
	RESULTS OF ECOLOGICAL MONITORING	6
<b>5.0</b>	<b>SITE INSPECTION</b>	<b>7</b>
	REGULAR SITE INSPECTION AND MONTHLY AUDIT	7
	LANDSCAPE AND VISUAL INSPECTION	7
<b>6.0</b>	<b>ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE</b>	<b>8</b>
	ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION	8
<b>7.0</b>	<b>IMPLEMENTATION STATUS OF MITIGATION MEASURES</b>	<b>9</b>
<b>8.0</b>	<b>CONCLUSIONS AND RECOMMENTATIONS</b>	<b>10</b>
	CONCLUSIONS	10
	RECOMMENDATIONS	10

---

---

## **LIST OF TABLES**

TABLE 2-1	STATUS OF ENVIRONMENTAL LICENSES AND PERMITS
TABLE 3-1	SUMMARY OF MONITORING PARAMETERS FOR THE PROJECT
TABLE 3-2	MONITORING LOCATIONS OF OPERATION PHASE
TABLE 3-3	MONITORING EQUIPMENT USED FOR OPERATION PHASE
TABLE 4-1	DETAILED MONITORING RESULTS OF HYDROLOGICAL CHARACTERISTICS AT DESIGNATED MEASUREMENT POINTS
TABLE 4-2	SUMMARIZED HYDROLOGICAL CHARACTERISTICS OF WATER DEPTH, M
TABLE 4-3	SUMMARIZED HYDROLOGICAL CHARACTERISTICS OF AVERAGE VOLUMETRIC FLOW RATE (Q), M <sup>3</sup> /S
TABLE 4-4	METEOROLOGICAL DATA IN REPORTING PERIOD
TABLE 6-1	STATISTICAL SUMMARY OF ENVIRONMENTAL COMPLAINTS
TABLE 6-2	STATISTICAL SUMMARY OF ENVIRONMENTAL SUMMONS
TABLE 6-3	STATISTICAL SUMMARY OF ENVIRONMENTAL PROSECUTION

## **LIST OF APPENDICES**

APPENDIX A	PROJECT LOCATION AT SHUEN WAN
APPENDIX B	ORGANIZATION CHART AND THE KEY CONTACT PERSON
APPENDIX C	OPERATION PHASE ENVIRONMENTAL MONITORING LOCATIONS
APPENDIX D	OPERATION PHASE MONITORING SCHEDULE
APPENDIX E	GRAPHICAL PLOTS OF HYDROLOGICAL CHARACTERISTICS
APPENDIX F	ECOLOGICAL MONITORING REPORT FOR OPERATION PHASE (NOT USED)
APPENDIX G	QUARTERLY EM&A (LANDSCAPE & VISUAL) REPORT (NOT USED)

## 1.0 INTRODUCTION

### PROJECT BACKGROUND

- 1.01 ***Kwan Lee-Kuly Joint Venture*** (hereinafter ‘KLKJV’) has been awarded by Drainage Services Department (hereinafter ‘DSD’) of the Contract No. DC/2010/02 - Drainage Improvement in Shuen Wan and Shek Wu Wai (hereinafter ‘the Project’). For the Project, construction works at Tung Tsz Road Shuen Wan is part of the Drainage Improvement works amongst Shatin and Tai Po and it is defined as a “Designated Project” which controlled under Environmental Permit EP-303/2008. On the other hand, Shek Wu Wai San Tin is a non-designated project work.
- 1.02 The Works at Tung Tsz Road Shuen Wan was divided two DSD Contracts i.e. DC/2009/22 (hereinafter called the “Contract 1”) and DC/2010/02 (hereinafter called the “Contract 2”). The construction works of Contract 1 was commenced in **August 2010** and the Operation Phase was commenced in **December 2014 and** terminated on **4 December 2015**. For Contract 2, the construction works was commenced in **May 2011** and the Operation Phase was commenced in **April 2015**. The Project site boundary is shown in **Appendix A**.
- 1.03 Action-United Environmental Services and Consulting (AUES) was appointed as the Environmental Team (ET) of Contracts 1 and 2 to implement the relevant EM&A programme of the Project.
- 1.04 This is the Monthly EM&A Report presenting the monitoring results for Operation Phase during the Reporting Period from **1** to **29 February 2016**.

### REPORT STRUCTURE

- 1.05 The Monthly Environmental Monitoring and Audit (EM&A) Report is structured into the following sections:-
- |           |  |
|-----------|--|
| SECTION 1 | INTRODUCTION   |
| SECTION 2 | PROJECT ORGANIZATION AND WORKS PROGRESS AND SUBMISSION |
| SECTION 3 | EM&A PROGRAM REQUIREMENT FOR THE PROJECT               |
| SECTION 4 | IMPACT MONITORING RESULTS                              |
| SECTION 5 | SITE INSPECTIONS                                       |
| SECTION 6 | ENVIRONMENTAL COMPLAINTS AND NON-COMPLIANCE            |
| SECTION 7 | IMPLEMENTATION STATUES OF MITIGATION MEASURES          |
| SECTION 8 | CONCLUSIONS AND RECOMMENDATION                         |

## 2.0 PROJECT ORGANIZATION AND SUBMISSION

### PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

- 2.01 Organization structure and contact details of relevant parties with respect to on-site environmental management are shown in *Appendix B*.

### SUMMARY OF ENVIRONMENTAL SUBMISSIONS

- 2.02 Summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this Reporting Period is presented in *Table 2-1*.

**Table 2-1 Status of Environmental Licenses and Permits**

Item	Description	License/Permit Status
1	Air Pollution Control (Construction Dust)	Notified EPD on 17 October 2011
2	Chemical Waste Producer Registration (WPN5213-727-K2972-02)	Approved on 28 October 2011
3	Water Pollution Control Ordinance (Discharge License) WT00009528-2011	Valid to 31 July 2016
4	Billing Account for Disposal of Construction Waste (Account No.: 7012838)	Effective

### 3.0 EM&A PROGRAM REQUIREMENT

3.01 The EM&A requirements for the Operation Phases are according to the PP, EIAR, Environmental Permit EP303/2008 (hereinafter ‘the EP’), and the associated updated EM&A Manual and they are presented in below sub-section.

#### MONITORING PARAMETERS

3.02 According to the updated EM&A Manual of the Project, the Operation Phases monitoring requirement is showed in **Table 3-1**.

**Table 3-1 Summary of Monitoring Parameters for the Project**

Environmental Aspect	Requirement / Parameter
Hydrological Characteristics Monitoring	<ul style="list-style-type: none"> <li>In-situ measurement including water flow and depth</li> </ul>
(*) Ecological Monitoring and Audit	<ul style="list-style-type: none"> <li>Monitor and inspect including the vegetation, fauna (includes avifauna, herpetofauna, odonate and butterfly) and Stream (includes fish and macroinvertebrates)</li> </ul>
(#) Landscape and Visual Monitoring	<ul style="list-style-type: none"> <li>Inspect and audit the implementation and maintenance of landscape and visual mitigation measures</li> </ul>

Remarks:

(\*) the monitoring is carried out by IEC

(#) The monitoring is carried out by the registered Landscape Architect

#### MONITORING LOCATIONS

3.03 Monitoring locations have been proposed in the updated EM&A Manual. The monitoring location is summarized in **Table 3-2** and shown in **Appendix C**.

**Table 3-2 Monitoring Locations of Operation Phase**

Aspect	Location ID	Address
Hydrological	H1	Between the Shuen Wan Marsh and ECA <ul style="list-style-type: none"> <li>Coordinates: E839306, N836379)</li> </ul>
	H2	Route 10 Sam Kung Temple <ul style="list-style-type: none"> <li>Coordinates: E839163, N836433</li> </ul>
	H3	Upstream of Tung Tze Shan Road <ul style="list-style-type: none"> <li>Coordinates: E838760, N836714</li> </ul>
	H4	Wai Ha Village 29D <ul style="list-style-type: none"> <li>Coordinates: E838865, N836621</li> </ul>
Ecology	Areas within 100m of the works boundary under Contract 1 and Contract 2	
Landscape & Visual	As within and adjacent to the construction sites and works areas under the Contract 1 and Contract 2	

#### MONITORING FREQUENCY OF OPERATION PHASE

3.04 According to the updated EM&A Manual, frequency and duration of the Operation Phase monitoring are summarized below.

##### *Hydrological Characteristics*

Frequency: Once per week at mid-flood and mid-ebb tides

Duration: One year after the construction is complete as operation phase monitoring (in accordance with the Updated EM&A Manual Section 4.32).

##### *Ecology*

3.05 In according with Section 6.17 of the Updated EM&A Manual, the Operation Phase ecological monitoring would be to conduct by the Independent Environmental Checker (hereinafter ‘IEC’). Regular checking and monitoring by quarter month would be performed for one year duration



***Landscape & Visual***

- 3.06 According to Section 7.5 of the Updated EM&A Manual, all landscape and visual mitigation measures would be monitored quarterly during the first year of the Operation Phase to check on the effectiveness of the mitigations.

**MONITORING EQUIPMENT**

***Hydrological Characteristics***

- 3.07 **Water Depth Detector** - A portable, battery-operated echo sounder shall be used for the determination of water depth at each designated monitoring station.
- 3.08 **Stream water flow Equipment** –A portable, battery-operated flow meter should be used for the determination of water flow rate at each designated monitoring location and record in m<sup>3</sup>/s.
- 3.09 The monitoring equipment using for the Project’s EM&A program were proposed by the ET and verified by the IEC prior commencement of the monitoring. Details of the equipment used for impact monitoring are listed in **Table 3-3**.

**Table 3-3 Monitoring Equipment Used for Operation Phase**

<b>Equipment</b>	<b>Model</b>
<b>Hydrological Characteristics</b>	
Water flow meter	GLOBAL WATER model FP211
Water Depth Detector	Eagle Sonar or an appropriate steel ruler or rope with appropriate weight

**MONITORING METHODOLOGY**

***Hydrological Characteristics***

- 3.10 A portable, water flow meter, brand named “*GLOBAL WATER model FP211*” are used to determine the water current flow at the designated monitoring stations. A water flow velocity is measured at mid depth of current water body or 0.5m below water level.
- 3.11 Water depths are determined prior to measurement, using a portable battery operated depth detector, brand named ‘Eagle Sonar’, if the depths exceed 1.5 meter. If the depth between 1.5 meter and 1 meter, plastic tape measurement tied with appropriate weight are used the depth estimation. For the depths well below 1 meter, an appropriate steel ruler or rope with appropriate weight are used for the depth measurement.

**OTHERS MONITORING IMPLEMENTATION FOR THE PROJECT**

**Ecology**

- 3.12 Ecological monitoring and reporting should be performed by IEC. Site survey will be carried out during the construction and 1-year establishment period of the Ecological Compensatory Area. These monitoring events include regular check on the retained and transplanted trees and shrubs, monitoring on fauna groups and aquatic fauna. No equipment and procedure are presented in the EM&A Monthly Report.

**Landscape and Visual**

- 3.13 A registered Landscape Architect as member of the ET is employed by the Contractor to undertake site inspection. Site inspection will undertake once every three months during the first year of the Operation Phase to check on the effectiveness of the mitigations.

**DETERMINATION OF ACTION/LIMIT (A/L) LEVELS**

- 3.14 No performance criteria i.e. Action and Limit levels of hydrological is used for the Operation Phase. The locations H3 and H4 are a reference measurement point in order to monitor any changes in the hydrological characteristics of Wai Ha River arising from the work Contract 2 to affect the Shuen Wan Marsh.

**4.0 MONITORING RESULTS OF CONTRACT 2 FOR OPERATION PHASE**

4.01 The operation phase monitoring schedule is presented in *Appendix D*. The monitoring results are presented in the following sub-sections.

**RESULTS OF HYDROLOGICAL CHARACTERISTICS MONITORING**

4.02 In this Reporting Period, hydrological characteristics measurements were carried out on **2, 12, 16 and 22 February 2016**. The detailed measurement results in this Reporting Period are presented in *Tables 4-1* and the graphical plot area shown in *Appendix E*.

**Table 4-1 Detailed Monitoring Results of hydrological characteristics at Designated Measurement Points**

Measurement		Tide Condition	River Width (m)	Water Depth (m)	Cut Section (m <sup>2</sup> )	Velocity Flow Rate (m/s)	Average Volumetric Flow Rate (Q), m <sup>3</sup> /s
Point	Time						
<b>Date: 2 February 2016</b>							
H1	10:34	Flood	5.5	0.48	2.6400	0.3	0.792
	8:22	Ebb	5.5	0.47	2.5850	0.2	0.517
H2	10:43	Flood	4.7	0.34	1.5980	0.3	0.479
	8:31	Ebb	4.7	0.33	1.5510	0.3	0.465
H3	11:00	Flood	7.45	0.42	3.1290	0.2	0.626
	8:42	Ebb	7.45	0.42	3.1290	0.3	0.939
H4	11:12	Flood	2.74	0.31	0.8494	0.3	0.255
	9:00	Ebb	2.74	0.31	0.8494	0.3	0.255
<b>Date: 12 February 2016</b>							
H1	10:16	Flood	5.5	0.47	2.5850	0.3	0.776
	15:05	Ebb	5.5	0.46	2.5300	0.3	0.759
H2	10:26	Flood	4.7	0.34	1.5980	0.2	0.320
	15:14	Ebb	4.7	0.34	1.5980	0.3	0.479
H3	10:40	Flood	7.45	0.41	3.0545	0.2	0.611
	15:28	Ebb	7.45	0.4	2.9800	0.2	0.596
H4	10:47	Flood	2.74	0.31	0.8494	0.3	0.255
	15:42	Ebb	2.74	0.3	0.8220	0.3	0.247
<b>Date: 16 February 2016</b>							
H1	15:13	Flood	5.5	0.44	2.4200	0.3	0.726
	17:34	Ebb	5.5	0.42	2.3100	0.3	0.693
H2	15:24	Flood	4.7	0.3	1.4100	0.2	0.282
	17:50	Ebb	4.7	0.29	1.3630	0.2	0.273
H3	15:37	Flood	7.45	0.27	2.0115	0.3	0.603
	18:03	Ebb	7.45	0.26	1.9370	0.2	0.387
H4	15:50	Flood	2.74	0.36	0.9864	0.3	0.296
	18:14	Ebb	2.74	0.36	0.9864	0.2	0.197
<b>Date: 22 February 2016</b>							
H1	16:34	Flood	5.5	0.41	2.2550	0.3	0.677
	13:45	Ebb	5.5	0.41	2.2550	0.3	0.677
H2	16:51	Flood	4.7	0.3	1.4100	0.3	0.423
	13:57	Ebb	4.7	0.29	1.3630	0.2	0.273
H3	17:05	Flood	7.45	0.25	1.8625	0.2	0.373
	14:05	Ebb	7.45	0.25	1.8625	0.3	0.559
H4	17:18	Flood	2.74	0.36	0.9864	0.2	0.197
	14:13	Ebb	2.74	0.35	0.9590	0.2	0.192

4.03 Hydrological characteristics results of the all measurement points are summarized in *Tables 4-2* and *4-3*.

**Table 4-2 Summarized Hydrological Characteristics of Water Depth, m**

Date	Mid-Flood				Mid-Ebb			
	H1	H2	H3	H4	H1	H2	H3	H4
2-Feb-16	0.48	0.34	0.42	0.31	0.47	0.33	0.42	0.31
12-Feb-16	0.47	0.34	0.41	0.31	0.46	0.34	0.40	0.30
16-Feb-16	0.44	0.30	0.27	0.36	0.42	0.29	0.26	0.36
22-Feb-16	0.41	0.30	0.25	0.36	0.41	0.29	0.25	0.35

**Table 4-3 Summarized Hydrological Characteristics of Average Volumetric flow rate (Q), m<sup>3</sup>/s**

Date	Mid-Flood				Mid-Ebb			
	H1	H2	H3	H4	H1	H2	H3	H4
2-Feb-16	0.792	0.479	0.626	0.255	0.517	0.465	0.939	0.255
12-Feb-16	0.776	0.320	0.611	0.255	0.759	0.479	0.596	0.247
16-Feb-16	0.726	0.282	0.603	0.296	0.693	0.273	0.387	0.197
22-Feb-16	0.677	0.423	0.373	0.197	0.677	0.273	0.559	0.192

4.04 To compare the monitoring data between the Reporting Period and baseline monitoring period, the currently water depth and volumetric flow rate has insignificant change.

#### RESULTS OF ECOLOGICAL MONITORING

4.05 According to updated EM&A Manual, quarterly ecological monitoring shall be conducted and it is undertaken by the IEC – Ramboll Environ Hong Kong Limited. In brief, the monitoring tasks include regular check on the retained and transplanted trees and shrubs, monitoring on fauna groups and aquatic fauna within the works area and any ecologically sensitive area within 100 m of the works boundary.

4.06 The 4<sup>th</sup> quarterly ecological monitoring under Contract 2 was carried out 29 January 2016 and no ecological monitoring was carried out in the Reporting Period.

#### METEOROLOGICAL INFORMATION

4.07 The meteorological information during the measurement day of Operation Phase would be extracted from Tai Po and Shatin Stations of the Hong Kong Observatory (HKO). The meteorological data during the measurement days are presented in *Table 4-4*.

**Table 4-4 Meteorological Data in Reporting Period**

Date	Weather	Total Rainfall (mm)	Tai Po Station		Shatin Station	
			Mean Air Temp. (°C)	Mean Relative Humidity (%)	Wind Speed (km/h)	Wind Direction
2-Feb-16	Tue	Trace	8.05	83.5	8.9	N/NW
12-Feb-16	Fri	0.1	18.5	97	4.5	N/NE
16-Feb-16	Tue	0	11.6	58.5	6.8	N/NW
22-Feb-16	Mon	0.5	15.8	88.2	9.7	E

---

## 5.0 SITE INSPECTION

### REGULAR SITE INSPECTION AND MONTHLY AUDIT

- 5.01 According to the Updated Environmental Monitoring and Audit Manual, regular site inspection to evaluate the project environmental performance is not required during operation phase.

### LANDSCAPE AND VISUAL INSPECTION

- 5.02 According to Section 7.5 of the Updated EM&A Manual, quarterly landscape and visual inspection shall be carried out during the first year of the Operation Phase.

### Operation Phase of Contract 2

- 5.03 The 3<sup>rd</sup> quarterly Landscape & Visual inspection for Contract 2 which signed by the Registered Landscape Architect was undertaken on 29 December 2015 and it was not carried out in the Reporting Period.

**6.0 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE**

**ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION**

6.01 For the Project, no environmental complaint, summons and prosecution was received in this Reporting Period. The statistical summary table of environmental complaint for the **Contracts 1 and 2** is presented in *Tables 6-1, 6-2* and *6-3*.

**Table 6-1 Statistical Summary of Environmental Complaints**

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
July 2011 –January 2015	1	1	Air Quality (1)
February 2016	0	1	Air Quality (1)

**Table 6-2 Statistical Summary of Environmental Summons**

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
July 2011 –January 2015	0	0	NA
February 2016	0	0	NA

**Table 6-3 Statistical Summary of Environmental Prosecution**

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
July 2011 –January 2015	0	0	NA
February 2016	0	0	NA

## 7.0 IMPLEMENTATION STATUS OF MITIGATION MEASURES

7.01 According to the Updated Environmental Monitoring and Audit Manual, mitigation measures of Operation Phase of the Project is included the Ecological and Landscape & Visual as listed below.

### **Ecological**

- To minimize sedimentation, de-silting should be limited to the dry season; and
- Waste material produced during de-silting should be disposed of in a timely and appropriate manner

### **Landscape and visual**

- Viewing area formation by planting with shrubs, grasses and benches along the area
- Architectural design of the pump house will help it fit into the existing suburban, natural to semi-natural surroundings
- Landscape design of pump house by providing sufficient planting around its boundary fence
- Enhancement planting along Tung Tsz Road with shrubs / trees of suitable species to help protect the stream and marshes
- Construction of box culvert should be with at least 1.0m soil depth for enhancement planting
- Transplanting of existing affected trees to adjacent locations should be carried out
- Preparation for transplanting is needed to allow sufficient time for root pruning and rootball preparation prior to transplanting
- Reinstatement of affected area should be carried out to check that the works areas are properly reinstated

## 8.0 CONCLUSIONS AND RECOMMENTATIONS

### CONCLUSIONS

- 8.01 The Works at Tung Tsz Road Shuen Wan was divided two DSD Contracts i.e. DC/2009/22 (hereinafter called the “Contract 1”) and DC/2010/02 (hereinafter called the “Contract 2”). The construction works of Contract 1 was commenced in *August 2010* and the Operation Phase was commenced on *4 December 2014* and terminated on *4 December 2015*. For Contract 2, the construction works was commenced in *May 2011* and the Operation Phase was commenced on *1 April 2015*.
- 8.02 This is the Monthly Environmental Monitoring and Audit (EM&A) Report for DSD Contract No. DC/2010/02 (hereafter “Contract 2”) for Drainage Improvement in Shuen Wan under Environmental Permit No.EP-303/2008, covering the Operation Phase period from **1 to 29 February 2016** (hereinafter ‘the Reporting Period’).
- 8.03 The hydrological characteristics of water depth and water flow rate as compared baseline monitoring period, the currently water depth and volumetric flow rate has insignificant change.
- 8.04 Operation phase ecological monitoring of the Contracts 2 should be undertaken on a quarterly basis and it was not carried out in the Reporting Period.
- 8.05 Operation phase Landscape and visual inspection of the Contract 2 should be undertaken on a quarterly basis and it was not carried out in the Reporting Period.
- 8.06 No documented complaint, notification of summons or successful prosecution was received in the Reporting Period.

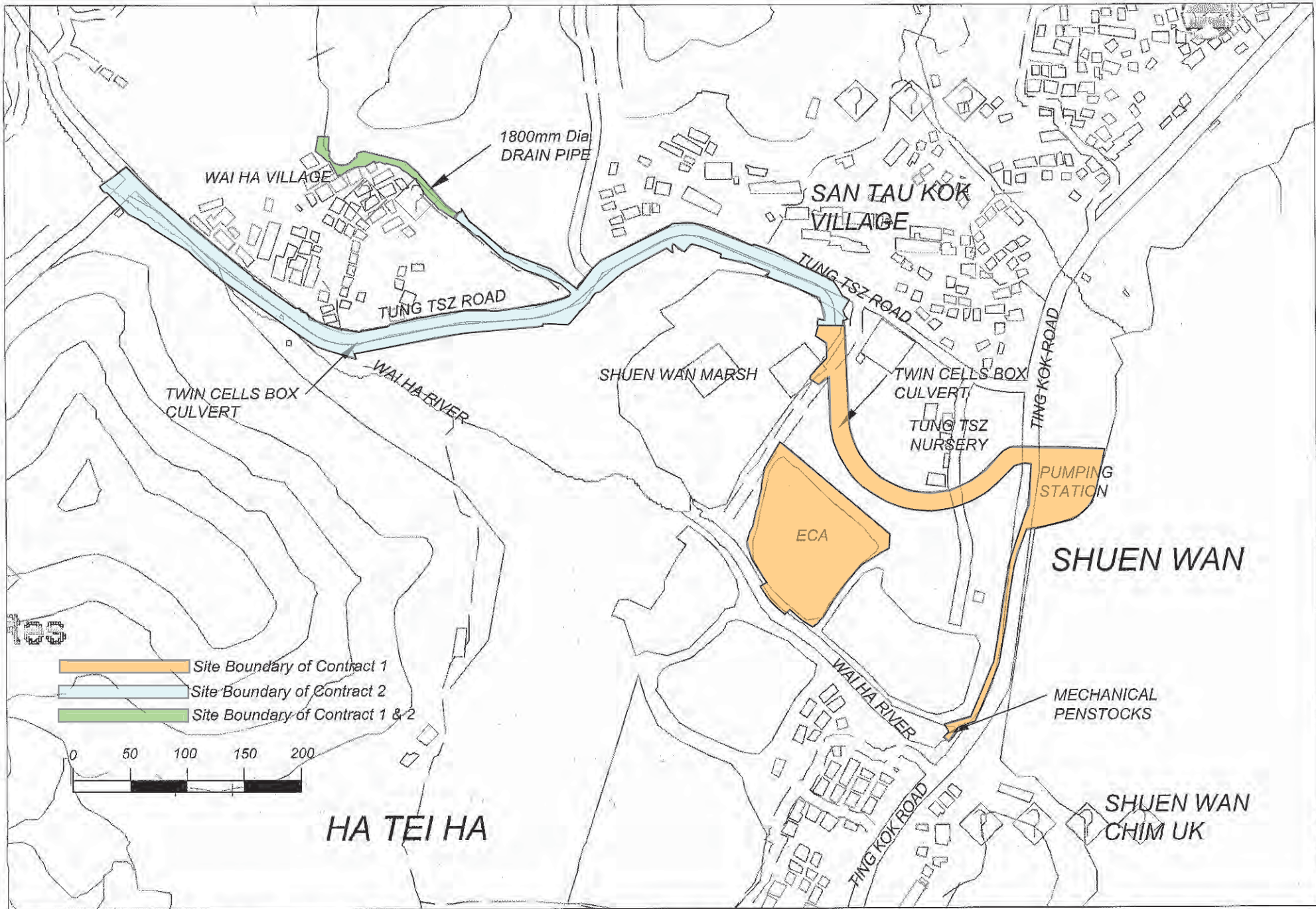
### RECOMMENDATIONS

- 8.07 Mitigation Measures of Operation Phase shall fulfill the updated EM&A Manual requirements.

## **Appendix A**

### **Project Location at Shuen Wan**

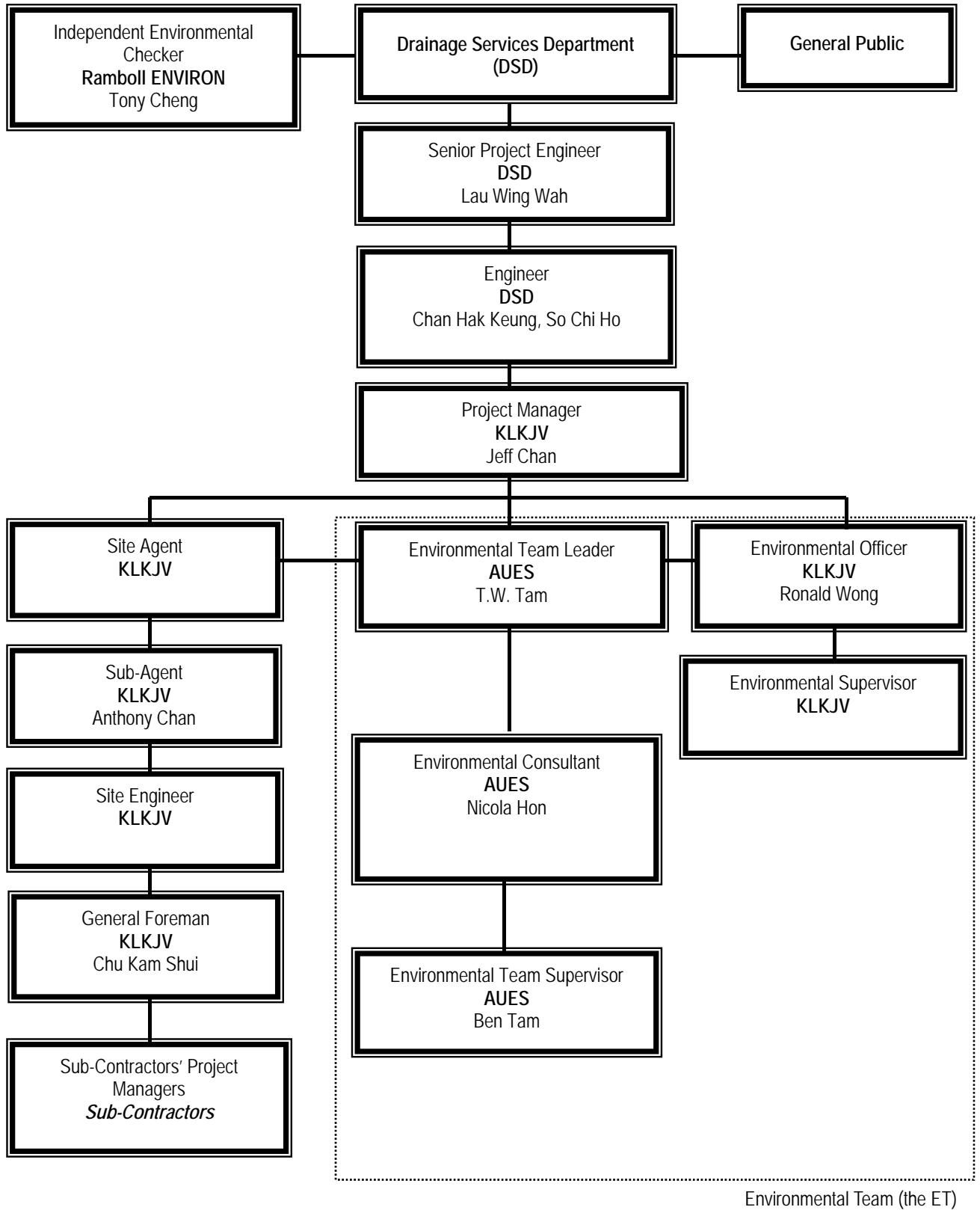




**Site Location Plan of DSD Contract 1 and Contract at Shuen Wan**

## **Appendix B**

### **Organization Chart and the Key Contact Person**



Environmental Management Organization

**Contact Details of Key Personnel**

<b>Organization</b>	<b>Project Role</b>	<b>Name of Key Staff</b>	<b>Tel No.</b>	<b>Fax No.</b>
DSD	Employer	Mr. Luk Wai Hung	2594 7400	2827 8700
DSD	Senior Engineer	Mr. Lau Wing Wah	2594 7402	2827 8700
DSD	Engineer	Mr. Chan Hak Keung	2594 7596	2827 8700
DSD	Engineer	Mr. So Chi Ho	2594 7356	2827 8700
DSD	Senior Inspector	Mr. Tso Si On	6778 2708	2827 8700
Ramboll Environ	Independent Environmental Checker	Mr. Tong Cheng	3465-2888	3465-2899
KLKJV	Project Director	Mr. Poon Chi Yeung Francis	2674 3888	2674 9988
KLKJV	Project Manager	Mr. Jeff Chan	2674 3888	2674 9988
KLKJV	Sub- Agent	Mr. Anthony Chan	2674 3888	2674 9988
KLKJV	Site Forman	Mr. Chu Kam Shui	2674 3888	2674 9988
KLKJV	Environmental Officer	Mr. Ronald Wong	2674 3888	2674 9988
AUES	Environmental Team Leader	Mr. T.W. Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Miss. Nicola Hon	2959-6059	2959-6079
AUES	Environmental Supervisor	Mr. Ben Tam	2959-6059	2959-6079

**Legends:**

*DSD (Employer) – Drainage Services Department*

*DSD (Engineer) – Drainage Services Department*

*KLKJV (Main Contractor) – Kwan Lee-Kuly Joint Venture*

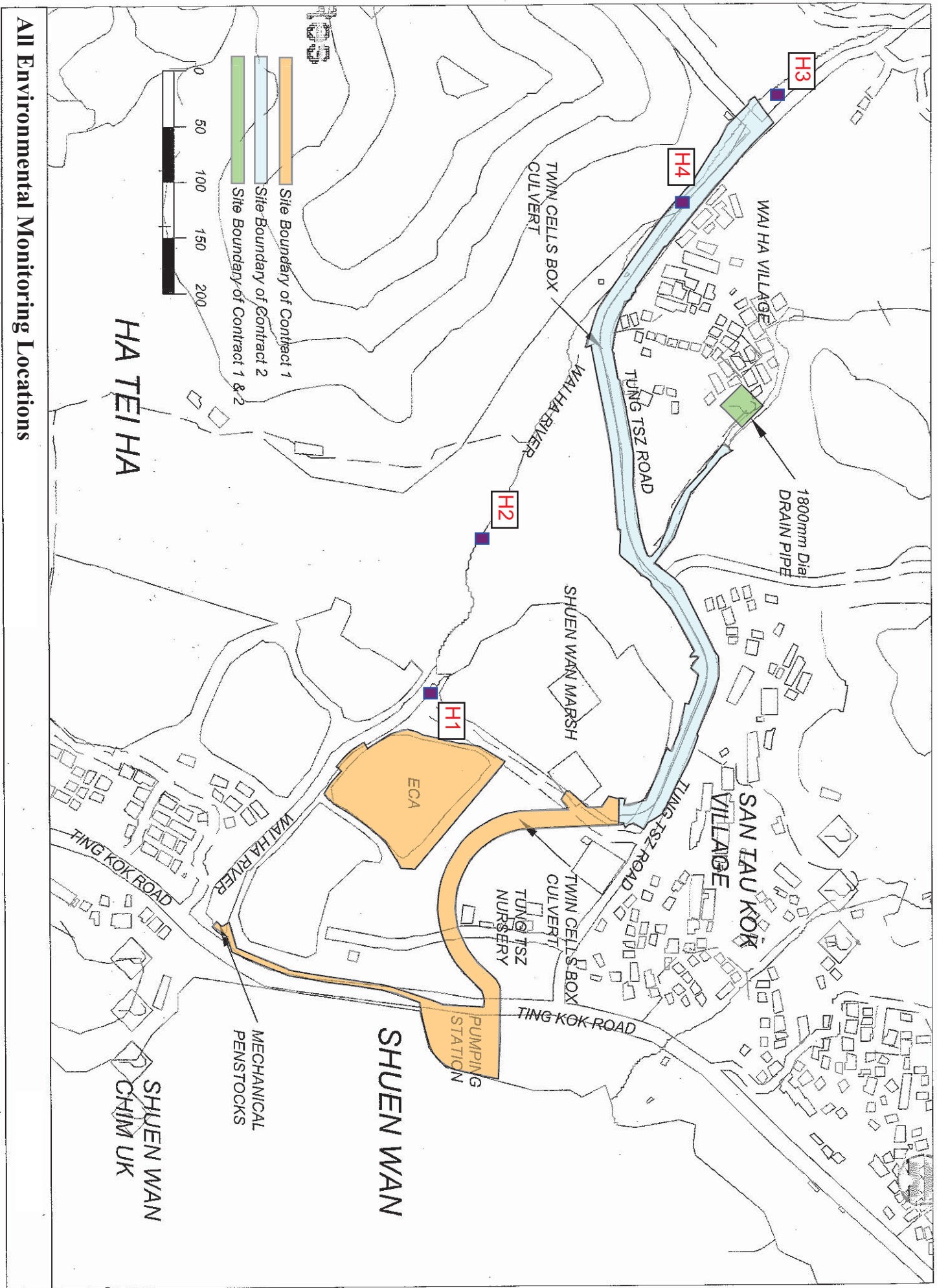
*RAMBOLL ENVIRON (IEC) – Ramboll Environ Hong Kong Limited*

*AUES (ET) – Action-United Environmental Services & Consulting*

## **Appendix C**

### **Operation Phase Environmental Monitoring Locations**





All Environmental Monitoring Locations

## **Appendix D**

### **Operation Phase Monitoring Schedule**

**Monitoring/Inspection Schedule for the coming year (April 2015 to March 2016)**

Operational Phase Commencement Date		Hydrological Monitoring										
		Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Contract 2	1-Apr-15	Once per week at mid-flood and mid-ebb tides										

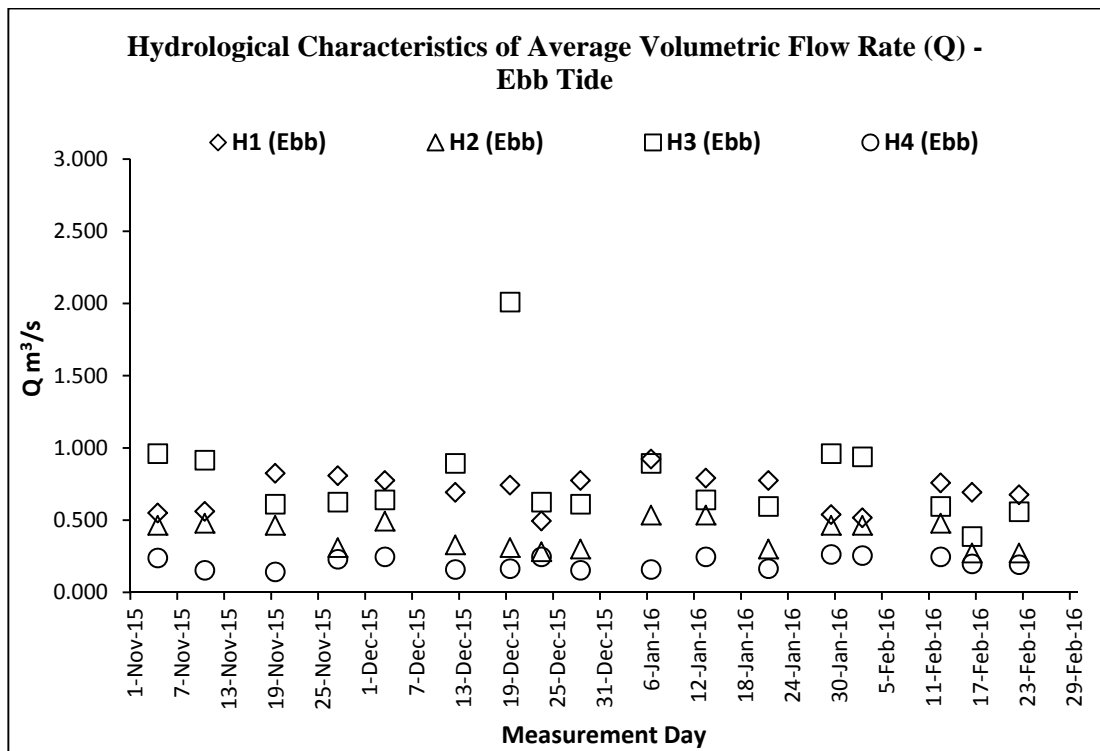
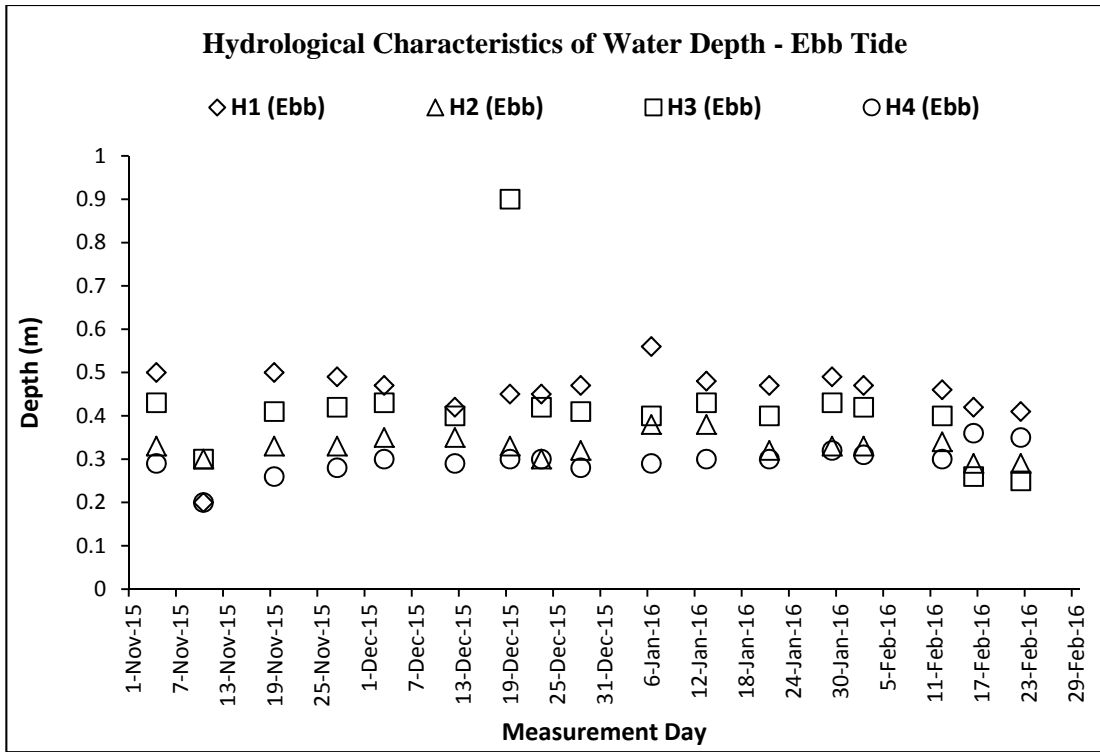
Operational Phase Commencement Date		Landscape & Visual Inspection										
		Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Contract 2	1-Apr-15		×				×			×		×

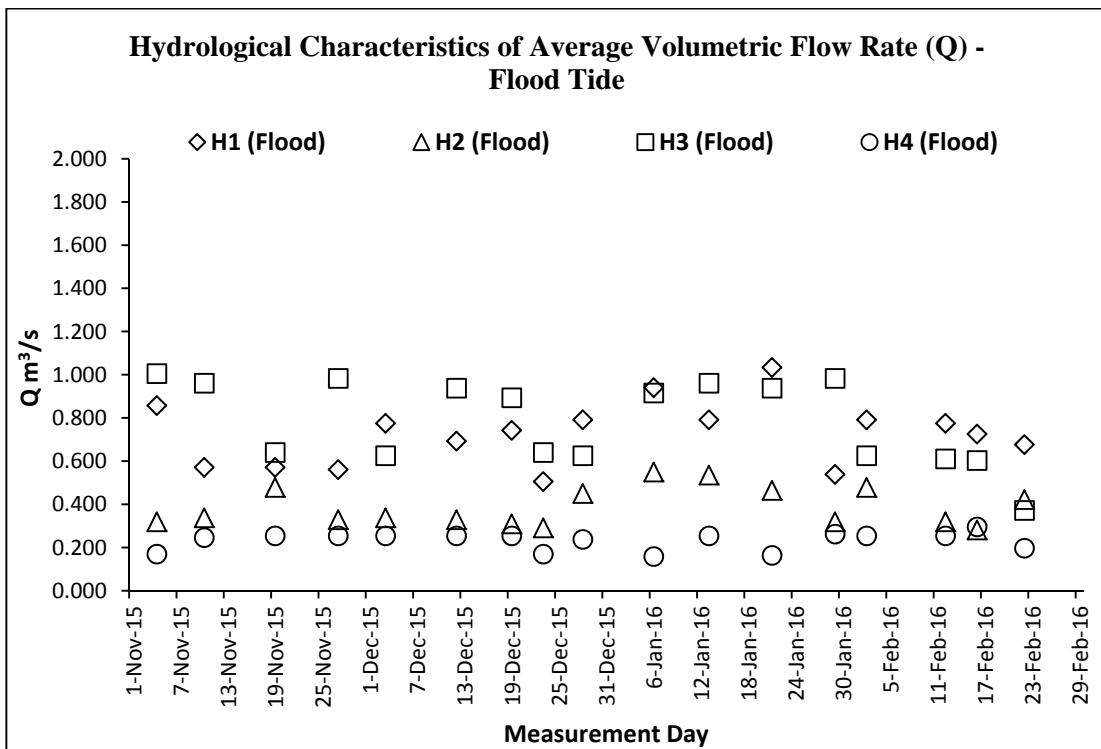
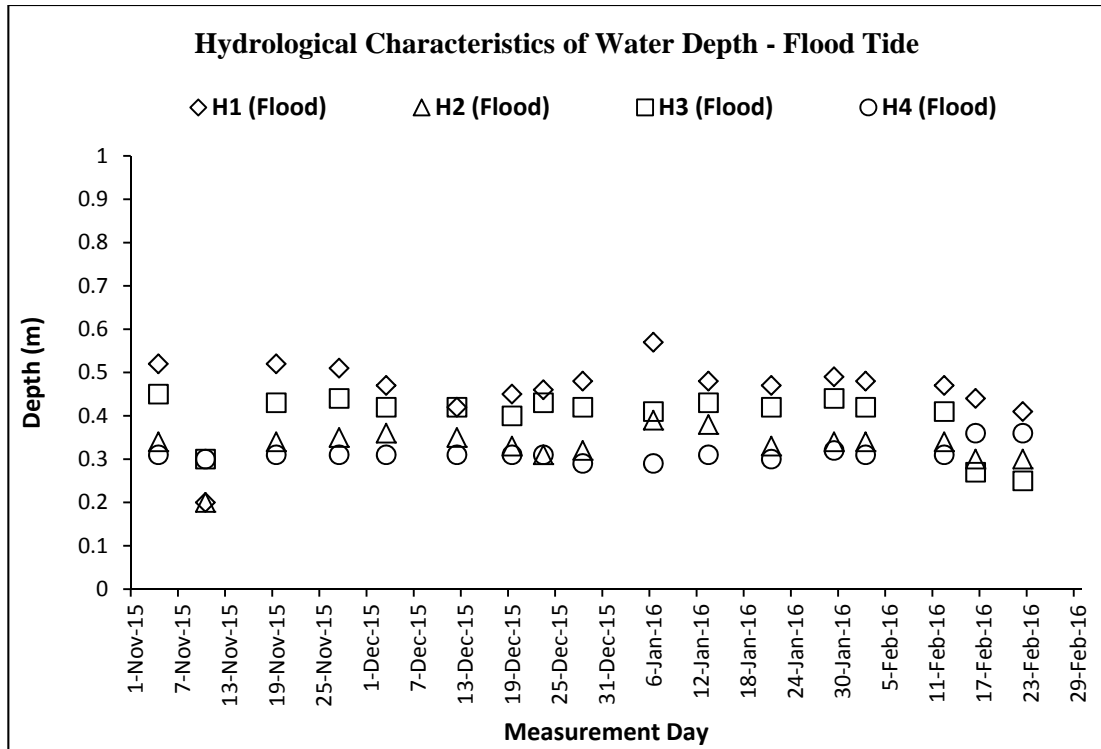
Operational Phase Commencement Date		Ecology Monitoring										
		Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Contract 2	1-Apr-15	×			×			×			×	



## **Appendix E**

### **Graphical Plots of Hydrological Characteristics**





**Appendix F**

**Ecological Monitoring Report for Operation Phase**

**(Not Used)**

**Appendix G**

**Quarterly EM&A (Landscape & Visual) Report**

**(Not Used)**