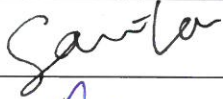



**Asia-Africa-Europe-1 Cable System  
(AAE-1) at Cape D'Aguilar, Hong Kong**

**Final EM&A Report**

[9/2017]

	Name	Signature
Prepared & Checked:	Sammi Lam	
Reviewed & Approved:	Y W Fung	

Version:	0	Date: 7 September 2017
<p>The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client and AECOM Environment accepts no responsibility for its use by others.</p> <p>This report is copyright and may not be reproduced in whole or in part without prior written permission.</p>		

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**Important Message  
Rebranding as AECOM**

To better serve our clients, all Maunsell AECOM operations in Hong Kong have been integrated into one operating entity and rebranded as AECOM. The (name of legacy legal entity) operation is now part of AECOM Asia Co. Ltd



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7 September 2017

Our ref: 7076341/L22251/AB/VC/SK/rw

PCCW Global (HK) Limited  
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Hong Kong

**By Email and Fax**  
(no. 2440 6299)

Attention: Mr. Patrik YEU

Dear Sir

**Asia-Africa-Europe-1 Cable System at Cape D’Aguilar, Hong Kong  
Verification of Final EM&A Report**

Reference is made to the *Final EM&A Report (Version 0)* dated 7 September 2017, submitted by the Environmental Team via e-mail on 7 September 2017.

We hereby verify the said Final EM&A Report has complied with the requirement as set out under Condition 3.3 of the Environmental Permit.

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

Yours faithfully  
For and on behalf of  
SMEC Asia Limited

**Vivian CHAN**  
Independent Environmental Checker

c.c. AECOM Mr. Y W Fung

(By Fax: 2961 2649)

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## **EXECUTIVE SUMMARY**

The EM&A programme for the Project commenced on 11 July 2017. The impact environmental monitoring include water quality monitoring, silt curtain monitoring and marine mammal observations.

This report documents the findings of EM&A works conducted in the period from 1 to 31 July 2017.

### **Breaches of Action and Limit Levels for Water Quality Monitoring**

One (1) Action Level exceedance of Suspended Solids at E3 at Mid-Flood tide on 12 July 2017 was recorded in the reporting period. This exceedance was considered not likely to be caused by this Contract's activities after investigation.

Four (4) Action Level exceedances of Dissolved Oxygen at surface & middle level at L1 (Mid-Flood, 11 July 2017), E3 (Mid-Flood, 11 July 2017), G1 (Mid-Ebb, 12 July 2017) and G2 (Mid-Ebb, 20 July 2017) were recorded in the reporting period. These exceedances were considered not likely to be caused by this Contract's activities after investigation.

One hundred and twenty (120) Action Level exceedances of Dissolved Oxygen at bottom level of all monitoring locations at both Mid-Ebb and Mid-Flood tide every monitoring day were recorded in the reporting period. These exceedances were considered not likely to be caused by this Contract's activities after investigation.

No exceedance of Limit Level of water quality was recorded in the reporting period.

### **Breaches of Action and Limit Levels for Silt Curtain Monitoring**

No exceedance of Limit Level of silt curtain monitoring was recorded in the reporting period.

### **Marine Mammal Observation**

No cetacean was observed in the exclusion zone for 30 minutes before the installation works start on 11, 12, 13 and 20 July 2017.

### **Complaint, Notification of Summons and Successful Prosecution**

No environmental complaint, notification of summons and successful prosecution was received in the reporting period.

### **Reporting Changes**

There was no reporting change in the reporting period.

## 1 INTRODUCTION

### 1.1 Background

- 1.1.1 The AAE-1 Cable System (the Project) will be one of the first cable systems connecting Hong Kong, Singapore, Middle East, Africa and Europe, providing an alternative low latency route between the Far East and Europe. The entire AAE-1 Cable, spanning approximately 25,000 km from Hong Kong to France. Within Hong Kong, the length of the AAE-1 Cable is approximately 27.65km, as shown in **Figure 1.1**.
- 1.1.2 AAE-1 is to be constructed by the AAE-1 Consortium, which includes PCCW Global (HK) Ltd (PCCWG), who is responsible for the installation of the Project within Hong Kong.
- 1.1.3 A Project Profile was prepared to assess potential environmental impacts associated with the installation of the submarine telecommunications cable system within Hong Kong. The Project Profile was submitted to the Environmental Protection Department (EPD) under section 5(1)(b) and 5(11) of the Environmental Impact Assessment Ordinance (EIAO) for application for permission to apply directly for an Environmental Permit (EP) (Application No. DIR-244/2016). Permission granted by EPD via an approval letter dated 2 March 2016 (Ref. EP2/H18/C/10).
- 1.1.4 The Project Profile recommended carrying out precautionary water quality monitoring to ensure no adverse impacts to the water quality, marine ecology and fisheries. Also, as a precautionary measure, a 250m “marine mammal exclusion zone” around the cable laying barge shall established during the cable installation works to prevent marine mammals from being adversely affected.

### 1.2 Scope of Report

- 1.2.1 This is the Final Environmental Monitoring and Audit (EM&A) Report and this report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures of the Project in July 2017.

### 1.3 Project Organization

- 1.3.1 The project organization is shown in **Appendix A**. The key personnel contact names and numbers are summarized in **Table 1.1**.

**Table 1.1 Contact Information of Key Personnel**

<b>Party</b>	<b>Position</b>	<b>Name</b>	<b>Telephone</b>	<b>Fax</b>
<b>IEC</b> (SMEC Asia Limited)	Independent Environmental Checker	Vivian Chan	3995 8100	3995 8101
<b>Contractor</b> (Hong Kong Marine Contractors Limited)	Project Director	Colman Chan	6193 4729	2693 2984 / 31053985
	Operation Director	Dominic Chan	6193 4736	
	Administrative Director	Kevin Chan	6193 4737	
<b>ET</b> (AECOM)	ET Leader	Y W Fung	3922 9366	2371 7609

#### 1.4 Summary of Construction Works

1.4.1 Details of the construction works carried out by the Contractor in this reporting period are listed below:

- Horizontal Directional Drilling (HDD)
- Surface laying by diver
- Cable burial works

1.4.2 The environmental mitigation measures implementation schedule are presented in **Appendix B**.

#### 1.5 Summary of EM&A Programme Requirements

1.5.1 The EM&A programme required environmental monitoring for water quality monitoring, silt curtain monitoring and marine mammal observations. The EM&A requirements for each parameter described in the following sections include:

- All monitoring parameters;
- Monitoring schedules for the reporting period;
- Action and Limit levels for all environmental parameters;
- Event / Action Plan;
- Environmental mitigation measures, as recommended in the Project Profile; and
- Environmental requirement in contract documents.

## 2 WATER QUALITY MONITORING

### 2.1 Monitoring Requirements

2.1.1 In accordance with the Updated EM&A Manual, the impact water quality monitoring was conducted each day during which cable burial will be carried out from Ch.500m to Ch.10km in the Project.

### 2.2 Monitoring Equipment

2.2.1 The brand and model of water quality monitoring equipment is given in **Table 2.1**.

**Table 2.1 Water Quality Monitoring Equipment**

Equipment	Brand and Model
Dissolved Oxygen Meter	YSI 6820
Water Temperature Meter	
Salinity Meter	
Turbidimeter	
Water Sampler	Kahlsico Water Sampler
Echo Sounder	Eagle Cuda-168
Global Positioning System	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551
Current Velocity and Direction Meter	Falmouth Scientific ACM-PLUS-200

### 2.3 Monitoring Locations

2.3.1 In accordance with the Updated EM&A Manual, the stations for impact water quality monitoring are presented in **Table 2.2** and shown in **Figure 2.1**.

**Table 2.2 Locations of Impact Water Quality Monitoring Stations**

Type of Station	Station	Location	Easting	Northing
Water Quality Monitoring Station	L1	Shek O Headland SSSI	844603.15	809861.64
	E1	Cape D'Aguilar Marine Reserve	844778.20	808054.89
	E2	Cape D'Aguilar Marine Reserve	845185.03	807739.10
	E3	Cape D'Aguilar Marine Reserve	845355.75	807285.37
	E4	Coral Communities at the Coast of Sung Kong	847839.10	805957.97
	E5	Coral Communities at the Coast of Waglan Island	849742.30	805816.65
	E6	Coral Communities at the Coast of Po Toi	845546.99	804968.77
	E7	Coral Communities at the Coast of Beaufort Island	844690.12	805570.31
	B1	Shek O Gazetted Bathing Beach	844039.63	809802.72
	G1	Gradient Station	847740.12	806441.12
	G2	Gradient Station	849648.03	806387.80
	G3	Gradient Station	844719.38	809049.95
	G4	Gradient Station	845294.36	806542.02
	G5	Gradient Station	846049.55	806023.13
	Control Station	C1	Control Station	848340.92



## 2.4 Monitoring Parameters, Frequency and Duration

2.4.1 The monitoring parameters, frequency and duration of water quality monitoring are summarized in **Table 2.3**.

**Table 2.3 Water Quality Monitoring Parameters, Frequency and Duration**

Parameter	Frequency and Duration
Turbidity, Suspended Solids, Dissolved Oxygen, Temperature and Salinity	Each day during which cable burial will be carried out, at mid-flood and mid-ebb tides

## 2.5 Monitoring Methodology

2.5.1 The water quality monitoring procedures are presented in the following:

- All monitoring equipment were checked and calibrated before use. Responses of sensors and electrodes were also checked with certified standard solutions before each use.
- The interval between 2 sets of monitoring was not less than 36 hours.
- Duplicate in-situ measurements and water sampling were carried out in each sampling event.
- Measurements were taken at 3 water depths, namely, 1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored.
- Analysis of suspended solids was carried out by ALS Technichem (HK) Pty Ltd. Sufficient water samples were collected at the monitoring stations for carrying out the laboratory analysis. The analysis followed the standard methods as described in APHA Standard Methods for the Examination of Water and Wastewater, 19th Edition (APHA 2540D for SS).
- Water samples for suspended solids measurements were collected in high density polythene bottles, packed in ice (cooled to 4°C without being frozen), and delivered to a HOKLAS laboratory as soon as possible after collection.
- All monitoring equipment were certified by a laboratory accredited under HOKLAS.

## 2.6 Action/Limit Levels

2.6.1 A baseline water quality monitoring for 15 locations were carried out 3 days per week for 4 weeks between 9 May 2017 and 3 June 2017. Action and Limit Levels for water quality were established and summarized in **Appendix C**.

## 2.7 Results and Observations

2.7.1 The number of monitoring exceedances for dissolved oxygen (surface & middle), dissolved oxygen (bottom), turbidity and suspended solids in the reporting period are summarized in **Table 2.4, Table 2.5, Table 2.6 and Table 2.7** respectively.

**Table 2.4 Summary of Numbers of Exceedances for Dissolved Oxygen (Surface & Middle) in the Reporting Period**

Monitoring Parameter	Station	Level of Exceedance	Number of Exceedance
Dissolved Oxygen (Surface & Middle)	L1	Action	1
		Limit	0
	E1	Action	0
		Limit	0
	E2	Action	0
		Limit	0
	E3	Action	1
		Limit	0
	E4	Action	0
		Limit	0
	E5	Action	0
		Limit	0
	E6	Action	0
		Limit	0
	E7	Action	0
		Limit	0
	B1	Action	0
		Limit	0
	G1	Action	1
		Limit	0
	G2	Action	1
		Limit	0
	G3	Action	0
		Limit	0
	G4	Action	0
		Limit	0
	G5	Action	0
		Limit	0
	C1	Action	0
		Limit	0

**Table 2.5 Summary of Numbers of Exceedances for Dissolved Oxygen (Bottom) in the Reporting Period**

Monitoring Parameter	Station	Level of Exceedance	Number of Exceedance
Dissolved Oxygen (Bottom)	L1	Action	8
		Limit	0
	E1	Action	8
		Limit	0
	E2	Action	8
		Limit	0
	E3	Action	8
		Limit	0
	E4	Action	8
		Limit	0
	E5	Action	8
		Limit	0
	E6	Action	8
		Limit	0
	E7	Action	8
		Limit	0
	B1	Action	8
		Limit	0
	G1	Action	8
		Limit	0
	G2	Action	8
		Limit	0
	G3	Action	8
		Limit	0
	G4	Action	8
		Limit	0
	G5	Action	8
		Limit	0
	C1	Action	8
		Limit	0

**Table 2.6 Summary of Numbers of Exceedances for Turbidity in the Reporting Period**

Monitoring Parameter	Station	Level of Exceedance	Number of Exceedance
Turbidity	L1	Action	0
		Limit	0
	E1	Action	0
		Limit	0
	E2	Action	0
		Limit	0
	E3	Action	0
		Limit	0
	E4	Action	0
		Limit	0
	E5	Action	0
		Limit	0
	E6	Action	0
		Limit	0
	E7	Action	0
		Limit	0
	B1	Action	0
		Limit	0
	G1	Action	0
		Limit	0
	G2	Action	0
		Limit	0
	G3	Action	0
		Limit	0
	G4	Action	0
		Limit	0
	G5	Action	0
		Limit	0
C1	Action	0	
	Limit	0	

**Table 2.7 Summary of Numbers of Exceedances for Suspended Solids in the Reporting Period**

<b>Monitoring Parameter</b>	<b>Station</b>	<b>Level of Exceedance</b>	<b>Number of Exceedance</b>
Suspended Solids	L1	Action	0
		Limit	0
	E1	Action	0
		Limit	0
	E2	Action	0
		Limit	0
	E3	Action	1
		Limit	0
	E4	Action	0
		Limit	0
	E5	Action	0
		Limit	0
	E6	Action	0
		Limit	0
	E7	Action	0
		Limit	0
	B1	Action	0
		Limit	0
	G1	Action	0
		Limit	0
	G2	Action	0
		Limit	0
	G3	Action	0
		Limit	0
	G4	Action	0
		Limit	0
	G5	Action	0
		Limit	0
	C1	Action	0
		Limit	0

- 2.7.2 One (1) Action Level exceedance of Suspended Solids at E3 at Mid-Flood tide on 12 July 2017 was recorded in the reporting period.
- 2.7.3 Four (4) Action Level exceedances of Dissolved Oxygen at surface & middle level at L1 (Mid-Flood, 11 July 2017), E3 (Mid-Flood, 11 July 2017), G1 (Mid-Ebb, 12 July 2017) and G2 (Mid-Ebb, 20 July 2017) were recorded in the reporting period.
- 2.7.4 One hundred and twenty (120) Action Level exceedances of Dissolved Oxygen at bottom level of all monitoring locations at both Mid-Ebb and Mid-Flood tide all monitoring day (11 – 13, 20 July 2017) were recorded in the reporting period.
- 2.7.5 All exceedances were considered not likely to be caused by this Project's activities after investigation.
- 2.7.6 Proper mitigation measures on water quality (e.g. maximum speed of the Cable Burial Tool shall be limited) have been provided to reduce adverse impacts on water quality during construction activities. The effective implementation of mitigation measures ensured the compliance with action and limit levels of water quality during the reporting period.

### 3 SILT CURTAIN MONITORING AND AUDIT

#### 3.1 Monitoring Requirements

3.1.1 In accordance with the Updated EM&A Manual, the silt curtain monitoring was conducted each day during which cable burial will be carried out from Ch.500m to Ch.2.5km in the Project.

#### 3.2 Monitoring Equipment

3.2.1 The brand and model of water quality monitoring equipment is given in **Table 3.1**.

**Table 3.1 Silt Curtain Monitoring Equipment**

Equipment	Brand and Model
Turbidimeter	WTW Turb 430T
Echo Sounder	Eagle Cuda-168
Global Positioning System	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551

#### 3.3 Monitoring Locations

3.3.1 In accordance with the Updated EM&A Manual, water quality monitoring “inside” the silt curtain (S1) (i.e. between burial tool and the silt curtain) and “outside” of the silt curtain (S2) (i.e. between the silt curtain and Cape D'Aguilar Marine Reserve) were conducted.

#### 3.4 Monitoring Parameters, Frequency and Duration

3.4.1 The monitoring parameters, frequency and duration of water quality monitoring are summarized in **Table 3.2**.

**Table 3.2 Water Quality Monitoring Parameters, Frequency and Duration**

Parameter	Frequency and Duration
Turbidity	Hourly basis, each day during which cable burial will be carried out

#### 3.5 Monitoring Methodology

3.5.1 The water quality monitoring procedures are presented in the following:

- All monitoring equipment were checked and calibrated before use. Responses of sensors and electrodes were also checked with certified standard solutions before each use.
- Duplicate in-situ measurements were carried out in each sampling event.
- Measurements were taken at 1m above sea bed.
- All monitoring equipment were certified by a laboratory accredited under HOKLAS.

### 3.6 Limit Level

- 3.6.1 Water quality is considered to be unaffected by cable burial works if the monitoring result at S1 is <20% above the  $S_{DAILYBASELINE}$  value. If the monitoring result at S1 is  $\geq 20\%$  above the  $S_{DAILYBASELINE}$  value, then the results will be evaluated against the Limit Level. The Limit Level for S2 was established by the equation,  $S2_{LIMIT} = (S1 - S_{DAILYBASELINE}) * 15\% + S_{DAILYBASELINE}$ .

### 3.7 Results and Observations

- 3.7.1 Silt curtain monitoring was carried out on 11 and 12 July 2017. The number of monitoring exceedances for turbidity of silt curtain monitoring in the reporting period are summarized in **Table 3.3**.

**Table 3.3 Summary of Numbers of exceedances for Turbidity of Silt Curtain Monitoring in the Reporting Period**

Monitoring Parameter	Date	Level of Exceedance	Number of Exceedance
Turbidity	11 July 2017	Limit	0
	12 July 2017	Limit	0

- 3.7.2 No exceedance of Limit Level (i.e.  $S2_{LIMIT} = (S1 - S_{DAILYBASELINE}) * 15\% + S_{DAILYBASELINE}$ ) was recorded in the reporting period.
- 3.7.3 Proper mitigation measures on water quality (e.g. maximum speed of the Cable Burial Tool shall be limited) have been provided to reduce adverse impacts on water quality during construction activities. The effective implementation of mitigation measures ensured the compliance with limit levels of water quality during the reporting period.



## 4 MARINE MAMMAL OBSERVATION

### 4.1 Monitoring Requirements

- 4.1.1 In accordance with the Updated EM&A Manual, marine mammal observations were conducted each day during which cable burial will be carried out from Ch.500m to Ch.10km in the Project.

### 4.2 Monitoring Equipment

- 4.2.1 Table 4.1 summarizes the equipment used for the marine mammal observation.

**Table 4.1 Marine Mammal Observation Equipment**

Equipment	Brand and Model
Binocular	Olympus 8 x 42 EXWP I
Camera	Nikon D90 18-105mm zoom lens
Global Positioning System	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551

### 4.3 Monitoring Locations and Frequency

- 4.3.1 In accordance with the Updated EM&A Manual, marine mammal observations were conducted in which the qualified observer stand on the upper decks of the barge and scan the 250m exclusion zone for at least 30 minutes before the installation work starts.

### 4.4 Results and Observations

- 4.4.1 Marine mammal observations were conducted on 11, 12, 13 and 20 July 2017.
- 4.4.2 The weather were mainly sunny with good visibility. Sea conditions were mainly at a Beaufort Sea State of 2 to 4.
- 4.4.3 No cetacean was observed in the exclusion zone for 30 minutes before the installation works start on 11, 12, 13 and 20 July 2017.

## **5 REVIEW OF THE VALIDITY OF THE PROJECT PROFILE PREDICTION**

- 5.1.1 Most of the water quality monitoring results in the reporting period were below the Action and Limit Levels established in the baseline water quality monitoring. The result was in line with the Project Profile prediction that with the implementation of mitigation measures, the water quality influenced by the Project works will meet the stipulated criterion at various monitoring locations.
- 5.1.2 No silt curtain monitoring exceedance was recorded in the reporting period. The overall result was in line with the Project Profile prediction that with the implementation.
- 5.1.3 No cetacean was observed in the exclusion zone for 30 minutes before the installation works start on 11, 12, 13 and 20 July 2017.

## **6 REVIEW OF ENVIRONMENTAL ACCEPTABILITY OF THE PROJECT**

- 6.1.1 Even though a few exceedances of water quality results were recorded, all exceedances were considered not related to the Project. The environmental monitoring results indicated that the construction activities in general complied with the relevant environmental requirements
- 6.1.2 From the monitoring results, it is concluded that the overall environmental performance of the project is satisfactory.

## **7 REVIEW OF ENVIRONMENTAL METHODOLOGY**

- 7.1.1 ET regularly reviewed the monitoring methodology. There was no amendment on the monitoring methodology during the construction phase of the Project.
- 7.1.2 The environmental monitoring methodology was considered well established as the monitoring results were found in line with the Project Profile predictions.

## **8 REVIEW OF EIA PROCESS AND EM&A PROGRAMME**

- 8.1.1 The impact water quality monitoring, silt curtain monitoring and marine mammal observation were properly conducted in accordance with the Updated EM&A Manual. The monitoring events were sufficient to justify the respective environmental impacts on the nearby sensitive receivers.
- 8.1.2 The mitigation measures in the Project Profile and the EM&A programme have been effectively implemented during the construction period.

## **9 CONCLUSION AND RECOMMENDATIONS**

- 9.1.1 Environmental monitoring for water quality, silt curtain efficiency and marine mammal observation were carried out in the reporting period.
- 9.1.2 One (1) Action Level exceedance of Suspended Solids at E3 at Mid-Flood tide on 12 July 2017 was recorded in the reporting period. This exceedance was considered not likely to be caused by this Contract's activities after investigation.
- 9.1.3 Four (4) Action Level exceedances of Dissolved Oxygen at surface & middle level at L1 (Mid-Flood, 11 July 2017), E3 (Mid-Flood, 11 July 2017), G1 (Mid-Ebb, 12 July 2017) and G2 (Mid-Ebb, 20 July 2017) were recorded in the reporting period. These exceedances were considered not likely to be caused by this Contract's activities after investigation.
- 9.1.4 One hundred and twenty (120) Action Level exceedances of Dissolved Oxygen at bottom level of all monitoring locations at both Mid-Ebb and Mid-Flood tide every monitoring day were recorded

in the reporting period. These exceedances were considered not likely to be caused by this Contract's activities after investigation.

- 9.1.5 No exceedance of Limit Level of silt curtain monitoring was recorded in the reporting period.
- 9.1.6 No cetacean was observed in the exclusion zone for 30 minutes before the installation works start on 11, 12, 13 and 20 July 2017.
- 9.1.7 No environmental complaint, notification of summons and prosecution was received in the reporting period.
- 9.1.8 Environmental mitigation measures have been effectively implemented. No adverse impact to the surrounding areas was recorded.

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## FIGURES

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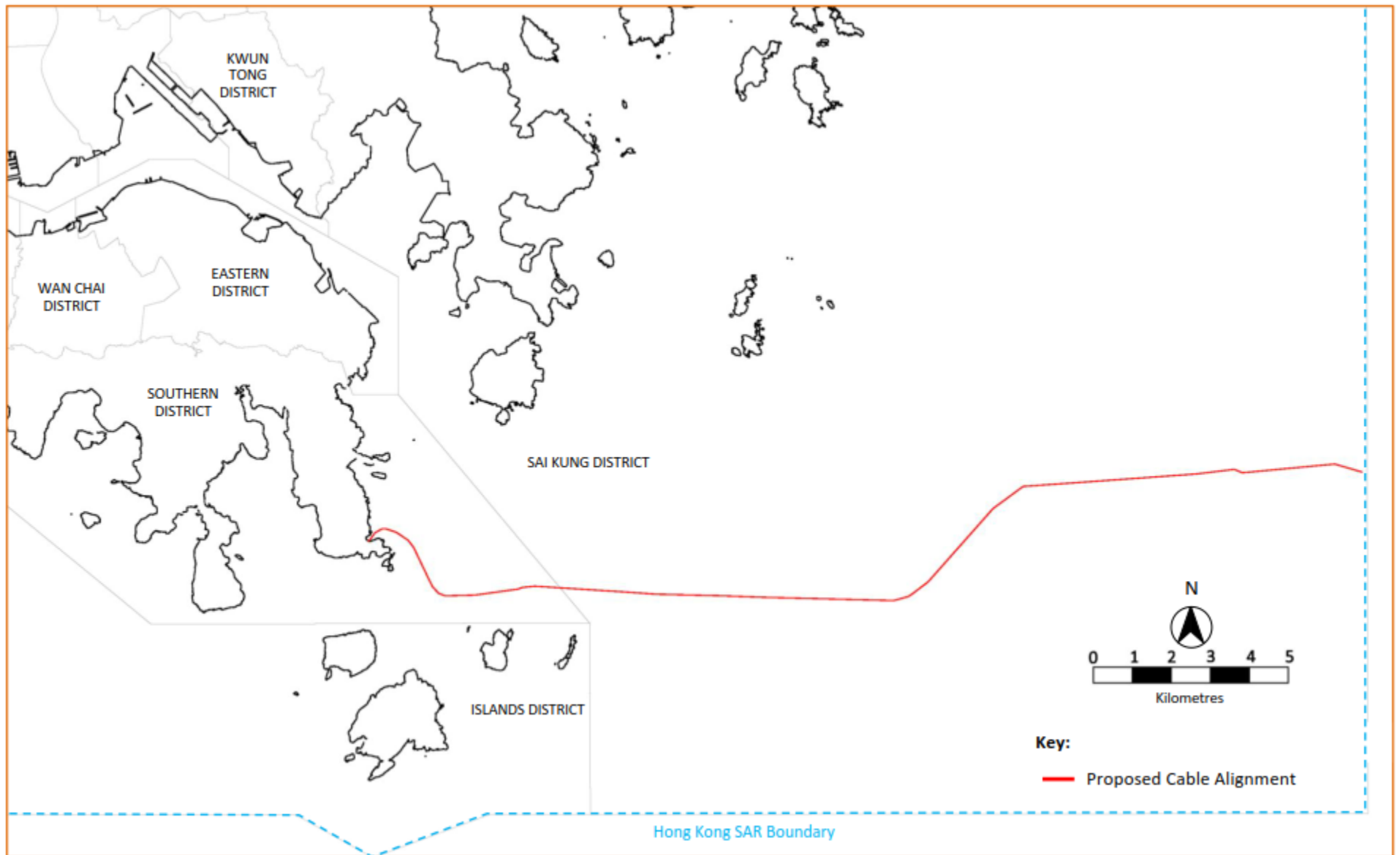


Figure 1.1 Alignment of AAE-1 Cable System within Hong Kong (Source: Figure 1.1 of Updated Environmental Monitoring and Audit Manual)

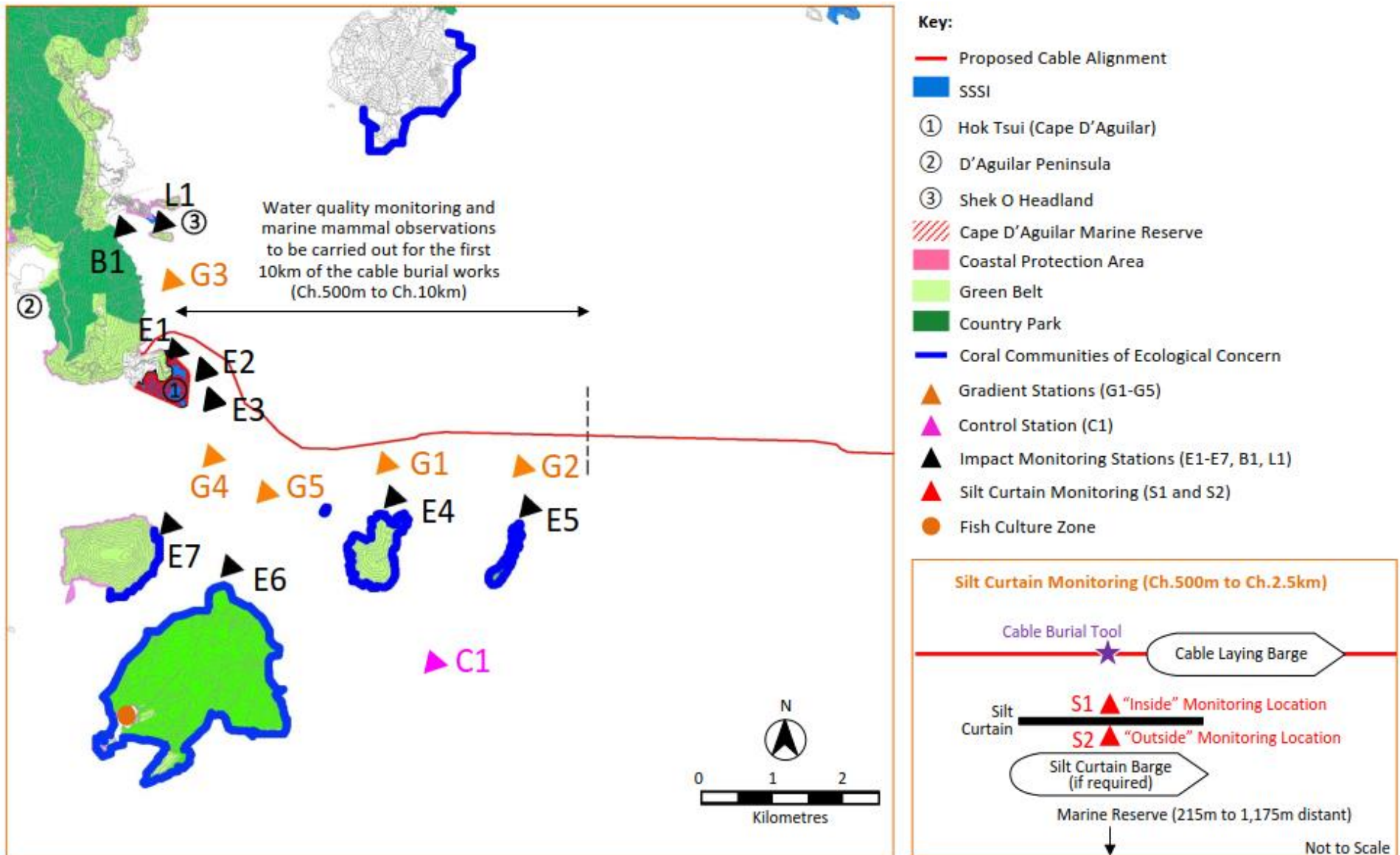


Figure 2.1 Locations of Water Quality Monitoring Station (Source: Figure 2.1 of Updated Environmental Monitoring and Audit Manual)

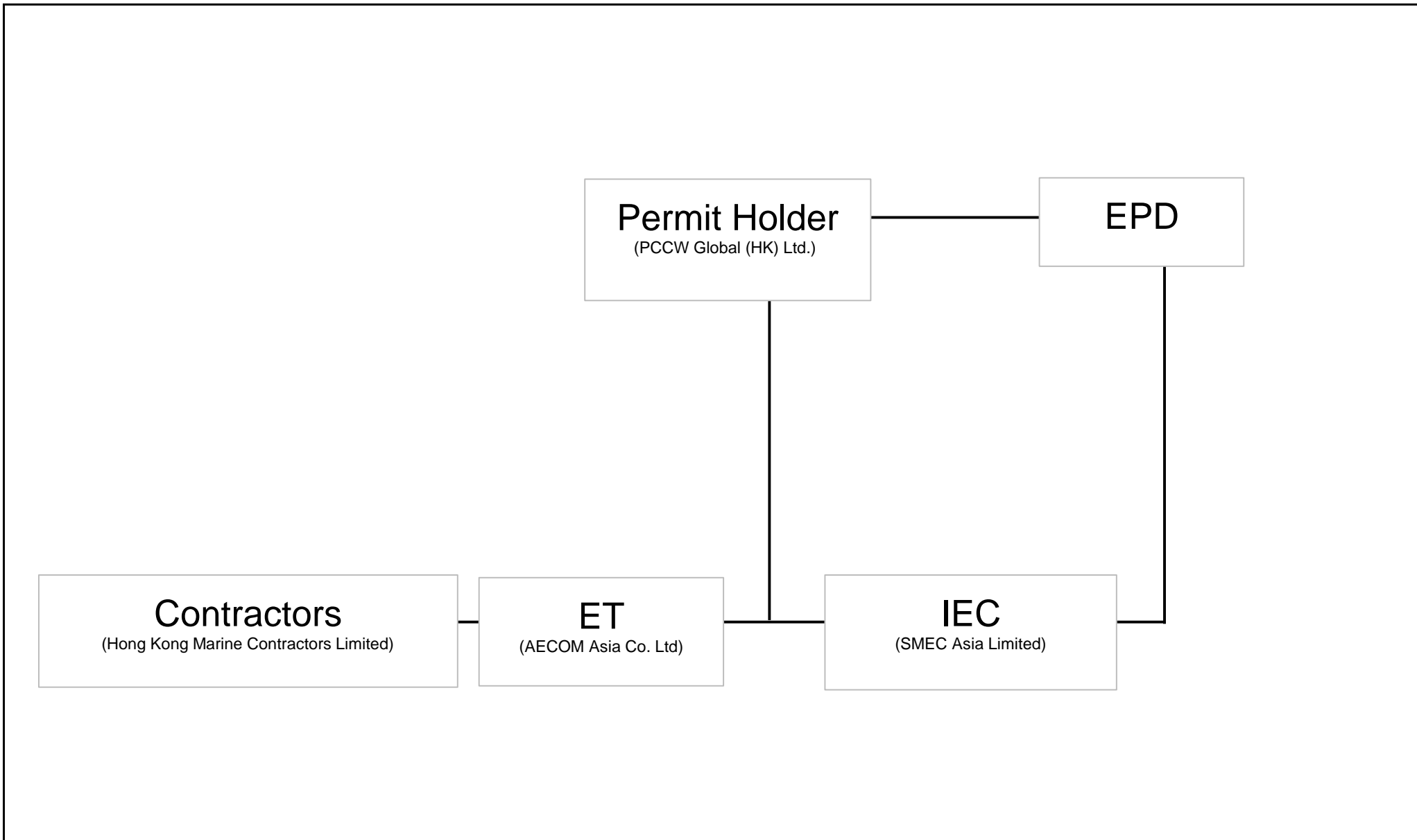
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**APPENDIX A  
PROJECT ORGANIZATION**

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Asia-Africa-Europe-1 Cable System (AAE-1)  
at Cape D'Aguilar, Hong Kong



### Project Organization Structure

Date: Aug 2017

Appendix A



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**APPENDIX B  
ENVIRONMENTAL MITIGATION MEASURES  
IMPLEMENTATION SCHEDULE**

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**Appendix B - Implementation Schedule of Environmental Mitigation Measures (EMIS)****Ecological & Water Quality Impacts – Schedule of Recommended Mitigation Measures**

Impact	Mitigation and Precautionary Measures		Timing	Implementation Status
Ecological and water quality during construction	Submarine Cable Alignment	The submarine cable was laid along the alignment as delineated in Figure 1 of the Environmental Permit.	During construction	V
Ecological during construction	Installation Methods	Horizontal Directional Drilling (HDD) from Ch.0m to Ch.300m.		*
		Surface Laying by Diver from Ch.300m to Ch.500m.		*
		Cable Burial Tool from Ch.500m to Ch.27.65km.		V
Ecological and water quality during construction	Speed Limit of the Cable Burial Tool	The maximum speed of the Cable Burial Tool from Ch.500m to Ch.2.5km shall be limited to 300m/hr.		V
		The maximum speed of the Cable Burial Tool from Ch.2.5km to Ch.27.65 km shall be limited to 1km/hr.		V
Ecological and water quality during construction	Silt Curtain	A mobile silt curtain along the alignment from Ch.500m to Ch.2.5km shall be installed and maintained as shown in Figure 2 of the Environmental Permit during the cable installation work.	V	

## Legend:

V = implemented;

x = not implemented;

@ = partially implemented;

+ = recommended and immediately implemented during the site inspection by the Contractor;

\* = completed prior to monitoring;

N/A = not applicable - No such work was undertaken or no such material was used on site;

# = to be implemented.

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**APPENDIX C  
SUMMARY OF ACTION / LIMIT LEVEL**

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## Appendix C - Summary of Action and Limit Levels

Table 1 – Action and Limit Levels Impact Water Quality Monitoring

Parameters	Action	Limit
DO in mg/L (Surface, Middle & Bottom)	<p style="text-align: center;"><u>Surface &amp; Middle:</u></p> <p style="text-align: center;"><b>6.26</b> (5th percentile of baseline data for surface and middle layer)</p> <p style="text-align: center;"><u>Bottom:</u></p> <p style="text-align: center;"><b>6.10</b> (5th percentile of baseline data for bottom layer)</p>	<p style="text-align: center;"><u>Surface &amp; Middle:</u></p> <p style="text-align: center;"><b>4</b></p> <p style="text-align: center;"><u>Bottom:</u></p> <p style="text-align: center;"><b>2</b></p>
SS in mg/L (Depth-averaged)	<p style="text-align: center;"><b>7.10</b> (95th percentile of baseline data)</p>	<p style="text-align: center;"><b>10.10</b> (99th percentile of baseline data)</p>
Turbidity in NTU (Depth-averaged)	<p style="text-align: center;"><b>2.60</b> (95th percentile of baseline data)</p>	<p style="text-align: center;"><b>3.34</b> (99th percentile of baseline data)</p>