



**JOB No.: TCS00874/16**

**CEDD CONTRACT NO. CV/2012/05  
DEVELOPMENT OF A BATHING BEACH AT LUNG MEI,  
TAI PO**

**MONTHLY ENVIRONMENTAL MONITORING AND AUDIT  
REPORT (JUNE 2021)**

**PREPARED FOR  
WELCOME CONSTRUCTION CO., LTD**

<b>Date</b>	<b>Reference No.</b>	<b>Prepared By</b>	<b>Certified By</b>
12 July 2021	TCS00874/16/600/R770v1	 Nicola Hon (Environmental Consultant)	 T.W. Tam (Environmental Team Leader)

<b>Version</b>	<b>Date</b>	<b>Remarks</b>
1	12 July 2021	First Submission

## Environmental Permit No. EP-388/2010

### Development of a Bathing Beach at Lung Mei, Tai Po

### Independent Environmental Checker Verification


#### Reference Document/Plan

Document/ <del>Plan</del> to be <del>Certified</del> / Verified:	Monthly Environmental Monitoring and Audit Report (June 2021)
Date of Report:	12 July 2021
Date received by IEC:	12 July 2021

#### Reference EP Condition / Updated EM&A Manual Requirement

Environmental Permit Condition / <del>Updated EM&amp;A Manual Reference</del>	Condition 4.4
Three hard copies and one electronic copy of monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of the reporting month. The EM&A Reports shall include a summary of all non-compliance (exceedances) of the environmental quality performance limits (Action and Limit Levels). The submissions shall be certified by the ET Leader and verified by the IEC. Additional copies of the submission shall be provided to the Director upon request by the Director.	

#### IEC Verification

I hereby verify that the above referenced document/ <del>plan</del> complies with the above referenced condition of EP-388/2010.	
Mr Terence Fong	Date: 13 July 2021
Independent Environmental Checker	

## EXECUTIVE SUMMARY

- ES.01 Civil Engineering and Development Department (hereafter referred as “CEDD”) is the Project Proponent and the Permit Holder of *Agreement No. CE 59/2005 (EP) Development of a Bathing Beach at Lung Mei, Tai Po* (hereinafter referred as “the Project”), which is a Designated Project to be implemented under Environmental Permit number EP-388/2010 (hereinafter referred as “the EP-388/2010” or “the EP”).
- ES.02 Action-United Environmental Services & Consulting (hereinafter referred as “AUES”) has been commissioned as the Environmental Team for the Project (hereinafter referred as “the ET”) to perform relevant Environmental Monitoring and Audit (EM&A) programme, including baseline and impact environmental monitoring in accordance with the EM&A Manual approved under the Environmental Impact Assessment Ordinance (EIAO).
- ES.03 According to the Approved EM&A Manual [November 2007] (hereinafter referred as ‘the EM&A Manual’), air quality, construction noise and water quality monitoring should be required to be monitored for baseline and during the construction phase of the Project. In January 2018, an updated EM&A Manual (AUES Ref.: TCS00874/16/300/L0085 dated 11 January 2018) was prepared to update of noise and air sensitive receivers and recent site condition for the EM&A programme and it was submitted and approved by EPD in January 2018.
- ES.04 In view of substantial completion of construction work and in consideration of the scale and nature of remaining works, the potential environmental impacts associated with the remaining works for Project was considered negligible. Proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021. As advised by CEDD, operational phase of the Project was commenced on 23<sup>rd</sup> June 2021.
- ES.05 This is the 43<sup>rd</sup> monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from 1<sup>st</sup> to 30<sup>th</sup> June 2021 (hereinafter ‘the Reporting Period’).

### ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

- ES.06 Upon approval by EPD on 17<sup>th</sup> May 2021, the air quality and noise monitoring under the Project was suspended on 17 May 2021. Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Issues	Environmental Monitoring Parameters / Inspection	Date
Inspection / Audit	ET Regular Environmental Site Inspection	18 <sup>th</sup> and 30 <sup>th</sup> June 2021
	Independent Environmental Checker (IEC) Monthly Environmental Site Audit	18 <sup>th</sup> June 2021

### SITE INSPECTION

- ES.07 In the Reporting Period, site inspection by ET was performed on 18<sup>th</sup> and 30<sup>th</sup> June 2021. No non-compliance was noted.

### ENVIRONMENTAL COMPLAINT

- ES.08 No environmental complaint was recorded or received in this Reporting Period. The statistics of environmental complaint are summarized in the following table.

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 30 June 2021	0	2	Dust (2)

### NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- ES.09 No environmental summons or successful prosecutions were recorded in this Reporting Period. The statistics of environmental complaint are summarized in the following tables.

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 30 June 2021	0	0	N/A

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 30 June 2021	0	0	N/A

**REPORTING CHANGE**

ES.10 Upon approval by EPD on 17<sup>th</sup> May 2021, the air quality and noise monitoring under the Project was suspended on 17 May 2021. In this Reporting Period, the construction phase EM&A programme covered site inspection only.

**FUTURE KEY ISSUES**

ES.11 In view of substantial completion of construction work and in consideration of the scale and nature of remaining works, the potential environmental impacts associated with the remaining works for Project was considered negligible. Proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021.

ES.12 As advised by the Contractor, the remaining works under the Project was all completed and operational phase of the Project was commenced on 23<sup>rd</sup> June 2021. The potential environmental impacts associated with Project are considered negligible. However, the Contractor was reminded that the environmental mitigation measures shall be properly implemented and maintained where applicable, as per the Mitigation Implementation Schedule, in the remaining construction period and operational phase.

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## 1. INTRODUCTION

### 1.1 PROJECT BACKGROUND

- 1.1.1 Civil Engineering and Development Department (hereafter referred as “CEDD”) is the Project Proponent and the Permit Holder of *Agreement No. CE 59/2005 (EP) Development of a Bathing Beach at Lung Mei, Tai Po* (hereinafter referred as “the Project”), which is a Designated Project to be implemented under Environmental Permit number EP-388/2010 (hereinafter referred as “the EP-388/2010” or “the EP”).
- 1.1.2 The major construction activities of the Project comprise construction of 200-metre long bathing beach with a groyne at each end, a shark prevention net; a public car park; retaining walls; and the associated roadworks, drainage and sewerage works. Layout plan of the Project is shown in *Appendix A*. Designated works of the Project under the EP shall include:
- (i) Construction of a 200m long beach with a groyne at each end of the beach which includes dredging and sandfilling works;
  - (ii) Construction of one culvert at the eastern side of the beach and another small section of culvert and open drainage channel with gabion embankments at the western end, both to collect and divert surface runoff from upstream locations; and
  - (iii) Construction of a beach building with associated beach building facilities, kiosk and a carpark and associated road improvement works adjoining the facility.
- 1.1.3 CEDD is Site Resident Engineers (hereinafter referred as “SRE”) responsible for the Project management; Welcome Construction CO., Ltd is a Main Contractor (hereinafter referred as “Contractor”) responsible for construction of the Project; and Action-United Environmental Services & Consulting (hereinafter referred as “AUES”) has been commissioned as an Independent Environmental Team (hereinafter referred as “the ET”) to implement the relevant EM&A programme in accordance with the approved EM&A Manual, as well as the associated duties. Moreover, Environmental Resources Management is Independent Environmental Checker (hereinafter referred as “IEC”) of the Project.
- 1.1.4 As part of the Environmental Monitoring and Audit (EM&A) programme, baseline monitoring to determine the ambient environmental conditions including air quality, noise and water quality were undertaken between **7 June 2017** and **21 October 2017**. After completed baseline monitoring, Baseline Monitoring Report for Air Quality and Noise (*AUES Ref.: TCS00874/16/600/R0022v3*) and Baseline Monitoring Report for Water Quality (*AUES Ref.: TCS00874/16/600/R0036v2*) were verified by IEC and submitted to EPD for endorsement. These Baseline Monitoring Reports have summarized the key findings of baseline condition and determined a set of Action and Limit Levels (A/L Levels) based on the baseline data. The A/L Levels will serve as the yardsticks for assessing the acceptability of the environmental impact during construction phase of the Project Works impact monitoring.
- 1.1.5 The construction phase of the Project commenced on 1<sup>st</sup> December 2017. Accordingly, the impact monitoring of the EM&A programme commenced on the same date.
- 1.1.6 As advised by the Contractor and confirmed by CEDD, all marine dredging was completed in late October 2019 and all sand laying underwater has been substantially completed in late August 2020. It is confirmed that no further filling operation in the site after sub-tidal profile survey check conducted on 31 August 2020 and CEDD have no adverse comment on it. The standing type silt curtain installed as per Figure 3 of the Environmental Permit No. EP-388/2010 was removed and the shark prevention net was installed on 17 September 2020. In view of completion of all the marine activities including dredging and sand laying underwater, the impact marine water quality monitoring for the Project was terminated on 31 August 2020 according to the updated EM&A Manual Section 5.1.5. The notification of termination of impact marine water quality monitoring was issued to CEDD, IEC and EPD without adverse comment received.
- 1.1.7 In view of substantial completion of construction work and in consideration of the scale and nature of remaining works, the potential environmental impacts associated with the remaining

works for Project was considered negligible. Proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021. As advised by CEDD, operational phase of the Project was commenced on 23<sup>rd</sup> June 2021.

- 1.1.8 This is the 43<sup>rd</sup> monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from 1<sup>st</sup> to 30<sup>th</sup> June 2021.

## **1.2 REPORT STRUCTURE**

- 1.2.1 The Monthly EM&A Report is structured into the following sections:-

<b>Section 1</b>	Introduction
<b>Section 2</b>	Project Organization and Construction progress
<b>Section 3</b>	Summary of Impact Monitoring Requirements
<b>Section 4</b>	Air Quality Monitoring
<b>Section 5</b>	Construction Noise Monitoring
<b>Section 6</b>	Water Quality Monitoring
<b>Section 7</b>	Waste Management
<b>Section 8</b>	Ecology
<b>Section 9</b>	Site Inspection
<b>Section 10</b>	Environmental Complaint and non-compliance
<b>Section 11</b>	Implementation Status of Mitigation Measures
<b>Section 12</b>	Conclusion and Recommendation



## 2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

### 2.1 PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

2.1.1 Organization structure and contact details of relevant parties with respect to on-site environmental management are shown in [Appendix B](#). The responsibilities of respective parties are:

#### Engineer or Engineers Representative (ER)

2.1.2 The ER is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the ER with respect to EM&A are:

- monitor the Contractor's compliance with contract specifications, including the effective implementation and operation of environmental mitigation measures and other aspects of the EM&A programme;
- instruct the Contractor to follow the agreed protocols or those in the Contract Specifications in the event of exceedances or complaints;
- comply with the agreed Event and Action Plans in the event of any exceedance;
- liaise with the IEC and assist as necessary in the implementation of the EM&A program; and
- participate in joint site inspection undertaken by the ET and IEC.

#### The Contractor

2.1.3 The duties and responsibilities of the Contractor are:

- work within the scope of the construction contract and other tender conditions;
- provide assistance to the ET in carrying out monitoring;
- Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event and Action Plans;
- implement measures to reduce impact where Action and Limit levels are exceeded;
- implement the corrective actions instructed by ER/ET/IEC;
- participate in the site inspections undertaken by the ET and the IEC, as required, and undertake any corrective actions instructed by ER/ET/IEC; and
- adhere to the procedures for carrying out complaint investigation.

#### Environmental Team (ET)

2.1.4 The ET will be led and managed by the ET Leader. The ET leader will have relevant education, training, knowledge, experience and professional qualifications and the appointment will be subject to the approval of the Director of Environmental Protection and ER. Suitably qualified staff will be included in the ET, and the ET should not be in any way an associated body of the Contractor or the Independent Environmental Checker (IEC) for the Project.

2.1.5 The duties and responsibilities of the ET are:

- monitor various environmental parameters as required in this EM&A Manual;
- assess the EM&A data and review the success of the EM&A programme determining the adequacy of the mitigation measures implemented and the validity of the EIA predictions as well as identify any adverse environmental impacts before they arise;
- carry out regular site inspection to investigate and audit the Contractor's site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, and effect proactive action to pre-empt issues;
- review the Contractor's working programme and methodology, and comment as necessary;
- review and prepare reports on the environmental monitoring data, site environmental conditions and audits;
- report on the environmental monitoring and audit results and conditions to the IEC, Contractor, EPD and ER;
- recommend suitable mitigation measures to the Contractor in the case of exceedance of Action and Limit levels in accordance with the Event and Action Plans;

- adhere to the procedures for carrying out complaint investigation; and,
- the ET Leader will keep a contemporaneous log-book and record each and every instance or circumstance or change of circumstances which may affect the environmental impact assessment and every non-conformance with the recommendations of the EIA Reports or the EPs.

Independent Environmental Checker (IEC)

2.1.6 The duties and responsibilities of the IEC are:

- review and monitor the implementation of the EM&A programme and the overall level of environmental performance being achieved;
- arrange and conduct monthly independent site inspections/audits of the works;
- validate and confirm the accuracy of monitoring results, monitoring equipment, monitoring stations, monitoring procedures and locations of sensitive receivers;
- carry out random sample check and audit on monitoring data and sampling procedures, etc;
- audit the EIA recommendations and requirements against the status of implementation of environmental protection measures on site;
- on needed basis, audit the Contractor’s construction methodology and agree the appropriate, reduced impact alternative in consultation with ER, the ET and the Contractor;
- provide specialist advice to ER and the Contractor on environmental matters;
- check complaint cases and the effectiveness of corrective measures;
- check that the necessary mitigation measures recommended in the EIA, EP and Contract documents, or as subsequently required, are effectively implemented;
- review EM&A report submitted by the ET leader and feedback audit results to ET by signing off relevant EM&A proformas;
- report the findings of site inspections/ audits and other environmental performance reviews to ER, ET, EPD and the Contractor;

**2.2 CONSTRUCTION PROGRESS**

2.2.1 The major construction activities under the Project were completed.

**2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS**

2.3.1 Summary of currently relevant permits, licenses, 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		
		Permit no./Account no./ Ref. no.	From	To
1	Air pollution Control (Construction Dust) Regulation	Ref. Number: 418137	N/A	N/A
2	Chemical Waste Producer Registration	Waste Producers Number (WPN): 5213-728-W3437-01	21 August 2017	End of Project
3	Water Pollution Control Ordinance	License No.: WT00028905-2017	24 October 2017	31 October 2022
4	Waste Disposal (Charges for Disposal of Construction Waste) Regulation	Billing Account for Disposal of Construction Waste: Account No. 7017686	3 July 2013	End of Project

2.3.2 The submission status as under the EP requirement is presented in [Table 2-2](#).

**Table 2-2 Submission Status as under the EP Stipulation**

Item	EP condition	Description	Status
1	2.3	Management Organization of the Main Construction Companies	The updated version was submitted in May 2018
2	2.4	Report for Capture and Relocation of Common Rat Snake	Approved by EPD on 15 Sep 2017 (EPD ref.: (15) in EP2/N5/C/46 Pt.6 dated 15 Sep 2017)
3	2.5	Landscape Plan	Approved by EPD on 6 July 2021 (EPD ref.: () in EP2/N5/C/46 Pt.10 dated 6 July 2021)
4	3.12	Mangrove Seedling Planting Proposal	Approved by EPD on 22 April 2021 (EPD ref.: () in EP2/N5/C/46 Pt.9 dated 22 April 2021)
5	3.13	Detailed Landscape As-built Drawing(s)	Re-submitted to EPD on 22 June 2021
6	4.3	Baseline Monitoring Report for Air Quality and Noise (AUES Ref.: TCS00874/16/600/R0022v3)	Approved by EPD on 8 Jan 2018 (EPD ref.: (36) in EP2/N5/C/46 Pt.6 dated 8 Jan 2018)
7		Baseline Monitoring Report for Water Quality (AUES Ref.: TCS00874/16/600/R0036v2)	Approved by EPD on 10 Jan 2018 (EPD ref.: (37) in EP2/N5/C/46 Pt.6 dated 10 Jan 2018)

### **3. SUMMARY OF IMPACT MONITORING REQUIREMENTS**

#### **3.1 GENERAL**

- 3.1.1 The EM&A requirements are set out in the EM&A manual and environmental issues such as air quality, construction noise and water quality were identified as the key issues during the construction phase of the Project.
- 3.1.2 In view of completion of all the marine activities, the impact marine water quality monitoring for the Project was terminated on 31 August 2020 according to the updated EM&A Manual Section 5.1.5.
- 3.1.3 Moreover, in view of substantial completion of construction work and in consideration of the scale and nature of remaining works, the potential environmental impacts associated with the remaining works for Project was considered negligible. Proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021.

**4. AIR QUALITY MONITORING**

**4.1 GENERAL**

- 4.1.1 In view of substantial completion of work and in consideration of the scale and nature of remaining works, a proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021.
- 4.1.2 Upon the proposal for suspension of air quality and noise monitoring approved by EPD on 17<sup>th</sup> May 2021, impact air quality monitoring was not carried out in the Reporting Period.

**5. CONSTRUCTION NOISE MONITORING**

**5.1 GENERAL**

- 5.1.1 In view of substantial completion of work and in consideration of the scale and nature of remaining works, a proposal for suspension of air quality and noise monitoring was submitted to EPD on 28 April 2021 and the Proposal was approved by EPD on 17 May 2021.
- 5.1.2 Upon the proposal for suspension of air quality and noise monitoring approved by EPD on 17<sup>th</sup> May 2021, impact noise monitoring was not carried out in the Reporting Period.
- 5.1.3 In the Reporting Period, no complaint on construction noise was received and registered, indicating no exceedance of Action Level. No non-compliance of construction noise was therefore found during the Reporting Period.

**6. WATER QUALITY MONITORING**

**6.1 GENERAL**

- 6.1.1 In view of completion of all the marine activities, the impact marine water quality monitoring for the Project was terminated on 31 August 2020 according to the updated EM&A Manual Section 5.1.5. The notification of termination of impact marine water quality monitoring was issued to CEDD, IEC and EPD without adverse comment received.
- 6.1.2 Pursuant to updated EM&A Manual Section 5.1.6, post-project marine water quality monitoring was conducted in September 2020 and October 2020 for 4 weeks to fulfill the EM&A requirement and the results were presented in the monthly EM&A report (October 2020).

**7. WASTE MANAGEMENT**

**7.1 GENERAL**

7.1.1 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

**7.2 RECORDS OF WASTE QUANTITIES**

7.2.1 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste;
- General Refuse; and
- Excavated Soil.

7.2.2 The quantities of waste for disposal in this Reporting Period are summarized in *Tables 7-1* and *7-2* and the Monthly Summary Waste Flow Table is shown in *Appendix C*. Whenever possible, materials were reused on-site as far as practicable.

**Table 7-1 Summary of Quantities of Inert C&D Materials**

Types of Waste	Quantity	Disposal Location
Total C&D Materials (Inert) ('000m <sup>3</sup> )	0	NA
Reused in this Contract (Inert) ('000m <sup>3</sup> )	0	NA
Reused in other Projects (Inert) ('000m <sup>3</sup> )	0	NA
Disposal as Public Fill (Inert) ('000m <sup>3</sup> )	0	NA

**Table 7-2 Summary of Quantities of C&D Wastes**

Types of Waste	Quantity	Disposal Location
Recycled Metal ('000kg)	0	NA
Recycled Paper / Cardboard Packing ('000kg)	0	NA
Recycled Plastic ('000kg)	0	NA
Chemical Wastes ('000kg)	0	NA
General Refuse ('000m <sup>3</sup> )	0	NA



## 8. ECOLOGY

### 8.1 ECOLOGY MONITORING (MARINE-BASED)

#### *Seahorse Translocation Surveys*

8.1.1 The seahorse captured and translocation was conducted in the period of **17 to 20 January 2018**. Since the two tagged seahorses were not recorded at the Ting Kok East reception site during the first 7 days Post-translocation Seahorse Survey on 21 to 27 January 2018, Option 2 of monitoring programme was therefore adopted to perform the Post-translocation Seahorse Survey in accordance with the approved method statement (Seahorses Translocation Plan (Version 1, 11 January 2018) refers). The Post-translocation Seahorse Survey should be performed in the first year for a period of one year after the completion of seahorse translocation. The proposed survey time would be at least 28 man-hours (including 14 man-hours during daytime and 14 man-hours during nighttime for each survey). The survey frequency is listed below:

- Daily for first week
- three times per week for the second to fourth week
- once a week for the second to fourth month
- once a month for the fifth to twelve month

8.1.2 The one year Post-translocation Seahorse Survey at Ting Kok East was completed in January 2019. Post-construction will be undertaken at the installed shark net during the maintenance period of the Project. A summary of submission regarding seahorse monitoring is shown in below **Table 8-1**.

**Table 8-1 Summary of Submission for Seahorse Monitoring**

EM&A Ref.	Submission	First Submission Date	Latest Version Submission Date	Approval Status	
S7.2.3.3	Seahorse Translocation Plan	19 Sep 2017	30 Nov 2017	Approved by EPD	
S7.2.3.8	Pre-translocation Survey Report for Seahorse	1 Dec 2018	11 June 2020	Approved by EPD	
S7.2.3.4	Seahorse Translocation Report	29 Jan 2018	11 June 2020	Approved by EPD	
S7.2.3.9	<b><i>Post-translocation monitoring report (all reports)</i></b>				
	1 <sup>st</sup> Week	29 Jan 2018	To be updated by the Contractor	The report was submitted to EPD on 23 June 2021	
	2 <sup>nd</sup> Week	4 Feb 2018			
	3 <sup>rd</sup> Week	27 Mar 2018			
	4 <sup>th</sup> Week	27 Mar 2018			
	Second Month	27 Mar 2018			
	Third Month	27 Mar 2018			
	Fourth Month	25 May 2018			
	Fifth Month	28 August 2018			
	Sixth Month	28 August 2018			
	Seven Month	28 August 2018			
	Eighth Month	4 Oct 2018			14 July 2020
	Ninth Month	19 Oct 2018			12 April 2021
	Tenth Month	18 Nov 2018	12 April 2021	Approved by EPD on 27 Apr 21	
	Eleventh Month	21 Dec 2018	12 April 2021		
	Twelfth Month	15 Feb 2019	12 April 2021		
S7.2.3.10	1 <sup>st</sup> Post-construction monitoring report	30 Jun 2021	--	Pending approval	
	2 <sup>nd</sup> Post-construction monitoring report	To be submitted	To be submitted	Pending approval	
	3 <sup>rd</sup> Post-construction monitoring report	To be submitted	To be submitted	Pending approval	
	4 <sup>th</sup> Post-construction monitoring report	To be submitted	To be submitted	Pending approval	

*Marine Ecological Monitoring*

- 8.1.3 In accordance to Section 7.2 of the updated EM & A manual, it is required to conducting marine ecological monitoring after marine fauna relocation at a six-monthly interval at (i) vicinity site near bathing beach at Lung Mei and (ii) The Reception Site of Ting Kok East until expiry of the Contract Maintenance Period.
- 8.1.4 The objectives of the marine ecological monitoring are to collect data for determining whether there is any impact on the marine ecological resources (i) in the vicinity of the Site due to the development of the bathing beach at Lung Mei, and (ii) at the Reception Site of Ting Kok East due to translocation of the target marine fauna.

*Marine Fauna Translocation*

- 8.1.5 Target marine fauna, including fishes, starfish, sea urchins and sea cucumbers, shall be translocated from the intertidal area of the Site at Lung Mei to the intertidal area at the Reception Site of Ting Kok East before commencement of sand filling works or any other works that may cause disturbances to the existing marine ecology. The translocation works shall cover capturing, handling, holding, transporting and releasing of the captured target marine fauna.
- 8.1.6 Baseline quantitative quadrat surveys were conducted at the vicinity site of Lung Mei beach and Ting Kok East in June 2017. Moreover, fauna translocation was completed in January 2018. After the translocation, marine ecological monitoring was conducted at a six-monthly interval at vicinity site near bathing beach at Lung Mei and the reception Site of Ting Kok East until expiry of the Contract Maintenance Period.
- 8.1.7 A summary of submission regarding marine ecological monitoring is shown in below **Table 8-2**.

**Table 8-2 Summary of Submission for Marine Ecological Monitoring**

EM&A Ref.	Submission	First Submission Date	Latest Version Submission Date
S7.2.2.3	Fauna Translocation – Stage 1	9 Oct 2017	18 Dec 2017
S7.2.2.3	Fauna Translocation – Stage 2	19 Dec 2017	28 Dec 2017
S7.2.2.3	Fauna Translocation – Stage 3 and 4	5 Jan 2018	5 Jan 2018
S7.2.2.4	Fauna Translocation Report	29 May 2018	15 Jan 2019
S7.2.1.4 & S7.2.2.6	Report for Baseline Marine Ecological Survey on inter-tidal habitat (Lung Mei)	20 Jul 2017	15 Jan 2019
S7.2.1.4 & S7.2.2.6	Report for Baseline Marine Ecological Survey on inter-tidal habitat (Ting Kok)	26 Jun 2017	5 Oct 2019
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Lung Mei (1 <sup>st</sup> Report)	11 Jul 2018	29 June 2021 (Pending approval)
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Ting Kok (1 <sup>st</sup> Report)	11 Jul 2018	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Lung Mei (2 <sup>nd</sup> Report)	29 Jan 2019	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Ting Kok (2 <sup>nd</sup> Report)	11 Jan 2019	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Lung Mei (3 <sup>rd</sup> Report)	29 July 2019	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Ting Kok (3 <sup>rd</sup> Report)	29 July 2019	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Lung Mei (4 <sup>th</sup> Report)	29 June 2021	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Ting Kok (4 <sup>th</sup> Report)		
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring		

<b>EM&amp;A Ref.</b>	<b>Submission</b>	<b>First Submission Date</b>	<b>Latest Version Submission Date</b>
S7.2.2.6	Report for Lung Mei (5 <sup>th</sup> Report)		
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Ting Kok (5 <sup>th</sup> Report)		
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Lung Mei (6 <sup>th</sup> Report)	The report will be submitted for approval	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Ting Kok (6 <sup>th</sup> Report)		
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Lung Mei (7 <sup>th</sup> Report)	Tentative schedule on 21 July 2021	
S7.2.1.4 & S7.2.2.6	Marine Fauna Post-translocation Monitoring Report for Ting Kok (7 <sup>th</sup> Report)		

**9. SITE INSPECTION**

**9.1 REQUIREMENTS**

9.1.1 According to the approved EM&A Manual, the environmental site inspection shall be formulation by ET Leader. The site inspection and audits should be conducted twice per month by ET.

**9.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH**

9.2.1 In the Reporting Period, site inspection and audit to evaluate site environmental performance was carried out by the ET on **18<sup>th</sup> and 30<sup>th</sup> June 2021**. No non-compliance was noted within this reporting period.

9.2.2 The findings / deficiencies that observed during the weekly site inspection are listed in **Table 9-1**.

**Table 9-1 Site Observations**

<b>Date</b>	<b>Findings / Deficiencies</b>	<b>Follow-Up Status</b>
18 <sup>th</sup> June 2021	<ul style="list-style-type: none"><li>No adverse environmental issue was observed.</li></ul>	<ul style="list-style-type: none"><li>NA</li></ul>
30 <sup>th</sup> June 2021	<ul style="list-style-type: none"><li>No adverse environmental issue was observed.</li></ul>	<ul style="list-style-type: none"><li>NA</li></ul>

**10. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE**

**10.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION**

- 10.1.1 In the Reporting Period, no environmental complaint, summons and prosecution was received.
- 10.1.2 In the Reporting Period, no summons and prosecution under the EM&A Programme was lodged for the project. The statistical summary table of environmental complaint is presented in *Tables 10-1, 10-2 and 10-3*.

**Table 10-1 Statistical Summary of Environmental Complaints**

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 30 June 2021	0	2	Dust (2)

**Table 10-2 Statistical Summary of Environmental Summons**

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Summons Nature
1 – 30 June 2021	0	0	NA

**Table 10-3 Statistical Summary of Environmental Prosecution**

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Prosecution Nature
1 – 30 June 2021	0	0	NA

**11. IMPLEMENTATION STATUS OF MITIGATION MEASURES**

**11.1 GENERAL**

11.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water, ecology and waste etc. and they are summarized presented in [Appendix D](#).

11.1.2 The Contractor had been implementing the required environmental mitigation measures according to the Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by the Contractor in this Reporting Month are summarized in [Table 11-1](#).

**Table 11-1 Environmental Mitigation Measures in the Reporting Month**

Issues	Environmental Mitigation Measures
Construction Noise	<ul style="list-style-type: none"> <li>• Regularly to maintain all plants and only the good condition plants were used on-site;</li> <li>• If possible, all mobile plants onsite operation has located far from NSRs;</li> <li>• When machines and plants were not in using, it was switched off;</li> <li>• Wherever possible, plant was prevented oriented directly the nearby NSRs</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>• The construction plants switched off when it not in use</li> </ul>
Water Quality	<ul style="list-style-type: none"> <li>• Debris and refuse generated on-site collected daily;</li> <li>• Oils and fuels were stored in designated areas with locks;</li> <li>• The chemical waste storage as sealed area provided with locks</li> </ul>
Waste and Chemical Management	<ul style="list-style-type: none"> <li>• Waste arising kept to a minimum and be handled, transported and disposed of in a suitable manner;</li> <li>• Disposal of C&amp;D wastes to any designated public filling facility and/or landfill followed a trip ticket system; and</li> <li>• Chemical waste handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.</li> </ul>
General	<ul style="list-style-type: none"> <li>• The site is generally kept tidy and clean.</li> </ul>

**11.2 IMPACT FORECAST**

11.2.1 In view of substantial completion of construction work and in consideration of the scale and nature of remaining works, the potential environmental impacts associated with the remaining works for Project was considered negligible. Proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021.

11.2.2 As advised by the Contractor, the remaining works under the Project was all completed and operational phase of the Project was commenced on 23<sup>rd</sup> June 2021. The potential environmental impacts associated with Project are considered negligible. However, the Contractor was reminded that the environmental mitigation measures shall be properly implemented and maintained where applicable, as per the Mitigation Implementation Schedule in [Appendix D](#), in the remaining construction period and operational phase.

## **12. CONCLUSIONS AND RECOMMENTATIONS**

### **12.1 CONCLUSIONS**

- 12.1.1 This is the 42<sup>nd</sup> monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from 1<sup>st</sup> to 30<sup>th</sup> June 2021.
- 12.1.2 In view of substantial completion of construction work and in consideration of the scale and nature of remaining works, the potential environmental impacts associated with the remaining works for Project was considered negligible. Proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021.
- 12.1.3 In this Reporting Period, no construction noise monitoring results that triggered the Limit Level was recorded. No NOE or the associated corrective actions were therefore issued. Moreover, no noise complaint (which is an Action Level exceedance) was received for the Project.
- 12.1.4 In this Reporting Period, no air quality monitoring exceedance was recorded. No NOE or the associated corrective actions were therefore issued.
- 12.1.5 In the Reporting Period, joint site inspection and audit to evaluate site environmental performance was carried out by the CEDD, ET and the Contractor on 12<sup>th</sup> and 31<sup>st</sup> May 2021. No non-compliance was noted within this reporting period. .
- 12.1.6 No environmental complaints, notification of summons or successful prosecution were received in this Reporting Period.

### **12.2 RECOMMENDATIONS**

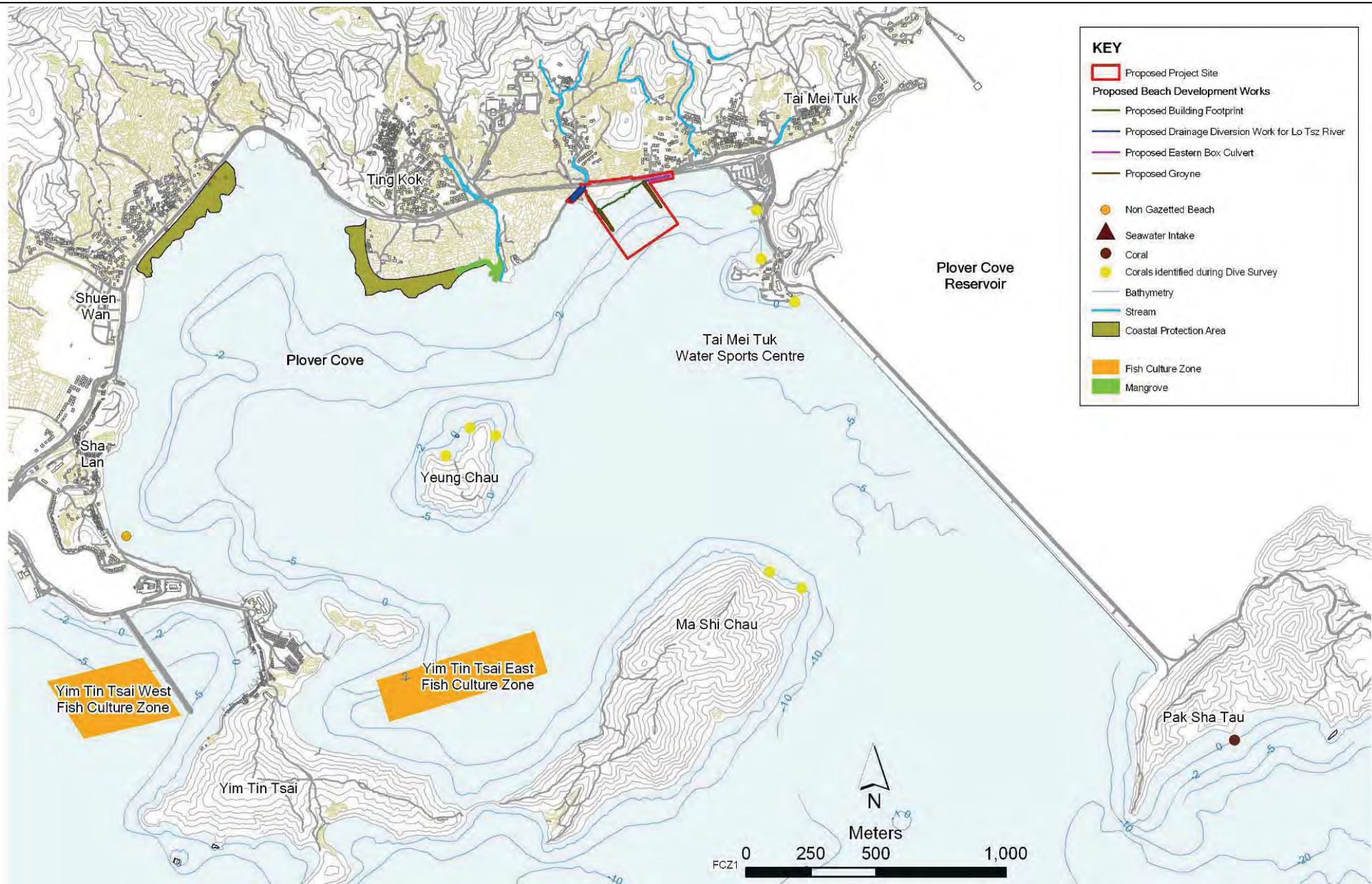
- 12.2.1 In view of substantial completion of construction work and in consideration of the scale and nature of remaining works, the potential environmental impacts associated with the remaining works for Project was considered negligible. Proposal for suspension of air quality and noise monitoring was submitted to EPD on 28<sup>th</sup> April 2021 and the Proposal was approved by EPD on 17<sup>th</sup> May 2021.
- 12.2.2 As advised by the Contractor, the remaining works under the Project was all completed and operational phase of the Project was commenced on 23<sup>rd</sup> June 2021. The potential environmental impacts associated with Project are considered negligible. However, the Contractor was reminded that the environmental mitigation measures shall be properly implemented and maintained where applicable, as per the Mitigation Implementation Schedule, in the remaining construction period and operational phase.

## **Appendix A**

### **Layout plan of the Project**

(The content of Appendix A is modified from the previous EM&A Manual – Development of a Bathing Beach at Lung Mei, Tai Po (Register No. AEIAR-123/2008): Environmental Monitoring and Audit (EM&A) Manual (November 2007))





**KEY**

- Proposed Project Site
- Proposed Beach Development Works
- Proposed Building Footprint
- Proposed Drainage Diversion Work for Lo Tsz River
- Proposed Eastern Box Culvert
- Proposed Groyne
- Non Gazetted Beach
- ▲ Seawater Intake
- Coral
- Corals identified during Dive Survey
- Bathymetry
- Stream
- Coastal Protection Area
- Fish Culture Zone
- Mangrove

<p>Client</p> <p><b>CEDD</b> CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT</p>	<p>Main Contractor</p> <p><b>偉金建築有限公司</b> Welcome Construction Co., Ltd.</p>	<p>Agreement No.: <b>CE 59/2005(EP)</b></p> <p>Project Title: <b>DEVELOPMENT OF A BATHING BEACH AT LUNG MEI, TAI PO</b></p>	<p>ENVIRONMENTAL MONITORING AND AUDIT MANUAL</p> <p>Figure Title: <b>PROJECT LOCATION AND ENVIRONMENTAL SENSITIVE RECEIVERS</b></p>	<p align="center"><b>FIGURE 1.1</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Checked</td> <td style="width: 25%;">TF</td> <td style="width: 25%;">Scale</td> <td style="width: 25%;">AS SHOWN</td> </tr> <tr> <td>Rev.</td> <td>1</td> <td>Drawn</td> <td>AM</td> </tr> <tr> <td>Date</td> <td>13/03/2007</td> <td></td> <td></td> </tr> </table>	Checked	TF	Scale	AS SHOWN	Rev.	1	Drawn	AM	Date	13/03/2007		
Checked	TF	Scale	AS SHOWN													
Rev.	1	Drawn	AM													
Date	13/03/2007															

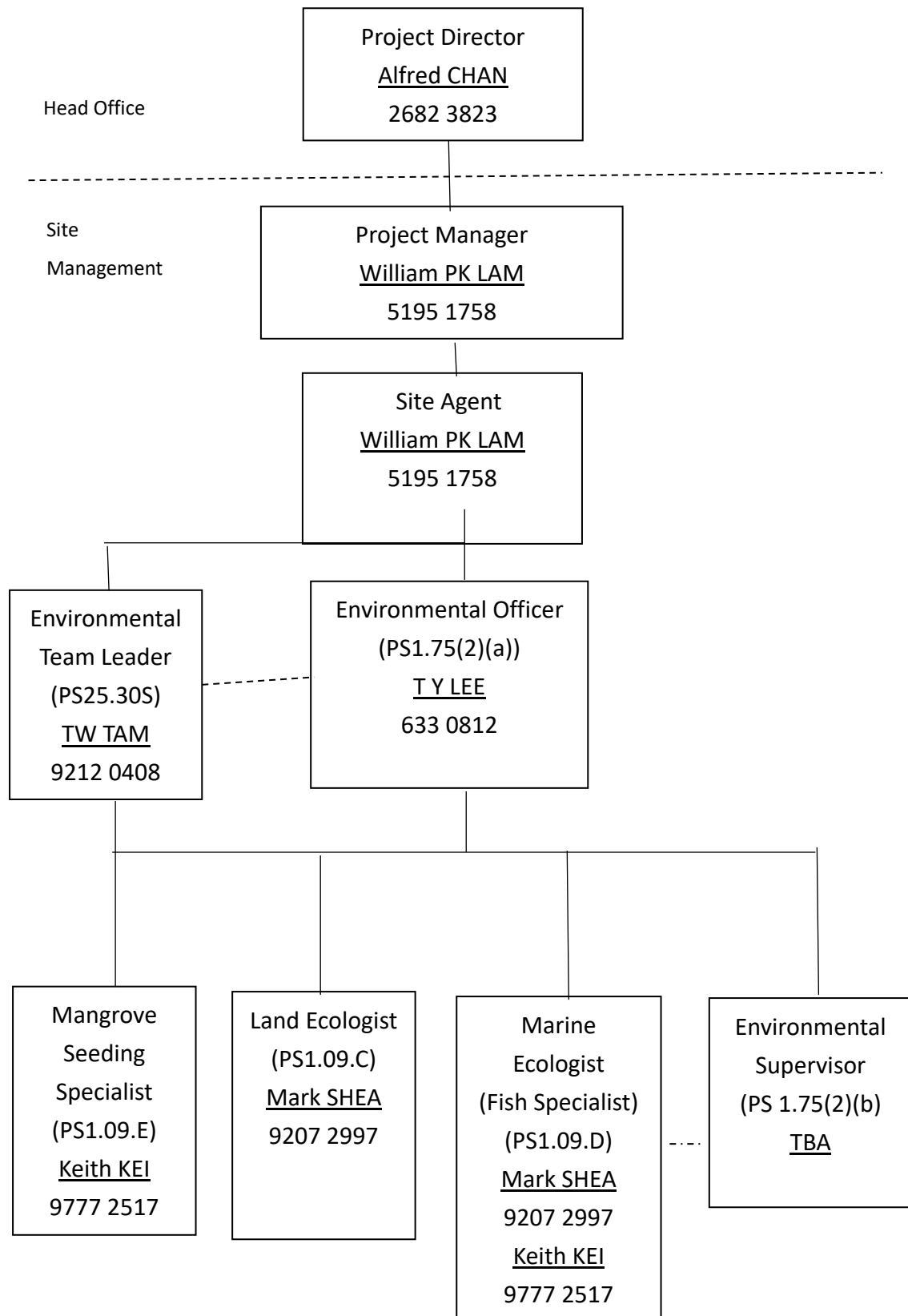
## **Appendix B**

### **Organization structure and contact details**

Welcome Construction Co. Ltd.

Contract No. CV/2012/05 Bathing Beach at Lung Mei, Tai Po

Project Organization Chart for Environmental Management



**Contact Details of Key Personnel – CV/2012/05**

<b>Organization</b>	<b>Project Role</b>	<b>Name of Key Staff</b>	<b>Tel No.</b>	<b>Fax No.</b>
CEDD	Engineer's Representative	Mr. K F Chan	2762 5532	2714 2054
ERM	Independent Environmental Checker	Mr. Terence Fong	2271 3156	2723 5660
Welcome	Project Manager	Mr. William Lam	5195 1758	2682 3222
Welcome	Site Agent	Mr. William Lam	5195 1758	2682 3222
Welcome	Environmental Officer	Mr. T Y Lee	6373 0812	2682 3222
Welcome	Environmental Supervisor	Mr. K K Lau	6055 9878	2682 3222
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

**Legend:**

*CEDD (Engineer) – Civil Engineering and Development Department*

*Welcome (Contractor) – Welcome Construction Company Limited*

*ERM (IEC) – Environmental Resources Management*

*AUES (ET) – Action-United*

## **Appendix C**

### **Waste Flow Table**

Year	Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Import Fill (in '000m <sup>3</sup> )	Actual Quantities of Non-inert C&D Waste Generated Monthly				
		Total Quantities Generated	Broken Concrete (see Note 3)	Reused in the Contract	Reused in Other Projects	Disposed in Public Fill		Metal	Paper / Cardboard Packaging	Plastics (see Note 2)	Chemical Waste	Others: tree branches, root and leaves
		(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )		(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
2013-2016	Jun 13- Dec16	0	0	0	0	0	0	0	0	0	0	0
2017	Jan	0	0	0	0	0	0	0	0	0	0	0
	Feb	0	0	0	0	0	0	0	0	0	0	0.0024
	Mar	0	0	0	0	0	0	0	0	0	0	0
	Apr	0	0	0	0	0	0	0	0	0	0	0
	May	0	0	0	0	0	0	4.97	0	0	0	0.103644
	Jun	0	0	0	0	0	0	0	0	0	0	0.0064
	Sub-total:	0	0	0	0	0	0	4.97	0	0	0	0.112444
	Jul	0	0	0	0	0	0	0	0	0	0	0.01104
	Aug	0	0	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0	0	0.02883
	Oct	0	0	0	0	0	0	0	0	0	0	0
	Nov	0.04875	0	0	0	0.04875	0	0	0	0	0	0.26
	Dec	0	0	0	0	0	0	0	0	0	0	0.0325
Total:	0.04875	0	0	0	0.04875	0	4.97	0	0	0	0.444814	
2018	Jan	0	0	0	0	0	0	0	0	0	0	0.078
	Feb	0	0	0	0	0	0	0	0	0	0	0
	Mar	1.633125	0	0	0	1.633125	0	0	0	0	0	0.0065
	Apr	1.31625	0	0	0	1.31625	0	0	0	0	0	0
	May	0	0	0	0	0	1.648	0	0	0	0	0.0065
	Jun	0	0	0	0	0	2.728	0	0	0	0	0
	Sub-total:	2.998125	0	0	0	2.998125	4.376	4.97	0	0	0	0.535814
	Jul	0	0	0	0	0	4.88	0	0	0	0	0
	Aug	1.14	0	0	0	1.14	4.832	0	0	0	0	0
	Sep	1.08	0	0	0	1.08	2.472	0	0	0	0	0
	Oct	0	0	0	0	0	2.304	0	0	0	0	0.0195
	Nov	0.224	0	0	0	0.224	0.664	0	0	0	0	0.0065
	Dec	0.904	0	0	0	0.904	0.224	0	0	0	0	0
Total:	6.346125	0	0	0	6.346125	19.752	4.97	0	0	0	0.561814	
2019	Jan	0.384	0	0	0	0.384	0.504	0	0	0	0	0.0065
	Feb	0	0	0	0	0	0.36	0	0	0	0	0
	Mar	0	0	0	0	0	1.2	0	0	0	0	0
	Apr	0	0	0	0	0	1.512	0	0	0	0	0.0065
	May	0	0	0	0	0	0.8	0	0	0	0	0.0065
	Jun	0.712	0	0	0	0.712	5.104	0	0	0	0	0.0065
	Sub-total:	7.442125	0	0	0	7.442125	29.232	4.97	0	0	0	0.587814
	Jul	0.728	0	0	0	0.728	0	0	0	0	0	0.0065
	Aug	0.672	0	0	0	0.672	0	0	0	0	0	0.013
	Sep	0.968	0	0	0	0.968	0	0	0	0	0	0.026
	Oct	1.112	0	0	0	1.112	0.056	0	0	0	0	0.026
	Nov	0.32	0	0	0	0.32	0.32	0	0	0	0	0.013
	Dec	1.08	0	0	0	1.08	1.832	0	0	0	0	0.0195
Total:	12.322125	0	0	0	12.322125	31.44	4.97	0	0	0	0.691814	
2020	Jan	0.208	0	0	0	0.208	1.112	0	0	0	0	0.013
	Feb	0.392	0	0	0	0.392	1.864	0	0	0	0	0.039
	Mar	0.008	0	0	0	0.008	0.424	0	0	0	0	0.0585
	Apr	0.128	0	0	0	0.128	0	0	0	0	0	0.0065
	May	0.144	0	0	0	0.144	0	0	0	0	0	0.039
	Jun	0	0	0	0	0	0.232	0	0	0	0	0.013
	Sub-total:	13.202125	0	0	0	13.202125	35.072	4.97	0	0	0	0.860814
	Jul	0	0	0	0	0	0.64	0	0	0	0	0.0195
	Aug	0.016	0	0	0	0.016	0.392	0	0	0	0	0.013
	Sep	0.691	0	0	0	0.691	0.08	0	0	0	0	0.005
	Oct	2.88	0	0	0	2.88	0	0	0	0	0	0.03
	Nov	1.37	0	0	0	1.37	0	0	0	0	0	0.015
	Dec	0.054	0	0	0	0.0540	0	0	0	0	0	0.006
Total:	18.213125	0	0	0	18.213125	36.184	4.97	0	0	0	0.949314	
2021	Jan	0.724	0	0	0	0.724	0	0	0	0	0	0.003
	Feb	0	0	0	0	0	0	0	0	0	0	0.0041
	Mar	0.01	0	0	0	0.01	0.000	0	0	0	0	0.005
	Apr	0	0	0	0	0	0	0	0	0	0	0.0105
	May	0	0	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0	0	0
	Sub-total:	18.947125	0	0	0	18.947125	36.184	4.97	0	0	0	0.971914
	Jul											
	Aug											
	Sep											
	Oct											
	Nov											
	Dec											
Total:	18.947125	0	0	0	18.947125	36.184	4.97	0	0	0	0.971914	

**Appendix D**

**Implementation Schedule for  
Environmental Mitigation Measures**

EIA Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measure & Main Concerns to address	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage				Relevant Legislation Guidelines
						Des	C	O	Dec	
<i>Air Quality – Construction Phase</i>										
4.5.1	-	<u>Dust Control</u>								
		a Vehicle washing facilities should be provided at the designated vehicle exit point;	To ensure dust emission is controlled and compliance with relevant statutory requirements	Project Site / During construction	Contractor	✓				<i>Air Pollution Control (Construction Dust) Regulations</i>
		b Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving the worksite;								
		c The load carried by the trucks should be covered entirely to ensure no leakage from the vehicles;								
		d Hoarding of not less than 2.4 m high from ground level should be provided along the entire length of that portion of the site boundary adjoining a road or other area accessible to the public except for a site entrance or exit;								
		e The main haul road should be kept clear of dusty materials and should be sprayed with water so as to maintain the entire road surface wet at all the time;								
		f The stockpile of dusty materials should be either covered entirely by								



EIA Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measure & Main Concerns to address	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage				Relevant Legislation Guidelines
						Des	C	O	Dec	
		impervious sheets; place in an area sheltered on the top and three sides; or sprayed with water to maintain the entire surface wet at all the time;  g Belt conveyor system should be enclosed on the top and two sides;  h The height of the belt conveyor should be kept as low as possible to avoid delivery at height; and  i All the exposed area should be kept wet always to minimise dust emission.								
4.5.1	-	<u>Air Quality Control</u>								
		a All dump trucks entering or leaving the Project Site should be provided with mechanical covers in good service condition; and	To ensure air quality standards compliance with relevant statutory requirements	Project Site / During construction	Contractor				✓	<i>ETWB TCW No 19/2005</i>
		b Ultra-low-sulphur diesel (ULSD) should be used for all construction plant on site.								
4.7.1	-	<u>EM&amp;A Requirements</u>								
		Regular site audits (at a frequency of not								

EIA Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measure & Main Concerns to address	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage				Relevant Legislation Guidelines
						Des	C	O	Dec	
		less than once every two weeks) are recommended.	To ensure that appropriate dust control measures are implemented and good site practices are adopted	Project Site / During construction	ET and Contractor		✓			<i>Air Pollution Control (Construction Dust) Regulations</i>
4.7.1	3.0-3.7	Implementation of a construction dust monitoring in every six days	To ensure compliance with the relevant criterion during the construction works.	ASRs A4 (No. 101 Lung Mei Tsuen) and A6 (No. 79 Lo Tsz Tin tsuen) / during construction	ET and Contractor		✓			<i>Air Pollution Control (Construction Dust) Regulations</i>
<b>Noise – Construction Phase</b>										
5.6.1		Site hoardings at the particular work site boundary may be provided for achieving screening effect, provided that the hoardings have no openings or gaps and meet the same specifications for movable noise barriers. The proposed movable noise barriers should be at least 3m high with a surface density of not less than 7 kg m <sup>-2</sup> , which could provide a minimum of 5 dB(A) attenuation. Skid footing of movable noise barriers should be located at a distance not more than a few metres of stationary plant and mobile plant such that the NSRs would not have direct line of sight to the plant. The length of the barriers should also be at least five times greater than its height.	To reduce the construction noise impact.	Project Site / During construction	ET and Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1	-	The following Quiet Powered Mechanical	To reduce the construction	Project Site / During	Contractor		✓			<i>Noise Control</i>

EIA Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measure & Main Concerns to address	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage				Relevant Legislation Guidelines
						Des	C	O	Dec	
(Table 5.12)		Equipment (PME) should be used during the construction Phase. <ul style="list-style-type: none"> <li>• Mobile Crane, SWL listed in the data base of quality powered mechanical equipment prepared by the Noise Control Authority, 107 dB(A);</li> <li>• Tracked Loader, British Standard 5228 – Table C3, Reference No. 16, 104 dB(A);</li> <li>• Pneumatic breaker, British Standard 5228 – Table C2, Reference No. 10, 110 dB(A);</li> <li>• Concrete Lorry Mixer British Standard 5228 – Table C6, Reference No. 23, 100 dB(A); and</li> <li>• Excavator British Standard 5228 - Table C3, Reference No. 97, 105 dB(A).</li> </ul>	noise impact.	construction phase					<i>Ordinance (NCO) and Annex 5 of the EIAO-TM</i>	
5.7.1 (Table 5.13)	-	<u>Construction Works on Land</u> Movable noise barrier should be provided for excavator and mobile crane; Timber sawing machine should be operated behind site hoarding/ movable noise barrier; and Concrete lorry mixer should be operated behind site hoarding/movable noise barrier.	To reduce the construction noise impact.	Project Site / During the Site Formation, construction of seawall, ramp, staircase, retaining walls, sump tanks for grey water system and superstructure	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>

EIA Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measure & Main Concerns to address	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage				Relevant Legislation Guidelines
						Des	C	O	Dec	
5.7.1 (Table 5.13)	-	Timber sawing machine should be operated behind movable noise barrier; and Movable noise barrier should be provided for excavator and mobile crane.	To reduce the construction noise impact.	Project Site / During the localised road widening works along Ting Kok Road foundation	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	<u>Car Park Paving</u> Movable noise barrier should be provided for excavator.	To reduce the construction noise impact.	Project Site / During the car park paving	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	<u>Building Works</u> Movable noise barrier should be provided for excavator, mobile crane and earth auger; and Timber sawing machine should be operated behind site hoarding/ movable noise barrier.	To reduce the construction noise impact.	Project Site / During foundation and tanking works	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	Movable noise barrier should be provided for mobile crane; and Timber sawing machine should be operated behind site hoarding/ movable noise barrier.	To reduce the construction noise impact.	Project Site / During superstructure works	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>

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5.7.1 (Table 5.13)	-	Movable noise barrier should be provided for mobile crane.	To reduce the construction noise impact.	Project Site / During building finishes & internal fitting-out	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	<u>Rock filling for the Groynes</u> Movable noise barrier should be provided for excavator and derrick lighter.	To reduce the construction noise impact.	Project Site / During the construction of gabion channel	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	<u>Box Culvert Construction</u> Movable noise barrier should be provided for excavator.	To reduce the construction noise impact.	Project Site / During the construction of gabion channel	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	Movable noise barrier should be provided for excavator, mobile crane; and Concrete lorry mixer should be operated behind site hoarding/movable noise barrier.	To reduce the construction noise impact.	Project Site / During the construction of western culvert	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	Concrete lorry mixer should be operated behind site hoarding/movable noise barrier.	To reduce the construction noise impact.	Project Site / During the construction of eastern culvert	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1	-	Site hoarding should be provided for work	To reduce the construction	Project Site / During	Contractor		✓			<i>Noise Control</i>

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(Table 5.13)		site.	noise impact.	the construction of 90m box culvert						<i>Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1 (Table 5.13)	-	<u>Sand Filling</u> Movable noise barrier should be provided for excavator.	To reduce the construction noise impact.	Project Site / During the construction of gabion channel	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>
5.7.1	-	<u>Good Site Practice</u> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction programme; Mobile plant, if any, should be sited as far from NSRs as possible; Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; Plant known to emit noise strongly in one direction should, wherever possible, be	To reduce the construction noise impact.	Project Site / Throughout the construction period	Contractor		✓			<i>Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM</i>

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		orientated so that the noise is directed away from the nearby NSRs; and  Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.								
5.9.1	4.1	<u>EM&amp;A Requirements</u>  Implementation of weekly construction noise monitoring at the representative NSRs.	To ensure compliance with the relevant criterion during the construction works.	N1, N2/N2a, N3 & N4/ Throughout the construction period	ET and Contractor		✓			Noise Control Ordinance (NCO) and Annex 5 of the EIAO-TM
<b>Water Quality – Construction Phase</b>										
6.6.1	-	<u>Dredging and Sandfilling Operations</u>  Sandfilling works should be carried out after the completion of groyne construction.	To further minimise the SS level during sandfilling works	Project Site / During sandfilling	Contractor		✓			-
6.6.1 and Figure 6.20	-	A movable cage type / metal frame type silt curtain will be deployed around the dredging area next to the grab dredger prior to commencement of dredging works.	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			Annex 6 of the EIAO-TM
6.6.1 and Figure 6.21	-	Standing type silt curtains will be deployed around the proposed sandfilling extent prior to commencement of sandfilling works.	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			Annex 6 of the EIAO-TM
6.6.1	-	A hourly dredging rate of a closed grab dredger (with a minimum grab size of 3 m <sup>3</sup> ) should be less than 31 m <sup>3</sup> hr <sup>-1</sup> , with	To further minimise the SS level during the dredging works	Project Site / During dredging	Contractor		✓			-

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		reference to the maximum rate for dredging, which was derived in the EIA.								
6.6.1	-	A daily filling rate should be less than 1,000 m <sup>3</sup> day <sup>-1</sup> , which was defined in the EIA.	To further minimise the SS level during the sandfilling works	Project Site / During sandfilling	Contractor		✓			-
6.6.1	-	Mechanical grabs should be designed and maintained to avoid spillage and should seal tightly while being lifted.	To further minimise the SS level during the dredging works	Project Site / During dredging	Contractor		✓			-
6.6.1	-	Barges or hoppers should have tight fitting seals to their bottom openings to prevent leakage of material.	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			-
6.6.1	-	Loading of barges or hoppers shall be controlled to prevent splashing of dredged material to the surrounding water.	To further minimise the SS level during the dredging works	Project Site / During dredging	Contractor		✓			-
6.6.1	-	Barges or hoppers should not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation.	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			-
6.6.1	-	Excess material should be cleaned from the decks and exposed fittings of barges or hoppers before the vessel is moved.	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			-
6.6.1	-	Adequate freeboard should be maintained on barges to reduce the likelihood of decks being washed by wave action.	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			-
6.6.1	-	All vessels should be sized such that adequate clearance is maintained between vessels and the seabed at all states of the	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			-



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		tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.								
6.6.1	-	The works should not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the Project Site.	To further minimise the SS level during the dredging and sandfilling works	Project Site / During dredging and sandfilling	Contractor		✓			<i>ProPECC PN 1/94</i>
6.6.1	-	<u>Construction Site Runoff</u> The excavation works for the drainage diversions should be carried out to minimise any seawater influx entering the works area and hence to keep the works area dry as much as possible.	To ensure the works area will be kept dry as much as possible and hence avoid construction site runoff	Project Site / During excavation for the drainage diversions	Contractor		✓			-
6.6.1 and Figure 6.21	-	Silt curtains at the inshore waters should be deployed to enclose the works area before the commencement of the excavation works for two drainage diversions until the completion of the diversions.	To avoid any adverse water quality impacts resulting from the site runoff due to heavy rainfall	Project Site / During excavation for the drainage diversions	Contractor		✓			-
6.6.1	-	At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed and internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of efficient silt removal facilities should be based on the guidelines in <i>Appendix A1 of ProPECC PN 1/94</i> .	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			<i>ProPECC PN 1/94</i>
6.6.1	-	All the surface runoff should be collected by	To minimise the	Project Site / During	Contractor		✓			<i>ProPECC PN</i>

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		the on-site drainage system and diverted through the silt traps prior to discharge into storm drain.	construction site runoff	land based construction works						1/94
6.6.1	-	All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks, where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or by other means.	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			ProPECC PN 1/94
6.6.1	-	All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			ProPECC PN 1/94
6.6.1	-	Measures should be taken to reduce the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			ProPECC PN 1/94

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		facilities.								
6.6.1	-	Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50 m <sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			<i>ProPECC PN 1/94</i>
6.6.1	-	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system.	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			<i>ProPECC PN 1/94</i>
6.6.1	-	Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in <i>Appendix A2 of ProPECC PN 1/94</i> . Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			<i>ProPECC PN 1/94</i>
6.6.1	-	Oil interceptors should be provided in the	To minimise the	Project Site / During	Contractor		✓			<i>ProPECC PN</i>

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		drainage system and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	construction site runoff	land based construction works						1/94
6.6.1	-	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment traps should be regularly cleaned and maintained. The temporary diverted drainage should be reinstated to the original condition when the construction work has finished or the temporary diversion is no longer required.	To minimise the construction site runoff	Project Site / During land based construction works	Contractor		✓			ProPECC PN 1/94
6.6.1	-	<u>Sewage Generated by Workforce</u> Sewage from toilets should be collected by a licensed waste collector.	To prevent contamination to nearby environment	Project Site / During land based construction works	Contractor		✓			Water Pollution Control Ordinance
6.6.1	-	<u>Storage and Handling of Oil, Other Petroleum Products and Chemicals</u> Waste streams classifiable as chemical wastes should be properly stored, collected and treated for compliance with <i>Waste Disposal Ordinance or Disposal (Chemical Waste) (General) Regulation</i> requirements.	To prevent contamination to nearby environment	Project Site / During land based construction works	Contractor		✓			Waste Disposal Ordinance
6.6.1	-	All fuel tanks and chemical storage areas should be provided with locks and be sited	To prevent contamination to	Project Site / During land based construction	Contractor		✓			Waste Disposal

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		on paved areas.	nearby environment	works						<i>Ordinance</i>	
6.6.1	-	The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters.	To prevent contamination to nearby environment	Project Site / During land based construction works	Contractor				✓		<i>Waste Disposal Ordinance</i>
6.6.1	-	Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal, in accordance with the <i>Waste Disposal Ordinance</i> . The Contractors should prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.	To prevent contamination to nearby environment	Project Site / During land based construction works	Contractor				✓		<i>Waste Disposal Ordinance</i>
6.6.1	-	Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should, as far as possible, be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor.	To prevent contamination to nearby environment	Project Site / During land based construction works	Contractor				✓		<i>Waste Disposal Ordinance</i>
6.9.1 and 11.6.1	5.1	<u>EM&amp;A Requirements</u> Monitoring of marine water quality during the construction phase is considered necessary to evaluate whether any impacts would be posed by these marine works on the surrounding waters during the operation of dredging and filling works.	To ensure the construction works would not arise any impacts to the surrounding waters	Marine water outside the Project Site / During dredging and filling works	ET and Contractor				✓		-

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**Water Quality – Post-Construction Phase (After the completion of the construction and before the operation of the beach)**

6.9.2 and 11.6.2	5.2	<u>EM&amp;A Requirements</u>  <i>E. coli</i> monitoring should be conducted at the outlet of two diverted drains and at EPD’s beach water monitoring stations for the identification of pollution loading and to establish relationship between the loading and EPD’s beach monitoring programme.	To investigate the pollution loading of <i>E. coli</i> and to establish relationship with EPD’s beach monitoring data	Two diverted drains and the Bathing Beach/ Within six weeks after the completion of the construction works	ET					Post-Construction Phase (After the completion of the construction and before the operation of the beach)
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**Water Quality – Operational Phase**

6.6.2	-	<u>Surface Runoff from Project Site</u>  A petrol interceptor should be provided in the drainage system and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Where appropriate, the design should follow or of similar functions as stated in the <i>ProPECC PN</i>	To prevent contamination to nearby environment	Beach Park area / During operation	Operator	✓	✓			<i>Water Pollution Control Ordinance and ProPECC PN 1/94</i>
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		<i>1/94.</i>								
6.6.2	-	Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal in accordance with the <i>Waste Disposal Ordinance</i> .	To prevent contamination to nearby environment	Beach Building Facility / During operation	Operator	✓		✓		<i>Waste Disposal Ordinance</i>
<b>Waste Management – Construction Phase</b>										
7.6	-	The Contractor should submit the plan to Project Proponent’s Engineer Representative for endorsement prior to the commencement of the construction works. The plan should incorporate site-specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To ensure that adverse environmental impacts are prevented	Project Site / Contract mobilisation and during construction	Contractor	✓	✓			-
7.6	-	It will be the Contractor’s responsibility to ensure that only reputable licensed waste collectors are used and that appropriate measures to reduce adverse impacts, including windblown litter and dust from the transportation of these wastes, are employed.	To ensure that adverse environmental impacts are prevented	Project Site / Contract mobilisation and during construction	Contractor	✓	✓			-
7.6	-	The Contractor must ensure that all the necessary permits or licences required under the Waste Disposal Ordinance are obtained for the construction phase.	To ensure compliance with relevant statutory requirements	Project Site / Contract mobilisation and during construction	Contractor	✓	✓			-
7.6	-	<u>Waste Management Hierarchy</u> <ul style="list-style-type: none"> <li>Nomination of approved personnel to be responsible for good site practices,</li> </ul>	To ensure that adverse environmental impacts are prevented	Project Site / Contract mobilisation and during construction	Contractor	✓	✓			<i>Waste Disposal (Charges for Disposal of</i>

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		arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site; <ul style="list-style-type: none"> <li>• Training of site personnel in proper waste management and chemical handling procedures;</li> <li>• Provision of sufficient waste disposal points and regular collection for disposal;</li> <li>• Appropriate measures to reduce windblown litter and dust transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> <li>• Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre;</li> <li>• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and</li> <li>• A recording system for the amount of wastes generated/recycled and disposal sites.</li> </ul>								<i>Construction Waste) Regulation;</i>  <i>ETWB TCW No.31/2004; and</i>  <i>Appendix C of ETWB TCW No. 19/2005</i>
-		<u>Waste Reduction Measures</u> <ul style="list-style-type: none"> <li>• Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse</li> </ul>	To reduce construction waste generation	Project Site / During construction	Contractor		✓			-



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		or recycling of material and their proper disposal; <ul style="list-style-type: none"> <li>• Encourage collection of aluminium cans and waste paper by individual collectors during construction with separate labelled bins being provided to allow the segregation of these wastes from other general refuse generated by the workforce;</li> <li>• Any unused chemicals and those with remaining functional capacity be recycled as far as possible;</li> <li>• Use of reusable non-timber formwork to reduce the amount of C&amp;D materials;</li> <li>• Prior to disposal of construction waste, wood, steel and other metals should be separated, to the extent practical for re-use and/or recycling to reduce the quantity of waste to be disposed at landfills;</li> <li>• Proper storage and site practices to reduce the potential for damage or contamination of construction materials; and</li> <li>• Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste.</li> </ul>								

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7.6.1	-	<p><u>Dredging Materials</u></p> <p>The final disposal site for the dredged sediments should be determined by the MFC and a dumping licence should be obtained from EPD prior to the commencement of the dredging works. Uncontaminated sediments should be disposed of at open sea disposal sites designated by the MFC. For contaminated sediments requiring Type 2 confined marine disposal, relevant contract documents should specify the allocation conditions of the MFC and EPD.</p>	To ensure adverse environmental impacts are prevented	Dredging area / During construction	Contractor		✓			<i>Dumping at Sea Ordinance</i>
7.6.2	-	<p><u>Excavated Materials and C&amp;D Waste</u></p> <p><i>Management of Waste Disposal</i></p> <p>The contractor should open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges. Every waste load transferred to Government waste disposal facilities such as public fill, sorting facilities, or landfills should require a valid “chit” which contains the information of the account holder to facilitate waste transaction recording and billing to the waste producer. A trip-ticket system should be established in accordance with TCW No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at</p>	To properly handle the excavated materials and C&D waste and thus avoid any adverse impacts	Project Site / During construction	Contractor		✓			<i>Waste Disposal (Charges for Disposal of Construction Waste) Regulation</i>

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		transfer stations/landfills, and to control fly-tipping. The billing “chit” and trip-ticket system should be included as one of the contractual requirements and implemented by the contractor. Regular audits of the waste management measures implemented on-site as described in the Waste Management Plan should be conducted.								
		A recording system (similar to summary table as shown in Annex 4 and Annex 5 of Appendix C of ETWB TWC No. 19/2005) for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established during the construction phase.								
7.6.2	-	<p><i>Reduction of C&amp;D Materials Generation</i></p> <p>Public fill and construction waste should be segregated and stored in different containers or skips to facilitate reuse or recycling of the public fill and proper disposal of the construction waste. Specific areas of the work site should be designated for such segregation and storage if immediate use is not practicable.</p> <p>To reduce the potential dust and water quality impacts of site formation works, C&amp;D materials should be wetted as quickly as possible to the extent practicable after excavation/filling.</p>	To reduce the generation of C&D waste	Project Site / During construction	Contractor		✓			-

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7.6.3	-	<p><u>Chemical Waste</u></p> <p>The Contractor should register as a chemical waste producer with the EPD. Chemical waste, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes. Containers used for the storage of chemical wastes should:</p> <ul style="list-style-type: none"> <li>• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> <li>• Have a capacity of less than 450 L unless the specifications have been approved by the EPD; and</li> <li>• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.</li> </ul> <p>The storage area for chemical wastes will:</p> <ul style="list-style-type: none"> <li>• Be clearly labelled and used solely for the storage of chemical waste;</li> <li>• Be enclosed on at least 3 sides;</li> </ul>	To ensure proper handling of chemical waste	Project Site / During construction	Contractor				✓	<i>Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>

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- Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;
- Have adequate ventilation;
- Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and
- Be arranged so that incompatible materials are appropriately separated.

Chemical waste should be collected by a licensed chemical waste collector to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility.

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7.6.4	-	<p><u>Sewage</u></p> <p>An adequate number of portable toilets should be provided for the on-site construction workforce during construction phase. All portable toilets should be maintained in a state that will not deter the users from using them. Night soil should be regularly collected by a licensed collector for disposal. The sewage generated from the visitors during operation of the Proposed Beach Development should be discharged to the adjacent foul sewer conveying to Tai Po Sewage Treatment Works for treatment.</p>	To ensure proper handling of sewage	Project Site / During construction	Contractor	✓				-
7.6.5	-	<p><u>General Refuse</u></p> <p>General refuse should be stored in enclosed bins or compaction units separately from construction and chemical wastes. A reputable waste collector should be employed to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to reduce odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.</p> <p>Recycling bins should be provided at strategic locations to facilitate recovery of aluminium cans and waste paper from the Project Site. Materials recovered should be sold for recycling.</p>	To ensure proper handling of general refuse	Project Site / During construction	Contractor	✓				-

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7.6.6	-	<p><u>Staff Training</u></p> <p>Training should be provided to workers on the concept of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the construction works.</p>	To ensure that adverse environmental impacts are prevented	Project Site / Contract mobilisation and during construction	Contractor	✓	✓			-
7.7	6.1	<p><u>EM&amp;A Requirements</u></p> <p>Joint site audits by the Environmental Team and the Contractor should be undertaken on a weekly basis. Particular attention should be given to the Contractor’s provision of sufficient spaces, adequacy of resources and facilities for on-site sorting and temporary storage of C&amp;D materials. The C&amp;D materials to be disposed of from the Project Site should be visually inspected. The public fill for delivery to the off-site stockpiling area should contain no observable non-inert materials (e.g., general refuse, timber, etc).</p> <p>The waste to be disposed of at refuse transfer stations or landfills should as far as possible contains no observable inert or reusable/recyclable C&amp;D materials (e.g., soil, broken rock, metal, and paper/cardboard packaging, etc). Any irregularities observed during the weekly site audits should be raised promptly to the Contractor for rectification.</p>	To ensure that adverse environmental impacts are prevented	Project Site / During construction	ET and Contractor		✓			-

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<i>Ecology – Construction Phase</i>										
8.10.2	7.1	<p><u>Measures for Common Rat Snake</u></p> <p>To undertake a search of the Common Rat Snake within the land based Project Site just before the commencement of the construction works. Due to the small size of the Project Site and given that there are no optimal habitats for Common Rat Snake, one day-time search is considered sufficient. The surveyor(s) should actively search the areas within the Project Site and pay special attention to the leaf litters and rocks. All recorded Common Rat Snake should be caught by hand and translocated to the shrubland at the north of the Study Area, immediately after the search. The Common Rat Snake search and translocation works should be undertaken by a qualified ecologist with relevant experience in faunal translocation works.</p>	To ensure that adverse impacts arising from the Project to Common Rat Snake are prevented	Project Site (land based) / prior to commencement of construction works	ET / Qualified Ecologist	✓				-
-	7.2	<p><u>Measures for marine ecology</u></p> <p>(1) To translocate target marine fauna, including fishes, starfish, sea urchins and sea cucumbers, from the intertidal area of the Site at Lung Mei to the intertidal area at the reception site of Ting Kok East before commencement of sand filling works or any other works that may cause disturbances to the</p>	To ensure that adverse impacts arising from the Project to marine ecology	Project Site (marine based) / prior to commencement of marine works	ET / Qualified Ecologist	✓				



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		<p>existing marine ecology. The translocation works shall cover capturing, handling, holding transporting and releasing of the captured target marine fauna.</p> <p>(2) Translocation of seahorses, including identifying, capturing, handling, protecting, transporting and placing the target seahorse species from Site at Lung Mei to the reception site of Ting Kok East, as well as pre- and post-translocation monitoring and post-construction monitoring shall be conducted. Seahorse translocation shall be undertaken before the commencement of marine construction works. The identifying, capturing, handling, protecting, transporting and placing of seahorses shall be led and supervised by the Fish Specialist.</p>								
8.10.2	-	<p><u>Dredging and Sand Filling Operations</u></p> <p>It is predicted that the sediment plume and the sediment deposition will not be large in extent and no unacceptable water impacts including DO depletion, release of contaminants and nutrients are expected. Although no unacceptable water quality impacts would result, the following good construction site practice and proactive precautionary measures are recommended to</p>	To minimise ecological impacts arising from dredging and sand filling works	Project Site / During dredging and sand filling works	Contractor		✓			-

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		<p>ensure dredging and sandfilling operations would be undertaken in such a manner as to avoid any uncontrolled or unexpected incidents during the marine works:</p> <ul style="list-style-type: none"> <li>A movable cage type / metal frame type silt curtain should be deployed around the dredging area next to the grab dredger prior to commencement of dredging works;</li> <li>Standing type silt curtains should be deployed around the proposed sandfilling extent prior to commencement of sandfilling works; and</li> </ul> <p>Proper equipment, dredging rate, filling rate and good construction practices should be implemented, details refer to <i>Section 6.6.1</i>.</p>								
8.10.2	-	<p><u>Measures for Controlling Construction Runoff</u></p> <ul style="list-style-type: none"> <li>Storm water run-off from the construction site should be directed into existing drainage channel via adequately designed sand/silt removal facilities such as sand/silt traps and oil interceptors. Channels, earth bunds or sand bag</li> </ul>	To minimise ecological impacts of construction runoff	Project Site / During dredging and filling works	Contractor		✓		-	

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		barriers should be provided on site to properly direct storm water to such silt removal facilities.								
8.10.2	-	<u>Planting along the Western Drainage Diversion</u> <ul style="list-style-type: none"> <li>Provide tree/ shrub/ climber planting along the gabion wall of the new drainage channel. Regular monitoring and removal of the weed plant <i>Mikania micrantha</i> during the establishment and maintenance period.</li> </ul>	To provide an ecological habitat	Along gabion wall of the new western drainage channel/ After completion of the gabion	Contractor		✓	✓		-
8.10.2	-	<u>Good Construction Practices</u> <ul style="list-style-type: none"> <li>Erect fences along the boundary of the Extension Site before the commencement of works to prevent vehicle movements, and encroachment of personnel, onto adjacent areas; and</li> <li>Regularly check the work site boundaries to ensure that they are not breached and that damage does not occur to surrounding areas.</li> </ul>	To avoid any adverse ecological impacts	Project Site / During construction works	Contractor		✓			-
<b><i>Fisheries – Construction Phase</i></b>										
9.10.1	-	<u>EM&amp;A Requirements</u> EM&A is not required during the	To ensure that no water quality deterioration in the	Details refer to Section 12.6 of the EM&A	ET and Contractor		✓			<i>Environmental Impact</i>

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		construction phase of the Project. However, water quality monitoring will be conducted at the Yim Tin Tsai Fish Culture Zone. Details should be referred to the Water Quality Section.	Fish Culture Zone as a result of the dredging and sandfilling works	Manual.						<i>Assessment Ordinance, Annex 21 of the EIAO-TM</i>
<b><i>Landscape and Visual Impact – Construction Phase</i></b>										
10.5.1	-	<u>Landscape Mitigation</u> A Landscape Plan will be submitted before the commencement of Works.	To provide landscaping work.	Before commencement of construction phase	ET and Contractor	✓				-
10.6.10	-	<i>Cultivation of areas impacted during construction.</i> Areas impacted during the construction phase that are not required during the operation phase, are to be cultivated to a depth of 300mm in accordance with accepted Hong Kong practice and guidelines. The cultivation shall involve ripping of compacted soil by mechanical means and the addition gypsum and/or organic fertiliser if required.	To improve the soil allowing plants to thrive	Project Site / During construction	Contractor		✓			-
10.6.10	-	<i>Car Park Tree Planting.</i> Advanced trees are to be planted in the car park.	To provide shade to the carpark areas and to reduce the mass of the paved areas	Project Site / During construction	Contractor		✓			-
10.6.10	-	<i>Tree and shrub planting.</i> All planting of trees and shrubs is to be carried out in accordance with the relevant best practice guidelines. Plant densities are to be provided in future detailed design documents and are to be selected so as to achieve a finished landscape that matches	To improve the appearance of the development	Project Site / During construction	Contractor			✓		-

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		the surrounding, undisturbed, equivalent landscape types. Regular monitoring and removal of the weed plant <i>Mikania micrantha</i> during the establishment and maintenance period.								
10.6.10	-	<i>Roof Terrace Planting.</i> Trees, shrubs and climbers shall be established in planters on the roof terraces of the new structures where possible.	To improve the appearance of the development by softening the building element	Project Site / During construction	Contractor		✓			-
10.6.10	-	<i>Natural Rock Groynes</i> New rock groynes are needed to contain the sand of the new beach. Natural stones will be used for construction of the Groynes.	To improve the appearance of the development to make the man-made feature be more compatible with the surroundings	Project Site / During construction	Contractor		✓			-
10.6.10	-	<i>Inter-Tidal Re-generation.</i> It is likely that a build up of sediment and sand will occur at the outer edges of the rock groyne. This is a natural process and the development proponent has no control over the implementation of this mitigation measure.	To improve the appearance of the development	Adjacent areas	Nil			✓		-
10.6.10	-	<i>Mangrove Re-generation.</i> Mangroves of similar species to existing to be manually established by planting of droppings.	To improve the ecological value of the project	Project Site / During post-construction	Contractor		✓			-
10.6.10	-	<i>Buffer Planting.</i> Trees and shrubs are to be planted along Ting Kok road to screen the development from the nearby Village/Developed Areas.	To improve the appearance of the development	Project Site / During post-construction	Contractor		✓			-

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10.6.10	-	<i>Early Planting Works</i> Where technically feasible, new plantings are to be installed during the construction works to reduce landscape impacts.	To improve the appearance of the development	Project Site / During construction	Contractor		✓			-
10.6.10	-	<i>Tree Protection/Transplantation.</i> Where technically feasible, existing trees in the Trees/Backshore Vegetation LR are to be retained. Those trees that cannot be retained that are of value are to be transplanted.	To improve the appearance of the development	Project Site / Before commencement of construction	Contractor		✓			-
10.7.9	-	<u>Visual Mitigation</u>  <i>Design of Structures.</i> The structure shown in the photomontages are to illustrate the mass of the structures only. During the design phase of the development, features such as the location of doors, windows, eaves etc. will be detailed. All of these elements will greatly improve the appearance of the structures. Where possible, built structures will utilise appropriate designs to complement the surrounding landscape. Materials and finishes will also be considered during detailed design.	To reduce visual impacts and improve the appearance of the development	Project Site / During construction	Architect		✓			-
10.7.9	-	<i>Colour Scheme.</i> Colours for the structures can be used to complement the surrounding area. Lighter colours such as shades of light grey, off-white and light brown may be utilised where technically feasible to reduce the visibility of the structures.	To reduce visual impacts and improve the appearance of the development	Project Site / During construction	Architect		✓			-
10.7.9	-	<i>Plantings.</i> In addition to the landscape	To help integrate the new	Project Site / During	Contractor		✓			-

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		mitigation plantings proposed in Section 10.5.9 of the EIA report, appropriate new plantings will be installed as appropriate to help integrate the new structures into the surrounding landscape.	structures into the surrounding landscape	post-construction						
10.7.9	-	<i>Colour of Site Hoardings.</i> In order to mitigate the visual impact of these temporary hoardings, it is recommended that the hoardings be erected at a uniform height, with a uniform colour that complements the existing surrounding landscape.	To mitigate the visual impact of temporary hoardings	Project Site / During construction	Contractor		✓			-
-	9.2	<u>EM&amp;A Requirements</u> A specialist Landscape Sub-Contractor should be employed for the implementation of landscape construction works and subsequent maintenance operations during a 12-month establishment period. A Registered Landscape Architect should be employed to supervise the specialist Landscape Sub-contractor for the implementation of landscape works, both hard and soft, involved. Measures undertaken by both the Contractor(s) and the specialist Landscape Sub-Contractor during the construction phase and first year post-construction will be audited by the Registered Landscape Architect of the ET. Site inspections should be undertaken at	To check the implementation and maintenance of landscape mitigation measures and ensure that they are fully realised and that potential conflicts between the proposed landscape measures and any other project works and operational requirements are resolved at the earliest practical date and without compromise to the intention of the mitigation measures	Project Site / During construction and post-construction phase	Specialist Landscape Sub-contractor, Registered Landscape Architect and ET		✓			-

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		least once every two weeks throughout the landscaping plants establishment period when planting works are being undertaken.								
		<p>A tree survey should be prepared, for DLO submission, and for the purpose of existing trees protection. Removal of existing trees to be minimized. The Contractor should consider to employ a certified arborist when sizable and valuable existing tree(s) protection of transplant is required.</p> <p>Post-construction phase auditing will be restricted to the 12-month establishment works of the landscaping proposals.</p> <p>Advance planting- monitoring of implementation and maintenance of planting, and against potential incursion, physical damage, fire, pollution, surface erosion, etc.</p> <p>Protection of trees to be retained-identification and demarcation of trees / vegetation to be retained, erection of physical protection (e.g. fencing), monitoring against potential incursion, physical damage, fire, pollution, surface erosion, etc.</p> <p>Clearance of existing vegetation-identification and demarcation of trees / vegetation to be cleared, checking of</p>								



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		extent of works to reduce damage, monitoring of adjacent areas against potential incursion, physical damage, fire, pollution, surface erosion, etc.								
		Transplanting of trees-identification and demarcation of trees / vegetation to be transplanted, monitoring of extent of pruning / lifting works to reduce damage, timing of operations, implementation of the stages of preparatory and translocation works, and maintenance of transplanted vegetation, etc.								
		Plant supply-monitoring of operations relating to the supply of specialist plant material (including the collecting, germination and growth of plants from seed) to ensure that plants will be available in time to be used within the construction works.								
		Soiling, planting, etc-monitoring of implementation and maintenance of soiling and planting works and against potential incursion, physical damage, fire, pollution, surface erosion, etc.								
		Architectural design and treatment of all structures (where practicable), retaining walls, elevated road structures and other engineering works-implementation and maintenance of mitigation measures, to ensure conformity with agreed designs.								
		Erection of Site Hoardings/Fences-								

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		Erection of site hoardings/fences during the construction phase to reduce visual impacts.								
		Establishment Works- monitoring of implementation of maintenance operations during Establishment Period.								

Remark: Des – Design; C – Construction; O – Operation; Dec – Decommissioning