GAMMON CONSTRUCTION LIMITED

CONTRACT NO. 1731
TRIAL PILES AND SITE FORMATION FOR SIU HO WAN DEPOT PROPERTY DEVELOPMENT – PHASE 1

MONTHLY EM&A REPORT (JANUARY 2024)

FEBRUARY 06, 2024

CONFIDENTIAL

Contract No. 1731 Trial Piles and Site Formation for Siu Ho Wan Depot Property Development – Phase 1

Monthly EM&A Report

(January 2024)

FIRST ISSUE
CONFIDENTIAL

PROJECT NO.: 2535700A
DATE: FEBRUARY 06, 2024

WSP
7/F ONE KOWLOON
1 WANG YUEN STREET
KOWLOON BAY, HONG KONG

PHONE: +852 2579-8899
FAX: +852 2856-9902
WSP.COM

QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
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Date	6 February 2024			
Prepared by	Gloria Chow			
Signature				
Checked by	Dr Alex Cheung			
Signature				
Authorised by	Dr Paul Kau			
Signature				
Project number	2535700A			
File reference				

SIGNATURES

PREPARED BY

Gloria Chow
Site Auditor

REVIEWED BY

Dr. Alex Cheung
Environmental Team Leader

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Executive Summary

This Environmental Monitoring and Audit (EM&A) report presented the EM&A works carried out during the reporting period from 1 to 31 January 2024.

A summary of the construction works reported by the Main Contractor for the Project during the reporting month is listed below.

- Site Clearance & Hoarding
- Pre-drilling Works
- Bored Piling Works

A summary of regular construction dust monitoring activities in this reporting period is listed below:

Construction dust (1-hour TSP) monitoring	
DM1	18 times

Site inspections were conducted on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. Five (5) site inspections were conducted on 3, 8, 15, 22 and 29 January 2024 for this reporting period. One joint inspection with Independent Environmental Checker (IEC) was also conducted on 8 January 2024. The environmental performance of the Project was considered satisfactory.

Details of waste management can be referred to **Section 2.4**.

No Action or Limit Levels exceedance of 1-hour TSP was recorded during this reporting period.

No complaints, notification of summons and prosecutions received during January 2024. Statistics on complaints, notifications of summons and successful prosecutions are presented in **Section 3**.

No changes of EM&A programme were made in this reporting period.

A summary of works to be conducted in the coming reporting months is listed below.

- Site Clearance & Hoarding
- Pre-drilling Works
- Bored Piling Works

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 The “Siu Ho Wan Station and Siu Ho Wan Depot Replanning Works” (EP-588/2021) project includes:

- Siu Ho Wan Depot (SHD) replanning works, within the existing SHD boundary including construction of concrete slab over the SHD to provide support for future SHD Topside Development;
- Construction of the new Oyster Bay (OYB) Station (formerly named as Siu Ho Wan Station (SHO)) and modification of the associated trackworks of the existing Airport Express Line/Tung Chung Line; and
- Construction of other supporting facilities including the western access, the local accesses and sewerage network outside existing SHD boundary.

1.1.2 The “Siu Ho Wan Station and Siu Ho Wan Depot Replanning Works” Impact Assessment Report (Register No. AEIAR-214/2017) was approved by the Environmental Protection Department (EPD) with conditions on 29 November 2017. The latest Environmental Permit (No. EP-588/2021) was issued by the EPD on 22 March 2021.

1.1.3 WSP (Asia) Ltd. (WSP) is commissioned by Gammon Construction Limited to provide Environmental Team (ET) services during the construction phase of Contract No. 1731 Trial Piles and Site Formation for Siu Ho Wan Depot Property Development – Phase 1 (hereafter as “the Project”).

1.2 PROJECT PROGRAMME

1.2.1 A summary of the construction works reported by the Main Contractor for the Project during the reporting month is listed below.

(1) Site Clearance & Hoarding

(2) Pre-drilling Works

(3) Bored Piling Works

1.2.2 The construction programme is provided in **Appendix A**.

1.3 PURPOSE OF THE REPORT

1.3.1 This is the 13th monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the reporting period from 1 to 31 January 2024.

2 ENVIRONMENTAL MONITORING AND AUDIT

2.1 SUMMARY OF ENVIRONMENTAL LICENSE, NOTIFICATION, PERMIT AND DOCUMENTATIONS

2.1.1 A summary of valid permits, licenses, and notifications on environmental protection for this Project are listed in **Table 2.1**.

Table 2.1 Summary of the Status of Valid Environmental License, Notification, Permit and Documentation

Permit / Licenses / Notification / Reference No.	Valid Period		Status	Remark
	From	To		
Environmental Permit				
EP-588/2021	22 Mar 2021	N/A	Valid	
Billing Account under Waste Disposal (Charges for Disposal of Construction Waste) Regulation				
7045243	6 Oct 2022	N/A	Valid	
Construction Noise Permit				
GW-RS0814-23	4 Oct 2023	3 Apr 2024	Valid	
Notification Pursuant to Section 3(1) of the Air Pollution Control (Construction Dust) Regulation				
483822	N/A	N/A	Notified	Notification submitted on 2 Sep 2022
Register of Chemical Waste Producer				
5213-961-G2980-01	7 Oct 2022	N/A	Valid	
Water Pollution Discharge License				
WT000463109-2023	22 Feb 2023	29 Feb 2028	Valid	

2.2 ENVIRONMENTAL STATUS

2.2.1 Environment Permit (EP) conditions under the Environmental Impact Assessment Ordinance (EIAO), submission status of the EP and implementation status of mitigation measures had been reviewed and implemented on schedule. The status of required submissions under the EP (No. EP-588/2021) as of the reporting period for the Project are summarised in **Table 2.2**.

Table 2.2 Summary of Status of Required Submission for EP-588/2021 for the Project

EP Condition (EP-588/2021)	Submission	Submission Date
Condition 1.12	Commencement Date of Construction	11 Jun 2021 (1st submission) 12 Jul 2021 (2nd submission) 12 Aug 2021 (3rd submission)

Condition 2.7	Construction Works Phasing Schedule Proposal	1 Nov 2021 (1st Submission) 20 Dec 2021 (2nd Submission) 29 Dec 2021 (Deposited) 9 Oct 2023 (1st Submission with updated Phase 1 works) 30 Nov 2023 (Deposited)
Condition 2.8	Environmental Permit Submission Schedule	12 Aug 2021 10 Sep 2021 (Deposited)
Condition 2.9	Management Organization	1 Nov 2021 (1st Submission) 20 Dec 2021 (2nd Submission) 21 Mar 2022 (3rd Submission) 9 Aug 2022 (4th Submission) 16 Nov 2022 (5th Submission) 18 Sep 2023 (6th Submission) 22 Jan 2024 (7th Submission)
Condition 2.10	Construction Noise Mitigation Plan	1 Nov 2021 (1st Submission) 20 Dec 2021 (2nd Submission) 28 Dec 2021 (Deposited) 30 Dec 2022 (1st Submission which covered Phase 1 main works) 29 Mar 2023 (2nd Submission which covered Phase 1 main works) 18 May 2023 (3rd Submission) 28 Jul 2023 (4th submission for Phase 1 works) 30 Oct 2023 (5th Submission for Phase 1 Works) 6 December 2023 (6th Submission for Phase 1 works) 8 December 2023 (Deposited)
Condition 2.11	Noise Mitigation Plan	31 Mar 2023 (1st Submission) 31 Jul 2023 (2nd submission) 20 Oct 2023 (3rd Submission)
Condition 2.13	Waste Management Plan	1 Nov 2021 (1st Submission) 20 Dec 2021 (2nd Submission) 28 Dec 2021 (Deposited) 30 Jun 2023 (1st submission for Phase 1 work) 1 Aug 2023 (2nd submission for Phase 1 works) 31 Aug 2023 (Deposited for Phase 1 works)
Condition 2.15	Landscape & Visual Plan	27 April 2023 (1st Submission) 27 Jul 2023 (2nd submission)

		20 Oct 2023 (3rd Submission) 8 December 2023 (Approved)
Condition 3.3	Baseline Monitoring Report	1 Nov 2021 16 Nov 2021 (Deposited)
Condition 3.4	Monthly EM&A Report (Jan 2023 – December 2023)	Submitted within 10 working days after the end of the reporting month
	Monthly EM&A Report (January 2024)	This report submission
Condition 4.2	Dedicated Internet Website	12 Jan 2022 25 Jul 2023 (update address)

2.3 AIR QUALITY

2.3.1 Impact monitoring had been carried out in accordance with Section 2.6 of the approved EM&A Manual, with sampling frequency of at least 3 times in every 6 days undertaken, to determine the 1-hour total suspended particulates (TSP) levels at the monitoring location during this reporting period.

2.3.2 General meteorological conditions (wind speed, direction and precipitation) and notes regarding any significant adjacent dust producing sources had also been recorded throughout the impact monitoring period.

2.3.3 Portable direct reading dust meter was used to carry out the 1-hour TSP monitoring. Portable direction reading dust meters used for the monitoring were proven to IEC to be capable of achieving comparable result as that of the HVS and thus were used for sampling.

2.3.4 The portable direct reading dust meters used for the 1-hour TSP measurement during this reporting period are summarised in **Table 2.3**.

Table 2.3 Construction Dust Monitoring Equipment

Measuring Parameter	**Monitoring Equipment**	**Brand and Model**	**Serial Number**	**Date of Calibration**
1-hour TSP	Portable direct reading dust meter (1-hour TSP)	Sibata Digital Dust Monitor (Model No. LD-3B)	A.005.16a	26 Apr 2023

2.3.5 The portable direct reading dust meters were calibrated at a 1-year interval against a High-Volume Sampler, TE-5170. Calibration Certificates are provided in **Appendix D**.

2.3.6 The 1-hour TSP measurement followed manufacturer's instruction manual. Zeroing the portable direct reading meter was proceed prior to each measurement to ensure maximum accuracy of concentration measurements.

2.3.7 The 1-hour TSP was sampled by drawing air into the portable direct reading dust meter where particular concentrations were measured instantaneously with an in-built silicon detector sensing light scattered by the particulates in the sampled air. Continuous TSP levels were indicated and logged by a built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

2.3.8 Location of the designated dust monitoring station is described in **Table 2.4** and shown on **Appendix E**.

Table 2.4 Construction Dust Monitoring Location

Monitoring Station ID	Dust Monitoring Station
DM1	Siu Ho Wan Government Maintenance Depot

2.3.9 Dust impact monitoring was carried out on 2, 6, 12, 18, 24 and 30 January 2024 during this reporting period. Schedule of the dust impact monitoring for this reporting period is provided in **Appendix F**. It is observed that major dust sources are from North Lantau Highway and Cheung Tung Road. Results for the 1-hour TSP are summarised in **Table 2.5**. Measurement data are shown in **Appendix G**.

Table 2.5 Summary of 1-hour TSP Monitoring Results

Monitoring Location	Range ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	No. of Exceedances
DM1	58.8 – 69.1	294.7	500.0	0

2.3.10 Schedule of the dust impact monitoring for next reporting period is provided in **Appendix H**.

2.4 WASTE MANAGEMENT

2.4.1 Waste generated from this Project includes inert C&D materials and non-inert C&D materials. Non-inert C&D would include, but not limited to general refuse, bamboo, timber, vegetation, paper and plastic that cannot be transported to public fill.

2.4.2 Quantities of different types of waste generated in this reporting month are summarised in **Table 2.6**. Details of cumulative waste management data are shown in **Appendix I**.

Table 2.6 Quantities of Waste Generated during this Reporting Period

Reporting period	Quantity (tonnes)							
	Inert C&D Materials		Chemical Waste	Non-inert C&D Materials				
	Disposed as Public Fill	Disposed to Sorting Facilities		Others, i.e. General Refuse disposed at Landfill	Recycled Materials (tonnes)			
					Paper / Cardboard	Plastics	Metals	Yard Waste
Jan 2024	27.34	7.69	0	5.47	0	0	0	0

Note: The cut-off date of waste flow table in this reporting month is 21 January 2024.

2.4.3 All dump trucks for C&D materials transportation and disposal were equipped with Global Positioning System (GPS) for real time tracking and monitoring their travel routings and parking locations in order to avoid illegal dumping or landfilling of C&D materials.

2.4.4 The GPS data including travel routings of dump trucks was reviewed by the ET and IEC, and no illegal dumping activities were suspected.

3 SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

3.1.1 The Environmental Complaint Handling Procedure is presented in **Appendix J**.

3.1.2 Should non-compliance of the air quality criteria occur, action in accordance with the Event and Action Plan in **Appendix K** shall be carried out.

3.1.3 No Action and Limit Levels exceedance of 1-hour TSP was recorded during this reporting period.

3.1.4 No complaints, notification of summons and prosecutions received during January 2024.

3.1.5 Statistics on complaints, notifications of summons and successful prosecutions are summarized in **Appendix L**.

4 EM&A SITE INSPECTION

4.1.1 Site inspections were conducted on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. Five (5) site inspections were conducted on 3, 8, 15, 22 and 29 January 2024 for this reporting period. One joint inspection with IEC was also conducted on 8 January 2024. Key observations during the site inspections are summarized in **Table 4.1**.

Table 4.1 Site Observations

Date	Observation/ Recommendation	Follow-up Status
3 January 2024	The sandbags provided for preventing surface runoff to be discharged into nearby manhole were broken at Shun Long Road. Target completion date: 5 January 2024.	Broken sandbags removed around the water tanks. Sandbags are provided at the nearby manhole at Shun Long Road. Close out date: 4 January 2024.
8 January 2024	Secondary containment was not provided for the chemical stored on site. Target completion date: 11 January 2024.	Secondary containment has been provided for the chemical stored. Close out date: 10 January 2024.
15 January 2024	Nil	Nil
22 January 2024	Nil	Nil
29 January 2024	Secondary containment shall be provided to prevent leakage and spillage of any chemicals spent on the equipment within the site. Target completion date: 30 January 2024.	The equipment maintained with chemicals (i.e. lubricating oil) removed from site. Close out date: 29 January 2024.

4.1.2 The mitigation measures detailed in the EIA Study Report, Environmental Permit, contract documents and the EM&A Manual are implemented as much as practical during this reporting period. The Implementation Status of the Environmental Mitigation Measures (EMIS) is presented in **Appendix M**.

5 FUTURE KEY ISSUES

5.1.1 Works to be conducted in the coming reporting months are:

(1) Site Clearance and Hoarding

(2) Pre-drilling Works

(3) Bored Piling Works

6 CONCLUSION AND RECOMMENDATIONS

6.1.1 This monthly EM&A Report presented the EM&A works carried out during the reporting period from 1 to 31 January 2024.

6.1.2 Air quality impact monitoring was carried out during the report period. No exceedance of the Action and Limit Levels was recorded for air quality impact monitoring during this reporting period.

6.1.3 Five (5) weekly site inspections have been conducted during this reporting period. A joint site inspection with the IEC was conducted on 8 January 2024. Observations were reported in the weekly inspection checklists. The environmental performance of the Project was considered satisfactory.

6.1.4 No complaints, notification of summons and prosecutions received during this reporting period.

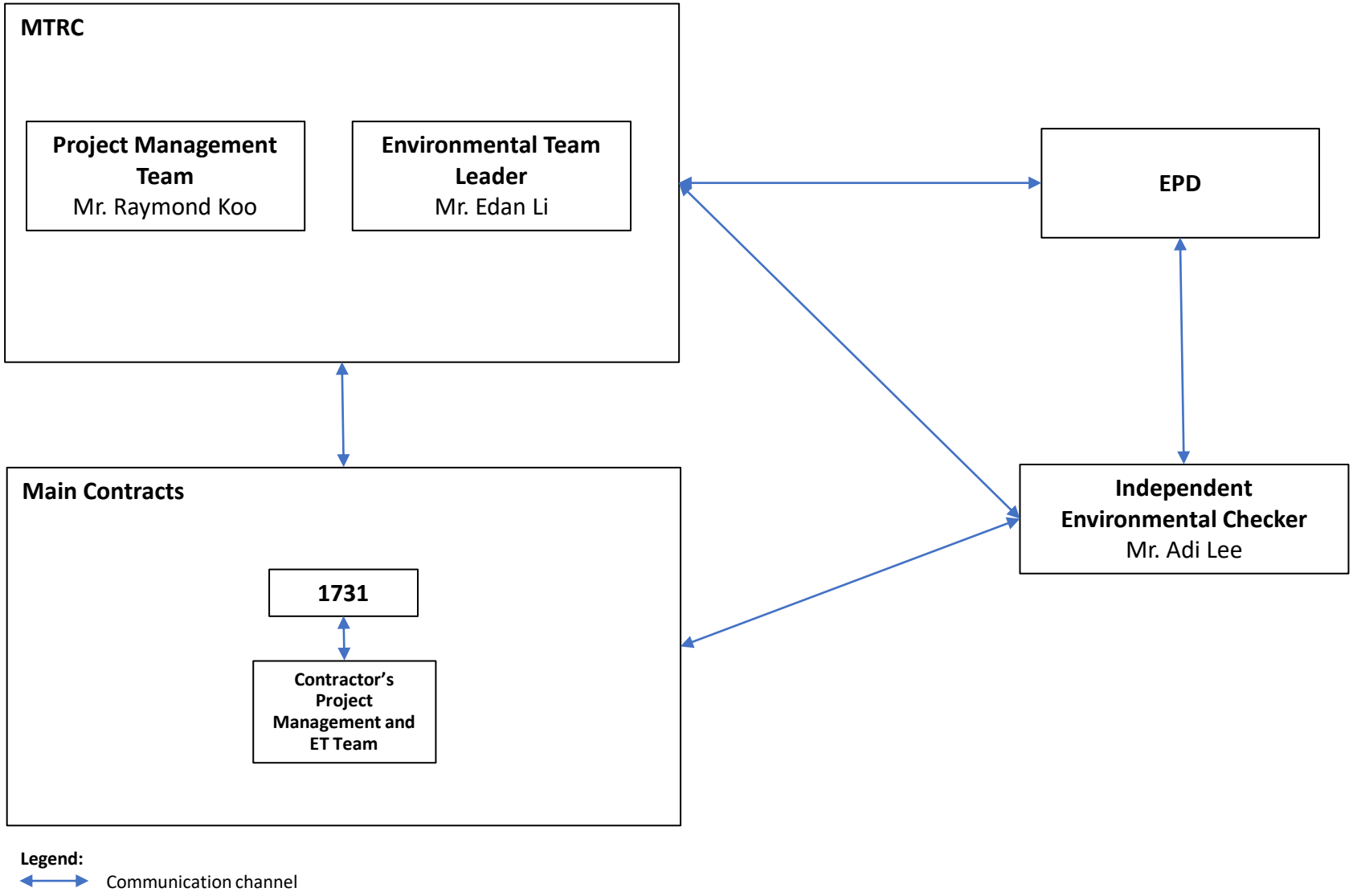
6.1.5 The proposed mitigation measures were properly implemented and were considered effective and efficient in pollution control.

Appendix A Construction Programme

Appendix 2.1 Construction Programme

Construction Activities	ID	2024											
		J	F	M	A	M	J	J	A	S	O	N	D
Contract 1731 - Trail Pile for SHD Phase 1	**1**												
Site Clearance & Hoarding	1.1												
Bored Piling Works	1.3												

Appendix B Project Organisation Chart


MTRC
Project Management Team
Mr. Raymond Koo
Environmental Team Leader
Mr. Edan Li
EPD
Main Contracts
1731
Contractor's Project Management and ET Team
Independent Environmental Checker
Mr. Adi Lee
Legend:
Communication channel

MTRC - Project Management Team		
Position	*Name*	*Telephone*
Chief Construction Manager - OYB	Mr. Raymond Koo	2621 7051

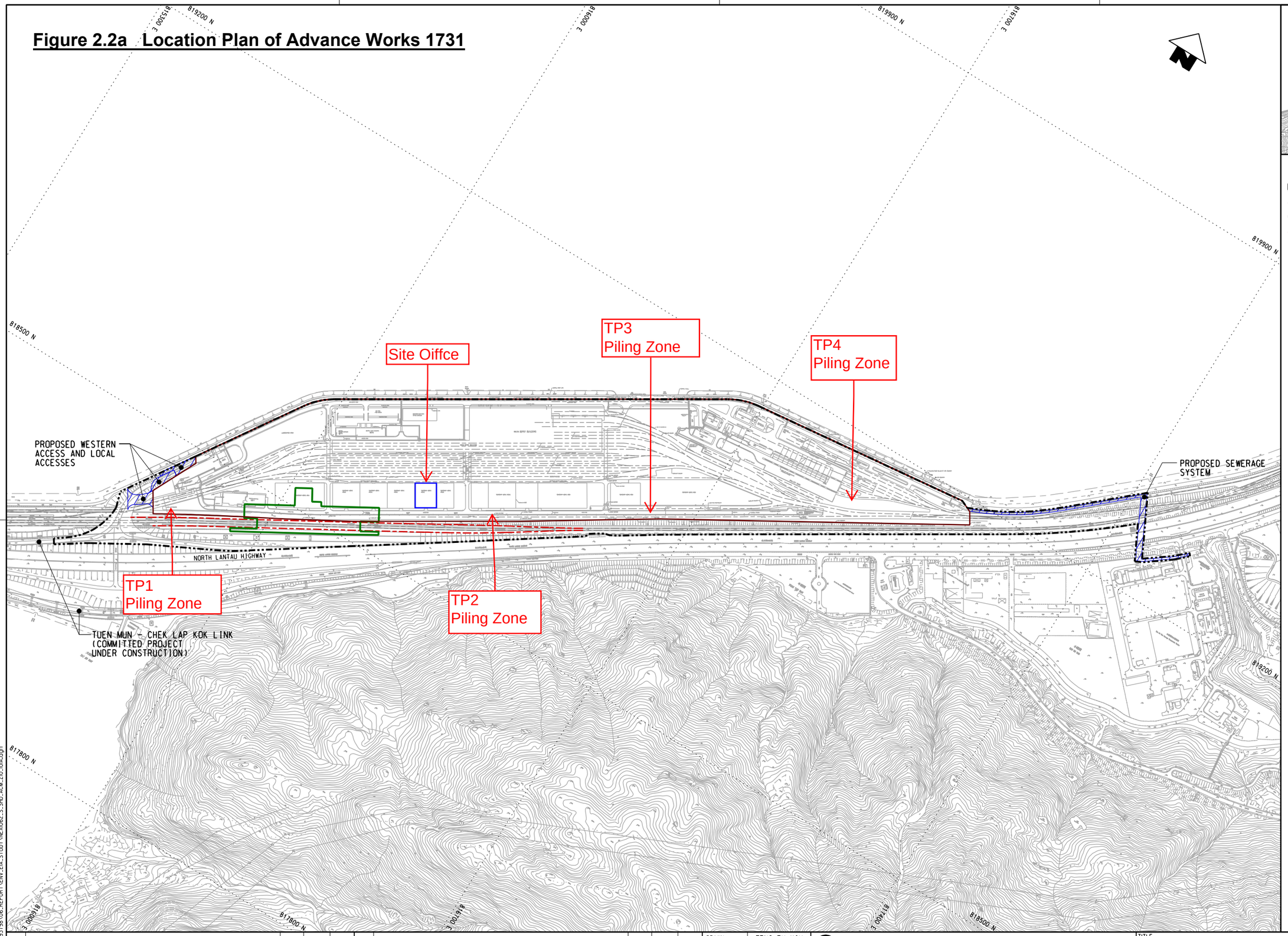
MTRC - Environmental Team		
Position	*Name*	*Telephone*
Environmental Team Leader	Mr. Edan Li	2621 7194
Environmental Team Member	Mr. Cyrus Lau	2621 7219

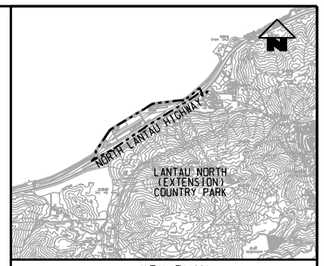
Meinhardt Infrastructure and Environment Limited - IEC		
Position	*Name*	*Telephone*
Independent Environmental Checker	Mr. Adi Lee	2859 5443
IEC Team Member	Mr. Sylar Tsui	2859 5225

Main Works Contract	**Description**	**Contractor**	**Position**	**Name**	**Telephone**
1731	Trail piles and site formation for Siu Ho Wan Depot Property	Gammon Construction Ltd	Senior Project Manager	Carl Chan	9275 9207
			Environmental Officer	Chris Tse	9127 7571
			Environmental Team Leader	Alex Cheung	9832 5750

Appendix C Location Plan

Figure 2.2a Location Plan of Advance Works 1731





KEY PLAN
(SCALE 1 : 50000)

LEGEND:

- EXISTING/REPROVISIONED SHD BOUNDARY
- SCHEME BOUNDARY
- MODIFIED TCL/AEL ALIGNMENT
- PROPOSED SHO (INDICATIVE)
- SUPPORTING FACILITY

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A	PRELIMINARY DESIGN REPORT ISSUE	SN	18AUG16	HL

DRAWN	ZENG FU XIU
DESIGNED	ANTHEA FUNG
CHECKED	SAM NG
APPROVED	HL
DATE	18/AUG/2016

MTR

SIU HO WAN DEPOT

ORIGINATOR

AECOM in association with Aedas

CADD REF. NEX1062_S_SHD_ACM_Z10_101A.dgn

TITLE
SIU HO WAN STATION AND SIU HO WAN DEPOT
REPLANNING WORKS
SCOPE OF PROJECT

SCALE	DRAWING NO.	REV.
1 : 3500 @ A1	NEX1062/S/SHD/ACM/Z10/101	A

Appendix D Calibration Certification of Portable Direct Reading Dust Meters

EQUIPMENT CALIBRATION RECORD

Type:	Laser Dust Monitor
Manufacturer/Brand:	SIBATA
Model No.:	LD-3B
Equipment No.:	A.005.16a
Sensitivity Adjustment Scale Setting:	521 CPM
Operator:	WS CHAN

Standard Equimment

Equipment:	High Volume Sampler
Venue:	Pedestrian Plaza
Model No.:	TE-5170
Serial No.:	10273
Last Calibration Date:	4-Apr-23

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration):	521	CPM
Sensitivity Adjustment Scale Setting (After Calibration):	521	CPM

Hour	Date (dd/mm/yy)	Time	Ambient Condition		Concentration① (mg/m3) Y-axis	Total Count②	Count/ Minute③ X-axis
			Temp (°C)	R.H.(%)			
1	26/04/23	9:00-10:00	23.5	65	0.0490	1860	31.00
2	26/04/23	10:00-11:00	23.5	65	0.0500	1940	32.33
3	26/04/23	11:00-12:00	23.5	65	0.0520	2020	33.67
4	26/04/23	12:00-13:00	23.5	65	0.0540	2150	35.83

Note: ① Monitoring data was measured by High Volume Sampler
② Total Count was logged by Laser Dust Monitor
③ Count/minute was calculated by (Total Count/60)

By Linear Regression of Y on X

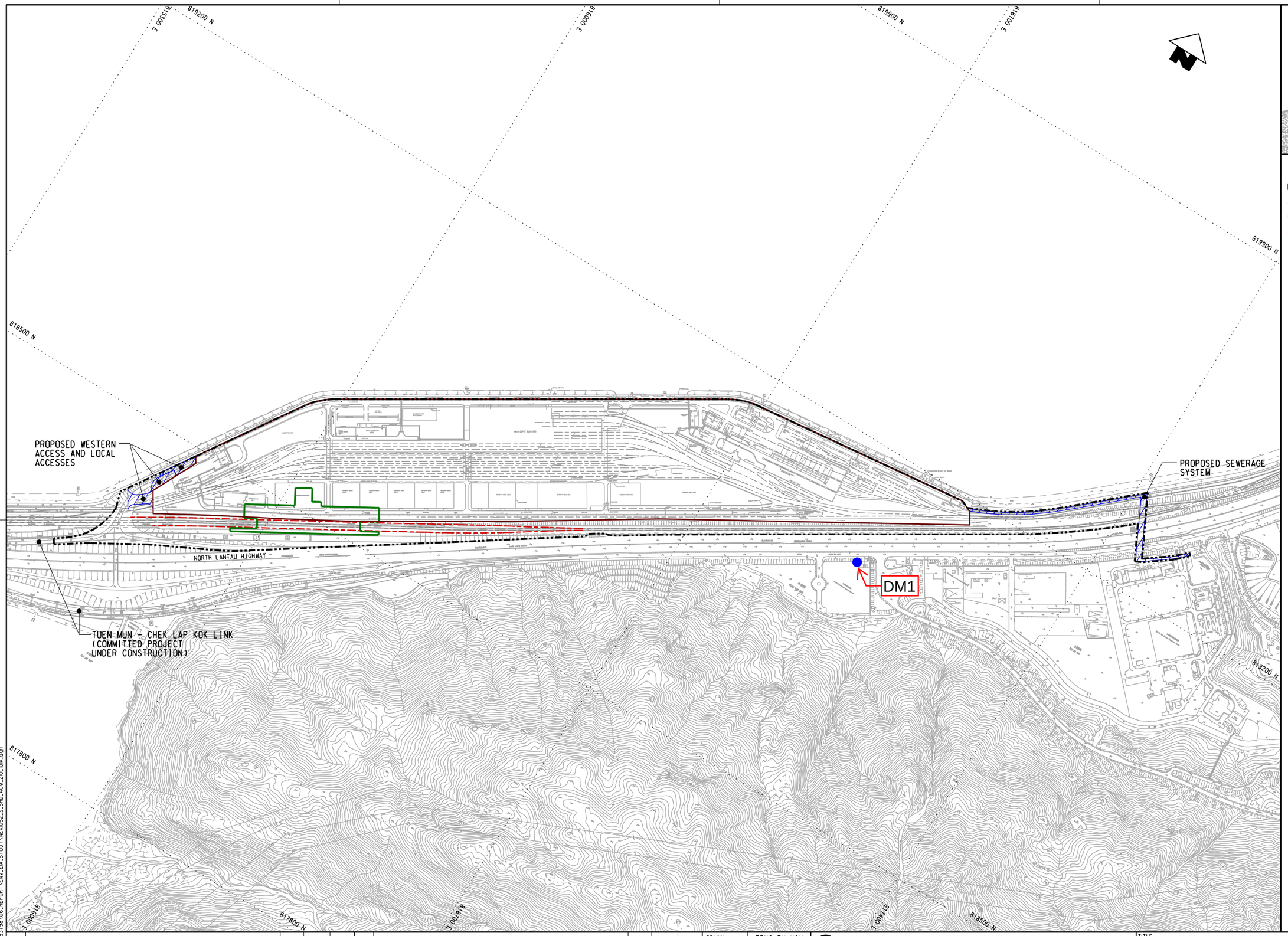
Slope (K-factor):	0.0015
Correlation coefficient:	0.9997

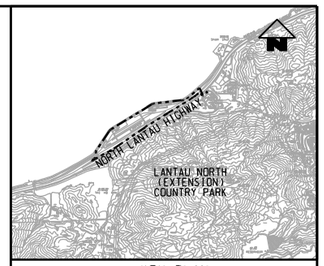
Validity of Calibration Record: 26-Apr-24

Remarks:

QC Reviewer: Y.W. Fung Signature:  Date: 28-Apr-23

Appendix E Location Plan of Air Quality Monitoring Station





KEY PLAN
(SCALE 1 : 50000)

LEGEND:

- EXISTING/REPROVISIONED SHD BOUNDARY
- SCHEME BOUNDARY
- MODIFIED TCL/AEL ALIGNMENT
- PROPOSED SHO (INDICATIVE)
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A	PRELIMINARY DESIGN REPORT ISSUE	SN	18AUG16	HL

DRAWN	ZENG FU XIU
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MTR

SIU HO WAN DEPOT

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TITLE
SIU HO WAN STATION AND SIU HO WAN DEPOT REPLANNING WORKS
SCOPE OF PROJECT

SCALE 1 : 3500 @ A1

DRAWING NO. NEX1062/S/SHD/ACM/Z10/101

REV. A

Appendix F Monitoring Schedule of This Reporting Period

Consultancy Agreement No.NEX/1062

Siu Ho Wan Station and Siu Ho Wan Depot Replanning Works - Advance Constuction Works

Dust and Noise Monitoring Schedule in January 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan
		1-hr Dust Monitoring				1-hr Dust Monitoring
7-Jan	8-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan
					1-hr Dust Monitoring	
14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan
				1-hr Dust Monitoring		
21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan
			1-hr Dust Monitoring			
28-Jan	29-Jan	30-Jan	31-Jan			
		1-hr Dust Monitoring				

Appendix G Air Quality Monitoring Data

Impact Air Quality Monitoring Results

1-hour TSP Monitoring Results at Station - DM1
Siu Ho Wan Government Maintenance Deport

Date	Start Time (hh:mm)	1st Hour Conc. (µg/m3)	2nd Hour Conc. (µg/m3)	3rd Hour Conc. (µg/m3)	Action Level Conc. (µg/m3)	Limit Level Conc. (µg/m3)	Exceedance (Y/N)
2-Jan-24	13:10	69.1	67.7	68.4	294.7	500.0	N
6-Jan-24	11:35	59.4	61.6	58.8			N
12-Jan-24	13:05	67.3	64.9	66.9			N
18-Jan-24	13:10	63.7	62.8	64.9			N
24-Jan-24	13:15	60.9	62.2	61.7			N
30-Jan-24	13:05	64.0	61.9	62.8			N
			Average	63.8			
			Min	58.8			
			Max	69.1			

Appendix H Monitoring Schedule of Next Reporting Period

Siu Ho Wan Depot Property Development MTR Contract No.: 1701-Oyster Bay Station And Associated Works
Tentative Dust and Noise Monitoring Schedule in February 2024

FEBRUARY 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2 1-hour TSP Monitoring	3
4	5	6	7	8 1-hour TSP Monitoring	9	10
11	12	13	14 1-hour TSP Monitoring	15	16	17
18	19	20 1-hour TSP Monitoring	21	22	23	24
25	26 1-hour TSP Monitoring	27	28	29		

The schedule is subjected to change due to unforeseeable circumstances (e.g. adverse weather, etc.)

Appendix I Waste Flow Table

Monthly Summary Waste Flow Table

Project: Contract No. 1731 Trial Piles and Site Formation for Siu Ho Wan Depot Property Development - Phase 1

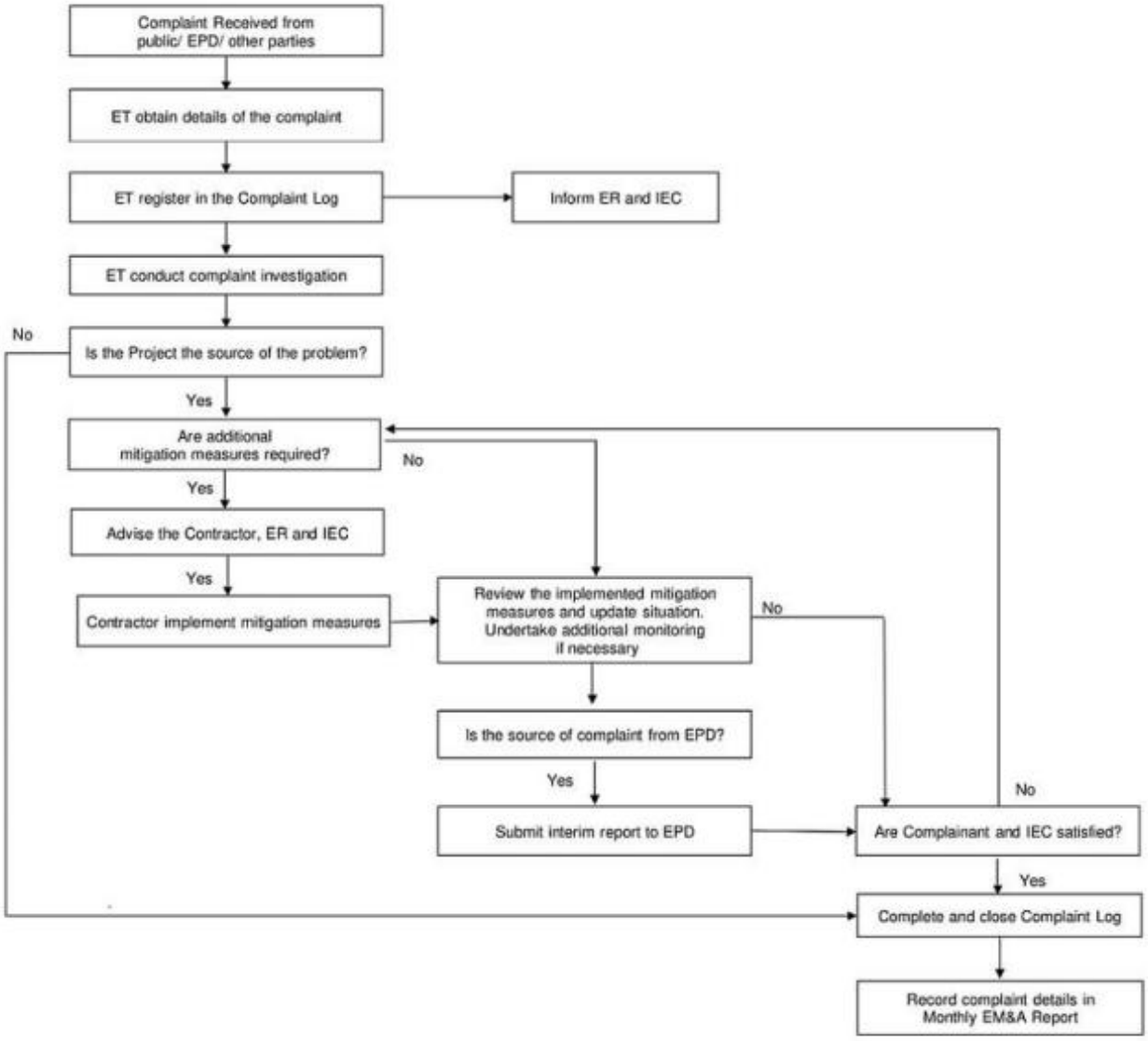
Month	Actual Quantities of Inert C&D Materials Generated							Actual Quantities of Non-inert C&D Materials Generated					
	(a) Total Quantity Generated	(b) Hard Rock and Large Broken Concrete	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed of as Public Fill	(f) Disposed in Sorting Facilities	(g) Imported Fill	(h) Metals	(i) Paper / cardboard packaging	(j) Plastics	(k) Chemical Waste	(l) Recyclable Yard Waste	(m) Others, i.e. General Refuse disposed of at Landfill
	(tonnes)	(m^3)	(m^3)	(m^3)	(tonnes)	(tonnes)	(m^3)	(tonnes)	(tonnes)	(tonnes)	(tonnes)	(tonnes)	(tonnes)
Jan-23	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78
Feb-23	3.17	0.00	0.00	0.00	3.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar-23	38.11	0.00	0.00	0.00	37.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61
Apr-23	210.97	0.00	0.00	0.00	210.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
May-23	42.00	0.00	0.00	0.00	40.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66
Jun-23	264.55	0.00	0.00	0.00	192.85	67.46	0.00	0.00	0.00	0.00	0.00	0.00	4.24
Jul-23	247.19	0.00	0.00	0.00	238.99	7.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Aug-23	426.08	0.00	0.00	0.00	417.46	7.41	0.00	0.00	0.00	0.00	0.00	0.00	1.21
Sep-23	270.42	0.00	0.00	0.00	269.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
Oct-23	172.46	0.00	0.00	0.00	171.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
Nov-23	910.88	0.00	0.00	0.00	907.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.78
Dec-23	240.79	0.00	0.00	0.00	239.00	0.00	0.00	17.31	0.00	0.00	0.00	0.00	1.79
Year 2023 Total	2828.40	0.00	0.00	0.00	2727.13	81.87	0.00	17.31	0.00	0.00	0.00	0.00	19.40
Jan-24	40.50	0.00	0.00	0.00	27.34	7.69	0.00	0.00	0.00	0.00	0.00	0.00	5.47
Year 2024 Total	40.50	0.00	0.00	0.00	27.34	7.69	0.00	0.00	0.00	0.00	0.00	0.00	5.47

Remark:

The cut-off date of waste flow table in this reporting month is 21 January 2024.

Appendix J Complaint Handling Procedure

Complaint Handling Procedure



Appendix K Event and Action Plan for Air Quality Monitoring

Event	Action			
	Environmental Team	**Independent Environmental Checker**	**Engineer's Representative**	**CONTRACTOR**
ACTION LEVEL				
Exceedance for one sample	1. Repeat measurement to confirm findings; 2. If exceedance is confirmed, inform the Contractor, IEC and ER; 3. Identify source(s), investigate the causes of exceedance and propose remedial measures; and 4. Increase monitoring frequency.	1. Check monitoring data submitted by the ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; and 4. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of exceedance in writing.	1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; and 3. Amend working methods agreed with the ER as appropriate.
Exceedance for two or more consecutive samples	1. Repeat measurements to confirm findings; 2. If exceedance is confirmed, informed Contractor, IEC and ER; 3. Identify source(s), investigate the causes of exceedance and propose remedial measures; 4. Increase monitoring frequency to daily; 5. Advise the Contractor and ER on the effectiveness of the proposed remedial measures; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with Contractor, IEC and ER to discuss the remedial measures to be taken; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Review and advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the ET and IEC agree with the Contractor on the remedial measures to be implemented; and 3. Supervise implementation of remedial measures.	1. Identify source(s) and investigate the causes of exceedance; 2. Submit proposals for remedial measures to the ER, ET and IEC within three working days of notification for agreement; 3. Implement the agreed proposals; and 4. Amend proposal as appropriate.

Event	Action			
	Environmental Team	**Independent Environmental Checker**	**Engineer's Representative**	**CONTRACTOR**
LIMIT LEVEL				
Exceedance for one sample	1. Repeat measurement to confirm findings; 2. If exceedance is confirmed, inform the Contractor, IEC, EPD and ER; 3. Identify source(s), investigate the causes of exceedance and propose remedial; 4. Increase monitoring frequency to daily; and 5. Discuss with the ER, IEC and Contractor on the remedial measures and assess effectiveness.	1. Check monitoring data submitted by the ET; 2. Check Contractor's working method; 3. Discuss with the ET, ER and Contractor on possible remedial measures; 4. Review and advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Review and agree on the remedial measures proposed by the Contractor; and 3. Ensure remedial measures properly implemented.	1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER, ET and IEC within three working days of notification for agreement; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1. Repeat measurement to confirm findings; 2. If exceedance is confirmed, inform IEC, ER, Contractor and EPD; 3. Identify source(s), investigate the causes of exceedance and propose remedial measures; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET; 2. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 3. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 4. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise the implementation of remedial measures; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identity source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER, IEC and ET within three working days of notification for agreement; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix L Statistics on Complaint, Notification of Summons and Successful Prosecution

Statistics on Complaints, Notification of Summons and Successful Prosecution

Table F1 Statistical Summary of Environmental Complaint

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 January 2024 to 31 January 2024	0	0	N/A

Table F2 Statistical Summary of Environmental Non-compliance

Reporting Period	Environmental Non-compliance Statistics		
	Frequency	Cumulative	Details
1 January 2024 to 31 January 2024	0	0	N/A

Table F3 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
1 January 2024 to 31 January 2024	0	0	N/A

Table F4 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
1 January 2024 to 31 January 2024	0	0	N/A

Appendix M Environmental Mitigation Implementation Schedule

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
Air Quality (Construction Phase)							
S3.8.1	Watering once per hour on active works areas, exposed areas and unpaved haul roads during working hours.	To minimize dust impacts	Contractor	All works area	Construction phase	Air Pollution Control Ordinance (APCO)	Implemented
S3.8.9	Implementation of dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices should be carried out to further minimize construction dust impact: • Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent water for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines. • Open stockpiles should be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading	To minimize dust impacts	Contractor	All works area	Construction phase	Air Pollution Control Ordinance (APCO)	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	points, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. • Imposition of speed controls for vehicles on unpaved site roads. 8 kilometres per hour is the recommended limit. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides. • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed. • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.						
Noise Impact (Construction Phase)							
S4.5.16	Implement the following good site practices as far as practicable: • Only well-maintained plant should be operated on-site and plant should be	To minimise impacts to surrounding habitats	Contractor	All works area	Construction phase	TM-EIAO	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	serviced regularly during the construction program. • Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction program. • Mobile plant, is any, should be sited as far from NSRs as possible. • Machine 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 orientated so that the noise is directed away from the nearby NSRs. • Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.						
S4.5.17	Adopting quiet PME is recommended. The type of quiet PME adopted in this assessment is for reference only. The contractors may adopt alternative quiet PME as long as it can be demonstrated that they would not result in construction noise impacts worse than those predicted in this assessment	To reduce impact to affected NSRs	Contractor	All works area	Construction phase	TM-EIAO	Implemented
S4.5.19	Use of noise barriers and noise enclosures to provide screening for construction plant where recommended.	To reduce impact to affected NSRs	Contractor	All works area	Construction phase	TM-EIAO	N/A
Water Quality Impact (Construction Phase)							
S5.8.4	Surface and road run-off from construction sites should be discharged into storm drains via adequately	To minimise impact from	Contractor	All works area	Construction phase	Water Pollution Control	Implemented after observation

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels should be provided on site boundaries where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	construction site run-off				Ordinance (WPCO), Technical Memorandum on EIA Ordinance (EIAO-TM), ProPECC PN 1/94, Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS)	
S5.8.5	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.6	Construction works should be programmed to minimize soil excavation works in rainy seasons (April to September). If soil excavation cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion,	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.						
S5.8.7	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.8	Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.9	If bentonite slurries are required for any construction works, they should be reconditioned and reused wherever practicable to minimise the disposal volume of used bentonite slurries. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	transported away after the related construction activities are completed. Requirements as stipulated in ProPECC Note PN 1/94 should be closely followed when handling and disposing bentonite slurries.						
S5.8.10	Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.11	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.12	Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.12	The following mitigation measures related to the transportation of the sediment should be implemented to minimize the potential water quality impact: • Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.	To minimise impact from transportation of sediment	Contractor	Barging point and barges	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	• The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. • Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the Director of Environmental Protection (DEP).						
S5.8.13	There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TMDSS. The beneficial uses of the treated effluent for other onsite activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence.	To minimize impact from effluent discharge	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
S5.8.14	*Water for Bored Piling Works* Water used in ground boring and drilling for site investigation or rock / soil anchoring should be re-circulated as far as practicable after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.15	*Wheel Washing Water* Wash-water from wheel washing facility should have been treated by silt removal facilities before discharging into storm drains. Treated wash-water could be used as dust suppression measures as far as practicable. The section of access road between the wheel washing bay and the public road should be paved to reduce vehicle tracking of soil and to prevent silty water from entering public road and drains.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented
S5.8.16	*Construction Works near Channelized Watercourse / Ditch* For minimization of potential water quality impacts from the works to nearby inland channelized watercourse/ditch near SHWSTW, the practices outlined in ProPECC Note PN 1/94 “Construction Site Drainage” and ETWB TC (Works) No.5/2005 “Protection of natural streams / rivers from adverse impacts arising from construction works” should be adopted where applicable. Relevant mitigation measures are listed below: • The use of less or smaller construction plants may be specified in works area close to the inland water bodies.	To minimise impact from construction site run-off	Contractor	All works area	Construction phase	WPCO, EIAOTM, ProPECC PN 1/94, TMDSS	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	• Temporary storage of material (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from watercourse/ditch when carrying out of the construction works. • Stockpiling of construction materials and dusty materials should be covered and located away from any watercourse/ditch. • Construction debris and spoil should be covered up and / or disposed of as soon as possible to avoid being washed into the nearby water receivers. • Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the watercourse/ditch, where practicable. • Construction effluent, site run-off and sewage should be properly collected and / or treated						
S5.8.17 – S5.8.19	*Accidental Spillage of Chemicals* The Contractor should register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste)(General) Regulation, should be observed and complied. • Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be	To minimise impact from accidental spillage	Contractor	All works area	Construction phase	WPCO, EIAOTM, Waste Disposal Ordinance (WDO), Waste Disposal (Chemical Waste) (General) Regulation	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. • Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: o Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. o Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. o Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.						
S5.8.20 – S5.8.21	*Sewerage Effluent from Construction Workforce* • No discharge of sewage to the storm water system and marine water will be allowed. Adequate and sufficient portable chemical toilets should be provided in the works areas to	To minimise impact from workforces sewage effluent	Contractor	All works area	Construction phase	WPCO, EIAO-TM, TM-DSS	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	handle sewage from construction workforce. • A licensed waste collector should be employed to clean and maintain the chemical toilets on a regular basis. • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment.						
S5.8.22 – S5.8.24	*Groundwater from Contaminated Areas, Contaminated Site Runoff and Wastewater from Land Decontamination* • Remediation of contaminated land should be properly conducted following the recommendations of Land Contamination Assessment to be conducted in future. Any excavated contaminated material and exposed contaminated surface should be properly housed and covered to avoid generation of contaminated runoff. Open stockpiling of contaminated materials should not be allowed. Any contaminated runoff or wastewater generated from the land decontamination processes should be properly collected and diverted to wastewater treatment facilities (WTF) as necessary. The WTF shall deploy suitable treatment processes (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (such as total petroleum hydrocarbon) to an undetectable range. All treated	To minimise impact from groundwater from contaminated areas, contaminated site run-off/wastewater from land decontamination	Contractor	All works area confirmed with land contamination	Construction Phase	WPCO, EIAOTM, TM-DSS, Guidance Note for Contaminated Land Assessment	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	effluent from the wastewater treatment system shall meet the requirements as stated in TM-DSS and should be either discharged into the foul sewers or tankered away for proper disposal. • No direct discharge of groundwater from contaminated areas should be adopted. Prior to any excavation works within the potentially contaminated areas, the baseline groundwater quality in these areas should be reviewed based on the past relevant site investigation data and any additional groundwater quality measurements to be performed with reference to Guidance Note for Contaminated Land Assessment and Remediation and the review results should be submitted to EPD for examination. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, this contaminated groundwater should be either properly treated or properly recharged into the ground in compliance with the requirements of the TM-DSS. If wastewater treatment is to be deployed for treating the contaminated groundwater, the wastewater treatment unit shall deploy suitable treatment processes (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances						

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	(such as total petroleum hydrocarbon) to an undetectable range. All treated effluent from the wastewater treatment plant shall meet the requirements as stated in the TM-DSS and should be either discharged into the foul sewers or tankered away for proper disposal. • If deployment of wastewater treatment is not feasible for handling the contaminated groundwater, groundwater recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in section 2.3 of TM-DSS. The baseline groundwater quality should be determined prior to the selection of the recharge wells, and submit a working plan to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Groundwater monitoring wells should be installed near the recharge points to monitor the effectiveness of the recharge wells and to ensure that no likelihood of increase of groundwater level and transfer of pollutants beyond the site boundary. Prior to recharge, free products should be removed as necessary by installing the petrol interceptor.						

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	• The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater						
Waste Management Implication (Construction Phase)							
S7.5.3	Recommendations for good site practices during the construction phase include: • Nomination of approved personnel, such as a site manager, to be responsible for implementation of good site practices, arrangements for waste collection and effective disposal to an appropriate facility. • Training of site personnel in site cleanliness, concepts of waste reduction, reuse and recycling, proper waste management and chemical waste handling procedures. • Provision of sufficient waste reception/ disposal points, and regular collection of waste. • Adoption of appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. • Provision of regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors. • Adoption of a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites).	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	Waste Disposal Ordinance (WDO) and Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK)	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	• Preparation of Waste Management Plan (WMP), as part of the Environmental Management Plan (EMP).						
S7.5.4	Recommendations to achieve waste reduction are as follow: • Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. • Provide separate labelled bins to segregate recyclable waste such as aluminium cans from other general refuse generated by the work force, and to encourage collection by individual collectors. • Recycle any unused chemicals or those with remaining functional capacity. • Maximise the use of reusable steel formwork to reduce the amount of C&D materials. • Adopt proper storage and site practices to minimise the potential for damage to, or contamination of construction materials. • Plan the delivery and stock of construction materials carefully to minimise the amount of waste generated. • Minimize over ordering and wastage through careful planning during purchasing of construction materials.	To minimize waste generation	Contractor	All works area	Construction phase	WDO	Implemented
S7.5.6	To minimise the impact resulting from collection and transportation of C&D materials as far as practicable, C&D	To minimise the disposal of C&D waste	Contractor	All works area	Construction phase	WDO	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed to landfill. A suitable area should be designated within the site for temporary stockpiling of C&D materials and to facilitate the sorting process.						
S7.5.6	Within the stockpile areas, the following measures should be taken to control potential environmental impacts or nuisance: • Proper handling and storage of waste such as soil by means of covers and/or water spraying system to minimise the potential environmental impact and to prevent materials from wind-blown or being washed away. • Covering materials during heavy rainfall. • Locating stockpiles to minimise potential visual impacts. • Minimising land intake of stockpile areas as far as possible. • Adopting GPS or equivalent system for tracking and monitoring of all dump trucks engaged for the Project in recording their travel routings and parking locations to prohibit illegal dumping and landfilling of C&D materials. • Keeping record and analysis of data collected by GPS or equivalent system related to travel routings and parking locations of dump trucks engaged on site	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WDO	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
S7.5.7 – S7.5.9	General refuse should be stored in enclosed bins or compaction units separate from C&D materials and chemical waste. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D materials and chemical wastes. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light materials. The recyclable component of general refuse, such as aluminium cans, paper and cleansed plastic containers shall be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste shall be set up by the Contractor. The Contractor shall also be responsible for arranging recycling companies to collect these materials. The Contractor shall carry out an education programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins shall also be provided in the sites as reminders.	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WDO	Implemented
S7.5.10 – S7.5.12	If chemical wastes were to be produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer, and to follow the guidelines stated in the Code of Practice on the Packaging,	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WDO	Implemented after observation

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	Labelling and Storage of Chemical Wastes. Appropriate containers with proper labels should be used for storage of chemical wastes. Chemical wastes should be collected and delivered to designated outlet by a licensed collector. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the CWTC, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. Any unused chemicals or those with remaining functional capacity should be collected for reuse as far as practicable.						
S7.5.13 – S7.5.14	The sediment should be excavated, handled, transported and disposed of in a manner that would minimise adverse environmental impacts. For minimization of sediment disposal, beneficial reuse will be considered on site as far as practicable during the construction stage before the disposal of excavated sediment. Requirements of the Air Pollution Ordinance (Construction Dust) Regulation, where relevant, shall be adhered to during excavation, transportation and disposal of sediments.	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	APCO EDO	N/A
S7.5.15	In order to minimise the exposure to contaminated materials, workers shall, when necessary, wear appropriate	To avoid and minimize impacts arising from	Contractor	All works area	Construction phase	WDO	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site.	waste management					
S7.5.16	For off-site disposal, the basic requirements and procedures specified under PNAP No. 252 (ADV-21) shall be followed. Marine Fill Committee (MFC) of CEDD is managing the disposal facilities in Hong Kong for the excavated sediment, while EPD is the authority of issuing marine dumping permit under the Dumping at Sea Ordinance (DASO).	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WDO, DASO, ADV-21	N/A
S7.5.17	For the purpose of site allocation and application of marine dumping permit and if considered necessary by EPD (Marine Dumping Section), separate SSTP shall be submitted to EPD for agreement under DASO. Additional SI works, based on the SSTP, shall then be carried out in order to confirm the disposal arrangements of the excavated sediment. A Sediment Quality Report (SQR), reporting the chemical and biological screening results and the estimated quantities of sediment under different disposal options, shall then be submitted to EPD for agreement under DASO.	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WDO, DASO, ADV-21	N/A
S7.5.18	To ensure disposal space is allocated for the Project, the Project Proponent should be responsible for obtaining agreement from MFC on the allocation of the disposal site. The contractor(s), on the other hand, should be responsible for the application of the marine dumping permit under DASO from EPD for the sediment disposal.	To avoid and minimize impacts arising from waste management	Project Proponent and Contractor	All works area	Construction phase	WDO, DASO, ADV-21	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
S7.5.19	The excavated sediments is expected to be loaded onto the barge at public barging point of which the exact location will be determined by the contractor(s) and agreed by EPD/CEDD and transported to the designated disposal sites allocated by MFC. The excavated sediment would be disposed of according to its determined disposal options and PNAP No. 252 (ADV-21).	To avoid and minimize impacts arising from waste management	Project Proponent and Contractor	All works area	Construction phase	WDO, DASO, ADV-21	N/A
S7.5.20	Stockpiling of contaminated sediments shall be avoided as far as possible. If temporary stockpiling of contaminated sediments is unavoidable, the excavated sediment shall be covered by tarpaulin and the area shall be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and/or surrounding water bodies. The stockpiles shall be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas shall be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, shall be collected and discharged according to the Water Pollution Control Ordinance (WPCO).	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WPCO	N/A
S7.5.21	In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WDO, APCO	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	overflowing of the sediment slurry to the surrounding water.						
S7.5.22	The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	To avoid and minimize impacts arising from waste management	Contractor	All works area	Construction phase	WSO	N/A
Land Contamination							
S8.9.3	To minimise environmental impacts arising from the handling of potentially contaminated materials, the following environmental precautionary measures are recommended to be utilised during the course of any required site remediation: • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety. • Establish and maintain a Health and Safety Plan with the information below before commencement of the SI: (a) Instruction of works on work procedures, safe practices, emergency duties, and applicable regulations; (b) Regularly scheduled meetings of the workers in which the possible hazards, problems of the job,	To control land remediation work	Contractor	Area identified with land contamination	Prior to the commencement of construction works at the contaminated areas	"Guidance Note for Contaminated Land Assessment And Remediation", "Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management", "Public Cleansing and Prevention of Nuisances	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	and related safe practices are emphasized and discussed; (c) Good housekeeping practices; and (d) Availability of and instruction in the location, use and maintenance of personal protective equipment. • Excavation shall be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils. • Supply of suitable clean backfill material (or treated soil) after excavation. • Stockpiling site(s) shall be lined with impermeable sheeting and bunded. Stockpiles shall be fully covered by impermeable sheeting to reduce dust emission. If this is not practicable due to frequent usage, regular watering shall be applied. However, watering shall be avoided on stockpiles of contaminated soil to minimise contaminated runoff. • Vehicles containing any excavated materials shall be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates shall be sealed to prevent any discharge during transport or during wet conditions. • Speed control for the trucks carrying contaminated materials shall be enforced.					Regulation (Cap. 132BK)", APCO, WDO and WPCO	

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	• Vehicle wheel and body washing facilities at the site's exist points shall be established and used. • Pollution control measures for air emissions (e.g. from biopile blower and handling of cement), noise emissions (e.g. from blower or earthmoving equipment), and water discharges (e.g. runoff control from treatment facility) shall be implemented and complied with relevant regulations and guidelines.						
Landscape and Visual Impact (Construction Phase)							
S9.8.1	Trees unavoidably affected by the works should be transplanted as far as possible in accordance with DEVB TC(W) 7/2015 – Tree Preservation or LAO PN 7/2007 - Tree Preservation and Tree Removal Application for Building Development in Private Projects where applicable.	To transplant affected trees	Contractor	All works area	Construction phase	DEVB TC(W) No. 7/2015 or LAO PN 7/2007 where applicable	N/A
S9.8.1	Control of night-time lighting glare.	To minimize the Landscape and visual impact on surrounding setting	Contractor	All works area	Construction phase	TM-EIAO	N/A
S9.8.1	Erection of decorative screen hoarding which should be compatible with the surrounding setting	To minimize the Landscape and visual impact on surrounding setting	Contractor	All works area	Construction phase	TM-EIAO	N/A
S9.8.1	Management of facilities on work sites by controlling the height and disposition/arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.	To minimize visual impact to adjacent VSRs.	Contractor	All works area	Construction phase	-	Implemented
S9.8.1	All hard and soft landscape areas disturbed temporarily during construction should be reinstated on like-to-like basis,	To minimize the landscape impact	Contractor	All works area	Construction phase	-	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures and Main Concern to Address	Implementation Agent	Location of the Measures	Implementation Stage	Requirements	Implementation Status
	to the satisfaction of the relevant Government Departments.	on surrounding setting					
Hazard to Life							
S10.7.2	Precautionary measures for chlorine released from SHWWTW such as provision of emergency plan for efficient evacuation including good practice (i.e. adequate training and drills for construction workers) during construction phase shall be implemented to further reduce the risk level.	To further reduce the risk level	Contractor	All works area	Construction phase	TM-EIAO	N/A