Ocean Park Master Redevelopment Project

Quarterly Environmental Monitoring & Audit Report – from April 2008 to June 2008

Ocean Park Master Redevelopment Project

Quarterly EM&A Report for April to June 2008

Submitted by Maunsell Consultants Asia Ltd on 05-08-2008

This is to verify that

Quarterly EM&A Report for April to June 2008

Submitted by Maunsell Consultants Asia Ltd

On 05-08-2008

Has been verified by the undersigned.

Signed

Dr Anne F Kerr
Independent Environmental Checker (IEC)
Retained by Ocean Park Corporation
pursuant to Environmental Permit No. EP-249/2006/A

Date 8 August 2008

Ocean Park Master Redevelopment Project

Quarterly Environmental Monitoring & Audit Report – from April to June 2008

Certified by _____ **on** 08-Aug-08

Terence Kong

Project Environmental Team Leader

Verified by Independent Environmental Checker **on** 08-Aug-08

IEC Certificate attached in the submission? Yes

Submitted to Ocean Park on 15-Aug-08

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EXECUTIVE SUMMARY

This is the fifth combined quarterly Environmental Monitoring and Audit (EM&A) report for the Project "Master Redevelopment Project of Ocean Park". This report summarizes the EM&A works performed in the period between 26 March 2008 and 25 June 2008.

Environmental Monitoring Works

Environmental Monitoring and Audit Progress

A summary of monitoring and audit activities conducted in the reporting quarter is listed below:

1-hour Total Suspended Particulates (TSP) monitoring	45 sessions for AM1 (two sessions were cancelled in April 2008 and one session was cancelled in June 2008 due to power failure.) 48 sessions for AM2 47 sessions for AM3A (one session was cancelled in April 2008 due to power failure.)
24-hour TSP monitoring	14 sessions for AM1 (one session was cancelled in April 2008 due to power failure.) 15 sessions for AM2 15 sessions for AM3A
Daytime noise monitoring	13 sessions for all stations
Evening and night time noise monitoring	10 sessions for all stations (one session was cancelled in April 2008 and three sessions were cancelled in June 2008 due to raining.)
Holiday daytime noise monitoring	0 sessions for all stations
Terrestrial ecology monitoring	3 sessions
Coral monitoring	1 session for Site 1-5 and Control Station
Environmental site inspection	12 sessions

Air Quality

All measured 1-hour TSP and 24-hour TSP concentrations in the reporting quarter were below the Action and Limit Levels.

Noise

All measured noise levels during daytime and evening time were below the Action and Limited levels in the reporting quarter. No night time and holiday noise monitoring was scheduled in the reporting.

Terrestrial Ecology

Three sessions of terrestrial ecology monitoring was conducted in the reporting quarter. The monitoring results showed that the survival rate of Sword-leaved Orchid was in the range of 95.6%-100%. The survival rate of Balloon Flower was 93.3% and the survival rate of Chinese Lily was 100% until June 2008.

Two of Sword-leaved Orchids were observed not in healthy condition since the following potential causes:

- The plant are naturally growing among shrubland and the plants are adopted to the soil condition and shading environment. While, the soil and shading condition at the plant nursery is different.
- The soil at the plant nursery is quite dry and frequency of watering was found not enough. Some big trees are growing around the plant nursery and they consume groundwater and also contribute to dry soil condition.

Due to the survival rate of Sword-leaved Orchid in May & June 2008 decreased compared to the survival rate in April 2008, the following mitigation measures were implemented since May 2008:

- To improve soil fertility by add some fertile soil and fertilize; and
- To watering the plants twice a day in non-raining days.

Coral Monitoring

One session of coral monitoring was scheduled for Site 1-5 & Control Station in the reporting quarter. The results showed that there was no exceedance of Action and Limit Levels.

Environmental Complaints and Prosecutions

One complaint was received in the reporting quarter. The complaint was received on 23 May 2008 from the local resident through EPD regarding noise nuisance from the heavy vehicles travelling along NLS Road within the restricted hours. With regards to the complaint, action was taken as follows:

- The temporary steel plates at NLS Road was ensured to be placed tight without loose and gap and daily checking on the steel cover plate was also performed.
- Heavy vehicle drivers was informed not step on the metal plate when driving on NLS Road and also reduce the vehicle's speed when driving along NLS Road.

No summon or prosecution related to environmental issues was made against the Project within the reporting quarter.

1. INTRODUCTION

Background

1.1 The "Master Redevelopment Project of Ocean Park" (hereinafter known as the "Project") is implemented by the Ocean Park Corporation at its existing site of Ocean Park and Nam Long Shan, Aberdeen. The Project involves both reconstruction/modification of existing facilities and expansion of the Park, and therefore under Environmental Permit, EP-249/2006/A.

1.2 The construction works of the project consists of various contracts. Details of the contracts, which are required to perform the EM&A programme, are shown in **Table 1.1** below.

Table 1.1 Details of the Contracts

Contract No.	Contract Title	Contractor	Construction Commencement
CI-05	Site Formation, Funicular Tunnel and Miscellaneous Works	Dragages-Bouygues JV	12 March 2007
CS-01	Vet Hospital	Kaden – ATAL JV	26 March 2007
CW-02	Astounding Asia	W. Hing Construction Co. Ltd.	1 August 2007

1.3 The contractors will conduct environmental monitoring and audits during the construction stage and produce contract specific monthly & quarterly EM&A reports. The RSS would prepare a combined quarterly EM&A for the whole project. This is the combined quarterly EM&A Report including the IEC audit findings, CI05, CS01 and CW02 EM&A Works. This report presents the results of EM&A works conducted in the reporting quarter (from 26 March 2008 to 25 June 2008).

Project Organization and Contacts of Key Management

1.4 An organization structure and the line of communication were set up for the Project between the Project Proponent, Project Manager's Representative (PMR), Independent Environmental Checker (IEC), the Contractor and the Environmental Team (ET). The project organization and contact details of key management are shown in **Figure 1.1** and **Appendix A** respectively.

Construction Activities During The Reporting Quarter

1.5 The site activities during the reporting quarter are summarized in **Table 1.2.**

Table 1.2 Summary of Works undertaken in the Reporting Quarter

Item	Work Activity	Month		
		Apr 08	May 08	Jun 08
Waterfront (CI-05)				
1.	Soft Ground Tunnel Excavation	✓	✓	
2.	Waterfront Terminus Excavation - North	✓	✓	✓
3.	Waterfront Access Road (e.g. Laying of Watermains, Construction of Sub-base and Concrete Pavement and Backfilling)	✓	✓	✓

Item	Work Activity	Month		
		Apr 08	May 08	Jun 08
4.	Utilities Diversion (e.g. Storm Drainage) at Entry Plaza Advance Works	✓	✓	✓
5.	Permanent Bus Terminus (e.g. Erection of Bus Shelter, Construction of Road Kerb, Concrete Pavement, Cable and Light Poles, Installation of Temporary Water Meter and Rectification Works)	✓	✓	✓
6.	Works for Grand Aquarium Advance Works (e.g. Excavation and Soil Nail)	✓	✓	✓
Summit (CI-05)				
1.	Main Tunnel Excavation	✓	✓	
2.	Tunnel Permanent Lining and Internal Structure	✓	✓	✓
3.	Drill & Blast for Summit Site Formation	✓	✓	✓
4.	Excavation at Summit	✓	✓	✓
5.	Soil Nail Works at North Haul Road	✓	✓	✓
6.	Summit Terminus and FS Tank Building (e.g. Foundation Works and Superstructure Works)	✓	✓	✓
7.	Crusher and Conveyor Belts Operation	✓	✓	✓
Tai Shue Wan (CI-05)				
1.	Conveyor Belt and Barging Point Operation	✓	✓	✓
Government Entrusted Works (CI05)				
1.	Excavation	✓	✓	✓
2.	Trial Pit Excavation	✓	✓	✓
3.	Construction of Manhole	✓	✓	✓
4.	Pipe Laying (e.g. Sewer & Watermain)	✓	✓	✓
5.	Road Surface Reinstatement	✓	✓	✓
6.	Backfilling	✓	✓	✓
7.	Erection of Formwork	✓	✓	
8.	Footpath			✓
Vet Hospital (CS-01)				
1.	Truss Installation: Material Delivery, Installation of Purline, Cladding and Glasses	✓	✓	
2.	Skylight Installation: Claddiing Installation			✓
3.	R.C Structure: Construction of Dolphin Pools			✓

Item	Work Activity	Month		
		Apr 08	May 08	Jun 08
4.	E&M & LSS Installation: Plumber, Electric Installation, A/C system, etc.	✓	✓	✓
5.	Lift Installation: Installation of Electric Devices, Relevant Accessories and Testing, etc.	✓	✓	
6.	Internal finishing: Plasterer Works, Installation of Wooden Doors, Waterproof in Building and Roof	✓	✓	✓
7.	Cable Laying: Excavation, Installation of Cable and Backfill, etc.	✓	✓	✓
8.	Sand Blasting	✓	✓	
9.	Testing & Correction, Construction of EVA	✓	✓	
Astounding Asia (CW-02)				
1.	Builder's and finishing work, E&M work, Window and Door Installation and Fitting out Works at the New Bird House	✓	✓	
2.	E&M and Fitting out Works and Paving Works at the Flight Exercise Aviary	✓	✓	
3.	Underground Drainage Works at Main Aviary	✓	✓	
4.	Underground Drainage Works and Superstructure Works at Astounding Asia Restaurant	✓	✓	
5.	Builder's and Finishing work and E&M work, at Astounding Asia Restaurant			✓
6.	Pipe Piling Works for Footing, MVAC Culvert (RC Works) and Superstructure Works (RC Works) and Structure Works for Artificial Rockworks at the New Panda Habitat	✓	✓	
7.	Excavation Works for Footing F1, Underground Drainage Works, Superstructure Works (RC Works) and Builder's and Finishing Works at the New Panda Habitat,			✓
8.	Tree Transplantation at Bird Theatre			✓
9.	External Drainage, Services Pipelines and Ducting Works and Relocation of Hoarding	✓	✓	✓

1.6 A layout plan of the Project is provided in **Figure 1.2** to **Figure 1.3, Figure 1.6** and **Figure 1.7**. Figure 1.2 and 1.3 shows the layout plan of CI-05 waterfront work site and CI05 Summit work site. Figure 1.6 shows the layout plan of CS-01 vet hospital. Figure 1.7 shows the layout plan of CW-02 Astounding Asia.

1.7 The status of submissions until 25 March 2008 as specified in the Environmental Permit No.

EP-249/2006/A is presented in **Table 1.3**.

Table 1.3 Status of Environmental Submissions

EP-249/2006/A Condition	Submission	Revision	Status
Contract CI05			
1.12	Notification of Commencement Date of construction stage	Dated 14 February 2007	Submitted to EPD on 15 February 2007
2.3	Management Organization	Dated 15 December 2006	Submitted to the EPD on 29 December 2006.
2.4	Construction Programme	2 Dated 14 February 2007	Submitted to the EPD on 15 February 2007
2.13	Drainage Proposal	A2 Dated 26 April 2007	Placed in EIAO Register Office for public information on 30 May 2007
2.14	Silt Curtain Proposal	B Dated 30 January 2007	Placed in EIAO Register Office for public information on 1 March 2007
2.18	As-built Drawing for Enhancement Works for Pond 35	A Dated 17 July 2007	Placed in EIAO Register Office for public information on 7 August 2007
2.20a	Transplantation Proposal for Uncommon Plant Species	D Dated 27 August 2007	Placed in EIAO Register Office for public information on 25 September 2007
2.20b	Detailed Compensatory Planting As-built Drawing	A Dated 4 October 2007	Placed in EIAO Register Office for public information on 30 October 2007
2.21	Waste Management Plan	D Dated 27 August 2007	Placed in EIAO Register Office for public information on 25 September 2007
3.3	Baseline Air Quality and Noise Monitoring Report	B Dated 28 February 2007	Submitted to the EPD on 5 March 2007
3.3	Baseline Coral Survey Report	A Dated 13 June 2007	Submitted to the EPD on 18 June 2007
All Contract (including CI05, CS01 and CW02)			
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for January to March 2008	A Dated 9 May 2008	Submitted to the EPD on 15 May 2008
3.4	Monthly EM&A Report for April 2008	A Dated 13 May 2008	Submitted to the EPD on 15 May 2008
3.4	Monthly EM&A Report for May 2008	A Dated 13 June 2008	Submitted to the EPD on 17 June 2008
3.4	Monthly EM&A Report for June 2008	A Dated 12 July 2008	Submitted to the EPD on 16 July 2008
CityBus Limited			
2.5	Written Notice on Completion of Total Petroleum Hydrocarbon (TPH) Contaminated Soil	Dated 17 January 2007	Submitted to the EPD on 22 January 2007

EP-249/2006/A Condition	Submission	Revision	Status
	Disposal		
2.6	Written Notice on Completion of Solidification Treatment of Heavy Metals Contaminated Soil	Dated 17 January 2007	Submitted to the EPD on 22 January 2007.
2.8	As-built Remediation Plan	3 Dated 14 March 2007	Submitted to the EPD on 16 March 2007
Hong Kong School of Motoring Ltd.			
2.10	Confirmation letter to confirm that land contamination remediation works within HKSM has been completed	Dated 13 April 2007	Submitted to EPD on 13 April 2007.

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Locations

2.1 The EM&A Manual designates locations for the CET to monitor environmental impacts in terms of air quality, noise and ecology from the Project. The locations of air quality, noise and ecology monitoring and their control station(s) if applicable, are depicted in **Figure 1.4** and **Figure 1.5**. **Appendix B** gives the details of the monitoring programme.

Monitoring Methodology and Calibration Details

2.2 All monitoring works were conducted and monitoring equipment was regularly calibrated in accordance with the EM&A Manual. The calibration certificates were provided in the Monthly EM&A report. Summary of calibration are attached in **Appendix C**.

Environmental Quality Performance Limits (Action and Limit Levels)

2.3 The environmental quality performance limits, i.e. Action and Limit levels (AL Levels) were derived from the baseline monitoring results and/or other approaches as detailed in the EM&A Manual. Should the measured environmental quality parameters exceed the AL Levels, the respective action plans would be implemented. The AL Levels for each environmental parameter are given in **Appendix D**.

Environmental Mitigation Measures

2.4 Relevant mitigation measures as recommended in the Project EIA Report had been stipulated in the EM&A Manual and EMIS for the Contractor to adopt. A list of mitigation measures is given in **Appendix G**.

3. MONITORING RESULTS

Air Quality

3.1 No exceedance of Action and Limit Level for 1-hour TSP and 24-hour TSP was recorded in the reporting quarter. Graphical presentations of the air quality monitoring results are provided in **Appendix E**.

Noise

3.2 Noise monitoring was carried out for daytime (0700-1900) and evening time (1900 -2300) at four stations in the reporting quarter. No night time and holiday noise monitoring was scheduled in the reporting quarter. Graphical presentations of the noise monitoring results are provided in **Appendix F**.

3.3 All measured noise levels during daytime and evening time were below the AL levels in the reporting quarter.

Terrestrial Ecology

3.4 Three sessions of terrestrial ecology monitoring was conducted in the reporting quarter. The monitoring results showed that the survival rate of Sword-leaved Orchid was in the range of 95.6%-100%. The survival rate of Balloon Flower was 93.3% and the survival rate of Chinese Lily was 100% until June 2008. Two of Sword-leaved Orchids were observed not in healthy condition since the following potential causes:

- The plant are naturally growing among shrubland and the plants are adopted to the soil condition and shading environment. While, the soil and shading condition at the plant nursery is different.
- The soil at the plant nursery is quite dry and frequency of watering was found not enough. Some big trees are growing around the plant nursery and they consume groundwater and also contribute to dry soil condition.

3.5 Due to the survival rate of Sword-leaved Orchid in May & June 2008 decreased compared to the survival rate in April 2008, the following mitigation measures were implemented since May 2008:

- To improve soil fertility by add some fertile soil and fertilize; and
- To watering the plants twice a day in non-raining days.

3.6 Summary of results are shown in **Appendix K** and photos for the plants were provided in the Monthly EM&A Report.

Marine Ecology

3.7 One session of coral monitoring was scheduled for Site 1-5 & Control Station in the reporting quarter. The results showed that there was no exceedance of Action and Limit Levels. Details of results are shown in **Appendix J**.

4. AUDIT RESULTS

Implementation Status of Environmental Mitigation Measures

4.1 This was the fifth quarter of Ocean Park Master Redevelopment Project including Contract CI05, CS01 and CW02. The major activities were summarized in Table 1.2. The Contractor and sub-Contractor had implemented most of the mitigation measures to minimize the environmental impacts due to construction activities. Regarding a few minor observations as noted during ET's site inspections, the Contractor and sub-Contractor rectified all the problems and no major environmental impact was induced.

4.2 IEC's audits were carried in monthly basis (i.e. on 25 April 2008, 23 May 2008 and 20 June 2008). No non-compliance was issued for CI05, CS01 and CW02. 13 observations were recorded for CI05 during the reporting quarter, 9 and 12 observations were recorded for CS01 and CW02 respectively during the reporting quarter. Observations details were provided in the Monthly EM&A report.

4.3 The updated implementation status of environmental mitigation measures (EMIS) is given in **Appendix G**.

CI05

4.4 Sandbag bund was provided to the sludge pond at Conveyor Crusher Area . However, minor leakage of silty water was observed. The Contractor shall provide bund which was tightly sealed. This item was closed on 23 May 2008.

4.5 A few oil drums were not provided with drip trays at Adit Portal Tunnel Entrance. The Contractor shall ensure drip trays were provided to all oil drums on site. This item was closed on 23 May 2008.

4.6 Empty oil drums were placed on bareground at Waterfront Soft Ground Tunnel. The Contractor shall store them in chemical storage area and dispose them properly as chemical wastes. This item was closed on 23 May 2008.

4.7 Exposed slope surfaces were not covered entirely at Waterfront Access Road. The Contractor shall ensure all the exposed slope surface was covered by tarpaulin. This item was closed on 23 May 2008.

4.8 Haul road was dry and dusty at the Summit Access Road. The Contractor shall ensure watering by water trucks are applied frequently. This item was closed on 20 June 2008.

4.9 Stockpiles of backfill and construction material were uncovered at Hong Kong Police Training School. The Contractor shall ensure all idle stockpiles on site were covered with tarpaulin sheets. The Area was generally completed.

4.10 The Crusher Area was generally dusty due to dry weather. The Contractor shall apply water spray more frequently and water spraying would be provided continuously.

4.11 The sedimentation tank was accumulated with sand and rock at Summit Terminus. The Contractor was reminded to maintain the tank more frequently.

4.12 The flexible curtain hanged at the outlet of the crusher was torn. The Contractor shall replace the torn curtains as soon as possible.

4.13 Two oil drums were observed without drip tray at Waterfront. The Contractor shall provide drip trays to all oil drums on site.

CS01

4.14 The sedimentation tank was accumulated with mud. The Contractor shall maintain the tank more frequently. This item was closed on 23 May 2008.

4.15 The temporary drainage channel was still blocked by rocks and construction material. The Contractor shall ensure that it is clear of blockage at all times and this was in progress continuously.

4.16 Stockpile of construction material was not covered with tarpaulin or other means. The Contractor shall remove or cover the material and this item was closed on 20 June 2008.

4.17 Drip tray under the generator was accumulated with water. The Contractor was reminded to pump away the water on the drip tray.

4.18 Stagnant water was accumulated in the trench. The Contractor was reminded to keep good housekeeping.

4.19 Construction waste was scattered along the slope surface and at the site entrance. The Contractor was reminded to clean the waste on the slope in regular basis.

CW02

4.20 Oil drum were observed not provided with drip tray near the generator room. The Contractor shall ensure drip trays were provided to all oil drums on site and this item was closed on 20 June 2008.

4.21 Stockpile located close to the tree at New Panda Habitat was uncovered. The Contractor shall ensure all idle stockpiles on site were covered with tarpaulin sheets and this item was closed on 23 May 2008.

4.22 Rocks and sand were accumulated along the permanent drainage channel at New Panda Habitat. The Contractor shall ensure that it was clear of blockage at the times and this item was closed on 23 May 2008.

4.23 The outlet of sedimentation tank was blocked by soil and rocks. The Contractor shall ensure that the discharge point was clear of blockage at the times and this item was closed on 23 May 2008.

4.24 Idle stockpile located next to the Bird House was not covered with tarpaulin or other means. The Contractor shall ensure all idle stockpiles on site were covered and this item was closed on 20 June 2008.

4.25 Storm drains around the Bird Flight Exercise aviary was still deposited with sandy material. The Contractor was reminded to clean up the sandy material at the storm drains and this item was still in progress.

4.26 Stagnant water pond was observed at the Bird House. The Contractor was reminded to keep good housekeeping and the stagnant water was removed.

4.27 Construction waste was accumulated around the site. The Contractor was reminded to remove the waste in regular basis and this item was still in progress.

4.28 Stockpiles of excavated material at Wing Hing Storage Area (Previous CI12B) were not covered with tarpaulin or other means and the material would be removed.

4.29 The Contractor was reminded to provide wheel wash to all vehicles leaving the Wing Hing Storage Area and this item was rectified as the hoarding was re-arranged.

Status of Environmental Licensing and Permitting

4.30 Environmental licenses and permits including Environmental Permit for the Project, construction noise permits, chemical waste producer and effluent discharge license were in place and valid during the reporting quarter. A summary status of licences and permits is given in **Appendix H**.

Advice on Materials Management Status

4.31 **Table 4.1** summarises the estimated amounts of different types of materials generated from the Project during the reporting quarter. The materials were reused in other projects specified as below:

- TKOGV (Green Valley), the soil materials were reused as the topsoil of landfill. This would be delivered by trucks. The delivery was started in May 2007 and no excavated materials were delivered to TKOGV in the reporting quarter.

- NW-SW (Swire Sita), the soil materials were reused as the topsoil of landfill. This would be delivered by barges. The delivery was started in September 2007 and excavated materials were delivered to the site within the reporting quarter.

- Central Reclamation Phase III, the excavated materials were reused as forming an access road. This would be delivered by barges. The delivery was started in November 2007 and excavated materials were delivered to the site within the reporting quarter.

- Yuen Long & Tuen Mun DSD Project, the excavated materials were reused in the Project. This would be delivered by barges to Tuen Mun berthing area and transported by their Contractor's trucks to the sites. The delivery was started in May 2008 and excavated materials were delivered to the site within the reporting period.

- Ma On Shan Waterfront Promenade Project, the rock materials were reused as the seawall layer. This would be delivered by barges. The delivery was started in December 2007 and excavated materials were delivered to the site within the reporting quarter.

- Shenzhen Airport Extension, the rock materials (size less than 300mm) would be exported as usable materials by barges to the Shenzhen Airport Extension site for site formation works. The rock materials would be exported as goods in compliance with the Import and Export Ordinance. The delivery was started by the end of September 2007 and no rock materials were delivered to Shenzhen Airport Extension in the reporting quarter.

- Hung Wan Quarry at Zhuhai, it was proposed to EPD on 8 November 2007 and rock materials were delivered to Zhuhai within the reporting quarter for reuse purpose. This would be delivered by barges.

- Tai Shing Quarry, Jiangmen – Mainland of China, the rock materials would be exported as usable materials by DBJV subcontractor's barges to the Tai Shing Quarry for reused. The rock materials would be exported as goods in compliance with the Import and Export Ordinance. The delivery was started in May 2008. Rock materials were delivered to Tai Shing Quarry within the reporting month.

Table 4.1 Estimated Amounts of Different Types of Materials Generation from April 2008 to June 2008

Materials Type	Estimated Amount (tonnes)			Disposal Locations
	Apr 08	May 08	Jun 08	
C&D waste	120.17 tonnes	150.56 tonnes	81.73 tonnes	SENT Landfill
	--	4.85 tonnes	--	NENT Landfill
	--	--	--	WENT Landfill
	61.20 tonnes	98.36 tonnes	191.99 tonnes	TKOSF
	--	--	--	TMSF
Excavated Material (mainly soil)	5,295.22 tonnes	7,148.47 tonnes	6,440.21 tonnes	QBBP
	--	85.77 tonnes	29.95 tonnes	TKOFB
	--	--	11.27 tonnes	TMFB
	--	--	--	Green Valley
	5,740.53 tonnes	10,305.48 tonnes	6,991.55 tonnes	Swire Sita
	194,878.04 tonnes	59,055.00 tonnes	152,625.00 tonnes	Central Reclamation Phase III
	--	1,557.00 tonnes	--	Ma On Shan Waterfront Promenade
	--	9,434.00 tonnes	--	Yuen Long & Tuen Mun DSD Project
Rock Material	--	--	--	Shenzhen Airport Extension
	--	--	--	Hung Wan Quarry
	--	24,901.00 tonnes	40,937.00 tonnes	Tai Shing Quarry, Jiangmen
Chemical waste	--	--	--	Collected by licensed collector
General waste	63.0m^3	63.0m^3	58.0m^3	Collected by licensed collector

Notes: All figures are in tonnes unless specific.

5. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

Summary of Exceedances

5.1 In the reporting quarter, no exceedance was recorded in the air quality monitoring events, noise monitoring events, terrestrial ecology monitoring events and coral monitoring events.

Review of the Reasons for and the Implications of Non-compliance

5.2 As there was no exceedance or non-compliance during the reporting quarter. Thus, no further action was required.

Summary of Actions Taken

5.3 The Contractor and sub-Contractor generally implemented all the required mitigation measures to suppress the environmental impacts. As no exceedance was recorded in the reporting quarter, no further action was required.

6. ENVIRONMENTAL COMPLAINTS

Complaints Log

6.1 During this quarter, one complaint was received.

6.2 1 complaint was received on 23 May 2008 from the local resident through EPD regarding noise nuisance from the heavy vehicles travelling along NLS Road within the restricted hours. With regards to the complaint, action was taken as follows:

- The temporary steel plates at NLS Road was ensured to be placed tight without loose and gap and daily checking on the steel cover plate was also performed.
- Heavy vehicle drivers was informed not step on the metal plate when driving on NLS Road and also reduce the vehicle's speed when driving along NLS Road.

Complaints Handling Procedure

6.3 All complaints will be handled in accordance with the EM&A Manual. The complaint handling procedure and the complaint log are provided in **Appendix I.**

7. NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

7.1 No summon or prosecution related to environmental issues was made against the Project within the reporting quarter.

8. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

8.1 The implemented EM&A programme ensured that any environmental impacts to the receivers would be readily detected and timely actions could be taken to rectify any non-compliance. Assessment and analysis of monitoring results collected demonstrated the environmental acceptability of the Project. Weekly site inspections ensured that the EIA recommendations were effectively implemented.

8.2 The CET carried out air quality, noise monitoring, terrestrial ecology monitoring, coral monitoring and weekly site inspection in accordance with the EM&A Manual. No exceedance or non-compliance was recorded during this quarter.

8.3 No exceedance of Action and Limit Level for 1-hour TSP, 24-hour TSP, daytime and evening time noise monitoring were recorded in the reporting quarter.

8.4 Three sessions of terrestrial ecology monitoring was conducted in the reporting quarter. The monitoring results showed that the survival rate of Sword-leaved Orchid was in the range of 95.6%-100%. The survival rate of Balloon Flower was 93.3% and the survival rate of Chinese Lily was 100% until June 2008. Two of Sword-leaved Orchids were observed not in healthy condition since the following potential causes:

- The plant are naturally growing among shrubland and the plants are adopted to the soil condition and shading environment. While, the soil and shading condition at the plant nursery is different.
- The soil at the plant nursery is quite dry and frequency of watering was found not enough. Some big trees are growing around the plant nursery and they consume groundwater and also contribute to dry soil condition.

8.5 Due to the survival rate of Sword-leaved Orchid in May & June 2008 decreased compared to the survival rate in April 2008, the following mitigation measures were implemented since May 2008:

- To improve soil fertility by add some fertile soil and fertilize; and
- To watering the plants twice a day in non-raining days.

8.6 One session of coral monitoring was scheduled for Site 1-5 & Control Station in the reporting quarter. The results showed that there was no exceedance of Action and Limit Levels.

8.7 One complaint was received in the reporting quarter. The complaint was received on 23 May 2008 from the local resident through EPD regarding noise nuisance from the heavy vehicles travelling along NLS Road within the restricted hours. With regards to the complaint, action was taken as follows:

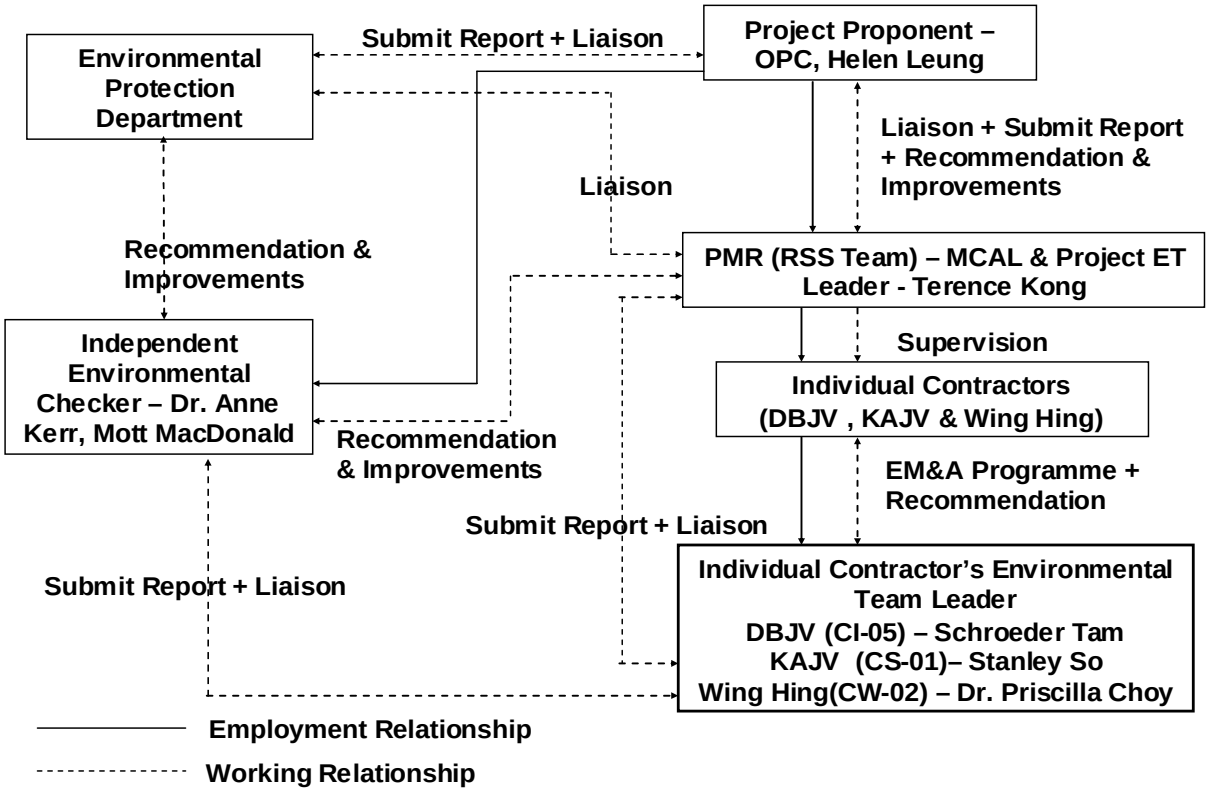
- The temporary steel plates at NLS Road was ensured to be placed tight without loose and gap and daily checking on the steel cover plate was also performed.

- Heavy vehicle drivers was informed not step on the metal plate when driving on NLS Road and also reduce the vehicle's speed when driving along NLS Road.

8.8 No summons and prosecutions related to environmental issues were made against the Project in the reporting quarter.

Figures

Figure 1.1 Management Organization



				DESIGNED BY	BLo	MAIN CONTRACTOR :	CLIENT :
				DRAWN BY	BLo	Dragages-Bouygues JV 寶嘉-布依格聯營	香港海洋公園 OCEAN PARK HONG KONG
				CHECKED BY	GCh		
				IN CHARGE	DNg		
A	02APR2007	GCh	FIRST ISSUE	DATE	02APR2007		
REV.	DATE	BY	DESCRIPTION				

PROJECT TITLE :

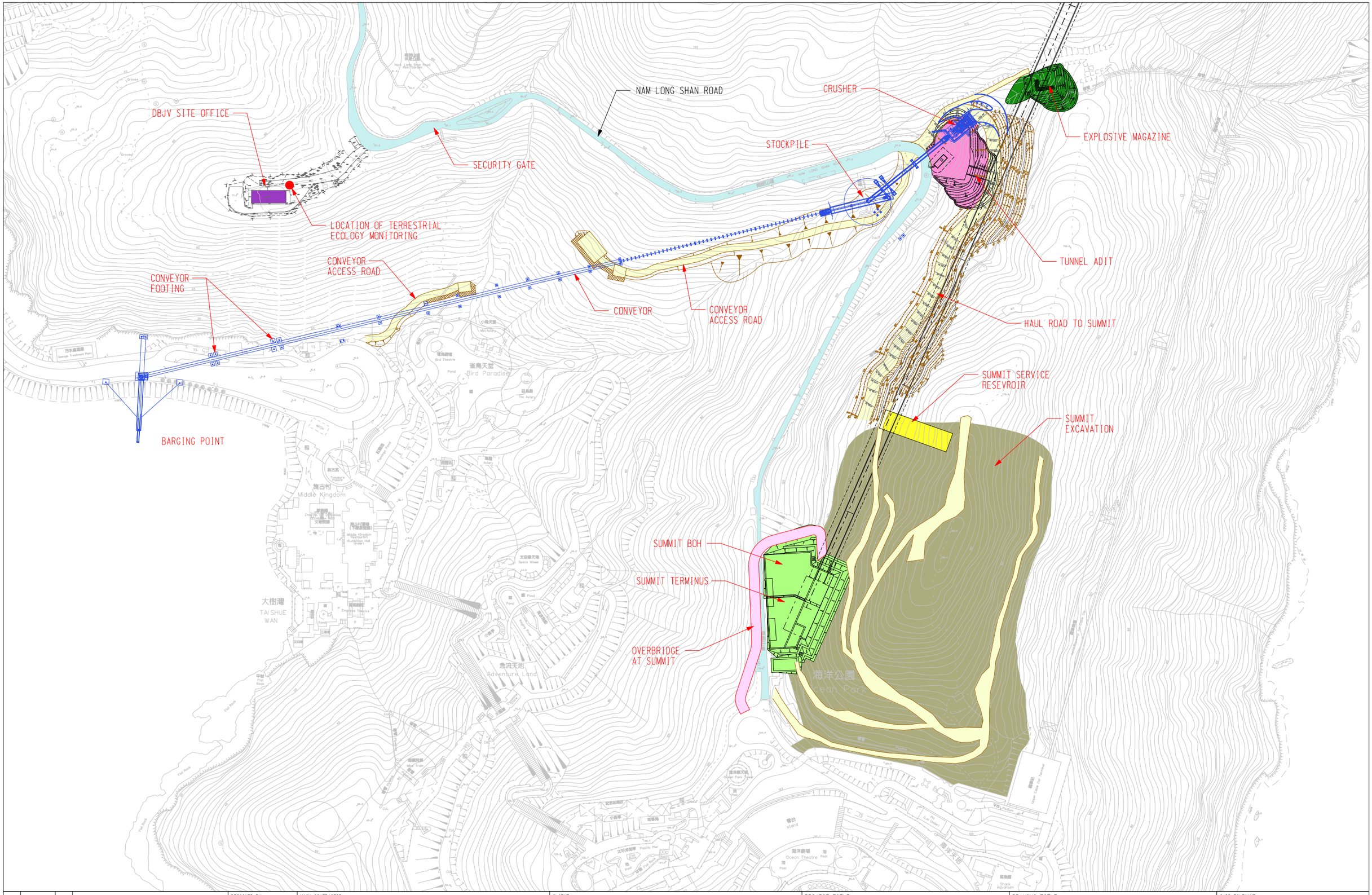
OCEAN PARK REDEVELOPMENT

Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE :

FIGURE 1.2
LAYOUT OF WORK SITE
(WATERFRONT)

CADD FILENAME :	01ENV0013A.DGN
DATE :	02APR2007
SCALE :	1 : 1500 @ A3
DRAWING NUMBER :	DBJV/CI05/01/ENV/0013
REV.	A



REV.	DATE	BY	DESCRIPTION
B	10AUG2007	GCb	FIRST ISSUE
A	02APR2007	GCb	FIRST ISSUE

DESIGNED BY BLo
DRAWN BY BLo
CHECKED BY GCb
IN CHARGE DNg
DATE 02APR2007

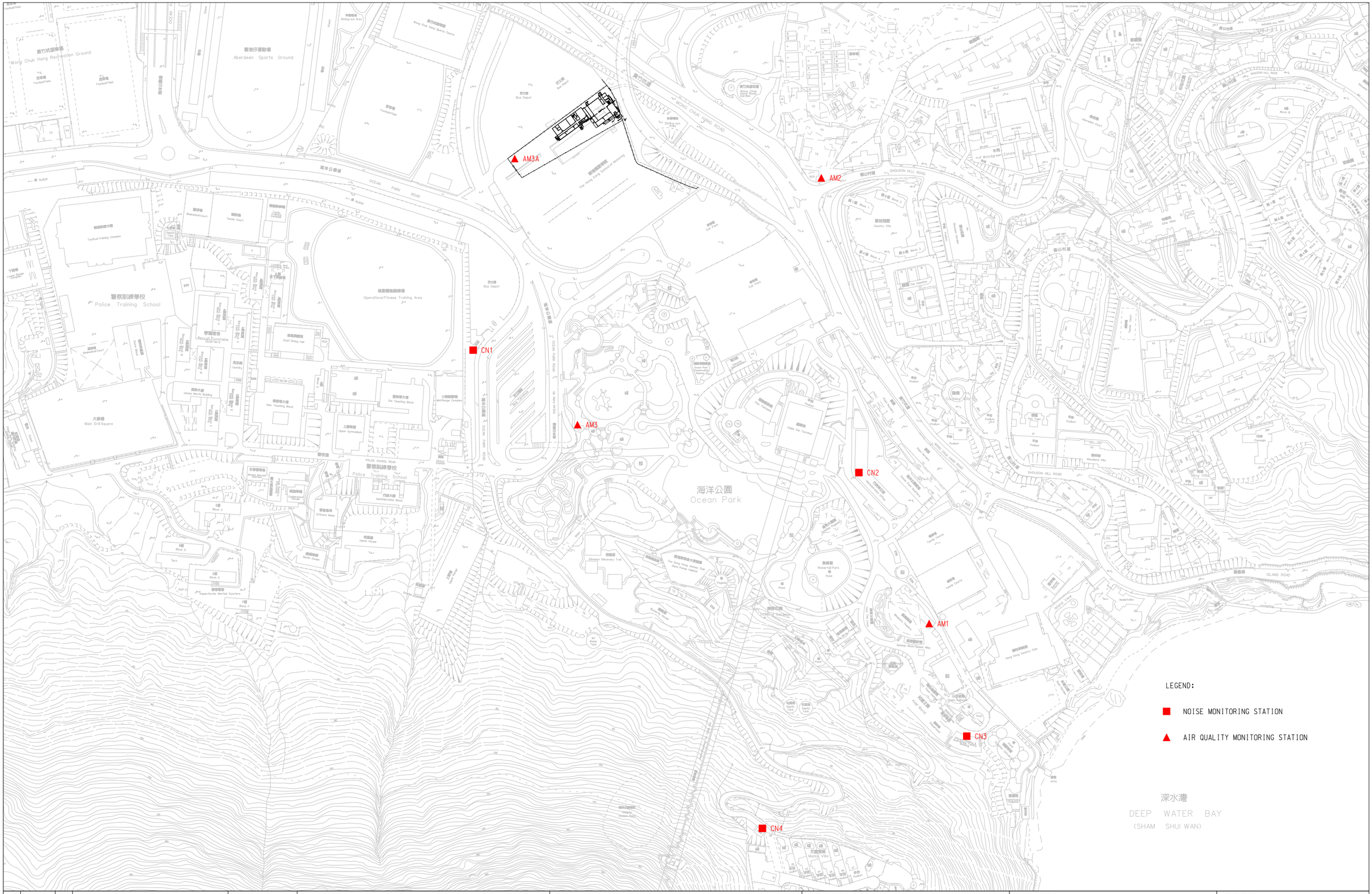
MAIN CONTRACTOR :
Dragages-Bouygues JV 寶嘉-布依格聯營

CLIENT :
香港海洋公園
OCEAN PARK HONG KONG

PROJECT TITLE :
OCEAN PARK REDEVELOPMENT
Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE :
FIGURE 1.3
LAYOUT OF WORK SITE (SUMMIT) AND LOCATION OF TERRESTRIAL ECOLOGY MONITORING

CADD FILENAME : 01ENV0014B.DGN
DATE : 10AUG2007
SCALE : 1 : 2500 @ A3
DRAWING NUMBER : DBJV/CI05/Q1/ENV/0014
REV. B



REV.	DATE	BY	DESCRIPTION
C	31JUL2007	STa	PROPOSED AM3 RELOCATED
B	25JUN2007	STa	PROPOSED AM3 ADDED
A	02APR2007	STa	FIRST ISSUE

DESIGNED BY	STa
DRAWN BY	BLo
CHECKED BY	STa
IN CHARGE	YTS
DATE	02APR2007

MAIN CONTRACTOR :

Dragages-Bouygues JV 寶嘉-布依格聯營

CLIENT :

香港海洋公園
OCEAN PARK HONG KONG

PROJECT TITLE :

OCEAN PARK REDEVELOPMENT

Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE :

FIGURE 1.4
AIR QUALITY AND NOISE MONITORING STATIONS LOCATION PLAN

CADD FILENAME :	01ENV0015C.DGN
DATE :	31JUL2007
SCALE :	1 : 3000 @ A3
DRAWING NUMBER :	DBJV/CI05/01/ENV/0015
REV.	C

REV.	DATE	BY	DESCRIPTION
A	02APR2007	STa	FIRST ISSUE

DESIGNED BY STa
DRAWN BY BLo
CHECKED BY STa
IN CHARGE YTS
DATE 02APR2007

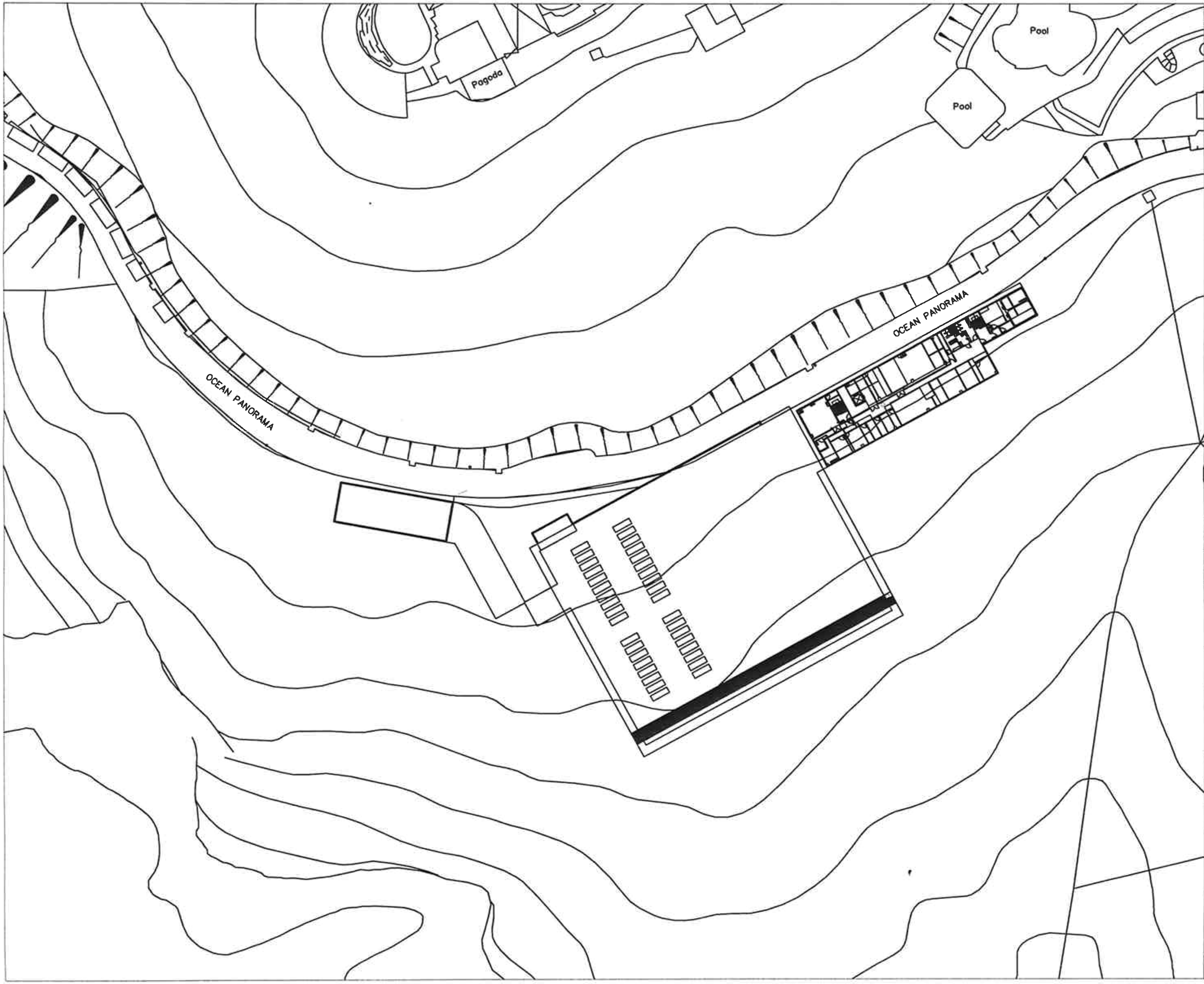
MAIN CONTRACTOR :
Dragages-Bouygues JV 寶嘉-布依格聯營

CLIENT :
香港海洋公園
OCEAN PARK HONG KONG

PROJECT TITLE :
OCEAN PARK REDEVELOPMENT
Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE :
Figure 1.5
LOCATIONS OF SUBTIDAL MONITORING STATION

CADD FILENAME :	01ENV0016A.DGN
DATE :	02APR2007
SCALE :	1 : 7500 @ A3
DRAWING NUMBER :	DBJV/CI05/01/ENV/0016
REV.	A



B.O.O. REF.

REV.	DESCRIPTION	CHECKED	
A	FIRST ISSUE	ST	03/10

香港海洋公園 OCEAN PARK HONG KONG

OCEAN PARK REDEVELOPMENT

CONTRACT NO. CS01
OCEAN PARK VET HOSPITAL

SITE LOCATION PLAN

Figure 1.6

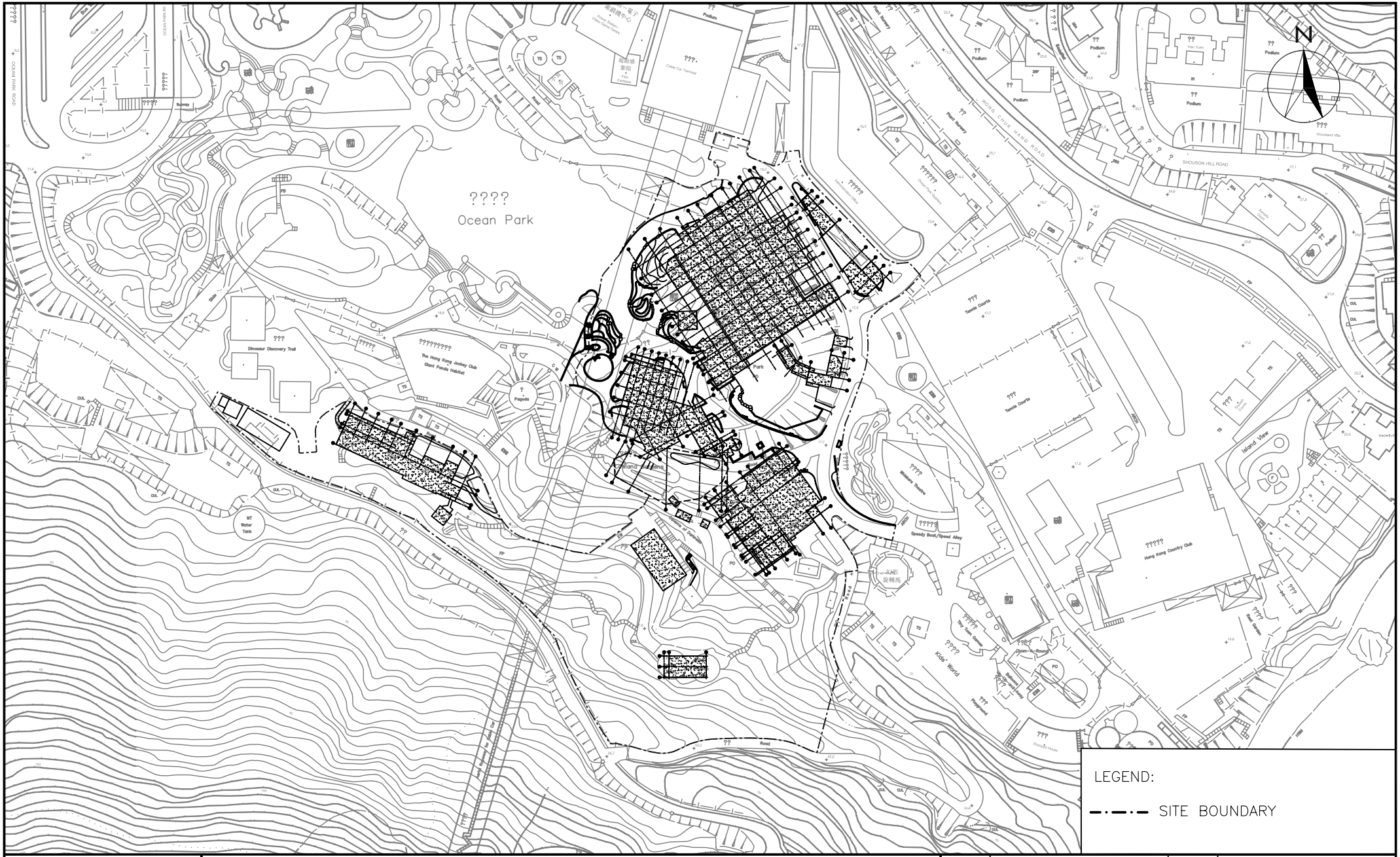
SCALE	DATE
N. T. S.	3-10-2007
DRAWN BY: ST	CHECKED BY: DC

PREPARED BY: MAUNSELL CONSULTANTS ASIA LTD.

CONSULTANT: MAUNSELL | AECOM
Maunsell Consultants Asia Ltd.
茂盛(亞洲)工程顧問有限公司
In association with:
AEDAS EDAW LEVETT & BAILEY

MAIN CONTRACTOR: Kaden 英都 ATAL

DWG. NO. KAJV/CS01/T/1019 REV. A



CINOTECH
Cinotech Consultants Limited

CONTRACT NO. CW02
OCEAN PARK REDEVELOPMENT PROJECT – ASTOUNDING ASIA

SITE LAYOUT PLAN

SCALE	A4 1:2000	DATE	AUG 2007
CHECK	EW	DRAWN	TL
JOB No.	MA7025	DRAWING No. Figure 1.7	REV —

F:\PROJECT_DRAWINGS\MA7025\EM&A MANUAL\FIGURE_1.DWG

Appendix A

APPENDIX A – CONTACTS OF KEY ENVIRONMENTAL PERSONNEL

Company	Contact Person	Position	Telephone No.
Ocean Park Corporation	Helen LEUNG	Project Manager	2910 3106
Maunsell Consultants Asia Ltd	Edmund PANG	Project Manager Representative (PMR)	2871 5888
	Terence KONG	Project ETL	2910 3151
Mott MacDonald Hong Kong Ltd	Dr. Anne KERR	Independent Environmental Checker	2828 5757
Dragages-Bouygues J.V. (for Contract CI05)	YT SO	Project QSE Manager	2555 4110
	Schroeder TAM	Contractor's ETL	2555 4113
Kaden-ATAL J.V. (for Contract CS01)	Stanley So	Contractor's ETL	9653 2470
W. Hing Construction Co., Ltd. (for Contract CW02)	Billy Lee	Contractor's Project Manager	6193 4096
Cinotech Consultant Ltd. (for Contract CW02)	Dr. Priscilla Choy	Contractor's ETL	2151 2089

Appendix B

APPENDIX B – ENVIRONMENTAL MONITORING PROGRAMME

From 26 March 2008 to 25 June 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
March 2008						
		25 1-hr TSP 24-hr TSP NM (D)	26 1-hr TSP NM (E)	27	28 1-hr TSP	29
30	31 1-hr TSP 24-hr TSP NM (D)					
April 2008						
		1 1-hr TSP	2 1-hr TSP NM (E)	3	4	5 1-hr TSP 24-hr TSP
6	7 1-hr TSP NM (D)	8	9 1-hr TSP NM (E)	10	11 1-hr TSP 24-hr TSP	12
13	14 1-hr TSP NM (D)	15	16 1-hr TSP NM (E)	17 1-hr TSP 24-hr TSP	18 1-hr TSP TM	19
20	21 1-hr TSP NM (D)	22	23 1-hr TSP 24-hr TSP NM (E)	24	25 1-hr TSP	26
27	28 1-hr TSP NM (D)	29 1-hr TSP 24-hr TSP	30 1-hr TSP NM (E)			
May 2008						
				1	2 1-hr TSP	3
4	5 1-hr TSP 24-hr TSP NM (D)	6	7 1-hr TSP NM (E)	8	9 1-hr TSP	10 1-hr TSP 24-hr TSP SM

APPENDIX B – ENVIRONMENTAL MONITORING PROGRAMME

From 26 March 2008 to 25 June 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
May 2008						
11	12	13 1-hr TSP NM (D)	14 1-hr TSP NM (E)	15	16 1-hr TSP 24-hr TSP TM	17
18	19 1-hr TSP NM (D)	20	21 1-hr TSP NM (E)	22 1-hr TSP 24-hr TSP	23 1-hr TSP	24
25	26 1-hr TSP NM (D)	27	28 1-hr TSP 24-hr TSP NM (E)	29	30 1-hr TSP	31
June 2008						
1	2 1-hr TSP NM (D)	3 1-hr TSP 24-hr TSP	4 1-hr TSP NM (E)	5	6 1-hr TSP	7 1-hr TSP
8	9	10 1-hr TSP 24-hr TSP NM (D)	11 1-hr TSP NM (E)	12	13 1-hr TSP	14 1-hr TSP 24-hr TSP
15	16 1-hr TSP NM (D)	17 TM	18 1-hr TSP NM (E)	19	20 1-hr TSP 24-hrTSP	21
22	23 1-hr TSP NM (D)	24	25 1-hr TSP NM (E)			

Notes: NM (D) denotes Daytime Noise Monitoring.
NM (E) denotes Evening Noise Monitoring if construction work is in progress.
NM (H) denotes Holiday Noise Monitoring if construction work is in progress.
SM denotes Subtidal Monitoring.
TM denotes Terrestrial Ecology Monitoring.

Appendix C

APPENDIX C – CALIBRATION DETAILS

Air Quality Monitoring Equipments

Monitoring Location	AM1	AM2	AM3/AM3A
High Volume Sample/Dust Trak Serial No.	1174	1177	9998
Sampler Identification	ET / EA / 003 / 08	ET / EA / 003 / 07	ET / EA / 003 / 12
Date of Calibration	03 March 2008	03 March 2008	03 March 2008
Calibration Due Date	02 May 2008	02 May 2008	02 May 2008
Result	Good	Good	Good

Noise Monitoring Equipments

Monitoring Location	CN1, CN2, CN3 & CN4
Sound Level Meter Brand Name and Model	Rion NL-31
Serial No.	01120826
Date of Calibration	17 April 2007
Calibration Due Date	16 April 2008
Result	Good

APPENDIX C – CALIBRATION DETAILS

Air Quality Monitoring Equipments

Monitoring Location	AM1	AM2	AM3/AM3A
High Volume Sample/Dust Trak Serial No.	1174	1177	9998
Sampler Identification	ET / EA / 003 / 08	ET / EA / 003 / 07	ET / EA / 003 / 12
Date of Calibration	05 May 2008	05 May 2008	05 May 2008
Calibration Due Date	04 July 2008	04 July 2008	04 July 2008
Result	Good	Good	Good

Noise Monitoring Equipments

Monitoring Location	CN1, CN2, CN3 & CN4
Sound Level Meter Brand Name and Model	Rion NL-31
Serial No.	00773032
Date of Calibration	26 November 2007
Calibration Due Date	25 November 2008
Result	Good

Appendix D

APPENDIX D - ACTION AND LIMIT LEVELS

Table D.1 Action and Limit Levels for 1-hour average TSP and 24-hour average TSP Monitoring

Monitoring Location	24-hr TSP (μg/m^3)		1-hr TSP (μg/m^3)	
	Action Level	Limit Level	Action Level	Limit Level
AM1	183	260	440	500
AM2	181	260	500	500
AM3A	194	260	500	500

Table D.2 Action and Limit Levels for Daytime, Evening & Night-time Noise Monitoring

Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A) *
1900-2300 hrs on normal weekdays; and 0700-1900 hrs on holidays		60/65/70 dB(A) **
2300-0700 hrs of next day		45/50/55 dB(A) **

* reduce to 70dB(A) for school and 65dB(A) during school examination periods, if applicable

** to be selected based on the Area Sensitivity Rating of A/B/C, and the conditions of the CNP(s) must be followed

Table D.3 Action and Limit Levels for Subtidal Monitoring

Parameter	Action Level Definition	Limit Level Definition
Sedimentation	If during Impact Monitoring a 15% increase in the percentage of sediment cover on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of sediment cover occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.
Bleaching	If during Impact Monitoring a 15% increase in the percentage of bleaching (bleached white) on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of bleaching (bleached white) occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of partial mortality occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.

Appendix E

Figure E.1 1-hr TSP monitoring results of Monitoring Station AM1, AM2 & AM3/AM3A

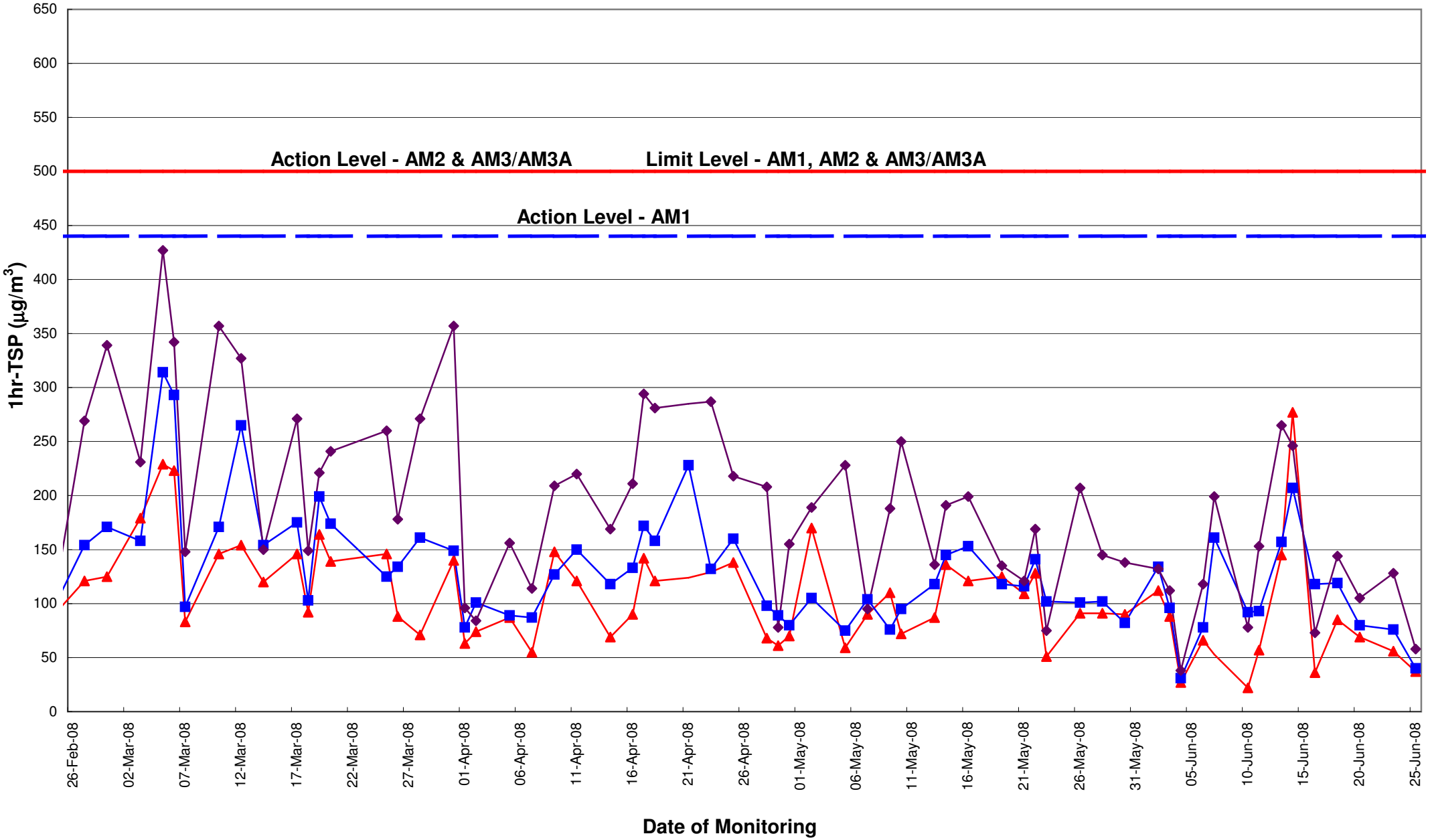
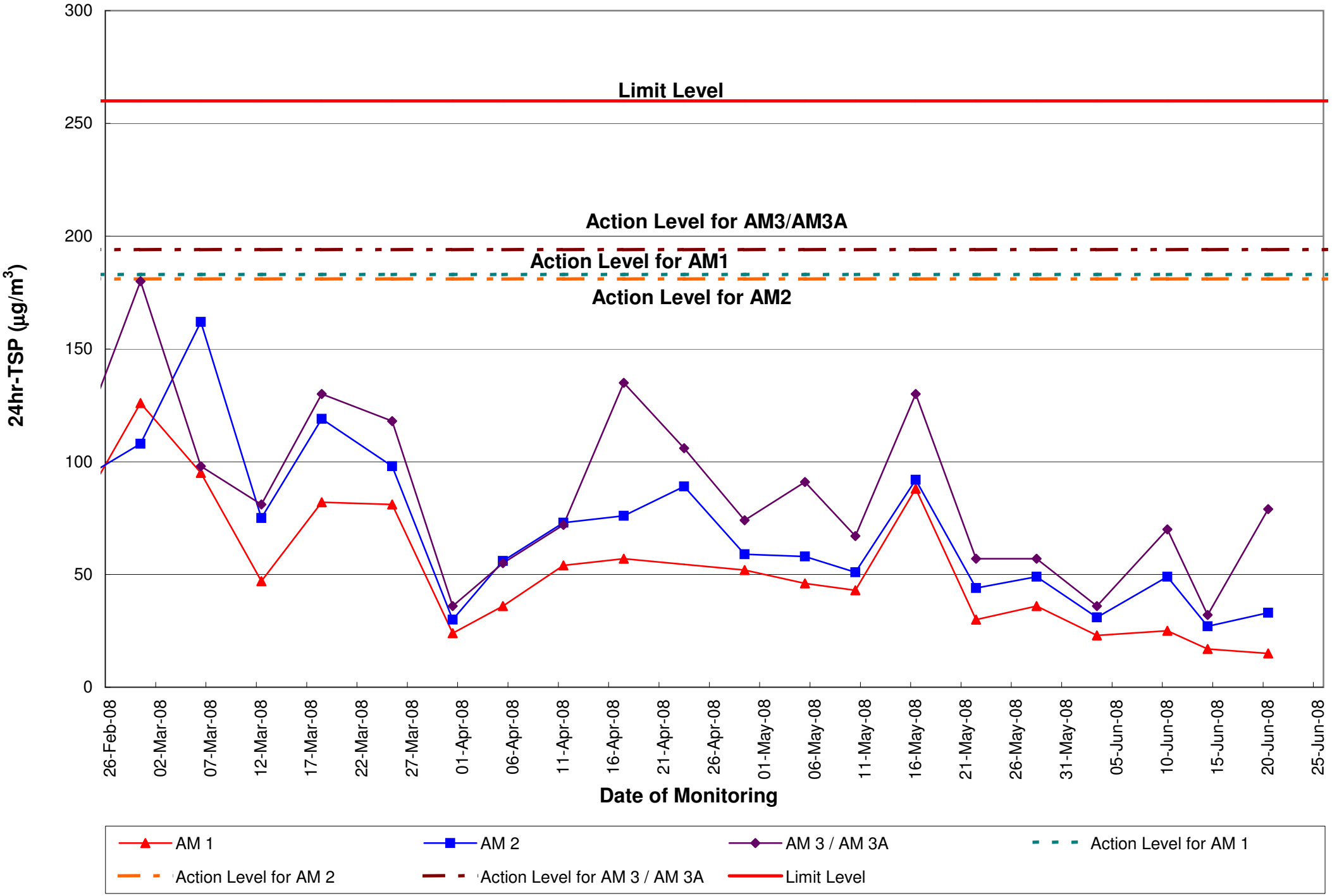


Figure E.2 24-hr TSP monitoring results of Monitoring Station AM1, AM2 & AM3/AM3A



Appendix F

Fig F.1 - Daytime Noise Monitoring Results of Monitoring Stations NM1, NM2, NM3 & NM4

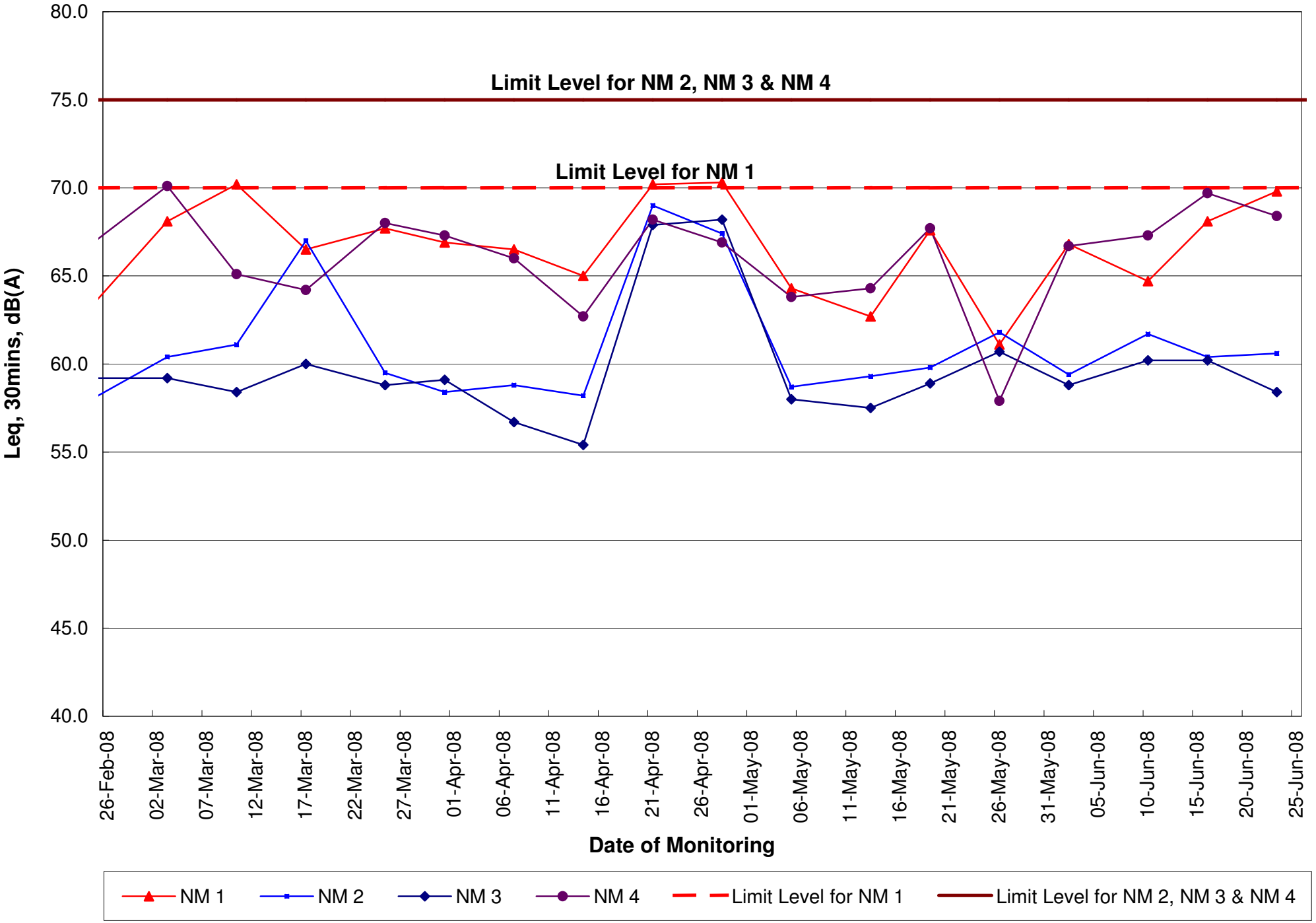
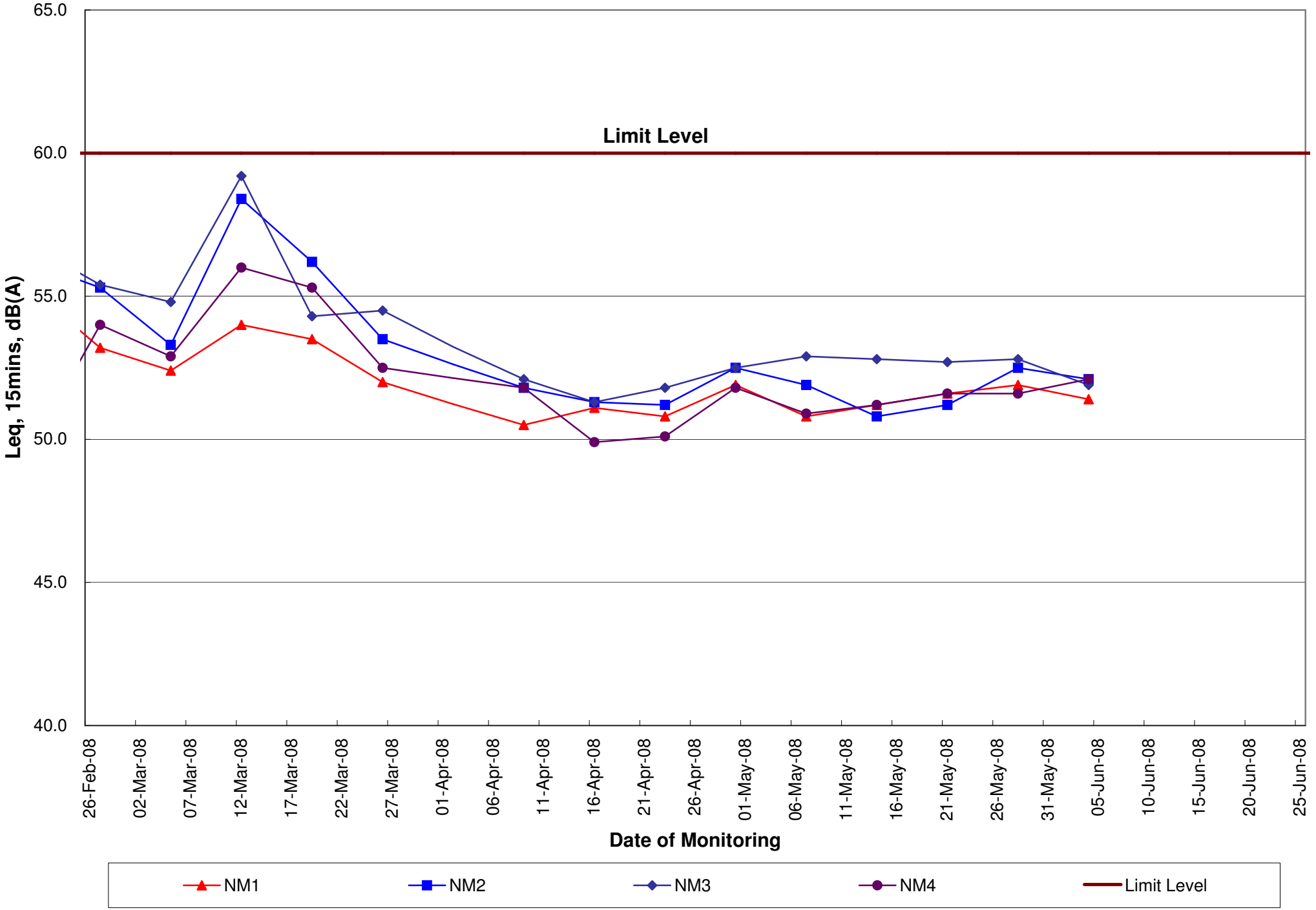


Fig F.2 - Evening Noise Monitoring Results of Monitoring Stations NM1, NM2, NM3 & NM4



Appendix G

APPENDIX G – SUMMARY OF ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ01	Dust emission from construction site in general	Cap 311, sub leg R Schedule III S.13	Hoardings of not less than 2.4m high from ground level should be erected along the entire length of the site boundary except for site entrance or exit.	✓			✓	
AQ02	Dust emission from construction site in general	Cap 311, sub leg R Schedule III S.13 & PS 26.10(6)(i)(e)	To minimize dust emissions, the amount of soil exposed and the dust generation potential should be kept as low as possible. This can be accomplished by water sprays, surface compaction; temporary fabric covers, minimizing the extent of exposed soil, and prompt re-vegetation of completed earthworks.	✓		✓	✓	
AQ03	Dust emission from construction site in general	Cap 311, sub leg R Schedule III S.13 & PS 26.10(6)(i)(j)	Wheel washing facilities should be provided at all vehicle site entrances/exits to prevent dusty material from being carried off-site on vehicles and deposited on public roads. The facilities shall be provided in advance of any major construction activities.	✓			✓	
AQ04	Dust emission from site clearance	Cap 311, sub leg R Schedule IV S.26 (1), (2) & PS 26.10(6)(i)(l)	The working area for uprooting of trees, shrubs or vegetation or for the removal of boulders, poles, pillars or temporary or permanent structures shall be sprayed with water or a dust suppression agent immediately before, during and immediately after the operation so as to maintain the entire surface wet.		✓	✓	✓	
AQ05	Dust emission from excavation or earth moving	Cap 311, sub leg R Schedule III S.24	The heights from which excavated materials are dropped should be minimized to limit fugitive dust generation from loading/unloading.	✓		✓	✓	
AQ06	Dust emission from excavation or earth moving	Cap 311, sub leg R Schedule III S.24	Working areas of any excavation or earth moving operation will be sprayed with water.		✓	✓	✓	
AQ07	Access Road	PS 26.10(6)(i)(g)	Effective water sprays should be used on the site to dampen potential dust emission sources such as unpaved areas used by site traffic and active construction areas.		✓	✓	✓	
AQ08	Access Road	Cap 311, sub leg R Schedule III S.14 (1) & PS 26.10 (6)(i)(a)	Areas of site with regular movement of vehicles shall have an approved hard surface and be kept clean of loose material.	✓			✓	

APPENDIX G – SUMMARY OF ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ09	Access Road	PS 26.10 (6)(i)(d)	All on-site motorized vehicles speeds shall be restricted to a max. speed of 10km/h and delivery vehicles to designated roadways inside the Site to reduce dust re-suspension and dispersion.			✓	✓	
AQ10	Access Road	Cap 311, sub leg R Schedule III S.14 (1) & PS 26.10(6)(i)(a)	The roadway between the wheel wash and the public road will be paved.	✓			✓	
AQ11	Dust emission from material transporting and handling	PS 26.10(6)(i)(h) & (i)	Vehicles transporting materials with the potential to generate dust should have properly fitting side and tailboards.	✓		✓	✓	
AQ12	Dust emission from material transporting and handling	PS 1.110 (a)	The cover of the bed of dump truck shall be power operated with manual backup, so that the operator would not need to climb on the dump bed to operate the cover (both under power mode and manual mode). Operation from driver cab or with the operator standing on ground is acceptable. After the cover to the dump bed is closed, any gap left on the system of enclosure should be less than 25mm wide measured in a direction across the gap. Any remaining gap is to be sealed up tightly with a layer of nylon bristle of sufficient length to bridge across the gap.	✓		✓	✓	
AQ12	Dust emission from material transporting and handling	Cap 311, sub leg R Schedule IV S.26 (1)	Materials transported by vehicles should be covered, with the cover properly secured and extended over the edges of the side and tail boards.	✓		✓	✓	
AQ13	Dust emission from material transporting and handling	PS 26.10(6)(i)(k)	Spraying all dusty materials with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	✓		✓	✓	
AQ14	Dust emission from material transporting and handling	PS 26.10(6)(i)(a)	Material storage and handling areas shall be located on hard core or paved.	✓		✓	✓	
AQ15	Dust emission from material transporting and handling	Cap 311, sub leg R Schedule IV S.26	All stockpiled aggregate or spoil of more than 50 m^3 should be enclosed or covered and water applied twice per day during dry or windy conditions.	✓		✓	✓	

APPENDIX G – SUMMARY OF ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ16	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15 (1) & PS 26.10(6)(i)(f)	Stockpiles of dusty materials shall be covered and minimized the extent of spoil exposed at any given time.	✓		✓	✓	
AQ17	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15 (1)	Every stock of more than 20 bags of cement shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.	✓		✓	✓	
AQ18	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15 (1) & PS 26.10 (6)(i)(b)	Material conveyors for the transfer of dusty materials shall be fitted with windboards and enclosed conveyor transfer points and hopper discharge areas to minimize dust emission.	✓	✓		✓	
AQ19	Dust emission from materials transporting and handling	PS 26.10 (6)(i)(c)	Totally enclosing all conveyors carrying materials which have the potential to create dust and fitting them with belt cleaners.	✓	✓		✓	
AQ20	Dust emission from materials transporting and handling	PS26.16 (2)(ii)	Profiled steel cladding should be provided at two sides of loading point at barge.	✓	✓		✓	
AQ21	Dust emission from materials transporting and handling	PS 26.16 (2)(iii)	Dust suppression sprays should be installed and operated in strategic locations at the feeding inlet and outlet.	✓	✓		✓	
AQ22	Dust emission from materials transporting and handling	PS 26.16 (2)(iv)	The barging point should be placed within a totally enclosed structure incorporating an enclosed chute for material transfer to barge.	✓	✓		✓	
AQ23	Dust emission from materials transporting and handling	PS 26.16 (2)(iv)	Flexible curtain should be hanged on the enclosed chute to prevent dust emission when excavated material/rocks are transported into the barge.	✓	✓		✓	
AQ24	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15	Debagging of cement and similar materials to be done in a ventilated enclosure with a filtered extraction system.	✓		✓	✓	
AQ25	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Wet the area within 30m from the blasting area with water prior to blasting.	✓	✓	✓	✓	

APPENDIX G – SUMMARY OF ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ26	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Wire mesh, gunnysack and sandbag should be used on top of the blast area on each shot to prevent flying rock and reduce fugitive dust generation.	✓			✓	
AQ27	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Do not carry out blasting when the strong wind signal or tropical cyclone warning no. 3 is hoisted unless prior permission of the Commissioner of Mines is obtained.		✓	✓	✓	
AQ28	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Blasting shall not be carried out when a Hong Kong Observatory Thunderstorm Warning is in force.		✓	✓	✓	
AQ29	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Use of vacuum extraction drilling methods and sequenced the blasting works carefully.		✓		✓	
AQ30	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2); PS 26.13(4)(iv)	Firing of explosive shall be carried out in the morning prior to opening of the Park.	✓	✓	✓	✓	
AQ31	Dust Emission from Tunnel		Exhausts from tunnel ventilation should face away from sensitive receivers.	✓	✓	✓	✓	
AQ32	Dust Emission from Tunnel		Forced ventilation shall be maintained in the tunnel to ensure noxious or asphyxiating gases do not accumulate. At the tunnel access shaft or portal the expelled air shall be vented to the atmosphere ensuring adequate diffusion of gases. Expelled air shall be directed away from nearby buildings.	✓	✓	✓	✓	
AQ33	Dust Emission from Tunnel		Tunnel ventilation containing high level of Total Suspended Particulates (TSP) shall be filtered at least to the satisfaction of the Safety and Environmental Officers prior to being vented to the atmosphere. The filters should be changed weekly to prevent blockages, which may affect the performance of the system.	✓		✓	✓	
AQ34	Dust Emission from Crushing Plant	PS 26.10(2)	The crushing plant shall be operated in accordance with the specified process licence.	✓		✓	✓	

APPENDIX G – SUMMARY OF ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ35	Gas Emission Smoke/fume from construction plants and equipments	Cap 311, sub leg C S.3	All plants and equipments should be well maintenance to avoid dark smoke.	✓		✓	An owner, who operates any plant in such a manner that any dark smoke is emitted for more than 6 minutes in any period of 4 hours or for more than 3 minutes continuously at any one time, commits an offence.	
AQ36	Smoke/fume from construction plants and equipments	Cap 311, sub leg A S.4, 5 & 6	Prior approval should be obtained before the installation of the emergency generator.	✓			N/A	Include in the design
AQ37	Smoke from open burning	Cap 311, sub leg O S.4 (1)	Open burning for the purpose of disposal of construction waste/tyres, the salvage of metal or the clearance of site in preparation for construction work is prohibited.			✓	✓	
AQ38	Smoke/fume from all site vehicles	Cap 374, sub leg A S.31(1)	Black smoke should be avoided from any vehicle whether or not mechanically propelled which is constructed or adapted for use on roads (exclude a vehicle of the North-west Railway or a tram)	✓		✓	✓	
AQ39	Smoke/fume from all site vehicles	Cap 311, sub leg L Schedule I	Ensure the correct diesel used in any vehicle whether or not mechanically propelled which is constructed or adapted for use on roads (exclude a vehicle of the North-west Railway or a tram)		✓	✓	✓	
AQ40	Emission from spraying products	Cap 403, sub. leg C s.3	Ozone depleting paint sprayers shall not be used on sites.		✓	✓	✓	
Noise/Vibration								
NV01	Noise from construction work other than percussive piling	Cap 400, S.6(1), PS 26.11 (2)	Work required for the use of powered mechanical equipment (PME) in restricted hours, i.e. the hours between 7pm and 7am on weekdays or at any time on Sundays or a public holiday, for carrying out construction activity shall be required a valid Construction Noise Permit (CNP).		✓	✓	✓	
NV02	Noise Emission from construction plants and equipments	PS 26.11 (9)	Relocation of noise-emitting plant, the use of silencers, mufflers, acoustic sheds or shields or acoustic sheds or screens upon the best reasonable practice.	✓		✓	✓	

APPENDIX G – SUMMARY OF ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Noise/Vibration								
NV03	Noise Emission from construction plants and equipments	PS 26.11 (10)	Maintain all plant and silencing equipment in good condition so as to minimize the noise emission during the works.			✓	✓	
NV04	Noise Emission from construction plants and equipments	Cap 400, sub. leg. C, s17(1)	Compressors should have Noise Emission Labels (NELS).			✓	✓	
NV05	Noise Emission from construction plants and equipments	Cap 400, sub. leg. D, s17(1)	Hand held breakers should have Noise Emission Labels (NELS).			✓	✓	
NV06	Noise Emission from construction plants and equipments	PS 26.11 (13)(i)	If the work causing serious noise pollution impacts or reached the Target Limit as stated in the Contractor's EM&A Manual, the Contractor shall provide the following proposed remedial measures:					
			• Change of construction equipment location and scheduling of activities;		✓	✓	✓	
			• Change of construction equipment location and scheduling of activities;	✓		✓	✓	
			• Installation of construction equipment soundproofing;	✓		✓	✓	
			• Provision of alternative Contractor's equipment;		✓	✓	✓	
			• Erection of sound barriers around the part of the Site or the location of the construction noise source; or	✓		✓	✓	
			• Any other measures that may be effective in reducing noise.		✓	✓	✓	
NV07	Noise Emission from Blasting	PS 26.13(4)(iv)	Firing of explosive shall be carried out in the morning prior to opening of the Park.	✓	✓	✓	✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Noise/Vibration								
NV08	Noise Emission from Blasting	GEP Technical Guidance Note No. 25 (TGN 25)	Blast doors on tunnels to be closed during blasting if required by the blasting period.	✓		✓	✓	
NV09	Noise Emission for Vehicles	Cap 374, sub leg A S.30(1)	Every vehicle propelled by an internal combustion engine shall be fitted with a silencer, expansion chamber or other contrivance suitable and sufficient for reducing, as far as may be reasonable, the noise caused by the escape of the exhaust gases from the engine.	✓		✓	✓	
Water Quality (Refer to Drainage Management Plan as stated in PS 26.17(7))								
WQ01	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	PS 26.12 (2)	Before commencing any site formation work, all sewer and drainage connection should be sealed to prevent debris, soil, sand and etc from entering public sewers/drains	✓		✓	The existing drainage system is in use and the temporary drainage system is under preparation	
WQ02		PS 26.12 (2)	The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection.	✓			N/A	
WQ03		PS 26.12 (2)	Wheel wash water shall be changed frequently and sediment removed regularly	✓		✓	✓	
WQ04		PS 26.12 (2)	Construction runoff related impacts associated with tunneling and above ground construction activities can be readily controlled through the use of appropriate mitigations measures which include: • Use of sediment traps, oil interceptors; and • Adequate maintenance of drainage systems to prevent flooding and overflow.	✓ ✓	 ✓	 ✓ ✓	 ✓ ✓	
WQ05	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	PS 26.12 (2)	Exposed areas should be minimised to reduce the potential for increased siltation, runoff contamination, and erosion.	✓	✓	✓	✓	
WQ06		EIA Ref. S9.44 EM&A Ref. S8.3	Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses via silt retention points.	✓	✓	✓	✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Water Quality (Refer to Drainage Management Plan as stated in PS 26.17(7))								
WQ07	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	EPD ProPECC Note No. PN1/94; PS 26.17(6)(ii)	The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94.	✓	✓		✓	
WQ08		EP Clause2.13	To improve the coagulation and sedimentation process for construction phase discharges from excavation works at Headland, sand/silt removal facilities, including sand/silt traps and sediment basins should be provided.	✓		✓	✓	Drainage Proposal
WQ09		PS 26.12(4)	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.		✓	✓	✓	
WQ10		PS 26.12	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 other means.	✓	✓	✓	✓	
WQ11		PS 26.12(6)(iv)	Sediment tanks of sufficient capacity are recommended as a general mitigation measure that can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	✓		✓	✓	
WQ12		PS 26.12(6)(ii)	All silt removal facilities will be inspected daily and cleaned whenever necessary.			✓	✓	
WQ13		PS 26.12(6)(iv)	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 and storm runoff being directed in to foul sewers.		✓	✓	✓	
WQ14		EP Clause2.12 & 2.14; PS 26.17(6)(iii)	Design and install a silt curtain system to enclose the existing 1000mm diameter storm water pipe outlet at Tai Shue Wan to minimize the water quality impacts on the marine environment during rainy seasons.	✓	✓		✓	Silt curtain proposal was deposited in the EIAO Register Office for public inspection.

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Water Quality (Refer to Drainage Management Plan as stated in PS 26.17(7))								
WQ15	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	EPD ProPECC Note No. PN1/94; PS 26.17(8)(e)	Precautions should be taken at any time of year when rainstorms are likely. Actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms, are summarized in Appendix A2 or ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.			✓	✓	Heavy rain procedures
WQ16		PS 26.12(6)(i)	Oil interceptors should be provided in the drainage system and these should be regularly cleaned to prevent the release of oils 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.	✓			✓	
WQ17		PS 26.12(2)	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited on roads.			✓	✓	
WQ18		PS 26.12	Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	✓			✓	
WQ19		PS 26.12(6)(iii)	An adequately designed and located wheel washing bay should be provided at every site exit and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process.	✓			✓	
WQ21		PS 26.12	Open stockpiles of construction materials of more than $50m^3$ should be covered with tarpaulin or similar fabric.			✓	✓	
WQ20		PS 26.12	The section of access road leading to, and exiting from, the wheel wash bay to the public road should be paved with sufficient backfall towards the wheel wash bay towards the wheel wash bay to prevent transport of soils and silty water to public roads and drains.	✓			✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Drainage and Sewage (Refer to Drainage Management Plan as stated in PS 26.17(7) and Drainage Proposals as stated in EP Clause 2.13)								
DS01	Polluted water discharge from construction site or works	PS 26.17(4)	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharges should be adequately designed for the controlled release of storm flow (one in five year event).	✓			✓	Drainage Proposal
DS02	Polluted water entry stormwater system during the site activities	PS 26.17(6)	All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms.	✓		✓	✓	
DS03	Polluted water from site reinstatement	PS 26.17(2)	Temporarily diverted drainage systems should be reinstated to their original condition when the construction work has finished, or the temporary diversion is no longer required.				✓	Note
Drainage and Sewage (Refer to Drainage Management Plan as stated in PS 26.17(7) and Drainage Proposals as stated in EP Clause 2.13)								
DS04	Polluted water from concrete lorry washing	PS 26.17	Wash water from concrete trucks and pumps is to be collected in skips for treatment.	✓		✓	✓	
DS05	Polluted water from the plant yard	WMP	Plant maintenance areas to be enclosed.	✓			✓	
DS06	Polluted water from excavation	PS 26.17(6)(ii)	Temporary open storage of excavated materials used for backfill on site should be covered with tarpaulin or similar fabric during rainstorms. Any washout of construction or excavated materials should be diverted through appropriate sediment traps before discharge to storm water drainage systems.			✓	✓	
DS07	Polluted water entry from waste collected area	PS 26.18(2)	Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column to cause water quality impacts.	✓		✓	✓	
DS08	Polluted water and sewage entry the chemical toilets	PS 26.12(3)	Construction sewage may need to be handled by portable chemical toilets if construction workers are likely to be dispersed along the alignment.	✓			✓	
DS09	Polluted water and sewage entry the chemical toilets	PS 26.12(3)	Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the construction workers. This contractor will also be responsible for waste disposal and maintenance practices.	✓			✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Drainage and Sewage (Refer to Drainage Management Plan as stated in PS 26.17(7) and Drainage Proposals as stated in EP Clause 2.13)								
DS10	Polluted water from chemical storage area	PS 26.12(9)	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching WSRs.	✓			✓	
DS11	Polluted water from spillage	WMP; PS 26.12(10)	Spill action plan is to be prepared.			✓	✓	Spill procedures
DS12	Polluted water from petrol filling activity	WMP; PS 26.17(8)(l)	Petrol interception for oil filling point.	✓			✓	
DS13	Polluted water from tunnel pump out	PS 26.17(8)	Ground water pumped from tunnels etc., should be discharged into drainage channels that incorporate sediment traps to entrance deposition rates and to remove silt.	✓			N/A	
DS14	Polluted water from construction works	PS 26.17(8)(i)	Construction work force sewage discharges on site should be connected to the existing trunk sewer or sewage treatment facilities, if practicable.	✓		✓	✓	
DS15	Polluted water from pantry	PS 26.17(8)(k)	Wastewater collected from pantry including that from basins, sinks and floor drains, should be discharged into foul sewers via grease traps capable of providing at least 20 minutes retention during peak flow.	✓			✓	
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM01	Disposal of waste (general)	PS 26.18	Minimize the generation of waste from Works. Avoidance and minimization of waste generation shall be achieved through changing or improving design and practices, careful planning and good site management.			✓	✓	Note
WM02	Disposal of waste (general)	PS 26.18	Different types of waste are segregated on-site and stored in different containers, skips or stockpiles to facilitate the reuse/recycling of materials, thus avoiding disposal (generally with only limited processing and reprocessing may be required).	✓		✓	✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM03	Disposal of waste (general)	WMP	A trip ticket system for the disposal of Construction and Demolition (C&D) materials following the guidelines stipulated in the Environment, Transport and Works Bureau Technical Circular (Works) No. 31/2004 shall be used to prevent any illegal dumping.			✓	✓	
WM04	Disposal of waste (general)	PS 26.18	No construction waste of more than 20% inert material by volume shall be disposed of to landfill. Inert materials like rock, sand, concrete debris should be sorted out from construction waste before disposal. Dry concrete waste or the excavated materials should be recycled for reuse or sorted for disposal at public dumps.			✓	✓	
WM05	Generation and disposal of construction and demolition waste	WMP; PS 26.18	All non-inert construction waste material deemed unsuitable for reclamation or land formation and all other waste material shall be disposed at public dumps.	✓		✓	✓	Note
WM06	Generation and disposal of construction and demolition waste	WMP; PS 26.18	The C&D materials shall be sorted into public fill (inert portion) and C&D waste (non-inert portion). The inert portion which comprises soil, rock, concrete, brick, cement plaster/mortar, inert building debris, aggregates and asphalt shall be reused in earth filling, reclamation or site formation works as far as possible. Where excavated rock is of the appropriate grade, it shall be crushed and reused as aggregate or for other surfacing uses, wherever possible. The non-inert portion, which comprises metal, timber, paper, glass, junk and general garbage shall be reused or recycled.	✓	✓	✓	✓	
WM07	Disposal of waste (general)	WMP; PS 26.18	Record of the amount of waste generated, recycled and disposed of shall be kept on site for easy reference and checking.			✓	✓	
WM08	Disposal of waste (general)	WMP; PS 26.18	Authorized/Licensed Waste Hauliers/Collectors should be used to collect and transport different category wastes to the appropriate disposal points.			✓	✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM09	Disposal of waste (general)	WMP; PS 26.18	Handle and store wastes in a manner, which ensures that they are held securely without loss or leakage, thereby minimizing the potential for pollution.			✓	✓	Note
WM10	Disposal of waste (general)	WMP; PS 26.18	Remove wastes in a timely manner and maintain the waste storage areas clean regularly.			✓	✓	
WM11	Disposal of waste (general)	WMP; PS 26.17(8)	Regular cleaning and maintenance the drainage system, sumps, oil interceptors and grease traps. The waste from these facilities shall be collected and disposed of by a licensed Collector.	✓		✓	✓	
WM12	Disposal of waste (general)	WMP	Obtain the necessary permits and licenses with regards to the waste management from the appropriate authorities wherever necessary, in accordance with • The Waste Disposal Ordinance (Cap 354), • Waste Disposal (Chemical Waste)(General) Regulation (Cap 354), • The Crown Land Ordinance (Cap 28), and • Dumping at Sea Ordinance (Cap 466)			✓	✓	
WM13	Disposal of waste (general)	WMP	Provide training for workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.			✓	✓	
WM14	Generation and disposal of construction and demolition waste	WMP & WBTC 5/99 (Appendix A)	The Contractor shall produce a Construction and Demolition Material Disposal Delivery Form (the Form) for each and every vehicular trip transporting Construction and Demolition (C&D) materials off-site. The Contractor shall complete the Form and maintain records as per procedures.			✓	✓	
WM15	Production of Chemical Waste (general)	Magnitude	For those processes that generate chemical waste, it may be possible to find alternatives that generate reduced quantities or even no chemical wastes, or less dangerous types of chemical waste	✓	✓		✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM16	Production of Chemical Waste (general)	Cap 354 sub. leg. C; PS 26.18 (4)	The Contractor shall be required to register with EPD as a chemical waste producer and to follow the guidelines as stated in the Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes.				✓	Register as chemical waste producer has done
WM17	Storage of Chemical Waste	Cap 354 sub. leg. C s. 13, 14, 15, 16, 18 & 19; PS 26.18(4)	Chemical waste that is produced, 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, Labeling and Storage of Chemical Wastes as follows:				✓	
			• A suitable area (special container(s) would be proposed to use) for temporary storage of chemical waste shall be provided. The best location for the storage area shall be located close to the source of chemical waste generation.	✓			✓	
			• The container used for the storage of chemical waste should be used for chemical waste only and kept clean and dry all the times.	✓		✓	✓	
			• The container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	✓		✓	✓	
			• The container should have a capacity of less than 450 l unless the specifications have been approved by EPD.	✓			✓	
			• If the container is not used as the storage, the storage area shall be enclosed on at least three sides by a wall, partition or fence with a height of not less than 2m or the total height in stack, whichever is less.	✓		✓	✓	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM17 (contd)	Storage of Chemical Waste	Cap 354 sub. leg. C s. 13, 14, 15, 16, 18 & 19; PS 26.18(4)	• Adequate ventilation shall be allowed by leaving some space between the top of the enclosure walls and ceiling, or provision of louvers on the sides of the enclosure walls.	✓		✓	✓	
			• The storage area should have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓		✓	✓	
			• The storage area should be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary)	✓		✓	✓	
			• Every chemical waste storage area should display a hazard-warning panel, notice or marking at or near the entrance or opening of the storage area in English and Chinese characters “CHEMICAL WASTE” and “化學廢物” clearly and boldly in red on a white background with a letter/character size of not less than 60mm high.	✓		✓	✓	
WM18	Disposal of Chemical Waste	WMP; PS 26.18	Disposal of chemical waste be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility that also offers a chemical waste collection service and can supply the necessary storage containers, or to a re-user of the waste under approval from EPD.			✓	✓	
WM19	Disposal of Chemical Waste	Cap 354, sub. leg. C s21 & 22	Disposal of chemical waste should be via a licensed waste collector.			✓	✓	
WM20	Generation of general refuse	Cap 311, sub leg O S.4 (1)	Law prohibits the burning of refuse on construction sites.			✓	✓	

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				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM21	Generation of general refuse	Magnitude	Office wastes can be reduced through recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered if one is available.	✓		✓	✓	
WM22	Generation of general refuse	WMP	General refuse generated on site should be stored in enclosed bins or compaction units separate 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 or every second day basis to minimize odour, pest and litter impacts.	✓		✓	✓	
WM23	Generation of general refuse	Magnitude	General refuse will be generated largely by food service activities on site, so reusable rather than disposable dishware should be used if feasible. Individual collectors often recover aluminum cans from the waste stream if they are segregated or easily accessible, so separate labeled bins for their deposit should be provided wherever feasible.	✓		✓	✓	
Ecology								
EC01	Ozone Emission entry the ambient environment	PS 26.08 (3) (i)	Ozone depleting fire extinguishers shall not be used for temporary firefighting measures and ozone depleting substances shall not be used in carrying out the Works.				✓	Note restriction
EC02	Disturbance the marine ecological sensitive receivers	EP Clause 2.12; PS 26.14(5)	Divert the construction phase discharges from excavation works at Headland to an existing 1000mm diameter storm water pipe outlet at Tai Shue Wan to avoid impacts on coral communities in the marine water around the Nam Long Shan headland.	✓		✓	✓	Drainage Proposal
EC03	Disturbance the marine ecological sensitive receivers	EP Clause 2.15	No marine-based construction works shall be allowed for the Project to conserve the marine ecological resources in the vicinity of the project area.	✓	✓	✓	✓	

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				Site Installation	Method Statement	Toolbox Talk		
Ecology								
EC04	Disturbance the ecological sensitive receivers	EP Clause 2.17 & PS 26.14 (1)	The site clearance works before bulk excavation to the existing mountain to provide a new platform for the Summit shall commence before or outside the breeding season of Black Kites, i.e. from October to May of the next year.	✓	✓	✓	✓	
EC05	Disturbance the ecological sensitive receivers	PS 26.14 (2)	Design of temporary conveyor belt system and the location of temporary adit portals should be considered to avoid impact to potential nest sites in the tall shrubland habitat at Tai Shue Wan area where possible.	✓	✓	✓	✓	
EC06	Disturbance the ecological sensitive receivers	EP Clause 2.19	No construction works and discharge from the construction site(s) shall be allowed within the existing freshwater ponds at the Tai Shue Wan area and within the enhanced Pond 35 after enhancement works.	✓		✓	✓	
EC07	Disturbance the ecological sensitive receivers	EM&A section 6.2.5	Minimize the impact due to construction on the existing surrounding vegetation by:					
			• Set up of temporary tree nurseries;	✓			✓	
			• Designation of "no-intrusion zones" and to record any trespass, including the damage to the existing vegetation;			✓	✓	
			• Hill fire prevention;			✓	✓	
			• Dust and erosion control for exposed soil; and	✓		✓	✓	
			• Well-planned irrigation networks throughout the establishment period.	✓	✓	✓	✓	
EC08	Disturbance the ecological sensitive receivers	EM&A section 7.17 & EIA section 5.138	Minimize the impact due to construction on the uncommon plant species by:					
			• Vegetation survey and subsequent transplantation of locally uncommon or restricted species as far as practicable;		✓		Uncommon or restricted species including Long Tentacle Orchid, Sword-leaved Orchid, Green-flowered Rattlesnake-Plantain, Cycad-fern, Balloon Flower and Chinese Lily	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Ecology								
EC08 (cont'd)	Disturbance the ecological sensitive receivers	EM&A section 7.17 & EIA section 5.138	• Trees located within the works areas shall be preserved as far as practicable;	✓		✓	✓	
			• Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimize disturbance to natural habitats;			✓	✓	
			• Construction activities shall be restricted to the works areas that would be clearly demarcated;	✓		✓	✓	
			• The work areas shall be reinstated immediately after the completion of works;	✓			✓	
			• Landscaping works on newly formed land shall as far as possible make use of native plant species.	✓			✓	
Hazard to Life								
HL01	Hazard to life due to blasting activities	EM&A section 11.3 & EIA Section 12.15	The blasting activities shall be inspected and audited at practical intervals to ensure that the assumptions and recommendations from the Quantitative Risk Assessment (QRA) study are implemented.	✓	✓	✓	✓	
HL02			The recommendations from the systematic hazard identification are consistently implemented in accordance with the intent of the hazard to life assessment.	✓	✓	✓	✓	
Landscape and Visual								
LV01	Visual and Appearance considerations	EM&A Section 6.2.5	Minimize the visual and appearance impact by:					
			• careful choice between 'impermeable' and 'permeable' hoardings.	✓			✓	
			• control over the appearance of construction workers, construction plants/ machines.			✓	✓	
			• proper screening and careful alignment of the temporary barging point and conveyor system.	✓			In the design	

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No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Landscape and Visual								
LV01 (cont'd)	Visual and Appearance considerations	EM&A Section 6.2.5	• careful selection of security floodlights to avoid light pollution.	✓			✓	
Cultural and Heritage Impact								
CH01	Cultural and Heritage Impact	EP clause 2.22	To preserve the grave G1, no works shall be allowed within one metre from the vicinity of such grave.	✓		✓	✓	Note requirement

Notes: EP denotes the Environmental Permit No. 249/2006 and its subsequent permits.
EM&A Manual denotes the Contractor specific EM&A Manual.
WMP denotes the Waste Management Plan.
EIA denotes the Final EIA Report No. AEIAR-101/2006.
PS denotes the Particular Specification of the Project.
✓ denotes implemented.

Appendix G

CS01 - Summary of Environmental Mitigation Implementation Schedule

Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
			D	C	O	
Noise Mitigation Measures	Work Site / during construction	Contractor		X		PN 2/93 & EIAO
a) Use of Powered Mechanical Equipment in restricted hours without a valid Construction Noise Permit (CNP) in restricted hours is prohibited, i.e. 7pm and 7am or at any time on general holiday including						
b) If CNP is grant, construction works shall accord with conditions of CNP						
c) Every air compressor shall be fitted with a noise emission label issued in respect of that air compressor.						
d) Every hand held percussive breaker shall be fitted with a noise emission label issued in respect of that hand held percussive breaker.						
e) Noise barrier should be provided for site which have sufficient space for installation.						
f) Idle equipment should be turned-off or throttled down. Noisy equipment should be properly maintained and used no more often than is necessary.						
g) Noisy equipment and activities should be sited by the Contractor as far from close-proximity sensitive receivers as practical.						
h) Idle equipment should be turned-off or throttled down. Noisy equipment should be properly maintained and used no more often than is necessary.						
i) Construction plant should be properly maintained and operated.						
Air Mitigation Measures	Work Site / during construction	Contractor		X		Air Pollution Control Ordinance,
a) For Breaking, Excavation or earth moving, the working area shall be sprayed with water to maintain the entire surface wet.						Air Pollution Control (Construction Dust) Regulation,
b) Any debris shall be covered or stored in sheltered area and before debris is dumped into a chute, it is to be sprayed with water.						
c) For use of vehicles, load of dusty materials shall be covered entirely						
d) Open burning is prohibited.						
e) A stockpile of dusty materials shall not extend beyond the pedestrian barriers, fencing or traffic cones.						
f) Vehicle washing facilities shall be provided at every exit point.						
g) Main haul road shall be sprayed with water.						
Water Mitigation Measures	Work Site / during construction	Contractor		X		ETWB TCW No. 5/2005 and DSD TC No. 2/2004
a) Temporary drainage system (U-channel) and the sedimentation tank should be installed and maintained frequently to prevent adverse impacts on the stream water qualities.						

Appendix G

CS01 - Summary of Environmental Mitigation Implementation Schedule

Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
			D	C	O	
b) The slope should be covered up to avoid being washed into nearby stream by rain and local runoff.						
c) Any discharges into drainage or sewage systems, inland or coastal waters, or into the ground (e.g. from septic tanks) are required a valid discharge licence, except the discharge of domestic sewage into foul sewers or the discharge of unpolluted water.						
d) The terms and conditions of a discharge licence shall be complied						
e) Manholes should always be adequately covered and temporarily sealed						
Chemical Mitigation Measures	Work Site / during construction	Contractor		X		Waste Disposal (Chemical Waste) (General) Regulation
a) Chemical waste should be packed and stored in suitable containers in the Chemical Waste Store						Code of Practice on the Packaging Labelling and Storage of Chemical Waste
b) There is displayed on every container of chemical waste a label						
c) Chemical waste store shall not be used for any purpose other than the storage of chemical waste						
d) Chemical waste store shall be enclosed on at least 3 sides by a wall, partition fence or a similar device, which shall not be less than the height of the tallest container						
e) Chemical waste store shall not have any connection to any surface water drains or foul sewers						
f) Chemical waste store shall be kept clean and dry						
g) Where the storage area is not within a building, be provided with a roof or a similar covering						
h) Chemical waste store shall has a retention structure with the capacity to accommodate						
i) Every storage area where chemical waste is stored displays a warning panel, notice or marking at or near the entrance or the opening, indicate in bold legible red English words and Chinese characters not less than 6 cm in height on a white background “CHEMICAL WASTE"						
j) Chemical waste stored shall be properly located and easily accessed						
k) Chemical should be properly stored in suitable containers						
l) Chemical should be properly stored and sited on sealed areas to prevent leakage						
m) Any opened chemical container shall be placed into a drip tray to prevent chemical leakage						
Waste Mitigation Measures	Work Site / during construction	Contractor		X		Waste Disposal Ordinance ETWB TCW No. 31/2004
a) The proposals in the waste management plan are able to meet the target of avoidance, minimization, recycling and reuse of C&D material with particular reference to the nature of the Contract						

Appendix G

CS01 - Summary of Environmental Mitigation Implementation Schedule

Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
			D	C	O	
b) Trip-ticket system shall been properly implemented						
c) Waste disposal points shall be provided and regular collection for disposal to keep the site tidy						
d) Adequate and proper records with respect to waste management shall be kept						
Ecological Mitigation Measures	Work Site / during construction	Contractor		X		EP-249/2006/A, Clause 2.12, 2.15 & 2.17
a) Trees adjacent to or within the construction site area shall be protected						
b) To conserve the marine ecological resources in the vicinity of this Contract, no marine-based construction works shall be allowed for this Contract.						
c) Site inspection had been carried out before site clearance to ensure no nesting activities of Black Kites at locations of this Contact.						
d) To avoid impacts on coral communities in the marine water of this Contract, temporary drainage system (U-channel) and the sedimentation tank should be installed. In addition, all water mitigation measures will						

Appendix G - Summary of Environmental Mitigation Implementation Schedule (CW02)

Types of Impacts	Mitigation Measures	Status
Construction Dust	• 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 watering for particularly dusty construction areas, temporary stockpiles 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 shall be applied to aggregate fines.	N/A
	• Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.	*
	• Restricting heights from which materials are dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading.	^
	• Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.	^
	• 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 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.	N/A
	• Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.	^
	• Dusty activities should be re-scheduled if high-wind conditions are encountered.	N/A
	• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	N/A
	• Suitable buffer zone should be provided and the works areas should be fenced off with hoarding. The height of hoarding should not be less than 2.4m from ground level.	N/A
	Crushing Plant • Water sprays on the crusher. • Fabric filters installed for the crushing plant. • When transferring materials from crusher to the conveyors, chutes or dust curtains would be used for controlling dust.	 N/A N/A N/A

Types of Impacts	Mitigation Measures	Status
	Barging Point & Conveyor Belt System	
	• The conveyors would be placed within a totally enclosed structure	N/A
	• Profiled steel cladding would be provided at two sides of loading point.	N/A
	• Dust suppression sprays would be installed and operated in strategic locations at the feeding inlet and outlet.	N/A
	• The barging point would be placed within a totally enclosed structure incorporating an enclosed chute for material transfer to the barge. Flexible curtain would be hanged on the enclosed chute prevent dust emission when excavated materials/rocks transported into the barge.	N/A
	• Some areas of the Park would remain open for visitors during the construction period. Therefore, suitable buffer zones from major construction activities should be provided where practical and the works areas should be fenced off with hoarding during the construction phase. It is recommended to erect hoarding of a height not less than 2.4m from ground level.	^
Construction Noise	*Construction Phase*	
	• 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	N/A
	• Mobile plant, if any, should be sited as far from NSRs as possible.	N/A
	• 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 orientated so that the noise is directed away from the nearby NSRs	^
	• Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities	N/A
	Adoption of Quieter Plant	
	• In order to reduce the excessive noise impacts at the affected NSRs at the Waterfront during normal daytime working hours, quieter plants are recommended. The Contractors do not have to use specific items of quiet plant adopted in this assessment. The Contractors may use other type of quiet plant, which have the same total SWL, to meet their needs	^

Types of Impacts	Mitigation Measures	Status
	Use of Movable Noise Barrier • The use of movable barrier for certain PME could further alleviate the construction noise impacts. In general, 5dB (A) reduction for movable PME and 10dB (A) for stationary PME can be achieved depending on the actual design of movable noise barrier. • The Contractor should be responsible for designing of the movable noise barrier with due consideration given to the size of the PME and the requirement of intercepting the line of sight between the NSRs and PME. Barrier material of surface mass in excess of 7kg/m2 is recommended to achieve the predicted screening effect. • Exceedance of up to 5dB (A) would be predicted at the Police Training School (NSR PTS) during the examination periods. Early liaison with the principal of this impacted school is recommended to plan for the construction programme. Noisy construction activities should be avoided during the examination period as far as practicable so as to reduce the potential noise impact at the school to comply with the noise criterion of 65dB(A).	N/A N/A N/A
Ecology	*Construction Phase* • All excavation works carried out close to water bodies shall be carefully controlled to avoid runoff entering watercourses, especially during periods of heavy rain. • Site runoff shall be directed towards regularly cleaned and maintained silt traps and where appropriate, oil/grease separators to minimize risk of sedimentation and pollution. • Suitable size / capacity silt traps and oil/grease interceptors shall be used. • Noise mitigation measures including the use of quiet construction plant and movable noise barriers shall be implemented to minimize disturbance to habitats adjacent to the work areas. • Trees located within the works areas shall be preserved as far as practicable. • Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats • Construction activities shall be restricted to the work areas that would be clearly demarcated • The work areas shall be reinstated immediately after completion of the works • Waste skips shall be provided to collect general refuse and construction wastes. The wastes would be disposed of timely and properly off-site. • Drainage arrangements shall include sediment traps to collect and control construction run-off • Open burning on works sites is illegal, and shall be strictly enforced • Landscaping works on newly formed land shall as far as possible make use of native plant species	^ N/A N/A N/A ^ ^ ^ ^ N/A ^ ^ ^

Types of Impacts	Mitigation Measures	Status
Water Quality	*Construction Runoff and Drainage* • Before commencing any site formation work, all sewer and drainage connections should be sealed to prevent debris, soil, sand etc. from entering public sewers/drains. • Temporary ditches should be provided to facilitate run-off discharge into appropriate watercourses, via appropriately sized/ designed silt retention pond or similar structure. No site run-off should enter artificial ponds. Cut-off ditches should be provided for all major site clearance/ excavation works where soils would be exposed so that instances of uncontrolled run-off from exposed areas would be minimized. As well as channels, earth/ concrete bunds and/ or sand bags, as appropriate, should be deployed to direct surface run-off towards channels. Catchpits and perimeter channels should be constructed in advance of relevant site formation works. • Boundaries of earthworks should be marked and surrounded by dykes or embankments for flood protection, as necessary. • Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the Technical Memorandum standard under the Water Pollution Control Ordinance. The design of silt removal facilities should be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures should be inspected monthly and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. • Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. • Exposed soil surfaces should be covered. • Water pumped out from foundation excavations should be discharged into silt removal facilities. • If excavation cannot be avoided during rainy seasons, temporarily exposed slope/soil surfaces should be covered by a tarpaulin or other means, as far as practicable, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Interceptiong channels should be provided (e.g. along the crest/ edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.. Other measures that need to be implemented before, during and after rainstorms are summarized in ProPECC PN 1/94. • Exposed soil areas should be minimized to reduce potential for increased siltation and contamination of runoff. • Earthwork final surfaces should be well compacted and subsequent permanent work or surface protection should be immediately performed. Appropriate intercepting channels should be provided where necessary. Rainwater pumped out from trenches or excavations should be directed to silt removal facilities before discharge.	^ ^ ^ ^ ^ * ^ ^ ^ ^

Types of Impacts	Mitigation Measures	Status
	• Open stockpiles of construction materials or construction wastes on-site of more than $50m^3$ should be covered with tarpaulin or similar fabric during rainstorms	N/A
	General Construction Activities • Debris and refuse generated on-site should be collected • Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to nearby water bodies and public drains	^ ^
	Sewage from Construction Workforce • Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor would be responsible for appropriate disposal of waste matter and maintenance of these facilities	^
Waste / Chemical	*Good Site Practice* • nomination of an approved personnel, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors • training of site personnel in proper waste management and chemical handling procedures • provision of sufficient waste disposal points and regular collection for disposal • appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	^ N/A ^ * ^
	Waste Reduction Measures • sort C&D waste from demolition and decommissioning of the existing facilities to recover recyclable portions such as metals • segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. • proper storage and site practices to minimise the potential for damage or contamination of construction materials • to encourage collection of aluminium cans by individual collectors, separate labelled bins shall be provided to segregate this waste from other general refuse generated by the work force. • plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	^ ^ ^ ^ ^

Types of Impacts	Mitigation Measures	Status
	General Refuse • General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	^
	Construction and Demolition Material • A Waste Management Plan should be prepared. • In order to monitor the disposal of C&D and solid wastes at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be included. One may make reference to ETWB TCW No.31/2004 for details. • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed.	^ ^ ^
	Chemical Waste • If chemical wastes are 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, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation	^

Remarks:	^ Compliance of mitigation measure;	X Non-compliance of mitigation measure;
	N/A Not Applicable;	• Non-compliance but rectified by the contractor;
	* Recommendation was made during site audit but improved/rectified by the contractor.	

Appendix H

Appendix H License and Permit

CNP

Permit number	Starting Date	Expired Date	Valid Time	Location	Contract No.	Status
CI-05 (DBJV)						
GW-RS0786-07	11-Dec-07	10-Jun-08	*PME* 19:00 - 23:00 hours (not being a general holidays) 09:00 - 19:00 (General holidays) *PCW* 19:00 - 23:00 hour (Not being a general holidays) 09:00 - 19:00 (General holidays) One group of equipment shall be allowed in above time	Waterfront (Panda Access Ramp)	CI-05	Expired
GW-RS0787-07	11-Dec-07	10-Jun-08	*PME* 00:00 - 07:00 hours & 19:00 - 24:00 hours (Not being a general holidays) 00:00 - 24:00 (general holidays) *PCW* 00:00 - 07:00 hours & 19:00 - 24:00 hours (Not being a general holidays) 00:00 - 24:00 hours (General holidays) One group of equipment shall be allowed in above time.	Main tunnel excavation	CI-05	Expired
GW-RS0061-08	13-Feb-08	20-Aug-08	*PME* 00:00 - 07:00 hours & 19:00 - 24:.00 hours (Not being a general holiday) 07:00 - 23:00 (General holidays) *PCW* 00:00 - 07:00 hours & 19:00 - 24:00 hours (Not being a general holidays) 07:00 - 23:00 (General holidays) One group of equipment shall be used.	Summit (At the top of Nam Long Shan Road)	CI-05	Valid
GW-RS0063-08	15-Feb-08	14-Jul-08	*PME* 00:00- 07:00 hours & 19:00 - 23:00 hours (not being a general holidays) 00:00 - 24:00 (General holidays) *PCW* 00:00- 07:00 hours & 19:00 - 23:00 hour (Not being a general holidays) 00:00 - 24:00 hours (General holidays) One group of equipment shall be allowed in above time Group C & D shall not operated between 23:00-07:00 on the next day	Upper Portion of Nam Long Shan Hill Road	CI-05	Valid

Appendix H License and Permit

Permit number	Starting Date	Expired Date	Valid Time	Location	Contract No.	Status
GW-RS0144-08	19-Mar-08	16-Sep-08	*PME* 19:00 - 23:00 hours (not being a general holidays) 07:00 - 19:00 (General holidays) *PCW* 19:00 - 23:00 hour (Niot being a general holidays) 07:00 - 19:00 (General holidays) One group of equipment shall be allowed in above time	Nam Long Shan Road near Chan Nam Cheong Memorial School	CI-05	Valid
GW-RS0151-08	18-Mar-08	17-Apr-08	*PME* 00:00 - 07:00 hours and 19:00 - 24:00 (Not being a general holiday) 00:00 - 24:00 hours (General holidays) *PCW* 00:00 - 07:00 hours & 19:00 - 24:00 hours (Not being a general holidays) 00:00 - 24:00 hours (General holidays)	Crusher, Conveyor and Barging Point	CI-05	Expired
GW-RS0224-08	18-Apr-08	17-Jun-08	*PME* 19:00 - 23:00 hours (Not being a general holdiays) 07:00 - 23:00 (General holidays) *PCW* 19:00 - 23:00 hours (Not being a general holiday) 07:00 - 23:00 (general holidays)	Crusher, Conveyor and Barging point	CI-05	Cancelled
GW-RS0234-08	15-Apr-08	14-Oct-08	*PME* 19:00 - 23:00 hours (Not being a general holidays) 07:00 - 19:00 hours (General holidays)	Summit Terminus	CI-05	Valid
GW-RS0242-08	21-Apr-08	9-Jun-08	*PME* 19:00 - 23:00 hours (not being a general holidays) 07:00 - 19:00 (General holidays) *PCW* 19:00 - 23:00 hour (Niot being a general holidays) 07:00 - 19:00 (General holidays) One group of equipment shall be allowed in above time	Waterfront – Soft ground Tunnel near Giant Panda Habitat	CI-05	Expired
GW-RS0283-08	6-May-08	5-Jul-08	*PME* *00:00 - 07:00 hours and 19:00 - 24:00 (Not being a general holiday)* *00:00 - 24:00 hours (General holidays)* *PCW* *00:00 - 07:00 hours & 19:00 - 24:00 hours (Not being a general holidays)* *00:00 - 24:00 hours (General holidays)*	Crusher, Conveyor and Barging point	CI-05	Cancelled
GW-RS0339-08	11-Jun-08	10-Dec-08	*PME* *19:00 - 23:00 hours (Not being a general holidays)* *07:00 - 19:00 hours (General holidays)*	Waterfront (near Giant Panda Habitat) - Funicular Tunnel	CI-05	Valid
GW-RS0340-08	11-Jun-08	10-Dec-08	*PME* *00:00 - 07:00 hours and 19:00 - 24:00 (Not being a general holiday)* *00:00 - 24:00 hours (General holidays)*	Summit (at the top of Nam Long Shan Road) - Funicular Tunnel	CI-05	Valid

Appendix H License and Permit

Permit number	Starting Date	Expired Date	Valid Time	Location	Contract No.	Status
GW-RS0387-08	11-Jun-08	9-Dec-08	*PME* 00:00 - 07:00 hours and 19:00 - 24:00 (Not being a general holiday) 00:00 - 24:00 hours (General holidays) *PCW* 00:00 - 07:00 hours & 19:00 - 24:00 hours (Not being a general holidays) 00:00 - 24:00 hours (General holidays)	Crusher, Conveyor and Barging Point	CI05	Valid
CS-01 (KAJV)						
GW-RS0695-07	29-Oct-07	9-Apr-08	*PME* 19:00 - 23:00 hours (Not being a general holidays) 07:00 - 19:00 hours (General holidays) *PCW* 19:00 - 21:00 hours (Not being a general holidays) 08:00 - 17:00 hours (General holidays) One group of equipment shall be allowed in above time.	Summit (At top of Nam Long Shan Road)	CS-01	Expired
GW-RS0175-08	10-Apr-08	9-Oct-08	*PME* 19:00 - 23:00 hours (Not being a general holdiays) 07:00 - 19:00 hours (General holidays) *PCW* 19:00 - 21:00 hours (Not being a general holidays) 07:00 - 19:00 hours (General holidays) One group of equipment shall be allowed in above time.	Summit (At top of Nam Long Shan Road)	CS-01	Valid
CW-02 (W. Hing)						
GW-RS0123-08	10-Mar-08	1-Sep-08	*PME* 19:00 - 23:00 hours (Not being a general holidays) 07:00 - 19:00 hours (General holidays)	Ocean Park, Wong Chuk Hang	CW-02	Valid

Appendix H License and Permit

Other Permits & Licenses

CI–05

Permit /Ref/ No	Valid Period		Section	Status
Notification of Construction Work under APCO				
001017998	-	-	Waterfront	Notified
001018054	-	-	Summit	Notified
Effluent Discharge License				
EP820/W9/XW232	20 Jun 07	30 Jun 12	Summit	Valid
EP820/W9/XW234	13 Jul 07	31 Jul 12	Waterfront	Valid
Specific Process License				
L-11-044 (1)	20-Sep-07	19-Sep-12	Conduct Specified Process in the premises at Ocean Park MRP Contract CI-05 (at top of Nam Long Shan Road)	Valid
Registration as Chemical Waste Producer				
WPN5213-199-D2373-01	7-May-07	-	For disposal of chemical wastes, mainly spent lubricants	Registered
Construction Waste Disposal Charging Scheme				
7004888	-	-	Waterfront + Summit	Issued

CS-01

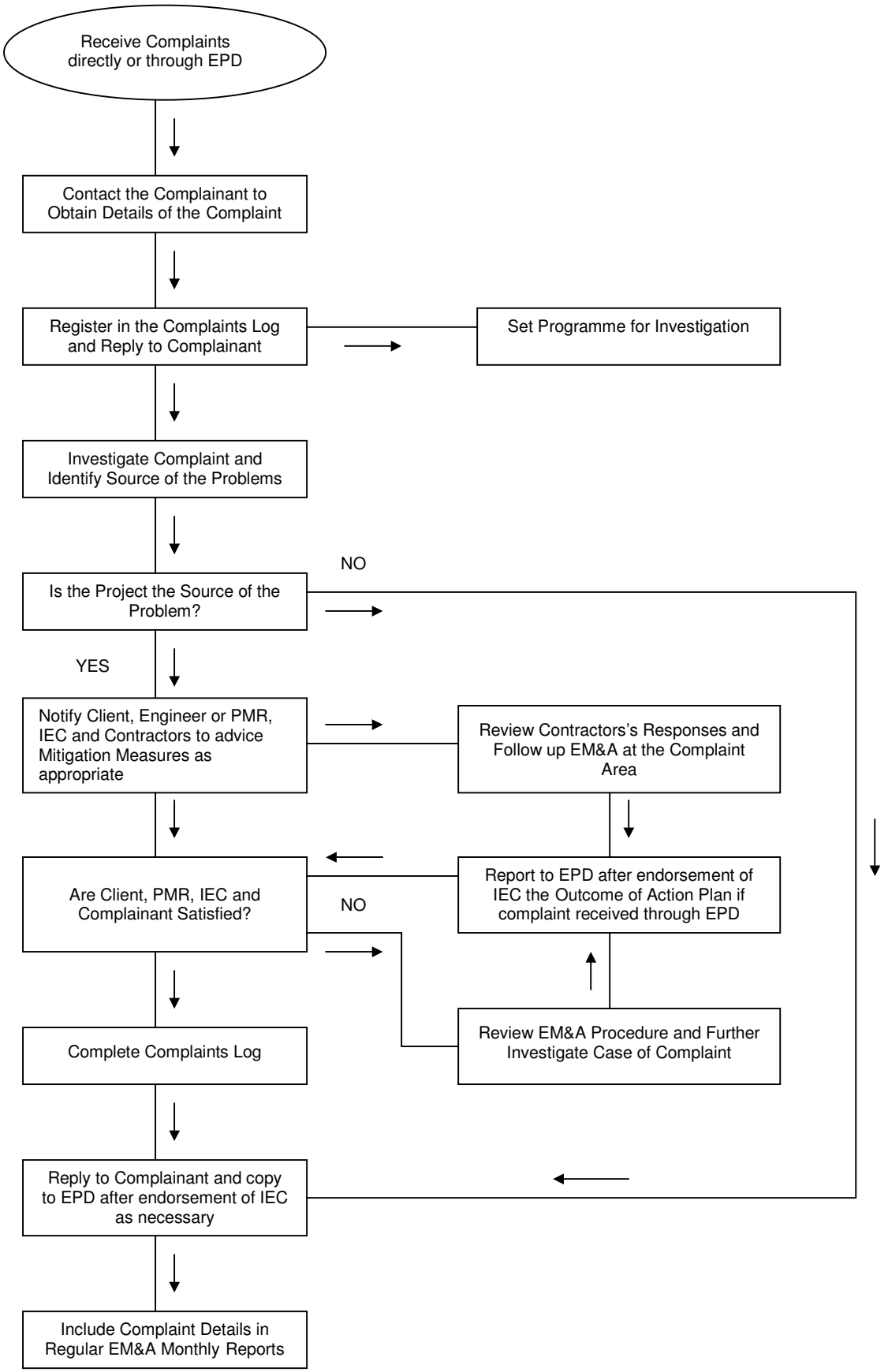
Permit/Ref/No	Valid Period		Section	Status
Notification of Construction Work under APCO				
001018953	-	-	Vet Hospital	Notified
Effluent Discharge License				
EP820/W2/XC041	31 May 07	30 Jun 12	Vet Hospital	Valid
Registration as Chemical Waste Producer				
WPN5213-199-K2880-01	19 Mar 07	-	Used battery, used lubricating oil and lubricating oil / gasoline / diesel contaminated soil.	Registered
Construction Waste Disposal Charging Scheme				
7005185	-	-	Vet Hospital	Issued

CW-02

Permit/Ref/No	Valid Period		Section	Status
Notification of Construction Work under APCO				
001022480	11 July 07	-	Astounding Asia	Notified
Effluent Discharge License				
EP820/W9/XW240	12 Oct 07	31 Oct 12	Astounding Asia	Valid
Registration as Chemical Waste Producer				
5213-199-W2894-18	20 Aug 07	-	Form Oil, Lubricant oil, paint, solvent and diesel.	Registered
Construction Waste Disposal Charging Scheme				
7005864	-	-	Astounding Asia	Issued

Appendix I

APPENDIX I – COMPLAINT FLOW DIAGRAM AND COMPLAINT LOG



Record ID	Date Received	Type (PMR / EPD / Public / Others, please specify)	Description	Responsible Project	Justified complaint?	Status (Open / Closed)
OPE/DBJV/PROJ/QSE/ECR/001	05-Nov-07	Public thro' EPD	The complainant claimed that dust nuisance was observed at Tai Shue Wan on 03-Nov-07.	CI05	N/A	The inspector of EPD came to the scene on 05-Nov-07 and no significant observation was made, hence the complaint was closed.
OPE/DBJV/PROJ/QSE/ECR/002	09-Jan-08	Public thro' OPC	The complainant claimed that noise nuisance was heard from the Ocean Park construction sites during the restricted hours	CI05	Justified	Under investigation, the noise nuisance was concluded from the soft ground tunnel support work adjacent to GPH. Rock breaking had to be carried out within the tunnel works areas due to safety and emergency in order to prevent the collapse of the ground support structure. With regards to the complaints, immediate action was taken and summarized as follows: • The enclosure and the acoustic doors have been built and completed on 21-Jan-08; and • Surveillance was stepped up in order to ensure that timely actions could be taken to rectify any complaints.
OPE/DBJV/PROJ/QSE/ECR/003						
OPE/DBJV/PROJ/QSE/ECR/004	13-Feb-08	Public thro' EPD	The complainant claimed that noise nuisance was heard from the Ocean Park construction sites during the restricted hours at Tai Shue Wan	CI05	Justified	With regards to the complaints, immediate action was taken and summarized as follows: • Additional noise control measures, including noise enclosure at the junction of the conveyors at Tai Shue Wan; and • Well manage the working sequence in order to minimize the impacts to the vicinity.
OPE/DBJV/PROJ/QSE/ECR/005	12-Mar-08	Public thro' EPD	The resident from Broadview Court claimed that noise nuisance from the night works at Nam Long Shan Road	CI05	Justified	With regards to the complaint, investigation has conducted and the findings and action to be taken were summarized as follows: • Movable noise panels and the noise shield have been used during the breaking works. The potential cause of the noise nuisance might be the panels were not placed properly and the noise emitted from the gap. The in-charge foreman has been reminded to place the panels properly in order to minimize the noise nuisance to the vicinity.

Record ID	Date Received	Type (PMR / EPD / Public / Others, please specify)	Description	Responsible Project	Justified complaint?	Status (Open / Closed)
OPE/DBJV/PROJ/QSE/ECR/006	13-Mar-08	Public thro' EPD	The complainant claimed that noise nuisance from the night works at Nam Long Shan Road	CI05	Justified	Please refer to the findings of Record ID No. OPE/DBJV/PROJ/QSE/ECR/005
OPE/DBJV/PROJ/QSE/ECR/007	20-Mar-08	Public thro' EPD	The complainant claimed that noise nuisance from the night works at Nam Long Shan Road	CI05	Justified	With regards to the complaint, investigation has conducted and the findings could not made any conclusions. In this context, the in-charge engineer/foreman of each CNP has notified and reminded that all requirements under the CNP should be complied with all the times.
OPE/DBJV/PROJ/QSE/ECR/008	15-Mar-08	Public thro' EPD	The complainant claimed that dust nuisance from the crusher, Nam Long Shan Road	CI05	Justified	With regards to the complaint, action was taken as follows: • Enhance the water spraying, especially the frequency, in order to minimize the dust nuisance to the vicinity. Besides, the length of dust screen was extended to increase the coverage area of stockpile to minimize the dust nuisance due to strong wind.
OPE/DBJV/PROJ/QSE/ECR/009	19-Mar-08	Public thro' EPD	The complainant claimed that noise from the temporary steel plates over trenches at Nam Long Shan Road	CI05	Justified	With regards to the complaint, immediate action was taken and summarized as follows: • Inform the in-charge foreman to provide sufficient sandbags or rubber pad before placing the temporary steel plates back to cover the trench.
OPE/DBJV/PROJ/QSE/ECR/010	25-Mar-08	Public thro' EPD	Police Training School claimed that dust nuisance from CI12C to the school	CI05	Justified	With regards to the complaint, immediate action was taken and summarized as follows: • Inform the in-charge foreman to increase the frequency of water spraying of the exposed areas.

Record ID	Date Received	Type (PMR / EPD / Public / Others, please specify)	Description	Responsible Project	Justified complaint?	Status (Open / Closed)
OPE/DBJV/PROJ/QSE/ECR/011	23-May-08	Public thro' EPD	The complainant claimed that noise from the temporary steel plates over trenches at Nam Long Shan Road	CI05	Justified	With regards to the complaint, immediate action was taken and summarized as follows: • Inform the in-charge foreman to ensure that the temporary steel plates should be placed tight without loose and gap before leaving. • Inform the heavy vehicle drivers try to not step on the metal plate when driving thro' the metal plates and reduce the speed.

Appendix J

Appendix J Coral Monitoring Results for the reporting quarter

Results for April 2008

No impact coral monitoring was conducted within April 2008. It was because the monitoring frequency was changed to quarterly until the end of construction works as recommended in approved EM&A Manual.

Results for May 2008

Site 1

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)				Bleaching (%)				Mortality (%)			
			Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08
A01	*Platygyra carnosus*	1000	0, 0	1, 1▲	0, 0	0, 0	0	0	0	0	0	0	0	0
A02	*Platygyra carnosus*	2000	0, 0	0, 0	0, 0	0, 0	0	0	0	0	0	0	0	0
A03	*Favites pentagona*	200	0, 0	0, 0	0, 0	**2**, 1▲	0	0	0	0	0	0	0	0
A04	*Leptastrea pruinosa*	400	5, 1	**0**, 0▼	**3**, 1▼	**0**, 0▼	0	0	0	0	0	0	0	0
A05	*Platygyra carnosus*	1200	0, 0	0, 0	0, 0	**2**, 1▲	0	0	0	0	5	5	5	5
A06	*Platygyra carnosus*	1600	0, 0	0, 0	0, 0	**3**, 1▲	0	0	0	0	0	0	0	0
A07	*Favia rotumana*	800	5,1	**1**, 1▼	**1**, 1▼	**2**, 1▼	0	0	0	0	0	0	0	0
A08	*Platygyra carnosus*	1000	0, 0	**4**, 1▲	0, 0	**2**, 1▲	0	0	0	0	0	0	0	0
A09	*Platygyra carnosus*	350	0, 0	0, 0	0, 0	**3**, 1▲	0	0	0	0	0	0	0	0
A10	*Platygyra carnosus*	700	0, 0	**9**, 1▲	0, 0	**3**, 1▲	0	0	0	0	0	0	0	0

Site 2

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)				Bleaching (%)				Mortality (%)			
			Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08
B01	*Platygyra carnosus*	450	0, 0	0, 0	0, 0	**2**, 1▲	0	0	0	0	0	0	0	0
B02	*Plesiastrea versipora*	300	0, 0	0, 0	**1**, 1▲	**2**, 1▲	0	0	0	0	0	0	0	0
B03	*Psammocora superficialis*	1000	5, 1	**3**, 1▼	5, 1	**2**, 1▼	0	0	0	0	0	0	0	2▲
B04	*Favia speciosa*	300	4, 1	**8**, 1▲	**5**, 1▲	**2**, 1▲	0	0	0	0	0	0	0	0
B05	*Plesiastrea versipora*	900	3, 1	**2**, 1▼	**0**, 0▼	3, 1	0	0	2▲	2▲	0	0	0	0
B06	*Platygyra carnosus*	600	0, 0	**1**, 1▲	**1**, 1▲	0, 0	0	0	0	0	0	0	0	0
B07	*Cyphastrea serailia*	700	0, 0	**3**, 1▲	**3**, 1▲	**2**, 1▲	0	0	0	0	0	0	0	0
B08	*Plesiastrea versipora*	1200	0, 0	**5**, 1▲	**2**, 1▲	**2**, 1▲	0	0	0	0	0	0	0	0
B09	*Favites pentagona*	600	0, 0	**1**, 1▲	**2**, 1▲	4, 1▲	0	0	2▲	0	0	0	0	0
B10	*Favites pentagona*	400	0, 0	0, 0	**2**, 1▲	**2**, 1▲	0	2▲	0	0	0	0	2▲	2▲

Site 3

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)				Bleaching (%)				Mortality (%)			
			Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08
C01	*Platygyra acuta*	2000	0, 0	0, 0	0, 0	0, 0	0	0	0	0	0	0	0	0
C02	*Platygyra carnosus*	1000	0, 0	0, 0	0, 0	0, 0	0	0	0	0	0	0	0	0
C03	*Porites sp.*	400	5, 1	5, 1	**3**, 1▼	**3**, 1▼	0	0	15▲*	0	1	1	5▲	5▲
C04	*Cyphastrea serailia*	600	4, 1	**5**, 1▲	**5**, 1▲	4, 1	0	0	0	0	0	0	0	0
C05	*Pavona decussata*	600	0, 0	0, 0	0, 0	**4**, 1▲	0	0	0	0	0	0	0	0
C06	*Pavona decussata*	1200	0, 0	0, 0	0, 0	**2**, 1▲	0	0	0	0	0	0	0	0
C07	*Montipora cf. turgescens*	200	2, 1	**0**, 0▼	2, 1	2, 1	0	0	0	0	0	0	0	0
C08	*Favia favus*	600	4, 1	**5**, 1▲	**0**, 0▼	4, 1	0	0	0	0	4	4	4	4
C09	*Favites pentagona*	150	1, 1	1, 1	1, 1	**4**, 1▲	0	0	0	0	0	0	0	5▲
C10	*Montipora peltiformis*	300	0, 0	0, 0	**1**, 1▲	0, 0	0	**2**▲	**2**▲	0	0	0	0	0

* Paleness of colony recorded; Further observation is needed to evaluate the percentage of bleaching.

Site 4

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)				Bleaching (%)				Mortality (%)			
			Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08
E01	*Goniopora stutchburyi*	300	0, 0	**3**, 1▲	0, 0	**2**, 1▲	0	0	0	0	0	0	0	0
E02	*Goniopora stutchburyi*	200	0, 0	0, 0	0, 0	0, 0	0	0	0	0	0	0	0	0
E03	*Goniopora stutchburyi*	150	0, 0	0, 0	0, 0	**3**, 1▲	0	0	0	0	0	0	0	0
E04	*Porites sp.*	400	5, 1	**2**, 1▼	**1**, 1▼	**2**, 1▼	0	0	30▲*	0	0	0	5▲	5▲
E05	*Goniopora stutchburyi*	300	0, 0	**5**, 1▲	**2**, 1▲	**2**, 1▲	0	0	0	0	0	0	0	0
E06	*Goniopora stutchburyi*	450	0, 0	0, 0	**3**, 1▲	**2**, 1▲	0	0	0	0	0	0	0	0
E07	*Favia speciosa*	600	10, 1	**1**, 1▼	**1**, 1▼	**2**, 1▼	0	0	0	0	0	0	0	0
E08	*Porites sp.*	150	0, 0	0, 0	0, 0	**2**, 1▲	0	0	0	0	4	4	4	4
E09	*Porites sp.*	200	8, 1	**4**, 1▼	**2**, 1▼	**2**, 1▼	0	**2**▲	5▲	0	4	4	4	4
E10	*Porites sp.*	500	0, 0	0, 0	**1**, 1▲	**2**, 1▲	3	3	3	3	0	0	4▲	4▲

* Paleness of colony recorded; Further observation is needed to evaluate the percentage of bleaching.

Site 5

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)				Bleaching (%)				Mortality (%)			
			Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08
D01	*Psammocora* sp.	600	10, 1	**8**, 1 ▼	**5**, 1 ▼	10, 1	0	0	0	0	0	0	2 ▲	2 ▲
D02	*Montipora cf. turgescens*	100	6, 1	**5**, 1 ▼	**5**, 1 ▼	6, 1	0	**2** ▲	0	0	0	0	0	0
D03	*Goniopora stutchburyi*	400	0, 0	**2**, 1▲	0, 0	**5**, 1▲	0	0	0	0	0	0	0	0
D04	*Leptastrea pruinosa*	500	4, 1	**1**, 1 ▼	**2**, 1 ▼	**3**, 1 ▼	0	0	0	0	0	**5** ▲	5 ▲	5 ▲
D05	*Porites* sp.	400	5, 1	**0**, 0 ▼	5, 1	**10**, 1▲	1	**3** ▲	**13** ▲*	0	4	4	Unknown#	4
D06	*Plesiastrea versipora*	1000	0, 0	0, 0	**3**, 1 ▲	**3**, 1 ▲	0	0	0	0	5	5	5	5
D07	*Leptastrea pruinosa*	800	0, 0	**5**, 1 ▲	**3**, 1 ▲	**5**, 1 ▲	0	0	0	0	0	0	0	0
D08	*Plesiastrea versipora*	100	0, 0	0, 0	0, 0	**5**, 1 ▲	0	0	**5** ▲	**5** ▲	0	0	0	0
D09	*Leptastrea pruinosa*	150	5, 1	5, 1	**3**, 1 ▼	**9**, 1 ▲	0	0	0	0	0	0	0	0
D10	*Montipora cf. turgescens*	200	0, 0	**2**, 1 ▲	0, 0	**10**, 1▲	0	0	0	0	0	0	0	0

* Paleness of colony recorded; # Colony surface was temporarily covered by mucus and microalgae.

Control Site C

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)				Bleaching (%)				Mortality (%)			
			Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08	Apr 07 (baseline)	10 Nov 07	16 Feb 08	10 May 08
F01	*Favia speciosa*	900	0, 0	0, 0	0, 0	**2**, 1 ▲	0	0	0	0	0	0	0	0
F02	*Favites pentagona*	1000	4, 1	**2**, 1 ▼	**2**, 1 ▼	4, 1	0	0	0	0	0	**3** ▲	**3** ▲	**3** ▲
F03	*Favites pentagona*	800	0, 0	**2**, 1 ▲	**1**, 1 ▲	**2**, 1 ▲	0	**2** ▲	0	0	0	**2** ▲	**2** ▲	**2** ▲
F04	*Porites sp.*	800	5, 1	5, 1	**8**, 1 ▲	5, 1	4	**3**▼	**7** ▲*	**0**▼	4	4	Unknown#	**5** ▲
F05	*Cyphastrea serailia*	800	4, 1	**3**, 1 ▼	**1**, 1 ▼	**2**, 1 ▼	0	0	0	0	1	1	1	1
F06	*Psammocora sp.*	1800	0, 0	**6**, 1 ▲	**2**, 1 ▲	**5**, 1 ▲	0	**1** ▲	0	0	0	0	0	0
F07	*Plesiastrea versipora*	3000	0, 0	0, 0	0, 0	0, 0	0	0	0	0	0	0	0	0
F08a	*Favia speciosa*	150	0, 0	**1**, 1 ▲	0, 0	**2**, 1 ▲	0	0	0	0	0	0	0	0
F08b	*Goniastrea favulus*	300	0, 0	**3**, 1 ▲	**2**, 1 ▲	0, 0	0	0	0	0	0	0	0	0
F09	*Favites pentagona*	1800	10, 1	**2**, 1 ▼	**2**, 1 ▼	**2**, 1 ▼	0	0	0	0	0	**1** ▲	**3** ▲	**3** ▲
F10	*Platygyra carnosus*	2800	0, 0	**1**, 1▲	0, 0	0, 0	0	0	0	0	0	0	0	0

* Paleness of colony recorded; # Colony surface was temporarily covered by mucus and microalgae.

In the monitoring surveys conducted in May 2008, sedimentation on the tagged colonies from Site 1 to 5 and the Control Site increased by 2 to 10% (n=33 out of 60 colonies) when compared with the Initial Survey conducted on 7 to 12 April 2007. In another 10 colonies from all six sites, their sedimentation decreased by 1 to 8% when compared with the Initial Survey conducted on 7 to 12 April 2007. Bleaching increased in 2 colonies by 2 to 5 %. Partial mortality increased in 12 colonies by 2 to 5%, with 4 from the Control Site.

In all the 5 monitoring sites and 1 control site, level of sedimentation on the tagged corals varied within a small range (≤10%) without an observable trend. The variation was believed to be resulted from combined environmental factors such as monsoonal wind, tidal current, peripheral transports, substratum type, etc. The low level of increment in bleaching and partial mortality suggested minor adverse effect was caused by the observed sedimentation.

The data from this monitoring survey showed no significant enhancement in sedimentation, bleached or mortality in all the 5 monitoring sites when compared with the Control Site. Hence, no adverse impact by the construction activity on the coral community was evidenced.

Results for June 2008

No impact coral monitoring was conducted within June 2008. It was because the monitoring frequency was changed to quarterly until the end of construction works as recommended in approved EM&A Manual. The next scheduled monitoring should be in August 2008.

Appendix K

Appendix K Terrestrial Ecology Monitoring Results

Results from April 2008

Year	Month	Common name of plant	No. of plant transplanted	No. of Survived	Survival rate	Remarks
2008	April	Balloon Flower	30	28	93.3%	
		Chinese Lily	25	25	100%	
		Sword-leaved Orchid	45	45	100%	

The monitoring results showed that the survival rate of Sword-leaved Orchid was 100%. Most of the transplanted Balloon Flowers at the receptor site were experience seasonal shrunken and re-generated in the growing season. The survival rate of Balloon Flower was 93.3%. All the transplanted Chinese Lily were re-germinated in the current growing season and were identified during the monitoring in April 2008. The survival rate of Chinese Lily was 100%.

Results from May 2008

Year	Month	Common name of plant	No. of plant transplanted	No. of Survived	Survival rate	Remarks
2008	May	Balloon Flower	30	28	93.3%	
		Chinese Lily	25	25	100%	
		Sword-leaved Orchid	45	43	95.6%	

The monitoring results showed that the survival rate of Sword-leaved Orchid was 95.6%. Due to the survival rate of Sword-leaved Orchid decreased compared to the last month, the suggested mitigation measures would be provided as follows:

1. To improve soil fertility by add some fertile soil and fertilize; and
2. To watering the plants twice a day in non-raining days.

Most of the transplanted Balloon Flowers at the receptor site were experience seasonal shrunken and re-generated in the growing season. The survival rate of Balloon Flower was 93.3%. All the transplanted Chinese Lily were re-germinated in the current growing season and were identified during the monitoring in May 2008. The survival rate of Chinese Lily was 100%.

Results from June 2008

Year	Month	Common name of plant	No. of plant transplanted	No. of Survived	Survival rate	Remarks
2008	May	Balloon Flower	30	28	93.3%	
		Chinese Lily	25	25	100%	
		Sword-leaved Orchid	45	43	95.6%	

The monitoring results showed that the survival rate of Sword-leaved Orchid was 95.6%. Two were observed not in healthy condition since the following potential causes:

1. The plant are naturally growing among shrubland and the plants are adopted to the soil condition and shading environment. While, the soil and shading condition at the plant nursery is different.
2. The soil at the plant nursery is quite dry and frequency of watering was found not enough. Some big trees are growing around the plant nursery and they consume groundwater and also contribute to dry soil condition.

Due to the survival rate of Sword-leaved Orchid in May & June 2008 decreased compared to the survival rate in April 2008, the following mitigation measures were implemented since May 2008:

1. To improve soil fertility by add some fertile soil and fertilize; and
2. To watering the plants twice a day in non-raining days.

The condition of the Sword-leaved Orchid upon implementation of the mitigation measures would be reported in the next monthly report.

Most of the transplanted Balloon Flowers and all the Chinese Lily at the receptor site were re-generated in the growing season. The survival rate of Balloon Flower was 93.3% and the survival rate of Chinese Lily was 100%.