



Highways Department

Agreement No. CE 20/2009 (EP)

**Environmental Team for the Widening of
Tolo Highway / Fanling Highway between
Island House Interchange and Fanling****(Stage 1)****Between Island House Interchange and
Tai Hang - Investigation****Quarterly EM&A Summary Report
for February 2010 - April 2010**

[05/2010]

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Version:	Rev. 0	Date: 28 May 2010
<p>The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client and AECOM Environment accepts no responsibility for its use by others.</p> <p>This report is copyright and may not be reproduced in whole or in part without prior written permission</p>		

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26 May 2010
By Fax (2805 5028) and Post

Attn.: Mr. Tony Wong

Dear Sir,

**Widening of Tolo Highway between
Island House Interchange and Tai Hang
Environmental Permit No.: EP-324/2008
Submission of Quarterly EM&A Summary Report for February to April 2010 (Stage 1)**

We refer to the revised Quarterly EM&A Summary Report for February to April 2010 for the Project received on 24 May 2010 submitted by ET via email. We confirm we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

A handwritten signature in black ink, appearing to read 'Joseph Chan'.

Joseph Chan
IEC

c.c. HyD – Mr. Raymond Yip / Mr. C.K. Chan / Mr. William Chiang
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ETL, AECOM – Mr. Y T Tang

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EXECUTIVE SUMMARY

The proposed widening of Tolo Highway and Fanling Highway between Island House Interchange and Fanling (the Project) is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is governed by an Environmental Permit (EP-324/2008)(EP). The Project aims to widen Tolo Highway and Fanling Highway to dual 4-lane carriageway in order to alleviate the current traffic congestion problems and to cope with the increasing transport demands to and from the urban areas and also cross boundary traffic.

The construction works for this Project will be delivered in 2 stages i.e. Stage 1 (between Island House Interchange and Tai Hang) and Stage 2 (between Tai Hang and Wo Hop Shek Interchange). The construction works of Stage 1 were commenced on 23 November 2009 and will tentatively be completed in December 2013; while construction programme of Stage 2 is currently under review. This report focuses on Stage 1 of the Project only.

The construction phase of Stage 1 under the EP and the EM&A programme for Stage 1 of the Project commenced on 23 November 2009. The impact environmental monitoring and audit includes air quality and noise monitoring.

This report documents the findings of EM&A works conducted in the period between 1 February 2010 and 30 April 2010. As informed by the Contract 1 Contractor (CSCE), construction activities in the reporting period were:

- Site investigation;
- Install temporary shoring and sheetpiling;
- Excavation and backfilling;
- Demolition, re-build and construction of box culverts;
- Erection of safety fences;
- Bored piling;
- Tree felling and transplantation;
- Pile cap construction;
- Installation of soil nails;
- Construction of footings and foundation for temporary bridges;
- Widening and demolition of existing central dividers;
- Retaining wall construction;
- Erection of temporary bridges;
- At-grade road construction;
- Formation of slip road;
- Construction of temporary access;
- Step channel construction; and
- Erection of temporary bridges.

Site clearance and preparatory works were carried out by the Contract 2 Contractor (Gammon) in the reporting period.

Environmental Monitoring Works

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

24-hour TSP monitoring	16 sessions (AM2, AM3 and AM4) /13 sessions (AM1/AM1A)
1-hour TSP monitoring	45 sessions
Daytime Noise monitoring	13 regular sessions
Environmental Site inspection	13 sessions

Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Level was recorded for 1-hour TSP monitoring in the reporting period.

However, one (1) Limit Level exceedance was recorded for 24-hour TSP monitoring at AM2 in the reporting period.

Breaches of Action and Limit Levels for Noise

There was no noise related complaint followed up by Environmental Team in the reporting period, hence no Action Level exceedances of noise was recorded.

No Limit Level exceedance of noise was recorded in the reporting quarter.

Complaint, Notification of Summons and Successful Prosecution

No environmental complaint was followed up by Environmental Team in the reporting quarter.

No notification of summons and successful prosecution were received in the reporting quarter.

1 INTRODUCTION

Background

- 1.1. Tolo Highway and Fanling Highway are expressways in the North East New Territories connecting Sha Tin, Tai Po and Fanling. These highways form a vital part of the strategic Route 1, which links Hong Kong Island to Shenzhen. At present, this section of Route 1 is dual 3-lane carriageway. However, at several major interchanges along this section of Route 1, the highway is only dual-2 lane. Severe congestion is a frequent occurrence during peak periods, particularly in the Kowloon bound direction.
- 1.2. The objective of the Project “Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling” is to widen Tolo Highway and Fanling Highway to dual 4-lane carriageway in order to alleviate the current traffic congestion problems and to cope with the increasing transport demands to and from the urban areas and also cross boundary traffic.
- 1.3. The Project is a designated project and is governed by an Environmental Permit (EP-324/2008)(EP).
- 1.4. The scope of the Project comprises mainly:
 - (i) Widening of a 5.7 km section of Tolo Highway and 3.0 km section of Fanling Highway between Island House Interchange and Wo Hop Shek Interchange from the existing dual 3-lane to dual 4-lane, including construction of new vehicular bridges;
 - (ii) Widening of interchange sections at Island House Interchange, Tai Po North Interchange, and Lam Kam Road Interchange from dual 2-lane to dual 3-lane, including realignment of various slip roads;
 - (iii) Modification and reconstruction of highways, vehicular bridges, underpasses and footbridges.
- 1.5. The construction works for this Project will be delivered in 2 stages i.e. Stage 1 (between Island House Interchange and Tai Hang) and Stage 2 (between Tai Hang and Wo Hop Shek Interchange). The construction works of Stage 1 commenced on 23 November 2009 and will tentatively be completed in December 2013; while construction programme of Stage 2 is currently under review. This report focuses on Stage 1 of the Project only.
- 1.6. The construction works for Stage 1 of the Project will be implemented under 2 works contracts (Contract 1 and Contract 2). Contract 1 covers the section of Tolo Highway between Island House Interchange and Ma Wo, Contract 2 covers the section of Tolo Highway between Ma Wo and Tai Hang.
- 1.7. China State Construction Engineering (Hong Kong) Ltd. (CSCE) was commissioned as the Contractor of Contract 1 of Stage 1 of the Project, while Gammon Construction Limited was commissioned as the Contractor of Contract 2 of Stage 1 of the Project. AECOM Asia Co. Ltd. was employed by Highways Department as the Environmental Team to undertake the EM&A works for Stage 1 of the Project.
- 1.8. Hyder-Arup-Black and Veatch Joint Venture are appointed by Highways Department as the consultants for the design and construction assignment for the Tolo project under Agreement No. CE 58/2000 (i.e. the Engineer for the Contracts) and Mott MacDonald Hong Kong Ltd. acts as the Independent Environmental Checker (IEC) for the Contracts.
- 1.9. The construction phase of Stage 1 under the EP commenced on 23 November 2009.
- 1.10. According to the updated EM&A Manual of Stage 1 of the Project, there is a need of an EM&A programme including air quality and noise monitoring. The EM&A programme for Stage 1 of the Project commenced on 23 November 2009.

Scope of Report

- 1.11. This is the second Quarterly Environmental Monitoring and Audit (EM&A) Summary Report under the Agreement No. CE 20/2009 (EP) - Widening of Tolo Highway between Island House Interchange and Tai Hang – Investigation. This report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures proposed by the ET for Stage 1 of the Project from 1 February 2010 to 30 April 2010.

Project Organization

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

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
ER of Stage 1, Contract 1 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOLO1	James Tsang	9038 8797	26674000
ER of Stage 1, Contract 2 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOLO2	Paul Appleton	9097 5833	To be advised
IEC of Stage 1 (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker	Joseph Chan	2828 5920	2827 1823
Contractor of Stage 1, Contract 1 (CSCE)	Site Agent	S Y Tse	9078 0458	2667 5666
	Environmental Officer	Michael Tsang	9277 4956	2667 5666
Contractor of Stage 1, Contract 2 (Gammon)	Construction Manager	K F Tam	9032 1133	To be advised
ET of Stage 1 (AECOM)	ET Leader	Y T Tang	2893 1551	2891 0305

Summary of Construction Works

- 1.13. The construction phase of Stage 1 under the EP commenced on 23 November 2009. Details of the construction works carried out by the Contract 1 Contractor (CSCE) in this reporting period are listed below:
- Site investigation;
 - Install temporary shoring and sheetpiling;
 - Excavation and backfilling;
 - Demolition, re-build and construction of box culverts;

- Erection of safety fences;
- Bored piling;
- Tree felling and transplantation;
- Pile cap construction;
- Installation of soil nails;
- Construction of footings and foundation for temporary bridges;
- Widening and demolition of existing central dividers;
- Retaining wall construction;
- Erection of temporary bridges;
- At-grade road construction;
- Formation of slip road;
- Construction of temporary access;
- Step channel construction; and
- Erection of temporary bridges.

- 1.14. Site clearance and preparatory works were carried out by the Contract 2 Contractor (Gammon) in the reporting period.
- 1.15. The Construction Programmes are shown in Appendix B.
- 1.16. The general layout plan of the Project site showing the contract area is shown in Figure 1.1.
- 1.17. The mitigation measures implementation schedule are presented in Appendix C.

2 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters

- 2.1. The updated EM&A Manual designated 4 air quality monitoring stations and 7 noise monitoring stations to monitor environmental impacts on air quality and noise due to Stage 1 of the Project.
- 2.2. For air quality, monitoring locations AM2 (Shan Tong New Village) and AM3 (Riverain Bayside) were set up at the proposed locations in accordance with updated EM&A Manual. However, for monitoring locations: Dynasty View (AM1) and Tai Po Garden (AM4), proposed in the updated EM&A Manual, as approval could not be obtained from the owner's corporation of the premises, impact air quality monitoring was conducted at alternative monitoring locations: AM1 (Ha Wun Yiu) and AM4 (Tai Kwong Secondary School).
- 2.3. On 8 February 2010, the property owner of 13 Ha Wun Yiu (AM1) terminated the electricity supply for the air quality monitoring equipment, nearby alternative air quality monitoring location at Fan Sin Temple, 3 Sheung Wun Yiu, naming AM1A was sought. Installation of equipment and calibration were completed on 25 February 2010. 1-hour TSP monitoring at AM1 was also moved to AM1A on 25 February 2010 corresponding to the change of 24-hour TSP monitoring location.
- 2.4. For noise, monitoring stations NM3 (Wong Shiu Chi Middle School), NM6 (PLK Tin Ka Ping Primary School) and NM7 (Riverain Bayside) were set up at the proposed locations in accordance with updated EM&A Manual. However, for monitoring locations: Tai Po Garden (NM1), Dynasty View (NM2), Hong Kong Teachers' Association Lee Heng Kwei Secondary School (NM4) and Grand Palisades (NM5), proposed in the updated EM&A Manual, as approval of access could not be obtained from the owner's corporation of the premises or the principal of the education institutes, impact noise monitoring was conducted at alternative monitoring locations: NM1 (Tai Kwong Secondary School), NM2 (Ha Wun Yiu), NM4 (Uptown Plaza) and NM5 (The Paragon).
- 2.5. The monitoring locations are depicted in Figure 2.1.
- 2.6. The updated EM&A Manual also required environmental site inspections for air quality, noise, water quality, chemical, waste management, ecology and landscape and visual impact.

Environmental Quality Performance Limits (Action/Limit Levels)

- 2.7. The environmental quality performance limits (i.e. Action/Limit Levels) were derived from the baseline air quality monitoring results at the respective monitoring stations (AM1(A), AM2, AM3 and AM4) and / or as defined in the EM&A Manual (NM1, NM2, NM3, NM4, NM5, NM6 and NM7), and are given in Appendix D.

Environmental Mitigation Measures

- 2.8. Relevant environmental mitigation measures were stipulated in the Particular Specification and EP (No.: EP-235/2005/B) for the Contractor to adopt. A list of mitigation measures and their implementation statuses are given in Appendix C.

3 AIR QUALITY MONITORING

- 3.1. Air quality monitoring, including 1-hr and 24-hr TSP, was conducted at least 3 times every 6 days and at least once every 6 days respectively at the 4 monitoring stations (AM1, AM2, AM3 and AM4), in accordance with the updated EM&A Manual.
- 3.2. The 24-hour TSP monitoring scheduled on 19 March 2010 at 12 Shan Tong New Village (AM2) could not be completed due to power interruption. A supplementary 24-hour TSP monitoring was carried out on 22 March 2010 at AM2.
- 3.3. The weather was either sunny or cloudy in the reporting quarter. The major dust source of the construction work area included concrete breaking, soil nail installation and excavation activities from Stage 1 of the Project, as well as nearby traffic emissions.
- 3.4. The number of monitoring events and exceedances recorded in each month of the reporting quarter are presented in Table 3.1 and Table 3.2 respectively.

Table 3.1 Summary of Number of Monitoring Events for 1-hr & 24-hr TSP Concentration

Monitoring Parameter	Location	No. of monitoring events		
		Feb 10	Mar 10	Apr 10
1-hr TSP	AM1	12	0	0
	AM1A	3	15	15
	AM2	15	15	15
	AM3	15	15	15
	AM4	15	15	15
24-hr TSP	AM1	1	0	0
	AM1A	1	5	6
	AM2	5	6	5
	AM3	5	5	6
	AM4	5	5	6

Table 3.2 Summary of Number of Exceedances for 1-hr & 24-hr TSP Monitoring

Monitoring Parameter	Location	Level of Exceedance	Level of Exceedance			
			Feb 10	Mar 10	Apr 10	
1-hr TSP	AM1	Action	0	0	0	
		Limit	0	0	0	
	AM1A	Action	0	0	0	
		Limit	0	0	0	
	AM2	Action	0	0	0	
		Limit	0	0	0	
	AM3	Action	0	0	0	
		Limit	0	0	0	
	AM4	Action	0	0	0	
		Limit	0	0	0	
		Total	0	0	0	
	24-hr TSP	AM1	Action	0	0	0
			Limit	0	0	0
		AM1A	Action	0	0	0
Limit			0	0	0	
AM2		Action	0	0	0	
		Limit	0	1	0	
AM3		Action	0	0	0	
		Limit	0	0	0	
AM4		Action	0	0	0	
		Limit	0	0	0	
		Total	0	1	0	

3.5. All 1-hour TSP results were below the Action and Limit Level at all monitoring locations in the reporting quarter.

3.6. However, one (1) Limit Level exceedance was recorded for 24-hour TSP monitoring at AM2 in the on 22 March 2010. From the information of EPD, the Air Pollution Index (API) at Tai Po exceeded 300 and even reached 500 at some time during the same monitoring period. Soil nailing works, bore piling and excavation works were carried out on 22/3/2010. The following dust mitigation measures have been implemented by the Contract 1 Contractor (CSCE):

- Covering the stockpile of excavated material and slope surface with tarpaulin;
- Soil was dampened before excavation;
- Erecting dust screen during soil nail drilling work;
- Haul roads were dampened by water truck;
- Vehicle washing facility was provided at vehicle exit points, and every vehicle was washed to remove any dusty materials from its body and wheels before leaving the sites.

While the abovementioned construction activities had been carried out since January 2010 along with the dust mitigation measures implemented, no air quality monitoring exceedance was recorded in previous monitoring works. The dust exceedance was therefore considered not due to the Project works.

3.7. The graphical plots of the air quality monitoring results are provided in Appendix E.

4 CONSTRUCTION NOISE MONITORING

- 4.1. Construction noise monitoring was conducted at the 7 monitoring stations (NM1, NM2, NM3, NM4, NM5, NM6 and NM7) for at least once per week during 07:00 – 19:00 in the reporting quarter.
- 4.2. The major noise source during the noise monitoring included construction activities of Stage 1 of the Project, nearby traffic noise and general school activities.
- 4.3. The number of construction noise monitoring events and exceedances are summarized in Table 4.1 and Table 4.2 respectively.

Table 4.1 Summary of Number of Monitoring Events for Construction Noise

Monitoring Parameter	Location	No. of monitoring events		
		Feb 10	Mar 10	Apr 10
Construction Noise	NM1	4	4	5
	NM2	4	4	5
	NM3	4	4	5
	NM4	4	4	5
	NM5	4	4	5
	NM6	4	4	5
	NM7	4	4	5

Table 4.2 Summary of Number of Monitoring Exceedances for Construction Noise

Monitoring Parameter	Location	Level of Exceedance	Level of Exceedance		
			Feb 10	Mar 10	Apr 10
Construction Noise	NM1	Limit	0	0	0
	NM2		0	0	0
	NM3		0	0	0
	NM4		0	0	0
	NM5		0	0	0
	NM6		0	0	0
	NM7		0	0	0
	Total		0	0	0

- 4.4. All measured construction noise levels were below the Limit level and the graphical plots of the trends of the monitoring results are provided in Appendix F.
- 4.5. There was no noise related complaints followed up by Environmental Team in the reporting period. Hence, no Action Level exceedance was recorded.

5 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 5.1. Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for Stage 1 of the Project. In the reporting quarter, 13 site inspections were carried out for Contract 1 of the Project. No environmental site inspection was carried out for Contract 2 from February to April 2010, as only site preparatory works were conducted in the reporting period. Particular observations during the site inspections are described below:

Air Quality

- 5.2. Stockpiles of stonefine and sediment were not properly covered at Wall 8 and at Bridge 10A respectively. The Contractor was reminded to cover the stockpiles with tarpaulin sheet.

Noise

- 5.3. Moderate noise level was generated during the concrete breaking activity at Bridge 10A. The Contractor was recommended to wrap the breaker tip with sound insulation material.

Water Quality

- 5.4. Silt was observed deposited in the u-channel along Bridge 11A to Retaining Wall 10 and at Bridge 10A pier 2. The Contractor was reminded to clear the u-channel regularly.
- 5.5. Stagnant water was observed at the wheel washing bay at Banyan Bridge and near the sedimentation tanks at Bridge 10A. The Contractor was reminded to clear the stagnant water or to spray larvicide to the water.
- 5.6. The water in Tai Po River outside Wall 10 was muddy. The Contractor was requested to investigate the cause of the muddy water and suspend the work of the possible source immediately.

Ecology

- 5.7. No adverse observation was identified in the reporting quarter.

Chemical and Waste Management

- 5.8. A hole was observed on the drip tray underneath an oil drum at Banyan Bridge. The Contractor was reminded to seal off the hole.
- 5.9. Oil stains were observed on the top soil layer on the ground at Banyan Bridge. The Contractor was reminded to clear the oily soil and treat it as chemical waste. Immediate action was taken by the Contractor.
- 5.10. Oil drums were found placed on ground without drip tray at Bridge 10A, at Wall 14, at Bridge 11A and at Tat Wan Road Slope 13. The Contractor was reminded to provide drip tray to all chemicals containers on site.
- 5.11. A few chemical containers at Tat Wan Road Slope 13 and at Wall 10 were found without label. The Contractor was reminded to provide chemical label to all chemicals on site.
- 5.12. The drip tray underneath a water pump at Tat Wan Road was full. The Contractor was reminded to remove the content inside the drip tray.
- 5.13. Small amount of oil seepage was observed underneath an idle excavator at Banyan Bridge and underneath a crawler crane at Bridge 10A. The Contractor was reminded to provide a tarpaulin sheets

underneath the idle excavator, remove the contaminated soil as chemical waste and properly maintain the machineries on site.

Landscape and Visual Impact

- 5.14. One of the fencings for protecting the retained trees was broken at Banyan Bridge. The Contractor was reminded to fix the fencing.

6 ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS

- 6.1. The Contract 1 Contractor (CSCE) is registered as a chemical waste producer for Stage 1 of the Project. C&D material sorting was carried out on site. Sufficient numbers of receptacles were available for general refuse collection.
- 6.2. As advised by the Contract 1 Contractor (CSCE), 9189 m³ of inert C&D material was disposed as public fill to Tuen Mun 38 while 477kg and 193 m³ of general refuse were disposed at NENT landfill in the reporting month. 2336m³ of inert C&D materials were reused on site.
- 6.3. As advised by the Contract 2 Contractor (Gammon), 4.5 ton of general refuse was disposed to NENT landfill in the reporting period.
- 6.4. The Contractors are advised to maintain on site waste sorting and recording system and maximize reuse / recycle of C&D wastes.

7 SUMMARY OF NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY

- 7.1. There was no 1-hr TSP and noise monitoring exceedance recorded in the reporting quarter.
- 7.2. There was no noise related complaints followed up by Environmental Team in the reporting period. Hence, no Action Level exceedance was recorded.
- 7.3. However, one (1) Limit Level exceedance was recorded for 24-hour TSP monitoring at AM2 in the on 22 March 2010. From the information of EPD, the Air Pollution Index (API) at Tai Po exceeded 300 and even reached 500 at some time during the same monitoring period. Soil nailing works, bore piling and excavation works were carried out on 22/3/2010. The following dust mitigation measures have been implemented by the Contract 1 Contractor (CSCE):
- Covering the stockpile of excavated material and slope surface with tarpaulin;
 - Soil was dampened before excavation;
 - Erecting dust screen during soil nail drilling work;
 - Haul roads were dampened by water truck;
 - Vehicle washing facility was provided at vehicle exit points, and every vehicle was washed to remove any dusty materials from its body and wheels before leaving the sites.

While the abovementioned construction activities had been carried out since January 2010 along with the dust mitigation measures implemented, no air quality monitoring exceedance was recorded in previous monitoring works. The dust exceedance was therefore considered not due to the Project works.

8 ENVIRONMENTAL COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 8.1. A 24-hour complaint hotline at 6628 8366 has been established by the Contractor (CSCE) for Stage 1 of the Project. This complaint hotline has been displayed at the site entrances, fencings and project signboards, as well as printed on publications for the public, such as newsletters and contract website.
- 8.2. No notification of summons and prosecutions was received in the reporting quarter.
- 8.3. No environmental complaint was followed up by Environmental Team in the reporting quarter.
- 8.4. Statistics on complaints, notifications of summons and successful prosecutions are summarized in Appendix G.

9 COMMENTS, RECOMMENDATIONS AND CONCLUSIONS

Comments on Mitigation Measures

- 9.1. According to the environmental site inspections performed in the reporting quarter, the following recommendations were provided:

Air Quality Impact

- All plants on site should be properly maintained to avoid dark smoke emission.
- All vehicles should be washed to remove any dusty materials before leaving the site.
- Haul roads should be sufficiently dampened to minimize fugitive dust generation.
- Wheel washing facilities should be properly maintained to ensure properly functioning.
- Temporary exposed slopes and open stockpiles should be properly covered.
- Enclosure should be erected for cement mixing operations.

Construction Noise Impact

- Noise barriers should be closely packed and properly aligned to ensure effective noise reduction.
- Noisy operations should be oriented to a direction away from sensitive receivers as far as possible.
- Sound insulation materials shall be wrapped at the breaker tip for concrete breaking works.
- Better scheduling of construction works to minimize noise nuisance.

Water Quality Impact

- Stagnant water accumulated in drip trays should be removed.
- Silt, debris and leaves accumulated at public drains and perimeter u-channels should be cleaned up regularly.
- Silty effluent should be treated/desilted before discharged. Untreated effluent should be prevented from entering public drain channel.

Chemical and Waste Management

- C&D material should be sorted and removed timely.
- All plants and vehicles on site should be properly maintained to prevent oil leakage.
- Oil stains on soil surface and empty chemical containers should be cleared and disposed of as chemical waste.

Landscape and Visual Impact

- All retained trees should be properly fenced off at the works area.

Recommendations on EM&A Programme

- 9.2. The impact air quality and noise monitoring programme ensured that any deterioration in environmental condition was readily detected and timely actions taken to rectify any non-compliance. Assessment and analysis of monitoring results collected demonstrated the environmental acceptability of Stage 1 of the Project. The weekly environmental site inspections ensured that all the environmental mitigation measures recommended in the ERR were effectively implemented.
- 9.3. The EM&A programme effectively monitored the environmental impacts from the construction activities and no particular recommendation was advised for the improvement of the programme.

Conclusions

- 9.4. The construction phase and EM&A programme of Stage 1 of the Project commenced on 23 November 2009.
- 9.5. Air quality and noise monitoring, weekly site inspections were carried out in the reporting quarter, in accordance with the updated EM&A manual.
- 9.6. All 1-hour TSP monitoring results complied with the Action / Limit Level in the reporting quarter. However, one (1) Limit Level exceedance was recorded for 24-hour TSP monitoring in the reporting quarter. The exceedance was considered not due to the Project works.
- 9.7. There was no noise related complaints followed up by Environmental Team in the reporting period. Hence, no Action Level exceedance was recorded. No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting period.
- 9.8. No environmental complaint was followed up by Environmental Team in the reporting period
- 9.9. No notification of summons and prosecution was received in the reporting quarter.