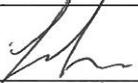


Highways Department

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 November 2012 – January 2013**

[03/2013]

	Name	Signature
Prepared & Checked:	Calvin Lok	
Reviewed, Approved & Certified:	Y T Tang	

Version:	Rev. 0	Date: 5 March 2013
Disclaimer		
<p>This report is prepared for Highways Department and is given for its sole benefit in relation to and pursuant to 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 and may not be disclosed to, quoted to or relied upon by any person other than Highways Department without our prior written consent. No person (other than Highways Department) into whose possession a copy of this report comes may rely on this report without our express written consent and Highways Department may not rely on it for any purpose other than as described above.</p>		

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5 March 2013
By Fax (2805 5028) and Post

Attn.: Mr. James Penny

Dear Sir,

**Widening of Tolo Highway between
Island House Interchange and Tai Hang
Environmental Permit No.: EP-324/2008/A
Submission of Quarterly EM&A Summary Report for November 2012 to January 2013
(Stage 1)**

We refer to the Quarterly EM&A Summary Report for November 2012 to January 2013 for the captioned Project submitted by ET via email on 1 and 4 March 2013. We confirm we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED



Terence Kong
Independent Environmental Checker

c.c. HyD – Mr. Raymond T W Kong / Mr. Dennis Wong / Mr. William Chiang
ETL, AECOM – Mr. Y T Tang

(Fax: 2761 4864)
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TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	1
1 INTRODUCTION	3
2 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS	6
3 AIR QUALITY MONITORING	7
4 CONSTRUCTION NOISE MONITORING	8
5 ENVIRONMENTAL SITE INSPECTION AND AUDIT	9
6 ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS	12
7 SUMMARY OF NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY	12
8 ENVIRONMENTAL COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS	12
9 COMMENTS, RECOMMENDATIONS AND CONCLUSIONS	19

List of Tables

Table 1.1	Contact Information of Key Personnel
Table 3.1	Summary of Number of Monitoring Events for 1-hr & 24-hr TSP Concentration
Table 3.2	Summary of Number of Exceedances for 1-hr & 24-hr TSP Monitoring
Table 4.1	Summary of Number of Monitoring Events for Construction Noise
Table 4.2	Summary of Number of Monitoring Exceedances for Construction Noise

Figures

Figure 1.1	General Project Layout Plan
Figure 2.1	EM&A Monitoring Locations

List of Appendices

Appendix A	Project Organization Structure
Appendix B	Construction Programmes
Appendix C	Implementation Schedule of Environmental Mitigation Measures (EMIS)
Appendix D	Summary of Action and Limit Levels
Appendix E	Graphical Presentation of Impact Air Quality Monitoring Results
Appendix F	Graphical Presentation of Impact Daytime Construction Noise Monitoring Results
Appendix G	Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

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) issued by EPD on 23 December 2008. Subsequently, EPD issued a Variation of Environmental Permit (EP-324/2008/A) (VEP) on 31 January 2012.

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 EPs and the Environmental Monitoring and Audit (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 November 2012 and 31 January 2013. As informed by the Contract 1 Contractor (CSHK), construction activities in the reporting period were:-

- At-grade Road Construction;
- Bridge Deck Construction;
- Noise Barrier Footing Construction and Panel Installation;
- Pile Cap Construction;
- Retaining Wall Construction;
- Soil Nails Works;
- Widening and Demolition of Central Dividers
- Asphalt Laying;
- Installation of Drainage Pipes
- Modification of Edge coping;
- Demolition of Temperate bridge TB1 & TB2;
- Pre-bored socket H-pile; and
- Temporary Shoring, Sheetpiling and Excavation; and

The construction works carried out by the Contract 2 Contractor (GCL) in the reporting period were:-

- Condition survey of existing structures;
- Construction of haul road;
- Construction of pilecap / spread footing of noise barrier / semi noise enclosure;
- Entrusted watermain works;
- Excavation of trial trenches to locate existing utilities;
- Extension of box culvert and subway;
- Ground investigation and predrilling;
- Modification / Demolition of existing bridge structures;
- Noise barrier construction;
- Piling and structural works of bridges;
- Retaining wall construction;
- Structural works of bridges;
- Sewer Installation; and
- Slope works, including installation of soil nails.

Environmental Monitoring Works

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

24-hour TSP monitoring	17 sessions
1-hour TSP monitoring	51 sessions
Daytime Noise monitoring	13 regular sessions
Environmental Site inspection	13 sessions (Contract 1) / 14 sessions (Contract 2)

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 quarter.

No exceedance of Action and Limit Level was recorded for 24-hour TSP monitoring in the reporting quarter.

Breaches of Action and Limit Levels for Noise

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

There were three (3) noise related complaint followed up by Environmental Team in the reporting period. Hence, three (3) Action Level exceedances were recorded the reporting quarter.

Complaint, Notification of Summons and Successful Prosecution

There were nine (9) complaints (included two (2) air related complaints, six (6) noise related complaints and 1 water related complaint) followed up by Environmental Team in reporting quarter. Investigations were carried out. The findings, proposed mitigation measures and follow-up site visit findings were submitted to all relevant parties.

No notification of summons and successful prosecution was 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 9, which links Hong Kong Island to Shenzhen. At present, this section of Route 9 is dual 3-lane carriageway. However, at several major interchanges along this section of Route 9, 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) issued by EPD on 23 December 2008. Subsequently, EPD issued a Variation of Environmental Permit (EP-324/2008/A) (VEP) on 31 January 2012.
- 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, except Sha Tin bound carriageway at Tai Po North Interchange, which is widened from 3-lane to 4-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. Hyder-Arup-Black and Veatch Joint Venture (HABVJV) are appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Tolo project under Agreement No. CE 58/2000 Supplementary Agreement No. 3 (SA3) (i.e. the Engineer for the Contracts).
- 1.8. China State Construction Engineering (Hong Kong) Ltd. (CSHK) was commissioned as the Contractor of Contract 1 of Stage 1 of the Project, while Gammon Construction Limited (GCL) was commissioned as the Contractor of Contract 2 of Stage 1 of the Project.
- 1.9. AECOM Asia Co. Ltd. was employed by Highways Department as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) works for Stage 1 of the Project and Mott MacDonald Hong Kong Ltd. acts as the Independent Environmental Checker (IEC) for the Contracts.
- 1.10. The construction phase of Stage 1 under the EPs commenced on 23 November 2009.
- 1.11. 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

- 1.12. This is the twelfth Quarterly 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 November 2012 and 31 January 2013.

Project Organization

- 1.13. The project organization structure 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	2667 4000
ER of Stage 1, Contract 2 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOLO2	Paul Appleton	9097 5833	2653 2348
IEC of Stage 1 (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker	Terence Kong	2828 5919	2827 1823
Contractor of Stage 1, Contract 1 (China State Construction Engineering (Hong Kong) Limited)	Site Agent	Eddie Tang	9863 7686	2667 5666
	Environmental Officer	Michael Tsang	9277 4956	2667 5666
Contractor of Stage 1, Contract 2 (Gammon Construction Limited)	Site Agent	John Chan	3126 1202	2559 3410
	Environmental Officer	Thomson Chang	9213 6569	2559 3410
		Crispin Ao	9223 8773	2559 3410
Ao Ho Fo	9220 5848	2559 3410		
ET of Stage 1 (AECOM Asia Company Limited)	ET Leader	Y T Tang	3922 9393	2371 7609

Summary of Construction Works

- 1.14. The construction phase of Stage 1 under the EPs commenced on 23 November 2009. Details of the construction works carried out by the Contract 1 Contractor (CSHK) in this reporting period are listed below:-
- At-grade Road Construction;
 - Bridge Deck Construction;
 - Noise Barrier Footing Construction and Panel Installation;
 - Pile Cap Construction;
 - Retaining Wall Construction;
 - Soil Nails Works;
 - Widening and Demolition of Central Dividers
 - Asphalt Laying;
 - Installation of Drainage Pipes
 - Modification of Edge coping;
 - Demolition of Temperate bridge TB1 & TB2;
 - Pre-bored socket H-pile; and
 - Temporary Shoring, Sheetpiling and Excavation; and
- 1.15. The construction works carried out by the Contract 2 Contractor (GCL) in the reporting period were:-
- Condition survey of existing structures;
 - Construction of haul road;
 - Construction of pilecap / spread footing of noise barrier / semi noise enclosure;
 - Entrusted watermain works;
 - Excavation of trial trenches to locate existing utilities;
 - Extension of box culvert and subway;
 - Ground investigation and predrilling;
 - Modification / Demolition of existing bridge structures;
 - Noise barrier construction;
 - Piling and structural works of bridges;
 - Retaining wall construction;
 - Structural works of bridges;
 - Sewer Installation; and
 - Slope works, including installation of soil nails.
- 1.16. The Construction Programmes are shown in Appendix B.
- 1.17. The general layout plan of the Project site showing the contract areas is shown in Figure 1.1.
- 1.18. The environmental 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 and Tai Po Garden, 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). The monitoring station at 13 Ha Wun Yiu (AM1) was relocated to Fan Sin Temple, 3 Sheung Wun Yiu (AM1A) in February 2010.
- 2.3. 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, Dynasty View, Hong Kong Teachers' Association Lee Heng Kwei Secondary School and Grand Palisades, 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).
- 2.4. As Tai Kwong Secondary School was closed down with effect from 1 September 2011, air quality (AM4) and noise (NM1) monitoring stations were relocated to 168 Shek Kwu Lung Village, naming AM4A and NM1A respectively, starting from 1 September 2011. The same air quality Action and Limit of AM4 were adopted for AM4A. For the measured construction noise level, the same noise Action Level of NM1 was adopted for NM1A, whereas Limit Level for residential noise sensitive receiver was adopted for NM1A.
- 2.5. The monitoring locations used during the reporting period 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) of air quality monitoring were derived from the baseline air quality monitoring results at the respective monitoring stations (AM1, AM2, AM3 and AM4), while the environmental quality performance limits of noise monitoring were defined in the EM&A Manual.
- 2.8. The environmental quality performance limits of air quality and noise monitoring and are given in Appendix D.

Environmental Mitigation Measures

- 2.9. Relevant environmental mitigation measures were stipulated in the Particular Specification and EPs (EP-324/2008 and EP-324/2008/A) for the Contractor to adopt. A list of environmental mitigation measures and their implementation statuses are given in Appendix C.

3 AIR QUALITY MONITORING

- 3.1. Air quality monitoring, including 1-hour and 24-hour TSP, was conducted at least 3 times every 6 days and at least once every 6 days respectively at the 4 monitoring stations (AM1A, AM2, AM3 and AM4A), in accordance with the updated EM&A Manual.
- 3.2. The weather was mostly sunny, with several fine, cloudy and rainy days in the reporting quarter. The major dust source in the reporting period included construction activities from Stage 1 of the Project, as well as nearby traffic emissions.
- 3.3. 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		
		Nov 12	Dec 12	Jan 13
1-hr TSP	AM1A	18	15	18
	AM2	18	15	18
	AM3	18	15	18
	AM4A	18	15	18
24-hr TSP	AM1A	6	5	6
	AM2	6	5	6
	AM3	6	5	6
	AM4A	6	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		
			Nov 12	Dec 12	Jan 13
1-hr TSP	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
	AM4A	Action	0	0	0
		Limit	0	0	0
		Total	0	0	0
	24-hr TSP	AM1A	Action	0	0
Limit			0	0	0
AM2		Action	0	0	0
		Limit	0	0	0
AM3		Action	0	0	0
		Limit	0	0	0
AM4A		Action	0	0	0
		Limit	0	0	0
		Total	0	0	0

- 3.4. All 1-hour TSP results were below the Action and Limit Level at all monitoring locations in the reporting quarter.
- 3.5. All 24-hour TSP results were below the Action and Limit Level at all monitoring locations in the reporting period.
- 3.6. The graphical plots of the impact 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 (NM1A, 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 sources during the noise monitoring included construction activities of Stage 1 of the Project and nearby traffic noise. In addition, for NM3 and NM6, general school activities are also a major noise source during the noise monitoring.
- 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		
		Nov 12	Dec 12	Jan 13
	NM1A	5	4	5
	NM2	5	4	5
	NM3	5	4	5
	NM4	5	4	5
	NM5	5	4	5
	NM6	5	4	5
	NM7	5	4	5

Table 4.2 Summary of Number of Monitoring Exceedances for Construction Noise

Monitoring Parameter	Location	Level of Exceedance	Level of Exceedance		
			Nov 12	Dec 12	Jan 13
	NM1A		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. No Limit exceedance of construction noise monitoring was recorded in the reporting quarter.
- 4.5. There was three (3) noise related complaint followed up by Environmental Team in the reporting period. Hence, three (3) Action Level exceedances were 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 and 14 site inspections were carried out for each of Contract 1 and Contract 2 of the Project.

5.2. Particular observations and reminder during the site inspections for Contract 1 are described below:-

Air Quality

5.2.1. Soil stockpiles were accumulated near the receiving pit. The Contractor was reminded to cover the soil stockpile by tarpaulin sheet properly.

5.2.2. Broken concretes were accumulated at New Banyan Bridge. The Contractor was reminded to spray the broken concretes with water or cover the broken concretes by impervious sheet properly to prevent any fugitive dust generation.

5.2.3. Broken concretes were accumulated at TB1 without proper dust mitigation measure. The Contractor was reminded to dampen the broken concretes or cover the broken concretes by impervious sheet properly to prevent any fugitive dust generation.

5.2.4. Site haul road at Area TB1 was observed in dry condition. Although, no vehicle was traveling on the site haul road during the site inspection, the Contractor was reminded to dampen the site haul road and maintain the road surface wet to prevent any fugitive dust generation.

5.2.5. Broken concretes were accumulated at Area NB17. The Contractor was reminded to maintain the surface of broken concretes in wet or cover the broken concretes by tarpaulin sheets.

Noise

5.2.6. No adverse observation was identified in the reporting quarter.

Water Quality

5.2.7. Broken Sandbags were observed at Area NB19. The Contractor was reminded to replace the broken sandbags.

5.2.8. Stagnant waters were accumulated inside the tray and I-joint at Gate 3. The Contractor was reminded to remove the stagnant water regularly.

5.2.9. Stagnant water was accumulated at Area NB19. The Contractor was reminded to remove the stagnant water regularly.

5.2.10. Silt was accumulated at the site boundary of Gate 26 and public road. The Contractor was reminded to remove the silt as soon as possible to avoid any silty water discharging to nearby gully. The Contractor was also reminded to maintain the sandbag bunding properly to prevent surface runoff from construction work flowing outside the work area and discharging to public drain. The Contractor was recommended to review and maintain the effectiveness of sandbag bunding regularly.

5.2.11. Mud trails were observed at Gate 3. Although, the mud trails were removed by worker immediately, the Contractor should ensure that wheel washing facilities were operating at all vehicular site entrances/exits to wash off the deposited silt on vehicles' wheels and bodies and combine with cleaning of public roads wherever necessary and practical.

Chemical and Waste Management

5.2.12. C&D wastes were accumulated at Gate 30. The Contractor was reminded to remove the C&D waste regularly.

5.2.13. C&D wastes were accumulated at Area NB6. The Contractor was reminded to remove the C&D waste more frequently and maintain the site cleanliness and tidiness.

- 5.2.14. No drip tray provided for chemical container was observed at Area NB19. The Contractor was reminded to provide drip trays for all oil drums / chemical containers on site to prevent any oil / chemical leakage. The Contractor was also reminded to label all chemical containers properly.
- 5.2.15. Breaking tip of breaker was found placed on bare ground at Area TB2. The Contractor was reminded to place the breaking tip onto the tarpaulin sheet to avoid oil leakage from the breaking tip to the ground.
- 5.2.16. Oil stains were observed on bare ground at Banyan Bridge. The Contractor was reminded to remove the oil stains as soon as possible and handle it as chemical waste

Landscape and Visual Impact

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

Miscellaneous

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

- 5.3. Particular observations during the site inspections for Contract 2 are described below:-

Air Quality

- 5.3.1. The Contractor was reminded to cover the broken concretes and stockpiles at Hong Lok Yuen road by tarpaulin sheets after works to prevent any fugitive dust generation.
- 5.3.2. Mud trails were observed near the site entrance/exit at Gate 11 and Gate 15 and wheel washing facility at Gate 15 was also observed malfunction. The Contractor was reminded to repair the wheel washing facility as soon as possible and provide proper wheel washing facility during the repairing period. The Contractor should ensure that wheel washing facilities were operating at all vehicular site entrances/exits to wash off the deposited silt on vehicles' wheels and bodies and combine with cleaning of public roads wherever necessary and practical. The Contractor was recommended to provide a maintenance schedule for all wheel washing facilities on site.
- 5.3.3. Stockpile of sand was accumulated at Area NB42 without proper dust mitigation measure. The Contractor was reminded to dampen the stockpile or cover the stockpile by impervious sheet properly to prevent any fugitive dust generation.
- 5.3.4. Mud trails were observed at the site entrance/exit of Area NLK South Ramp. The Contractor should ensure that wheel washing facilities were operating at all vehicular site entrances/exits to wash off the deposited silt on vehicles' wheels and bodies before leaving the construction site and combine with cleaning of public roads wherever necessary and practical. Mud trails should be removed as soon as possible. Proper drainage channels/bunds/wheel washing bay should be provided to collect the run-off from wheel washing facilities.
- 5.3.5. No dust mitigation measure was provided for broken concrete in Area NLKP10. The Contractor was reminded to provide proper mitigation measures such as provision of water-spraying or covering the broken concrete to provide any fugitive dust generation.

Noise

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

Water Quality

- 5.3.7. Silt from construction site was observed accumulated on haul road at Area NB42. The Contractor was reminded to provide proper mitigation measures (e.g. bunds/sandbags at site work areas) to prevent any silt or silty water running off from the construction site to the haul road and nearby public drains. Silt on the haul road should be removed as soon as possible. The Contractor was also reminded to maintain the haul road in clean condition.

- 5.3.8. Silts were accumulated in wheel washing bays at Gate 11 and Gate 15 and u-channel connecting to sedimentation tank at Gate 15. The Contractor was reminded to remove the silt from wheel washing bays and u-channel more frequently.
- 5.3.9. Broken concretes and stockpile of sands were placed at Area NLKSA without mitigation measure. The Contractor was reminded to cover the broken concretes and stockpile of sands by tarpaulin sheets properly to prevent any silty water surface runoff to nearby public road due to rainfall.
- 5.3.10. Muddy water was observed accumulated inside the u-channel at Area W46 and likely flowing outside to the public drain. The Contractor was reminded to properly maintain and review the drainage systems provided within works area and ensure that the muddy water was properly desilted prior to discharging to public drains. Any untreated water should be avoided from flowing to public drains.
- 5.3.11. Oil drums were observed placed on the ground at Area 13A5A. The Contractor was reminded to provide drip trays for all oil drums on site to prevent any oil leakage.
- 5.3.12. Mud trails were observed at site entrance G2 and exit of Area LB1SA. Although, the mud trails were removed by worker immediately, the Contractor should ensure that wheel washing facilities were operating at all vehicular site entrances/exits to wash off the deposited silt on vehicles' wheels and bodies and combine with cleaning of public roads wherever necessary and practical.

Chemical and Waste Management

- 5.3.13. Breaking tip of breaker was found placed on bare ground at Area NLKSA. The Contractor was reminded to place the breaking tip onto the tarpaulin sheet to avoid oil leakage from the breaking tip to the ground.
- 5.3.14. C&D wastes and general refuses were accumulated at Tai Wo West services road and Area NLKNA. The Contractor was reminded to remove the C&D wastes regularly and maintain the site tidiness and cleanliness.
- 5.3.15. C&D wastes were accumulated at Area RWB12B. The Contractor was reminded to remove the C&D waste regularly and maintain the site cleanliness and tidiness.
- 5.3.16. Chemical containers were placed on ground without providing drip trays at Trunk Sewer Manhole (STS 10_160-170). The Contractor was reminded to provide drip trays for all chemical containers or oil drums to prevent any chemical / oil leakage.
- 5.3.17. Debris and oily water were accumulated inside the drip tray of oil drums at Area NLK P3. The Contractor was reminded to remove the debris and oily water and handle it as chemical wastes. The Contractor was also reminded to provide a larger size of drip tray with sufficient capacity for the oil drums.
- 5.3.18. Breaking tip of breaker was found placed on bare ground at Area NLK South Ramp. The Contractor was reminded to place the breaking tip onto the tarpaulin sheet to avoid oil leakage from the breaking tip to the ground.
- 5.3.19. C&D wastes were observed accumulated in several site areas. The Contractor was reminded to dispose the C&D wastes regularly and maintain the site cleanliness and tidiness. The Contractor was also reminded to sort the construction waste properly and recycle the sorted construction wastes as regular practice.
- 5.3.20. No label was provided for recycling bin of aluminium's can at Area NLKSA. The Contractor was reminded to label the recycling bin properly.

Landscape and Visual Impact

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

Miscellaneous

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

6 ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS

- 6.1.1 The Contract 1 Contractor (CSHK) and the Contract 2 Contractor (GCL) are registered as chemical waste producers 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.
- 6.1.2 As advised by the Contract 1 Contractor (CSHK), 1,132m³ of inert C&D material was disposed as public fill to Tuen Mun 38 (of which 250m³ was broken concrete), while 319m³ of general refuse were disposed at NENT landfill. 79,712kg of metal, 438kg of paper/cardboard and 5,508kg of plastic were collected by recycling contractor in the reporting quarter. 4,893m³ and 2,893m³ of inert C&D materials were reused on site and in NENT for backfilling respectively. 2,200kg chemical waste was collected by licensed contractor in the reporting period.
- 6.1.3 As advised by the Contract 2 Contractor (GCL), 640m³ of inert C&D material were disposed to Tuen Mun 38 and 1,130m³ of general refuse was disposed to NENT landfill in the reporting period. 240,000kg of paper/cardboard packaging were collected by recycling contractor in the reporting month. No chemical waste was collected by licensed contractor in the reporting period.
- 6.1.4 The Contract 1 Contractor (CSHK) and the Contract 2 Contractor (GCL) 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. All 1-hour TSP monitoring results complied with the Action / Limit Levels in the reporting period.
- 7.2. All 24-hour TSP monitoring results complied with the Action / Limit Levels in the reporting period.
- 7.3. No Limit Level exceedance of construction noise monitoring was recorded in the reporting period.
- 7.4. Three (3) noise related complaints were related to 0700 – 1900 hours on normal weekdays, hence three Action Level exceedances were recorded in the reporting period.

8 ENVIRONMENTAL COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 8.1. A 24-hour complaint hotline at 6628 8366 has been established for Stage 1 (both Contract 1 and Contract 2) of the Project. Also a 24-hour hotline at 8201 6669 is established for Contract 1 of the Project. The hotline numbers are displayed at the site entrances, fencings and project signboards, as well as printed on publications for the public, such as newsletters.
- 8.2. No notification of summons and prosecution was received in the reporting quarter.
- 8.3. There were nine (9) complaints followed up by Environmental Team, including two (2) air related complaints, six (6) noise complaints and one (1) water related complaint, in reporting period as the below:

Environmental Enquiry No.: EC-21

For the noise complaint received on 6 November 2012, EPD referred a complaint referred a complaint (from a resident of The Paragon) about the suspected construction noise generated from the suspected construction activities at Tolo Highway on 4 November 2012 at 3:00 a.m. As informed by the Contractor (China State Construction Engineering (HK) Ltd.) and confirmed by the Engineer of the Project, road marking and road pavement works for road diversion were carried out in a section of Tolo Highway near Wall 8 (near The Paragon at Tai Po) during the period from 3 November 2012 at 22:30 to 4 November 2012 at 05:00. No PMEs were operating during 22:30 to 23:00 on 3 November and during 05:00 and 07:00 on 4 November 2012, and no road miller / mini road miller was operating between 02:00 and 05:00 on 4 November 2012. A valid Construction Noise Permit (CNP No.: GW-RN0515-12) was obtained for the use of certain powered mechanical equipments (PMEs). The numbers and types of powered mechanical equipments operated on the date were complied with the CNP. Site diary and list of plants used during the road diversion works (provided by the Engineer of the Project) were also checked for verification. Road marking and road pavement works for road diversion near Wall 8 were completed on 4 November 2012 and no road diversion works at the same location

(near Wall 8) is currently planned in the restricted hours (23:00 – 05:00 of next day) for the coming months. The noise complaint was considered as project-related.

The Contractor is advised to implement the noise mitigation measures as stated in “Recommended Mitigation Measures” as below:

- Strictly comply with the requirements of the approved CNP for works carried out in restricted hours;
- Propose to use of quality powered mechanical equipments (QPME) for carrying out similar works in the future;
- Review the feasibility of wrapping up the buzzers of construction machineries under safety circumstance to suppress the noise impact;
- Better scheduling of works to minimize noise nuisance;
- Instruct the site workers to keep the noise to minimum during road diversion works in restricted hours;
- Review the possibility for re-sequencing the execution of some remaining road works after completion of the permanent noise barriers to act as a noise screen for mitigation of noise nuisance from the road works; and
- Foster better public relations with the sensitive receivers nearby.

Environmental Enquiry No.: EC-22

For the air complaint received on 8 November 2012, EPD referred a telephone complaint from the complainant (a resident of Ma Wo at Tai Po) about no improvement on the dust nuisance from the road widening construction works by Gammon Construction Ltd. Despite repeated request of frequent water spraying at the entrance of the construction site, such measures were only implemented during senior site staff inspections, while fugitive dust were generated for the rest of the time, causing serious nuisance to the complainant’s dwelling. The complainant thereby strongly requested the EPD to monitor the status of water spraying of the construction site.

As informed by the Contractor (Gammon Construction Ltd) and confirmed by the Engineer of the Project, trimming the ground surface for blinding laying at NB31 & W44 was being carried out on 6 November 2012 at the work areas nearby the residential flat of the complainant. Mitigation measures, including erection of tarpaulin dust screen along the work areas W45-47, automatic sprinkler system and manual spraying by workers for haul roads and exposed slopes (at work areas NB31, W44 – W47), covering non-working slopes by tarpaulin sheets within work areas, covering of dusty materials carrying in dump trucks within work areas W45-47 were taken by the Contractor. Besides, environmental supervisions (by the Contractor’s foremen) were conducted two times everyday to review the adequacy and effectiveness of dust suppression measure at work areas. Checklists of the Contractor’s environmental supervision were checked for verification.

With reference to the monitoring results recorded on days near to the day of complaint at the nearest EM&A monitoring station (AM1A- Sheung Wun Yiu), the 24-hour TSP level on 6 November 2012 were found to be 83.1ug/m³, which were below the action level of 176.6 ug/m³. Nevertheless, the complaint was considered as project-related. Therefore, the Contractor is reminded to enhance the dust mitigation measures as stated in “Recommended Mitigation Measures” as below:

- Confirm the implementation of dust mitigation measures (erection of tarpaulin dust screen along the work areas W45-47, watering for the haul roads and exposed slopes at work areas NB31, W44 – W47, covering non-working slopes by tarpaulin sheets within work areas, covering of dusty materials carrying in dump trucks within work areas W45-47) during all construction / dusty activities to prevent any fugitive dust generation;
- Increase the frequency of watering in the work areas (e.g. the entrance of the construction site, site haul roads and exposed slopes / areas in the work areas NB31, W44-47) to maintain the surface of site haul roads and exposed surfaces in wet condition;
- Extend the water spraying areas to the exposed areas (near work area W45) nearby the residential flat of the complainant; Automatic sprinklers were operated for watering of site haul roads / site areas;
- Cover the backfilling surface after work;
- Maintain soil surface wet before loading and unloading activities

- Increase the frequency of the environmental supervision (by the Contractor) to frequently review the adequacy and effectiveness of dust suppression measures to suit the construction progress;
- Inform the complainant before dusty activities to be carried out, such as rock breaking, excavation, grouting and backfilling etc; and
- Foster better public relations with the sensitive receivers.

Environmental Enquiry No.: EC-23

For the noise complaint received in on 5 November 2012, EPD referred a complaint about construction noise generated from breaking activities at the construction site of Gammon Construction Ltd. nearby Lot no. 450 of Wai Tau Tsuen at Lam Tsuen of Tai Po. The complainant expressed that the noise from the breaking activities began between 8:00am and 9:00am on 30 October 2012 at the construction site of Gammon Construction Ltd. nearby Lot no. 450 of Wai Tau Tsuen at Lam Tsuen of Tai Po, caused nuisance to nearby residents. The complainant requested EPD to follow-up as soon as possible. The complainant expressed that the complainant would call the police for help, if the problem of construction noise could not be handled by the day after the complaint received. The reply had been communicated to the complainant. However, the complainant expressed that construction activities were still carried out by the Contractor after 7:00pm and noise was still generated from construction works. The complainant thereby requested the EPD to follow-up and reply again.

According to the information of the Contractor (Gammon Construction Ltd.) and confirmed by the Engineer, sheet-pile by vibration hammer, H-pile drilling, minor excavation and hand-dig were carried out by the Contractor during 8:00am to 9:00am on 30 October 2012 (Tuesday) and no construction work was carried out by the Contractor after 7:00pm on 30 October 2012 at the construction site nearby Wai Tau Tsuen at Lam Tsuen of Tai Po. In accordance with the Noise Control Ordinance, 7:00am – 7:00pm of any general days are the non-restricted hours of general construction work. Therefore, commencement of construction work at 8:00am on general days is in compliance with the NCO. From observation of the site inspection (by ET) on 15 November 2012, permanent noise barriers were observed erected in some portions of Wai Tau Tsuen at Lam Tsuen of Tai Po as noise suppression measure. However, the noise complaint was considered as project-related. Therefore, the Contractor is advised to implement the noise mitigation measures as stated in “Recommended Mitigation Measures” as below:

- Wrapping the breaker tip with proper noise insulation materials during rock breaking works. Dust screen was erected along at the work area W45-47;
- Wrapping the chain link of sheet-pile machine;
- Erecting movable noise barriers fitted with noise adsorption materials for any noisy activities (e.g. breaking activity); and
- Informing the nearby residents in advance (at least one day) of any noisy works to be carried out in the morning;

During site inspection on 13 December 2012 (by ET) & 27 December 2012 (by ET and IEC), no sheet-pile works and breaking activity was observed at the construction site of Gammon Construction Ltd. nearby Lot no. 450 of Wai Tau Tsuen at Lam Tsuen of Tai Po. Acoustic blanket was erected at the gap of NB41 (near the Lot no. 450 of Wai Tau Tsuen) as noise suppression measure until the permanent noise barriers at NB41 were implemented. Technical data of the acoustic blanket was also checked. As indicated by the Contractor, the Contractor rescheduled the sheet-pile works and started on / after 9:00am after the complaint received and no negative news was received during the period. The Contractor would study the feasibility of keeping the practice (starting the sheet-pile works on / after 9:00am) in the future. Beside, the weekly noise monitoring measurements by the Contractor were carried out near Lot no. 450 of Wai Tau Tsuen at Lam Tsuen of Tai Po during 13 November 2012 to 21 December 2012. The noise monitoring results were checked by ET and IEC during the site inspection on 27 December 2012 and no noise monitoring (Leq30min) result exceeding the Limit Level (75dB(A)) was recorded.

Environmental Enquiry No.: EC-24

For the noise complaint received in on 29 November 2012, EPD referred a complaint from a resident of Shek Kwu Lung Village about the construction of Widening of Tolo Highway at the foot of the hill slope. According to the complainant, the construction works have been conducted by Gammon Construction Ltd. for a year and the works had been conducted until 20:00 at night in recent months.

Due to the short distance of the complainant's premises from the construction site, the nuisance was very annoying. The complainant requested EPD to follow up.

According to the information of the Contractor (Gammon Construction Ltd.) and confirmed by the Engineer, no construction work was carried out at Area RWTW2, LB3 (East & West Abutment) & RWTW3 near Shek Kwu Lung Village after 6:00pm in recent months except concreting works (at Area RWTW2 / RWTW3) on 5 October 2012, 31 October 2012 & 23 November 2012 and minor activities (e.g. general cleaning and site tidiness), both of which were completed by 7:00pm. In accordance with the Noise Control Ordinance, 7:00am – 7:00pm of any general days are the non-restricted hours of general construction work. Therefore, carrying out of construction work during 7:00am to 7:00pm on general days is in compliance with the NCO. In accordance with the observation of the site inspection (by ET) on 6 December 2012, temporary acoustic sheet was erected at Area LB3 (West Abutment) as a noise mitigation measure. However, the noise complaint was considered as project-related. Therefore, the Contractor is advised to implement the mitigation measures as stated in "Recommended Mitigation Measures" as below:

- Cease all construction activities at site during restricted hours unless a valid Construction Noise Permit had been obtained for the site areas and
- Apply for a Construction Noise Permit if any construction work during restricted hours and strictly comply with all conditions stipulated in CNP issued by EPD.

Environmental Enquiry No.: EC-25

For the air complaint received in on 14 December 2012, EPD referred a complaint, from a resident at Ma Wo, about dust emission in construction site of the Tolo Highway widening construction works at Ma Wo. The complainant contacted the Contractor (Gammon Construction Ltd.) on 14 December 2012 and the Contractor promised that water-spraying would be provided at the entrance of the construction site. Although the complainant waited for 5 hours, no water-spraying was provided by the Contractor. Fugitive dust was generated and caused serious nuisance to the complainant's dwelling. Subsequently, the complainant made a call on 17 December 2012 saying that an EPD personnel contacted him in the morning on 17 December 2012. However, still no water-spraying was provided by the Contractor in the construction site on 17 December 2012. Fugitive dust generated overwhelmed the entrance of complainant's dwelling. The complainant thereby requested the EPD to follow-up and reply the complainant as soon as possible. Then, the complainant made a call on 21 December 2012 strongly complained that there had been no water-spraying provided in the construction site as requested by EPD and caused continuous dust nuisance to the complainant.

Afterward, the complainant made a call on 7 January 2013 complained about dust emission from construction site of the Tolo Highway widening construction works at Ma Wo and cause nuisance, pollution problem have been observed over two years and the condition were most serious specially on Saturday and Sunday. The Complainant requested EPD and the Contractor to follow-up. In addition, the complainant made another call on 15 January 2013 complained that the odour from asphalt paving works in the construction site nearby the complainant's dwelling at Ma Wo and caused serious nuisance. The complainant requested reply and follow-up.

As informed by the Contractor (Gammon Construction Ltd) and confirmed by the Engineer of the Project, rebar fixing at NB31 on 14 December 2012 (Friday); formwork erection and concreting at NB31 on 17 December 2012 (Thursday); general fill & compaction at NB31 on 21 December 2012 (Friday); scarifying CJ, erecting formwork, rebar fixing, general fill & soil compaction at NB31 on 22 December 2012 (Saturday); general cleaning and concreting at NB31 on 29 December 2012 (Saturday); general fill, compaction, general cleaning and concreting at NB31 on 5 Jan 2013 (Saturday); laying of base course bitumen, trimming and compaction of sub-base material near work areas W38 to W48 (Chainage approximately 2500 – 2700) on 15 January 2013 (Tuesday) were being carried out at the work areas nearby the residential flat of the complainant (shown in Figure 1 – Site Layout near Ma Wo at Tai Po). There were no construction activities conducted on Sunday (including 23 December 2012, 30 December 2012 and 6 Jan 2013) and only general site clearance (e.g. sweeping & washing floor) was conducted on 30 December 2012 & 6 January 2013 and no Powered Mechanical Equipment (PME) was involved or operated for the cleaning works on Sunday. According to information provided by Contractor and confirmed by the Engineer of the Project, the temporary bitumen paving work at Northbound carriageway near W38-W45 was completed on 19 January 2013.

Mitigation measures, including erection of tarpaulin dust screen along the work areas W44-NB31, water spraying by workers and automatic sprinkler system for haul roads and exposed slopes,

covering non-working slopes by tarpaulin sheets within work areas, covering of dusty materials carrying in dump trucks within work areas W45-47 were taken by the Contractor. Besides, environmental supervisions (by the Contractor's foremen) were conducted everyday to review the adequacy and effectiveness of dust suppression measure at work areas. Checklists of the Contractor's environmental supervision were checked for verification. Notice board was also erected at site boundary to write down daily dusty activities (e.g. rock breaking, excavation, grouting and backfilling etc) / activities with odour emission (e.g. laying of base course bitumen) carried out within work areas W38 – W48, NB31 for notification / information to Ma Wo's residents. With reference to the monitoring results recorded on days near to the day of complaint at the nearest EM&A monitoring station (AM1A- Sheung Wun Yiu), the 24-hour TSP level on 12, 18, 24, 29 December 2012, 2 and 8 January 2013 were found to be 58.3ug/m³, 27.3ug/m³, 70.5ug/m³, 20.2ug/m³, 60.2ug/m³, 116.6ug/m³ respectively, which were below the action level of 176.6 ug/m³. Nevertheless, the complaint was considered as project-related. Therefore, the Contractor is reminded to enhance the dust mitigation measures as stated in "Recommended Mitigation Measures" as below:

- Confirm the implementation of dust mitigation measures (erection of tarpaulin dust screen along the work areas W44-NB31, spraying water by manual worker / sprinkler systems for the haul roads and exposed slopes at work areas W44-NB31, covering non-working slopes by tarpaulin sheets within work areas, covering of dusty materials carrying in dump trucks within work areas W45-47) during all construction / dusty activities to prevent any fugitive dust generation;
- Increase the frequency of watering in the work areas (specially in the entrance of the construction site, site haul roads and exposed slopes / areas in the work areas W44-NB31) to maintain the surface of site haul roads and exposed surfaces in wet condition;
- Cover the backfilling surface after work;
- Maintain soil surface wet before loading and unloading activities;
- Maintain the frequency of the environmental supervision (by the Contractor) to regular review the adequacy and effectiveness of dust suppression measures to suit the construction progress;
- Inform the complainant before dusty activities (e.g. rock breaking, excavation, grouting and backfilling etc) and activities with odour emission (e.g. laying of base course bitumen) to be carried out; and
- Foster better public relations with the sensitive receivers / the complainant nearby.

Follow-up site visit was conducted on 24 January 2013, backfilling activity was observed in work area W45. No laying work of base course bitumen at W38 – W45 was observed. Several mitigation measures were implemented at the work area W38-47:

- Dust screen was erected along at the work area W44-NB31;
- Impermeable sheet was erected in backfilling area at W47;
- Automatic sprinklers were operated for watering of site haul roads / site areas;
- Water spraying for site haul roads / site areas was provided by worker;
- Haul road at work area NB31 was paved and noise barriers were erected act as a dust screen;
- Site haul road / site areas were dampened;
- Maintain soil surface wet during the backfilling activities;
- Dusty materials carrying in dump trucks was covered within work areas W45-47;
- Non-working slopes was properly covered by tarpaulin sheets;
- Notice board was erected at site boundary to write down daily dusty activities / activities with odour emission carried out within work areas W38 – W48, NB31 for notification / information to Ma Wo's residents.

Besides, the Contractor's site logs of environmental supervision and records of communication between the Contractor and Ma Wo's residents were also checked. Dust suppression measures were provided at work areas W38-48 and the deficiencies were also rectified properly. No fugitive dust arising from the work area W38-48 was observed.

Environmental Enquiry No.: EC-26

For the noise complaint received in on 24 December 2012, EPD referred a complaint about hammering noise generated from construction activities at the construction site for bridge construction at Lam Kam Road and Tai Wo Service Road West (near Wai Tau Tsuen) during the period from 00:00

to 06:00 in the recent two weeks caused nuisance to nearby residents. The complainant called the Police before. However, the police expressed that as Construction Noise Permit (CNP) had been issued by EPD for the construction works, the complaint could not be handled by the Police and requested the complainant contacted EPD for help. The complainant strongly dissatisfied that EPD issued the CNP for the construction works but no government staff was observed to be on site to monitor the noise. The complainant objected the issuance of the CNP and strongly requested to reply and follow-up as soon as possible. The complainant expressed if the construction works were still carried out at night time again, he would lodge the complaint to the Director and he would contact the Media immediately for reporting.

According to the information of the Contractor (Gammon Construction Ltd.) and confirmed by the Engineer, loading and unloading works, lifting & welding steel beams, placing of concrete blocks, Inserting timber and plywood between steel beams and inserting hand railing & tarpaulin were carried out at Lam Kam Road and Tai Wo Service Road West (near Wai Tau Tsuen) during the period between 01:00 – 05:00 on 11, 12, 13, 14, 15, 18, 19, 20, 21 & 22 December 2012 (ten nights). A valid Construction Noise Permit (CNP no.: GW-RN0549-12) was obtained for the use of Powered Mechanical Equipments (PMEs) and carrying out of Prescribed Construction work (PCW) for bridge construction at Lam Kam Road and Tai Wo Service Road West (near Wai Tau Tsuen) in restrict hours (01:00 – 05:00 in weekday). All PMEs and PCW were carried out between 01:00 – 05:00 in these ten nights. The numbers and types of PMEs operated on the dates were complied with the CNP. No PME was operated and no PCW were carried out (under CNPs - GW-RN0330-12, GW-RN0433-12, GW-RN0523-12 and GW-RN0546-12) in the same period. PMEs and PCW were only operated / carried in the ten weekday nights and therefore the construction activities complied with the conditions of CNP (CNP no.: GW-RN0549-12). Mobile cranes were equipped with appropriate noise control measures as stated in the CNP. Site logs (by the Contractor), site surveillance reports (by the Engineer), list of plants used during the construction works (provided by the Contractor and confirmed by the Engineer) for these ten nights were also checked for verification. Photo records for noise control measure of mobile crane were also taken for reference. In accordance with the observation of site inspection (by ET) on 27 December 2012, 3 January 2013, 10 January 2013, permanent noise barrier and temporary noise barrier were implemented near the work areas (along the Wai Tau Tsuen) as a noise mitigation measure. However, the noise complaint was considered as project-related. The Contractor is advised to implement the mitigation measures as stated in “Recommended Mitigation Measures” as below;

- Strictly comply with the requirements of the approved CNP for works carried out in restricted hours;
- Better scheduling of works to minimize noise nuisance;
- Instruct the site workers to keep the noise in minimum during construction works in restricted hours; and
- Foster better public relations with the sensitive receivers nearby.

Environmental Enquiry No.: EC-27

For the noise complaint received in on 24 December 2012, EPD referred a complaint about noise nuisance generated from construction activities, at the construction site for bridge construction between Lam Kam Road and Tai Wo Service Road West at mid-night on Monday to Friday and ongoing for two weeks, caused nuisance to Wai Tau Tsuen. The complainant called the Police before and found out the related Construction Noise Permit (CNP) in EPD’s website. However, the complainant did not provide the reference number of the CNP. The Complaint requested the Highways Department to stop the construction works as soon as possible.

According to the information of the Contractor (Gammon Construction Ltd.) and confirmed by the Engineer, loading and unloading works, lifting & welding steel beams, placing of concrete blocks, Inserting timber and plywood between steel beams and inserting hand railing & tarpaulin were carried out at Lam Kam Road and Tai Wo Service Road West (near Wai Tau Tsuen) during the period between 01:00 – 05:00 on 11, 12, 13, 14, 15, 18, 19, 20, 21 & 22 December 2012 (ten nights). A valid Construction Noise Permit (CNP no.: GW-RN0549-12) was obtained for the use of Powered Mechanical Equipments (PMEs) and carrying out of Prescribed Construction work (PCW) for bridge construction at Lam Kam Road and Tai Wo Service Road West (near Wai Tau Tsuen) in restrict hours (01:00 – 05:00 in weekday). All PMEs and PCW were carried out between 01:00 – 05:00 in these ten nights. The numbers and types of PMEs operated on the dates were complied with the CNP. No PME was operated and no PCW were carried out (under CNPs - GW-RN0330-12, GW-RN0433-12, GW-RN0523-12 and GW-RN0546-12) in the same period. PMEs and PCW were only operated / carried in the ten weekday nights and therefore the construction activities complied with the conditions of CNP

(CNP no.: GW-RN0549-12). Mobile cranes were equipped with appropriate noise control measures as stated in the CNP. Site logs (by the Contractor), site surveillance reports (by the Engineer), list of plants used during the construction works (provided by the Contractor and confirmed by the Engineer) for these ten nights were also checked for verification. Photo records for noise control measure of mobile crane were also taken for reference. In accordance with the observation of site inspection (by ET) on 27 December 2012, 3 January 2013, 10 January 2013, permanent noise barrier and temporary noise barrier were implemented near the work areas (along the Wai Tau Tsuen) as a noise mitigation measure. However, the noise complaint was considered as project-related. The Contractor is advised to implement the mitigation measures as stated in “Recommended Mitigation Measures” as below;

- Strictly comply with the requirements of the approved CNP for works carried out in restricted hours;
- Better scheduling of works to minimize noise nuisance;
- Instruct the site workers to keep the noise in minimum during construction works in restricted hours; and
- Foster better public relations with the sensitive receivers nearby.

Environmental Enquiry No.: EC-28

For the noise complaint received in on 11 January 2013, EPD referred a EPD referred a noise complaint which was made by a resident of Ha Wun Yiu at Tai Po. According to complainant “C”, the complainant’s dwelling located at Ha Wun Yiu Village was very close to Tolo Highway. The complainant expressed that the road surface of Tolo Highway was uneven. When heavy vehicle passed through the road, explosion liked loud noise, were generated. which seriously affected the complainant. Although the same complaint was made to to Highways Department before, noise barriers were still not installed and no improvement was observed. The complaint requested follow-up.

According to the information provided by the Contractor (China State Construction Engineering (HK) Ltd.) and confirmed by the Engineer of the Project, no construction activities were conducted over the road surface of Tolo Highway Northbound at Western End of Bridge 10 and West Abutment (near the complainant’s dwelling) on 11 January 2013. According to the updated construction programme (provided by the Contractor), noise barriers installation work (1st half from east end & 2nd half to west end) of Tolo Highway (near the complainant’s dwelling) will be tentatively commenced on 16 July 2013 and 7 August 2013 respectively.

With reference to the noise monitoring results recorded on days near to the day of complaint at the nearest EM&A monitoring station (NM2 – 10 Ha Wun Yiu), the noise levels (Leq 30mins) recorded on 8 January 2013 and 14 January 2013 were found to be 67.3dB(A) and 67.6dB(A) respectively, which were below the limit level of 75dB(A). Based on the complaint information and our investigation, the noise mentioned in the complaint was considered due to traffic and was not related to construction activities. Therefore, the noise complaint was considered as non project-related.

For the water complaint received in on 30 January 2013, Highway received a complaint on 28 January 2013 from a citizen regarding muddy water discharged from construction site nearby Tai Wo Estate to Lam Tsuen River, which contaminated the river water on 26 January 2013. The contaminated river water would flow to Tolo Harbour causing water quality impact.

According to the information provided by the Contractor (Gammon Construction Ltd.) and confirmed by the Engineer of the Project, construction works including excavation at TW5, LB2-EA & RWTW3A, rebar fixing at LB2WA & LB3EA end wall, welding capping plate at TW4 and strike formwork at RWTW2 & RWTW3 were carried out on 26 January 2013. Desilting tanks and wastewater treatment facility (at Gate 15) were provided in construction site near Tai Po Tai Wo Road Linkbridge. All effluents from construction site/construction activities were treated by the wastewater treatment plant before discharge. Moreover, concrete blinding at site entrance was provided to prevent any effluent discharging / running off from the construction site areas to public drains. A valid discharge license (WT00007162-2010) was obtained since 8 August 2010 by the Contractor to discharge any industrial effluent arising from the construction activities into specified area and discharge sampling were taken by the Contractor at sampling point (Gate 15) regularly (bi-monthly basis). Discharge sampling (at Gate 15 sampling point) was collected on 19 December 2012 (which the sampling day near to the day of complaint) and no exceedance was recorded for Suspended Solids (SS) Limit Level (30mg/L) as stated in the discharge License. The lab result of discharge sampling (at Gate 15 sampling point) on 19 December 2012 was checked by ET.

Judged from the flow direction of the effluent discharged from the construction site, it is unlikely that the effluent arising from the construction activities conducted by the Contractor would pass to the point under inquiry. Mitigation measures and wastewater treatments were provided by the Contractor to prevent any muddy water discharged from the construction sites to public drains. The SS result of discharge sampling (at Gate 15 sampling point and near to the day of complaint) was also below the limit level of discharge License. Upon our investigation, the wastewater mentioned in the complaint was considered not related to the effluent discharged from the construction sites of this project. Therefore, the water complaint was considered as non project-related.

- 8.4. Cumulative 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.
- Provide water spraying to suppress fugitive dust for any dusty construction activity.

Construction Noise Impact

- Properly erect the temporary noise barriers in accordance with the Environmental Permit requirement.
- 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.
- Noise Emission Label (NEL) shall be affixed to the air compressor and hand-held breaker operating within works area.
- Better scheduling of construction works to minimize noise nuisance.

Water Quality Impact

- Silt, debris and leaves accumulated at public drains, wheel washing bays and perimeter u-channels and desilting facilities should be cleaned up regularly.
- Silty effluent should be treated/desilted before discharged. Untreated effluent should be prevented from entering public drain channel.
- Proper drainage channels/bunds should be provided at the site boundaries to collect/intercept the surface run-off from works areas.

- Exposed slopes and stockpiles should be covered up properly during rainstorm.
- Stagnant water accumulated within works area should be removed.

Chemical and Waste Management

- C&D materials and wastes should be sorted, recycled/treated and removed timely.
- All chemical containers and oil drums should be properly stored.
- All plants and vehicles on site should be properly maintained to prevent oil leakage.
- All drain holes of the drip trays utilized within works areas should be properly plugged to avoid any 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.
- 9.7. All 24-hour TSP monitoring results complied with the Action / Limit Level in the reporting quarter.
- 9.8. No Limit Level exceedance of construction noise monitoring was recorded in the reporting period.
- 9.9. There were nine (9) complaints followed up by Environmental Team, including two (2) air related complaints, six (6) noise complaints (Three noise complaints were related to 0700 – 1900 hours on normal weekdays, hence three Action Level exceedances were recorded) and one (1) water related complaint, in reporting quarter. Investigations were carried out. The findings, proposed mitigation measures and follow-up site visit findings were submitted to all relevant parties.
- 9.10. No notification of summons and prosecution was received in the reporting quarter.