KINGSFORD ENVIRONMENTAL (H.K.) LTD.

Consultancy Engineering & Contracting



CONTRACT NO. DE/2005/03

SUPPLY AND INSTALLATION OF ELECTRICAL AND MECHANICAL EQUIPMENT FOR EXPANSION OF SHEK WU HUI SEWAGE TREATMENT WORKS

ENVIRONMENTAL MONITORING AND AUDIT

MONTHLY EM&A REPORT NO. 12

MAY 2007

for

Biwater Man Lee Limited

Submitted by

Kingsford Environmental (H.K.) Ltd.

CONTROLLED DOCUMENT

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Independent Environmental Checker (CH2M HILL Hong Kong Limited)	Mr. Billy Yu	1

Contract No. DE/2005/03 Revision: B Rev. Date: 7/6/07

EXECUTIVE SUMMARY

This is the twelfth monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/2005/03 entitled "Supply and Installation of Electrical and Mechanical Equipment for Expansion of Shek Wu Hui Sewage Treatment Works". This report contains the results of the environmental monitoring for verification of mitigation implementation conducted by the Environmental Team (ET) of the E&M Contractor as required in the contract.

For the environmental monitoring activities, Action and Limit (A/L) Levels are defined levels of impact recorded which represent levels at which a prescribed response is required. Action Limit is an indication of a deteriorating ambient environment for which appropriate remedial actions are likely to be necessary to prevent environmental quality from falling outside the Limit Levels. If these are exceeded, construction works should not be preceded without appropriate remedial action, including critical review of the methods. Baseline monitoring was conducted by the Civil Contractor in December 2005 (Report No. 01284R0012).

The work activities this month consisted of installation of scraper for density current baffle at Final Sedimentation Tank No. 5, installation work of density current baffles and scrapper for density current baffles at Final Sedimentation Tank No. 2. In addition, demolish work for existing E&M equipment for DAF No.3 in SAS Consolidation House.

Site inspections by an Environmental Team were carried out on 3, 10, 11, 15, 22 and 29 of May 2007 with the representatives of the Engineer.

No deficiency was found during the site inspections for May 2007. Work activities and mitigation measures were in compliance with the environmental protection regulations, contract requirement and environmental permit.

The monthly EM&A meeting was held on 9 May 2007 with all of the parties (DSD, Civil and E&M contractors, ETs, and the IEC) involved.

There was no complaint received or notification of summons or successful prosecution during May 2007.

There was no reporting change during the reporting month.

The planned activities for June – August 2007 as regards E&M equipment are mainly to carry out 1) outstanding works for pH Control System, 2) modification work of scrapper for density current baffles at Final Sedimentation Tank No. 7, 3) installation of density current baffles at Final Sedimentation Tank Nos. 1 to 4 and 4) demolish work for existing E&M equipment for DAF No.3 and installation of new E&M equipment in SAS Consolidation House.

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1 Introduction

This is the twelfth monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/2005/03 entitled "Supply and Installation of Electrical and Mechanical Equipment for Expansion of Shek Wu Hui Sewage Treatment Works". The report was prepared by the Environmental Team, Kingsford Environmental (H.K.) Ltd., of the E&M Contractor, Biwater Man Lee Limited. This report is submitted to the Client, the Drainage Services Department, and her Independent Environmental Checker, CH2M HILL Hong Kong Limited, for the project. In addition, this report is to be submitted to EPD in accordance with the requirement of the environmental permit (EP218-2005) and EM&A manual of the project.

This report only presents the results of the environmental auditing of the project activities regarding the E&M equipment installation conducted in the month of May 2007. The auditing works include regular site inspections for verification of the mitigation measures implementation as recommended in the EM&A Manual and as detailed in the Project Profile for the project.

The contact information for the key personnel is updated in Appendix 1.

The job nature of the E&M contractor is mainly for installation of E&M equipment, all hand-held's breakers, bulldozer, concrete lorry mixer, dump truck and hand-held's poker, vibratory would not be used so that the impact from noise and dust would be low. Also, the distance to the nearest sensitive receivers is large. Therefore, the potential environmental impact imposed to the sensitive receivers would be low. Routine environmental monitoring would be considered when deficiency is found or complaint is received.

The sensitive receivers, locations of monitoring and control stations, action and limited levels and event/action plan are shown in Appendix 2.

2 Work Activities during the Month

The work activities this month consisted of installation of scraper for density current baffle at Final Sedimentation Tank No. 5, installation work of density current baffles and scrapper for density current baffles at Final Sedimentation Tank No. 2. In addition, demolish work for existing E&M equipment for DAF No.3 in SAS Consolidation House.

The activities and dates of occurrence of each activity are summarized below in Table 1. The Construction Programme is updated in Appendix 3.

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Table 1: Work Activities for May 2007

Final Sedimentation Tank No.5	
Installation of scrapper for density current baffles	26 May '07 – 26 May '07
Final Sedimentation Tank No.2	
Installation of E&M equipment	18 May '07 – 16 Jun '07*
SAS Consolidation House	
Demolition of existing E&M equipment for DAF No. 3	18 May '07 - 14 Jun '07*

^{*} Scheduled dates only for completion of the activities

3 Status of Environmental Protection

Air Quality

Appropriate mitigation measures for the activities are in place. Plastic covers with stakes/weights are readily available and used for covering of exposed material for control of dust. Water spray is available for dust suppression, if necessary.

Water Quality

The plastic covers for exposed soil, etc. are available for minimization of silt in the run-off water during rainstorms, if necessary. Sandbags will be provided for preventing surface run-off discharging directly into public drain area. Note that wastewater generated from the off-site project office was collected in a storage tank and tanker-away regularly by a licensed collector.

Anti-mosquito preventive measures, e.g. regular removal of stagnant water (if possible) and/or spraying larvicide (if necessary) at any site area, are taken for mosquito control and prevention, particularly for control of Dengue Fever and Japanese Encephalitis discases.

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Noise

Plants with low noise emittance are preferred and are operated/maintained to reduce noise. In this reporting month, work was carried out during normal working hours (7am – 7pm Monday to Saturday) or otherwise specified in the contract. In the event of a schedule change such that construction work would be performed during the restricted hours (11pm – 7am and during general public holidays including Sundays), a Construction Noise Permit would be required.

Waste / Chemical Management

The construction waste materials are preferred to be removed promptly from the site. Recyclable hard inert C&D materials should be taken to a public filling area (Tuen Mun Area 38) whereas the non-inert C&D waste should be disposed of to NENT landfill at Ta Kwu Ling or other disposal site approved by the control authority. Note that the inert C&D materials should be reduced, reused and recycled if possible, before disposal. Any substance identified as chemical waste would be disposed of properly by a licensed collector. A trip ticket system for the disposal of C&D waste should be conducted as required by the Waste Management Plan. Rubbish bins are provided on-site for collecting general refuses as necessary. The general refuse would be removed regularly and disposed to landfills by a licensed collector. A proper record of each waste disposal, including the new bar-coded disposal delivery form, would be kept to verify proper handling and disposal.

The status of permits and licenses is summarized in Table 2 and shown in Appendix 9.

Table 2: Status of Permits and Licenses

Description	Permit No.	Valid	Period	Ref.	Status
		From	To		
Environmental Permit	EP-218/2005	16/06/05	End of Project	PS1.39*	Granted

^{*} Particular Specification of Contract No. DE/2005/03

The implementation status of mitigation measures from EM&A Manual is attached in Appendix 4.

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4 Site Inspections

Site inspections by an Environmental Team were carried out on 3, 10, 11, 15, 22 and 29 of May 2007 with the representatives of the Engineer.

The site locations inspected were marked on a site layout plan and the location code was recorded on the checklist. The site layout plan is shown in Appendix 5.

The work activities this month consisted of installation of scraper for density current baffle at Final Sedimentation Tank No. 5, installation work of density current baffles and scrapper for density current baffles at Final Sedimentation Tank No. 2. In addition, demolish work for existing E&M equipment for DAF No.3 in SAS Consolidation House.

No deficiency was found during this month. Inspection checklists are annexed in Appendix 5. Whereas all of the environmental aspects were inspected in the work areas, the most applicable descriptions are addressed below.

Air Quality

No dusty material was found from the site areas or activities this month.

Water Quality

Due to the rain in end of May 2007, accumulations of rainwater were observed in the effluent channel and hopper at Final Sedimentation Tank No. 2. The accumulated rainwater in effluent channel and hopper were sprayed with larividcal oil. The accumulated rainwater should be drained away regularly, if possible, while mosquito larvicide is only applied when it is not feasible to drain away the water immediately. In end of May 2007, the accumulated sewage/sludge was observed in the sludge storage tank at SAS consolidation House. The accumulated sewage/sludge should be drained away into drain inlet/foul sewer.

No surface run-off was observed during the site inspections this month. Note that the regular inspections and preventive measures for the mosquitoes are being conducted and recorded at least weekly by the Contractor.

<u>Noise</u>

During this month, the work activities and equipment used did not generate significant noise. In this reporting month, no work was carried out during general public holidays including Sundays.

Waste / Chemical Management

Refuse bins and waste storage/sorting area were provided for the collection of general refuse and sorting the C&D materials.

No packaging waste or construction waste was disposed of to landfill by the licensed waste collector this month.

The type and quantity of waste for final disposal during May 2007 is shown in Table 3. Note that a record of each disposal is being kept.

Table 3: Type and Quantity of Waste Disposed of in May 2007

Types of Waste	Quantity	
Inert C&D Material	Nil	
Non-inert C&D Waste	Nil	
Chemical Waste	Nil	
General Refuse*	1320L	

^{*} Included the site office

5 Summary of Deficiencies and Remedial Actions

There were no deficiencies noted from the site inspections of May 2007.

6 Summary of Complaints and Remedial Actions

No complaints were received in May 2007. In the event of complaints, the procedure for handling of the complaints is detailed in the EM&A Manual.

7 Summary of Summons and Prosecutions

No notification of summons and no prosecutions occurred in May 2007.

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8 Monthly Environmental Auditing for the Coming Months

The planned activities for the coming three months (June – August 2007) as regards E&M equipment are to carry out outstanding works for the following system/area:-

- pH Control System
- Final Sedimentation Tank No. 7
- Final Sedimentation Tank Nos. 1 to 4
- SAS Consolidation House

The anticipated environmental issues for June - August 2007 will be as follows:-

- pH control System
 - The anticipated environmental issues will be related to:-
 - the waste disposal from E&M equipment installation.
 - the stagnant water, as testing/ commissioning of equipment/system will be involved.
 - the chemical handling (if any) during the T&C period.
- Final Sedimentation Tank No. 7
 - The anticipated environmental issues will be related to the waste disposal from the E&M equipment installation.
- Final Sedimentation Tank Nos. 1 to 4
 - The anticipated environmental issues will be related to the waste disposal from the E&M equipment installation.
 - The anticipated environmental issue will be related to stagnant water, as testing/commissioning of equipment/system will be involved.

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SAS Consolidation House

- The anticipated environmental issues will be related to:-
 - the waste disposal from the demolition of the existing E&M equipment and the E&M equipment installation,
 - the dust from the demolition of the existing concrete structure and building of equipment plinths in the existing SAS Consolidation House and,
 - the chemical waste disposal and chemical handling (if any) from the demolition of the existing E&M equipment
 - Stagnant water, as testing/commissioning of equipment/system will be involved.

9 Conclusions and Comments

The required weekly site inspections have been conducted. No deficiency was noted.

Appendix 1

Contact Information of Key Environmental Personnel

Contact Information for Key Personnel

Name	Title	Telephone	Fax
Mr. P. W. Lam (DSD)	Engineer's Representative	2594-7305	2827-8532
Mr. K. K. Cheung (DSD)	Engineer's Representative	2594-7338	2827-8532
Mr. W. S. Lui (BML)	Site Agent	2671-2350	2671-2351
Mr. K. H. Lau (BML)	Deputy Site Agent	2671-2350	2671-2351
Mr. S. M. Ho (BML)	Site Waste Manager/ Co-ordinator	2671-2350	2671-2351
Mr. Stanley Lau (KEL)	ET Leader	2612-2817	2614-7012
Ms. Angela Lau (KEL)	ET Site Inspector	2612-2817	2614-7012
Mr. Billy Yu (CH2M)	The Independent Environmental Checker	2507-2203	2507-2293

Appendix 2

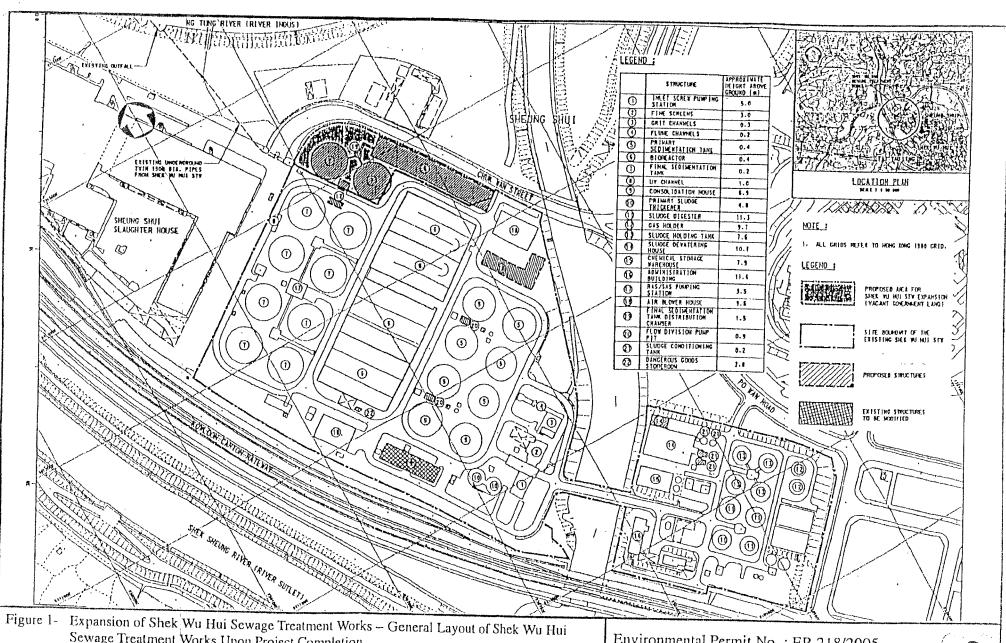
Sensitive Receivers,

Location of Monitoring and Control Station,

Action and Limited Levels

and

Event/Action Plan

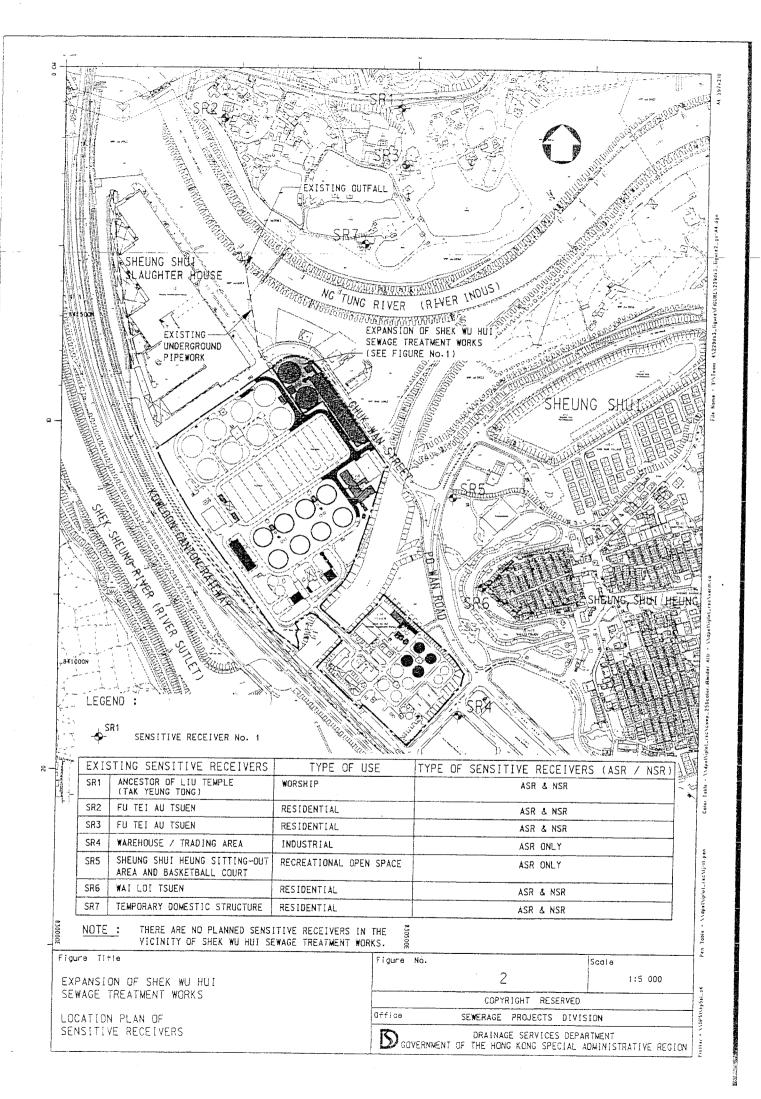


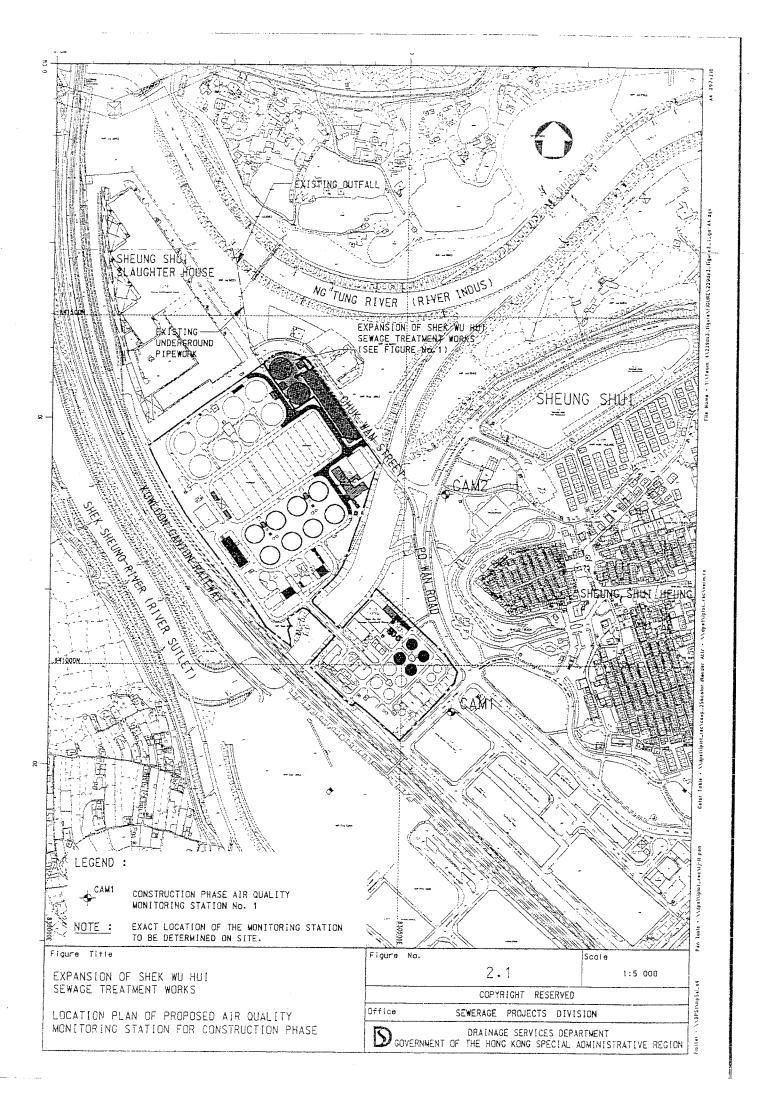
Sewage Treatment Works Upon Project Completion 石湖墟污水處理廠擴建工程-石湖墟污水處理廠於工程完成後的平面圖

Environmental Permit No.: EP-218/2005

環境許可證編號: EP-218/2005







olfactory senses to detect any odour.

- 2.6.9 The observer should bring along a log book to record the findings. The log book should be kept in the plant office where it can be inspected when necessary. The findings should include the following:
 - the prevailing weather condition;
 - the wind direction:
 - location where odour is spotted:
 - possible source of odour;
 - perceived intensity of the odour; and
 - duration of odour.
- 2.6.10 The perceived intensity is to be divided into 5 levels which are ranked in the descending order as follows:
 - Extreme
 - Strong
 - Moderate
 - Slight
 - Not detectable

2.7 Compliance Assessment

▶ 2.7.1 Action and Limit (A/L) levels that provide an appropriate framework for the interpretation of monitoring results have to be agreed between ET, IEC, EPD and the Engineer before commencement of the air quality monitoring. The air quality monitoring data shall be checked against the agreed A/L levels. Recommended A/L levels are listed in Table 2.5.

> Proposed Action and Limit Levels for Impact Monitoring Table 2.5

D.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
Parameter	Action Level (1)	Limit Level	
TSP	• BL ≤ 200 g m ⁻³ , AL = (BL * 1.3 + LL)/2	260 g m ⁻³	
(24 hour average)	• BL \geq 200 g m ⁻³ , AL = LL	200 g III	
TSP (1 hour average)	 BL ≤ 384 g m⁻³, AL = (BL * 1.3 + LL)/2 BL > 384 g m⁻³, AL = LL 	500 g m ⁻³	
H ₂ S (at ASRs only)	• BL ≤ 1.92 ppb, AL = (BL * 1.3 + LL)/2 • BL > 1.92 ppb, AL = LL	2.5 ppb	
Incidence of odour complaints	Any incidence of odour complaint received through the Odour Complaint Register	Two or more complaints through the Odour Complaint Register within three months	
 BL = Baseline 	: level, AL = Action level, I.I. = I imit level		

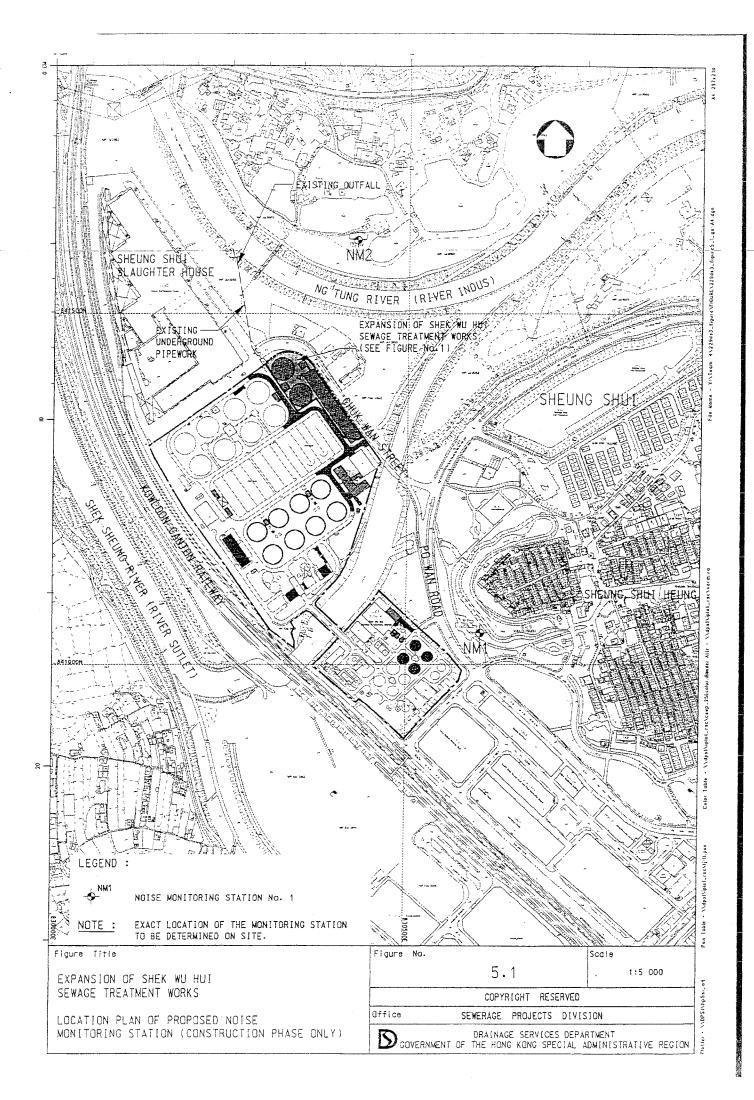
Baseline level, AL = Action level, LL = Limit level.

Event and Action Plan (EAP) for Air Quality

2.7.2 The EAP is based on the prescription of procedures and actions associated with the measurement of certain defined levels of air pollution recorded by the environmental monitoring process and the agreed A/L levels. In case TSP A/L level exceedances occur, the ET, the IEC, the Engineer and the Contractor shall observe the relevant actions of the respective EAP listed in Tables 2.6 whereas relevant sections in DSD shall be responsible for the implementation of the EAP as listed in Table 2.7 in the event of odour exceedance/complaint for construction and operational phase respectively.

Table 2.6 Event/Action Plan for Air Quality Monitoring (Construction Phase)

table 2.0 Ev	vent/Action Plan for Air Quality Mic	ACTION		
EVENT	ET	IEC	ER	CONTRACTOR
ACTION LEVEL	- Communication of the Communi	**************************************	E-MARINE REPORT OF A STREET, THE PROPERTY OF T	discount to accompany representative interpretative in the shadowing account of the Nation and Charles County to Agree to Assert as Agree to Asser
Exceedance for one sample	Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding.	 Check monitoring data submitted by ET; Check Contractor's working method. 	Notify Contractor	Rectify any unacceptable practice; Amend working methods if appropriate.
Exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures.	Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented.	Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate.
LIMIT LEVEL				
Exceedance for one sample	Identify source, investigate the causes of exceedance and propose remedial measures; Inform Contractor, IEC, ER, and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring.	Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures.	Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented.	Take inunediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Repeat measurement to confirm findings; 4. Increase nonitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures.	exceedance in writing;	Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated.



5.6 Impact Monitoring for Construction Noise

- 5.6.1 Noise monitoring shall be carried out at all designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial generating activities are underway:
 - one set of measurements between 0700 and 1900 hours on normal weekdays.
- 5.6.2 If construction works are extended to include works during the hours of 1900 0700. Applicable permits under NCO shall be obtained by the Contractor.
- 5.6.3 In case of non-compliance with the construction noise criteria, more frequent monitoring, as specified in the Action Plan in **Table 5.3**, shall be carried out. This additional monitoring shall be continued until the recorded noise levels are rectified or proved to be irrelevant to the construction activities.
- 5.6.4 Before commencement of impact monitoring, the ET Leader shall inform IEC of the impact monitoring programme such that the IEC can conduct an on-site audit to ensure the accuracy of the monitoring results.

→ 5.7 Event and Action Plan (EAP) for Construction Noise

5.7.1 The Action and Limit levels for construction noise are defined in Table 5.2. Shall non-compliance of the criteria occur, action in accordance with the Action Plan in Table 5.3 shall be implemented.

Table 5.2 Action and Limit Levels for Construction Noise

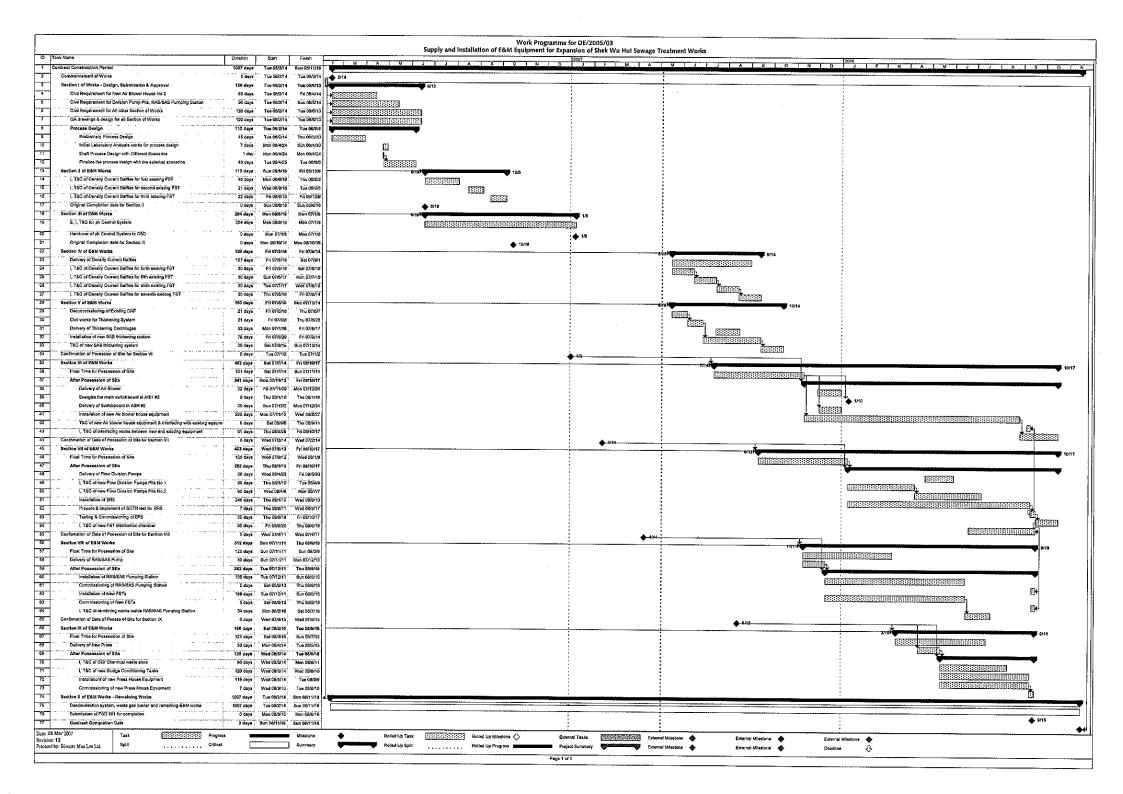
T: D	it Levels for Construction Noise	2
Time Period	Action Level	Limit Level
0700 – 1900 hours on normal weekdays	When one documented complaint is received	75 dB(A)

Event/Action Plan for Construction Noise

EVENT	ACTION				
AND THE RESIDENCE OF THE PARTY	ET	IEC		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Action Level	 Notify IEC and ER; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the Contractor and formulate remedial measures; Increase monitoring frequency to check mitigation effectiveness. 	 Review the analysed results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the ER accordingly; Supervise the implementation of remedial measures. 	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	CONTRACTOR 1. Submit noise mitigation proposals t IEC; 2. Implement noise mitigation proposals.	
Limit Level	 Identify source; Inform IEC, ER, EPD and Contractor; Repeat measurements to confirm findings; Increase monitoring frequency to check mitigation effectiveness; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Inform IEC, ER and EPD the causes and actions taken for the exceedances; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures. 	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated. 	

Appendix 3

Construction Programme



Appendix 4

Environmental Requirements

and

Implementation Status

APPENDIX B IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

Implementation Schedule for Air Quality Control

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
				D	C	o	Guidelines
Annex 1 S1.7.1	Dust mitigation measures stipulated in the Air Pollution Control (Construction Dust) Regulation shall be incorporated to control dust emission from the Site. Notice shall be given to the authority prior to commencement of works.	Work sites / during construction period	Contractor		V		Air Pollution Control (Construction Dust) Regulation
Annex 1 S1.7.6 – S1.7.9	Exposed area of inlet screw pumping station excluding its inlet chamber; and sludge holding tanks should be covered, with the foul air drawn through deodourizers and discharged after treatment. Exposed area of grit channels, flume channels and effluent launder channels of primary sedimentation tanks should be covered.	SWHSTW / during design and operation stage	DSD	7			

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)

^{*} D = Design, C = Construction and O = Operation

Implementation Schedule for Water Quality Control

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
				D	C	o	Guidelines
Annex 2 S2.4.4	The practices outlined in Practice Note for Professional Persons on Construction Site Drainage, Professional Persons Environmental Protection Department, 1994 (ProPECC PN 1/94) including the use of sediment traps, wheel washing facilities for vehicles leaving the site, adequate maintenance of drainage systems to prevent flooding and overflow, sewage collection and treatment, and comprehensive waste management (collection, handling, transportation, disposal) procedures should be adopted to minimize the potential water quality impact from construction site runoff and various construction activities.	During the construction	Contractor		V		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
······································		1 mmg		О	C	O	Guidelines
Annex 2 S2.4.4	 Construction Runoff and Drainage At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed and internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1m³s⁻¹ a sedimentation basin of 30m³ would be required and for a flow rate of 0.5m³s⁻¹ the basin would be 150m³. The detailed design of the sand/silt traps will be undertaken by the contractor prior to the commencement of 	Work site / During the construction period	Contractor		1		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance
	 Ideally, construction works should be programmed to minimize surface excavation works during the rainy season (April to September). All exposed earth areas should be compacted and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows. 						

PP #	Environmental Protection Measures	Location / Implementation Agent	Implementation Stages *			Relevant Legislation &	
Ref#				D	C	O	Guidelines
Annex 2 S2.4.4	 Construction Runoff and Drainage (Cont'd) All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storms events, especially for areas located near steep slopes. 	Work site / During the construction period	Contractor				ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
				D	C	O	Guidelines
Annex 2 S2.4.4	 Construction Runoff and Drainage (Cont'd) All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing bay should be provided at every site exits and washwater should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheelwash bay to the public road should be paved with sufficient backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. On-site drainage system should be equipped with oil interceptors to separate oil/fuel from contaminated storm water. 	Work site / During the construction period	Contractor		7		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance
Annex 2 S2.4.4	 General Construction Activities Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearly. 	Work site / During the construction period	Contractor		1		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance
Annex 2 S2.4.4	Sewage from Construction Workforce Sewage from construction workforce should be handled by portable chemical toilets or sewage holding tanks with the sewage regularly collected by a reputable sewage collector for disposal at, for example, SWHSTW. Sewage from on-site toilets should be diverted to and stored within sewage holding tanks for later disposal.	Work site / During the construction period	Contractor		1		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance
Annex 2 S2.5.3 – S2.5.11	The implementation programme of the village sewerage should be monitored to achieve the target sewerage connection to communal sewers.	SWHSTW/ During the operation period	DSD			V	ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
Ref"				a	C	O	Guidelines
Annex 2	Standby equipment will provide further safeguard on proper functioning	SWHSTW/	DSD	V		V	ProPECC PN 1/94;
S2.5.12	of all key treatment facilities e.g. standby air blowers to ensure adequate	During the				Ì ,	WPCO, Waste
	air supply for the biological treatment process and standby pumps to	design and					Disposal Ordinance
ľ	prevent any overflow of sewage due to mechanical failure of pumps. In	operation period					
	the remote case that untreated effluent is discharged, an emergency						
	contingency plan has been formulated to minimize the impact of						,
	emergency discharges and facilitate subsequent management of						
	emergency. If there is a power failure, the plant manager will start up the						
	emergency generator to provide electricity supplies for the pumps and						
	regularly monitor the quality of effluent discharge.						
Annex 2	Routine monitoring of the effluent quality from the SWHSTW should be	SWHSTW/	DSD			W	ProPECC PN 1/94;
S2.7.2	conducted in order to satisfy the conditions of the WPCO discharge	During the					WPCO, Waste
	licence.	operation period	1				Disposal Ordinance

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)

* D = Design, C = Construction and O = Operation

Implementation Schedule for Waste Management

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
				D	C	o	Guidelines
Annex 3 S3.5.1	 Waste Reduction Measures at Planning and Design Stage The levels of structures should be designed such that excavation could be minimized as far as practicable. Excavated materials generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal. Control measures recommended under the prevailing ETWB circulars should be strictly followed to ensure proper management of the C&D materials with an aim to minimize the generation of C&D material and maximize the use of inert C&D material. 	planning and design stage	DSD	V			ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Pof#	Environmental Protection Measures	Location / Implementation Agent	Implementation Stages *			Relevant Legislation &	
Ref#		Timing		D	С	O	Guidelines
Annex 3 S3.5.1	 Waste Reduction Measures at Construction Stage Measures recommended in the ETWB TCW No. 15/2003 should be followed to require the contractor to prepare and implement an enhanced Waste Management Plan (WMP) to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. For the demolition works, the contractor shall submit a method statement for the works as part of the WMP. The Contractor shall include in the method statement the sequence of demolition and the work programme to facilitate effective recovery of reusable and/or recyclable portions of the C&D materials at the earliest stage, so as to minimise the need for subsequent sorting. Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. Separate labelled bins shall be provided to segregate aluminium cans from other general refuse generated by the work force, and to encourage collection of by individual collectors. Any unused chemicals or those with remaining functional capacity shall be recycled. Maximising the use of reusable steel formwork to reduce the amount of C&D material. Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill. Proper storage and site practices to minimise the potential for damage or contamination of construction materials. Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. Minimize over ordering of concrete, mortars and cement grout by doing careful check before ordering. 	Work site / During the construction period	Contractor		7		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Imp	Implementation Agent	Implementation Stages *			Relevant Legislation &	
TC1		liming		D	С	О	Guidelines	
Annex 3 S3.5.2 – S3.5.5	 Good Site Practices nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility. training of site personnel in proper waste management and chemical waste handling procedures; Provision of sufficient waste disposal points and regular collection for disposal; appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; a Waste Management Plan should be prepared and should be submitted to the Engineer for approval; and a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed. In order to monitor the disposal of C&D material at landfills and public filling facilities, as appropriate, and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements to be implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. The measures recommended in ETWB TCW No. 31/2004 should be followed. 	Work site / During the construction period	Contractor				ProPECC PN 1/94; WPCO, Waste Disposal Ordinance	

PP Ref [#]	Environmental Protection Measures	Location / Timing Implementation Agent	Implementation Stages *			Relevant Legislation &	
IXCI		Timing		D	C	O	Guidelines
Annex 3 S 3.5.6	General Refuse • General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material;	Work sites / During the construction period	Contractor		7		EIAO-TM and Noise Control Ordinance
Annex 3 S 3.5.7	 Construction and Demolition Material The C&D material generated from the site formation and demolition works should be sorted on-site into inert C&D material (that is, public fill) and C&D waste. In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated material comprising fill material should be reused on-site as backfilling material as far as practicable. C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill. A suitable area should be designated within the site for temporary stockpiling of C&D material and to facilitate the sorting process. 	Work sites / During the construction period	Contractor		√	The state of the s	EIAO-TM and Noise Control Ordinance

PP Ref [#]	Environmental Protection Measures	Location /	Implementation Agent	Implementation Stages *			Relevant Legislation &	
ACI		Timing		D	C	o	Guidelines	
Annex 3 \$ 3.5.8	When chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed waste collector to transport and dispose of the chemical wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work sites / During the construction period	Contractor		1		EIAO-TM and Noise Control Ordinance	

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)
* D = Design, C = Construction and O = Operation

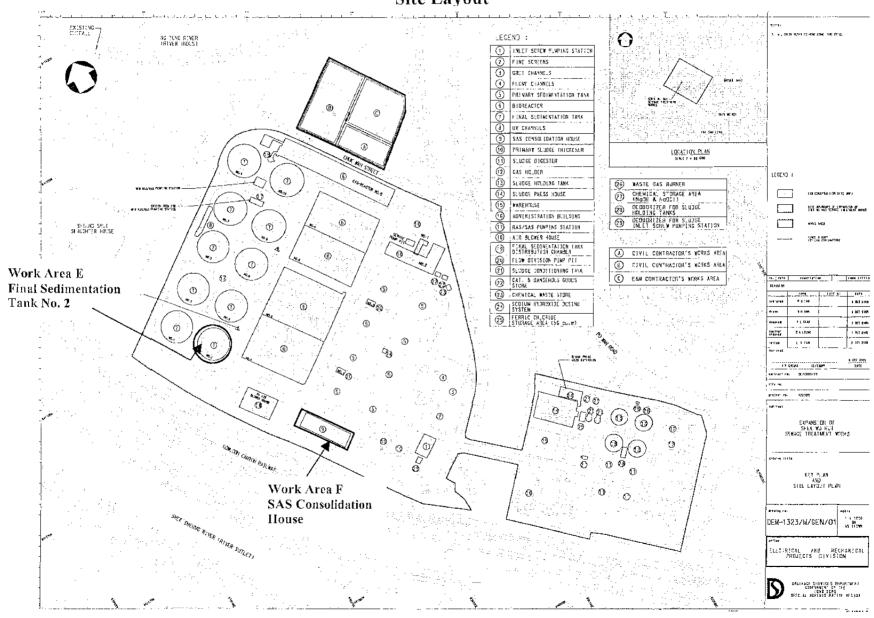
Implementation Schedule for Noise Control

PP Ref [#]	Environmental Protection Measures	Location /	Implementation Agent	Implementation Stages *			Relevant Legislation &
ACC1		Timing		D	C	o	Guidelines
Annex 4 S4.7.1	Use of quiet PME	Work sites / During the construction period	Contractor		1	-	EIAO-TM and Noise Control Ordinance
Annex 4 S4.7.3	 Good Site Practice Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction phase; Silencers or mufflers on construction equipment should be utilised, if found necessary, to further reduce noise, and should be properly maintained during the construction phase; Mobile plant should be sited as far away from NSRs as possible; Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; Plant known to emit noise strongly in one direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs; and Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 	Work sites / During the construction period	Contractor		7		EIAO-TM and Noise Control Ordinance

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)
* D = Design, C = Construction and O = Operation

Site layout plan and Site Inspection Checklists

Shek Wu Hui STW – Expansion E&M Works EM&A Site Inspection – May 2007 Site Layout



Inspectio	on Date: $\frac{\mathcal{M}_{col}}{d}$ 3 ,	2007	- -	Time:		4:30	- 9:45	
Inspecte IEC:		· ·			ontract entative		N.S. his,	5. H. Hu
DSD Represe	entative: <u>M. A. Y.</u>	M (t			nmental nspecto		<u>Angela</u>	Laui
Weather	r							,
Condition	J	Fine Overca	ast E	 Drizzle	Ra	in	Storm	[Hazy
Tempera	ture 26°C	Humidi	ty	62 9	%			
Wind	Calm L	Light Breeze	e S	Strong	Г	Direction	N/E	
Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Ac Yes	tivity C No	ompliar N/A	nce Unk	Action R Responsi	equired/ ole Party ⁽³⁾
Air Qu	ality - Dust	<u> </u>	· · · · · · · · · · · · · · · · · · ·	L	I	<u> </u>		
1	Water spray	N/A	·	,				
2	Cover debris	N/A		<u> </u>	7	<u> </u>		
3	Wet & cover stockpile	and the second s				<u> </u>		
4	Skip hoist				-/	 }		
5	Vehicle washing	S. S		 	/	}		
6	Clear of dusty material		_	<u> </u>	/]	
7	Water spray on road				1			
8	Cement bags							
9	Dusty material			-	1			
10	Cover belt conveyor		<u> </u>	ļ —	1		- - 	
Water	Quality	<u> </u>		i	. <u> </u>			
11	Storm drains	N/A		<u> </u>				
12	Sand/silt removal facilities	NAFY.	ļ		1		-	
13	Exposed soil surface				1			
14	Rainwater silt removal			 	/		1	
15	Open stockpiles		<u> </u>	<u> </u>		 		
16	Groundwater silt removal	+ + + + + + + + + + + + + + + + + + + +					-	

Ref.			Ac	Activity Compliance			Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	N/A			V		
18	Sewage discharged				1		
19	Fuel/chemical storage	77	i – –]	1		
20	Storage area condition				V	<u> </u>	
21	Clean-up actions	Ý			V.		
Noise	Control		-	·			
22	Comply with ordinance	NIA	/			(
23	Working equipment & sound-reducing measures				/		
24	Equipment condition						
25	Well-maintained plant						
26	Intermittent use of machines/plants				1		
27	Noise in one direction				1		
28	Silencers/mufflers		-				1
29	Away from NSRs	- File Polarino					
30	Trial for equipment/sound-reducing measures				V		
Waste	Disposal						
31	Construction wastes	N/A			1		
32	Licensed waste collector	}			/		
33	Removal of construction wastes				1		
34	Waste storage areas		<u> </u>				<u> </u>
35	Windblown litter/dust						
36	Waste disposal permits	<u> </u>	ļ		/	<u> </u>	-
37	Licensed waste disposal facilities		\ \			: 	
38	Careful design, planning & good site management			1	/		
39	Bentonite slurries				V		
40	Chemical wastes handling			ĺ	1		
41	Chemical waste storage				V		
42	Condition of chemical waste storage area				✓		

Ref.	Brief Description	Site	Ac	tivity C	omplia	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	N/A			1		
44	General refuse		V				
45	Chemical waste separation				No.		
46	Strictly prohibited of refuse burning						
47	Environmental Permit and other documents on-site		V				
48	Environmental Permit and license displayed		V				
49	Waste records	√.	V				

Sun	ımary i	Remark	S ' ′				
	No	major	site	activities	14212	observed	

- No particular observation chang the site inspections.

(Note: Refer to attached site layout)

Signatures	
IEC	DSD Representative
	Chl
Name:	Name: K K CHEUNG
E&M Contractor Representative	Environmental Team Leader
Name: Luc was 5 MG	Name: Hanley Lang

- (1) Refer to Site Inspection Checklist Attachment for complete description (Summarized EM&A Manual) of referenced mitigation measure or requirement.
- (2) Indicate exact locations as indicated (by code) on the attached site layout.
- Note actions/plans and responsible party regarding any non-compliance in this column.
- (4) To be filled out by the environmental team.

Inspectio	on Date: May 10	, 2007	- -	Time:		9,30	- 1t.:00
Inspecte IEC:	•				ontract entative	or e:	Y. H. Hung, Kenny Cha. W.S. Lew, K. H. Lew
DSD Represe	K-W-Ywang, entative: <u>K.K. Algern</u> g	MH-Ywn, s.h. <u>Phú. Lain</u>	Frong, !	Enviror Team I	nmental nspecto	l or:	Angela Lau
Weather	· · · · · · · · · · · · · · · · · · ·						
Condition		Fine Overca	ast E) Prizzle	Ra	in	Storm Hazy
Temperal	ture 28 °C	Humidi	ty	63 9	%		
Wind	Calm L	ight Breeze] j e S	Strong	נו	Direction	N/E
Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Ac Yes	tivity C	ompliar N/A	unk	Action Required/ Responsible Party ⁽³⁾
Air Qua	ality - Dust		l	<u> </u>	·		
1	Water spray	N/A			V	· · · · ·	
2	Cover debris		 i				
3	Wet & cover stockpile	_		<u> </u>	<i>\sqrt{\sq}}}}}}}}}}}} \end{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}} \end{\sqrt{\sq}}}}}}}}}}}} \end{\sqrt{\sqrt{\sq}}}}}}}} \end{\sqrt{\sqrt{\sqrt{\sq}}}}}}}} \end{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt</i>	<u></u>	
4	Skip hoist	_		.,		 -	
5	Vehicle washing						
6	Clear of dusty material						
7	Water spray on road						
8	Coment bags		,				į
9	Dusty material	.	: ····				
10	Cover belt conveyor	V			V		
Water (Quality		·				
11	Storm drains	NA					
12	Sand/silt removal facilities	-			✓		
13	Exposed soil surface				V		
14	Rainwater silt removal				Ų.		
15	Open stockpiles				V		
16	Groundwater silt removal	\			$\sqrt{}$		

Ref.	Brief Description	Site	Act	ivity C	ompliar	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	NIA			1		
18	Sewage discharged				1		
19	Fuel/chemical storage				1		
20	Storage area condition				V		
21	Clean-up actions	V	`				
Noise	Control						- · · · ·
22	Comply with ordinance	N/A					
23	Working equipment & sound-reducing measures				V		
24	Equipment condition						
25	Well-maintained plant				1		
26	Intermittent use of machines/plants			 	1		
27	Noise in one direction						
28	Silencers/mufflers						
29	Away from NSRs						
30	Trial for equipment/sound-reducing measures	Ų.			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
Waste	Disposal						
31	Construction wastes	N/A	1			, !	
32	Licensed waste collector				V		
33	Removal of construction wastes				V		
34	Waste storage areas		1				
35	Windblown litter/dust						
36	Waste disposal permits	and a second					
37	Licensed waste disposal facilities	9 9 1	.,				_
38	Careful design, planning & good site management				\		
39	Bentonite slurries	į					
40	Chemical wastes handling						
41	Chemical waste storage						-
42	Condition of chemical waste storage area	· · · · · · · · · · · · · · · · · · ·		i	1		

Ref.	Brief Description	Site	Ac	tivity C	omplia	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	N/A			/		
44	General refuse		\checkmark				
45	Chemical waste separation				1		
46	Strictly prohibited of refuse burning		J				
47	Environmental Permit and other documents on-site		V				
48	Environmental Permit and license displayed		V				
49	Waste records		V				

Summary / F	Remarks ⁽⁴⁾
-------------	------------------------

- No major site activities were observed,

- Ne particular observation during the Site inspection.

(Note: Refer to attached site layout)

	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Signatures	
IEC	DSD Representative
	Chu
Name:	Name: KK (HEUNG
E&M Contractor Representative	Environmental Team Leader
Name: hul with & MG	Name: Stanley Low
Refer to Site Inspection Checklist Attachment	for complete description (Summarized EM&A Manual) of

- (1) referenced mitigation measure or requirement.
- Indicate exact locations as indicated (by code) on the attached site layout.
- Note actions/plans and responsible party regarding any non-compliance in this column.
- To be filled out by the environmental team.

Inspection Date:		May 11	May 11, 2007			Time: $14:30 - 15-00$				
Inspected IEC:						ontracto entativo		Y.M. Hery V.S. Lid .	Kenny Clar	
DSD Represe	entative:	<u></u>	heen			nmental nspecto		<u> Angela</u>	Lac-	
Weather	<u>-</u>			-	_					
Condition		Sunny	Fine Overc] [ast D	rizzle	Ra	în	Storm	Hazy	
Temperal	ture	<i>⊉</i> °C	Humid	ity [44 9	6				
Wind		Calm I	ight Breez	e S	trong	С	Direction	ı [E]		
Ref.	Brief D	escription	Site	Act	Activity Compliance			e Action Require		
No. ⁽¹⁾	of M	itigation	Location ⁽²⁾	Yes	No	N/A	Unk	Respons	ible Party ⁽³⁾	
Air Qua	ality - Du	st							ļ	
1	Water spr	ay	I NVA		 -					
2	Cover del	oris	1	. 		1		<u>:</u> 		
3	Wet & cov	ver stockpile				V			:	
4	Skip hoist	_ _				1		-		
5	Vehicle w	ashing	-			<u> </u>				
6	Clear of d	usty material	- I - I - I - I - I - I - I - I - I - I							
7	Water spr	ay on road								
8	Cement b	ags						1		
9	Dusty ma	terial				/				
10	Cover bel	t conveyor				V		1		
Water	Quality			-J <u></u>		·	J			
11	Storm dra	ins	NIA							
12	Sand/silt r facilities	emoval				1				
13	Exposed:	soil surface				V	 	1	ı	
14	Rainwater	silt removal		i [V				
15	Open stoo	ckpiles				<u> </u>		_		
16	Groundwa removal	ator silt				V				

Ref.	Brief Description	Site	Act	tivity C	omplia	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	N/A			V		
18	Sewage discharged]	V	<u></u>	
19	Fuel/chemical storage				V	İ	
20	Storage area condition	77.2.2.2.2		-	V		
21	Clean-up actions	$\sqrt{}$			/		
Noise	Control						
22	Comply with ordinance	N/A	V_				
23	Working equipment & sound-reducing measures				V		
24	Equipment condition	j	/				
25	Well-maintained plant						
26	Intermittent use of machines/plants						
27	Noise in one direction			-			
28	Silencers/mufflers				V		
29	Away from NSRs		-	ĺ			-{ : : :
30	Trial for equipment/sound-reducing measures				Lorent Control		
Waste	Disposal				_ -		,
31	Construction wastes	N/A					
32	Licensed waste collector	1 10 2 1 3			<i></i>		<u>;</u>
33	Removal of construction wastes				1		
34	Waste storage areas		-/				1
35	Windblown litter/dust						; ;
36	Waste disposal permits						
37	Licensed waste disposal facilities		1	<i>!</i>	 		
38	Careful design, planning & good site management				✓		
39	Bentonite slurries				V		
40	Chemical wastes handling				/		
41	Chemical waste storage				I		1
42	Condition of chemical waste storage area				1		

Ref. No. ⁽¹⁾	Brief Description	Site Location ⁽²⁾	Act	tivity C	omplia	Action Required/	
	of Mitigation		Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	N/A			V		
44	General refuse		V				
45	Chemical waste separation				V		
46	Strictly prohibited of refuse burning						
47	Environmental Permit and other documents on-site		V				
48	Environmental Permit and license displayed		✓ I				
49	Waste records		V				1

Summary / F	Remarks ⁽⁴⁾
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- No major still accordices ware charmed.

(2) Indicate exact locations as indicated (by code) on the attached site layout.

To be filled out by the environmental team.

Note actions/plans and responsible party regarding any non-compliance in this column.

- No particular observation during the site inspection.

	(Note: Refer to attached site layout)
Signatures	
IEC	DSD Representative
	Chu
Name:	Name: K CHEUNG
E&M Contractor Representative	Environmental Team Leader
W3 -:	
Name: Lui wan 41NG	(Name: / Stanley Long
Refer to Site Inspection Checklist Attachment referenced mitigation measure or requirement.	for complete description (Summarized EM&A Manual) of

nspection Date: May 15, 2007			_ 7	Time:		9:3	So <u>= 9</u> :	45		
Inspecte IEC:	d By:			E&M Co Repres			h). Z. (167 ,	<u>S.W. H., Y</u> . M		
DSD Represe	entative: <u>M.H.</u>	Year		Environmental Team Inspector: <u>Αρυμέλα Ι ακα</u>						
Weathe	r									
Condition		ine Overc] [ast D	rizzle	Ra	in	Storm	Hazy		
Tempera	ture <u>16</u> °C	Humidi	ty [<u> </u>)					
Wind	Calm L	ight Breez] [e S	trong	С)irectior	Ē			
Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Act Yes	ivity Co	mpliar N/A	nce Unk		Required/ ible Party ⁽³⁾		
Air Qu	ality - Dust		<u> </u>	1						
1	Water spray	N/A								
2	Cover debris	1			· V					
3	Wet & cover stockpile									
4	Skip hoist							, , 		
5	Vehicle washing	,			/					
6	Clear of dusty material				~					
7	Water spray on road		-				l			
8	Cement bags				V					
9	Dusty material				V					
10	Cover belt conveyor	√.						· 		
Water	Quality									
11	Storm drains	NA								
12	Sand/silt removal facilities				V.			Ì		
13	Exposed soil surface				√					
14	Rainwater silt removal				V					
15	Open stockpiles				V					
16	Groundwater silt removal									

Ref.	Brief Description	Site	Act	ivity C	omplia	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³
17	Large object	N/A					
18	Sewage discharged				<i>J</i>		
19	Fuel/chemical storage			_			
20	Storage area condition			•			
21	Clean-up actions	V		_	1		
Noise	Control						
22	Comply with ordinance	N/A	V				
23	Working equipment & sound-reducing measures				/		
24	Equipment condition		~			-	
25	Well-maintained plant					,	
26	Intermittent use of machines/plants			•	1		
27	Noise in one direction				V		1 i
28	Silencers/mufflers						
29	Away from NSRs						
30	Trial for equipment/sound-reducing measures			<u> </u>	V		
Waste	Disposal						
31	Construction wastes	N/A				Ţ	
32	Licensed waste collector						
33	Removal of construction wastes				1		
34	Waste storage areas		V				
35	Windblown litter/dust			,	1		.
36	Waste disposal permits						
37	Licensed waste disposal facilities		1			_	
38	Careful design, planning & good site management						
39	Bentonite slurries				V		
40	Chemical wastes handling				/		
41	Chemical waste storage		İ		1		-
42	Condition of chemical		 				

Ref.	Brief Description	Site	Ac	tivity C	ompliar	Action Required/	
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	N/A			/		
44	General refuse						
45	Chemical waste separation				/		
46	Strictly prohibited of refuse burning		V				
47	Environmental Permit and other documents on-site	:	V	-			
48	Environmental Permit and license displayed	:	Veri				
49	Waste records		100				

Sun	nmary	/ Remarks	3. 7			
سسب	No	major	site	activities	10218	clisery 201.

referenced mitigation measure or requirement.

To be filled out by the environmental team.

Indicate exact locations as indicated (by code) on the attached/site layout.

Note actions/plans and responsible party regarding any non-compliance in this column.

- No particular observation during the site inspection.

Signatures

IEC

DSD Representative

Name: K (HEUNG)

E&M Contractor Representative

Environmental Team Leader

Name: hur uff S.NG

Name: Site Inspection Checklist Attachment for complete description (Summarized EM&A Manual) of

(Note: Refer to attached site layout)

Inspection Date: <u>Nay 22, 20ct</u>			-	Time: 10:30 - 11:15						
Inspecte	*									
IEC:				E&M Contractor Representative: <u>k.H. Lazz, Y.H. Herty</u>						
DSD Represe	entative: M.H.	han			nmenta nspecto		Arvjeta	Lan		
Weather	<u> </u>	 -		· -			· · · · · · · · · · · · · · · · · · ·			
Condition		Fine Overc] ast [Drizzle	l.⊻ Ra	Z ain	Storm	Hazy		
Temperat	ture 20	Humidi	ty	97 9	6					
Wind	Calm L	ight Breez	e S	Strong	[Direction	s/10			
Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Ac Yes	tivity C	ompliar N/A	Unk		Required/ sible Party ⁽³⁾		
Air Qua	ality - Dust	<u></u>	<u> </u>	<u>: ,</u>	\	1	<u> </u>			
1	Water spray	E, F		· -		Ţ				
2	Cover debris		<u> </u>	<u> </u>	1		-[
3	Wet & cover stockpile		<u> </u>		\ \ \ \		1			
4	Skip hoist				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					
5	Vehicle washing			i						
6	Clear of dusty material	1			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					
7	Water spray on road		<u> </u>	,	\ \(\)	_	1			
8	Cement bags				/	ļ				
9	Dusty material					_				
10	Cover belt conveyor	-			1		1			
Water	Quality			····						
11	Storm drains	E,F	: -							
12	Sand/silt removal facilities				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					
13	Exposed soil surface				/					
14	Rainwater silt removal				!					
15	Open stockpiles				/					
16	Groundwater silt removal				1					

Ref.	Brief Description	Site	Act	ivity C	omplia	Action Required/	
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	E, F					
18	Sewage discharged		Variation 1		- V		
19	Fuel/chemical storage				V		
20	Storage area condition						
21	Clean-up actions	1					1
Noise	Control		· · · · · · · · · · · · · · · · · · ·			-	
22	Comply with ordinance	E.F		_	T		
23	Working equipment & sound-reducing measures		<u> </u>		/		
24	Equipment condition						
25	Well-maintained plant						1
26	Intermittent use of machines/plants						
27	Noise in one direction						-
28	Silencers/mufflers	; ;			1		- -
29	Away from NSRs				1		7
30	Trial for equipment/sound-reducing measures	7				ì	
Waste	Disposal						
31	Construction wastes	モルト	/		<u> </u>		
32	Licensed waste collector				✓		
33	Removal of construction wastes) 			-		
34	Waste storage areas		V		<u> </u>		
35 	Windblown litter/dust		<u> </u>	 	/		
36	Waste disposal permits						
37	Licensed waste disposal facilities	and the second s	V				
38	Careful design, planning & good site management	7				Í	3
39	Bentonite slurries]	V		
40	Chemical wastes handling	a variation of the state of the					
41	Chemical waste storage						
42	Condition of chemical waste storage area				/		1

Ref.	Brief Description	Site	Ac	tivity C	omplia	Action Required/	
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	Ē,F	İ		V		
44	General refuse		V				
45	Chemical waste separation	: -					
46	Strictly prohibited of refuse burning		V				
47	Environmental Permit and other documents on-site		1				
48	Environmental Permit and license displayed						
49	Waste records	V	V				

Summary / Remarks⁽⁴⁾

- Instalkation works of electricity was observed at SAS Consolidation House.

Remark 12 Due to rain during the site inspection, accommodated remodes was observed in efficient element and higher at their Sedimentation track No. 2. Accommodated issnorted in effluent channel and higher at Frank Sedimentation track No. 2 how sprayed with larvicidal oil on 19 May of, as see Both. Note that the accommodated removator should be drained accommodated removator should be drained according if possible.

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(1) Refer to Site Inspection Checklist Attachment for complete description (Summarized EM&A Manual) of referenced mitigation measure or requirement.

(2) Indicate exact locations as indicated (by code) on the attached site layout.

Note actions/plans and responsible party regarding any non-compliance in this column.

(4) To be filled out by the environmental team.

Inspection Date: Nay 24, 2007			_ T	Time: 9:30 - 10:30					
Inspecte	· /			&M Con Represer			Y. H. Hong	. <u>5.14. H</u> e	K1.8.100
DSD Representative: M. H. Yuru				nvironm eam Ins			Angels	. (1)2 . 644	
Weathe	r								
Condition		ine Overca	ast Di	rizzle	Ra	in	Storm	Hazy	
Tempera	ture <u>₃</u> o °C	Humidi	ty [<u>(</u> 9] %					
Wind	Calm L	ight Breez	e St	rong	Ε	irection	n N/B		
Ref.	Brief Description of Mitigation	Site Location ⁽²⁾	Acti	vity Con	nplian N/A	ice Unk	Action F	lequired/ ole Party ⁽³⁾	
Air Qu	ality - Dust		<u></u>						
1	Water spray	T,F		·					
2	Cover debris				<u>v</u>				
3	Wet & cover stockpile			· -	<u></u>				
4	Skip hoist		-		<u>, </u>				!
5	Vehicle washing								
6	Clear of dusty material	<u> </u>			V				
7	Water spray on road				$\sqrt{}$				
8	Cement bags				$\sqrt{}$				
9	Dusty material								
10	Cover belt conveyor				/ /				
Water	Quality		<u> </u>		<u></u>		<u> </u>		
11	Storm drains	E,F							1
12	Sand/silt removal facilities			-	1				
13	Exposed soil surface				/				
14	Rainwater silt removal					····			
15	Open stockpiles		~	<u></u> _	<u> </u>				Ì
16	Groundwater silt removal				<u>.</u>		 		

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/
			Yes	No	N/A	Unk	Responsible Party ⁽³
17	Large object	E:F			1		
18	Sewage discharged	[_	
19	Fuel/chemical storage				Lagre .		1
20	Storage area condition				W		
21	Clean-up actions	-			V		
Noise	Control		·		,		
22	Comply with ordinance	E,F				<u> </u>	
23	Working equipment & sound-reducing measures				1		
24	Equipment condition						
25	Well-maintained plant				1		
26	Intermittent use of machines/plants						
27	Noise in one direction						
28	Silencers/mufflers	}					
29	Away from NSRs				1		
30	Trial for equipment/sound-reducing measures				V		
Waste	Disposal		·	,	·	, -	
31	Construction wastes	5.F	V				
32	Licensed waste collector				V]
33	Removal of construction wastes		V				
34	Waste storage areas		<u> </u>				
35	Windblown litter/dust				1		
36	Waste disposal permits				1		
37	Licensed waste disposal facilities						Í
38	Careful design, planning & good site management		. ✓				
39	Bentonite slurries				✓		
40	Chemical wastes handling				1		
41	Chemical waste storage		}		✓		
42	Condition of chemical waste storage area	=					

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Ac	tivity C	omplia	Action Required/	
			Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	E.F			V		
44	General refuse						
45	Chemical waste separation				1		
46	Strictly prohibited of refuse burning		V .				
47	Environmental Permit and other documents on-site		V			-	
48	Environmental Permit and license displayed		V′				
49	Waste records	v					

Summary	1/	Rem	ıarks ⁽⁴⁾

- No pulpor site activities were observed

Remark 1: Divide to reting decrementation from the second of efficient shamed and hopper at Final Scalinguatation Tank has 2. Accommodated rationality in softwart shamed and hopper at Final Sedimentation Tank No. 2 was significal with leavereday oil on 26 May oil, as per Boll.

Accommissated of Sewage / shadge was observed in shadge holding toute out and Consequential Herrice. BAL was reminded to remove the sewage / shadge.

Name: Luc Why 47NG

Refer to Site Inspection Checklist Attachment for complete description (Summarized EM&A Manual) of

(4) To be filled out by the environmental team.

referenced mitigation measure or requirement.

Indicate exact locations as indicated (by code) on the attached site layout.

Note actions/plans and responsible party regarding any non-compliance in this column.

D--- 0 (C

Deficiency Investigations Reports

(Not Applicable)

Complaint Reports

(Not Applicable)

Summons and Prosecutions Records

(Not Applicable)

Permits

Same as in June 2006 Report