

KCRC WEST RAIL CC212
SIU HONG STATION
MONTHLY EM&A REPORT - APRIL 2003

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EXECUTIVE SUMMARY

HK ACE JV, the main Contractor for West Rail CC212 appointed Hyder as the Contractor's Environmental Team (CET) to undertake the Environmental Monitoring and Audit (EM&A) works in accordance with the contract specific EM&A Manual. This is the monthly EM&A report which summarises the impact monitoring and auditing data for April 2003.

Construction Programme

Major construction activities undertaken in April 2003 during non-restricted hours included stair / concrete roof / concrete deck construction; painting and cementitious spraying to steelwork and E&M fitout, north and south amenities landscape on top of the structure; north and south PTI's concrete pavement construction, excavation works in nullah for propping slab and nullah slab construction; cycle bridge construction; rooms fit out within station area; E&M installation / painting steel work at station structure; twin sewer construction north and east bank of nullah; platform, concourse and mechanical level fit out, culvert reinstatement adjacent to Tsing Lun Road; trackside walkway installation, EVA excavation and backfilling works; miscellaneous activities including utilities / services / pedestrian / traffic diversions at Siu Hong Station; Area 35 Tuen Mun River Park & Siu Hong triangle area. Works are being carried and along the viaducts; within the amenities structure and within the station structure by the Railway Operation System (ROS) Contractors.

During restricted hours works carried out with valid Construction Noise Permit (CNP) included excavation under the station structure in the nullah; deck construction and painting of steelwork within the Siu Hong triangle; painting of structural steelwork within the station structure, bearing replacement at Southern Access ramp over Tuen Mun Highway, and prescribed Construction Works (PCW) within Siu Hong triangle (designated area). PCW within the station area (non-designated area) included scaffold erection/dismantling; steel fixing and formworking were also carried out during restricted hours. Since this is outside the designated area and did not involve the use of Powered Mechanical Equipment (PME); a CNP was not required.

Air Quality Impact Monitoring

Air quality monitoring of 24 hour TSP was carried out at four locations in accordance with the contract specific EM&A Manual. Monitoring at four stations on 21st Apr 03 were rescheduled to 22nd Apr 03 due to public holiday. No exceedance of Action or Limit Levels were recorded, which indicated that the construction activities carried out in April 2003 were in full compliance with the air quality criteria of the Project.

Noise Impact Monitoring

Noise monitoring of $L_{eq(30min)}$ at seven locations during non-restricted hours and $L_{eq(15min)}$ at one location (Siu Hong Court) during restricted hours were carried out in accordance with the contract specific EM&A Manual. No limit level exceedance was recorded in April 2003 during both the non-restricted hours and restricted hours.

Water Quality Impact Monitoring

Water quality monitoring was carried out at the monitoring stations in accordance with the contract specific EM&A Manual. DO levels were recorded to be below the Limit Level in all

of the monitoring at Monitoring Location D10 during April 2003. Records show that DO levels measured at the upstream station U10A were already lower than the Action and Limit Levels throughout the monitoring period. The non-compliance of DO level was not construction related.

Waste Management

No waste disposal was reported in April 2003.

Environmental Auditing

Site inspections/audits were carried out by the CET on the 4, 10, 17 and 24 of April 2003. All observations which have been recorded in the audit checklist and together with the CET's recommendations, have been passed to the Contractor.

Site audit was carried out by MACL, KCRC and IEC on 15 April 2003. No Non-compliance (NC) was issued. Observations include directly discharge of silty water from wheel washing activity into nullah without proper treatment and accumulation of soil at the nullah.

A compliant was received by EPD and site inspection was conducted on 2nd Apr 03. Yellow "Record of Inspection" was issued, regarding water discharge from vehicle wheel wash to storm drain without prior treatment at Southern Access ramp site exit onto Castle Peak Road. Corrective action has been taken by the Contractor to rectify the deficiency including redirection of the wheel wash water to site drainage system.

Complaints

No complaint was received during the reporting month.

Notification of Summons, Successful Prosecutions and Corrective Actions

No Notification of Summons was received during the reporting month.

Future Key Issues

The construction activities for the next three months will be the same as those carried out in April 2003. Therefore it is anticipated that the results for water quality, air quality and noise impact monitoring for the upcoming three months will be similar to the results measured in April 2003.

1. BACKGROUND INFORMATION

1.1 PROJECT INFORMATION

West Rail Contract CC 212 (hereafter known as the Project) comprises of the construction of Siu Hong Station. The station is one of the new stations at the Western Section of the West Rail alignment, which extends from Yuen Long Station to the proposed Tuen Mun Station. The site of Siu Hong Station is located on the northern fringe of Tuen Mun New Town immediately to the east of Siu Hong Court. Figure 1.1 shows the Project location.

HK ACE JV is the main Contractor for the Project. It is a joint venture between Hong Kong Construction (Holdings) Limited, AMEC International Construction Limited, China Railway Construction Company Limited and China Everbright Holdings Company Limited (hereafter known as the Contractor). Hyder Consulting has been employed as the Contractor's Environmental Team (CET) and undertaking the Environmental Monitoring and Audit (EM&A) programme in accordance with the EM&A Manual.

Environmental monitoring is carried out at the selected monitoring location in order to determine the level of impact from construction activities at the sensitive receivers. If exceedances of Action or Limit (A/L) Levels are recorded, appropriate actions are required by various parties in accordance with relevant Event and Contingency Plans.

1.2 CONSTRUCTION PROGRAMME

It is anticipated that the overall project programme from the detail design to completion of all civil works will take approximately 51 months. The construction of Siu Hong Station will comprise all activities from foundation works to electrical mechanical installation. As for all stations on the West Rail alignment, there will be associated footbridges, subways and passenger transport interchanges.

1.3 PROJECT ORGANISATION AND MANAGEMENT

An Environmental Team is set up for the Project construction phase. The organisation and lines of communication with respect to environmental works are shown in Figure 1.2.

In general, CET is responsible for regular on-site monitoring and audits/inspection on environmental issues and report to the Contractor of any potential environmental deficiencies. The Independent Environmental Checker (IEC) is responsible for carrying out the formal audit and verifies the overall environmental performance. Finally, the Environmental Manager of KCRC will manage the IEC who would review the deliverables prior to the submission to EPD.

2. SUMMARY OF EM&A REQUIREMENT

2.1 AIR QUALITY

2.1.1 Air Quality Parameters

24-hour Total Suspended Particulates (TSP) level should be measured at the selected air monitoring locations in accordance with the EM&A Manual. Monitoring under typical weather conditions (with no adverse weather such as typhoon signal or rainstorm warning) was undertaken at each monitoring location once per week. Information such as date of monitoring, duration, weather conditions, equipment used and monitoring results will be recorded on the field data sheet developed for the Project. Results are summarised in Section 4.1.

2.1.2 Monitoring Methodology

24-hour TSP monitoring is carried out by using High Volume Air Sampler (HVAS) and follows the standard sampling method as set out in High Volume Method for Total Suspended Particulates, Part 50 Chapter 1 Appendix B, Title 40 of the Code of Federal Regulations of the USEPA.

All HVAS were calibrated before commencement of monitoring using standard orifice 5-points calibration method with orifice calibrator to determine the actual flow rate of each HVAS. This will be used for the calculation of the TSP.

After sampling, the filter paper loaded with dust is kept in a clean and tightly sealed plastic bag. The filter paper is then re-conditioned in a dessicator for 24 hours before obtaining the weight under laboratory conditions.

The average concentration of the suspended particulates will be calculated based on the following information obtained from monitoring:

- Flow rate
- Weight of the filter paper before and after sampling
- Sampling period indicated by the elapsed time meter

All samples collected once a week and they will be kept in good condition (i.e. stored in sealed plastic bags, with brief description of the monitoring dates and locations) for a period of 6 months before disposal.

2.1.3 Monitoring Equipment/Calibration

High Volume Air Sampler (HVAS) - Model GMW GS2310-105 is used for 24 hours TSP monitoring. It complies with the USEPA specifications in Appendix B Part 5 - Reference Method for the Determination of Suspended Particulate matter in the Atmosphere (High-Volume Method) of the Code of Federal Regulation dated July 1, 1991.

Calibration Kit Model - G2523 are used for calibration of the HVAS. Recalibration of the HVAS should be carried out after motor maintenance, at least once every six months which is about the expected life of carbon brush. Appendix I presents the calibration worksheets for the HVAS

2.1.4 Monitoring Locations

Air sensitive receivers were identified in the West Rail EM&A Manual (see Figure 2.1) of which four were selected for air quality impact monitoring. They are listed in Table 2.1 and shown in Figure 2.2a and 2.2b.

Table 2.1 List of Locations for Air Impact Monitoring

Name	Description	Location of the HVAS
Yau Tse Tin Memorial College (17/12)	It is a standard, 7 storey high secondary school, located adjacent to Tsing Lun Road and Tuen Mun Road.	on the roof of the school (7/F), facing Tuen Mun River Channel
Tuen Mun Government Primary School (17/25)	It is a standard, 7 storey high secondary school, locates close to the nullah and adjacent to Tuen Mun Road.	on the roof of the school (7/F), facing Tuen Mun River Channel
Brilliant Garden (17/26)	It is a housing estate with 5 blocks, 10 storey high. It locates on Castle Peak Road San Hui Section, adjacent to the Tuen Mun Road and LRT alignment.	ground level adjacent to Block D, facing Tuen Mun River Channel
Affluence Garden (18/33)	It is a housing estate with 5 block, 25 storey high. It locates close to the Tuen Mun River along Tsing Chung Koon Road, adjacent to the LRT Station.	podium level of the car park area, facing Tuen Mun River

2.1.5 Action and Limit Level

The Action and Limit Levels for the 24-hours TSP air quality monitoring is shown in Table 2.2. The actual Action and Limit Levels at each monitoring location is based upon the results obtained during the baseline monitoring which is presented in Section 4.

In cases where exceedance of Action and/or Limit Levels for air quality occur, Event Contingency Plans (ECPs), which is developed by KCRC, should be implemented. The ECPs for Action and Limit Levels exceedances are shown in Table 2.3 and 2.4 respectively. ECP for Complaints Handling is shown in Table 2.5.

Table 2.2 Action and Limit Level for 24-hour Air Quality Monitoring

Level	Total Suspended Particulates ($\mu\text{g m}^{-3}$)
Action	For baseline < 108 $\mu\text{g m}^{-3}$, average of 130% of baseline and the Limit level
	For 108 < baseline < 154 $\mu\text{g m}^{-3}$, 200 $\mu\text{g m}^{-3}$
	For Baseline > 154 $\mu\text{g m}^{-3}$, 130% of baseline level
Limit	260 $\mu\text{g m}^{-3}$

Table 2.3 Event Contingency Plan for Action Level Exceedance

Step	Day	Action	Contractor / CET	RSS	IEC
1.	1	Identify exceedance from monitoring data and initiate corrective action. Submit data to RSS with observed source(s) of pollution.	■		
2.	1	Input monitoring data and observed pollution source(s) into WREMS on same day when data is submitted from CET. WREMS will automatically generate a Notice of Exceedance (NOE) and send it to the IEC via e-mail.		■	
3.	1	On same day of receipt of the NOE, check monitoring data trend and Contractor's work method. Decide if a formal NOE will be issued. If so, forward the NOE via e-mail to KCRC and RSS. If not, close the Exceedance record in the WREMS.			■ □
4.	1	Confirm receipt of NOE to IEC.		■	
5.	1	Issue NOE to Contractors and remind their contractual obligations.		■	
6.	2	Propose remedial measures to RSS within 1 working day of receipt of NOE.	■	□	
7.	2	Review and agree the proposed remedial measures and make recommendations where necessary.		■ □	■ □
8.	2	Implement the proposed remedial measures once they have been agreed.	■		
9.	-	Arrange site visit to ensure implementation of the agreed remedial measures.		■	■
10.	-	Increase monitoring frequency to assess effectiveness of remedial measures. (Be specific about the frequency for the different parameters. e.g. once every 3 days for 24-hr dust, daily for 1-hr dust) Submit monitoring data to RSS for entering into the WREMS once they are available.	■		
11.	-	If exceedance continues, arrange meeting with Contractor and RSS to review the implemented remedial measures and identify further remedial measures. Go to step 8. If exceedance stops for 3 consecutive monitoring, resume normal monitoring frequency.	■	■ □	■
12.	-	Inform IEC the closure of exceedance.		■	
13.	-	Close the exceedance record in the WREMS.			■

Table 2.4 Event Contingency Plan for Limit Level Exceedance

Step	Day	Action	Contractor/ CET	RSS	IEC
1.	1	Identify exceedance from monitoring data and initiate corrective action. Submit data to RSS with observed source(s) of pollution.	■		
2.	1	Input monitoring data and observed pollution source(s) into WREMS on same day when data is submitted from CET. WREMS will automatically generate a Notice of Exceedance (NOE) and send it to the IEC via e-mail.		■	
3.	1	On same day of receipt of the NOE, check monitoring data trend and Contractor's work method. Decide if a formal NOE will be issued. If so, forward the NOE via e-mail to KCRC and RSS. If not, close the Exceedance record in the WREMS.			■ □
4.	1	Confirm receipt of NOE to IEC on receipt of NOE.		■	
5.	1	Issue NOE to Contractors and remind their contractual obligations.		■	
6.	1	Take immediate action to avoid further exceedance.	■		
7.	2	Propose remedial measures to RSS within 1 working days of receipt of NOE.	■	□	
8.	2	Review and agree with the proposed remedial measures and make recommendations where necessary.		■ □	■ □
9.	2	Implement the proposed remedial measures once they have been agreed.	■		
10.	-	Arrange site visit to ensure implementation of agreed remedial measures.		■	■
11.	-	Increase monitoring frequency to assess effectiveness of remedial measures. (Be specific about the frequency for the different parameters. e.g. daily for all parameters) Submit monitoring data to RSS for entering into the WREMS once they are available.	■		
12.	-	If exceedance continues, arrange meeting with Contractor and RSS to review the implemented remedial measures and identify further remedial measures. Go to step 9. If exceedance stops for 3 consecutive monitoring, resume normal monitoring frequency.	■	■ □	■
13.	-	Inform IEC the closure of exceedance.		■	
14.	-	Close the exceedance record in the WREMS.			■

Table 2.5 Event Contingency Plan for Complaints Handling

Step	Day	Action	Contractor/ CET	KCRC	RSS	IEC
1.	1	Party receiving complaint shall create a new complaint record in the WREMS. If the Contractor receives a complaint, the Contractor shall pass the information to the RSS for entering into the WREMS. WREMS then automatically sends a Notification of Complaint to KCRC, RSS and IEC via e-mail.	■	■	■	
2.	1	RSS forward the complaint to Contractor/CET if that is not already received by the Contractor.			■	
3.	2	Within 1 working day after the receipt of the Notification of Complaint, provide RSS relevant works site information, e.g. types and locations of construction works.	■		□	
4.	2	Investigate the complaint to determine its validity, and to assess whether the source of the problem is due to the works activities. Report the validity of the complaint to KCRC and RSS.				■ □
5.	2	If complaint is valid and due to works, RSS shall notify the Contractor. If complaint is invalid or not due to works, Go to Step 11.			■	
6.	2	Propose mitigation measures to RSS within 1 working day of the receipt of the Notification.	■		□	
7.	2	Review and agree with the proposed mitigation measures and make recommendations where necessary.			■ □	■ □
8.	2	Implement the mitigation measures once they have been agreed.	■			
9.	4	Audit the implementation of the proposed mitigation measures on site within 2 working days after the measures have been agreed.			■ □	■ □
10.	-	Undertake additional monitoring to verify the situation where necessary.	■			
11.	4	Report the investigation results and subsequent actions taken to RSS within 2 working days after the implementation of mitigation measures.	■		□	
12.	5	Respond to the complainant within 1 working day after receiving the investigation report.		■		
13.	25	If no further comments or complaints are received from the complainant within 20 working days after responding to the complainant, close the complaint record in the WREMS. If the complainant has further comments or complaints on the same issue, notify other parties on the same day and go to step 2.		■	■ □	

■ action party

□ enter comments/proposals into the appropriate exceedance record in WREMS where applicable.

CET – Contractor's Environmental Team

IEC – Independent Environmental Checker

KCRC – Designated personnel at KCRC

RSS –Resident Site Staff

WREMS - West Rail Environmental Management System

2.2 NOISE

2.2.1 Noise Parameters

The construction noise level should be measured in terms of equivalent A-weighted sound pressure level (L_{eq}) measured in decibels (dB). Monitoring of $L_{eq(30\text{ min})}$ ($6 \times L_{eq(5\text{ min})}$) is carried at the noise monitoring locations once every week during normal construction working hours (07:00-19:00 hours Monday to Saturday). Restricted hour noise monitoring (19:00-0700 hours or any time on general holidays including Sunday) in terms of $L_{eq(15\text{ min})}$ should be undertaken if construction activities are being undertaken during restricted hours under the conditions of valid Construction Noise Permits (CNPs).

The two statistical sound levels L_{10} and L_{90} ; the level exceeded for 10 and 90 percent of the time respectively, is also recorded during monitoring. Major noise sources observe, both on-site and off-site, will be recorded on the record data sheet. All measured data are provided in the electronic format and results are recorded to the nearest 0.1 dB.

2.2.2 Monitoring Methodology

Sound level meters, which comply with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications as referred to the Technical Memorandum (TM) issued under the Noise Control Ordinance, were used. Noise levels for the A-weighted levels L_{eq} , L_{10} and L_{90} were measured throughout the impact monitoring. Average, by sound power, of six consecutive 5 minutes readings is used to provide $L_{eq(30\text{ min})}$ for non-restricted hours (07:00-19:00 hours Monday to Saturday). A facade correction of 3dB(A) will be applied to measurements carried out under free field conditions.

During the impact monitoring, parameters such as dates, weather conditions, equipment used, measurement results and major noise sources are recorded on the field data record sheet. In relation to the monitored noise levels, other noise sources such as road traffic may make a significant contribution to the overall noise environment. Therefore, the results of noise monitoring activities will take into account such influencing factors were not present during the baseline monitoring period. All measurements are recorded to the nearest 0.1dB(A).

2.2.3 Monitoring Equipment/Calibration

Bruel & Kjaer (B&K) Precision Integrating Sound Level Meters of Type 2238 in compliance with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) Specifications, stated in the Technical Memorandum (TM) issued under the NCO, were used for impact monitoring.

Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator (B&K Type 4231) generating a known sound pressure level at a known frequency. Measurements are considered as valid only if the calibration level from before and after the noise measurement agree to within 1 dB.

2.2.4 Monitoring Locations

Noise sensitive receivers were identified in the West Rail EM&A Manual (see Figure 2.1) of which seven have been selected for the noise impact monitoring. They are listed in Table 2.6 and shown in Figure 2.2a and Figure 2.2b.

Table 2.6 List of Locations for Noise Impact Monitoring

Name	Description	Location of the Sound Level Meter
Yau Tse Tin Memorial College (17/12)	It is a standard, 7 storey high secondary school, located adjacent to Tsing Lun Road and Tuen Mun Road.	On roof, facing the nullah
Siu Hong Court (17/18) (Non-restricted hours monitoring)	It is a large housing estate with approximately 20 blocks, 25 storey high, located adjacent to Tsing Lun Road and Tuen Mun Road.	On 3/F podium in front of Siu Wai House, about 1m away from the building
Siu Hong Court (17/18) (Restricted hours monitoring)	It is a large housing estate with approximately 20 blocks, 25 storey high, located adjacent to Tsing Lun Road and Tuen Mun Road.	On 3/F podium in front of Siu Cheung House, about 10m away from the building
Tuen Mun Government Primary School (17/25)	It is a standard, 7 storey high secondary school, located close to the nullah and adjacent to Tuen Mun Road.	On ground floor basketball court, about 1m away from the building
Brilliant Garden (17/26)	It is a 5 block housing estate with 10 storey high, located on Castle Peak Road San Hui Section, adjacent to the Tuen Mun Road and LRT alignment.	On ground level, about 1m away from Blk D and E.
Tuen Mun Hospital (17/27)	It is a standard, 6 storey high public hospital, located adjacent to LRT station and Tsing Chung Koon Road.	On ground level, about 1m away from building, facing the nullah
Affluence Garden (18/33)	It is a 5 block housing estate with 25 storey high, located adjacent to Tsing Chung Koon Road and the LRT Station.	On ground level, corner of Chek Tai House, about 1m from the building.
Tuen Mun Hospital Staff Quarter (Tsing Chun Koon) (18/32)	It is a 5 blocks governmental staff quarter with 20 storey high, located on Tsing Lun Road and Tuen Mun Road.	On ground level at corner of Blk D, about 1m away from the building.

2.2.5 Action and Limit Level

The Action and Limit Levels for construction noise is shown in Table 2.7. The construction site is located within the designated area EPD/NP/NT-04 and the Area Sensitivity Rating (ASR) for these monitoring locations are classified as “C”, for urban area which are indirectly affected by the Influencing Factor (IF).

In cases where exceedances of Action Level occur, since Action Level is based on receiving of documented complaints, ECP for Complaints Handling (Table 2.5) should be implemented. If exceedance of the Limit level occur, ECP for Limit Level Exceedance (Table 2.4) should be implemented.

Table 2.7 Action and Limit Levels for Construction Noise dB (A)

Time Period	Action	Limit
0700-1900 on normal weekdays;	When one or more documented complaints are received	75dB(A)*
restricted hours (1900-0700 on any day including general holiday and Sunday)	When one or more documented complaints are received	refer to relevant valid Construction Noise Permit (CNP) listed in Section 3.2

Note: The ASR for the site is classified as "C", which is for urban area indirectly affected.

* Between 0700-1900 on normal weekdays, construction noise limit for schools without noise insulation is 70dB(A) during normal term time and 65dB(A) during examination period; the construction noise limit for schools with noise insulation is 80dB(A) during normal term time and 75dB(A) during examination period.

2.3 WATER QUALITY

2.3.1 Water Quality Parameters

Impact monitoring for water quality should be undertaken on three working days per week during the course of riverine works. Turbidity in NTU, dissolved oxygen (DO) in mg/l, dissolved oxygen saturation (DO%), salinity in part per thousand (ppt), temperature in °C, pH and flow rate in m/sec are measured in-situ. Suspended solids (SS) in mg/l is determined by the HOKLAS accredited laboratory. In accordance with the contract specific EM&A Manual, all monitoring location have been agreed by KCRC and are not tidal affected. Therefore all measurements and sampling are taken at one tide condition.

2.3.2 Monitoring Methodology

Parameters, which are measured in-situ, such as DO, DO% saturation and temperature will be measured at all stations on each monitoring day. According to the EM&A Manual, impact monitoring is undertaken on three working days per week. All measurements and samplings are taken at one depth, mid-depth. In the case where the difference in value between the first and second measurement of each set is higher than 25% of the value of the first measurement, the reading is discarded and further measurements are undertaken. Parameters measured on site are recorded on the field data record sheets.

Calibration of the DO probe was carried out before commencement of measurement and at the completion of measurement at the same day. The probe will be retrieved out of the water after the first measurement and redeployed for the other measurements.

A stainless steel bucket harged by stainless steel chain is used for water sampling due to the reason that the sampling points are too shallow. Sampling is taken at the middle of the watercourse, or at least 3m away from the bank of the watercourse as practicable as possible. The samples are stored in plastic bottles and packed in ice pack (cooled to 4 °C without being frozen) and delivered to the laboratory as soon as possible for SS determination.

SS determination work is carried out by a HOKLAS accredited laboratory, with analysis commenced within 24 hours of collection of the water samples. This practice follows the standards described in APHA Standard Methods for the Examination of Water and Wastewater, 19th edition.

2.3.3 Monitoring Equipment/Calibration

The following equipment are used for water quality impact monitoring:

Dissolved Oxygen, DO Saturation and Salinity

Portable, weatherproof DO measuring instrument with cable, sensor was used. It is capable for measuring:

- (i) Dissolved oxygen levels in the range of 0-20mg/l and 0-200% saturation;
- (ii) A temperature of 0-45 °C.
- (iii) Salinity in the range of 0.0-40.0 ppt.

YSI-5739 probe and YSI 52 oxygen meter are used for the measurements. The DO meter calibrates initially and thereafter at 3 months intervals.

Turbidity Measurement Equipment

Turbidity of the water is measured in-situ by the nephelometric method. The portable, weatherproof turbidity-measuring unit operates from a DC power source and have a photoelectric sensor capable of measuring turbidity between 0-1000NTU.

A Hach Model 2100P Turbidity Meter is used for turbidity measurement.

pH and Temperature Measuring Equipment

A YSI model with 50 feet cable, YSI-63 handhold equipment is used for the measurements. The pH levels and temperature are measured in-situ. The instrument calibrates with standard buffer solution prior to use.

Flow Rate Measurement Equipment

A portable, battery operated flow meter is used to determine the water flow rate at the monitoring stations with sufficient water depth (>50cm) and accessible to a 15 feet flow probe. Flow rate is measured in meters per second.

A Global Flow Probe model FP201 is used for flow rate measurement in appropriate monitoring stations.

For monitoring stations with insufficient water depth, <50cm and/or inaccessible to a 15 feet flow probe, alternative method is used to estimate the flow rate. For example, by counting the time required by a floating object to flow through a known distance and calculated the flow rate.

2.3.4 Monitoring Locations

Water quality monitoring locations have been identified in the West Rail EM&A Manual and the KCRC's Particular Specification (PS). A total of 3 locations are identified for the water quality impact monitoring and they are listed in Table 2.8. Figure 2.3 illustrated their locations.

Table 2.8 List of Locations for Water Quality Impact Monitoring

Station I.D.	Description
U10A	Upstream of Tuen Mun River near Siu Hong Station
U10B	Upstream of Tuen Mun River near Siu Hong Station
D10*	Downstream of Tuen Mun River near Siu Hong Station (Outside Affluence Garden)

*Note: * Due to the little or no direct flow of water from upstream, the original monitoring station D10 has been relocated downstream to the footbridge outside Affluence Garden since April 02.*

2.3.5 Action and Limit Level

The Action and Limit Levels for water quality are listed in Table 2.9 below. The actual Action and Limit Levels at the monitoring station is based upon the results obtained during the baseline monitoring which is presented in Section 4.

In cases where any of the measured parameters exceed the Action and/or Limit Levels, ECP for Action and/or Limit Levels Exceedance, which shown in Table 2.3 and 2.4 respectively, should be implemented. ECP for Complaints Handling is shown in Table 2.5.

Table 2.9 Action and Limit Levels for Water Quality Monitoring

Parameters	Action	Limit
DO (mg/l)	5 Percentile of baseline data	1 percentile of baseline data
SS (mg/l)	95 percentile of baseline data and 120% of upstream control station's SS	99 percentile of baseline data and 130% of upstream control station's SS
Turbidity (NTU)	95 percentile of baseline data and 120% of upstream control station's turbidity	99 percentile of baseline data and 130% of upstream control station's turbidity

Notes For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits

For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

3. SUMMARY OF CONSTRUCTION ACTIVITIES

3.1 CONSTRUCTION ACTIVITIES

In April 03, the major site construction activities undertaken during non-restricted hours include the following:

- Siu Hong LRT triangle construction works – stair, concrete roof and concrete deck construction, painting to steelwork;
- North and south amenities landscaping on top of the structure;
- North and south PTI's concrete pavement construction;
- Excavation works in nullah for propping slab and nullah slab construction;
- Cycle bridge construction;
- Rooms fit out within station area;
- E&M installation - station structure;
- Painting steel work – station structure;
- Twin sewer construction north / east bank of nullah;
- Platform, concourse and mechanical level fit out;
- Culvert reinstatement adjacent to Tsing Lun Road;
- Trackside walkway installation;
- EVA excavation and backfilling works Westside of the station structure;
- Miscellaneous utilities/services/pedestrian/traffic diversions – Siu Hong Station, Area 35 Tuen Mun River Park, Siu Hong triangle area;
- Works along the viaducts, within the amenities structure and within the station structure by ROS Contractors

Works carried out during restricted hours with valid CNP's include the following:

- Excavation under the station structure in the nullah;
- Deck construction and painting of steelwork within the Siu Hong triangle;
- Painting of structural steelwork within the station structure;
- Bearing replacement at Southern Access ramp over Tuen Mun Highway;
- Removal of safety deck and cantilever deck at Southern Access ramp over Tuen Mun Hwy;
- Prescribed Construction Work (PCW) at Siu Hong triangle (designated area);
- PCW within the station area included scaffold erection/dismantling, steel fixing and formworking (non-designated area).

3.2 VALID EPD PERMITS/LICENCES

All EPD permits or licences which are valid, under application or refused during the reporting month are shown in Appendix H.

3.3 ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

The schedule for implementation of the construction phase mitigation measures (EMIS) is shown in Appendix D.

4. MONITORING RESULTS

4.1 AIR QUALITY

Results of 24-hours TSP level in April 2003 are shown in Table 4.1. Detailed results, including weather conditions, and graphical presentations are included in Appendix A.

Table 4.1 Results of Air Quality Impact Monitoring

Location	Action level ($\mu\text{g}/\text{m}^3$)	Limit level ($\mu\text{g}/\text{m}^3$)	Date	TSP (24hr) ($\mu\text{g}/\text{m}^3$)
Yau Tse Tin Memorial College (17/12)	194	260	7-Apr-03	67.44
			14-Apr-03	89.19
			22-Apr-03 ⁽¹⁾	109.57
			28-Apr-03	121.69
Tuen Mun Government Primary School (17/25)	185	260	7-Apr-03	85.08
			14-Apr-03	94.20
			22-Apr-03 ⁽¹⁾	119.12
			28-Apr-03	133.93
Brilliant Garden (17/26)	192	260	7-Apr-03	114.74
			14-Apr-03	172.29
			22-Apr-03 ⁽¹⁾	156.07
			28-Apr-03	160.91
Affluence Garden (18/33)	193	260	7-Apr-03	53.47
			14-Apr-03	56.89
			22-Apr-03 ⁽¹⁾	67.42
			28-Apr-03	58.33

Note: (1) Rescheduled from 21st Apr 03 due to public holiday.

No exceedance of Action or Limit Levels were recorded, which indicated that the construction activities carried out in April 2003 were in full compliance with the air quality criteria of the Project.

4.2 NOISE

Results of measured noise level, in terms of $L_{eq(30min)}$, in April 2003 during non-restricted hours are shown in Table 4.2. Results for noise measurement, in terms of $L_{eq(15min)}$, during restricted hours are given in Table 4.3. Detailed results, including weather condition, and graphical presentation of the results are presented in Appendix B.

Table 4.2 Results of Noise Impact Monitoring during Non-Restricted Hours

Location	Date	Limit Level dB(A)	Average Impact Noise Measurement (30 min.) dB(A)		
			L_{eq}	L_{10}	L_{90}
*Yau Tse Tin Memorial College (17/12)	1-Apr-03	80 / 75	68.0	69.4	65.0
	8-Apr-03		68.5	70.5	64.8
	15-Apr-03		68.8	70.5	66.6
	22-Apr-03		68.7	70.5	67.4
	29-Apr-03		69.7	71.2	68.1
Siu Hong Court (17/18)	1-Apr-03	75	63.6	65.7	60.3
	8-Apr-03		64.2	65.6	57.5
	15-Apr-03		65.2	66.9	61.7
	22-Apr-03		63.3	64.4	61.2
	29-Apr-03		69.6	72.2	66.7
Tuen Mun Government Primary School (17/25)	1-Apr-03	80 / 75	64.8	66.7	60.9
	8-Apr-03		67.9	70.6	63.2
	15-Apr-03		64.1	66.3	60.9
	22-Apr-03		65.4	67.9	62.3
	29-Apr-03		66.0	68.2	62.9
Brilliant Garden (17/26)	1-Apr-03	75	67.9	69.3	64.3
	8-Apr-03		66.0	68.3	61.6
	15-Apr-03		65.6	68.6	63.0
	22-Apr-03		67.1	69.3	64.9
	29-Apr-03		62.9	65.7	60.6
Tuen Mun Hospital (17/27)	1-Apr-03	75	62.4	65.2	59.2
	8-Apr-03		60.9	64.3	55.2
	15-Apr-03		62.4	65.6	58.6
	22-Apr-03		66.0	68.3	57.8
	29-Apr-03		64.5	66.7	60.1
Tuen Mun Hospital Staff Quarter (Tsing Chun Koon) (18/32)	1-Apr-03	75	61.6	63.7	56.9
	8-Apr-03		58.6	61.7	55.7
	15-Apr-03		67.0	69.9	63.7
	22-Apr-03		62.8	66.5	59.1
	29-Apr-03		67.5	71.7	63.6

Location	Date	Limit Level dB(A)	Average Impact Noise Measurement (30 min.) dB(A)		
			L _{eq}	L ₁₀	L ₉₀
Affluence Garden (18/33)	1-Apr-03	75	59.0	61.0	55.2
	8-Apr-03		60.3	63.4	56.8
	15-Apr-03		63.0	65.8	60.2
	22-Apr-03		62.5	64.6	58.4
	29-Apr-03		62.1	64.6	57.8

Notes: * Measurements were under free field condition therefore facade correction of 3dB(A) were applied.
The construction noise limit for schools with noise insulation is 80dB(A) during normal term time and 75dB(A) during examination period.

Table 4.3 Results of additional Noise Impact Monitoring during Restricted Hours

Location	Date	Time	Limit Level dB(A)	Average Impact Noise Measurement (15 min.) dB(A)		
				L _{eq}	L ₁₀	L ₉₀
*Siu Hong Court(17/18)	2-Apr-03	19:25	70	62.6	65.8	57.3
	9-Apr-03	20:55		64.2	67.5	57.9
	15-Apr-03	20:15		64.5	66.9	57.9
	22-Apr-03	20:45		66.8	70.6	59.2
	28-Apr-03	19:15		67.2	69.4	63.7

Notes: * Measurements that were under free field condition therefore facade correction of 3dB(A) was applied.
Cell shaded with thicker border represents an exceedance of Limit Level.

Noise monitoring of L_{eq(30min)} at seven locations during non-restricted hours and L_{eq(15min)} at one location (Siu Hong Court) during restricted hours were carried out in accordance with the contract specific EM&A Manual. No limit level exceedance was recorded during both the non-restricted hours and restricted hours.

4.3 WATER QUALITY

The results of water quality impact measurements for the downstream monitoring station, D10, in April 2003 are shown in Table 4.4. For the ease of reference, the Action and Limit levels for D10 are presented in Table 4.5. The detailed results, including the graphical presentation of the results are presented in Appendix C.

Table 4.4 Results for Water Quality Impact Monitoring at U10A, U10B & D10

Date	DO (mg/L)			Turbidity (NTU)				SS (mg/L)				
	Action Level	Limit Level	U10A / D10 Measured	Action Level*	Limit Level*	U10A / D10 Measured		Action Level*	Limit Level*	U10A / D10 Measured		
2-Apr-03	5.2	5.0	2.55	2.75	576.0/46.74	780.8/50.64	39.0	47.4	396.5/7.8	492.9/8.45	6.5	22.0
4-Apr-03	5.2	5.0	2.40	3.55	576.0/53.64	780.8/58.11	44.7	48.2	396.5/7.8	492.9/8.45	6.5	11.0
7-Apr-03	5.2	5.0	2.80	4.35	576.0/46.56	780.8/50.44	38.8	25.4	396.5/18.0	492.9/19.5	15.0	16.0
9-Apr-03	5.2	5.0	2.85	3.50	576.0/44.64	780.8/48.36	37.2	40.0	396.5/9.6	492.9/10.4	8.0	37.0
11-Apr-03	5.2	5.0	3.05	3.95	576.0/40.62	780.8/44.01	33.9	37.0	396.5/21.6	492.9/23.4	18.0	5.0
14-Apr-03	5.2	5.0	2.50	3.60	576.0/58.56	780.8/63.44	48.8	35.8	396.5/6.6	492.9/7.15	5.5	7.5
16-Apr-03	5.2	5.0	3.40	3.75	576.0/51.90	780.8/56.23	43.3	35.7	396.5/21.6	492.9/23.4	18.0	16.0
23-Apr-03	5.2	5.0	2.80	4.15	576.0/56.40	780.8/61.10	47.0	40.8	396.5/6.0	492.9/6.5	5.0	5.0
25-Apr-03	5.2	5.0	2.90	4.00	576.0/45.54	780.8/49.34	38.0	47.5	396.5/13.2	492.9/14.3	11.0	5.0
28-Apr-03	5.2	5.0	3.50	4.20	576.0/49.92	780.8/54.08	41.6	38.9	396.5/6.0	492.9/6.5	5.0	5.0
30-Apr-03	5.2	5.0	3.05	4.60	576.0/56.40	780.8/61.10	47.0	38.8	396.5/10.8	492.9/11.7	9.0	14.0

Notes:

- * The first value represents Action/Limit Level obtained from baseline monitoring; the second value represents Action/Limit Levels derived from upstream control stations.
- All measurement are carried out at one depth only, mid-depth.
- Analysis of SS is carried out by ETS Testconsult Ltd which is a HOKLAS accredited laboratory.
- Cell shaded represent an exceedance of Action Level; Cell shaded with a thicker border represents an exceedance of Limit Level.
- No sampling was undertaken at monitoring point U10B during the reporting month except on 2, 4 and 7 Apr 03 due to no water flow and shallow water depth of the nullah.

Table 4.5 Action and Limit Levels for Water Quality Monitoring

Station No.	Action Level			Limit Level		
	SS (mg/l)	DO (mg/l)	Turbidity (NTU)	SS (mg/l)	DO (mg/l)	Turbidity (NTU)
D10	396.5 (95% tile of the baseline) and 120% of upstream control stations,	5.2 (5% tile of baseline)	576.0 (95% tile of baseline) and 120% of upstream control stations	492.9 (99% tile of the baseline) and 130% of upstream control stations	5.0 (1% tile of baseline)	780.8 (99% tile of baseline) and 130% of upstream control stations

Note: Action and Limit Levels for U10A and U10B are not required since they are the upstream control stations.
For SS and Turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits
For DO, non-compliance of the water quality limits occurs when monitoring results is lower than the limits.

DO levels were recorded to be below the Limit Level in all of the monitoring during April 2003 at Monitoring Location D10. Records show that DO levels measured at

the upstream station U10A were already lower than the Action and Limit Levels throughout the monitoring period. The non-compliance of DO level was not construction related.

4.4 SUMMARY OF EXCEEDANCES

A Table 4.6 below summarises the total number of exceedances recorded for air quality, noise and water quality for the month of April 2003.

Table 4.6 Summary of Exceedances in April 2003

Exceedance	Total no. of measurement	Action Level Exceedance	Percentage of Action Level Compliance	Limit Level Exceedance	Percentage of Limit Level Compliance
Air Quality	16	0	100%	0	100%
Noise					
Non-restricted hour	35	0	N/A	0	100%
Restricted hour	5	0	N/A	0	100%
Water Quality					
DO	11	0	100%	11	0%
Turbidity	11	0	100%	0	100%
SS	11	0	100%	0	100%

Note: "N/A" - no action level for noise monitoring relates to number of documented complaints received.

No Notice of Exceedance NoE was received during the reporting month. Cumulative logs of NoEs received since the commencement of the construction are presented in Appendix J.

5. NON-COMPLIANCE AND DEFICIENCY

5.1 SITE INSPECTION/AUDIT

5.1.1 Site Inspection/Audit by CET

CET carried out weekly site inspection/audits. In April 2003, site audit had been carried out at the sites:

- Tuen Mun Dental Clinic to Fu Tai – 4, 10, 17 and 24 of April 2003.

All observations have been recorded in the audit checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary. Significant deficiencies observed during site inspection/audits and recommendation which have been made by the CET are summarized in Table 5.1 below:

Table 5.1 Summary of Site Inspection/Audits and Recommendations

Significant Deficiencies Observed	Contractor's Responses
Air Quality <ul style="list-style-type: none"> • Uncovered stockpiles of dusty material were observed at N32 (4, & 10 Apr 03) and at S2 (4 Mar 03) 	<ul style="list-style-type: none"> • All open stockpiles had been covered or removed.

5.1.2 Site Audit by IEC

Site audit was undertaken by KCRC, MCAL and IEC on 15 April 2003. Appendix M shows a copy of the site audit checklist and report. Observations and recommendation are summarized below:

- Silty water was observed directly discharged into the nullah after wheel washing activity at the vehicle entrance of southern section. The Contractor was advised to provide a sedimentation system for the discharge water.
- Soil was accumulated at the nullah shoulder near the southern access ramp. The Contractor was reminded to remove the soil as soon as possible.

Corrective Actions

Regarding to the IEC's observations, the Contractor have the following comments and actions:

- Desilting facilities will be constructed for the wheel wash water.
- Soil located on the shoulder of the nullah has been removed.

5.1.3 Site Inspection by EPD

A complaint was received by EPD and site inspection was conducted by EPD on 2nd Apr 03. Yellow "Record of Inspection" was issued, regarding washing from vehicle may discharge to storm drain without prior treatment at Southern Access ramp site exit onto Castle Peak Road.

Corrective action has been taken by the Contractor to rectify the deficiency including redirection of the wheel wash water to site drainage system.

6. WASTE MANAGEMENT

No waste disposal was reported in April 2003.

7. COMPLAINT

No complaint was received in April 2003

8. SUMMARY OF NOTIFICATION OF SUMMONS, SUCCESSFUL PROSECUTIONS AND CORRECTIVE ACTIONS

No Notification of Summons was received during the reporting month.

Appendix L summarizes the information on notification of summons and prosecutions received since the commencement of the Project.

9. FUTURE KEY ISSUES

In accordance with the construction programme provided by the Contractor, the construction activities for the next three months will be the same to those carried out in April 2003. The results for water quality, air quality and noise impact monitoring for the upcoming three months are expected to be similar to the results measured in April 2003.

A weekly based monitoring schedule for the next three months is presented in Appendix F in this report. The monitoring events will be the same as this month and can be referred to the methodology for air quality, noise and water quality monitoring in sections 2.1.2, 2.2.2, and 2.3.2 of this report respectively.

10. CONCLUSION

Air quality, noise and water quality impact monitoring has been undertaken in April 2003 in accordance with the Contract specific EM&A Manual.

No exceedance on air quality and noise was recorded during reporting month.

The non-compliance of DO level was not construction related.

Site inspections were carried out by the CET in April 2003. The Contractor was recommended to cover all open stockpiles.

Site audit was carried out by MACL, KCRC and IEC on 15 April 03. No Non-compliance (NC) was issued and two observations were noted by the IEC. Corrective and preventive actions were proposed and/or undertaken by the Contractor.

Site inspection was undertaken by EPD on 2nd Apr 03. Yellow "Record of Inspection" was issued, regarding washing from vehicle may discharge to storm drain without prior treatment. Corrective action has been carried out by the Contractor.

The Contractor will continue to review construction methods and environmental impacts and implement suitable mitigation measures as necessary.

Appendix D Environmental Mitigation Implementation Schedule

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
Noise Impacts					
Use of quiet plant and silenced equipment if available.	Site clearance, piling, pile cap construction, column construction, station construction, roof erection	All works area	Throughout construction phase	West Rail Environmental Impact Assessment (West Rail EIA) Essential Public Infrastructure Works – Environmental Monitoring & Audit Manual (EPIW-EM & A Manual) Site agent monitored by Project EM	Current being implemented on site
Use of movable noise barrier where practicable when an exceedance of noise criteria is anticipated. (For example area noise sources such as plant / crane engines)	Site clearance, piling, pile cap construction, column construction, station construction, roof erection at ground level	All works area	Throughout construction phase	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Reduce number of plant operating simultaneously close to NSRs	Piling, pile cap construction, column construction, station construction, roof erection	All works area	Throughout construction phase	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Limiting the on-time period or number of items of noisy plant operating at one time.	Piling, pile cap construction, column construction, station construction	All works area	Throughout construction phase	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Good site practices include: Chapter 358 Operation of only well maintained plant on-site; Chapter 358 Regular servicing of plant during construction; Chapter 358 Restriction of rock drilling to the shortest period possible; Chapter 358 Use of and maintenance of silencers or mufflers on construction equipment during construction; Chapter 358 Sitting of mobile plant as far away from NSRs as possible;	All construction activities involving Power Mechanical Equipment (PME)	All works area	Throughout construction phase	West Rail EIA EPIW-EM & A Manual Site agent monitored by Project EM	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
Chapter 358 Shut down of machines and plant that may be intermittently used between work periods or failing that, equipment shall be throttled down to a minimum; and g) Orientation of plant known to emit noise strongly in one direction such that the noise is directed away from nearby SRs.					
Air Quality Impacts					
Chapter 358 Site boundary and entrance a) Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding not less than 2.4 m high from ground level will be provided along the entire length of that portion of the site boundary except for a site entrance or exit. b) Wheel washing facilities including high pressure jets are provided to prevent dusty material from being carried off-site on vehicles and deposited on public roads. Wash-water shall have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of wheel wash operations. Area at which vehicle washing takes place and the section of road between the washing facilities and the exit point is paved with concrete, bituminous or hard-core material.	All construction activities	Site boundary Site entrance	Throughout the construction period	Part III item 13 of the Air Pollution Control (Construction Dust) Regulation West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Chapter 358 Cement Storage and Handling (a) Every stock of more than 20 bags of cement shall be covered entirely by impervious sheeting on placed in an area sheltered on the top and the 3 sides. (b) Cement delivered in bulk shall be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line such that, in the event of the silo approaching an overfilling stops within one minute. (c) Silos used for the storage of cement shall not be overfilled. (d) Any cement during and after de-bagging process, shall be carried out in a totally enclosed system or facility, and vent or exhaust shall be fitted with an effective fabric filter or equivalent air pollution control system or	Cement Storage and Handling	Storage Area	Throughout the construction period	Part III item 15 of the Air Pollution (Construction Dust) Regulation Site agent monitored by Project EM	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
equipment.					
Chapter 358 Access haul roads All haul roads of vehicles shall be paved with concrete, bituminous hard-core materials or metal plates, and kept clear of dusty materials. The Contractor shall spray all roads within the construction sites and roads leading to the sites using water bowsers with spray bars, hose pipes etc. to control dust.	Vehicles movement on haul roads	At all haul roads	Throughout the construction phase.	Part III item 14 of the Air Pollution (Construction Dust) Regulation Site agent monitored by Project EM	Current being implemented on site
Chapter 358 Exposed earth To minimise dust emissions, the amount of spoil exposed and the dust generation potential shall be kept as low as possible, this can be accomplished by surface compaction, temporary fabric covers, minimising the extent of exposed soil and the prompt re-vegetation or hydroseeding of completed earthworks.	Construction activities involve excavation	All Work Sites	Throughout the construction phase.	Part III item 16 of the Air Pollution (Construction Dust) Regulation West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Chapter 358 Stockpiles Cover entirely by impervious sheeting, placed in an area sheltered on the top and the three sides; or The entire surface is kept wet by applying water spraying or dust suppression chemical.	Construction activities involve stockpiling	At all stockpiles	Throughout the construction phase.	Part IV item 18 of the Air Pollution (Construction Dust) Regulation Site agent monitored by Project EM	Current being implemented on site
Chapter 358 Loading, unloading or transfer of dusty materials All dusty materials are sprayed with water immediately before their handling.	Loading, unloading or transfer dusty materials	Across the site where loading and unloading activities are being carried out	Throughout the construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Chapter 358 If Conveyor belts are used Conveyor belts shall be fitted with wind-boards, and conveyor transfer points and hopper discharge areas shall be enclosed to minimise dust emission. All conveyors carrying materials that have the potential to create dust shall be totally enclosed and fitted with belt cleaners. Where dusty materials are being discharged to vehicles from a conveying system at a fixed transfer point, a three-sided roofed enclosure with a flexible curtain across the entry shall be provided. Exhaust fans shall be provided for this enclosure and vented to a suitable fabric filter system.	Material transportation using convey belt	Conveyor Belt System	Throughout the construction phase.	Part III item 20 of the Air Pollution (Construction Dust) Regulation Site agent monitored by Project EM	N/A

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
Chapter 358 Debris handling Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin in good condition. The tarpaulin shall be properly secured and shall extend at least 300 mm over the edges of the side and tailboards. The debris shall be kept wet by water spray prior to dumping into a chute.	Debris handling	Locations where debris handling is being carried out	Throughout construction phase	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Chapter 358 Site clearance During breaking/crushing or demolition works, watering shall be implemented to control dust. All demolished items shall be covered or placed in area with shelter within a day of demolition.	Site Clearance	Location where site clearance is needed	Throughout construction phase	Site agent monitored by Project EM	Current being implemented on site
The Contractor shall also ensure the following site practices are implemented: Chapter 358 Open burning of debris, construction wastes, vegetation or other materials on the site is prohibited. Chapter 358 Dust nuisance is prevented at all times. c) All vehicles have their engines turned off while parked on the site.	Miscellaneous	All site areas and throughout construction phase.	Throughout the construction phase	Air Pollution Control (Opening Burning) Regulation Site agent monitored by Project EM	Current being implemented on site
Water Quality Impacts					
Minimise exposed soil areas to reduce the potential for increased siltation, contamination of runoff and erosion. Slopes and open stockpiles of construction material will be covered with tarpaulin or similar fabric to minimise siltation impacts arising. Construction runoff impacts associated with above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include: Chapter 358 The use of sediment traps; and (ii) Adequate maintenance of drainage systems to prevent flooding and overflow.	Excavation, stockpiling	All exposed soil areas which exist or may arise	Throughout the construction phase. Ensure these measures be provided before the arrival of rainy season.	Item 7 of the ProPECC Note PN 1/94 on <i>Construction Site Drainage</i> West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
The boundaries of critical areas of earthworks will be marked and surrounded by dykes or embankments for flood protection. Temporary ditches will be provided to facilitate runoff discharge into appropriate watercourses, via a silt retention pond. Permanent drainage channels will incorporate sediment basins or traps and baffles to enhance deposition rates.	Excavation, stockpiling	All critical areas of earthworks	Throughout the construction phase. Ensure these measures be provided before the arrival of rainy season.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	N/A
All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge would be adequately designed for the controlled release of storm flows. All sediment traps will be regularly cleaned and maintained. The temporarily diverted drainage will be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Drainage diversion	Design prior to construction and install immediately on start of construction programme.	Throughout construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	N/A Current being implemented on site
Sand and silt in wash water from wheel washing facilities will be settled out and removed before discharge into storm drains. A section of the road between the wheel washing bay and public road will be paved with backfill to prevent wash water or other site runoff from entering public road drains.	Wheel washing operation	All wheel washing facilities at all entrances / exits at the Site.	Throughout entire construction phase.	Item 15 of the ProPECC PN 1/94 Part III item 13 of the Air Pollution (Construction Dust) Regulation West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Oil interceptors will be provided in the drainage system and regularly emptied to prevent the release of oils and grease into the storm water drainage system after accidental spillage. The interceptor will have a bypass to prevent flushing during periods of heavy rain.	Machine cleaning, oil handling	located downstream of any significant oil and grease sources	Throughout entire construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	N/A
Collection, handling and disposal of debris and rubbish to avoid water quality impacts.	Debris and rubbish handling	Entire construction site	Throughout the construction phase	Chapter 358 Part III Item 8 of the Water Pollution Control Ordinance (WPCO) West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
All fuel tanks / storage areas to be banded (to 110% capacity of maximum storage area) and cased in sealed areas and locked at all times in order to prevent fuel from tanks and storage areas entering water bodies.	Fuel Storage	Fuel storage area	Throughout construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Provision of portable chemical toilets or septic/soakaway tanks which will be cleaned and emptied for disposal regularly by a licensed contractor as necessary.	Sewage generated from the construction work force	Portable chemical toilets or septic/soakaway tanks	Throughout construction phase.	Chapter 358 Part III Item 9 of the WPCO and Chapter 354 Part III Item 9 of the Waste Disposal Ordinance Item 23 of the ProPECC PN 1/94 West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Visual / Landscape Impacts					
Control of night-time lighting	Construction activities during night-time	Wherever spot lights are positioned	Throughout construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Advance planting for screening		Around Site boundary; wherever practicable	Throughout construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	N/A
Minimising height of temporary structures		Wherever practicable	Throughout construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	N/A
Careful positioning of construction plant		Particularly in conspicuous areas and near large or well used areas by the Site.	Throughout construction phase.	West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site
Waste Management Impacts					
All waste management related activities would be undertaken in accordance with the Waste Management Plan for this contract.			Throughout the contract.	As noted in the WMP West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
Completion and submission of Fill management committee (FMC) questionnaire on <i>Surplus and Fill Requirements</i> to encourage re-use of excess excavated material by other land formation / reclamation projects.	Excavated material handling and disposal		Prior to start of construction works Throughout the contract.	Site agent monitored by Project EM	N/A
Construction waste materials shall be separated into inert, non-inert and chemical waste categories: i. Inert waste will be reused as far as possible, and the surplus suitable for reclamation / land formation shall be disposed at a public dumping site; ii. Unsuitable inert material and non-inert material shall be disposed of at landfill; and iii. Chemical waste under Schedule 1 of the Regulation shall be stored according to the Regulation, and shall be disposed of at the Tsing Yi CWTF or another location determined by Government. iv. Contaminated excavated material (please refer to Contamination Action Plan)	All construction activities	At all locations	Throughout the construction phase	Chapter 354 Part IV Item 16 of the Waste Disposal Ordinance Sections 4.2 and 4.6 of the Code of Practice on the Packaging, Labelling and storage of Chemical Wastes under Chapter 354 section 35 of the Waste Disposal Ordinance Site agent monitored by Project EM	Current being implemented on site
Wastes shall be stored and handled in dedicated areas with bunded sides such a way as to avoid loss or leakage and subsequent pollution. Waste storage sites shall be approved by the Engineer and shall be located away from sensitive areas such as: residential, surface/groundwater or coastal areas. Designated waste storage areas shall be well maintained and cleaned regularly.	Waste handling and disposal	For all areas on site	Throughout construction phase	Part III Items 9,10 and 11 of the Waste Disposal Ordinance Site agent monitored by Project EM	Current being implemented on site
The environmental monitoring shall include trip ticket usage to ensure proper disposal and avoidance of fly tipping.	Waste disposal procedures	For all waste disposal off-site.	Throughout construction phase	Chapter 354 Part IV Item 16 of the Waste Disposal Ordinance Site agent monitored by Project EM	Current being implemented on site
Permitted waste hauliers will be used to collect and transport wastes to the appropriate disposal points. The following measures to minimise adverse impacts will be instigated: i. Use waste hauliers authorised or licensed to collect the specific category of waste; ii. Remove wastes twice day; iii. Maintain and clean waste storage areas daily; iv. Minimise windblown litter and dust during transportation by either covering trucks or	Waste disposal procedures	For all areas on site.	Throughout construction phase	Chapter 354 Part III of the Waste Disposal Ordinance West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
<p>transporting wastes in enclosed containers;</p> <p>v. Obtain the necessary waste disposal permits from the appropriate authorities;</p> <p>vi. Dispose of waste at licensed sites;</p> <p>vii. Develop procedures such as a ticketing system to facilitate tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur; and</p> <p>viii. Maintain records of the quantities of wastes generated, recycled and disposed.</p>					
<p>During the excavation process should any material be found or suspected to be contaminated the following will be followed:</p> <ul style="list-style-type: none"> • Inspection of material and visually confirmation of potential contamination. • Sampling and analysis specialist material for disposal options. <p>Excavation works will be supervised at all times by an environmental / contamination specialist.</p>	Excavation, excavated material handling	Work sites where excavation is being carried out	Throughout the construction phase	<p>Items 9,10 and 11 of the ProPECC Noted PN 3-94 Contaminated Land Assessment and Remediation</p> <p>Site agent monitored by Project EM</p>	N/A
Careful planning and good site management to minimise over-ordering and waste of materials such as concrete, mortars and cement grouts. The design of formwork should maximise the use of standard wooden panels so that high reuse level can be achieved. Alternatives such as steel should be considered to increase the potential for reuse.	Formwork construction	All Site areas	Throughout the construction phase	<p>Item 5 of the Works Branch Technical Circular No. 32/92</p> <p>Site agent monitored by Project EM</p>	Current being implemented on site
Recycle as much as possible of the construction waste on-site. Proper segregation of wastes on site will increase the feasibility of recycling certain components of the waste stream. Concrete and masonry can be used as general fill and steel reinforcement bar can be used by scrap steel mills. Different areas shall be designated for such segregation and storage wherever site conditions permit.	Waste management	All Site areas	Throughout the construction phase	<p>West Rail EIA</p> <p>Site agent monitored by Project EM</p>	Current being implemented on site
Chemical waste that is produced, as defined by Schedule 1 of the Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	Chemical waste storage	Wherever chemical waste is produced during construction	Throughout the construction phase	Sections 4.2 and 4.6 of the Code of Practice on the Packaging, Labelling and storage of Chemical Wastes under Chapter 354 section 35 of the Waste Disposal Ordinance	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
				West Rail EIA EPIW – EM & A Manual Site agent monitored by Project EM	
General refuse generated on-site will be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector will be employed by the JV to remove general refuse from the site, separately from construction and chemical wastes, on a daily or every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law and will not be undertaken.	Waste storage and disposal	All work sites	Throughout the construction phase	Part III Items 9, 10 and 11 of the Waste Disposal Ordinance Site agent monitored by Project EM	Current being implemented on site
Office wastes can be reduced through recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme will be considered if one is available.	Waste storage and disposal	All work sites	Throughout the construction phase	West Rail EIA Site agent monitored by Project EM	Current being implemented on site
Nuisance Impacts					
The Contractor shall be responsible for ensuring that no earth, rock or debris is deposited on public or private rights of way as a result of his operations, including any deposits arising from the movement of Construction Plant or vehicles.	All construction activities	At public and private rights of way	Throughout the construction	Chapter 28 of the Crown Land Ordinance Site agent monitored by Project EM	Current being implemented on site
The Contractor shall at all times ensure that all existing stream courses and drains within, and adjacent to, the Site are kept safe and free from any debris and any excavated materials arising from the Works.	All construction activities	All existing stream courses / drains within, and adjacent to the Site.	Throughout construction phase.	EIA Ordinance Chapter 358 Part III Item 9 of the WPCO Chapter of the Crown Land Ordinance Site agent monitored by Project EM	Current being implemented on site
Site hoarding shall be constructed of re-usable materials sourced without detrimental impact on the environment.	All construction activities	At site boundaries.	Throughout construction phase.	EIA Ordinance Site agent monitored by Project EM	Current being implemented on site
Use of tropical hardwoods on-site is prohibited. The Project EM is responsible to ensure no tropical hardwoods will be used by JV. The construction manager will ensure that the sub-contractor will not use the hardwood. This	Scaffolding, wood works	Locations where scaffolding, wood works are being carried out.	Items 4 and 5 of the WBTC No. 32/92 Throughout construction phase	EIA Ordinance Site agent monitored by Project EM	Current being implemented on site

Environment Protection Measure	Relevant Construction Activities	Location	Time/ Duration	Relevant Legislation / Guidelines and Responsible Personnel	Status
measure is in accordance with the Works Bureau Technical Circular No. (WBTC) No. 32/92 entitled "The use of Tropical Hardwood on Construction Sites."			phase.		
The Contractor shall where ever possible avoid transportation of materials and equipment during peak hours 07:00 to 09:00 and 17:00 to 19:00 to avoid aggravating conditions on local roads.	Material transportation	Throughout the construction phase.		EIA Ordinance Site agent monitored by Project EM	Current being implemented on site

Appendix E Complaints Log

Item	Date Received	Complainant	Details of the Complaint	Action	Completion Date	Remark
1	21 st January 2000	N/A	Letter received complaint about noise from site at Siu Hong Court on 20 th January 2000.	N/A	N/A	Complaint ref no: WR1CRN/200003-0012135
2	29 th March 2000	Mrs Ma (Community Site Office)	Vibration – Complained by Community Site Offices from Mrs Ma, regarding vibration and noise suspected caused by West Rail construction work at the nullah until late midnight on 28 th March 2000.		N/A	Complaint ref no: WR/C/200003-00108
3	12 th April 2000	N/A	Noise – West Rail Hotline received three complaints on 12 th April 2000 at 9:15pm, 10:15pm and 00:10am, all complaining about the noise generated by the work at the Site adjacent to Siu Hong Court.	A meeting has held on 18 th April 2000 between all parties concerned including KCRC, RSS, Contractor and Tuen Mun Distract Council Members. The Contractor had agreed to stop working at night. A written explanation and apology was subsequently issued by the Contractor to the Engineer for his onward.	19 th April 2000	-
4	13 th April 2000	Ms Chiu	Noise – West Rail Hotline received complain regarding noise generated from piling activities at Siu Hong Site at 21:20. Complainant were very dissatisfied with the nuisance and complained about the long hours of noise. She further enquired the period of the noise permit.	(see item 3)	N/A	Complaint ref no: WR/C/2000004-00056
5	17 th April 2000	N/A	Letter received complaint about noise from site at Siu Hong Court on 12 th April 2000, 9:15pm, 10:15pm and 00:10am.	(see item 3)	N/A	(Action still in progress) Complaint ref no: WR1CRN/200005-0069121
6	19 th April 2000	N/A	Engineer concerned about dust pollution, mainly along haul roads	Water truck is used on site haul roads for dust suppression.	N/A	(Action still in progress) WR1CRN2000-0069314

Item	Date Received	Complainant	Details of the Complaint	Action	Completion Date	Remark
7	19 th May 2000	Mr Ho Wai Lun	Air quality – A large amount of dust and mud on rainy days near the Express Bus Stop at Siu Hong Road. Claimed that these were caused by the wheels of heavy construction vehicles from work sites which was not thoroughly cleaned by sprayed water.	Regularly cleaning/maintain or wheel wash facilities; increase haul road washing and wheel washing to prevent dusty material being carried off-site by vehicles and disposed on public roads.	N/A	Complaint ref no: WR/C/200005-00128
8	7 th June 2000	N/A	Letter received regarding noise by piling activities at Siu Hong site at 9:20pm on 12 th April 2000. Dissatisfied with the nuisance and noise.	(see item .3)	N/A	Complaint ref no: WR/C/200004-00056
9	7 th June 2000	N/A	Letter received regarding complaint of the noise and vibration caused by construction activities at Siu Hong after midnight on 28 th March 2000. Complainant awoken by noise at 4:00am.	(see item .3)	N/A	Complaint ref no: WR/C/200003-00108
10	7 th June 2000	N/A	Three complaints about noise generated by construction work at 9:15pm, 10:15pm, and 00:10am on 12 th April 2000 at Siu Hong Court.	(see item .3)	N/A	
11	26 th June 2000	N/A	Letter received regarding complaint from Government Department about dust generation at Siu Hong Court Road near the bus terminus.	Letter ref: CC212-1475 sent from the Contractor to the Engineer citing the burst WSD water main along Siu Hong Road as the reason behind the dusty condition Road sweeper in service	N/A	Complaint ref no: WR/C20006-00127
12	(No complaint was received in the month of July 2000)					
13	(No complaint was received in the month of August 2000)					
14	(No complaint was received in the month of September 2000)					
15	(No complaint was received in the month of October 2000)					
16	(No complaint was received in the month of November 2000)					
17	27 th November 2000	Resident from Siu Hong Court	Complaint regarding bored piling noise generated from site from 06:30 to 23:15	Investigation of the complaint found that the resident lived	Letter sent to MCAL on 29 th	Complaint ref no: WR/C200011-00125

Item	Date Received	Complainant	Details of the Complaint	Action	Completion Date	Remark
			hour everyday since the end of October.	approximately 180m from the site, and no bored piling was carried out before 07:00 and after 19:00 and therefore the validity of this complaint was questionable.	November 2000	
18	N/A	District Board member	MCAL letter (dated 28 th December 2000) enclosed letter from District Council member requesting works to be carried out after 09:00 hour.	Letter written to MCAL requesting clarification on whether to start work at 09:00 hour.	5 th January 2001	N/A
19	(No complaint was received in the month of March 2001)					
20	16 th March 2001	Mr Keung, resident of Tsing Chung Koon Road Government Quarters	Complaint regarding noise generated from concreting works of Area 35 track slab between grid S9 and S10 until 14 th March 2001 mid-night.	Sun-contractors requested to prevent overrun the works into restricted hour. Closely site monitoring will also be carried out by the Contractor.	27 th March 2001	Complaint ref. No.: WR/C/200103-00057
21	30 th /31 st March 2001	Mr. Kwok resident of Siu Hong Court	Noise generated from construction work at midnight and early hours of the morning of 30 th March / 31 st March 2001	Steel fixing and formworking carried out during restricted hours which are valid activities	N/A	N/A
22	30 th /31 st March 2001	Mr. Tam resident of Siu Hong Court	Noise generated from construction work at midnight and early hours of the morning of 30 th March /31 st March 2001	Steel fixing and formworking carried out during restricted hours which are valid activities	N/A	N/A
23	WR/C/200105-00033/ 15 th May 2001	Mr Yim	Complaint from Mr. Yim suspecting concreting work cannot be finished by 11:00pm. Phoned again after 11:00p.m.	Still await report on incident	N/A	Complaint ref. No.: WR/C/200105-00033/ 15 th May 2001
24	WR/C/200106-0016/4 th /5 th June 2001	Siu Hong Residents	Complaint from Siu Hong residents that loud sharp noise generated while transporting predrill rig within the Siu Hong LRT triangle at 2:00am	Requested staff members responsible for supervising work to be more careful when transiting equipment within the delta triangle	N/A	Complaint ref no: WR/C/200106-00016/ 4 th /5 th June 2001
25	(No complaint was received in the month of July 2001)					
26	22 nd August 2001	Siu Hong Resident	Complaints from one Siu Hong resident about noise generated from construction work at the Siu Hong LRT triangle	Requested supervisory staff to be extra careful when carrying out work within the Siu Hong delta triangle during LRT non-traffic	N/A	N/A

Item	Date Received	Complainant	Details of the Complaint	Action	Completion Date	Remark
				hours		
27	7 th September 2001	Siu Hong Resident	Compliant from one Siu Hong resident about noise generated from construction work at the Siu Hong LRT triangle – EPD officers visited the site area at approx. 4:30am for inspection, Police also came to site to check complaint	Welding work carried out for covered walkway (not a noisy activity)	N/A	N/A
28	(No complaint was received in the month of October 2001)					
29	27 th November 2001	Siu Hong Resident	Complaint from Siu Hong resident, Mrs Lee about a high frequency noise generated from near Siu Hong Court after all equipment stops on site, complainant lives in Siu Hang House approx. 180 m from site	The surrounding areas were checked and it appears as an airconditioning unit or exhaust fan within the Siu Hong commercial complex is making the noise	N/A	N/A
30	(No complaint was received in the month of December 2001)					
31	20 th January 2002	Siu Hong Resident	Complaint from Siu Hong resident, Mr Ng regarding powered mechanical saw use on Sunday 20 th January 2002 between 10:30am and 10:40am	Memo written by PMC to ensure only work with valid permits is carried out and all other work is stopped immediately	N/A	N/A
32	(No complaint was received in the month of February 2002)					
32	(No complaint was received in the month of March 2002)					
33	(No complaint was received in the month of April 2002)					
34	mid May 2002	Siu Hong Resident	A resident from Siu Hong Court, Mr Man, has contacted the Police on a number of occasions with respect to works in the triangle area during restricted hours (01:00-05:00)	Discussion with SH triangle Works Manager to ensure works are carried out under valid CNP, any activities not covered do not undertake	N/A	N/A
35	(No complaint was received in the month of June 2002)					
36	(No complaint was received in the month of July 2002)					
37	August 2002	Siu Hong Resident	Complaint from TMDC member Ms Chan Shu Ying from residents of Siu Hong Court about lighting shining against the Siu Hong Court blocks which	Letter written to MCAL stating that there is no lighting nuisance from the site	28-Aug-02	

Item	Date Received	Complainant	Details of the Complaint	Action	Completion Date	Remark
			caused nuisance			
38	25 th September 2002	Residents of Siu Hong Court	Complaint from two residents of Siu Hong Court about noise from construction activities which caused nuisance around midnight on 25 th September 2002.	Work carried out under CNP GW-TW0281-02. Discussed in CI meeting held 5 th October 2002. Supervisor to ensure construction activities do not make noise nuisance.	5-Oct-02	Complaint ref no: WR/C/200209-00058/ 25 th September 2002
39	(No complaint was received in October 2002)					
40	26 th & 29 th November 2002	Siu Hong management office and TMDC Ms Chan Shu Ying	Complaint from SH management office and TMDC Ms Chan Shu Ying directed through KCRC from residents of Siu Hong Court about noise nuisance from construction activities during early morning on 16, 23, 28 November 2002.	Work carried out under CNP GW-TW0281-02. Supervisor to ensure construction activities do not make noise nuisance.	6-Dec-02	Complaint ref no: WR/C/200211-00052/ 26 th November 2002 WR/C/200211-00062/ 29 th November 2002
41	(No complaint was received in December 2002)					
42	N/A	N/A	A number of complaints made through EPD from a resident of SH Court regarding noise and light nuisance at SH triangle, north of SH triangle and on TM Hwy during the month.	Works being carried out under valid CNP's. Supervisors to ensure all activities do not cause noise nuisance. Works north of SH triangle not 212 construction related.	24-Jan-03	N/A
43	N/A	N/A	A complaint made through EPD from resident(s) of Brilliant Garden concerned with some noise coming from TM Hwy during the night.	Some night works being carried out on Hwy under a valid CNP. Supervisor to ensure all activities do not cause undue noise nuisance.	24-Jan-03	N/A
44	14/15 February 2003	N/A	A complaint made to EPD from a resident of Siu Hong Court concerned with some noise coming from Siu Hong triangle during the night.	Works being carried out under valid CNP's. Supervisors reminded to take extra care when carrying out night time works..	28-Feb-03	N/A
45	(No complaint was received in March 2003)					
46	(No complaint was received in April 2003)					

Appendix F Monitoring Schedule for the Next Three Months

Table A - Air Quality and Noise Monitoring

	Monday	Tuesday	Wednesday	Thursday	Friday
17/12 Yau Tse Tin Memorial College	■	□			
17/18 Siu Hong Court		□			
17/25 Tuen Mun Government Primary School	■	□			
17/26 Brilliant Garden	■	□			
17/27 Tuen Mun Hospital		□			
18/32 Tsing Chun Koon Quarter		□			
18/33 Affluence Garden	■	□			

- Air Quality Monitoring
- Noise Monitoring

Table B - Water Quality Monitoring

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
U10A	○		○		○	
U10B	○		○		○	
D10	○		○		○	

- Water Quality Monitoring

APPENDIX G COMMENTS AND RESPONSES

Department / Company Name	Reference	Date	Date received by
From HK ACE JV to Hyder From KCRC to HK ACE JV	<u>Comment on March 2003 EM&A Report</u> CC0212&0213/CON001/F/28159 /	2 May 03 /	2 May 03 /

No specific comment from KCRC/IEC on March 03 EM&A report was received during preparation of this report.

Appendix H Summary of EPD Permits/Licences

EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required
Environmental Permits					
N/A	N/A	EP-004/1998	N/A	N/A	EP for West Rail Phase I – KCRC Permit (Superseded)
N/A	N/A	VEP-020/2000/A/EP-004	N/A	N/A	Variation of EP for West Rail Phase I – KCRC Permit (Superseded)
N/A	N/A	EP-004/1998/B	N/A	N/A	Variation of EP for West Rail Phase I – KCRC Permit (Superseded)
N/A	N/A	EP-004/1998/C	N/A	N/A	Variation of EP for West Rail Phase I – KCRC Permit (Superseded)
N/A	N/A	EP-004/1998/D	N/A	N/A	Variation of EP for West Rail Phase I – KCRC Permit (Superseded)
N/A	N/A	EP-004/1998/E	N/A	N/A	Variation of EP for West Rail Phase I – KCRC Permit
N/A	N/A	EP-004/1998/F	N/A	N/A	Variation of EP for West Rail Phase I – KCRC Permit
Ax. (9) EP2/G/A/95	N/A	FEP-009/004/1999	N/A	Notify EPD one week prior to commencement	FEP for CC212- Siu Hong Station
Water Discharge Licence					
TW990663-001, EP932/W7/L16	4th October 1999	W7L16		31st January 2005	Water Discharge Licence
Waste Producer Licence					
TW990723-001, EP932-001/CW/H2898/423/01	19th October 1999	5211-423-H2898-01		N/A	Waste Producer Licence
Air Pollution (Construction Dust) Notification					

EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required
TW990632-001, EP/AC/17/5000/1613	28th September 1999	Not required	N/A	N/A	Air Pollution (Construction Dust) Notification

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
TW 990880-001, EP941/ND4/TW0372-99	N/A	GW- TW0372-99	General holiday including Sundays 0700-2300 and any day not being a general holiday 1900-2300	5th January to 5th June 2000	concreting (bored piles)	Expired
EP941/ND4/TW0662-99	10th February 2000	GW- TW0062-00	General holiday including Sundays 0700-2300 and any day not being a general holiday 1900-2300	7th March to 30th April 2000	bored pilling (RCD only)	Expired
EP941/ND4/TW0663-99	10th February 2000	GW- TW0063-00	Any day not being general holiday 2300-0430	23rd March to 30th March 2000	dismantling of LRT canopy	Expired
TW20000134-001	1st March 2000	N/A	N/A	N/A	transporting large loads across LRT tracks	Refuse to grant
TW 990695-001, EP941/N04/TW0292-99	11th October 1999	N/A	N/A	N/A	concreting	Refuse to grant
TW20000221-001,	21st Mar 2000	N/A	N/A	N/A	bored pilling (RCD, auger)	Refuse to grant
TW20000220-001	21st March 2000	N/A	N/A	N/A	concreting (bored piles)	Refuse to grant
TW2000397-001, EP941/N04/TW0218-00	17th May 2000	N/A	N/A	N/A	diaphragm wall (crane, dump truck, lorry mixer, bentonite recycle plant)	Refuse to grant
TW2000404-001, EP941/N04/TW0224-00	19th May 2000	N/A	N/A	N/A	renewal of CNP: GW-TW0372-99 concreting (structure) and additional poker vibrator included	Refuse to grant
TW990356-001, EP941/N04/TW0199-00	4th May 00	N/A	N/A	N/A	Concreting	Refuse to grant

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
TW20000479-001, EP941/N04/TW0266-00	24 th Jun 2000	N/A	N/A	N/A	Concreting (concrete lorry mixer, concrete pump truck, generator, poker vibrator) superstructure	Refuse to grant
TW2000385-001, EP941/N04/TW0199-00	4 th May 2000	N/A	N/A	N/A	Concreting	Refuse to grant
TW20000457-001, EP941/N04/TW253-00	14th Jun 00	N/A	N/A	N/A	bored piling (RCD, crane, gen. or RCD, grab and chisel, gen.)	Refuse to grant
TW20000459-001, EP941/N04/TW254-00	14th Jun 00	N/A	N/A	N/A	bored piling (RCD, crane, gen. or RCD, grab and chisel, gen.)	Refuse to grant
TW20000458-001, EP941/N04/TW255-00	14th Jun 00	N/A	N/A	N/A	bored piling (RCD, crane, gen. or RCD, grab and chisel, gen.)	Refuse to grant
TW20000460-001, EP941/N04/TW256-00	14th Jun 00	N/A	N/A	N/A	bored piling (RCD, crane, gen. or RCD, grab and chisel, gen.)	Refuse to grant
EP941/N04/TW-0062-00	10th Feb 2000	GW- TW0062-00	general holiday including Sundays 0700-2300 and any day not being a general holiday 1900-2300	7th Mar - 26th Apr 2000	bored piling (RCD only)	Expired
EP941/N04/TW-0063-00	10th Feb 2000	GW- TW0063-00	any day not being general holiday 2300-0430 on next day	23rd Mar - 30th Mar 00	dismantling of LRT canopy	Expired
TW 990880- 001EP941/N04/TW-0063- 00	11th Dec 1999	GW- TW0372-00	general holiday including Sundays 0700-2300 and any day not being a general holiday 1900-2300	5th Jan - 5th Jun 00	concreting (bore pile)	Expired
EP941/N04/TW-0225-00	19th May 2000	GW- TW0225-00	any day not being a general holiday 2100-0700 hours on next day	8th Jun - 9th Jun 00	repainting and sign erection flyover at Tsing Tin Road to Tuen Mun Road	Expired
TW 990880-001, EP941/N04/TW0372-99	N/A	GW- TW0372-99	General holiday including Sundays 0700-2300 and any day not being a general holiday 1900-2300	5 th Jan – 5 th Jun 2000	Concreting (bored piles)	Expired
EP941/N04/TW0225-00	19 th May 2000	GW- TW0225-00	Any day not being a general holiday 2100-0700 hours on	8 th Jun 2000 to 9 th June 2000	Lines removing and repainting and sign erection flyover Tsing Tin Road to Tuen	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
			next day		Mun Road	
TW20000357-001, EP941/N04/TW0200-00	4th May 00	GW- TW0200-00	general holiday including Sundays 0700-2300 and any day not being a general holiday 1900-2300	31st May - 31st Oct 00	bored piling (mobile RCD, soil mec)	Expired
TW 2000367-001, 001EP941/N04/TW0207-00	6th May 2000	GW- TW0207-00	general holiday including Sundays 0700-2300 and any day not being a general holiday 1900-2300	6th Jun - 18th Nov 00	bored piling (mobile RCD, soil mec)	Expired
TW20000507-001, EP941/N04/TW0278-00	4 th July 2000	GW- TW0278-00	Any day not being a general holiday between 1900-2300 hours	3 rd Aug 2000 – 2 nd Feb 01	Concreting (bored piles), concrete lorry mixer, crane, generator	Expired
N/A	N/A	PP-TW0042-00	1220 hour to 1320 hour and 1700 hour to 1900 hour on any day not being a general holiday	14 th June 2000 to 1st August 2000	Percussive piling using drop hammer driving steel/concrete pile	Expired
TW2000-0687-001, EP941/N04/TW0387-00	4 th September 2000	GW- TW0387-00	General holiday including Sundays 0700-2100 and any day not being General holiday 1900-2100 hours	4 th October 2000 to 3 rd April 2001	Bored pilling at North PTI (Bauer, drill rig, bentonite desanding unit, generator (ss))	Expired
TW20000686-001, EP941/N04/TW0388-00	4 th September 2000	GW- TW0388-00 cancelled	General holiday including Sundays 0700-2100 and any day not being General holiday 1900-2100 hours	4 th October 2000 to 3 rd April 2001 cancelled	Bored pilling at South PTI (Bauer, drill rig, generator (ss))	Cancelled by EPD on 12 th January 2001
TW20000685-001, EP941/N04/TW0389-00, cancelled by JV on 2 nd February 2001	4 th September 2000	GW- TW0389-00	General holiday including Sundays 0700-2100 and any day not being General holiday 1900-2100 hours	4 th October 2000 to 3 rd April 2001	Bored pilling at station (Bauer, generator)	Cancelled by JV on 2 nd February 2001
TW20000700-001, EP941/N04/TW0397-00, withdrawn letter on 22 nd September 2000	6 th September 2000	Withdrawn	N/A	N/A	Pipe jacking sheet pile (vibrating hammer, generator)	Withdrawn
TW20000795-001, EP942/N04/TW0069-00	10 th October 2000	PP-TW0069-00	0800 hour to 0900 hour AND 1200 hour to 1400 hour AND 1700 hour to 1900 hour on any	27 th October 2000 to 24 th April 2001	Percussive piling within the nullah for pile caps and column construction	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
			day not being a general holiday			
TW20000904-001, EP941/N04/TW0515-00	13 th November 2000	Refuse to grant	N/A	N/A	Concreting large bored piles near Tsing Tin Road flyover (concrete lorry mixer, mobile crane, water pump, generator, oscillator)	Refuse to grant
TW 990887-001, EP942/N04/TW0043-00	5 th Jun 00	N/A	N/A	N/A	percussive piling	Expired
TW 990887-001, EP942/N04/TW0074-99	14 th Dec 99	PP-TW0074-99	1200-1300 and 1700-1900 on any day not being a general holiday	6 th Jan - 8 th Jul 00	percussive piling	Expired
TW 990886-001, 001EP941/N04/TW0073-99	14 th Dec 99	PP-TW0073-99	0800-0900 and 1200-1400 and 1700-1900 on any day not being a general holiday	8 th Jan - 8 th June 00	percussive piling	Expired
TW 20010139-001, 001EP941/N04/TW0008-01	14 th February 2001	PP-TW0008-01	1230 hours to 1330 hours and 1700 hour to 1900 hour on any day not being a general holiday	10 th March 2001 to 9 th September 2001	Renewal of CNP: PP-TW0060-00, percussive piling (Choy Yee bridge to Siu Hong Station)	Expired
TW 990887-001, EP942/N04/TW0552-00	6 th December 00	GW-TW0552-00	Monday to Saturday (except holiday) 1900hour to 2300hour	15 th Jan – 14 th Feb 01	Reapplication concreting large bored piles near Tsing tin Road flyover (concrete lorry mixer, mobile crane, water pump, generator) – Area 35	Expired
TW 20010016-001, EP941/N04/TW0009-01	4 th January 01	Refuse to grant	N/A	N/A	Works at Pier 73, six groups of equipment used at different times	Refuse to grant
TW 20010020-001, EP941/N04/TW0013-01	8 th January 01	GW-TW0013-01	Monday to Saturday (except holidays) 1900 to 2300 hours and General holiday 1900-2300 hours	3 rd February 2001 to 2 nd August 2001	Renewal of CNP: GW-TW0278-00, concreting (bored piles) – concrete lorry mixer, crawler crane, generator (silenced)	Expired
TW 20010021-001, EP941/N04/TW0014-01	8 th January 01	GW-TW0014-01	Monday to Saturday (except holidays) 1900 to 2300 hours and General holiday 1900-2300 hours	7 th Feb 2001 to 3 rd June 2001	North viaduct works from DSD pump station north (Bauer rotary drill rig, bentonite desanding, generator)	Expired
TW 20010049-001, EP941/N04/TW0023-01	15 th January 01	GW-TW0029-01	Monday to Saturday (except holidays) 1900 to 2300 hours and General holiday 1900-2300	10 th February 2001 to 9 th August 2001	Tower cranes on site – 7 no. (7pm to 11pm)	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
			hours			
TW 20010020-001, EP941/N04/TW0013-01	N/A	Refuse to grant	N/A	N/A	Tower cranes on site – 3 no (11pm to 7am)	Refuse to grant
TW 20010143-001, EP941/N04/TW0074-01	15 th February 2001	Refuse to grant	N/A	N/A	Protection tunnel no. 5 construction work-concrete lorry mixer, poker vibrator, crawler crane, excavator –Area 35	Refuse to grant
TW 20010185-001, EP941/N04/TW0088-01	22 nd February 2001	GW-TW0088-01	Any day 2300 hour to 0700 on next day	24 th March 2001 to 7 th April 2001	Demolition of part of Fu Tei B near LRT, mobile crane only	Expired
TW 20010202-001, EP941/N04/TW0116-01	9 th March 2001	N/A	N/A	N/A	Reapplication – tower crane usage (2300 to 0700 hours) 3 nos. at one time	Refuse to grant
TW 20010201-001, EP941/N04/TW0115-01	9 th March 2001	N/A	N/A	N/A	Siu Hong triangle – erection of steelwork	Refuse to grant
TW 20010225-001, EP941/N04/TW0126-01	16 March 2001	N/A	General holidays (including Sundays) 0700-2100 hours and Any day not being a general holiday between 1900-2100 hours	17 th April 2001 to 31 st May 2001	Renewal of CNP no. GW-TW0387-00 bored piling at North PTI	Expired
TW20010254-001, EP941/N04/TW0143-01	23 March 2001	Refuse to grant	N/A	N/A	Concreting superstructure from GL 1 to 50. (concrete lorry mixer, electric poker, pump truck)	Refuse to grant
TW20010274-001, EP-941/N04/TW153-01	29 March 2001	Refuse to grant	N/A	N/A	Freshwater main construction - East ban of nullah - Area 35	Refuse to grant
TW20010307-001, EP941/N04/TW0168-01	6 April 2001	GW/TWO168-01	Any day 2300 hours to 0700 hours on next day	1 st to 4h June 2001	Erection of formwork/falsework adjacent to Tsing Lun Road (mobile crane, crane lorry)	Expired
TW20010404-001, EP941/N04/TW0209-01	3 May 2001	GW-TW0209-01	Any day 2230 hours to 0600 hours on next day	1 st to 15 th July 2001	Beam erection for South Access over Tuen Mun Road	Expired
TW20010405-001, EP941/N04/TW0210-01	3 rd May 2001	Refused to grant	N/A	N/A	Use of circular saw for the station area	Refuse to grant
TW20010499-001, EP941/N04/TW0242-01	25 th May 2001	Refused to grant	N/A	N/A	Reapplication - Concreting the station structure	Refuse to grant
TW20010500-001, EP941/N04/TW0243-01	25 th May 2001	GW-TW0243-01	Any day 2200 hours to 0600 hours on next day	1 st August 2001 to 30 th September	Renewal of CNP no. GW-TW0168-01 Erection of lorrywork/falsework adjacent to	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
EP941/N04/TW0243-01		TW0243-01	hours on next day	2001	and over Tsing Lun Road	
TW20010534-001, EP941/N04/TW0256-01	4 th June 2001	GW- TW0265-01	Tuesday and Friday not being a general holidays 2300 hours to 0700 hours on next day	3 July 2001 to 3 rd August 2001	Reapplication- tower crane usage (11:00pm to 7:00am) tower crane 4	Expired
TW20010559-001, EP941/N04/TW0265-01	11 th June 2001	GW- TW0265-01 cancelled	Any day between 2300 hours to 0700 hours on the next day	7 th August to 20 th October 2001 cancelled	Renewal of CNP: GW-TW0209-01, Southern Access over Tuen Mun Hwy cancelled by JV	Cancelled by JV extra equipment
TW20010574-001, EP941/N04/TW0275-01	14 th June 2001	N/A	N/A	N/A	Reapplication for CNP: Concreting the station structure	Refused to grant
TW20010573-001, EP941/N04/TW0274-01	14 June 2001	N/A	N/A	N/A	Crane use adjacent to TM Hospital - Area 35	Refused to grant
TW20010582-001, EP941/N04/TW0279-01	15 th June 2001	N/A	N/A	N/A	Crane use adjacent to Tsing Chun Koon Gov. Quarters/Affluence Gdn Area 35	Refused to grant
TW20010591-001, EP941/N04/TW0284-01	18 th June 2001	GW- TW0284-01	Any day between 0100 hours to 0530 hours	18 th July 2001 to 17 th January 2002	Mobilisation of equipment into the Siu Hong LRT triangle	Expired
TW20010659-001, EP941/N04/TW0310-01	5 th July 2001	GW- TW0310-01	N/A	N/A	Renewal of CNP no. GW-TW0023-01, lower cranes (7pm to 11pm)	Cancelled
TW20010660-001, EP941/N04/TW0309-01	5 th July 2001	N/A	N/A	N/A	Renewal of CNP no. GW-TW0256-01, lower crane 4 (11pm to 7am)	Expired
TW20010725-001, EP941/N04/TW0329-01	23 rd July 2001	N/A	N/A	N/A	Reapplication for CNP" Concreting the station structure (3)	Refused to grant
TW20010727-001, EP941/N04/TW0331-01	23 rd July 2001	N/A	N/A	N/A	Reapplication for CNP" Concreting the station structure (2)	Refused to grant
TW20010726-001, EP941/N04/TW0330-01	23 rd July 2001	GW- TW0330-01 cancelled	Monday to Saturday (except holidays) 1900 hours - 2300 hours and General holidays (including Sundays) 0700 hours - 2300 hours	15 th August 2001 - 14 th February 2002 cancelled	Reapplication for CNP: Concreting the station structure (1)	Cancelled
TW20010727-001, EP941/N04/TW0331-01	23 rd July 2001	N/A	N/A	N/A	Reapplication for CNP: Concreting the station structure e(2)	Refused to grant

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
TW20010780-001, EP941/N04/TW0352-01	3 rd August 2001	GW- TW0352-01	Any day not being a general holiday 2300 hours to 0700 hours on the next day	31 st August to 16 th September 2001	Covered walkway erection at Siu Hong LRT triangle	Expired
TW20010790-001, EP941/N04/TW0357-01	6 th August 2001	N/A	N/A	N/A	Crane use near Affluence Gdns, Tsing Chun Koon Quarters - Area 35	Refused to grant
TW20010788-001, EP941/N04/TW0355-01	6 th August 2001	GW- TW0355-01	Mondays, Wednesdays and Fridays (including general holiday) 2300hours to 0700hours on next day	1 st September 2001 to 28 th February 2002	Renewal of CNP no. GW-TW0309-01, tower crane 4 (11pm to 7am)	Expired
TW20010790-001, EP941/N04/TW0357-01	6 th August 2001	N/A	N/A	N/A	Crane use near Affluence Gdns, Tsing Chun Koon Quarters - Area 35	Refused to grant
TW20010875-001, EP941/N04/TW0406-01	28 th August 2001	GW- TW0406-01	Any day not begin a general holiday and not immediately following a general holiday 0000hours – 0700hours and 2100hours – 2400hours	1 st October to 1 st January 2002	Renewal of CNP no. GW-TW0243-01, Tsing Lun Rd precast unit erection	Expired
TW20010917-001, EP941/N04/TW0429-01	7 th September 2001	N/A	N/A	N/A	Reapplication for CNP: Concreting the viaduct structure GL160 Pier 74	Refused to grant
TW20010922-001, EP941/N04/TW0428-01	10 th September 2001	N/A	N/A	N/A	Reapply crane use adjacent to Tsing Chun Koon Quarters	Refused to grant
TW20010921-001, EP941/N04/TW0427-01	10 th September 2001	GW- TW0427-01	Any day not begin a general holiday and immediately following a general holiday 2100-2400hours and not immediately following a general holiday 0000hours – 0700hours and 2100hours – 2400hours	21 st October to 20 th January 2002	Southern Access over TM Road - concreting of deck, removal of falsework/formwork	Expired
TW20010928-001, EP941/N04/TW0433-01	11 th September 2001	N/A	N/A	N/A	Seven tower cranes	Refused to grant
TW20010928-001, EP941/N04/TW0424-01	11 th September 2001	N/A	N/A	N/A	Reapplication for concreting the structure: Pier 74-GL16	Refused to grant
TW20010962-001,	20 th September 2001	GW-	All day (including Sundays)	10 th October to	Additional scissor use at Southern Access	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
EP941/N04/TW0443-01		TW0443-01	2100-0700hours on the next day	3 rd November 2001	Ramp	
TW20011024-001, EP941/N04/TW0481-01	10 th October 2001	GW- TW0481-01	Any day 0100 hours to 0530 hours on the next day	6 th November 2001 to 9 th January 2002	Installation of enclosure to shield works over the LRT	Expired
TW20011047-001, EP941/N04/TW0493-01	15 th October 2001	GW- TW0493-01	Monday to Saturday (except general holidays) 1900 hour to 2300 hour and General holidays (including Sundays) 0700 hour to 2300 hour	8 th November 2001 to 7 th May 2002	Reapply several tower cranes	Expired
TW20011048-001, EP941/N04/TW0494-01	15 th October 2001	GW- TW0494-01	Monday to Saturday (except general holidays) 1900 hour to 2300 hour and General holidays (including Sundays) 0700 hour to 2300 hour	10 th November 2001 to 9 th February 2002	Reapply crane use adjacent to Tsing Chun Koon Quarters and Tuen Mun Hospital	Expired
	18 th October 2001	GW- TW0503-01	Monday to Saturday (except general holidays) 1900 hour to 2300 hour and General holidays (including Sundays) 0700 hour to 2300 hour	15 th November 2001 to 14 th May 2002	Bar bending all of the station area, 2 no.	Expired
	18 th October 2001	GW- TW0504-01	Monday to Saturday (except general holidays) 1900 hour to 2300 hour and General holidays (including Sundays) 0700 hour to 2300 hour	15 th November 2001 to 14 th May 2002	Reapply concreting station area from GL50 to Tsing Lun Rd	Expired
TW20011096-001, EP941/N04/TW0516-01	24 October 2001	GW- TW0516-01	Any day 0130 to 0430 hours	19 th November 2001 to 19 th January 2002	Small crane, triangle area	Expired
		GW- TW0525-01	Any day 2300 hour to 0700 on next day	1 st January 2002 to 10 th January 2002	Renewal of CNP no. GW-TW0406-01, Tsing Lun Rd precast unit erection	Expired
TW20011180-001, EP941/N04/TW0558-01	15 th November 2001	GW- TW0558-01	Any day not being a general holiday 1900 to 2300 hours and General holidays (including	12 th December 2001 to 7 th April 2002	Excavation within the nullah	Expired

Construction Noise Permit (CNP)						
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			Sunday) 0700 to 2300 hours			
TW20011178-001, EP941/N04/TW0556-01	15 th November 2001	GW- TW0556-01	Any day not being a general holiday between 1900-2300 hours	12 th January 2002 to 11 th February 2002	Grouting mini piles at SH triangle	Expired
TW20011193-001, EP941/N04/TW0575-01	19 th November 2001	GW- TW0575-01	Monday to Saturday (except general holidays) 1900 to 0700 hours on next day and general holidays (including Sunday) 0700 to 0700 hours on next day	14 th January 2002 to 29 th April 2002	Dewatering of cofferdam blockwall area	Expired
TW200111219-001, EP941/N04/TW0584-01	22 nd November 2001	GW- TW0584-01	One day only within the validity between 2300 hour to 0700 hours on next day	17 th to 24 th January 2002	Removal of falsework/formwork at Affluence Gardens Subway, Area 35	Expired
TW20011259-001, EP941/N04/TW0602-01	30 th November 2001	N/A	N/A	N/A	Installation of new platforms 1 and 2 north of Siu Hong triangle	Refused to grant
TW20011258-001, EP941/N04/TW0603-01	30 th November 2001	Withdrawn	N/A	N/A	Concreting of central beam of precast units over Tsing Lun Road, withdrawn	Withdrawn
TW20011270-001, EP941/N04/TW0605-01	4 th December 2001	N/A	N/A	N/A	Mobile crane use – Tuen Mun River Panel (additional crane)	Refused to grant
TW20011271-001, EP941/N04/TW0606-01	4 th December 2001	N/A	N/A	N/A	Renewal of CNP no. GW-TW0355-01, tower crane 4 use during LRT non-traffic hours	Refused to grant
TW20011288-001, EP941/N04/TW0612-01	10 th December 2001	GW- TW0612-01	Any day 2300 hour to 0700 on next day	10 th January to 28 February 2002	Renewal of CNP no. GW-TW0525-01, precast unit erection – Tsing Lun Rd	Expired
TW20011289-001, EP941/N04/TW0613-01	10 th December 2001	GW- TW0613-01	Any day between 0100 hours – 0530 hours	9 th January to 31 st March 2002	Renewal of CNP no. GW-TW0481-01, install enclosure to shield LRT, Tsing Lun Road to Siu Hong Road	Expired
TW20011287-001, EP941/N04/TW0611-01	10 th December 200	Withdrawn	N/A	N/A	Permanent steelwork erection at Siu Hong triangle, withdrawn	Withdrawn
TW20011339-001, EP941/N04/TW0627-01	20 th December 2001	GW- TW0627-01	Any day 0100 to 0530 hours	18 th January to 17 th July 2002	Renewal of CNP no. GW-TW0284-01, motorise/demobilise equipment to Siu Hong triangle area	Expired
TW20011338-001,	20 th December 2001	GW-	Any day 0130 to 0430 hours	11 th January to	Renewal of CNP no. GW-TW0516-01,	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
EP914/N04/TW0626-01		TW0626-01		20 th March 2002	miscellaneous construction activities within the Siu Hong triangle – mobile crane, crane lorry	
TW20011377-001, EP941/N04/TW0636-01	28 th December 2001	GW- TW0636-01	Six days only within the validity between 2300 to 0700 hours on next day	15 th to 31 st January 2002	Renewal of CNP no. GW-TW0584-01, removal of falsework/formwork Affluence Gardens subway, Area 35	Expired
TW-20020003, EP914/N04/TW0002-02	4 th January 2002	GW- TW0002-02	Any day 0100 hours to 0500 hours on next day	17 th to 30 th January 2002	Reapplication – Installation of new platforms 1 and 2 north of Siu Hong triangle	Expired
TW20020052, EP941/N04/TW0019-02	17 th January 2002	GW- TW0019-02	Any day 0100 hours to 0500 hours on next day	28 th January to 17 th February 2002	Installation of rolling enclosure over existing platforms 1 and 2, SH triangle	Expired
TW20020061, EP941/N04/TW0020-02	18 th January 2002	GW- TW0020-02	Any day between 0000 hours and 0600 hours	18 th February to 23 rd March 2002	Renewal of CNP no. GW-TW0427-01, removal of formwork solution access ramp	Expired
TW20020094, EP941/N04/TW0035-02	25 th January 2002	GW- TW0035-02	Any day 0100 hours to 0500 hours	31 st January to 28 th February 2002	Renewal of CNP no. GW-TW0002-02, Installation of new platforms 1 and 2, SH triangle	Expired
TW20020141, EP941/N04/TW0045-02	2 nd February 2002	GW- TW0045-02	Any day between 0030 and 0530 hours	1 st March to 31 st August 2002	Renewal of CNP no. GW-TW0355-01, tower crane 4 use during LRT non-traffic hours, SH triangle	Expired
		GW- TW0044-02	Monday to Saturday 1900 to 0700 on next day and General holidays (including Sundays) 0700 to 0700 on next day	20 th February to 19 th August 2002	Providing power to service safety and security lighting	Expired
		GW- TW0050-02	Any day 0100 hours to 0500 hours	18 th February to 16 th March 2002	Renewal of CNP no. GW-TW0019-02, install rolling enclosure and removal of canopies 1 and 2, SH triangle	Expired
KCRC not send to EPD	N/A	N/A	N/A	N/A	Permanent steelwork erection at Siu Hong triangle, Initial programme and time periods	Withdrawn
TW20020186, EP941/N04/TW0068-02	22 nd February 2002	GW- TW0068-02	See permit for permitted hours	25 th March to 8 th April 2002	Permanent steelwork erection at Siu Hong triangle, as per KCRC requirements	Expired
TW20020203, EP941/N04/TW0071-02	25 th February 2002	GW- TW0071-02	Any day 2300 hour to 0700 on next day	6 th March to 5 th May 2002	Renewal of CNP no. GW-TW0612-01, removal of temp works – Tsing Lun Road	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
TW20020230, EP941/N04/TW0082-02	2 nd March 2002	GW- TW0082-02	Any day 0100 hours to 0500 hours	17 th March to 21 st April 2002	Renewal of CNP no. GW-TW0050-02, install rolling enclosure and removal of canopies 1 and 2 SH triangle	Expired
TW20020255, EP941/N04/TW0087-02	6 th March 2002	GW- TW0087-02	Any day 0030 to 0530 hours	21 st March to 15 th May 2002	Renewal of CNP no. GW-TW0626-01, miscellaneous activities within the SH triangle – mobile crane, crane lorry	Expired
TW20020298, EP941/N04/TW0101-02	13 th March 2002	GW- TW0101-02	Any day 0030 to 0530 hours	1 st April to 31 st May 2002	Renewal of CNP no. GW-TW0613-01, install enclosure to shield LRT, Tsing Lun Rd to Siu Hong Rd	Expired
TW20020340, EP941/N04/TW0110-02	25 th March 2002	GW- TW0110-02	Any day 0100 to 0500 hours	29 th March 2002 to 5 th June 2002	Remedial works to Tsing Lun Road	Expired
TW20020369, EP941/N04/TW0117-02	27 th March 2002	GW- TW0117-02	See permit for permitted hours	9 th to 23 rd April 2002	Revised renewal application for CNP no GW-TW0068-02, permanent steelwork erection – SHT	Expired
KCRC not send to EPD	N/A	N/A	N/A	N/A	Concreting bridges and walkways within Siu Hong triangle	Withdrawn
TW20020386, EP941/N04/TW0119-02	2 nd April 2002	GW- TW0119-02	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	15 th April to 8 th June 2002	Crane lorry use near TM Hospital to Area 35	Expired
TW20020417, EP941/N04/TW0125-02	12 th April 2002	GW- TW0125-02	Any day 0100 to 0500 hours	22 nd April to 31 st May 2002	Renewal CNP no. GW-TW0082-02, install rolling enclosure and removal of canopies 1 and 2, SH triangle	Expired
TW20020425, EP941/N04/TW0129-02	12 th April 2002	GW- TW0129-02	Any day not being a general holiday 1900 to 2300 hours and General holidays (including Sunday) 0700 to 2300 hours	30 th April to 29 th October 2002	Renewal of CNP no. GW-TW0558-01 excavation under the station structure	Expired
TW20020426, EP941/N04/TW0130-02	12 th April 2002	GW- TW0130-02	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	8 th May to 7 th November 2002	Renewal of CNP no. GW-TW0493-01 tower crane usage	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
TW20020427, EP941/N04/TW0131-02	12 th April 2002	GW- TW0131-02	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	15 th May to 14 th November 2002	Renewal of CNP no. GW-TW0503-01 bar bending in station area	Expired
TW20020428, EP941/N04/TW0132-02	12 th April 2002	GW- TW0132-02 Cancelled	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	15 th May to 14 th November 2002 cancelled by JV	Renewal of CNP no. GW-TW0504-01 concreting station area. cancelled by JV	Cancelled
TW20020434, EP941/N04/TW0134-02	15 th April 2002	GW- TW0134-02	Any day 2300 hour to 0700 on next day	6 th May to 30 th June 2002	Renewal of CNP no. GW-TW0071-02 falsework removal – Tsing Lun Road	Expired
TW20020460, EP941/N04/TW0144-02	19 th April 2002	Withdrawn	N/A	N/A	Renewal of CNP no. GW-TW0117-02, permanent steel erection SHT	Withdrawn
TW20020542-02, EP941/N04/TW0158-02	9 th May 2002	GW- TW0158-02	Any day between 0030 and 0530 hours	1 st June to 15 th September 2002	Renewal of CNP no. GW-TW0101-02, install enclosure to shield LRT, Tsing Lun Road to Siu Hong Road	Expired
TW20020550, EP941/N04/TW0164-02	10 th May 2002	GW- TW0164-02	See permit for permitted hours	25 th May to 8 th June 2002	Permanent steel erection – Phase II steel erection only – SHT	Expired
TW20020573, EP941/N04/TW0172-02	16 th May 2002	GW- TW0172-02	Any day not being a general holiday 1900 to 2300 hours and General holidays (including Sunday) 0700 to 2300 hours	12 th June to 22 nd July 2002	Concrete encasement to steel members, precast plank install –SHT	Expired
TW20020625, EP941/N04/TW0181-02	27 th May 2002	GW- TW0181-02	Monday to Saturday (expect general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	9 th June to 20 th August 2002	Renewal of CNP no. GW-TW0119-02, crane lorry use adjacent to TM Hospital – Area 35	Expired
TW20020580, EP941/N04/TW0195-02	4 th June 2002	GW- TW0195-02	See permit for permitted hours	9 th to 23 rd June 2002	Renewal of CNP no. GW-TW0164-02, Phase II steel erection only – SHT	Expired
TW20020697, EP941/N04/TW0199-02	7 th June 2002	GW- TW0199-02	Any day 0000 to 0500 hours	17 th to 30 June 2002	Renewal of CNP no. GW-TW0110-02, remedial works to Tsing Lun Road	Expired
TW20020721,	13 th June 2002	GW-	See permit for permitted hours	6 th July to 6 th	Hammering for Phase II works – SHT	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
EP941/N04/TW0205-02		TW0205-02		August 2002		
TW20020727, EP941/N04/TW0207-02	14 th June 2002	GW- TW0207-02	See permit for permitted hours	20 th June to 31 st July 2002	Renewal of CNP no. GW-TW0196-02. Phase II steel erection only – SHT	Expired
TW20020759, EP941/N04/TW0217-02	25 th June 2002	GW- TW0217-02	Any day between 0030- 0530hours	16 th July 2002 to 17 th January 2003	Renewal of CNP no GW-TW0627-01, mobilise demobilise – SHT	Expired
TW20020780, EP941/N04/TW0230-02	28 th June 2002	GW- TW0230-02	Any day not being a general holiday 1900 to 2300 hours and General holidays (including Sunday) 0700 to 2300 hours	23 rd July to 15 th September 2002	Renewal of CNP no. GW-TW0172-02, works subsequent to Phase I – SHT	Expired
TW20020785, EP941/N04/TW0231-02	2 nd July 2002	GW- TW0231-02	Any day 2300 hour to 0700 on next day	10 th July to 9 th August 2002	Renewal of CNP no. GW-TW0134-02, GW-TW0199-02, Tsing Lun Road	Expired
TW20020867, EP941/N04/TW0256-02	22 nd July 2002	GW- TW0256-02	Monday to Saturday 1900 to 0700 on next day and General holidays (including Sundays) 0700 to 0700 on next day	20 th August 2002 to 19 th February 2003	Renewal of CNP no. GW-TW0044-02, gen sets in the station area	Expired
TW20020868, EP941/N04/TW0259-02	22 nd July 2002	GW- TW0259-02	Monday to Saturday (expect general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	21 st August to 15 th November 2002	Renewal of CNP no. GW-TW0181-02, crane lorry use near TMH Area 35	Expired
TW20020909, EP941/N04/TW0271-02	29 th July 2002	GW- TW0271-02	See permit for permitted hours	9 th August to 16 th September 2002	Renewal of CNP no GW-TW0205-02, Phase II steel erection works – SHT	Expired
TW20020908, EP941/N04/TW0270-02	29 th July 2002	GW- TW0270-02	Monday to Saturday (expect holidays) between 1900 – 2300 hours and General holiday (including Sundays) between 0700-2300 hours	23 rd August to 29 th October 2002	Parapel erection – north and south viaduct under PM's	Expired
TW20020931, EP941/N04/TW0278-02	6 th August 2002	GW- TW0278-02	Any day between 2300 and 0600 hours	18 th August to 9 th November 2002	Remedial works, parapel erection to viaduct – TLR	Expired
TW20010949, EP941/N04/TW0281-02	10 th August 2002	GW- TW0281-02	Any day between 0030 and 0530 hours	15 th September to 10 th December 2002	Renewal of CNP no. GW-TW0158-02, install enclosure to shield LRT, Tsing Lun Road to Siu Hong Road	Expired
TW20021004,	23 rd August 2002	GW-	Subject to conditions in 3d, any	16 th September to	Renewal of CNP no. GW-TW0230-02,	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
EP941/N04/TW0297-02		TW0297-02	day not being a general holiday between 1900 and 2300 hours and general holidays (including Sundays) between 0700 and 2300 hours	10 th December 2002	works subsequent to steel erection – SHT	
TW20021065, EP941/N04/TW0319-02	9 th September 2002	GW- TW0319-02	Any day not being a general holiday between 1900-2300 hours and general holidays (including Sundays) between 0700-2300 hours	7 th October 2002 to 5 th April 2003	Station area – Global CNP	Valid
TW20021100, EP941/N04/TW0332-02	17 th September 2002	GW- TW0332-02	Any day 0000 to 0600 hours	1 st October to 31 st December 2002	Renewal of CNP no. GW-TW0626-01, miscellaneous activities within the SH triangle – mobile crane, crane lorry	Expired
TW20021110, EP941/N04/TW0335-02	18 th September 2002	GW- TW0335-02	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	1 st to 31 st October 2002	Painting structural steel within the station structure	Expired
TW20021221, EP941/N04/TW0368-02	8 th October 2002	GW- TW0368-02	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	1 st November 2002 to 15 th January 2003	Renewal of CNP no. GW-TW0335-02, painting structural steel within the station structure	Expired
TW20021222, EP941/N04/TW0369-02	8 th October 2002	GW- TW0369-02	Any day not being a general holiday 1900 to 2300 hours and General holidays (including Sunday) 0700 to 2300 hours	30 th October 2002 to 30 th April 2003	Renewal of CNP no. GW-TW0129-02, excavation under the station structure	Valid
TW20021250, EP941/N04/TW0376-02	12 th October 2002	N/A	N/A	N/A	Panelling structural steel within the SH triangle area	Refused to grant
TW20021251, EP941/N04/TW0377-02	12 th October 2002	GW- TW0377-02	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	8 th November 2002 to 15 th January 2003	Renewal of CNP no. GW-TW0130-02, tower crane usage	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
TW20021268, EP941/N04/TW0380-02	18 th October 2002	GW- TW0380-02	Any day between 2300 and 0060 hours on the next day	10 th November 2002 to 18 th January 2003	Renewal of CNP no. GW-TW0278-02, CLP enclosure over TLR	Expired
TW20021272, EP941/N04/TW0381-02	21 st October 2002	GW- TW0381-02	Monday to Saturday (except general holidays) 1900 to 2300 hours and General holidays (including Sundays) 0700 to 2300 hours	16 th November 2002 to 28 th February 2003	Renewal of CNP no. GW-TW0259-02, crane lorry use near TMH, Area 35	Expired
TW20021383, EP941/N04/TW0407-02	14 th November 2002	GW- TW0407-02	Subject to conditions in 3d, any day not being a general holiday between 1900 and 2300 hours and general holidays (including Sundays) between 0700 and 2300 hours	11 th December 2002 to 10 th March 2003	Renewal of CNP no. GW-TW0297-02, concreting and other works -SHT	Valid
TW20021398, EP941/N04/TW0411-02	18 th November 2002	GW- TW0411-02	Any day between 2300 and 0700 hours on the next day	1 st December 2002 to 31 st January 2003	Reapplication for CNP, painting steelwork - SHT	Expired
TW20021413, EP941/N04/TW0412-02	21 st November 2002	GW- TW0412-02	Any day between 2330 and 0600 hours on the next day	12 th December 2002 to 15 th March 2003	Renewal of CNP no. GW-TW0020-02, removal formwork, water jetting – over Tuen Mun Hwy	Expired
TW20021490, EP941/N04/TW0433-02	6 th December 2002	GW- TW0433-02	Any day 0000-0060 hours	1 st January 2003 to 31 st March 2003	Renewal of CNP no. GW-TW0033-02, miscellaneous activities - SHT	Expired
TW20021494, EP941/N04/TW0436-02	7 th December 2002	GW- TW0436-02	Any day between 0030 and 0530 hours	18 th December 2002 to 17 th January 2003	Renewal of CNP no. GW-TW0281-02, removal of temporary steelwork over LRT at North PTI	Expired
TW20021521, EP941/N04/TW0449-02	18 th December 2002	GW- TW0449-02	Any day between 0030 and 0530 hours	18 th December 2002 to 17 th January 2003	Renewal of CNP no. GW-TW0217-02, mobilise/demobilise - SHT	Expired
TW20021537, EP941/N04/TW0435-02	21 st December 2002	GW- TW0435-02	Any day 2330 hours to 0600 hours on the next day	8 th January 2003 to 18 th February 2003	Remedial works to viaduct structure – Tsing Lun Road	Expired

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
TW20030021, EP941/N04/TW0007-03	9 th January 2003	GW- TW0007-03	General holiday including Sundays between 0700-2300 hours and any day not being a general holiday between 1900-2300 hours	28 th January to 12 th April 2003	Renewal of CNP no. GW-TW0368-02, painting steelwork in station area	Valid
TW20030022, EP941/N04/TW0008-03	9 th January 2003	GW- TW0008-03	Any day between 0030-0530 hours	28 th January to 12 th April 2003	Renewal of CNP no. GW-TW0435-02, removal of temporary steelwork adjacent to LRT at North PT1	Valid
TW200030029, EP941/N04/TW0012-03	10 th January 2003	GW- TW0012-03	Any day between 2300 and 0700 hours on the next day	1 st February to 15 th April 2003	Renewal of CNP no. GW-TW0411-02, painting of steelwork in SHT	Valid
TW20030115, EP941/N04/TW0047-03	4 th February 2003	GW- TW0047-03	Monday to Saturday 1900 to 0700 on next day and General holidays (including Sundays) 0700 to 0700 on next day	20 th February to 19 th April 2003	Renewal of CNP no. GW-TW0256-02, gen sets adjacent to TM Hwy	Valid
TW20030127, EP947/N04/TW49-03	10 th February 2003	GW- TW0049-03	General holiday including Sundays between 0700-2300 hours and any day not being a general holiday between 1900-2300 hours	1 st March to 30 th June 2003	Renewal of CNP no. GW-TW0381-02, crane lorry use near TMH, Area 35	Valid
TW20030133, EP947/N04/TW50-03	13 th February 2003				Compacting EVA between GL G/H adjacent to station area	Refuse to grant
TW20030139, EP947/N04/TW52-03	15 th February 2003				Concreting the access roads of the North and South PTI's	Refuse to grant
TW20030166, EP947/N04/TW56-03	19 th February 2003	GW- TW0056-03	Subject to conditions in 3d, any day not being a general holiday between 1900 and 2300 hours and general holidays (including Sundays) between 0700 and 2300 hours	17 th March to 6 th July 2003	Renewal of CNP no. GW-TW0407-02 concreting and other works at SHT	Valid
TW20030167, EP947/N04/TW56-03	19 th February 2003	GW- TW0057-03	Only five nights within the validity between 2300 to 0700 hours	17 th March to 11 th June 2003	Scaffold erection during LRT non-traffic hours at SHT	Valid
TW20030203,	27 th February 2003	GW-	Any day between 2030 and	24 th March to 23 rd	Renewal of CNP no. GW-TW0412-02,	Valid

Construction Noise Permit (CNP)						
EPD ref. no.	EPD's notification of application dated	Permit no.	Permit time constraint	Permit valid from / to	Works required	Status
EP947/N04/TW75-03		TW0075-03	0600 hours on the next day	June 2003	southern access ramp works over TMHwy	
TW20030249, EP947/N04/TW91-03	10 th March 2003	GW- TW0091-03	General holiday including Sundays between 0700-2300 hours and any day not being a general holiday between 1900-2300 hours	6 th April to 5 th September 2003	Renewal of CNP no. GW-TW0319-02, global activities within station area	Valid
TW20030250, EP947/N04/TW92-03	10 th March 2003	GW- TW0092-03	Any between 0000 hours and 0500 hours	1 st April to 31 st June 2003	Renewal of CNP no. GW-TW0433-02, global activities within station area	Valid
TW20030356, EP947/N04/TW0122-03	1 st April 2003	N/A	N/A	N/A	Renewal of CNP no. GW-TW0056-03, scaffold erection during LRT non-traffic hours-SHT	Withdrawn

Appendix K Cumulative Logs of Notice of Non-Compliance (NC)

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
1	NC-00468-00/ 24th March 2000	0053554/ 27th March 2000	Observations: 1) Air quality-dry and dusty along site haul roads, 2) Water quality - manholes not covered, water not recycled, wastage of clean water.	CC212-0953/ 5th April 2000	0076889 / 28th April 2000	1) labour responsible to water haul road, 2) will endeavour to cover all manholes
			Non-Compliances; 1) Water quality - no site drainage installed, 2) Waste management - diesel drums not in drip trays.			1) site drainage can not be installed in nullah, 2) drip trays will be provided.
2	NC-00946-00/ 9th June 2000	0111285/ 14th June 2000	Observations; 1) Air quality - no water truck on site, 2) Waste management - wastage of fresh water directly to the nullah	CC0212-1977/14 th September 2000	0191910/19 th September 2000 Item 2) not acceptable by MCAL	
			Non-compliance: 1) Water quality - no site drainage, inadequate sediment facilities, 2) Water quality - discharge to nullah of high suspended solids water, 3) Water quality and Air quality - wheel wash at Siu Hong Court inadequate, 4) Waste management - diesel drums stored on the ground with no drip tray.			
3	NC-01133-00/ 7th July 2000	0134129/ 12th July 2000	Observations: 1) Air quality - truck bypassed wheel wash, no water truck on site, 2) Water quality - desilting pit at GL 15 requires further work.	CC0212-1550/ 19th July 2000		1) truck manually washed, water truck comment noted, 2) desilting pit cleaning out
			Non-compliance: 1) Water quality - discharge to nullah at GL S18			1) subcontractor in the process of procuring waste water treatment plant
4	NC-01357-00/11 th August 2000	0166989/21 st August 2000	Observations 1) Air quality – bentonite debagging in open, 2) Noise – power pack had doors open, 3) Water quality – desilting pit at GL 15 requires cleaning out, surface runoff to the nullah upstream of DSD pump station requires prevention.	CC0212-1867/29 th August 2000	0187506/14 th September 2000	1) no regulation requirement for bentonite debagging process, 2) education to close doors is required, 3) will be cleaned out, nothing can be done (DSD requirement)
			Non-compliance: 1) Water quality – discharge through desilting tanks to nullah at GL N22, 2) Water quality –			1) water treatment plant procured for the treatment of bored pile water, 2)

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
			discharge to nullah at GL 19 and S18			proper water management will be implemented
6	NC-01513-00-8 th September 2000	0193600/21 st September 2000	Observations 1) Air quality – water was not sprayed during concrete breaking works; 2) Water quality – GL14/15 wastewater accumulated in desilting pits, GL N16 wash water from cleaning footpath discharged to nullah, mud accumulated on site of nullah shoulder, contractor recommended to place sandbags along nullah at DSD pumping station; 3) Waste/Chemical Management – some diesel drums without drip trays Non-compliance: 1) Air quality – no wheel washing bay at the exit at North PTI.	CC212-2152-5 th October 2000	0209346/11 th October 2000	1) Educate site staff and sub-contractor; 2) pits cleaned out prior to water discharge, footpath water has been diverted to a catchment area, accumulation of mud from nullah water flow, sandbags will be placed along the nullah edge to catch wastewater; 3) Educate site staff and sub-contractor. 1) Wheel wash bay will be provided
7	NC-01744-00/13 th October 2000	0214314/17 th October 2000	Observations 1) Air quality – water was not sprayed during concrete breaking works; 2) Water quality- muddy water leaking through sandbags at Northern PTI, no sedimentation pit for wheel wash water; 3) Noise- four generators operating in parallel; 4) Construction waste-location of Lai Mei Ma Chau required Non-compliance: 1) Air quality – no wheel washing bay at the exit at Northern PTI	CC212-2329/28 th October 2000	0022663/31 st January 2001	1) Educate site staff and sub-contractor; 2) increase frequency inspections at the area to maintain the sandbags, wheel washing bay is being provided; 3) due to site constrain, generator will not moved; 4) endeavouring to provide this information 1) Wheel washing bay is being provided at the exit.
8	NC-01961-00/10 th November 2000	0238405/15 th November 2000	Observations 1) Air quality – water was not sprayed during concrete breaking works, street sweeper in operation; 2) Water quality – silty water leaked through sandbags at DSD pumping station, GLS18 mud accumulated in sediment pit in nullah, possible treat groundwater from pile cap excavations. Non-compliance: 1) Water quality – GL S5 mud accumulated in sediment pit and muddy water overflowed the pit.	CC0212-2557/22 nd November 2000	0252272/29 th November 2001	1) possible further awareness of site people will be carried out; 2) Increase frequency of inspections and clean out will be done, groundwater is clean – no treatment is needed. 1) pit to be inspected and cleaned out regularly.
9	N/A/8 th December 2000	0265280/14 th December 2000	Observations 1) Air quality – cover cement bags DL4, carry out debagging in enclosed area, 2) Water quality –	CC0212-2835/22 nd	N/A	1) Cement bags are stored under tarpaulin, debagging will be carried

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
			no wheel washing bay at North PTI exit, silty water flowed into nullah adjacent to DSD pump station (North PTI), pipe at bottom of wheel wash bay GL N28 possible problem with silty water discharge, 3) Chemical management – 2 diesel oil drum on ground, 4) No. FEP posted at GL N28 exit.	December 2000		out in enclosed area, 2) wheel washing will be carried manually, sandbags placed on the edge of low flow channel, hessian bags prevent wheel wash water being directly discharged, 3) drip trays will be provided, 4) FEP's to be posted.
10	NC02278-00/12 th January 2001	0020586/29 th January 2001	Observations: 1) Water quality – silty water was pumped from substructure pits through pipes to low flow channel, silty water leaked out from under hoarding at GL48, sediment pits at GL S5 and S18 filled with mud; 2) Chemical management-some diesel drums on bare soil.	CC0212-3072/15 th February 2001	0042484/23 rd February 2001	1) Water pumped out excavations was clean as it was underground water, appeared to be an isolated incident-additional inspections, pit cleaned out at least once per week; 2) drip trays to be provided where necessary.
11	NC-02450-00/16 th February 2001	0040076/21 st February 2001	Observations 1) Water quality-silty water was pumped from substructure pits through pipes to low flow channel; 2) Chemical management-several diesel drums on bare soil.	CC0212-3329/1 st March 2001	0052780/7 th March 2001	1) all water to be pumped onto nullah floor within cofferdam; 2) drip trays to be provided where necessary.
			Non-compliance: 1) Water quality-silty site runoff water flowed to DSD pumping station at Northern PTI; 2) Water quality-sediment pits at GL S5 and S18 were filled with mud.			1) no demarcation between site and nullah within this area-every effort will be made to prevent silty water entering nullah; 2) pits will be cleaned out when necessary.
12	N/A/9 th March 2001	005886/13 th March 2001	Observations 1) Water quality-Contractor was reminded to clean out mud adjacent to DSD pump station, 2) Air quality – some haul roads were dusty	CC0212-3492/1 st March 2001	0072603/27 th March 2001	1) mud adjacent to DSD pump station will be removed, 2) haul roads shall be sprayed whenever necessary
			Non-compliance: N/A			1) N/A
13	NC02726-00/6 th April 2001	0101428/ 3 rd May 2001	Observations 1) Air quality - reminded to provide watering when concrete breaking	CC0212-3772/8 th May 2001	0110106/14 th May 2001	1) concrete breaking activities to be sprayed with water wherever necessary
			Non-compliance: 1) Water quality - muddy water discharged near gridline no. 50			1) concrete blocks and pumps to be removed

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
14	NC-02894-00/11 th May 2001	0136730/12 th June 2001	Observations: 1)Water quality - sediment pit at GL S18 was filled with mud	CC0212-4069/11 th June 2001	0140816/15 th June 2001	1) sediment pits are cleaned out each week or nearly full
			Non-compliance: 1) Air qualait - no watering for dust suppression during concrete breaking near TM Hospital			1) concrete breaking activities to be sprayed with water wherever necessary
15	N/A/ 15 th June 2001	0140043/ 20 th June 2001	Observations: 1) Water quality - muddy water was observed flowing into the nullah near site office, 2) Water quality - sedimentation pit at GL S18 full of mud, 3) Water quality - pit to catch wheel wash water near DSD pump station full of silt, 4) Water quality orange water pumped out of excavation near TMS 2R	CC0212-4166/23 rd June 2001	0150620/ 28 th June 2001	1) muddy water is not from site, 2) sedimentation pits to be cleaned out more regularly especially during rain, 3) pit to be cleaned out more frequently, 4) discharge has ceased
			Non-compliance: Nil			1) Nil
16	NC-305100/ 20 th July 2001	0127989/ 26 th July 2001	Observations: 1) Water quality - sedimentation pit at GL S18 full of mud, 2) Water quality - pit to catch wheel wash water near DSD pump station full of mud/silt, 3) Chemical management - diesel drums put on bare soil opposite TM Hospital	CC0212-4394/ 31 st July 2001	0185358/ 10 th August 2001	1) due to heavy rains pits had become full, pits will be cleaned out when required, 2) pit to be cleaned out more frequently, 3) drip trays to be provided where necessary
			Non-compliance: 1) Air quality - no watering provided for concrete breaking works			1) concrete breaking activities to be sprayed with water
17	NC-03091-00/ 10 th August 2001	0188777/ 14 th August 2001	Observations: 1) Water quality - muddy water discharge from pile cap into nullah, 2) Chemical management- diesel drums on bare soil opposite TM Hospital, 3) Air quality - open stockpiles near TM Hospital	CC0212-4539/ 20 th August 2001	0197100/ 23 rd August 2001	1) water will be discharged through desilting facilities, 2) drip trays to be provided where necessary, 3) stockpiles to be removed or covered
			Non-compliance: 1) Air quality - no watering provided for concrete breaking works			1) concrete breaking activities to be sprayed with water
18	NC-03178-00/ 12 th September 2001	0217013/ 17 th September 2001	Observations: 1) Waste management - rubbish was observed accumulated outside TM Hospital, 2) Chemical management - water proffising agent on bare soil, 3) Air quality- section of haul road near TM Govt School was dry	CC0212-4810/ 22 nd September 2001	0024919/ 26 th September 2001	1) area was being vacated- rubbish/waste materials were in the process of being removed, 2) water proofing agent to be placed within building area to guard against spillage, 3) water truck to be used for all haul roads.
			Non-compliance: 1) Air quality - no dust suppression whilst concrete breaking in some areas			1) concrete breaking activities to be sprayed with water

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
19	N/A / 12 th October 2001	0239318 / 16 th October 2001	Observations: 1) Chemical Management – some diesel drums were found without drip tray at GL N22, 2) Water quality – two sediment pits at GL N17 were full of mud and sand	CC0212-5012 / 24 th October 2001	0250689 / 30 th October 2001	1) drip trays to be provided whenever necessary, 2) sediment pits are cleaned out weekly or whenever necessary
			Non – compliance: Nil			N/A
20	N/A / 9 th November 2001	0268871 / 20 th November 2001	Observations: 1) Chemical management – some drums of waterproofing agent found without drip tray at GL N25 and at various locations. 2) Water quality – two sediment pits at GL N17 were full of mud and sand	N/A	N/A	1) drip trays to be provided wherever necessary, 2) sediment pits cleaned out
			Non-compliance: Nil			N/A
21	NC-035050-00 / 7 th December 2001	02686542 / 11 th December 2001	Observations: 1) Chemical management – no drip trays under the oil drums placed outside Siu Hong Station. 2) no relevant FEP/CNP was posted at the site entrance at Siu Hong Road.	N/A	N/A	1) drip trays to be provided wherever necessary, 2) relevant FEP/CNP to be posted at site entrances and exits.
			Non-compliance: Trucks running along the channel outside Tuen Mun Hospital. Water becomes muddy while taking samples at D10.			CC0212-5388 18 th December 2001
22	NC-03651-00 / 15 th January 2002	0006657 / 17 th January 2002	Observations: 1) Chemical management – oil drums at GL18 found without drip tray, 2) Permits – relevant FEP/CNP not posted at site entrance Siu Hong Road, 3) Waste management – rubbish observed along access beside station, 4) Water quality – trucks running within the nullah, 5) Water quality – excavator within the nullah near red bridge	CC0212-5719 31 st January 2002	0041325 22 nd February 2002	1) drips trays to be provided whenever necessary, 2) permits to be posted, 3) rubbish is removed when necessary, 4) trucks running in nullah is noted, 5) excavator not part of JV works
			Non-compliance: 1) Concrete waste dumped within the nullah outside TM Hospital			1) Waste to be removed and no further dumping permitted

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
23	N/A / 8 th February 2002	0035844 / 15 th February 2002	Observations: 1) Chemical management – some red brown water mixture found near GL S31, 2) Chemical management – reminded to fill generators properly, 3) Water quality – advised to limit trucks running within the nullah, 4) Air quality – reminded to keep ramp into SH triangle clear of dust and mud	CC0212-5862 / 23 rd February 2002		1) mixture cleaned up, 2) conveyed to supervisors, 3) travel within nullah will be limited, 4) ramp excess to SH triangle area is cleaned frequently
			Non-compliance: Nil			N/A
24	N/A / 8 th March 2002	0057307 / 13 th March 2002	Observations: 1) Water quality – advised to limit trucks running within the nullah, 2) Observed discoloured soil by water proofing agent, advised to use drip tray	CC0212-6088 / 19 th March 2002		1) travel within nullah will be limited, 2) water proofing agent to be removed from site
			Non-compliance: Nil			N/A
25	N/A / 12 th April 2002	0085610 / 18 th April 2002	Observations: 1) Air quality/noise – advised to shut down plant when not in operation, 2) Air quality – reminded to provided water spraying at GL N30, 3) Chemical storage – need to property store chemicals	CC0212-6409 / 24 th April 2002		1) plant to be shut down when not in use, 2) water spraying shall be provided to dust producing activities, 3) chemicals to be placed in drip trays or inside the building
			Non-compliance: Nil			N/A
26	N/A / 10 th May 2002	0107342 / 15 th May 2002	Observations: 1) Contractor was reminded to resume water monitoring at U10B when sufficient flow, 2) Wheel washing at TM Hwy exit water needs to be treated before disposal, 3) Drip trays required under fluid containers at S21	CC0212-6616 / 22 nd May 2002		1) Comment noted, 2) a bunded area shall be made for wheel washing activities, 3) no requirements but drip trays may be provided or fluid containers to be placed inside the building
			Non-compliance: Nil			N/A
27	N/A / 7 th June 2002	0131061 / 14 th June 2002	Observations: 1) some materials accumulated in river near TM Hwy exit, 2) NEL inspected for a/c, 3) reminded to clean up sand bags at TMGPS HVAS	CC0212-6835 / 22 nd June 2002		1) materials to be removed when tide permits, 2) noted, 3) sand bags to be made good at TMGPS
			Non-compliance: Nil			N/A
28	N/A / 4 th July 2002	0154463 / 16 th July 2002	Observations: 1) CNP inspected at SH triangle, 2) materials cleared from river near TM Hwy	N/A		N/A
			Non-compliance: Nil			N/A

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
29	N/A / 16 th August 2002	0181324 / 20 th August 2002	Observations: 1) Dumping records inspected, 2) muddy water was observed in the nullah, source unknown	N/A		N/A
			Non-compliance: Nil			N/A
30	N/A / 13 th September 2002	0201747 / 17 th September 2002	Observations: 1) reminded to control water quality impacts during dry season, 2) access road was damp, no air dust emission impacts	N/A		N/A
			Non-compliance: Nil			N/A
31	N/A / 11 th October 2002	0221923 / 17 th October 2002	Observations: 1) reminded to suppress dust on haul haul roads – TM Hosp. SH triangle, 2) reminded to keep site tidy	N/A		N/A
			Non-compliance: Nil			N/A
32	N/A. / 15 th November 2002	0248202 / 21 st November 2002	Observations: 1) reminded to provide water spray during loading, Excavation and concrete breaking ,2) observed cover during materials transportation, 3) haul road watering should be performed more frequently	CC0212-7896/ 29 th November 2002		1)water spray shall be provided during dust generating activities , 2) noted, 3) haul road should be watered mo
			Non-compliance: Nil			N/A
33	N/A / 13 th December 2002	0271727/ 27 th December 2002	Observations: 1) reminded to provide cover for stockpiles near TM Hospital, 2) compartment doors of air compressors should be closed	N/A	N/A	1) cover shall be provide to stockpiles, 2) air compressor doors to be closed when operating
			Non-compliance: Nil			N/A
34	N/A / 17 th January 2003	0222846 / 6 th February 2003	Observations: 1) haul road outside TM Hospital was dry and dusty	N/A	N/A	1) haul roads to be regularly watered
			Non-compliance: Nil			N/A
35	N/A 18 th February 2003	0034699 / 24 th February 2003	Observations: 1) water discharge from outfall at Tsing Lun Road was contaminated when flowing next to excavation area	N/A	N/A	1) more sandbags to be used to redirect flow
			Non-compliance: Nil			N/A

No.	Non-Compliance Record No. /Date	Letter Ref. / Date	Non-Compliances / Observations	Replied Letter Ref. / Date	MCAL Reply Ref. / Date	Actions Taken
36	N/A March 2003	0060353 / 1 st April 2003	Observations: 1) construction waste was not stored properly. 2) access road outside TM Hospital was dry	N/A	N/A	1) skips to be used for construction waste and removed when necessary. 2) haul roads to watered more frequently during dry and / or hot days.
			Non-compliance: Nil			N/A
37	N/A March 2003		Observations: 1) silty water directly discharged to the nullah after wheel washing adjacent to DSD pump house. 2) soil located on the shoulder of the nullah near exit onto TM Hwy (previous ramp to nullah).	N/A	N/A	1) desilting facilities to be constructed for the wheel wash water. 2) soil to be removed – tides permitting..
			Non-compliance: Nil			N/A

Appendix L Notification From EPD of Breaches of Regulations (or Possible Breaches of Regulations)

EPD Reference No.	Date of Breach (/Date of inspection)	Ordinance Breach	Construction Activity During Breach	Date of Received of test results and actual results	Date of Summons / Prosecution	Outcome
TW/1763-99	11 th November 1999*	311	Construction work not carried out in accordance with Air Pollution (control Construction) Dust Regulation	N/A	N/A	N/A
W7/000201	20th January 2000	358	Pre-drilling on west bank near CC212	24th February 2000, SS(1600mg/L), COD(<15mg/L)	19th July 2000/15 th September 2000/ 15 th December 2000	Adjourned to Feb 2001
	21st March 2000*	358	Surface water being directed to nullah with insufficient treatment	N/A	N/A	N/A
EP932/W7/16	22nd March 2000	358	Wastewater discharged to the nullah without proper treatment	29th April 2000, SS(13000mg/L), COD(200mg/L)	20 th Sep 00/18 th Oct 00	\$100,000 fine
	30th April 2000*	400	PME being used in contravention of CNP(equipment being used located outside permissible area)	N/A	No summon sent	N/A
	15 th September 2000*	358	Inadequate/no treatment to water discharged from site	N/A	N/A	N/A
	12 th , 18 th and 24 th of October 2000*	311	Dusty material found on road leading from site near Siu Hong bus terminus – Dark emission of smoke from PME near Tsing Chun Koon Staff Quarters	N/A	N/A	N/A
	15 th October 200	400	PME being used without valid CNP during restricted hours on Sunday	N/A	9 th May 2001	\$100,000 fine
	4 th November 2000	400	Concreting pile p86 Area 35 until 2am the next morning, 273m3 of concrete	NB: No "Record of Inspection" for this incident. Police came to site and reported the incident	30 th May 2001	\$100,000 fine
No summon received in December 2000						
(2) to EP941/P1/0005-00	8 th January 2001	400	PME being used not in accordance with valid CNP (mobile crane used during restricted hours)	N/A	11 th July 2001	\$50,000 fine
(3) to EP941/P1/0005-00	10 th January 2001	400	PME being used not in accordance with valid CNP (concreting during restricted hours)	N/A	11 th July 2001	\$50,000 fine

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EPD Reference No.	Date of Breach (/Date of inspection)	Ordinance Breach	Construction Activity During Breach	Date of Received of test results and actual results	Date of Summons / Prosecution	Outcome
(4) to EP941/P1/0005-00	1 st February 2001	400	PME being used not in accordance with valid CNP (concreting during restricted hours)	N/A	11 th July 2001	\$50,000 fine
EP3/N4/A91/T W/11 18-01	9 th August 2001	311	Smoke emission from generators at Yick Yuen Road (storage area site)	N/A	N/A	N/A
	26 th August 2001	400	PME being used not in accordance with valid CNP (car bender and circular saw in operation)	N/A		
	7 th September 2001	400	Workers were erecting the covered walkway at the SH triangle - EPD witnessed welding using power of generator from bridge over nulah	N/A		
	23 rd September 2001	400	Workers were carrying out safety access modification and tidying up work at Affluence Garden	EPD (Mr Wong) visited area and spoke to MW with respect to designated area		
EP94/P1/005-00	27 th October 2001	400	Concreting near Affluence Gardens until 1910 hours	Complainant reported incident to the Police. Police came to site to investigate		
No summons received in November 2001						
No summons received in December 2001						
EP941/P1/005-00	22 nd January 2002	358	Dewatering under the station area at approx. GL14	EPD took a water sample - ss = 1200mg/L, BH had interview with EPD on 9 th April 2002		
No summons received in February 2002						
No summons received in March 2002						
No summons received in April 2002						
TMS8232/2002 (Summons Case Nos.)	26 th May 2002	400	Electric breaker allegedly used within the station area on Sunday	Complainant reported incident to the Police, Police came to site to investigate, EPD to have interview with complainant	9 th October 2002 / 13 th November 2002	\$100,000 fine

EPD Reference No.	Date of Breach (/Date of inspection)	Ordinance Breach	Construction Activity During Breach	Date of Received of test results and actual results	Date of Summons / Prosecution	Outcome
No summon received in June 2002						
No summon received in July 2002						
	1 st August 2002	400	Moving 1 beams along supports for north PTI/north access ramp construction	EPD received complaint from Siu Hong Court residents about loud scraping noise	N/A	N/A
No notification of summons was received in September 2002						
No notification of summons was received in October 2002						
No notification of summons was received in November 2002						
No notification of summons was received in December 2002						
No notification of summons was received in January 2003						
No notification of summons was received in February 2003						
No notification of summons was received in March 2003						
EP932/W7/L16	2 nd April 2003	358	Washing from vehicle may discharge to storm drain without prior treatment	EPD received complaint from the public, regarding some dirty water being directed to Castle Peak Road opposite Brillaint Garden	N/A	N/A

Note: * Possible breaches of regulation. Notification of summons or prosecution was not issued from EPD.

Legend:

Air Pollution Control Ordinance – 311 Water Pollution Control Ordinance – 358 Noise Control Ordinance - 400