

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
October 2003

November 2003

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EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the sixteenth Monthly EM&A Report for the Sheung Shui to Lok Ma Chau Spur Line and includes the Monthly EM&A Reports for construction contracts LDB201, LCC202 and LCC300. This Report and all monitoring data collected under the EM&A Programme are available on the KCRC East Rail Extensions Environmental Monitoring and Audit Website at www.env-ere.kcrc.com.

LDB201 Sheung Shui to Chau Tau Tunnels

The construction works for LDB201 commenced in late November 2002. This report presents the EM&A findings in the period from 26 September to 25 October 2003. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Installation of pumping station gantry, pump installation in pumping station, associated E&M work in pumping station, P2 barrier construction and hoarding installation along San Wan Road, platform trimming works at Sheung Shui KCRC Station, construction of loading bay extension at San Wan Road, and remaining works between interim downtrack and existing uptrack;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): sheet piling work for cofferdam construction;
- TBM Works area: Tunnel boring and lining;
- East EAP (EAP 2): Diaphragm wall grouting and testing;
- West EAP (EAP 5): Diaphragm wall construction;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, backfilling around retaining wall and KTU base slab construction; and
- West Approach Area: site clearance, temporary LMC road construction, temporary steel bridge construction, diaphragm wall construction, tree felling, temporary access construction to village and excavation inside cofferdam.

LDB201 has undertaken the routine monitoring works at these monitoring locations: AM1, AM2 and AM3 for air quality, NM1, NM1A, NM2, NM3, NM4, NM5, NM6, NM7, NM8, NM9, NM10, NM11 and NM12 for noise, and URS, SR1, URB, RB1, UCTC and CTC1 for water quality, in this reporting month. Hydrological monitoring at Gates 1, 2, 3 and 4, and water quality monitoring at LVW1, LVW2, LVW3, LVW4, LVW5, LVS1 and LVS2 in Long Valley was also started when TBM was passing under Long Valley.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring locations. An action level exceedance of 24-hour TSP was recorded at AM1 and AM2 on 22 October. As all major works within the launching shaft area were underground and the soil from the tunnel was in wet condition, the exceedance at AM1 is unlikely due to the works of LDB201. However the proper implementation of dust control measures at Kwu Tung site where excavation works were being undertaken, to minimise the dust impact on AM2 is necessary.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring locations. There was no exceedance recorded in the reporting month.

Water quality monitoring was conducted at the identified water quality monitoring locations. A limit level exceedance of suspended solids (SS) was recorded at RB1 On 3 October. Further to the inspections conducted by the Contractor's ET Leader, it is likely that the potential cause of the exceedances was due to natural variation and was not related to LDB201 on site activities.

The excavated spoil was mainly generated from the pumping station in San Wan Road, diaphragm wall construction at East EAP, excavation works at Future Kwu Tung station and West Extraction Shaft. These C&D waste disposed of to Kai Tak Public Filling Barging Point, the works area under the EPD's Project of Development and Management of NENT Landfill, DSD's project of the construction of San Tin Eastern Main Drainage Channel, the construction of Pok Wai Drainage Channel and KCRC ERE LCC202 – West Section Alignment and Associated Works. All the disposal and transportation of waste were recorded under the trip ticket system.

No prosecution and complaint were received during the reporting month. However two yellow notices were received. The first one is related to the spillage of ground treatment at River Sutlej. In response to the notice, investigation has been conducted and immediate actions were taken to avoid further spillage by trapping with sandbags and cleaning up the area at once. The condition will be closely monitored to avoid any spillage getting into the dry weather flow channel. The second notice was that a gap was found along the noise barrier along Kwu Tung Works Area. According to the EP requirement, the noise barrier should be gap-free. However the gap is reserved for the access of the villages under the contract requirement. The Contractor is preparing an application for the variation of their FEP to EPD for their approval.

Weekly site inspections were carried out by the CET and an IEC monthly site audit was conducted on 29 October 2003. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the observations raised by the contractor's ET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include watering of the access road to TBM workshop, and cleaning up of drainage channels, covering of stockpiles. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

LCC202 West Section Alignment and Associated Works

The commencement date for LCC202 started on 26 March 2003. This report presents the EM&A works during the period from 26 September to 25 October 2003. Within this reporting month, the major construction works include pre-bored H-piling at P3, pre-bore drilling at W24-37 and W40-49, bored piling at P3, W24-37, W38-57 and W40-49, column construction at W50-60 as well as pile cap construction at W24-37, W40-49 and W50-57. No works has been conducted during restricted hours.

LCC202 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM15 for noise, and FP1, FP2, USRT and STR1 for water quality, in this reporting month.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring location. No exceedance was recorded at the monitoring locations in this reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring location. There was no exceedance recorded in the reporting month.

Water monitoring was undertaken at one upstream station USTR, one downstream monitoring location STR1 at San Tin River, and two selected fishponds, namely, FP1 and FP2. Exceedances on DO, pH value, and turbidity were recorded in this reporting month. The Contractor's ET Leader has undertaken site investigations on the cause of the exceedances. Further to the site investigations, the exceedances are likely due to natural variation and other constructor's works conducted in the vicinity of the sampling locations. Moreover the nature of the monitoring locations were substantially changed comparing with the baseline monitoring period. The Contractor is preparing a proposal for revising the water quality monitoring programme. The proposal will be reviewed by the Engineer and IEC before submission to EPD for approval.

There were about 708m³ of reusable excavated material transported from LCC202 site to LFCC007 in the reporting month. General refuse was collected by licensed collector for disposal. All the disposal and transportation of waste were recorded under the trip ticket system.

No notification of summons and complaint was received during the reporting month.

The ET Leader has carried out weekly site inspections and an IEC monthly site audit has been conducted on 30 October 2003. In response to the non-compliance and the observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures include the removal of silt from box culvert, cleaning up of general refuse, cleaning up of oily water in drip tray, providing drip trays to oil drums, deploying water bowser, cleaning up of oil spillage, desilting of sump pit, the provision of additional wastewater treatment system, proper arrangement of C&D waste disposal, monitoring of the operation of the drainage system, reminding the drivers to wash concrete lorry at designated area, the disposal of excavated material to Government approved public filling area, closing the door of generator. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

LCC300 Lok Ma Chau Station and Associated Works

The EM&A programme for LCC300 commenced in mid-December 2002. This report summarises the EM&A works conducted during the period from 26 September to 25 October. During the reporting month the principal work activities include earth-filling, operation of the western channel outfall, site investigation, bored piling, substructure at terminus site, tree pruning and felling, trench excavation and road diversion along EVA route. Pipe-pile work construction and installation of noise barrier along Lok Ma Chau Road were also commenced during the reporting month.

LCC300 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM13, NM14 and NM15 for noise, and USRT and STR1 for water quality, in this reporting month. As FP3 is filled, alternative water quality monitoring location, namely WQBBL1, was identified to replace F3. Preparation works for the water quality monitoring works are undertaken and actual monitoring is not started yet.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring location. No exceedance was recorded at the monitoring locations in this reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring locations. There was no exceedance recorded in the reporting month.

Water quality monitoring was conducted at one upstream station USTR, one downstream monitoring location STR1 at San Tin River. There were action/limit levels exceedances of pH value, SS, recorded during the reporting month. However further to the site inspection of the Contractor's ET Leader, there was no LCC300 construction activity undertaken in proximity to the monitoring locations. It is unlikely that the exceedances are related to LCC300 construction works. Natural fluctuation and the impact from adjacent contractor's works are possible causes of the exceedances.

Small amount of general refuse and C&D materials were generated during the reporting month. They were transferred to landfill by licensed collector. Garbage and general refuse were collected in a large skip on site and was transferred to landfill. Recycling of used paper is undertaken.

No notification of summons was received during the reporting month. However two complaints were received from EPD regarding the construction dust emission reported by local residents. Follow-up investigation has been undertaken and the possible cause is the dust generated from dump truck without proper covering and wheel washing was not implemented properly. Preventive action has been undertaken immediately to notify all the subcontractors to secure the covering of dust material and proper washing of wheels before leaving the site.

ET Leader and the Engineer have conducted regular site inspections and the IEC has conducted a monthly site audit on 29 October during the reporting month. In response to the observations raised by the Contractor's ET Leader the non-compliance and observations raised by the IEC, these resulted in the improvements including installation of wastewater collection channel for pipe-pile wall area, proper dosing of chemical and desilting of sedimentation system, proper storage of C&D waste, and enhancing water bowing in terminus area. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

1 Introduction

Hyder has been commissioned by KCRC as the IEC for the East Rail Extensions, which include the Ma On Shan to Tai Wai Rail, the Hung Hom to Tsim Sha Tsui Extension and the Lok Ma Chau Spur Line. A requirement of the Contract is for the IEC to prepare a combined EM&A Report on a monthly basis for each of the above rail lines. The combined report combines the Monthly EM&A Reports for each of the construction contracts within each rail line. This Report (in HTML format) is the sixteenth IEC Monthly EM&A Report for the Sheung Shui to Lok Ma Chau Spur Line and includes the Monthly EM&A Reports for construction contracts LDB201, LCC202 and LCC300 and a summary of the reports. It also includes a brief summary of the IEC Site Audits and information supplied by KCRC on Public Consultation activities.

2 IEC monthly site audits

IEC monthly site audits were conducted on 29 October for LDB201 and LCC300, and 30 October for LCC202. Non-compliances and observations issued by the IEC are based on the requirements of KCRC's Environmental Management System.

2.1 Contract LDB201

The IEC site audit for LDB201 was undertaken on 29 October. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Installation of pumping station gantry, pump installation in pumping station, associated E&M work in pumping station, P2 barrier construction and hoarding installation along San Wan Road, platform trimming works at Sheung Shui KCRC Station, construction of loading bay extension at San Wan Road, and remaining works between interim downtrack and existing uptrack;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): sheet piling work for cofferdam construction;
- TBM Works area: Tunnel boring and lining;
- East EAP (EAP 2): Diaphragm wall grouting and testing;
- West EAP (EAP 5): Diaphragm wall construction;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, backfilling around retaining wall and KTU base slab construction; and

- West Approach Area: site clearance, temporary LMC road construction, temporary steel bridge construction, diaphragm wall construction, tree felling, temporary access construction to village and excavation inside cofferdam.

LDB201 has undertaken the routine monitoring works at these monitoring locations:

An observation has been raised during the site audit:

Observations:

West Tunnel Approach and Kwu Tung

1. Perimeter channels were full of silt. More frequent cleaning is necessary.

As a result of the observation raised by the IEC, the contractor will remind the site representative of each works area to clean up the perimeter channels more frequently. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

2.2 Contract LCC202

The IEC site audit for LCC202 was undertaken on 30 October. The major construction works include pre-bored H-piling at P3, pre-bore drilling at W24-37 and W40-49, bored piling at P3, W24-37, W38-57 and W40-49, column construction at W50-60 as well as pile cap construction at W24-37, W40-49 and W50-57. One non-compliance and six observations have been raised during the site audit:

Non-compliance

Pier W32

1. C&D waste (i.e. demolished village house) should be properly disposed of or temporary stored at designated area according to the WMP.

Observation

Area P3

2. The perimeter channel near the wheel washing facilities and the sump pits were full of silt. More frequent removal of silt is necessary.

Pier W26-W27

3. Stagnant water near the car park should be removed as soon as possible.

Temporary Access Road

4. Drip tray should be provided to every diesel drum / chemical container.
5. Door of generator should be closed all the time.

Ha Wan Tsuen

6. Residue of concrete washing water was observed on site. All concrete lorry drivers should be instructed to wash their lorries at designated washing area.
7. The use of fish pond for temporary storage of stockpile should be avoided.

As a result of the observation raised by the IEC, the contractor proposed mitigation measures including the removal of silt from box culvert, cleaning up of general refuse, cleaning up of oily water in drip tray, providing drip trays to oil drums, proper arrangement of C&D waste disposal, monitoring of the operation of the drainage system, the disposal of excavated material to Government approved public filling area, closing the door of generator. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

2.3 Contract LCC300

The IEC site audit was conducted on 29 October. The major construction works include earth-filling, operation of the western channel outfall, site investigation, bored piling, substructure at terminus site, tree pruning and felling, trench excavation and road diversion along EVA route. Pipe-pile work construction and installation of noise barrier along Lok Ma Chau Road were also commenced during the reporting month. Three observations have been raised during the site audit:

Observations

EVA and Main Site Area

1. Dusty ground was observed. More frequent watering is necessary.

Main Site – near the discharge point

2. Drip tray for a diesel drum was missing.

EVA

3. The stockpile should be removed from the open area as soon as possible.

In response to the NCs and observations raised by the IEC, the Contractor has proposed some improvement measures including installation of wastewater collection channel for pipe-pile wall area, proper dosing of chemical and desilting of sedimentation system, proper storage of C&D waste, and enhancing water bowing in terminus area. The implementation and effectiveness of the measures will be assessed and verified during the next site audit.

3 Public Consultation

No public consultation was conducted in the reporting month.

