

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
July 2004

August 2004

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EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the twenty-fifth 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.

Further to the application of Variation of Environmental Permit (VEP) in December 2003, the Environmental Permit No. EP-129/2002/B was issued on 15 January 2004.

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 June to 25 July 2004. The main construction activities undertaken during the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Backfilling and remaining structure for 900mm diameter watermain diversion stage 2, predrilling of mini piles for retaining wall RW1 and RW5, constructing retaining wall from CH30+200 to CH30+600;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Construction of blinding layer and waterproofing for base slab from Bay 10 to Bay 17 for tunnel boxes C1 and B, drilling pre-bore H-pile and construction of hoarding for San Wan Road Footbridge, waterproofing of base slab and wall of sump pit at tunnel box E, construction of cut and cover tunnel box D base slab and pile cap of S.V.B.P.;
- TBM Works area: Dismantling, transporting and re-assembly of TBM;
- East EAP (EAP 2): Rock excavation and rock dowel installation and shotcrete spraying;
- West EAP (EAP 5): Excavation to formation level -14.02/-14.72/-15.82mPD, installation of 7th layer waling and strutting, installation of 8th layer waling and strutting completed;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box column and middle roof slab construction, cut & cover box north wall construction, Ho Sheung Heung Road utilities diversion; and
- West Approach Area: Excavation and lateral support of cofferdam at boxes B & C1, construction of tunnel box at boxes A & C, CTVB lower plant room and temporary working platform for TBM extraction.

LDB201 conducted the routine monitoring works at these monitoring locations: AM1, AM2 and AM3 for air quality, NM1, 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, during this reporting month.

24-hour 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. One

action level exceedance of 24-hour TSP was recorded during the reporting month. The exceedance was likely due to the hazy weather during the monitoring period.

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 during the reporting month.

Water quality monitoring was conducted at the identified water quality monitoring locations. There was no exceedance recorded during the reporting month.

The excavated spoil was mainly generated from the shaft excavation at East EAP, West EAP, jet grouting works at Cross Passages and excavation at both East and West Cut & Cover Tunnels. These excavated spoils were disposed of to Kai Tak Public Filling Barging Point and Tuen Mun Area 38. Some of the excavated spoils were transferred to alternative sites for reuse including the works area under the EPD's Project of Development and Management of WENT Landfill, and DSD Contract DC/2002/06 – Construction of the Yuen Long Bypass Floodway. All the disposal and transportation of waste were recorded under the four-page trip ticket system. Delivery and arrival time of the trucks were also recorded.

No warning or prosecution was received during the reporting month. One complaint from public was received regarding the noise nuisance from the concrete breaking at the works area near the Access No. 1 adjacent to Choi Po Court. Ad hoc noise measurement was undertaken and the noise level was complied with the noise limit of 75dB(A). Nevertheless, Contractor reported that breakers were installed with additional mufflers to minimise the noise nuisance.

There were weekly site inspections carried out by the CET Leader and an IEC monthly site audit on 13 July. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the non-compliance and the observations raised by the CET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include cleaning up the surface channel regularly, watering of concrete breaking works, cleaning up of sedimentation tank, maintaining weekly site inspection, hydorseeding of stockpile, cleaning up of oil stain, undertaking site inspections after raining to avoid water trapping, draining rain water from drip trays, and monitoring the operation of the sedimentation system closely. 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 25 June to 24 July 2004. During the reporting month, the major construction works included ground beam construction and ramp wall construction at P3, viaduct erection at W34-53, column construction at W24-49 and W61-66 as well as parapet erection at W55-60.

LCC202 conducted the routine monitoring works at these monitoring locations: AM4 for air quality, and NM15 for noise in this reporting month. Water monitoring was not undertaken at USTR and STR1 at San Tin River in the reporting month. As the section of San Tin River where the water monitoring locations were temporarily rendered for New Boundary Bridge (NBB) construction works, the water monitoring at the River was suspended during the monitoring period. As FP1 and FP2 were maintained dry to

satisfy DSD flood storage criteria and FP3 was already filled for reedbed construction, no water quality monitoring was conducted at these locations.

24-hour 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. There was no exceedance recorded during the 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 during the reporting month.

About 648m³ of excavated material were delivered to the Government public fill barging point and about 132m³ were reused on Contract LFCC-007 for filling. About 45m³ of general refuse was collected by a licensed collector for disposal during the reporting month. All the disposal and transportation of waste were recorded under a trip ticket system.

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

The CET Leader carried out weekly site inspections and an IEC monthly site audit was conducted on 15 July. In response to the observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures including removing wooden planks, spraying larvicide, cleaning up of general refuse, and providing more frequent water spraying. 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 June to 25 July 2004. During the reporting month, the principal work activities included earth works for surcharge areas in terminus and along station access road, construction of superstructure works at station and immigration hall, electrical/mechanical works inside the station area, western drainage channel diversion, temporary works for the construction of permanent sewage treatment plant, pile testing and coring, the construction of retaining structure of Ha Wan Channel bridge and station access road, trench excavation for utility works along the station access road. In accordance with the new EP conditions, acoustic panels as specified in the Construction Noise Impact Assessment report under the EP should be provided. The installation of the acoustic panels was commenced in early February 2004.

LCC300 conducted the routine monitoring works at these monitoring locations: AM4 for air quality, NM13, NM14 and NM15 for noise, and two alternative water quality monitoring locations, namely, FPBBL1 and FPBBL2 for water quality, in July 2004. As FP3 was filled and no construction works of this contract is likely to affect San Tin River, these alternative water quality monitoring locations which are located to the south of the terminus site were identified to replace FP3, STR1 and USTR. The proposal of the alternative water quality monitoring location was accepted by EPD.

24-hour 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. One action level exceedance of 24-hour TSP was recorded during the reporting month. It was likely due to the hazy weather and dusty works from other contracts nearby.

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 during the reporting month.

Water quality monitoring was conducted at the approved alternative monitoring locations. The action and limit levels were under review. Fluctuation of pH values was recorded at the fish ponds. It was likely due to the natural variation and pH conditioning undertaken by Contract LFCC-007 wetland enhancement works.

204m³ of inert C&D materials were disposed of to Public Filling Barging Point at Kai Tak and 96m³ of non-inert C&D materials were disposed of to NENT landfill. Recycling of used paper, and the reuse of aluminium cans and plastic bottles were implemented on site. The aluminium cans and plastic bottles were reused for capping the steel bars for the sake of safety. 3,826m³ of inert C&D materials were imported from LDB201 for reuse.

One notification of prosecution and one complaint were received during the reporting month. The notification of prosecution was issued by EPD on 27 June 2004. This was related to the operation of PME without a valid construction noise permit (CNP) during the restricted hours. In order to ensure that such kind of incident will not happen again, specific workshop will be organised on Saturdays and the day before public holiday to remind site staff of the CNP requirements. The complaint through KCRC on 26 June 2004 was raised by a local fishpond owner regarding the muddy water being discharged from Lok Ma Chau Road into a private fishpond in Lok Ma Chau village. The discharge pipe was immediately disconnected and wastewater was diverted to an sedimentation tank.

The CET Leader and the Engineer conducted regular site inspections and the IEC conducted a monthly site audit on 14 July. In response to the non-compliance and the observations raised by the IEC during the site audit, the Contractor has instigated an action plan to rectify the inadequacies. The remedial actions included covering of truck before leaving the site, lining sand bags to protect the drain, installing acoustic panels on the excavator, enhancing the sedimentation tank capacity and adding proper dosage of flocculants, cleaning up of soil deposited on roads, covering the stockpiles and watering dusty ground. 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 twenty-fifth 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. Non-compliances and observations issued by the IEC are based on the requirements of KCRC's Environmental Management System.

2 IEC monthly site audits

IEC monthly site audits were conducted for LDB201 on 13 July, LCC202 on 15 July, and LCC300 on 14 July. Special concern on the mosquito control was expressed during the site audits. All three contracts have implemented mosquito control measures and recorded the implementation status. The environmental performance of each Contract was maintained at an acceptable level in general.

2.1 Contract LDB201

The IEC site audit for LDB201 was undertaken on 13 July. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Backfilling and remaining structure for 900mm diameter watermain diversion stage 2, predrilling of mini piles for retaining wall RW1 and RW5, constructing retaining wall from CH30+200 to CH30+600;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Construction of blinding layer and waterproofing for base slab from Bay 10 to Bay 17 for tunnel boxes C1 and B, drilling pre-bore H-pile and construction of hoarding for San Wan Road Footbridge, waterproofing of base slab and wall of sump pit at tunnel box E, construction of cut and cover tunnel box D base slab and pile cap of S.V.B.P.;
- TBM Works area: Dismantling, transporting and re-assembly of TBM;
- East EAP (EAP 2): Rock excavation and rock dowel installation and shotcrete spraying;

- West EAP (EAP 5): Excavation to formation level -14.02/-14.72/-15.82mPD, installation of 7th layer waling and strutting, installation of 8th layer waling and strutting completed;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box column and middle roof slab construction, cut & cover box north wall construction, Ho Sheung Heung Road utilities diversion; and
- West Approach Area: Excavation and lateral support of cofferdam at boxes B & C1, construction of tunnel box at boxes A & C, CTVB lower plant room and temporary working platform for TBM extraction.

Environmental permits, licences and records including the trip-ticket system were inspected. One NC and eight observations were raised during the site audit:

Non compliance

West Tunnel Approach

1. The water quality in the sedimentation tank was not acceptable to be discharged to the nearby water channel. However discharge of the silty water was observed.

Observations

East Approach - Access No. 3

2. The surface channel at the site exit was blocked. It is likely that washing water cannot be directed to the sedimentation system through the surface channel.

East Approach - Access No. 2

3. Dusty breaking activities were observed.
4. Surface channel near the wheel washing bay containing soil was observed.

West Tunnel Approach

5. Oil spillage was observed at Area P3.
6. Stagnant water was trapped on the cover sheets for construction materials.

CP11

7. Drip tray was accumulated with rainwater. Inspection should be carried out after the rain.

Kwu Tung

8. Mosquito was observed near the KCRC Inspector office.
9. The outer side of the stockpile was hydroseeded. However the inner excavated side was not covered or hydroseeded. Stockpile not in active use should be covered or hydroseeded.

As a result of the non-compliance and observations raised by the IEC the contractor has proposed some mitigation measures which include cleaning up the surface channel regularly, watering concrete breaking works, cleaning up of sedimentation tank, maintaining weekly site inspection, hydorseeding of stockpile, cleaning up of oil stain, undertaking site inspections after raining to avoid water trapping, draining rain water from drip trays, and monitoring the operation of the sedimentation system closely. 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 15 July 2004. The major construction works include ground beam construction and ramp wall construction at P3, viaduct erection at W34-53, column construction at W24-49 and W61-66 as well as parapet erection at W55-60.

Environmental permits, licences and records including the trip-ticket system were inspected. Two observations were raised during the site audit:

Observations

All areas (especially under the viaduct)

1. Dusty ground and haul road were dry at some areas.

Under the viaduct near Ha Wan Tsuen (e.g. W57)

2. Rubbish was observed. Proper cleaning up and instructions to workers should be given.

As a result of the observation raised by the IEC, the contractor has proposed to clean up the general refuse and apply water spraying more frequently. 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 14 July 2004. The major construction works include earth works for surcharge areas in terminus and along station access road, construction of superstructure works at station and immigration hall, electrical/mechanical works inside the station area, western drainage channel diversion, temporary works for the construction of permanent sewage treatment plant, pile testing and coring, the construction of retaining structure of Ha Wan Channel bridge and station access road, trench excavation for utility works along the station access road.

Environmental permits, licences and records including the trip-ticket system were inspected. One non-compliance and six observations were raised during the site audit:

Non-compliance

Terminus Site

1. A truck with full load of sand was not covered when it was going outside the site.

Observations

Lok Ma Chau Road - Area B (CH800)

2. Water in the sedimentation tank was silty.

Lok Ma Chau Road - Opposite to Police Check Point (CH880)

3. More sandbags should be provided to protect the drain.

Lok Ma Chau Road (CH800)

4. An acoustic panel for an excavator was missing. The PME should be checked and equipped with all necessary acoustic panels as required before operating.

CH1500

5. Stockpiles were not covered.

Terminus site

6. Dusty ground was observed near the entrance gate of the site office (roundabout).

Station access road (CH1100-1200) (Area B)

7. Soil deposited on road was observed

In response to the non-compliance and the observations raised by the IEC, the Contractor has proposed some improvement measures including covering of truck before leaving the site, lining sand bags to protect the drain, installing acoustic panels on the excavator, enhancing the sedimentation tank capacity and adding proper dosage of flocculants, cleaning up soil deposited on roads, covering the stockpiles and watering dusty ground. The implementation and effectiveness of these measures will be assessed and verified during the next site audit.

3 Public Consultation

There was no public consultation meeting held in July 2004. However there were meetings and site inspections related to environmental issues held in this reporting month. The 7th Environmental Committee was held on 27 July 2004. There were also several site meetings and joint site inspections with the villagers in Lok Ma Chau regarding the mosquito control, traffic arrangements, noise barrier and fung shui issues in July 2004.