

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
October 2004

November 2004

Report no: EA00761/R161/1



Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report – October 2004

Author: Claudine Lee

Checker: Sharifah Or

Approver: Gui Yi Li

Report no: EA00761/R161/1

Date: November 2004

This report has been prepared for Kowloon-Canton Railway Corporation in accordance with the terms and conditions of appointment for KCRC East Rail Extensions Sheung Shui to Lok Ma Chau Spur Line dated March 2001. Hyder Consulting Limited (COI number 126012) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.



Contents

Executive Summary	1
1 Introduction	5
2 IEC monthly site audits	5
2.1 Contract LDB201	5
2.2 Contract LCC202	6
2.3 Contract LCC300	7
3 Public Consultation	8

Appendix 1

LDB201 Sheung Shui to Chau Tau Tunnels Monthly EM&A Report

Appendix 2

LCC202 West Section Alignment and Associated Works Monthly EM&A Report

Appendix 3

LCC300 Lok Ma Chau Station and Associated Works Monthly EM&A Report

EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the twenty-eighth 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 2004. The main construction activities undertaken during the reporting month include:

- East Approach Area – Drilling, grouting and load testing of H-piles of San Wan Road footbridge, excavation of caps and ramp, Drilling and grouting of mini piles for retaining wall RW1 and RW5, Construction of retaining wall RW1 mini pile section, Construction of retaining wall of RW2, Construction of permanent surface drainage of ER up track, Track formation of permanent on grade track;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Construction of wall and base slab at Launching Shaft area, Construction of remaining tunnel wall and roof slab up track and down track of tunnel Box E and application of waterproofing at tunnel walls, Construction of tunnel walls, roof slab and application of waterproofing, installation of permanent track drainage in Box D, Construction of tunnel wall, roof slab and waterproofing Box C1 & B, Excavation of box C2 and strutting installation, Construction of walls and waterproofing for Tunnel Box A;
- TBM Works area: Tunnel boring and lining, Regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation for shaft and adits;
- West EAP (EAP 5): Substructure construction suspended due to design change, Grouting of holes;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box down track roof slab construction, Cut & cover box north wall construction, EAP 3 & 4 construction, Ho Sheung Heung Road utilities diversion; and
- West Approach Area: Construct material storage yard at Area B, Construct tunnel box at TBM shaft, Box A0, B & C1, Construct CTVB superstructure and retaining wall, Reinstate existing utilities, install new water pipe, new utilities and drainage work in LMC road, Sand backfilling to Box B, C & C1, Extract sheet pile at Box C1 & E, Install sheet pile at Box E, Excavation and lateral support at Box E, Replace marine mud by sand at Box E.

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-hour TSP monitoring were conducted once every six days at the monitoring locations.

There were a total of five action level exceedances on 1-hour TSP and 24-hour TSP recorded during the reporting month. These exceedances were likely due to the hazy weather.

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 an exceedance of SS content recorded during the reporting month. The investigation found that there was no improper discharge from the construction works. The exceedance was likely due to natural variation.

The excavated spoil was mainly generated from the shaft excavation at East EAP, excavation at both East Approach and West Approach Cut & Cover Tunnels and tunnel excavation using TBM. 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, prosecution or complaint was received during the reporting month.

There were weekly site inspections carried out by the CET Leader and an IEC monthly site audit on 14 October. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the observations raised by the CET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include sealing hoarding skirt, watering of material before handling, increase the frequency of water spraying, and covering the 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 25 September to 24 October 2004. During the reporting month, the major construction works included open cut excavation, ground beam construction and ramp wall construction at P3, cofferdams construction, buildings and staircase foundations at EAP7, and column, T-piers and portal construction at W61-66.

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, in where the water monitoring locations locate, were temporarily rendered for New Boundary Bridge Crossing (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-hour 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 119m³ of excavated materials were delivered to the Government public fill barging point. A total of 3,234m³ of excavated materials were delivered to DSD Contract DC/2001/09 and CEDD Contract YL/53/02 and ST 77/01 for reuse. About 119m³ 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 27 October. In response to the NC and observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures including protecting the storm drain, cleaning up soil on public road, liaison meeting with nearby contractor, increase the frequency of water spraying on dry and dusty ground, and reminding site staff to mobilise equipment with care in order not to damage trees. 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 2004. During the reporting month, the principal work activities included minor earthworks for surcharge maintenance in terminus and along station access road, construction of superstructure works at station and immigration hall, electrical/mechanical works and fitting-out work inside the station area, the construction of permanent sewage treatment plant and overrun rail-track, the construction of retaining structure of Ha Wan Channel bridge, trench excavation for utility works along the station access road. In accordance with the 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, and NM13, NM14 and NM15 for noise in October 2004. Water quality impact on the monitoring locations, FPBBL1 and FPBBL2, were found insignificant and the monitoring works were suspended starting from this reporting month. The site condition will be reviewed and the monitoring work will be resumed if necessary.

24-hour TSP monitoring was conducted once every six days and three sets of 1-hour 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.

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.

1,263m³ of inert C&D materials were disposed of to Public Filling Barging Point at Kai Tak, 211m³ of inert C&D materials were reused at LDB201 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.

No notification of summons or prosecution was received.

The CET Leader and the Engineer conducted regular site inspections and the IEC conducted a monthly site audit on 13 October. In response to the observations raised by the IEC, the Contractor has instigated an action plan to rectify the inadequacies. The remedial actions included improving the paving of main haul road, reviewing the routing and frequency of water bowser, enhancing manual water spraying, pumping out stagnant water, maintaining regular sweeping, watering of waste materials before loading/unloading, proper storage of chemical, cleaning oil spill and reviewing the staff arrangement on housekeeping. 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-eighth 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 14 October, LCC202 on 27 October and LCC300 on 13 October. 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 14 October. The main construction activities undertaken in the reporting month include:

- East Approach Area – Drilling, grouting and load testing of H-piles of San Wan Road footbridge, excavation of caps and ramp, Drilling and grouting of mini piles for retaining wall RW1 and RW5, Construction of retaining wall RW1 mini pile section, Construction of retaining wall of RW2, Construction of permanent surface drainage of ER up track, Track formation of permanent on grade track;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Construction of wall and base slab at Launching Shaft area, Construction of remaining tunnel wall and roof slab up track and down track of tunnel Box E and application of waterproofing at tunnel walls, Construction of tunnel walls, roof slab and application of waterproofing, installation of permanent track drainage in Box D, Construction of tunnel wall, roof slab and waterproofing Box C1 & B, Excavation of box C2 and strutting installation, Construction of walls and waterproofing for Tunnel Box A;

- TBM Works area: Tunnel boring and lining, Regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation for shaft and adits;
- West EAP (EAP 5): Substructure construction suspended due to design change, Grouting of holes;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box down track roof slab construction, Cut & cover box north wall construction, EAP 3 & 4 construction, Ho Sheung Heung Road utilities diversion; and
- West Approach Area: Construct material storage yard at Area B, Construct tunnel box at TBM shaft, Box A0, B & C1, Construct CTVB superstructure and retaining wall, Reinstate existing utilities, install new water pipe, new utilities and drainage work in LMC road, Sand backfilling to Box B, C & C1, Extract sheet pile at Box C1 & E, Install sheet pile at Box E, Excavation and lateral support at Box E, Replace marine mud by sand at Box E.

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

Observations

East Tunnel Approach – Access No. 3

1. Hoarding skirt was not completely sealed.

Area P3

2. Dust emission was observed during handling of soil at stockpiling area.

West Tunnel Approach

3. Dry bare ground was observed. More frequent watering is needed.

West Tunnel Approach – Box B

4. Stockpiles were not covered. They should be covered or watered when they are not in active use.

As a result of the observations raised by the IEC the contractor has proposed some mitigation measures which include sealing hoarding skirt, watering of materials before handling, increase the frequency of water spraying, and covering the stockpiles. 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 27 October 2004. The major construction works include open cut excavation, ground beam construction and ramp wall construction at P3, cofferdams construction,

buildings and staircase foundations at EAP7, and column, T-piers and portal construction at W61-66.

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

Non-compliance

W50 site exit

1. The public road was muddy and the untreated washing water from the site exit was discharging to the nearby storm drain. Although the trucks using the site access / egress were suspected from LCC300, Maeda has the responsibility to ensure that their site exit and public road nearby are clean at all times. Maeda should liaise with LCC300 contractor for proper wheel washing of trucks and manage the site exit carefully.

Observation

W26-36 and W48-54

2. Bare ground and haul roads were dry and dusty. More frequent water spraying should be implemented.

W26

3. A tree branch was broken. Mobilization of equipment should be careful, especially near areas where trees should be retained on site.

As a result of the NC and the observations raised by the IEC, the contractor has proposed mitigation measures including protecting the storm drain, cleaning up soil on public road, liaison meeting with nearby contractor, increase the frequency of water spraying on dry and dusty ground, and reminding site staff to mobilise equipment with care in order not to damage the trees. 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 13 October 2004. The major construction works include minor earth works for surcharge maintenance in terminus and along station access road, construction of superstructure works at station and immigration hall, electrical/mechanical works and fitting-out work inside the station area, the construction of permanent sewage treatment plant and overrun rail-track, the construction of retaining structure of Ha Wan Channel bridge, trench excavation for utility works along the station access road.

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

Observations

Lok Ma Chau Road and Terminus

1. Bare ground and haul roads were dry. More frequent watering is necessary.

Lok Ma Chau Road

2. Stagnant water was observed at the work site for China Light & Power.
3. The temporary site exit was silty. Cleaning up is needed.

Terminus

4. Dust emission from loading/unloading of waste was observed. Adequate watering of waste is needed before handling.
5. Oil spillage was observed near a generator at Q24-25. Drip tray was not provided to contain the oil container.
6. Rubbish piling up at station perimeter was observed at Q15-17.

In response to the observations raised by the IEC, the Contractor has proposed some improvement measures including improving the paving of main haul road, reviewing the routing and frequency of water bowser, enhancing manual water spraying, pumping away stagnant water, maintaining regular sweeping, watering of waste materials before loading/unloading, proper storage of chemical, cleaning oil spill and reviewing the staff arrangement on housekeeping. The implementation and effectiveness of these measures will be assessed and verified during the next site audit.

3 Public Consultation

There was one public consultation meeting held in October 2004:

- Consultation meeting with North District Council T&TC members for LCC-204 Sheung Shui Station Improvement Works on 20 October 2004
-