

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
May 2004

June 2004

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Author: Claudine Lee

Checker: Sharifah Or

Approver: Gui Yi Li

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EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the twenty-third 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 April to 25 May 2004. The main construction activities undertaken during the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: 900mm diameter watermain diversion stage 2, trench for CLP cable diversion, hoarding between existing East Rail uptrack and retaining wall RW5, constructing retaining wall from Ch30+200 to Ch30+600 and site investigations for proposed footbridge;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Sheet piling work for cofferdam construction, pumping test at Boxes C1 & B cofferdam, excavation and strutting in Cut & Cover Tunnel Boxes E, D, C1, B & A cofferdams, construction of tunnel box at Box E cofferdam, and loading tests for ventilation building;
- TBM Works area: Tunnel boring and lining, and regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation and rock dowel installation and shotcreting;
- West EAP (EAP 5): Excavation to +1mPD to –7mPD, installation of 5th layer waling and strutting, and fabrication of 6th layer waling and strutting;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box column and middle roof slab construction, utilities diversion on Ho Sheung Heung Road; and
- West Approach Area: Extraction Shaft Excavation and lateral support, construction of extraction shaft temporary base slab, excavation and lateral support of cofferdam, pumping test of Boxes C1 & B, construction of Tunnel Box at Box A, and construction of substructure of Chau Tau Ventilation Building.

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. No exceedance was 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 locations. There was no exceedance recorded during the reporting month.

Water quality monitoring was conducted at the identified water quality monitoring locations. One Limit Level exceedance of SS and one Action Level exceedance of the pH value at Chau Tau Channel, CTC1, and one Action Level exceedance of SS at River Sutlej, URS, were recorded in the reporting month. The exceedances were likely due to natural variation.

The excavated spoil was mainly generated from the shaft excavation at East EAP, TBM excavation, 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, Contract LCC300 – Lok Ma Chau Terminus and Associated Works 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 complaint, warning or prosecution was received during the reporting month.

There were weekly site inspections carried out by the CET Leader and an IEC monthly site audit on 19 May. 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 ensuring the provision of water treatment facilities to suit different types of works, change of flocculants, hydroseeding and new handling procedure of spoil disposal. 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 April to 24 May 2004. During the reporting month, the major construction works included pre-bored H-piling and ground beam construction at P3, bored drilling at W61-66, column construction and viaduct erection at W24-34 and W39-45 as well as parapet erection at W57-60.

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 are was 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 found dry 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 270m³ of excavated material were delivered to the Government public fill barging point and about 1600m³ were reused on site. About 44.64m³ of general refuse was collected by a licensed collector for disposal in 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 May. In response to the observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures including more frequent disposal of general refuse, cleaning up oil spillage, providing drip trays for oil drums, reuse of concrete waste, and covering the stockpile each day after work or when it is not in active use. 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 April to 25 May 2004. During the reporting month, the principal work activities included earth works for reedbed and surcharge areas, construction of superstructure works at the terminus area and substructure at immigration hall, western drainage channel diversion, construction of Chau Tau Culvert, band-drain installation, bored piling, and trench excavation for utility works along the Emergency Access Road (EVA). 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 this reporting month. As FP3 was filled and no construction works of this contract is likely affecting the 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. No exceedance was 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 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.

A small amount of general refuse and C&D materials were generated during the reporting month. They were transferred to the landfill site by a licensed collector.

Recycling of used paper was undertaken. Recyclable materials, such as completely decomposed granite (CDG) from the Kai Tak public fill area, were also used on site.

No notification of summons was received during the reporting month.

The CET Leader and the Engineer conducted regular site inspections and the IEC conducted a monthly site audit on 20 May. In response to 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 cleaning up soil with oil stain, draining stagnant water and the maintenance of paved access. 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-third 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 19 May, LCC202 on 27 May and LCC300 on 20 May. Significant improvements were observed at all three contracts.

2.1 Contract LDB201

The IEC site audit for LDB201 was undertaken on 19 May. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: 900mm diameter watermain diversion stage 2, trench for CLP cable diversion, hoarding between existing East Rail uptrack and retaining wall RW5, constructing retaining wall from Ch30+200 to Ch30+600 and site investigations for proposed footbridge;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Sheet piling work for cofferdam construction, pumping test at Boxes C1 & B cofferdam, excavation and strutting in Cut & Cover Tunnel Boxes E, D, C1, B & A cofferdams, construction of tunnel box at Box E cofferdam, and loading tests for ventilation building;
- TBM Works area: Tunnel boring and lining, and regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation and rock dowel installation and shotcreting;

- West EAP (EAP 5): Excavation to +1mPD to -7mPD, installation of 5th layer waling and strutting, and fabrication of 6th layer waling and strutting;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box column and middle roof slab construction, utilities diversion on Ho Sheung Heung Road; and
- West Approach Area: Extraction Shaft Excavation and lateral support, construction of extraction shaft temporary base slab, excavation and lateral support of cofferdam, pumping test of Boxes C1 & B, construction of Tunnel Box at Box A, and construction of substructure of Chau Tau Ventilation Building.

Environmental permits, licences and records including the trip-ticket system were inspected. Significant improvement was observed in general. Four observations were raised during the site audit:

Observations

CP11

1. Sedimentation system for the treatment of surface runoff was not observed on site. The contractor should ensure that all wastewater from the construction site should be treated before discharge.

EAP2

2. Floc was observed in the final tank of the WetSep system. Proper dosage of flocculants should be added and reviewed depending on the quality of the wastewater.

Kwu Tung

3. Some patches of hydroseeding on the slope were missing.

Trip Ticket Records

4. There were inconsistent practices on signing / logging the arrival time on the trip tickets at the disposal site. Same practice should be performed at all sites.

As a result of the observations raised by the IEC the contractor has proposed some mitigation measures which include ensuring the provision of water treatment facilities to suit different types of works, change of flocculants, hydroseeding and new handling procedure of spoil disposal. 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 May 2004. The major construction works include pre-bored H-piling and ground beam construction at P3, bored drilling at W61-66, column construction and

viaduct erection at W24-34 and W39-45 as well as parapet erection at W57-60.

Environmental permits, licences and records including the trip-ticket system were inspected. Significant improvement on housekeeping was observed. One observation was raised during the site audit:

Observation

Pile trimming areas (e.g. W25)

1. Stockpiles for backfilling should be covered when not in active use or after work.

As a result of the observation raised by the IEC, the contractor has proposed to cover the stockpile each day after work or when it is not in active use. 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 20 May 2004. The major construction works include earth works for reedbed and surcharge areas, construction of superstructure works at the terminus area and substructure at immigration hall, western drainage channel diversion, construction of Chau Tau Culvert, band-drain installation, bored piling, and trench excavation for utility works along the Emergency Access Road (EVA).

Environmental permits, licences and records including the trip-ticket system were inspected. Significant improvement on housekeeping was observed. More proactive management on general refuse was being undertaken on site and the performance was satisfactory. Three observations related to other issues were raised during the site audit:

Observations

Station access road

1. Soil with oil stain was observed next to a generator. It should be cleaned up and disposed of as chemical waste.

Station access road (Area C)

2. Stagnant water was observed on site. Sand filling should be conducted as soon as possible.
3. The backfall area next to the wheel washing area was muddy. Stagnant water was observed. Proper paving to avoid accumulation of water is recommended.

In response to the observations raised by the IEC, the Contractor has proposed some improvement measures including cleaning up soil with oil stain, draining stagnant water and the maintenance of paved access. The

implementation and effectiveness of these measures will be assessed and verified during the next site audit.

3 Public Consultation

No public consultation was conducted in the reporting month.