

Urgent by hand

路政署

鐵路拓展處

香港九龍何文田忠孝街八十八號

何文田政府合署一樓

網址：http://www.hyd.gov.hk



**HIGHWAYS DEPARTMENT  
RAILWAY DEVELOPMENT OFFICE**

1st FLOOR, HO MAN TIN GOVERNMENT OFFICES  
88 CHUNG HAU STREET, HOMANTIN, KOWLOON, HONG KONG  
Web site : <http://www.hyd.gov.hk>

本署檔案 Our Ref. : ( ) in HYD RDO 16-3/17/25 C  
來函檔號 Your Ref. : CB4/SC/13  
電話 Tel. : 2762 4000  
圖文傳真 Fax : 2714 8176

18 February 2015

Ms Sophie Lau  
Clerk to Select Committee  
Legislative Council Secretariat  
Legislative Council Complex  
1 Legislative Council Road  
Central, Hong Kong

Dear Ms Lau,

**Select Committee to Inquire into the Background of and Reasons for  
the Delay of the Construction of the Hong Kong section of  
the Guangzhou-Shenzhen-Hong Kong**

**Express Rail Link (XRL)**

**Request for Information**

Thank you for your letter of 23 January 2015 to the Director of Highways requesting a list of documents as set out in the Appendix to the said letter. We apologize for not being able to provide the requested information by 12 February 2015. I have been authorized to reply as follows.

Please rest assured that Highways Department (HyD) will cooperate with the Select Committee in this inquiry. It is also noted that unless reasons are specified for the Select Committee's consideration, the requested documents will be made available upon the request of the media and the public and be placed onto the website of Legislative Council. They may also be included in the Select Committee's report.



ISO 9001:2008  
Certificate No.: CC1851



ISO 14001:2004  
Certificate No.: CC2634

Regarding your request for the XRL-related documents, my responses are as follows :-

- (a) **Extract of the contract, in particular the scope of service, signed between HyD and Jacobs China Limited ("M&V consultant") in respect of the construction of the XRL**

The scope of the service of the M&V consultant as defined in the Project Brief of the Consultancy Agreement is enclosed herewith.

- (b) **Jacobs Progress Reports (October 2010 to April 2014 - each with 3 volumes)**

Please be informed that there are a total of 43 sets of monthly Progress Report prepared by Jacobs China Limited from its first submission in October 2010 up to April 2014, each set consists of three volumes. For Volume 1 and Volume 2 of the Progress Reports, given the contents of these reports may contain some commercially sensitive information, we can only provide the Select Committee with the redacted versions of these documents.

Further, as only minimal redactions have been made in order to maintain their readability, given the confidential and/or commercially sensitive nature of these documents (despite the minimal redaction), we request that these documents be provided to the Select Committee in confidence for use by the Select Committee members at closed hearings only.

Subject to your agreement to our request, we will provide a set of Volume 1 and Volume 2 of the April 2014 report to you within two working days from the receipt of your agreement. For the rest of these documents (from October 2010 to March 2014), as we need more time to go through each report and to redact the relevant parts of the report, we will provide these documents to you in batches with the last batch by May 2015.

For Volume 3 of the Progress Reports, as they contain the project expenditure, financial / Cash Flow status and Claims



matters, which are commercially sensitive information, we are not able to provide them to the Select Committee.

**(c) Project Supervision Committee (PSC) - Membership, Terms of Reference, Minutes and Papers of meetings**

We enclose the Membership and Terms of Reference of the PSC as requested.

Please be informed that there are a total of 44 sets of the PSC minutes with the first meeting held in March 2010 up to April 2014, and the minutes of a special meeting held in mid-April 2014. There are a total of 9 sets of PSC papers. Due to the confidential and/or commercially sensitive nature of these documents, we can only provide the Select Committee with redacted versions of these documents.

Further, as only minimal redactions have been made in order to maintain their readability, given the confidential and/or commercially sensitive nature of these documents (despite the minimal redaction), we request that these PSC minutes and papers be provided to Select Committee in confidence for use by the Select Committee members at closed hearings only.

Subject to your agreement to our request, we will provide all the minutes of PSC meetings (March 2010 to April 2014), and the minutes of the special meeting held in mid-April 2014 within two working days from the receipt of your agreement.

For the PSC papers, as we need more time to go through each paper and to redact the relevant parts of the paper, subject to your agreement to our request, we will provide these documents to you in batches with the last batch by April 2015.

**(d) Project Coordination Meetings - Membership, Terms of Reference and Minutes of meetings**

We have reviewed our records and note that there was no "Membership" and "Terms of Reference" of the Project Coordination meetings, as these meetings had started off as

informal working group meetings as early as in late 2007. The purpose of the Project Coordination meetings is to monitor various activities for the delivery of the XRL project including, but not limited to, timely completion of land matters, resolution of third party requests, key issues on the design, construction, environmental matters that may have potential impact on the progress and programme of the XRL project as well as interfacing issues with other projects.

Please be informed that there are a total of 51 sets of the minutes of Project Coordination meetings for the period from January 2010 to May 2014. Given the minutes of Project Coordination meetings may contain some commercially sensitive and/or confidential information, we can only provide the Select Committee with redacted versions of these documents. Further, we request that the documents be given the same confidential treatment as the PSC minutes and papers as mentioned in (c) above.

Subject to your agreement to our request, we will provide the minutes of Project Coordination meetings held in May 2014, as the meeting originally scheduled for April 2014 was cancelled, within one week from the receipt of your agreement. For the rest of the minutes, as we need more time to go through each minutes and to redact the relevant parts of the minutes, we will provide these documents to you in batches with the last batch by May 2015.

Please kindly take note that there are no papers submitted for the Project Coordination meetings.



I should be most grateful if you would confirm your agreement to our request for item (b), item (c) and item (d) as mentioned above. Subject to your confirmation, we would provide you with the documents per the prescribed timing accordingly. Please note that only English version of all your requested documents are available.

Yours sincerely,



(Henry CHAN)

Principal Government Engineer/Railway Development  
Railway Development Office  
Highways Department

Encls. (hardcopy and softcopy in CD-Rom)

cc Secretary for Transport Housing (Attn. : Mr Jackson Sin) – w/encls.

**Project Supervision Committee (PSC)**  
**for Hong Kong section of Guangzhou-Shenzhen-Hong Kong**  
**Express Rail Link (XRL)**

**Membership**

Chairman: Director of Highways

Members: Transport and Housing Bureau  
Deputy Secretary for Transport & Housing (Transport)1 or  
representative

Railway Development Office (RDO), HyD  
Principal Government Engineer/Railway Development  
Government Engineer/Railway Development 2  
Chief Engineer/Railway Development 2-3

MTRCL  
Projects Director  
General Manager – XRL  
General Manager – XRL Civil Construction  
Programming Manager - XRL

Ad hoc Members: Representative(s) of other relevant Government departments (on  
need basis)

Secretary: Senior Engineer/XRL(3), RDO, HyD

**Terms of Reference**

- (a) To review the progress and programme of project activities including design, construction and commissioning;
- (b) To review overall project expenditure and cashflow, including the Project Control Total;
- (c) To review project procurement activities;
- (d) To monitor post tender award cost control;
- (e) To monitor resolution of contractual claims and proposed commercial settlements; and
- (f) To discuss any key issues relating to the project.



**Agreement No. CE 8/2010 (HY)**

**Hong Kong section of  
Guangzhou – Shenzhen - Hong Kong Express Rail Link (XRL)  
Monitoring and Verification for  
Construction, Testing and Commissioning Phase  
– Investigation**

**Brief**



**Agreement No. CE 8/2010 (HY)**

**Hong Kong section of Guangzhou – Shenzhen - Hong Kong Express Rail Link (XRL)  
Monitoring and Verification for Construction, Testing and Commissioning Phase –  
Investigation**

**Brief**

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**Agreement No. CE 8/2010 (HY)**

**Hong Kong section of Guangzhou – Shenzhen - Hong Kong Express Rail Link (XRL)  
Monitoring and Verification for Construction, Testing and Commissioning Phase –  
Investigation**

**Brief**

**1. Introduction**

1.1 This Brief is to be read in conjunction with the Memorandum of Agreement, General Conditions of Employment of Engineering and Associated Consultants for an Investigation Assignment (1997 Edition) (hereafter called the “General Conditions of Employment”), Special Conditions of Employment, Schedule of Fees, and any other detailed instructions issued by the Director’s Representative.

**2. Description of the Project**

**Background of XRL**

2.1 In the Railway Development Strategy 2000 promulgated in May 2000, the Regional Express Line (REL) is one of the railway projects recommended for implementation. Following some developments, the REL became the Hong Kong section of the Guangzhou – Shenzhen – Hong Kong Express Rail Link (ERL) jointly pursued by the Mainland and Hong Kong. In middle of 2007, the Kowloon-Canton Railway Corporation (KCRC) submitted to Government a project proposal on the Hong Kong section of the ERL on the basis of the Dedicated Corridor Option.

2.2 Following the rail merger with the KCRC on 2 December 2007, the MTR Corporation Limited (MTRCL) took over the planning of the ERL. Since then, the acronym for the project has been changed from “ERL” to “XRL” to avoid duplication with the use of the acronym “ERL” for the existing East Rail Line after the rail merger. For the avoidance of doubt, the XRL means the Hong Kong section of the Guangzhou – Shenzhen – Hong Kong Express Rail Link in the context of this Assignment unless otherwise specified.

2.3 The XRL is one of the ten major infrastructure projects announced in the 2007 Policy Address. On 22 April 2008, the Executive Council decided that the MTRCL would be asked to proceed with the further planning and design of the XRL. The design work of the XRL then proceeded. On 28 November 2008, the XRL scheme was gazetted under the Railways Ordinance (Cap. 519). Finally, the Chief Executive-in-Council authorized the XRL scheme on 20 October 2009. Following the approval of the funding application of the railway and non-railway works of the project in January 2010, construction of this \$67-billion project commenced in January 2010 for completion in 2015.

**General features of XRL**

2.4 The XRL is a 26-kilometre (km) long underground rail corridor. It will run from the terminus in West Kowloon, going north passing Yau Tsim Mong, Sham Shui Po, Kwai Tsing, Tsuen Wan, Yuen Long to the boundary south of Huanggang, where it will connect to the Mainland section of the Express Rail Link seamlessly for through train services. Boundary control facilities (BCF) of Hong Kong will be provided at the West



Kowloon Terminus (WKT). Moreover, space has been reserved inside WKT for accommodating future Mainland's BCF under the co-location scenario. Along the whole tunnel alignment, there will be eight ventilation buildings and one emergency access point. An emergency rescue station (ERS) and stabling sidings (SSS) will be located at Shek Kong of Yuen Long. The XRL is designed for a maximum train speed of 200kph.

- 2.5 The Mainland section of the Express Rail Link runs for a further 116 km from the boundary to Guangzhou, with new stations at Futian, Longhua, Humen and Shibi serving the trains to/from Hong Kong. Apart from shuttle services between Hong Kong and Shenzhen, Dongguan and Guangzhou, the XRL would also operate direct high-speed train services to other Mainland major cities outside Pearl River Delta area, such as Beijing and Shanghai through connections with the future national high-speed railways which have been designed up to a maximum speed of 350 kph. The Mainland section of the Express Rail Link from Shibi to Futian is scheduled for completion in 2012 while the cross-boundary section from Futian to the boundary will be constructed to a programme that would tie in with that of the XRL. The alignments of the Express Rail Link and XRL are shown in **Appendix A** and **Appendix B** respectively. The longitudinal section of the XRL is shown in **Appendix C**.
- 2.6 Having a size of over 10 hectare in area, the WKT is an underground station located immediately north of the proposed West Kowloon Cultural District (WKCD) between the Airport Railway Kowloon Station to the west and the Austin Station to the east. Future private development is also being planned for at top of the WKT. When completed, the WKT is likely to be the world's largest and deepest underground railway station. Being the southernmost terminus of the national high-speed passenger rail network, the WKT will be developed as a gateway to the Mainland, with distinctive architecture, landmark features and user-friendly layout. The plan and typical cross section of WKT are shown in **Appendix D** and **Appendix E** respectively.
- 2.7 The XRL tunnel configuration will vary depending upon the geological conditions and method of construction. Tunnel boring machine (TBM) tunnels will adopt a twin cell tunnel configuration with interconnecting cross passages. Drill & blast and cut & cover tunnels will adopt a single tunnel with a central partition wall to divide the tunnel into two cells.
- 2.8 The Hong Kong section of the Express Rail Link, or XRL, is intended to mean the part of the Express Rail Link south of the boundary at Shenzhen River. For the purpose of construction administration, agreement has been reached with the Mainland authorities/parties that the cross-boundary section of the Express Rail Line tunnel will be driven continuously from a shaft at Huanggang Park, a place at about 2km north of the boundary, by TBM to Mai Po shaft/ventilation building. For the avoidance of doubt, the scope of this Assignment will also include the section of tunnel between Huanggang Park of the Mainland side and the boundary.
- 2.9 Apart from the above railway works, the project also includes non-railway works which comprise essential public infrastructure works (EPIW), reprovisioning, remedial and improvement works (RRIW), property development enabling works at WKT and other works to be entrusted from other parties to the project. Details of the non-railway works are listed in **Appendix F**.



#### Mode of Implementation of XRL

- 2.10 The XRL is the first railway project implemented under the concession approach in Hong Kong after the rail merger. Under this approach, Government will fund the project and the MTRCL will be granted a concession agreement to operate the completed railway. The design and construction of the project has been entrusted to the MTRCL. In gist, the XRL is a public works project and the MTRCL could be regarded as the Government's agent and project manager for the delivery of the project.
- 2.11 In November 2008, Government and the MTRCL entered into an entrustment agreement for the design and site investigation phase of the XRL (design phase EA), which covers, among others, the preliminary and detailed design of the project works, site investigation and invitation and assessment of tenders for the construction contracts and contracts for the procurement of goods relating to the project. On 26 January 2010, the construction and commissioning phase entrustment agreement (construction phase EA) was executed between Government and the MTRCL.
- 2.12 One of the major considerations behind the entrustment of the design and construction of the project to the MTRCL is to fully utilise the expertise and experience of the MTRCL in managing large-scale railway projects. Thus, the XRL will be implemented by using MTRCL's internal systems for project management and control. That is to say, the MTRCL will carry out or procure to carry out the design and construction works using its own system. Under the provisions of the XRL design and construction phase EAs, the XRL shall be designed, constructed, procured and delivered to standards and/or specifications which are consistent with and not materially in excess of those applicable to relevant elements of comparable completed railway projects in Hong Kong and the Mainland and to reflect the long distance, intercity and high-speed nature of the project. Main key features of the XRL construction phase EA in relation to this Assignment are shown in **Appendix G** for reference.
- 2.13 Being a public works project, the XRL is exempted from the Buildings Ordinance (BO). This is unlike other previous railway projects undertaken by railway corporations, for example, Tseung Kwan O Line or Kowloon Southern Link etc., in which the building submissions and control of these projects were subject to the approval of the Building Authority under the BO and other related ordinance(s). In order to achieve the same level of standards and requirements applicable to other railway projects, the building submissions and control will be conducted in substantially the same manner and extent as in other railway projects implemented under ownership approach. For WKT, since there will be topside private development, arrangements have been made so that the building submissions and control in relation to WKT and the property enabling works will be subject to BO. As for the rest of XRL works (excluding EPIW, RRIW and other works entrusted to this project), the building submissions in respect of the XRL would be submitted by the MTRCL or its consultants/contractors/agents to the Highways Department for vetting and approval to meet the requirements and standards equivalent to those stipulated under the BO.

#### Programme of XRL

- 2.14 The XRL entrustment programme is shown in **Appendix H**. As at end of April 2010, the majority of the detailed design for civil and structural works has been completed and some of the major tunnel and WKT contracts were either awarded or being tendered. The rest of the civil works design is anticipated to be completed by mid or late 2010 to ensure that all the civil contracts would be let out for tender in late 2010/early 2011. As for the



systemwide electrical and mechanical (E&M) and rolling stock contracts, the detailed design is now in full gear for issuance of tender document in late 2010/early 2011. In summary, packages of construction and supply contracts would be awarded in a progressive manner to suit the project programme. The XRL Summary Design Programme and the Contracts Tender Issue and Award Cascade are shown in **Appendix I** and **Appendix J** respectively.

- 2.15 The MTRCL has employed consultancies or utilised in-house design resources for the detailed design of the project including tender preparation and assessment. Construction project administration and site supervision will generally be carried out by MTRCL's in-house resources.
- 2.16 Railway Development Office (RDO) of the Highways Department is tasked with the overall administration of the XRL. There is a need to monitor and verify the MTRCL's work (including submissions by its consultants, agents, contractors and suppliers to MTRCL) in the XRL to ensure that the MTRCL's work is in compliance with the provisions of the XRL design phase EA and construction phase EA and has achieved value for money so as to meet the public aspiration. In particular, the RDO has a duty to the public to closely monitor the project cost and expenditure to ensure that public funds are justifiably used.

### **3. Objectives of the Assignment**

- 3.1 The overall objective of the Assignment is to provide monitoring and verification services in relation to the work undertaken by the MTRCL (including submissions by its consultants, contractors or agent to MTRCL) during the construction, testing and commissioning phase of the project so as to provide assurance that the MTRCL's obligations stated in the XRL construction phase EA have been properly fulfilled. The monitoring and verification shall focus on cost, programme, safety and quality of the XRL project.
- 3.2 Provision of professional services to the Highways Department in respect of the assessment of building submissions and compliance with the building safety standards.

### **4. Description of the Assignment**

- 4.1 The Assignment shall include but not be limited to the following:

(a) a review of the documents relating to the following:-

- (i) post contract award design changes, including Contractor's alternative designs and the corresponding engineer's detailed designs;
- (ii) detailed designs of the permanent works under design-and-built contract forms, but excluding those works listed in **Appendix K**;
- (iii) construction programmes;
- (iv) testing, commissioning and system acceptance plans;
- (v) services standards and operation-related proposals;
- (vi) method statements and proposals bearing major implications and significance to the project in terms of cost, programme, safety and quality;



- (vii) issues arising from submissions for Station and Transport Integration Committee (STIC), Trackside Safety and Security Committee (TSSC) and Safety and Security Co-ordinating Committee (SSCC);
  - (viii) project finance including reports/information on contract expenditure/forecast, contract commercial issues;
  - (ix) safety plans; and
  - (x) other key documents relating to the XRL works.
- (b) carrying out monitoring on MTRCL's works through a review of the concerned project documents and necessary site inspection and identification of and providing advice on key issues bearing significant cost, programme, safety and quality implications to the project;
- (c) carrying out verification by conducting audits (including process and/or technical audits) to the activities/processes undertaken by the MTRCL, reporting and the necessary follow-up work;
- (d) provision of professional services on the assessment of building submissions and compliance with the building safety standards.
- 4.2 Notwithstanding Clause 4.1 above, the Consultants shall not be required to carry out any detailed checking of proposals or site supervision of the works.
- 4.3 The XRL is anticipated to be commissioned in August 2015. This Assignment shall cover the entire entrustment activities.
- 4.4 Notwithstanding Clause 4.3 above, during the course of the Assignment, the Director's Representative has or will also engage other consultants to undertake the following:
- (a) monitoring and verification for design and site investigation phase of the XRL;
  - (b) an independent design review of the Electrical and Mechanical (E&M) systems of the XRL for the design phase; and
  - (c) an independent review of the E&M systems of the XRL for the construction design, testing and commissioning
- the Director's Representative may also engage other consultants to undertake other tasks relating to the XRL. The division of responsibilities of the Consultants under this Assignment and other consultants for the above tasks shall be described in fuller details in Clause 6 below.
- 4.5 The Consultants shall keep confidential the findings of the monitoring and verification activities unless otherwise agreed by the Director's Representative. The Consultants and their sub-consultants may be required to enter into confidentiality agreements with the MTRCL if so requested.
- 4.6 The Consultants shall carry out the monitoring and verification activities with due regard to minimising disruption to the construction, testing and commissioning activities of the XRL.

## 5. Deliverables

- 5.1 The Consultants shall produce and submit the documents outlined below to the Director's Representative. The Consultants shall also be responsible for circulating the documents directly to relevant parties as directed by the Director's Representative. Unless otherwise agreed by the Director's Representative, the documents shall be submitted according to the submission schedule as specified below.

Item No.	Deliverables	Reference Clause	Max. no. of hard copies	Submission Schedule (Due Dates)
1	Draft Inception Report	6.7.1	6	Within 3 weeks from commencement of Assignment
2	Inception Report	6.7.1	6	Within 2 weeks from issuance of comments on the Draft Inception Report
3	Programme	8	6	Refer to Clause 8
4	Summary Report on MTRCL's Project Management Systems and Procedures	6.2.1	6	Within 8 weeks from commencement of Assignment
5	Summary Report on contract documents	6.2.1	6	Within 4 weeks upon availability of relevant document/information
6	Draft Monitoring Plan	6.7.2	6	Within 4 weeks from commencement of Assignment
7	Monitoring Plan	6.7.2	6	Within 2 weeks from issuance of comments on the Draft Monitoring Plan
8	Draft Verification Plan	6.7.3	6	Within 4 weeks from commencement of Assignment
9	Verification Plan	6.7.3	6	Within 2 weeks from issuance of comments on the Draft Verification Plan
10	Audit Plan	6.7.4	6	Within 1 month before conducting of each audit session
11	Audit Report	6.7.5	6	Within 2 weeks after completion of each audit session
12	Review Reports	6.2.2	6	Within 3 weeks upon availability of relevant document/information
13	Monthly Progress	9.2	6	Within 1 week from



Item No.	Deliverables	Reference Clause	Max. no. of hard copies	Submission Schedule (Due Dates)
	Report			start of each reporting month
14	Draft Six-monthly Interim Report and Draft Executive Summary of Annual Interim Report on Monitoring and Verification	6.5	6	Within 2 weeks after completion of the reporting period
15	Annual Six-monthly Report and Executive Summary of Annual Interim Report on Monitoring and Verification	6.5	6	Within 2 weeks from the comments given to the draft report in item 14
16	Draft Final Report and Draft Executive Summary of Final Report on Monitoring and Verification	6.5	6	Within 12 weeks after a date to be agreed with the Director's Representative which shall not be later than the completion date of the last construction contract for the project
17	Final Report and Executive Summary of Final Report on Monitoring and Verification	6.5	6	Within 2 weeks from issuance of comments on the draft report in item 16

- 5.2 The Consultants shall seek the prior agreement of the Director's Representative on the format of all Deliverables listed in Clause 5 of this Brief. To enable the Director's Representative to give comments, the submissions of Deliverables shall be in two stages, i.e. draft and final stages, unless otherwise agreed by the Director's Representative.
- 5.3 The Consultants shall provide any other reports, papers, submissions, programmes, certificates, plans, drawings and any other documents in connection with the Assignment and as required by the Director's Representative.
- 5.4 Reports shall be in A4 size and accompanying drawings should be in convenient sizes but not exceeding A3 size unless otherwise approved by the Director's Representative. The final or agreed version of all Deliverables shall be accompanied by a digital copy. The digital copy shall be saved in a convenient medium, such as compact disc or DVD disc with a clear label indicating the contents of the discs, the date of production of the compact/DVD discs, agreement number, title of the Assignment and name of the Consultants, and be kept in a protective pocket attached to the hard copy delivered. Upon the request of the Director's Representative, the Consultants shall also provide a digital copy of the draft version of the deliverables.



5.5 Unless otherwise agreed by the Director's Representative, the digital copies of the Deliverables shall be as follows :-

- (a) written documents shall be in Microsoft Word 2000 format;
- (b) spreadsheets and/or powerpoint shall be in Microsoft Excel 2000 format or Microsoft Office or other compatible software approved by the Director's Representative;
- (c) CAD drawings shall be prepared conforming to the CAD Standard for Works Projects version 1.02.00 (or later versions as agreed between the Employer and the Consultants from time to time) as posted on the Development Bureau's web site <http://www.devb-wb.gov.hk/index.aspx>;
- (d) programmes shall be in SureTrak Project Manager 3.0 format or other format agreed by the Director's Representative; and
- (e) photographs, illustrations, portraits, documents provided by others and documents involving signatures such as Design Certificates shall be scanned and saved in TIFF, GIF, JPEG, bitmap or Acrobat format.

The Consultants shall further provide 1 additional digital copy of the deliverables in Adobe PDF format printable without loss of data or change in appearance as compared with the corresponding hardcopy.

5.6 The submitted Deliverables shall become the property of the Employer. The Consultants shall draw to the Employer's attention any Deliverables that are under licence and any pre-existing copyright or patent on any Deliverables and any other restriction whatsoever affecting the Employer's use of the same. The Consultants, if required by the Director's Representative, shall establish the existence of any licence, copyright, patent or restriction.

5.7 The Consultants shall adopt the following green measures in preparing the deliverables required above:

- (a) deliverables shall be printed on recycled paper. Recycled paper with no less than 50% recycled materials and not exceeding 80 gsm shall be used as a general rule. The logo of recycled paper shall be printed in a prominent area of the report;
- (b) documents other than deliverables should preferably be printed on recycled paper;
- (c) bleached papers shall not be used if possible;
- (d) unnecessary or excessive use of plastic laminates, glossy covers or double covers shall be avoided as far as possible. Use of recyclable non-glossy art board paper as document covers shall be encouraged;
- (e) deliverables shall be of single line spacing on both sides of the paper;
- (f) Excessive white space around the borders and in between the paragraphs of all documents prepared by the Consultants shall be avoided. A margin of 2 cm shall be sufficient;
- (g) excessive use of blank papers shall be avoided as far as possible; and
- (h) number of pages can be reduced by reducing the font size. For example, "Times New Roman" or "CG Times" of font size 12 or 10 shall be used in balancing



legibility and the waste reduction objective. The appearance and readability of the document can be improved by using two columns where the font size used is  $\leq 12$  points.

- 5.8 Soft copies of the reports, presentation materials and any supporting notes, photographs and charts shall be submitted to the Director's Representative at the same time as submission of the deliverables.

## **6. Services to be provided by the Consultants**

### **6.1 General**

- 6.1.1 The services to be provided by the Consultants shall be as defined in the General Conditions of Employment and Special Conditions of Employment, and as amplified, extended, supplemented and set out in the Brief.
- 6.1.2 The Consultants shall consult, liaise and correspond direct with project stakeholders including but not limited to the MTRCL, other Government departments and authorities, other public and private organisations and their agencies/consultants on matters related to the project with the prior consent of the Director's Representative. However, the Consultants are not expected to consult, liaise and correspond with MTRCL's consultants, contractors or agents without the consent of the Director's Representative and the MTRCL. The Consultants shall copy relevant correspondence relating to these consultation, liaison and co-ordination to the Director's Representative.
- 6.1.3 The Consultants shall co-ordinate all work as detailed in the Brief and take the lead in liaising with relevant parties for the purpose of completing this Assignment.
- 6.1.4 The Consultants shall arrange and attend meetings with the Director's Representative at monthly or other agreed intervals to review the Consultants' services and progress and to receive guidance and instructions from the Director's Representative. Upon request from the Director's Representative, the Consultants shall attend meetings with the MTRCL.
- 6.1.5 The Consultants shall discuss all preliminary findings and present all draft reports to the Director's Representative before finalising reports or issuing such reports to parties other than the Director's Representative.
- 6.1.6 The Consultants and/or its sub-consultants shall have extensive and relevant international experience in high-speed rail projects and in the provision of monitoring and verification services. The Consultants shall have suitably qualified (academically and professionally) senior and key staff. The Consultants will report to the Director's Representative and be independent of the main detailed design consultants or consultants engaged by the contractors/suppliers of the XRL project.
- 6.1.7 The main roles of the Consultants is to appraise, monitor and audit the activities/processes of the MTRCL, and verify that these activities/processes are carried out in accordance with the MTRCL's management and control procedures and in compliance with the design or construction phase EA, and that value for money is achieved through procedures that are complied with. Hence, the Consultants shall be proactive, working closely with the



Director's Representative and the MTRCL and timely adjust its work plan to suit the progress and programme of the XRL works.

6.1.8 The XRL project team of the MTRCL will be residing in the MTR's Kam Tin Building and the site offices distributed along the XRL alignment. The Consultants' right of access to the project areas and construction sites shall be subjected to the giving of reasonable advance notice to and with the prior agreement of the Director's Representative and MTRCL. The Consultants shall not give instructions to MTRCL, its consultants or contractors or interfere with the works of the MTRCL, its consultants or contractors.

6.1.9 For the avoidance of doubt, the Consultants' monitoring and verification shall cover all the work carried out by the MTRCL during the construction, testing and commissioning phase, including the E&M systems, unless otherwise stipulated in this Brief. The monitoring and verification should be undertaken in parallel with the MTRCL's construction, testing and commissioning programme and in a manner which will minimise any delay or interruption to the project activities.

6.1.10 Upon the instructions of the Director's Representative, the Consultants shall carry out detailed assessments of claims and/or act as expert witnesses on matters relating to the XRL. Such services may be carried out during the entrustment activities or within a reasonable period after completion of the entrustment activities. Such services shall be paid for as Additional Services based on time charge.

6.1.11 The Consultants shall take cognizance of the following consultancies engaged/to be engaged by the Director's Representative during the course of the Assignment:

(a) Monitoring and Verification for the Design and Site Investigation Phase

The objective of this consultancy is to provide monitoring and verification services in relation to the work undertaken by the MTRCL during the design and site investigation phase of the project so as to provide assurance that the MTRCL's obligations stated in the XRL design and site investigation phase EA have been properly fulfilled. The consultancy also included the provision of professional services in respect of the assessment of building submissions to the Highways Department.

(b) Independent Review on the Detailed Design of XRL E&M Systems

The objective of the consultancy is to conduct an independent review on the detailed design and tender specifications for the XRL E&M systems (including railway systems, permanent-way, rolling stocks and other E&M systems), so as to ensure proper design, proper choice of equipment, and interoperability between the Hong Kong and Mainland Sections. The review/checking would be conducted with focus on a set of detailed review objectives specific to E&M design, and would include examination of common design aspects across the major E&M systems in an integrated manner. Prior to this consultancy, a design review agent was engaged to conduct independent review on the preliminary design for the XRL E&M systems.



The Consultants shall note that at the time of award of this Assignment, the review work for the schemes of the E&M systems is still on-going, and review work for the tender specifications has just commenced.

(c) Independent Review of the E&M systems of the XRL for the Construction Design, Testing and Commissioning

The objective of this consultancy is to conduct an independent review on the equipment suppliers' and contractors' detailed design and testing & commissioning procedures/results, in relation to the E&M works undertaken by the MTRCL during the construction, testing and commissioning phase of the project.

A list of the E&M works to be included in the consultancy for the Independent Review of the E&M systems of the XRL for the Construction Design, Testing and Commissioning is shown in **Appendix K**. For the avoidance of doubt, construction design, testing and commissioning review of those works not listed in **Appendix K** shall be covered by this Assignment.

The monitoring and verification of the construction, testing and commissioning of the E&M systems shall be carried out under this Assignment with due regard to the review work on the construction design, testing and commissioning to be undertaken under the consultancy for the Independent Review of the E&M systems of the XRL for the Construction Design, Testing and Commissioning.

The Consultants shall note that at the time of award of this Assignment, the consultancy for the Independent Review of the E&M systems of the XRL for the Construction Design, Testing and Commissioning has not yet commenced.

The Consultants of this Assignment shall liaise closely with all the consultants engaged or to be engaged by the Director's Representative throughout the course of the Assignment.

6.1.12 The XRL will become part of the Mainland's high-speed rail network and therefore the XRL works shall be so designed, constructed and maintained to meet the interface and interoperability requirements with the Mainland section of the Express Rail Link as well as the entire national high-speed rail network to ensure satisfactory through running. The Consultants shall be required to review Chinese technical documents provided by the Mainland design institutes and authorities/agencies in the course of the Assignment, and be capable of applying such Mainland standards and practices in the review concerning interface designs and interoperability. The Consultants shall also be required to prepare specific technical documents/comments in Chinese as and when required. The Consultants shall have members who are able to communicate in fluent Putonghua and are familiar with Mainland practices for efficient liaison and discussions with Mainland design institutes and authorities/agencies.

6.1.13 Not used

6.1.14 The Consultants shall provide presentation of work done and findings upon request by the Director's Representative.



6.1.15 The Consultants shall at their own cost print all necessary documents received in the form of soft copy for carrying out their duties under the Assignment.

6.1.16 In delivering the Services to this Assignment, the Consultants shall take into account the following operational scenarios into consideration:

- (a) the likelihood of the operation mode of the entire Express Rail Link upon completion, including cooperation via agreement (similar to how the East Rail through trains are being operated) or in a joint ventured mode between Hong Kong and Mainland operators; and
- (b) the possibility of introducing BCF co-location at WKT at the beginning of or after the commercial operation of the XRL or any other possible mode of BCF scenario as advised by the Director's Representative from time to time.

## **6.2 Review Reports**

6.2.1 The Consultants shall carry out the following :

- (a) acquaint themselves with the MTRCL project management system and procedures (including the MTRCL's quality and internal audit systems);
- (b) acquaint themselves with the contract documents for all construction and procurement activities ;
- (c) prepare and submit to the Director's Representative summary reports of the above activities.

6.2.2 Upon the review of the reports/information listed in Clause 4.1(a), the Consultants shall provide a report on the review findings for each of the report/information reviewed. Such report shall include any major observations or comments on the report, identify any major risks to the cost, programme, safety and quality of the project, recommendations on the course of action to be taken to minimize the risk or address the issues.

6.2.3 As the XRL will be carried out in a fast-track manner, Consultants shall bear in mind that the Director's Representative may request the Consultants to provide comments on document review at a timeframe shorter than those allowed for in Clause 5.1. Consultants shall co-operate with such requests from the Director's Representative.

6.2.4 In the review of the construction, testing and commissioning plans and proposals, the Consultants shall take due consideration of the fact that the Mainland section of the Express Rail Link from Shibi to Futian would be completed and put into commercial operation ahead of the XRL completion date.

6.2.5 The Consultants shall be proactive throughout the course of the Assignment. Where necessary, the Consultants shall identify any additional information/documents from the MTRCL or other related parties through the Director's Representative to facilitate their work in this Assignment.

## **6.3 Monitoring**

- 6.3.1 The Consultants shall develop a comprehensive Monitoring Plan for the monitoring work covering the various aspects of the works throughout the construction, testing and monitoring phases of the project. The Monitoring Plan shall include document review, site inspection together with other necessary processes or means to ensure that the objectives of the Assignment would be satisfactorily met. The Consultants shall review regularly and as necessary the Monitoring Plan during the course of the Assignment and advise the Director's Representative of any necessary adjustments.
- 6.3.2 In view of the intensity and tight programme of the construction works, the Consultants shall set up and maintain a Monitoring Team (MT) led by a professional staff (at least Corporate Member of the HKIE or equivalent with a minimum of 12 years relevant post-qualification experience) throughout the course of the Assignment and comprises at least one Quantity Surveyor (at least Corporate Member of the Hong Kong Institute of Surveyors or equivalent with a minimum of 5 years relevant post-qualification experience) and one Chinese Liaison Officer (with at least 3 years working experience in Mainland inter-city railway projects, preferably with the Ministry of Railways, and speaks fluent Putonghua). The set up and logistic arrangements of the MT shall be detailed in the monitoring plan. The MT shall work and liaise closely with the Director's Representative and the MTRCL and other concerned parties. The full MT shall be set up within 2 months from the date of commencement of the Assignment.
- 6.3.3 The Monitoring Team and the Building Submission Review & Compliance team (BSRC) as stipulated in Clause 6.6 shall maintain close liaison in carrying out their respective duties. The MT shall supplement the BSRC's duties such that there is no gap between their respective duties.
- 6.3.4 The Consultants shall, on risk basis with focus on cost, programme, safety and quality aspects, carry out, but without limitation to, the following:
- (a) monitor and check on a quarterly basis the cost related processes which include payments, claims, variations and commercial settlements and identify any significant changes of costing which would affect the total project cost estimate; monitor and check payments to MTRCL, MTRCL's consultants, contractors and agents;
  - (b) monitor and keep track of, on a monthly basis, the overall project expenditures and expenditure for individual contracts, breaking down into railway and non-railway works, in a format to be agreed with the Director's Representative;
  - (c) monitor and keep track of, on a monthly basis, variation orders, claims and commercial settlements, in a format to be agreed with the Director's Representative;
  - (d) monitor and comment on a quarterly basis the progress of works against the progress reports and project programmes; advise any slippages and other relevant implications if any;
  - (e) review and comment on major changes of Engineer's design, contractors' alternative designs, major temporary works, waste management, environmental, blasting and spoil disposal plan ;



- (f) review and comment on method statements, proposals and any relevant documents which are of project-wide significance or are of significant public concerns ;
- (g) monitor the quality of works, including conducting site inspections to assess the quality of materials and workmanship against standards as stipulated in the construction phase EA;
- (h) monitor the setup and records of site monitoring regime including existing ground movements, existing buildings, water levels etc;
- (i) assess building submissions and the compliance with the building safety standards of the project;
- (j) provide 2 sets of monthly progress photographs of the XRL; the monthly progress photographs shall be taken and processed by a professional photographer, in 8R size and submitted in albums with a minimum of 30 numbers per month. The content of the progress photographs and submission format are to be agreed with the Director's Representative;
- (k) assist in the updating and maintenance of a web page for the project maintained by Highways Department on a monthly basis;
- (l) monitor the public's opinion on the XRL as expressed in various major websites in the internet, including social networking websites, microblogs, blogs and forums. The Consultants shall prepare and submit to the Director's Representative the records of these public opinions on a bi-weekly basis.
- (m) assist in the project handover processes of the railway works from the MTRCL to Government include the checking of relevant documentation and attending and recording key issues of the joint inspections and handing over meetings.
- (n) assist in liaising with the Highways Department, the MTRCL and Mainland Authorities, including but not limited to the Ministry of Railways, on the future operation of the XRL under a joint venture or other possible arrangements.

6.3.5 Upon the reasonable requests of the Director's Representative, the Consultants shall be required to attend various ad-hoc or regular meetings including project presentations. The Consultants shall review the output of the meeting and identify any high risk elements of activities and processes for further examination or verification works.

6.3.6 The site walks or inspections undertaken by the Consultants are limited to the works sites or areas within the territory of Hong Kong. Should the Consultants require inspection of any works outside the territory of Hong Kong upon the request of the Director's Representative, the Consultants shall be paid for under the Additional Services based on time charge. For the avoidance of doubt, the Consultants shall provide the general personal protective equipment including helmets, safety boots and reflective jackets etc. for the staff involved on site at their own cost. The Consultants shall also bear the cost of all the training and necessary certification, for example training for entering confined space, required for their staff to perform their duties on site.

- 6.3.7 Upon the directions of the Director's Representative, the Consultants shall be required to witness the site testing and commissioning activities undertaken by the MTRCL, its contractors, suppliers or agents during the system integration test and trial operation stage. The Consultants shall provide reports on such tests and activities to the Director's Representative.

#### 6.4 Verification

- 6.4.1 Verification shall comprise process and technical compliance audits (hereinafter refer to as verification audit) to be carried out by the Consultant to ensure that the processes taken by the MTRCL comply with:

- (a) MTRCL's internal management control and procedures; and
- (b) the requirements and standards stipulated in the design and construction phase EAs.

The Consultants may use risk based approach to identify high risk areas for forward planning of verification audits. The Consultants may include other verification methods in addition to verification audits to ensure the accomplishment of the objectives of the Assignment on verification.

- 6.4.2 The Consultants shall produce a Verification Plan for the project according to the contents mentioned in Clause 6.7.3 within 4 weeks of the commencement of the Assignment. The Consultants shall take cognizance of the programmes and staging of works in formulating the Verification Plan. The Consultants shall review regularly and as necessary the Verification Plan during the course of the Assignment and advise the Director's Representative of any necessary adjustments.
- 6.4.3 The Consultants shall, for each verification audit session, liaise with the MTRCL and to agree with them on the audit arrangements. The Consultants shall submit a verification audit plan to the Director's Representative and to notify the MTRCL one month before carrying out of the relevant audit. During the auditing period, the Consultants shall submit a daily report of the audit to the Director's Representative. Within two weeks from the completion of the audit session, the Consultants shall submit an audit report showing the details and findings/results to the Director's Representative.
- 6.4.4 The Consultants shall carry out verification audits in sessions for each of the construction contracts at a minimum frequency as listed in **Appendix L**, with the first to be carried out no later than 6 months after the commencement of the Assignment. The extent and scope of the verification audits shall provide reasonable assurance that the works of the MTRCL comply with the required project scope, standards/specifications, MTRCL's procedures and/or relevant Government's procedures as stipulated in the XRL design and construction Phase EAs.
- 6.4.5 The Consultants shall propose the construction contracts and items of works to be audited on the basis of risk in safety, quality of works, cost implications or programme delay etc., using their railway expertise and experience. The Consultants shall detail how the risk assessment would be taken. The audits shall cover a spectrum of the aspects of



construction processes including but not be limited to alternative or contractor's design, temporary works, materials, construction processes, and workmanship.

- 6.4.6 In amplification of Clause 6.4.5 above, the Consultants shall carry out verification by auditing each of the following financial processes. The verification audits shall provide assurance of the compliance by the MTRCL with the XRL construction phase EA, and the payments are fair charges under the XRL construction phase EA.

- (a) Payments to MTRCL's consultants/contractors/agents under MTRCL's contracts;
- (b) Changes, modifications and variations with cost implication;
- (c) Claims; and
- (d) Commercial settlements.

- 6.4.7 The Consultant shall take cognizance that MTRCL may engage independent safety auditors to carry out safety audits of the project. Notwithstanding the carrying out of such audits, the Consultant shall carry out verification audits on the overall safety regime of the project to provide assurance that the project is implemented on a safe manner.

- 6.4.8 At any time the MTRCL, or Government reasonably suspects that the MTRCL, is in material or persistent breach of any of their material obligations under the XRL construction phase EA, Government shall be entitled to carry out further verification to verify the MTRCL's compliance with their obligations. Upon the instruction of the Director's Representative, the Consultants shall carry out such verification audit. The Consultants shall propose the methodology and criteria for such verification audit work for the agreement of the Director's Representative. Such additional verification audit as mentioned in this Clause shall be paid for as additional Services based on time charges.

## **6.5 Interim and Final Reports on Monitoring and Verification**

- 6.5.1 The Consultants shall produce six-monthly Interim Reports and an executive summary of the six-monthly Interim Report making reference to all monitoring and verification work done on the project activities. The Interim Reports shall be a summary of the monitoring and verification work done in the reporting period to demonstrate the compliance by the MTRCL to the requirements in the XRL construction phase EA during the period concerned. The first six-monthly Interim Reports shall cover the period from the commencement of the Assignment up to 31 December 2010. Subsequent six-monthly reports shall then report the work done for the subsequent period ending 30 June and 31 December respectively. The last six-monthly report will cover the period when the last audit is carried out.

- 6.5.2 The Consultants shall produce a Final Report and an executive summary of the Final Report making reference to all monitoring and verification work done during the course of the Assignment. The Final Report shall be a summary of the entire monitoring and verification work to demonstrate the compliance by the MTRCL to the requirements in the XRL construction and commissioning Phase EA.

- 6.5.3 The Interim and Final Reports on monitoring and verification shall consist of but not limited to the following:-



- (a) an overview of the XRL project works focusing on cost, programme, safety and quality;
  - (b) an overview of the works carried out by the Consultant;
  - (c) a summary of the observation and findings of the Assignment; and
  - (d) a brief evaluation on the works of the Assignment in respect of the achievement of the Assignment objectives
- 6.5.4 The executive summaries to the Interim and Final Reports on monitoring and verification shall be in both English and Chinese and shall consist of but not limited to the following:-
- (a) general description of the service provided by the Consultant; and
  - (b) the methodology and key observations and findings of the Assignment and any suggestions/recommendations.
- 6.5.5 Consultants' attention is drawn to the likelihood of making availability of the Interim and Final Reports on monitoring and verification and their executive summaries to the public including the Legislative Council and/or its Public Accounts Committee.
- 6.6 Provision of professional services on assessment of building submissions and compliance with the building safety standards**
- 6.6.1 The Consultants shall provide assessments on the building submissions submitted by the MTRCL and/or its consultants/agents, and provide input on compliance with the building safety standards in respect of the XRL to the Director's Representative. In view of the intensity and urgency of these submissions and compliance check, the Consultants shall set up a dedicated Building Submission Review & Compliance (BSRC) team comprising the minimum manpower requirement as shown in **Appendix M**. The BSRC team shall work and liaise closely with the Monitoring Team, the Director's Representative and other relevant Government departments including Buildings Department, Geotechnical Engineering Office and Fire Services Department. The BSRC team shall be set up within 2 months from the date of commencement of the Assignment.
- 6.6.2 The Consultants shall submit a building submission review and assessment procedure, and a checking procedure on assessing the compliance with the building safety standards within 3 weeks from the date of commencement of the Assignment for the approval of the Director's Representative. Consultants' attention is drawn to the particularly tight programme in the project programme and thus only a minimum period for review and assessment, and compliance check could be allowed for in the review processes. The Consultants shall review and assess the building submissions and check compliance with the building safety standards in accordance with the agreed procedures. Furthermore, in view of the possible safety-related emergencies affecting the safety of private buildings/structures and the public, round-the-clock consultancy services may be required.
- 6.6.3 The scope of the services on assessing the building submissions shall include, but not be limited to, the following:
- (a) examine building plans and proposals to a safety standard not inferior to that required under the BO and related Regulations;



- (b) examine structural plans and proposals, method statement in accordance with the standards not inferior to that required under the BO and related Regulations, and carry out any related actions such as recommending the acceptance of the submissions and conditions to be imposed, if any, for commencement of works, related site inspections, witnessing related site testing etc.; and
- (c) identify the deficiencies, if any, from the submissions by the MTRCL and/or its consultants/agents and provide necessary advice.

6.6.4 The scope of the services on checking the compliance with building safety standards include, but not limited to, the following:

- (a) examine proposals on precautionary and protective measures and check on site the safety installation of the measures;
- (b) examine the temporary and permanent drainage systems and monitor the drainage tests conducted on site;
- (c) examine documents relating to impact on existing buildings/structures and assess results, if any, such as condition surveys and monitoring reports submitted by MTRCL;
- (d) assist in attending inspections and recommend follow-up actions on safety-related emergencies relating to XRL construction sites and adjacent existing buildings/structures, and provide structural and geotechnical comments on the remedial/rectification measures, if any, carried out by MTRCL;
- (e) assist in attending complaints about defects of adjacent private buildings caused by the works of XRL or not, and recommend follow-up actions, if any, to the Director's Representative and to advise on the monitoring of rectification works carried out by MTRCL;
- (f) conduct audit and surprise checks to construction sites on aspects of the structural safety and integrity of foundation, tunnel, superstructure and etc. for safety assurance and for compliance with the building safety standards, and examine the remedial proposals submitted by MTRCL if contravention is detected;
- (g) carry out site inspections to identify irregularities, contraventions or non-compliance with the building safety standards; and
- (h) check the compliance of the completed works to ensure the standards achieved do not inferior to the requirements of BO and allied regulations.

6.6.5 The professional and technical supporting members of the dedicated BSRC team shall be conversant to the provisions of the BO and shall meet the minimum qualifications and experience or equivalent, as shown in **Appendix N**. The Consultants shall submit the proposed qualifications and experience of the professional and technical members of the team for the approval of the Director's Representative.

6.6.6 The Consultants are required to work closely with the Director's Representative, the MTRCL and other relevant government departments. Upon the request of the Director's Representative, the Consultants shall coordinate the comments of other government departments on building submissions for the attention of the Director's Representative. Where necessary, the Consultants shall attend meetings with the Director's Representative, the MTRCL and/or other relevant government departments to discuss the building submissions.

## **6.7 Requirements of Deliverables**

### **6.7.1 Inception Report**

The Consultants shall prepare an Inception Report showing the plan to complete the tasks. The Inception Report shall consist of but not be limited to the following:

- (a) the Consultants' understanding and appreciation of the objectives of the Assignment ;
- (b) the proposed approach and methodology for meeting the objectives of the Assignment including breakdown of tasks, description of these tasks and the key issues involved;
- (c) a programme containing all activities and tasks, key dates, schedule of submission of Deliverables and meetings; and
- (d) organisation of the Consultants' project team and curricula vitae of the key project team members, including the auditors of the Consultants.

### **6.7.2 Monitoring Plan**

The Consultants shall describe clearly the methodology and resources to be deployed for the monitoring activities and the programme to be followed. The Consultants shall show clearly in the Plan how the objectives of the Assignment in respect of monitoring could be achieved.

### **6.7.3 Verification Plan**

The Consultants shall describe clearly the methodology and resources to be deployed for the verification activities and the programme to be followed. The Consultants shall show clearly in the Plan how the objectives of the Assignment in respect of verification could be achieved. The Consultants may include other verification methods in addition to verification audits to ensure the accomplishment of the objectives of the Assignment on verification.

### **6.7.4 Audit Plans**

The Consultants shall prepare an Audit Plan for each of the verification audit sessions. The Audit Plan shall include but not be limited to the following:

- (a) scope of audit, audit checklist and anticipated stages of works at which audits would be carried out;
- (b) rationale in the selection of the construction contracts and item of works for auditing;
- (c) detailed proposal on the approach and methodology for carrying out the audits;
- (d) the composition and name(s) of the audit team;
- (e) proposal on the number, schedule and places of audits and staff and manpower resources to be deployed for the audit; and



- (f) a review of the last audit report, if any, on similar aspect of audit.

#### **6.7.5 Audit Reports**

The Consultants shall prepare an Audit Report after completing each audit session. The Consultants shall propose the format and content of an Audit Report for the agreement with Director's Representative. The Audit Report shall include but not limited to the following:-

- (a) description of the scope of the audit, dates of audit, personnel involved and brief notes on meetings or interviews held;
- (b) list of documents reviewed; findings and observations of previous audits, if applicable; and
- (c) report on observations and findings in the audit on the aspects of safety, quality, cost and programme;
- (d) comments on the compliance with the XRL construction phase EA by the MTRCL;
- (e) duly completed audit checklists used, if applicable, and;
- (f) recommendations on the necessary follow-up actions to the observations and findings of the audits. The Consultants shall provide sufficient details for implementing the recommendations.

#### **7. Response to Queries**

- 7.1 The Consultants shall respond to queries under Clause 20 of the General Conditions of Employment raised prior to a date 3 months after the final submission of the Deliverables required under the Agreement. Such dates shall be confirmed in writing to the Consultants by the Director's Representative.

#### **8. Programme of Implementation**

- 8.1 The due date for commencement of the Agreement is 16 August 2010.

- 8.2 Pursuant to Clause 26(B) of the general Conditions of Employment, the Consultants shall submit the draft programme and revised draft programmes and the Director's Representative shall agree, or instruct, within the following periods:

Submission of the draft programme : Within 3 weeks of the commencement of the Assignment

Agreement of the draft programme : Within 4 weeks from receipt of the draft programme or instruction for submission of the revised draft programme

Submission of revised draft programme : Within 2 weeks from the instruction of the Director's Representative

- 8.3 The draft and revised programmes shall detail the activities to be carried out and their inter-relationships, target/key dates for particular tasks and decision dates that may be required for the uninterrupted progress of the Assignment. The Consultants shall discuss

with the Director's representative during the above periods to agree the timing of submission of reports, other documents and plans for each of the main elements of the Assignment, for inclusion in the draft programme and revised draft programme.

- 8.4 The target/key dates referred to in Clause 8.3 of this Brief shall include, but not be limited to, the date of submission of deliverables as stated in Clause 5 of the Brief.
- 8.5 The Consultants shall make every endeavour to ensure that the Assignment is carried out in accordance with the Programme and shall submit regular reviews as part of the progress reports referred to in Clause 9 of this Brief.

## **9. Progress Reports**

- 9.1 The Consultants shall submit to the Director's Representative progress reports at monthly intervals on all aspects of the Services referred to in Clause 6 of this Brief. The format of the report is to be agreed with the Director's Representative.

- 9.2 The Monthly Progress Reports shall include but not be limited to the following:

- (a) progress achieved in the month and a list of those parts of the Services the execution of which is behind the Programme together with proposals to expedite progress, so as to complete the work on time.;
- (b) summary of activities carried out and summary of observation and findings in the last reporting period;
- (c) work schedule for the following month;
- (d) resource availability and deployment in the month;
- (e) resource availability and proposed deployment for the following month;
- (f) key issues for comment, discussion, for the Director's Representative's immediate attention with recommendations; and
- (g) updated expenditure forecasts in accordance with Clause 10 of this Brief.

- 9.3 The Consultants shall attend progress meetings with the Director's Representative at monthly or at agreed intervals. In the meeting, the Consultants shall report the progress of the Assignment and receive instructions, guidance from the Director's Representative.

## **10. Financial Management**

- 10.1 At monthly intervals or at such other intervals as the Director's Representative may require, the Consultants shall submit a report on the current and forecast expenditure on the Assignment and the fees due to the Consultants, in a form to be agreed by the Director's Representative. The monthly financial reports shall be submitted together with the progress reports.

## **11. Standards and Specifications**



- 11.1 In undertaking the assessment activities, the Consultants shall specify clearly which standards and specifications are being used as the basis of assessment and benchmarking for acceptability. The Consultants shall define in the early stages of the project the basic criteria which shall be derived from a combination of the following source, depending upon the nature of the area being assessed.
- (a) HKSAR or Mainland Government requirements;
  - (b) XRL specific requirements;
  - (c) Reference system (if applicable);
  - (d) The railway experience and good engineering practice of the MTRCL and its consultants/agents;
  - (e) Industry standards (where applicable); and
  - (f) International codes and standards (where applicable).
- 11.2 The specific details of the standards and specifications to be used by the Consultants shall be included in the Verification Plan.
- 11.3 In addition, the Consultants shall adopt such technical & design standards and specifications as are in current use by the Government or, if non-existent, British Standards Codes of Practice and Specifications. Should instances arise for which suitable standards or specifications do not exist or for which the current standards or specifications appear to require modifications or if by the adoption of current standards the Consultants would incur additional expenses not within reasonable contemplation, the Consultants shall submit recommendations on appropriate alternatives to the Director's Representative for agreement.
- 11.4 The Consultants shall comply with HyD's management policies and objectives in conformance with the standards of ISO 9001:2000 and ISO 14001: 2004.

## **12. Variations and Other Commitments**

Not used.

## **13. Director's Representative**

- 13.1 The Director's Representative as defined in the General Conditions of Employment shall be the Principal Government Engineer/Railway Development (PGE/RD) of the Highways Department or such other person as may be authorised by the Director in writing and notified to the Consultants. The Director's Representative may delegate any of the powers and functions vested in him to other officers. In this regard, the Government Engineer/Railway Development(2) of the Highways Department (GE/RD(2)) is responsible for the day-to-day management of the Assignment. If the Consultants are dissatisfied with a decision or instruction of any such officer the matter shall be referred to the Director's Representative for a ruling.
- 13.2 During the course of the Agreement, the Consultants shall report direct to the Director's Representative via GE/RD(2) and all work shall be submitted to him.



#### **14. Control of the Project and Assignment**

- 14.1 In amplification of Clause 13 of the General Conditions of Employment, the Consultants will be required to attend, in connection with the project, Legislative Council, District Councils and other public committees or public consultation bodies as required by the Director's Representative. In this connection, the Consultants shall be required to attend a maximum of five numbers of these external meetings. Additional attendances of these external meetings beyond the maximum number stated above shall be paid for as Additional Services based on time charges. The above meetings will be in addition to the meetings, which are not regarded as external and shall also form part of the Services for this Assignment, with the Director's Representative, the MTRCL or its consultants, relevant Government bureaux/departments, other consultants and other parties who may be affected by the project.

#### **15. Information and Facilities Provided by the Employer**

- 15.1 All available information relevant to the Assignment will be provided to the Consultants and shall be used exclusively for the purpose of executing the Assignment. The Consultants shall indicate for guidance those documents which they currently hold and those of which a copy may be needed, should the Assignment be awarded to them. A copy of each of the documents indicated as needed will be supplied free of charge by the Director's Representative on request from the Consultants, except those currently available from the Sales section of the Information Services Department. In the case of plans and drawings, one print of each plan or drawing shall be provided free of charge if requested by the Consultants.

#### **16. Consultants' Office and Staffing**

- 16.1 The Consultants shall maintain for the duration of this Agreement an office in Hong Kong under the control of the Project Director of the Consultants who shall be responsible for the Assignment. He shall have adequate authority and sufficient professional, technical and administrative support staff in all relevant disciplines to ensure progress to the satisfaction of the Director's Representative.
- 16.2 The Consultants shall also maintain for the duration of this Agreement office(s) for the Monitoring Team and Building Submission Review & Compliance Team at a location, close to the project area, to be approved by the Director's Representative.
- 16.3 The Consultants shall provide the staff and manpower input in accordance with the Technical Proposal which was submitted with the Consultants' tender for this Assignment. The Director's Representative shall have the right to check the time-log record of the Consultants' staff deployed for the Assignment.
- 16.4 If the Director's Representative considers that the performance of the Consultants is not satisfactory due to inadequate staffing and manpower input allocated to this Assignment, the Consultants shall, upon the request of the Director's Representative, forthwith submit to the Director's Representative the time-log record of the staff deployed for the



Assignment for the Director's Representative to check against the Technical Proposal.

- 16.5 The Consultants' failure to adhere to their staffing proposal, in particular the employment of core personnel of the Consultants and their sub-consultants, thus causing an adverse impact on the performance of the Services, shall be duly reflected in the Employer's performance report on the Consultants.
- 16.6 If the Consultants are unable to maintain any of the core personnel specified in the Technical Proposal, the Consultants shall as soon as possible report this to the Director's Representative and propose, for the Director's Representative's approval, a revised personnel arrangement which is equivalent to or better than the existing personnel arrangement in terms of qualifications, experience and competence.

#### **17. Specialist and Sub-consultant Services**

- 17.1 The Consultants shall provide all specialist and sub-consultant services required for the satisfactory completion of the Assignment. No additional fees or expenses for the provision of such services rendered locally or overseas shall be payable by the Employer except as otherwise provided for in the Schedule of Fees.
- 17.2 Without derogating from the generality of clauses 38(i) of the General Conditions of Employment, the Consultant shall, upon the award of this Agreement and save as otherwise agreed by the Director's Representative, appoint the sub-consultants as proposed in their Technical Proposal for the Assignment. The Director's Representative shall have the right to check the sub-consultancy agreements. If the Director's Representative considers that the performance of the Consultants is not satisfactory due to inadequate staffing and manpower input allocated to the Assignment, the Consultants shall, upon the request of the Director's Representative, forthwith submit to the Director's Representative a certified copy of any or all of the sub-consultancy agreements.

#### **18. Surveys**

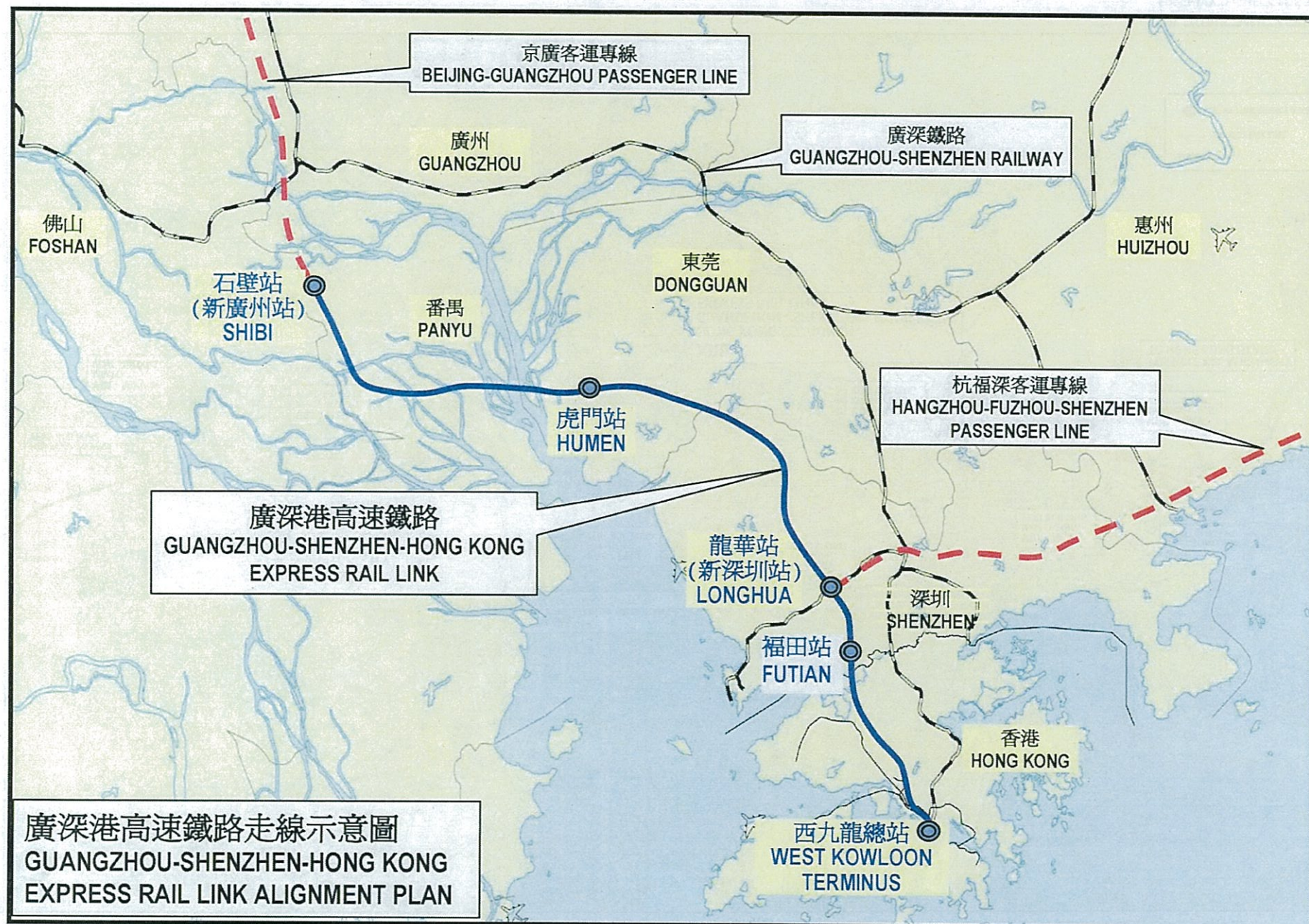
Not used.

#### **19. Insurance**

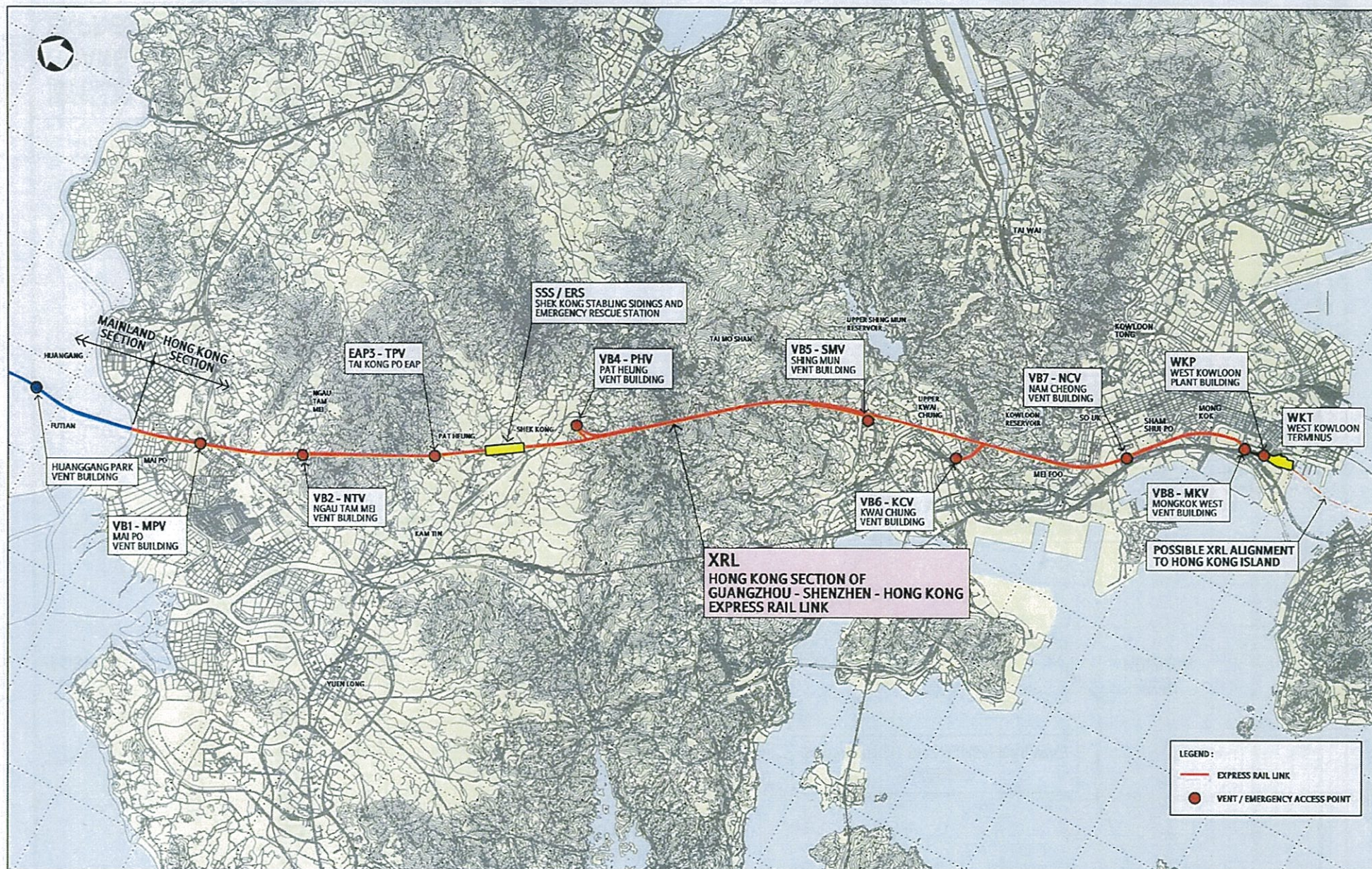
- 19.1 The amount of insurance cover to be maintained in accordance with Clause SCE13 of the Special Conditions of Employment shall be twice the lump sum fee for this Assignment, subject to a maximum of HONG KONG Dollars 75,000,000 and a minimum of HONG KONG Dollars 5,000,000.

- End -







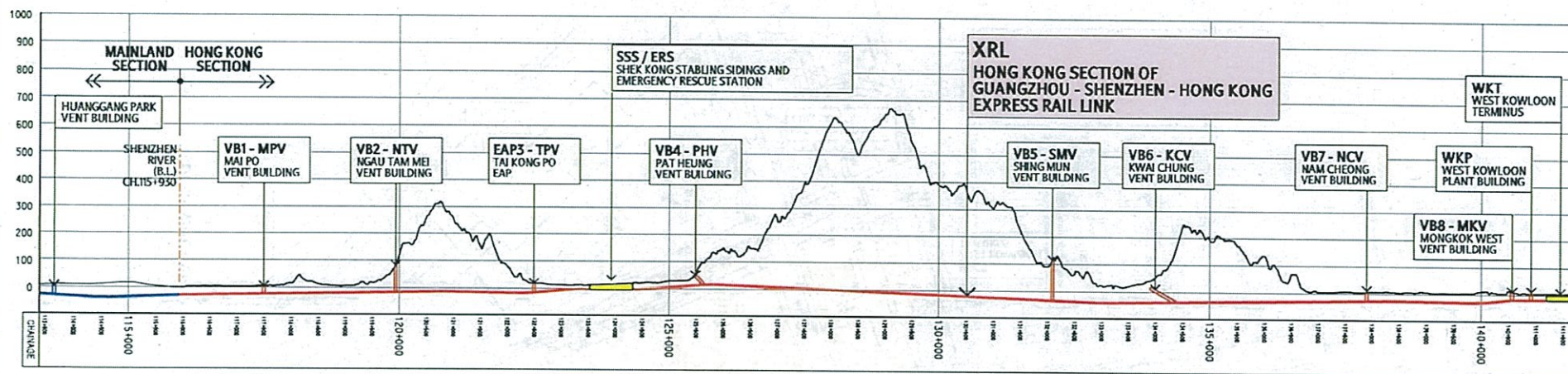


LEGEND:  
 EXPRESS RAIL LINK  
 VENT / EMERGENCY ACCESS POINT

XRL ENTRUSTMENT AGREEMENT  
 APPENDIX D (SHEET 1 OF 3)  
 DWG NO.: XRL/08008/SK008  
 DATE: 16DEC2009 REV: C

# EXPRESS RAIL LINK ALIGNMENT PLAN





NOTE: THIS IS AN INDICATIVE DRAWING FOR REFERENCE ONLY

## EXPRESS RAIL LINK LONGITUDINAL SECTION

XRL ENTRUSTMENT AGREEMENT  
APPENDIX D (SHEET 2 OF 3)  
DWG NO.: XRL/08008/SK009

DATE: 16DEC2009 REV: C



**XRL**  
HONG KONG SECTION OF  
GUANGZHOU - SHENZHEN - HONG KONG  
EXPRESS RAIL LINK

AUSTIN  
STATION

WKT  
WEST KOWLOON  
TERMINUS

KOWLOON  
STATION

WEST KOWLOON  
CULTURAL DISTRICT

POSSIBLE XRL ALIGNMENT  
TO HONG KONG ISLAND

XRL ENTRUSTMENT AGREEMENT  
APPENDIX D (SHEET 3 OF 3)  
DWG NO. : XRL/08010/SK011

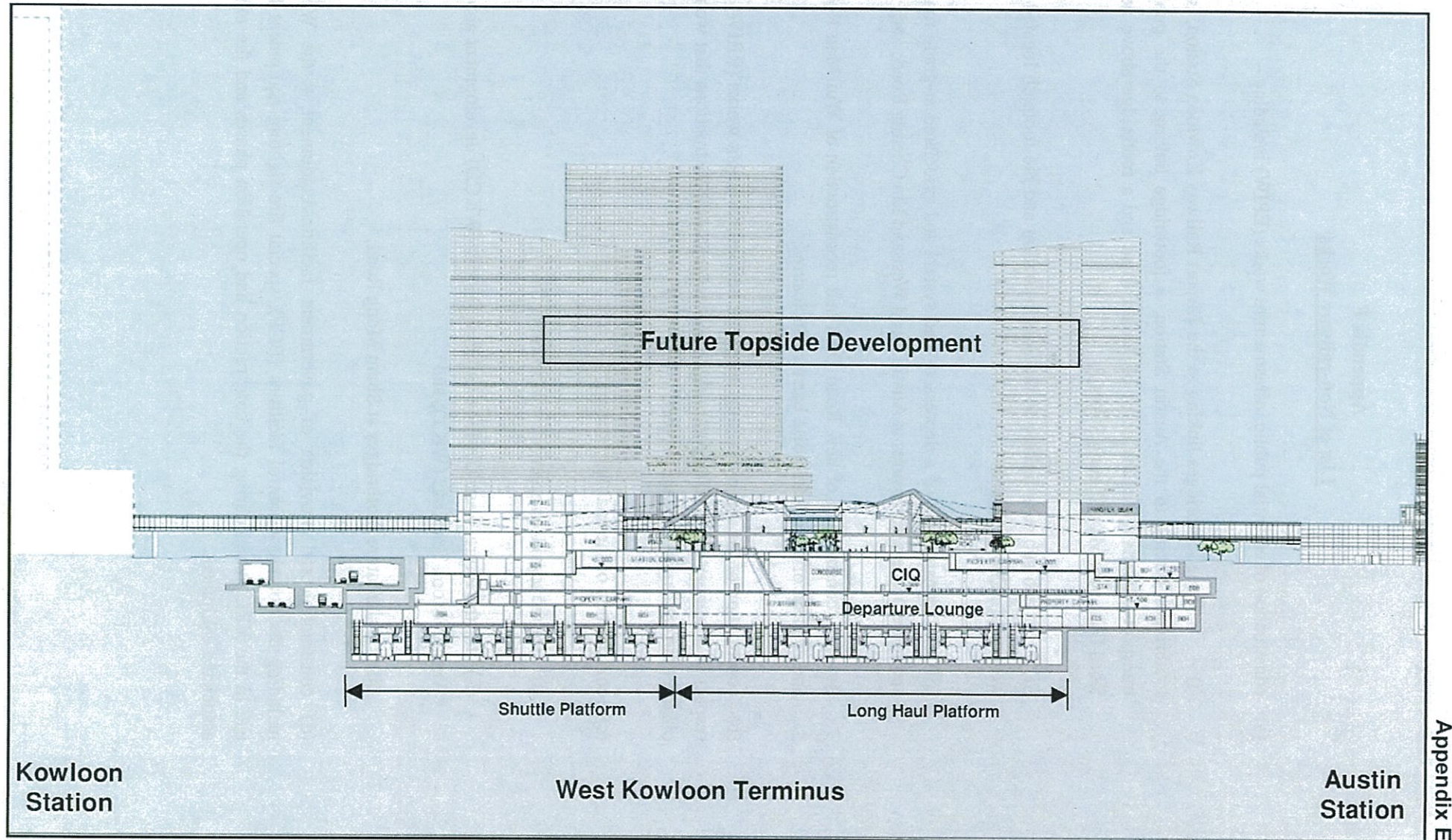
# EXPRESS RAIL LINK WEST KOWLOON TERMINUS

DATE: 16DEC2009 REV: B

NOTE: THIS IS AN INDICATIVE DRAWING FOR REFERENCE ONLY



## West Kowloon Terminus – Typical Cross Section (Looking toward North)





**Appendix F**  
**List of Non-railway Works**

- (a) construction of essential public infrastructure works (EPIW) including –
  - (i) three footbridges linking to the Airport Railway Kowloon Station, two footbridges linking to the Austin Station, a footbridge linking to the public transport interchange at the north of Jordan Road and a footbridge above new Road D1A near Man Cheong Street;
  - (ii) two subways linking to the Austin Station and the footpath located at west of Lin Cheung Road;
  - (iii) construction of a depressed road system and associated at-grade roads and noise barriers/enclosures at Austin Road West and Lin Cheung Road; and
  - (iv) construction of new Road D1A and reconstruction of Wui Man Road and erection of associated noise barriers/enclosures;
- (b) construction of the reprovisioning, remedial and improvement works (RRIW) in respect of a number of culverts, footbridges and underground obstructions that would obstruct the construction of the project;
- (c) construction of the enabling works –
  - (i) for the topside property development at Site A ;
  - (ii) for the future West Kowloon Cultural District (WKCD) development above West Kowloon Terminus (WKT); and
  - (iii) for the future footbridges at Sham Mong Road;
- (d) construction and provision of government facilities/equipment at the WKT including the boundary control facilities (BCF), special fire fighting equipment for use in the XRL tunnel during the construction and operation phases and the other associated equipment.



**Appendix G**  
**Main Key Features of the**  
**XRL Construction Phase Entrustment Agreement**

***Scope***

- The Entrustment Activities under the Construction Phase Entrustment Agreement include Railway Works, Essential Public Infrastructure Works (EPIW), Reprovisioning, Remedial and Improvement Works (RRIW), the Property Development Enabling Works and/or the West Kowloon Cultural District (WKCD) Interface Enabling Works and all activities as agreed between Government and the MTRCL related to the Miscellaneous Works (if any) which are required for the planning, design, construction, testing and commissioning thereof in relation to the Express Rail Link project.

***Government's obligations***

- Pay to the MTRCL the Project Management Cost, a sum of some \$4.5 billion according to a pre-agreed payment schedule, for the services provided by the MTRCL in undertaking the Entrustment Activities relating to the design, construction, testing and commissioning of the XRL project.
- Pay to the MTRCL any Miscellaneous Works Fee in relation to any Miscellaneous Works to be undertaken in conjunction with the Entrustment Activities.
- Pay to any Third Parties (i.e. any contractor, consultant, adviser, or third party employed/engaged by the MTRCL in connection with the Entrustment Activities and Miscellaneous Works) direct.
- Bear and finance Direct Costs (i.e. charges, costs and amounts payable to government departments etc. in relation to the Entrustment Activities.).
- Provide the MTRCL with assistance of a non-financial nature, all necessary licences and consents required.
- Bear all land acquisition, clearance and related costs.

***MTRCL's obligations***

- Carry out or procure the carrying out of the Entrustment Activities and Miscellaneous (if any).
- Use its best endeavours to complete the Entrustment Activities and Miscellaneous Works (if any) in accordance with the Entrustment Programme.
- Provide to Government a monthly progress report.
- Let all contracts with Third Parties under MTRCL's conditions of contract and act in accordance with certain of its management systems and procedures.
- Carry out the Entrustment Activities for the RRIW, the EPIW, the Property Development Enabling Works, the WKCD Interface Enabling Works and the Miscellaneous Works (if any),



in accordance with specifications and/or standards to be agreed or reasonably stipulated by Government or other relevant public bodies.

- In reaching any commercial settlements with Third Parties, the MTRCL will seek to ensure that such settlements are in the best interests of the XRL Project, and shall act in accordance with its relevant commercial settlement procedures.

#### ***Warranties***

The MTRCL warrants that:

- In the case of project management services, such Entrustment Activities shall be carried out with the skill and care reasonably to be expected of a professional and competent project manager;
- In the case of the provision of design services, such Entrustment Activities shall be carried out with the skill and care reasonably to be expected of a professional and competent design engineer; and
- In the case of the carrying out of construction activities, such Entrustment Activities shall be carried out with the skill and care reasonably to be expected of, and by utilising such plant, goods and materials reasonably to be expected from, a competent and workmanlike construction contractor.

#### ***Monitoring and Verification***

- At intervals which are reasonable, Government shall be entitled to verify the Corporation's compliance with the MTRCL's obligations.
- At any time the MTRCL is in material or persistent breach (or Government, acting reasonably, suspects that the MTRCL is in material or persistent breach) of any of the MTRCL's material obligations under this Agreement, Government shall be entitled to verify the MTRCL's compliance with the Corporation's obligations
- The MTRCL shall allow the appropriate consultant and/or Government's employees and other representatives, on reasonable notice and where possible during normal working hours, access to the sites, the MTRCLs books and records and relevant personnel and information systems.
- Any monitoring and verification shall be undertaken in parallel with the Entrustment Programme and in a manner which will minimise any delay or interruption to the Entrustment Activities.

#### ***Term***

- The Entrustment Agreement commenced on 26 January 2010 and remains in full force and effect until the completion of the Entrustment Activities.



## Appendix H



[illegible]



[illegible]







**Restricted**

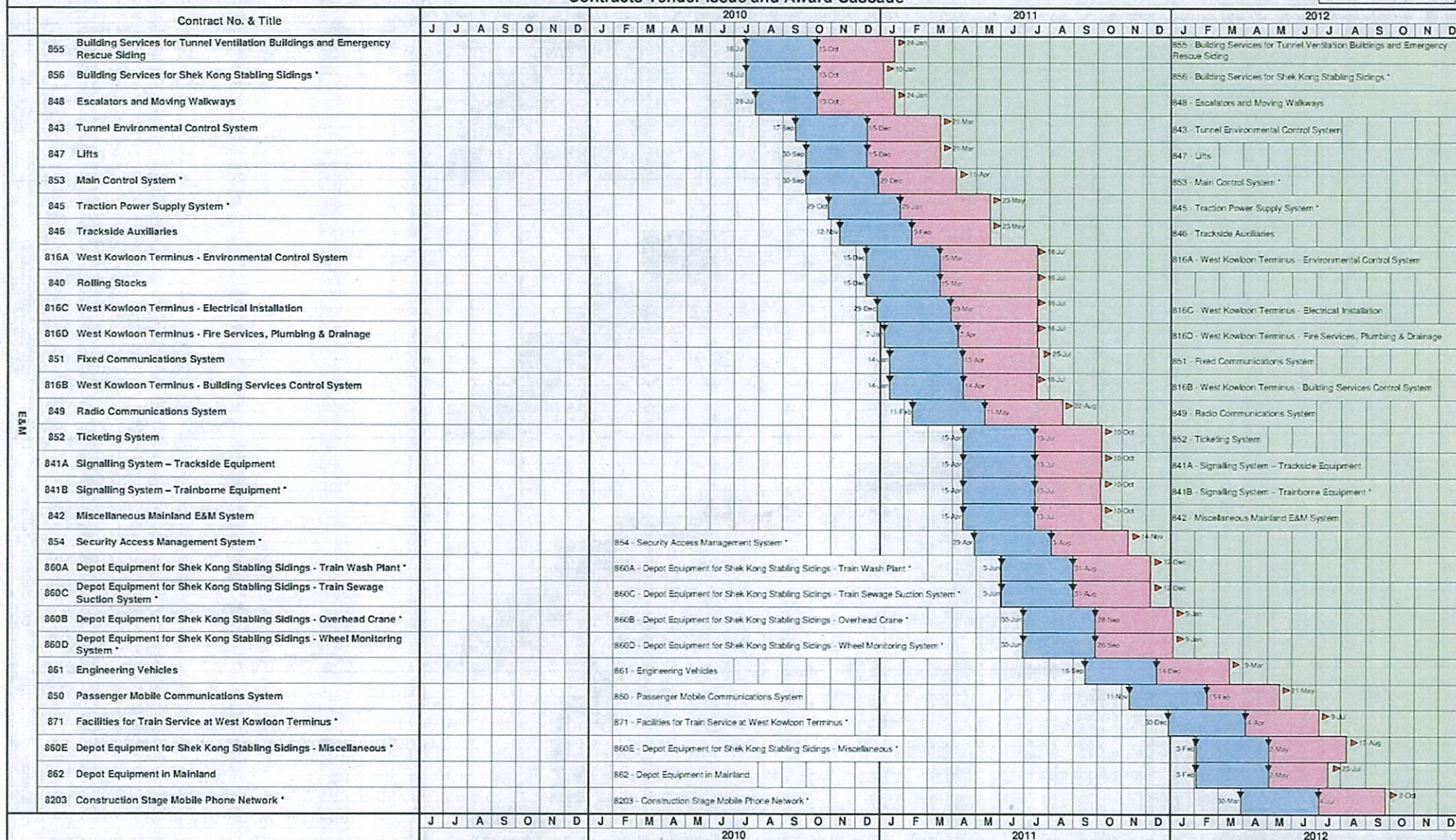
Prog No.	XRLP00PrgN3010031	Rev	21a
Originator	BC	Date	23-Apr-10



## Express Rail Link

## Contracts Tender Issue and Award Cascade

Restricted



Legends: Tendering Tender Evaluation and Board Approval Contract Commencement

Note: 1. Contract 844 "11 kV Power Distribution" is a budget provision and therefore not shown for clarity.

Prog No. XRL/P.00/Prp.N30/10031 Rev 21a  
Originator BC Date 23-Apr-10

Appendix J



## Appendix K

### **Scope of Works under the Independent Review of the E&M Systems of the XRL for the Construction Design, Testing and Commissioning Consultancy**

Contract No.	Descriptions
843	Tunnel Environmental Control System
853	Main Control System
845	Traction Power Supply System
840	Rolling Stocks
846	Trackside Auxiliaries
851	Fixed Communications System
849	Radio Communications System
852	Ticketing System
841A	Signaling System – Trackside Equipment
841B	Signaling System – Trainborne Equipment
842	Miscellaneous Mainland E&M System
854	Security Access Management System
860A	Depot Equipment for Shek Kong Stabling Siding – Train Wash Plant
860C	Depot Equipment for Shek Kong Stabling Siding – Train Sewage Suction System
860B	Depot Equipment for Shek Kong Stabling Siding – Overhead Crane
860D	Depot Equipment for Shek Kong Stabling Siding – Wheel Monitoring System
861	Engineering Vehicles
850	Passenger Mobile Communication System
871	Facilities for Train Service at West Kowloon Terminus
860E	Depot Equipment for Shek Kong Stabling Siding – Miscellaneous
862	Depot Equipment in Mainland
8203	Construction Stage Mobile Phone Network
848	Escalators & Moving Walkways
847	Lifts
816A	West Kowloon Terminus – Environmental Control System
816C	West Kowloon Terminus – Electrical Installation
816D	West Kowloon Terminus – Fire Services, Plumbing & Drainage
816B	West Kowloon Terminus – Building Services Control System
855	Building Services for Tunnel Ventilation Buildings and Emergency Rescue Siding
856	Building Services for Shek Kong Stabling Sidings



**Appendix L**  
**Minimum Frequency of Verification Audit**

	Contract Number and Title	Minimum Frequency of Verification Audit
West Kowloon Terminus	811A – WKT Approach Tunnels – North 811B – WKT Approach Tunnels – South 810A – WKT Station North 810B – WKT Station South 815 – WKT ABWK Works	6 months
Tunnels	820 – Mei Lai Road to Hoi Ting Road Tunnels 821 – Shek Yam to Mei Lai Road Tunnels 822 – Tsuen Uk Tsuen to Shek Yam Tunnels 823A – Tai Kong Po to Tsuen Uk Tsuen Tunnels 823B – SSS & ERS 824 – Ngau Tam Mei to Tai Kong Po Tunnels 825 – Mai Po to Ngau Tam Mei Tunnels 826 – Huanggang to Mai Po Tunnels	6 months
Others	All other contracts not listed above	12 months



**Appendix M**  
**Minimum Manpower Requirement for the**  
**Building Submission & Review Compliance Team**

	Number of Staff						
Year	2010	2011	2012	2013	2014	2014	2015
Quarter					1 <sup>st</sup> & 2 <sup>nd</sup>	3 <sup>rd</sup> & 4 <sup>th</sup>	1 <sup>st</sup> , 2 <sup>nd</sup> & 3 <sup>rd</sup>
Building Surveyor (BS)	1	2	2	2	3	3	1
Survey Officer (SO)	1	2	2	2	3	3	1
Structural Engineer (SE)	2	6	5	4	3	2	1
Technical Officer (TO)	2	2	2	2	2	1	1
Civil Engineer (CE)	2	2	2	2	2	2	1
Clerk	2	2	2	2	2	2	1
Total	10	16	15	14	15	13	6



**Appendix N**  
**Minimum Qualifications and Experience of Staff for the**  
**Building Submissions Review & Compliance Team**

<b>Post</b>	<b>Qualification and Experience Requirement</b>	<b>Post Qualification Experience</b>
Building Surveyor	(a) MHKIS (Building Surveying Division) or equivalent; OR (b) MHKIA or equivalent; AND (c) Level 2 or above in Chinese Language and English Language in the Hong Kong Certificate of Education Examination, or equivalent.	One year post-qualification experience in building surveying or building plan submission
Structural Engineer	(a) Corporate Member of the Hong Kong Institution of Engineers (Structural or Civil Discipline), elected after 5 December 1975; or has qualification being recognized by the Hong Kong Institution of Engineers as equivalent; AND (b) Level 2 or above in Chinese Language and English Language in the Hong Kong Certificate of Education Examination, or equivalent.	Three years post-qualification experience in structural engineering
Civil Engineer	(a) Corporate Member of the Hong Kong Institution of Engineers (Civil Discipline), elected after 5 December 1975; or has qualification being recognized by the Hong Kong Institution of Engineers as equivalent; AND (b) Level 2 or above in Chinese Language and English Language in the Hong Kong Certificate of Education Examination, or equivalent.	Three years post-qualification experience in civil engineering
Survey Officer	(a) A Diploma/Higher Certification in Building Surveying/Architectural or Building Studies/Building Technology; or an Associate Degree in Building Surveying/Architectural Studies from a	-



Post	Qualification and Experience Requirement	Post Qualification Experience
	<p>recognized Hong Kong university/institute, or equivalent; AND</p> <p>(b) Level 2 or above in Chinese Language and English Language in the Hong Kong Certificate of Education Examination, or equivalent.</p>	
Technical Officer	<p>(a) A Diploma or Higher Certificate in Structural Engineering or Civil Engineering from a Hong Kong Polytechnic/Polytechnic University, the Hong Kong Institute of Vocational Education or technical institute/college, or equivalent; AND</p> <p>(b) Level 2 or above in Chinese Language and English Language in the Hong Kong Certificate of Education Examination, or equivalent.</p>	-
Clerk	<p>(a) Five subjects, including Chinese Language and English Language ("Syllabus B" before 2007), at Level 2 or Grade E, or above in the Hong Kong Certificate of Education Examination, or equivalent; AND</p> <p>(b) Basic computer knowledge including Chinese and English word processing, spreadsheet and database functions; AND</p> <p>(c) Typing speed of 30 English Words per minute and 20 Chinese characters per minute.</p>	-