

Our Ref: NOLERL-COR-HSD-ENV-020122

The EIA Ordinance Register Office
Environmental Protection Department
27th Floor, Southorn Centre,
130 Hennessy Road,
Wan Chai, Hong Kong

23 March 2010

By Hand

Attention: Mr. C C CHIU

Dear Mr Chiu,

Hong Kong Section of Guangzhou-Shenzhen Hong Kong Express Rail Link (XRL)
Environmental Permit (No.EP-349/2009)
EP Condition 2.19 - C&D Material Management Plan

Please find enclosed herewith the finalized C&D Material Management Plan which has been approved by Public Fill Committee for your information and this plan will superseded the plan submitted under my letter to you dated 17 March 2010.

Should you have any queries regarding the above, please feel free to contact Natalie Ip (Tel: 2688 1260) or Michelle Chau (Tel: 2688 1954) for assistance.

Yours faithfully,



Richard Kwan
Manager - Environmental

RK/NI/wc

Encl.

c.c.

RDO – Edmund Tsui
Mott MacDonald – Dr Anne Kerr

Fax: 2761 1508 (w/o enclosure)
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MEMO

By Fax

From Secretary, Public Fill Committee

To CE/RD 2-3, RDO, HyD

Ref. (0DHNX-01) in FM PF/CDM/00

Pl.

(Attn: Mr S H Lam)

Tel. No. 2762 5555

HIGHWAYS
RAILWAYDEPARTMENT
DEVELOPMENT (223Q)

In RD 6/17/2/1

Fax No. 2714 0113

dated 4.11.2009

Fax No. 2714 5297

Date 8 January 2010

Total Pages

2 + 3

RECEIVED

Public Fill Committee

PFC Paper No. 8/2009

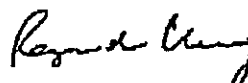
Construction and Demolition Material Management Plan (C&DMMP)
for Express Rail Link Project by Mass Transit Railway Corporation

I refer to your submission of the proposed C&DMMP for the Express Rail Link Project by Mass Transit Railway Corporation.

2. The replies received from the PFC Members following circulation of the PFC Paper No. 8/2009 on 19.11.2009 are given in the attached Annex.

3. I am pleased to advise you that, in accordance with ETWB TC(W) No. 33/2002, the C&DMMP for the Express Rail Link Project by Mass Transit Railway Corporation has been endorsed in principle by the Public Fill Committee on the conditions that the project proponent shall:

- a) continue to liaise with the relevant departments for the setting up of the proposed central rock crushing and concrete batching plant at Kai Tak or other areas;
- b) continue to liaise with the HKBCF and HKLR project office on the detailed arrangement of reuse of the surplus C&D material to be generated from the Project as reclamation fill in the HKBCF and HKLR projects;
- c) liaise with other major project offices including CKR and CWB on the feasibility of reuse of the surplus C&D material to be generated from the Project;
- d) liaise with the Fill Management Division on the disposal arrangement of the surplus inert C&D material to the public fill reception facilities or Mainland as the last resort; and
- e) report the outcome of the liaisons in (a), (b), (c) and (d) above to the Secretary of the Public Fill Committee from time to time. If there are significant changes, the outcome will be circulated to members for agreement before the issue of Engineer's instruction to the Contractors for reuse of spoil in other projects.



(CHENG Nim-tai, Raymond)
Secretary, Public Fill Committee
Civil Engineering and Development Department

2/2
2/2

-2-

C.C.:

DH(PEM), CEO, CEDD
DEP
SDEV(W)
DEP
D of H
CGE/M, GEO, CEDD
GE/RD(2), HyD
AD(T), CEDD
AD/P&D, DSD
AD/NW, WSD
AD(SE), Arch SD

(Attn.: Mr Keith Tang)
(Attn.: Ms Margaret Hsia / Mr Anthony Yuen)
(Attn.: Mr W W Chui)
(Attn.: Mr Lawrence M C Lau)
(Attn.: Mr Kenneth Wong)
(Attn.: Mr S H Tse)
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Annex

Construction and Demolition Material Management Plan (C&DMMP)
for Express Rail Link Project by Mass Transit Railway Corporation

Replies Received following Circulation of PFC Paper No. 8/2009

a) Endorsement in principle without conditions:

DH(PEM), CEO, CEDD
PW(WF), EPD
CCE, HD
CGE/M, GEO, CEDD
GE/RD(2), HyD
AD(T), CEDD
AD/P&D, DSD
AD/NW, WSD
AD(SE), Arch SD

b) Endorsement in principle with conditions (Please refer to the APPENDIX):

PAS(W)3, DEVB
SE(WMD), ENB

c) Comments on the paper:

Nil

Comments from Members on the Project Proponent's Responses to Comments

Nil

APPENDIXResponse to Comments on C&DMMP Rev. D

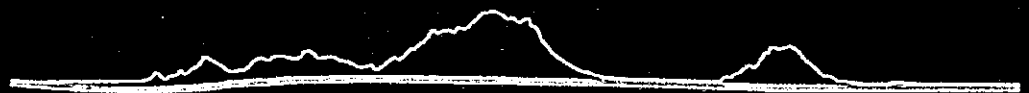
No.	Comment	Response
1.	Development Bureau Date: 30.11.09 From: Mr. W W Chui	
(i)	Para. 6: Please clarify what is "Grade III or below rock".	According to Geoguide 3 Guide to Rock and Soil Descriptions published by Geotechnical Engineering Office, Grade III rock means moderately decomposed rock. The "Grade III or below rock" means "Grade III & IV rock" as shown in the C&DMMP Table 7.1.
(ii)	Para. 12: Add "in the worst scenario" before "approximately 5,465,000 m ³ ".	The amount of excavated materials to be reused in other projects would hinge on the actual implementation programme of the anticipated reception sites. It is recommended to amend the first sentence as "... to dispose of in the worst scenario approximately 5,465,000 m ³ surplus excavated C&D material to Mainland by CEDD if there is no significant change in the implementation programmes of HKBCF and XRL projects."
(iii)	In para. 14: In view of the significant quantities of C&D materials involved, the outcome of the liaisons in (a), (b), (c) and (d) above should be reported to the Secretary of the Public Fill Committee for circulation to members for endorsement before invitation of tenders for the construction of the Project.	The intake schedules of the proposed reception sites such as central rock crushing plant, HKBCF, HKLR, CKR and CWB all have not yet been fixed. In order not to delay the invitation of tenders which had started in July 2009, it was specified in the tender documents that the Engineer had the right to instruct the Contractor to dispose of the spoil to sites other than Mainland. It has already mentioned in para. 14(d) to liaise with the Fill Management Division on the disposal arrangement. The liaison with the corresponding offices is expected to be continued during the construction of XRL. Thus the last para. is suggested to be revised to "The outcome of the liaisons in (a), (b), (c) and (d) above should be reported to the Secretary of the Public Fill Committee from time to time. If there are any significant changes, the outcome will be circulated to members for agreement before the issue of Engineer's instruction to the Contractors for reuse of spoil in other projects."

No.	Comment	Response
2	Environmental Protection Department Date: 1.12.09 From: Mr. Yuen Woo Kok Anthony	
	Clarify the quantity of C&D materials to be used (currently stated as 1.61 M m³ in the second bullet point on page 13 of the C&DMMP) as concrete aggregate if the setting up of rock crushing facilities and concrete batching plant in Kai Tak is feasible, after taking into account the 0.958 M m³ (Grade II, III and IV rock in Table 7.1 of Appendix A) of rock to be reused in the Hong Kong-Zhuhai-Macao Bridge Project.	There is a typo mistake in Para. 6.3 3rd bullet, it should be "...another 1.16 M m³ (instead of 1.61 M m³) of C&D materials could be reused as concrete aggregate". In general, if the setting up of rock crushing facilities is feasible, we shall liaise with HKBCF office to see whether they have any other source of materials to replace the supply of rock from XRL. After providing the necessary quantity to HKBCF project, the surplus of rock in a maximum of 1.16 M m³ would be reused as concrete aggregate.

Express Rail Link

**Construction & Demolition Material
Management Plan**

November 2009



INDEX

1. INTRODUCTION.....	4
2. SCOPE OF THE PROJECT.....	5
3. IMPLEMENTATION PROGRAMME.....	6
4. DEVELOPMENT CONSTRAINTS	6
5. DEVELOPMENT OPTION	8
6. MANAGEMENT OF C&D MATERIAL.....	11
7. SUMMARY.....	15
8. RECOMMENDATION	15

APPENDIX A

Table 6.1	Summary of Overall C&D Material Situation
Tables 6.2 to 6.14	Breakdown of Half-yearly C&D Material Generation
Tables 6.15 to 6.27	Breakdown of Half-yearly C&D Material <u>Off-site</u> Disposal
Table 7.1	Summary of C&D Material Disposal Arrangement

APPENDIX B

Figure 3.1	XRL Proposed Project Programme
Figures 5.1 & 5.2	West Kowloon Terminus Layout and Section
Figures 5.3 & 5.4	XRL Tunnel General Plan and Track Schematic
Figure 5.5	XRL Tunnel Alignment Option
Figure 5.6	XRL Contract Strategy
Figures 6.1 to 6.3	XRL Barging Points Layout
Figures 6.4	XRL Proposed Barging Points Location

APPENDIX C

NOT USED

APPENDIX D

Table D-1	Response to comments from Secretary, HyD C&D Vetting Committee dated 1-Apr-2009, ref (2MHn) in HRD 7/8/13
Table D-2	Response to comments from CE/Fill Management dated 7-Apr-2009, ref (08NW4-01) in Fm PF/CDM100
Table D-3	Response to comments from Secretary, HyD C&D Vetting Committee dated 26 June 2009, ref (2QN0) in HRD 7/8/13
Table D-4	Response to comments from Secretary, Public Fill Committee, CEDD dated 28-Sept-2009, ref (0BZ6R-01) in FM PF/CDM/00

1. INTRODUCTION

Purpose

The purpose of this management plan is to provide an estimate of the quantities of construction and demolition (C&D) material to be generated from construction activities under the Express Rail Link (XRL). It also outlines measures to minimize the generation of and maximize the reuse of inert C&D material as far as possible.

Background of the Project

The Guangzhou-Shenzhen-Hong Kong Express Rail Link is an express rail link connecting Hong Kong, Shenzhen and Guangzhou. The Express Rail Link provides intercity train services from West Kowloon to Futian and Longhua in Shenzhen, Humen in Dongguan and Shibi in Guangzhou as well as high speed long-haul train services between West Kowloon and various major cities in the Mainland.

The proposed Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link provides an approximately 26 kilometres long electrified double-track railway system from the terminus in West Kowloon to the boundary at Huanggang, where it will connect with the Mainland section.

MTRC is the implementation agent of the project which is currently in the detailed design phase. On completion of the detailed design, construction contracts will be tendered and awarded for construction of the railway works.



2. SCOPE OF THE PROJECT

The Express Rail Link (XRL) is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO).

XRL includes construction of the following works:

- (i) a railway terminus and associated railway and boundary crossing facilities, footbridges and subways in West Kowloon;
- (ii) an approximately 16 kilometres long underground railway tunnel connecting the proposed terminus in West Kowloon and the proposed emergency rescue station at Shek Kong via urban Kowloon, Kwai Chung and Tai Mo Shan Country Park;
- (iii) an emergency rescue station at Shek Kong; and
- (iv) an approximately 8 kilometres long underground railway tunnel connecting the proposed emergency rescue station at Shek Kong, through Lam Tsuen Country Park and Mai Po, to the boundary at Huanggang joining the Mainland section;
- (v) construction of ventilation buildings (VB) at Mai Po, Ngau Tam Mei, Tai Kong Po, Pat Heung, Shing Mun, Kwai Chung, Nam Cheong, Mong Kok West and West Kowloon;
- (vi) construction of stabling sidings and maintenance facilities at Shek Kong;
- (vii) construction of railway facilities including railway trackwork, train control and communication facilities, ventilation shafts, electrical and mechanical plants, electrical catenary installations, and emergency vehicle accesses;
- (viii) associated reconstruction, modification and realignment of existing roads including carriageways, footpaths and footbridges.
- (ix) construction of associated roads;
- (x) preventive or remedial works including ground treatment and underpinning of existing bridges and buildings; and
- (xi) ancillary works including associated drainage works, waterworks, slope works, landscaping works, and re-provisioning of existing services and facilities

3. IMPLEMENTATION PROGRAMME

The envisaged Works Programme for XRL is shown in Figure 3.1 in Appendix B. The construction contracts are scheduled to be awarded from Dec 2009 to Jun-2010, and completed in 2015.

4. DEVELOPMENT CONSTRAINTS

Rail Alignment and Station

Existing buildings, underground drainage systems, buried seawall structures and highway structures impose the main constraints to the railway alignment and the station arrangement. The key physical and engineering constraints along the alignment and the station include:-

- The ground conditions and geology;
- Highways structures at Yau Ma Tei area – the road bridges D1 & T;
- Footbridges along Jordan Rd (FB14) and at Chui Yu Road;
- Buildings in close proximity of the alignment such as the Kowloon Station Development, Olympic Station Development, MTR Austin Station (target to be in operation in Aug-09), MTR Nam Cheong Station, CLP substations at Lai Cheung Road and buildings along Sham Mong Road;
- Twin cell box culverts WR, DS and PS adjacent to Yau Ma Tei Interchange, single cell box culvert JR near Jordan Rd, Gascoigne Road box culvert GC, 4 nos of DSD drainage culverts along Sham Mong Road (namely WD1, FS1, YC2 & NC1) and 2 rising mains;
- Tunnel sump of MTR Tsuen Wan Line near Lai Chi Kok Interchange area;
- Existing foundations for future Nam Cheong Property Development;
- Buried historical seawall structures and other marine structures;
- Encroachment into West Kowloon Cultural District (WKCD);
- Interface with the roadwork system at West Kowloon area esp. Lin Cheung Road and Austin Road Underpass;
- Wetlands, Country Parks and Shek Kong Barracks; and
- Interface with Mainland section.

Existing Structures

A number of structures listed above will conflict with the terminus and tunnel construction, and therefore will need to be demolished and re-provisioned to facilitate construction works. These structures are listed as below:-

- Elevated footbridge FB14;
- Elevated footbridges at Sham Mong Road
- Road bridges D1 & T
- Wui Cheung Road PTI
- Drainage culverts and rising mains at Sham Mong Road
- CLP Spare Equipment Room Building at Sham Mong Road
- Foundation for future Nam Cheong Property Development
- Tunnel sump of MTR Tsuen Wan Line

In addition to the above demolition works, parts of the external walls of Kowloon Station Development and Austin Station will also need to be removed to allow connection of the new subways and footbridges from XRL Terminus Station.

Traffic

A small section of the tunnel construction, station construction, ground treatment along Hoi Wan Road, removal of underground obstructions (piles of box culvert and footbridges) in Sham Mong Road, etc will be carried out alongside and beneath the existing public highways. Maintenance of vehicular and pedestrian traffic flows will be a key constraint to the construction method, phasing and programme.

The current traffic condition should generally be maintained by phased traffic management (TTM) schemes. All required traffic constraints will be considered during the scheme design, detailed design and construction phases. On top of the traffic impact assessment study conducted by competent traffic consultant, public consultation and regular meetings with Site Liaison Group consisting of Police, TD and RDO, will be conducted in construction phase to ensure the proposed TTM schemes will be acceptable from public and safety viewpoints.

Construction Works Areas

The railway works will require provision of back up works areas for both storage and construction purposes. However, the allocation of suitable areas is difficult due to the limited vacant lands available along the XRL alignment. The feasibility of optimizing the reuse of C&D materials on site during the course of construction will be highly constrained by the amount of works areas allocated to the contractors.

5. DEVELOPMENT OPTION

During the course of design development, various schemes have been considered for the station and tunnel construction methods. The preferred scheme is briefly discussed in this section. However, it should be noted that the final scheme adopted may be subject to change by the Detailed Design consultants or the contractors should there be any alternative proposal approved by the Corporation and relevant parties.

Preferred Terminus Option

The terminus of XRL in Hong Kong will be located in West Kowloon, immediately north of the proposed West Kowloon Cultural District (WKCD) between Kowloon Station of Lantau Airport Railway (LAR) on the west and Austin Station of Kowloon Southern Link (KSL) on the east. The West Kowloon Terminus (WKT) will not only form an integrated railway/transport/development hub in West Kowloon, providing point-to-point connection via the existing MTR network, but could also enhance the WKCD as a regional cultural hub. WKT will be developed as a gateway to the Mainland, with distinctive architectural and landmark features.

The current Station arrangement is shown in Figures 5.1 & 5.2 in Appendix B. Following discussion with Government, the preliminary PPFS scheme has moved westwards and the Terminus will encroach into WKCD by approximately 3.3 ha. The station must be completely underground to allow future West Kowloon Cultural Development (WKCD) and Site A development. In addition, to ensure the Terminus can meet the service requirement, it needs to accommodate 15 tracks/platforms for 9 long-haul and 6 shuttles, which make the further reduction

in plan area impossible. Nevertheless, every effort was made to minimize the underground space, and hence the excavation quantity, by arranging the supporting facilities (eg. E&M facilities, plant rooms, overhead ventilation ducts and car park) in mezzanine floors (B1M & B2M). The terminus is about 750m in length and 250m in width with a depth of 30m below ground.

Preferred Tunnel Option

The current tunnel alignment and anticipated methods of construction are shown in Figures 5.3 and 5.4 in Appendix B. The development of the project alignment and the associated infrastructure has been driven by the high speed nature of the railway. The constraints within urban Shenzhen and the mountainous topography of Hong Kong's New Territories dictated that the railway is to be wholly underground between Futian Station and West Kowloon Terminus. To achieve the required line speed of 200kph, large radius horizontal curves and shallow gradients have generally been adopted.

The railway generally runs in north south direction from Huang Gang Park in the Mainland, beneath Mai Po, Ngau Tam Mei, Kam Tin Valley, Tai Mo Shan, Kwai Chung, Lai Chi Kok, Nam Cheong and Tai Kok Tsui to the new terminus station in West Kowloon.

Shek Kong Stabling Sidings (SSS) located next to Shek Kong Barracks is required to fulfill the operational requirement, by serving as a small scale engineering depot with engineering trains for necessary maintenance facilities (e.g. maintenance of permanent-way, overhead line, signaling and control, etc), as well as handling of emergency situation such as derailment or emergency servicing.

An emergency rescue station (ERS) is required for fire fighting and should be located approximately at the mid-point of the alignment. The ERS is designated as a place for trains to stop and to discharge passengers either to another train in the event of mechanical problems or evacuation to ground level in the event of a train fire. The ERS will be a depressed box with an open top for safety reason and access ramps will be provided to allow ease of access for firemen.

As the Project is an underground railway, major construction works are tunnelling works and cut-and-cover works at shafts, ERS and WKT. Drill and blast construction method will be adopted for rock tunnels while bored tunnelling method will be adopted for mixed and soft ground tunnels. Cut-and-cover construction method will be adopted for the tunnel sections and works areas which require this conventional method.

Various tunnel alignments have been considered with the details shown in Figure 5.5 of Appendix B. In view of the various constraints and limitations which include the restriction on TBM depth with allowable pressure of 3.45 bar, the requirement to achieve a high-speed railway of 200kph and hence a minimum radius of 2000m, and also the constraints in urban area to avoid existing pile foundation, only one of the alignments (as highlighted in pink) is viable.

Contract Strategy

The present contract strategy is to divide XRL into 13 major construction contracts. The works package will comprise the following, see Figure 5.6 in Appendix B:-

- 802:- Nam Cheong Property Foundation Removal
- 803:- Piling for West Kowloon Terminus (WKT)
- 805:- Sham Mong Road Obstruction Removal
- 810:- West Kowloon Terminus
- 811:- tunnels between WKT and Mongkok West Ventilation Building (MKV)
- 820:- tunnels between MKV and Mai Lai Road, including Nam Cheong VB
- 821:- tunnels between Mai Lai Road and Shek Yum, including Kwai Chung VB
- 822:- tunnels between Shek Yum and Pat Heung, including Shing Mun & Pat Heung VBs
- 823A:- tunnels between Pat Heung & Tai Kong Po
- 823B:- Emergency Rescue Stations and Shek Kong Stabling Sidings
- 824:- tunnels between Tai Kong Po and Ngau Tam Mei, including Tai Kong Po and Ngau Tam Mei VBs
- 825:- tunnels between Ngau Tam Mei and Mai Po, including Mai Po VB
- 826:- tunnels between Mai Po and Huang Gang Park

(Note all spoil generated in Contract 826 will be disposed of to Mainland from the launching shaft at Huang Gang Park.)



6. MANAGEMENT OF C&D MATERIAL

6.1 Estimate of C&D Material

The total volume of C&D material to be generated during the course of XRL construction is estimated to be 10.39 M m³ based on the latest design schemes. The materials generated include 10.08 M m³ of fill, completely decomposed granite (CDG), granite rock, volcanic rocks, wet materials recovered from TBM excavation and during diaphragm wall installation, artificial hard materials (eg. concrete and asphalt debris) and C&D waste, as well as 0.31 M m³ of marine deposit. Figures 6.1 to 6.3 in Appendix B plot the entire alignment into the geological profiles, based on the available SI information. The summary of the C&D material situation is shown in Table 6.1 in Appendix A. Table 6.2 to 6.14 in Appendix A gives a further breakdown of the half-yearly C&D material generated during the envisaged construction period.

6.2 Mitigation Measures to Reduce C&D Material Generated

In general, the combination of the urban setting and the nature of the physical constraints have limited the available schemes for the terminus and tunnels construction. Also, employing of TBM and Drill & Blast tunnels for almost the entire length of XRL has substantially minimized the C&D materials compared with cut & cover tunnels. Majority of the C&D materials comes from the West Kowloon Terminus which is an entire underground station accommodating 15 tracks and related railway services, which is unavoidable. Construction of the 8 ventilation buildings and the Emergency Rescue Station also contribute a high percentage of the C&D materials. All possible measures including the followings to negate/minimize the generation of C&D materials have been explored and implemented:-

- Reduction of the size and the number of offline plant rooms, during detailed design stage ;
- Minimization of the overall size of plant buildings and tunnel box sections through effective structural scheming for plan building and tunnel layout ;

- Adoption of tunneling construction techniques that may minimize the amount of excavation as far as possible ;
- The cut-and-cover excavation areas including WKT, ERS, launching shafts, ventilation shafts etc, required by the Scheme have been reviewed and optimised to the minimum necessary to ensure the viable construction as well as safe operation of an express railway line ;
- A 400m long tunnel section along Hoi Wan Road which was proposed in PPFGS to be constructed by cut-and-cover method has been replaced by the bored tunnels ;
- Innovative pile removal method is to be employed to extract piles of existing property foundations at Nam Cheong Station instead of using cut-and-cover method as proposed in PPFS ;
- Length of overrun tunnels in Terminus is to be reduced from 87m to 65m after detailed discussions and negotiation with Mainland colleagues, which reduced the spoil quantity by 0.21 Mm³ ;
- Continuous discussion with Buildings Department underway, aiming to reduce the number of piles (and hence the excavation) by 15 to 20%, i.e. ~77,000 m³ spoil ;
- Proactive liaison with Mainland and successfully finalise the tunnels at the boundary to be constructed from north to south, which reduced the spoil quantity by 0.48 Mm³ ;
- Active adoption of filling method in Shek Kong Stabling Sidings and hence reusing 0.16 Mm³ of surplus excavation materials

6.3 Measures to Maximize Reuse of C&D Material Generated

The following measures have been identified to maximize the reuse of C&D materials generated:-

- Use of excavated material for backfilling and reinstatement works. Three areas would need backfilling, which include WKT Approach Tunnels (0.31 Mm³ in Contract 811), Nam Cheong Launching Shaft (0.14 Mm³ in Contract 820) and Mai Po Launching Shaft (0.17 Mm³ in Contract 825). This amount to 0.626 Mm³ of surplus excavation materials to be reused ;

- Artificial hard materials (bitumen and broken concrete) of approximately 0.103 M m³ to be reused on site. It will either be stockpiled on site for future reuse or recycled at TKO137 followed by reusing as hardcore or backfilling material. For broken concrete, it could also be broken up into smaller pieces to <250mm followed by disposal to Taishan or other designated receptor sites in Mainland.
- Study on centralized rock crushing facilities and concrete batching plant in Kai Tak is underway and the sourcing of land at Kai Tak is ongoing. If confirmed feasible, another 1.61 M m³ of C&D materials could be reused as concrete aggregate.
- Coordination with Hong Kong-Zhuhai-Macau Bridge (HZMB) is ongoing with an aim to deliver suitable surplus excavation materials from MTR projects for their filling works. According to the latest arrangement, their plan is to import about 1.616 M m³ soft materials and 1.647 M m³ rock materials from XRL during 2011 to 2015.
- Coordination with Central Kowloon Route (CKR) underway aiming to deliver suitable surplus excavation materials for their backfilling. CKR's current planning is to import 0.36 M m³ of rock from 2012 to 2015.
- Coordination with Central Wanchai Bypass (CWB) underway aiming to deliver suitable surplus excavation materials for their reclamation and tunnel backfilling. CWB's current planning is to import 1.814 M m³ public fill from Jan 2010 to Dec 2015, and 0.547 M m³ rock from Jan 2010 to Dec 2013.
- Reuse of C&D materials generated in other construction sites will be explored and studied during the development of the Project.

Disposals to Lam Tei Quarry and Anderson Road Quarry were considered but negative because of their limited capacity. In addition, proactive studies to disposing the surplus materials temporarily and/ or permanently to Lamma Ex-Quarry and Shek O Ex-quarry were conducted in September 2008 but rejected by the Government.

6.4 Disposed C&D Material

It is estimated that 9.351 M m³ (0.31 M m³ of marine sediments excluded) of the surplus C&D material will be disposed off-site. Of these, 3.263 M

m³ will be reused in other projects and 6.088 M m³ will be disposed of with the proposed methods described in next section. A portion of the excavated C&D material will be reused for all backfilling or other earth filling activities on site. As such, no imported fill will be required for the Project.

Table 6.15 to 6.27 in Appendix A gives a further breakdown of the half-yearly C&D material to be disposed off-site during the envisaged construction period.

6.5 Disposal Method

(a) *Disposal to Mainland by CEDD Vessels*

There will be approximately 5.465 M m³ of C&D material to be disposed of in Mainland, which includes soft inert C&D materials, granite rock and volcanic rock. It is proposed that the surplus materials will be directly trucked / conveyed via conveyor belt system, to the nearby barging points and finally be removed to Mainland (Tai Shan or the designated receptor site in Mainland) by CEDD vessels. Rock material disposed of at Mainland will be no larger than 250mm and free of marine mud, reinforced steels or bituminous material. The moisture content of material excavated by TBM will not be higher than 25% of the dry density of the material. To facilitate direct disposal to the Mainland by CEDD vessels at the barging points provided under the project, the minimum berthing place will be erected at 100m long with minimum water depth to be 5m. Location of proposed barging points is indicated in Figure 6.4 in Appendix B.

(b) *Disposal to Public Fill Reception Facilities*

It is estimated that 0.591 M m³ of wet spoil and other excavated materials of Contracts 802 and 805 generated along XRL will be disposed of at the Public Fill Reception Facilities. Wet spoil is soft materials from diaphragm wall, pre-bore H-pile and bored piles installation. It is proposed to dispose this wet spoil by trucks to the TM38 or TKO137, as directed by CEDD. Other wet spoil from TBM will be disposed of to Mainland as detailed in paragraph 6.5a.

(c) **Disposal to Landfill**

It is estimated that 0.032 M m³ of non-inert C&D materials arising from general site clearance works, tree felling and earthworks to be disposed at government landfills. EPD confirmed that disposal of non-inert C&D materials will be at Northeast New Territories Landfill (NENT).

(d) **Disposal to Open Sea**

It is estimated that 0.31 M m³ of marine sediments will be generated along XRL. It is proposed to dispose these marine sediments by barges in open sea/ confined marine disposal method, subject to agreement with Marine Fill Committee. Experience in KSL is MDI to SCC/ ENP and MDII to ESC. MFC has informally confirmed a quota to XRL's dumping of marine sediments, subject to approval of Sediment Quality Reports (SQR).

7. SUMMARY

This management plan for XRL presents the details of estimated quantities of C&D materials generated in the construction; the measures to reduce the C&D materials generated; the measures to maximize the reuse of C&D materials and the envisaged programme for the disposal of surplus C&D material. It is estimated that 10.08 M m³ of C&D materials will be generated for construction of the massive Terminus, the 26-km tunnels, the Rescue Station and the 8 ventilation buildings. It is anticipated that a portion of the C&D materials generated can be reused for backfilling and earth filling works on-site and in other projects, whilst the rest will be disposed of in Mainland / Public Fill Reception Facilities / Landfill areas. Excavated marine deposits will not be reused and it is proposed to be transported to open sea / confined marine disposal sites. The summary of the disposal arrangement for surplus C&D material is shown in Table 7.1 in Appendix A.

8. RECOMMENDATION

This plan had already been endorsed by HyD C&D Material Vetting Committee. Thus the plan will be submitted to the Public Fill Committee (PFC) for formal endorsements and onward allocation of disposal sites. The contents of the plan



MTR

will continue to be monitored and any revisions will be submitted to the committees for endorsement.

The project is currently in the detailed design phase. On completion of detailed design, a number of construction contracts will be tendered and awarded for the construction of the railway works. It is recommended that the appointed contractors should propose individual C&D material management plans aimed at minimizing the generation of C&D material / waste during the construction of the various components of these railway works.

Table 6.1: Summary of overall C&D material situation

	Soft Inert C&D Materials (x 1,000 m ³)	Grade III or IV rock (x 1,000 m ³)	Grade II or better rock (x 1,000 m ³)	Artificial hard Material (bitumen) (x 1,000 m ³)	Artificial hard Material (broken concrete) (x 1,000 m ³)	Others (please specify)		C&D waste to landfill (x 1,000 m ³)
						Wet spoil (x 1,000 m ³)	Volcanics (x 1,000 m ³)	
803	0	0	0	2.4	2	293	0	3
810	3215	276	0	4.4	30	30	0	5
811	752	23	0	0.8	20	63	0	3
802	27	5	0	0.1	5	5	0	1
805	10	15	0	0.1	10	0	0	2
820	188	22	0	4.9	5	486	0	3
821	0	0	660	3.1	2	0	0	2
822	23	0	614	0.7	2	5	773	2
823A	168	0	0	0.3	2	215	0	1
823B	1022	0	0	0.6	2	92	0	5
824	38	0	0	1.1	2	2	389	2
825	187	0	0	0.1	2	349	0	3
Total Surplus generated	5630	341	1273	19	84	1539	1161	32
Total Surplus to be disposed offsite	5004	341	1273	0	0	1539	1161	32
Total Import	NA	NA	NA	NA	NA	NA	NA	NA
Proposed Disposal Sites	Black: 1) to Mainland ⁽ⁱ⁾ 2) to HZMB ⁽ⁱⁱ⁾ Red:- to TM38 or TKO137 as directed by CEDD	Black: 1) To Mainland ⁽ⁱ⁾ 2) To HZMB ⁽ⁱⁱ⁾ 3) To central crushing facilities ⁽ⁱⁱⁱ⁾ Red: to TM38 or TKO137 as directed by CEDD	NA	NA	NA	Black: to Mainland ⁽ⁱ⁾ Red: to TM38 or TKO137 as directed by CEDD Green: both of the above depending on the source of wet spoil ^(iv)	1) to Mainland ⁽ⁱ⁾ 2) to HZMB ⁽ⁱⁱ⁾	Northeast New Territories Landfill

Note (i) Mainland refers to Taishan or other designated receptor site in Mainland

Note (ii) Intake of material by HZMB commences in 2011 with the quantity as shown in the paragraph 6.3.

Note (iii) Proposal to reuse suitable granite in central crushing facilities and batching plant yet to be finalised at the time of writing this report.

Note (iv) Principle is to dispose to Taishan only the wet spoil from TBM, wet spoil from D-wall & piling will be disposed of to TM38 or TKO137, as directed by CEDD (Breakdown to TM38/TKO137 being 21,000m³ for Contract 820 and 23,000m³ for Contract 825)

Note (v) Surplus quantity include excavation for WKT roadworks, breakdown being soft (249,000m³), wet spoil (29,700m³), bitumen (4,000m³), broken concrete (10,000m³), non-inert C&D (2,960m³)

Note (vi) Surplus generated from Contract 828 will be disposed of at Mainland from the launching shaft at Huang Gang Park

Table 6.2: Half-yearly C&D Materials Generation Figures for Contract 825

	2010		2011		2012		2013		2014		Sub-Total
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	
Tunnel Between Boundary at Huanggang and Ngau Tam Mei (Contract 825)											
Soft Inert Materials		71.57	115.46								
Grade I/II Granites											187.03
Grade III/IV Granites											0
Volcanics											0
Wet Spoil					174.47	87.23	87.23				348.93
Artificial Hard Materials – Bitumen	0.05	0.05									0.1
Artificial Hard Materials – Broken Concrete	0.8	0.8	0.2	0.2							2
Nonhard OSD Materials	0.5	0.5	0.16	0.16	0.16	0.16	0.16	0.16	0.5	0.5	2.96

Table 6.3: Half-yearly C&D Materials Generation Figures for Contract 824

	2010	2011	2012	2013	2014	Sub-Total
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
	(X 1,000 m ³)					
Tunnel Between Ngau Mei and Tai Kong Po (Contract 824)						
Soft Inert Materials		18.95				37.9
Grade I/II Granites						0
Grade III/IV Granites						0
Volcanics			148.05	148.05	97.38	389.48
Wet Spoil-		2.3				2.3
Artificial Hard Materials - Bitumen	0.55	0.55				1.1
Artificial Hard Materials - Broken Concrete	0.8	0.8				2
Noninert C&D Materials	0.2	0.2	0.2	0.2	0.2	2

Table 6.4: Half-yearly C&D Materials Generation Figures for Contract 823A

	Contract No.						Contract Code						Sub-Total
	2010		2011		2012		2013		2014				
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec			
(X 1,000 m ³)													
Tunnel Between Tai Kong Po and Tse Uk Tsuen Contract 823A:													
Soft Inert Materials			42	128									168
Grade I/II Granites													0
Grade III/IV Granites													0
Volcanics													0
Wet Spoil		7.21	19.54	9.77	89.24	89.24							215
Artificial Hard Materials – Bitumen	0.15	0.15											0.3
Artificial Hard Materials – Broken Concrete	0.8	0.8	0.2	0.2									2
Noninert C&D Materials	0.2	0.2	0.04	0.04	0.04	0.04	0.04	0.04	0.2	0.2			1.04

Table 6.8: Half-yearly C&D Materials Generation Figures for Contract 820

	2010		2011		2012		2013		2014		Sub-Total
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	
Tunnel Between Mei Lai Road and Mong Kok West Contract 820:											
Soft inert Materials		11.11	178.89								188
Grade I/II Granites											0
Grade III/IV Granites			22.1								22.1
Volcanics											0
Wet Spoil	1.25	2.49			191.185	191.185	104.23				490.39
Artificial Hard Materials – Bitumen	2.45	2.45									4.9
Artificial Hard Materials – Broken Concrete	1.75	1.75	0.75	0.75							5
Noninert C&D Materials	0.5	0.5	0.16	0.16	0.16	0.16	0.16		0.16	0.5	2.96

Table 6.9: Half-yearly C&D Materials Generation Figures for Contract 802

		Material Usage in Grades for Concrete Deck													
		2010		2011		2012		2013		2014		Sub-Total			
		Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec				
		(X 1,000 m ³)													
Soft Inert Materials			27										27		
Grade III Granites													0		
Grade III/IV Granites				5									5		
Volcanics													0		
Wet Spoil	0.93		0.31										1.24		
Artificial Hard Materials – Bitumen	0.05		0.05										0.1		
Artificial Hard Materials – Broken Concrete	1.75		1.75	0.75	0.75								5		
Nonhert C&D Materials	0.2		0.2	0.04	0.04	0.04	0.04	0.04	0.04	0.2	0.2		1.04		

Table 6.10: Half-yearly C&D Materials Generation Figures for Contract 805

Monthly Material Consumption Figures for Contract 805															
	2010			2011			2012			2013			2014		Sub-Total
	Jan-Jun	Jul-Dec		Jan-Jun	Jul-Dec		Jan-Jun	Jul-Dec		Jan-Jun	Jul-Dec		Jan-Jun	Jul-Dec	
Tunnel Between Mei Lai Road and Mong Kok West Contract 805;															
(X 1,000 m ³)															
Soft Inert Materials	3.33	8.67													10
Grade III Granites															0
Grade III/IV Granites		2.5		12.5											15
Volcanics															0
Wet Spoil															0
Artificial Hard Materials – Bitumen	0.05	0.05													0.1
Artificial Hard Materials – Broken Concrete	3.5	3.5		1.5	1.5										10
Noninert C&D Materials	0.2	0.2		0.04	0.04		0.04	0.04		0.04	0.04		0.2	0.2	1.04

Table 6.18: Half-yearly C&D Materials Off-site Disposal Figures for Contract 823B

	2010		2011		2012		2013		2014		Sub-Total
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	
Tunnel Between Tai Kong Po and Tse Uk Tsuen, Contract 823B:											
Soft Inert Materials				1022							1022
Grade III Granites											0
Grade III/IV Granites											0
Volcanics											0
Wet Spoil		18.15	49.23	24.62							92
Artificial Hard Materials – Blitumen											0
Artificial Hard Materials – Broken Concrete											0
Noninert C&D Materials	0.5	0.5	0.34	0.34	0.34	0.34	0.34	0.34	1	1	5.04

Table 6.19: Half-yearly C&D Materials Off-site Disposal Figures for Contract 822

[illegible]

Table 6.20: Half-yearly C&D Materials Off-site Disposal Figures for Contract 821

[illegible]

7.1 Summary Disposal Arrangement

Express Rail Link (XRL)

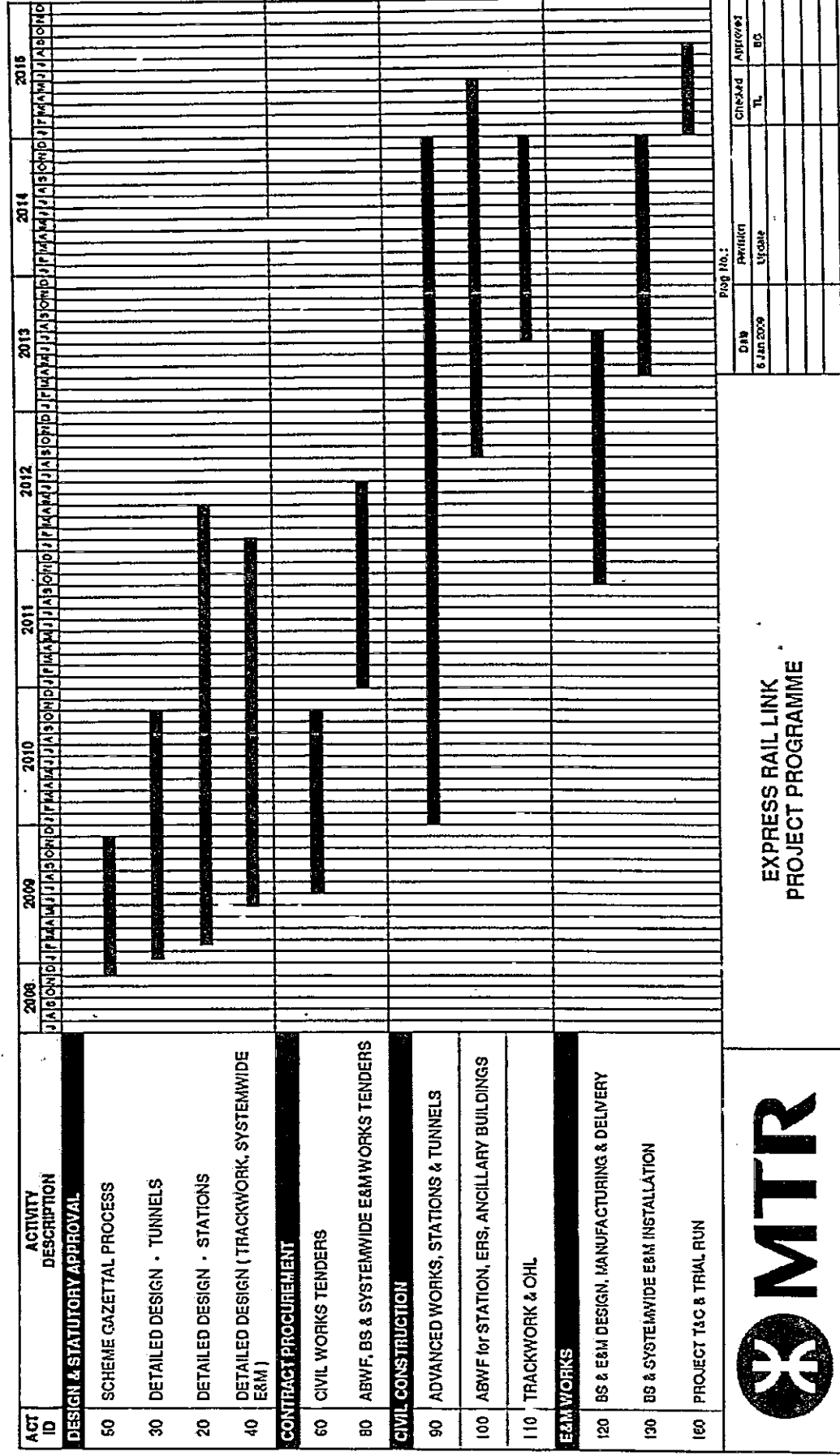
Construction and Demolition Materials Management Plan (C&DMMP)

Summary

C&D Material	C&D material generated (m ³)	Reused within the project (m ³)	Surplus C&D material (m ³)				
			Total surplus C&D material	Breakdown of surplus C&D material			
				To be reused in other projects	To Mainland	To Public Fill Reception Facilities	To Landfill
Soft inert C&D material	5,630,000	626,000	5,004,000	1,615,600	3,351,400	37,000	--
Grade III & IV rock	341,000	--	341,000	202,400	118,600	20,000	--
Grade II or better rock	1,273,000	--	1,273,000	755,500	517,500	--	--
Artificial hard material (bitumen)	19,000	19,000	--	--	--	--	--
Artificial hard material (broken concrete)	84,000	84,000	--	--	--	--	--
Wet spoil	1,540,000	--	1,540,000	--	1,006,000	534,000	--
Volcanic rock	1,161,000	--	1,161,000	689,100	471,900	--	--
<i>Sub-total for inert C&D material</i>	<i>10,048,000</i>	<i>729,000</i>	<i>9,319,000</i>	<i>3,262,600</i>	<i>5,465,400</i>	<i>591,000</i>	<i>--</i>
Non-inert C&D waste	32,000	--	32,000	--	--	--	32,000
<i>Total</i>	<i>10,080,000</i>	<i>729,000</i>	<i>9,351,000</i>	<i>3,262,600</i>	<i>5,465,400</i>	<i>591,000</i>	<i>32,000</i>

Proposed Project Programme

FIGURE 3.1

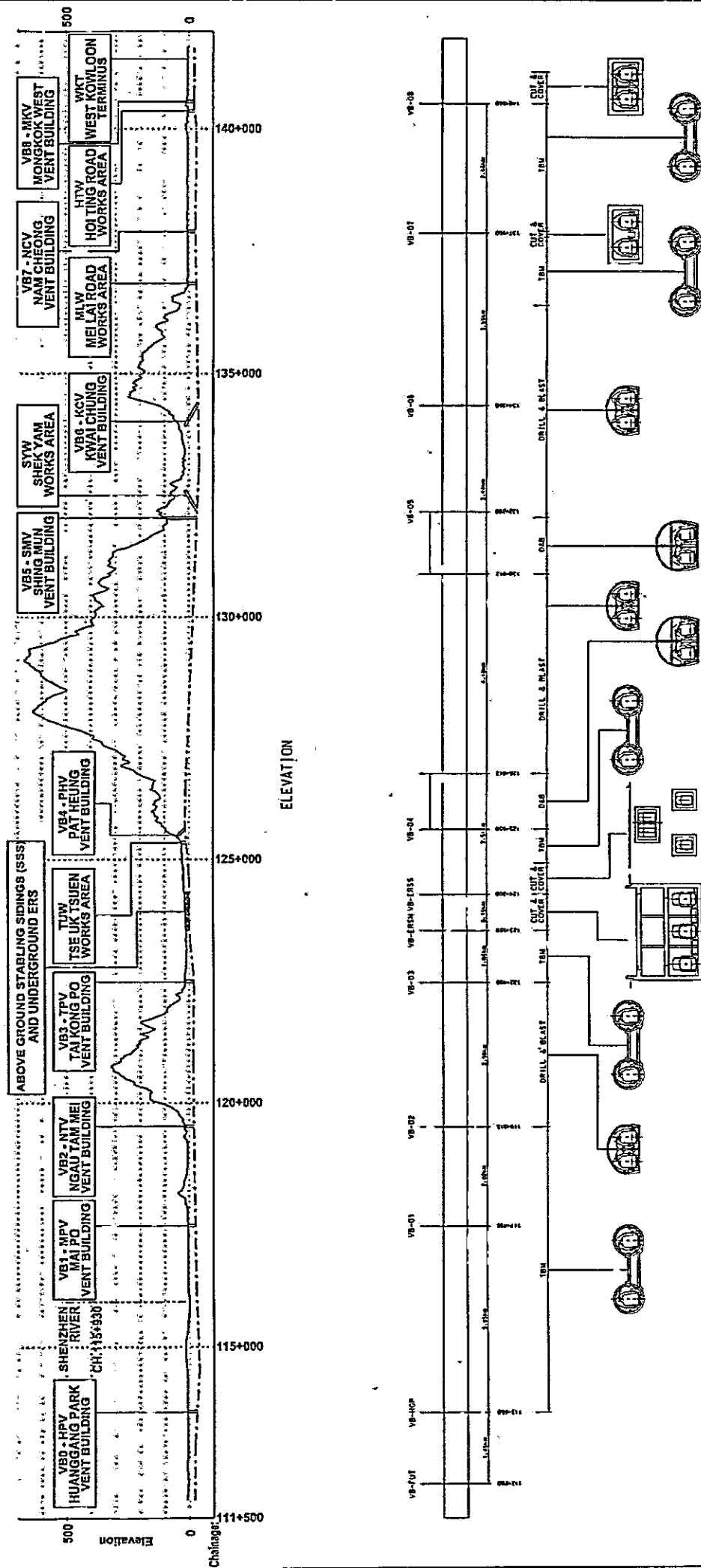


The map illustrates the proposed alignment of the Futian Station (PUT) through various buildings and areas. Key features include:

- Futian Station (PUT)**: Located at the bottom left.
- Future Layout Bifurcation**: Indicated by a dashed line branching from the main alignment.
- Boundary 1154930**: A horizontal line across the middle of the map.
- DRAINAGE BLAST**: A vertical line segment labeled "DRAINAGE BLAST".
- TBM**: Tunnel Boring Machine locations marked along the alignment.
- CUT & COVER**: Areas where the tunnel will be constructed using cut-and-cover methods.
- SHEK YAN WORKS AREA**: A large area labeled "SHEK YAN WORKS AREA".
- Other Buildings and Areas**: Numerous other buildings and areas are labeled, including V81-MPV, V82-TV, ERS-ERS, SSS-SHEK KONG, V83-NV, V84-PHY, V85-KY, V86-KY, V87-NCV, V88-MKV, and others.

[illegible]

FIGURE 5.4

[illegible]

Dedicated Route – Alignment Options

Figure 5.5

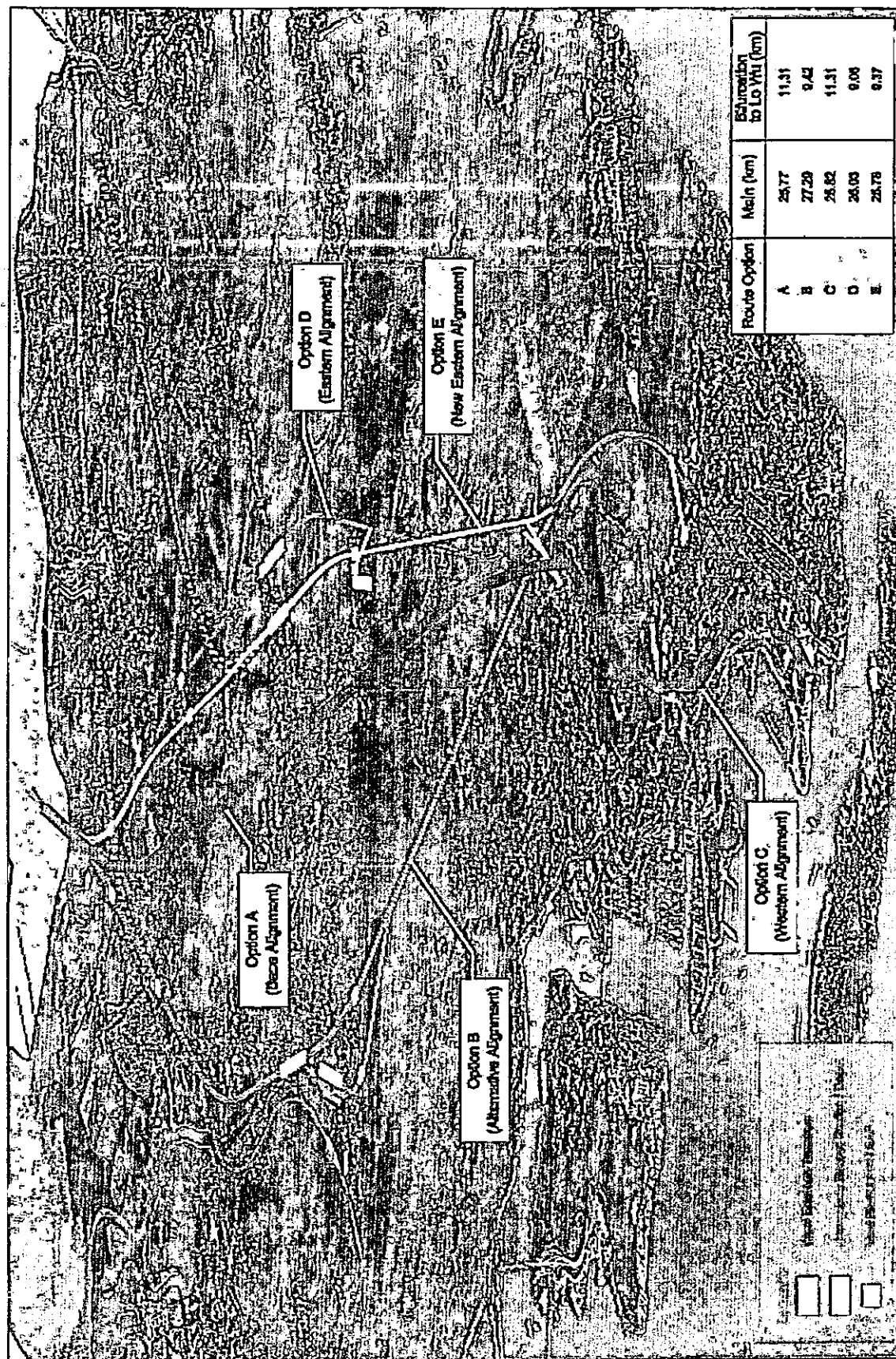
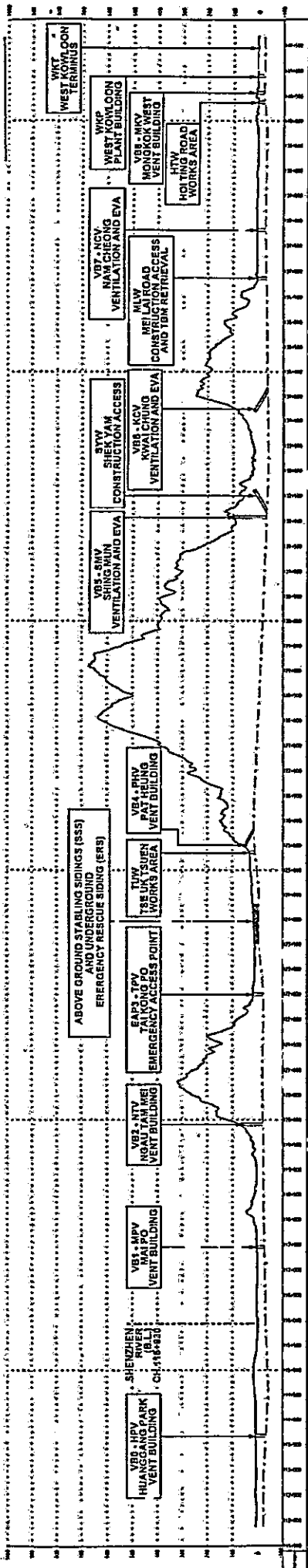
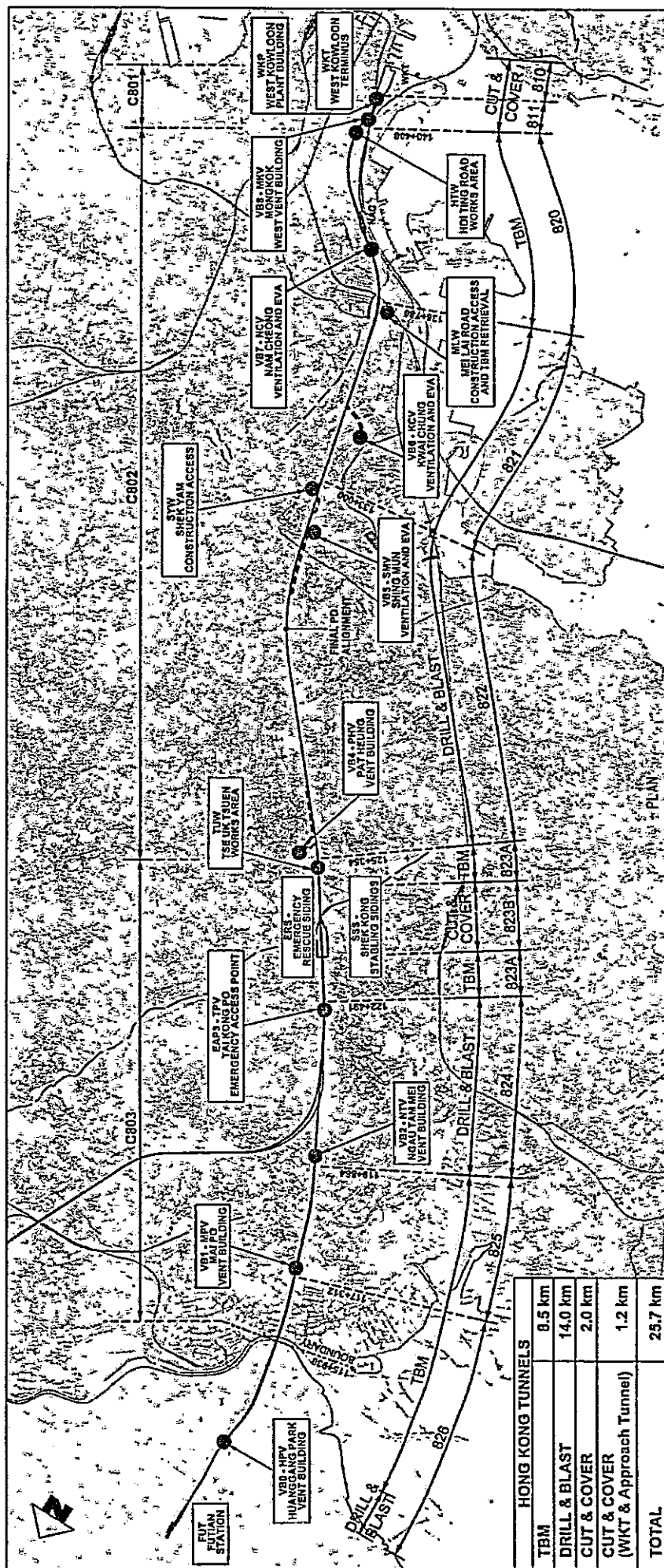


Figure 5.6



ELEVATION

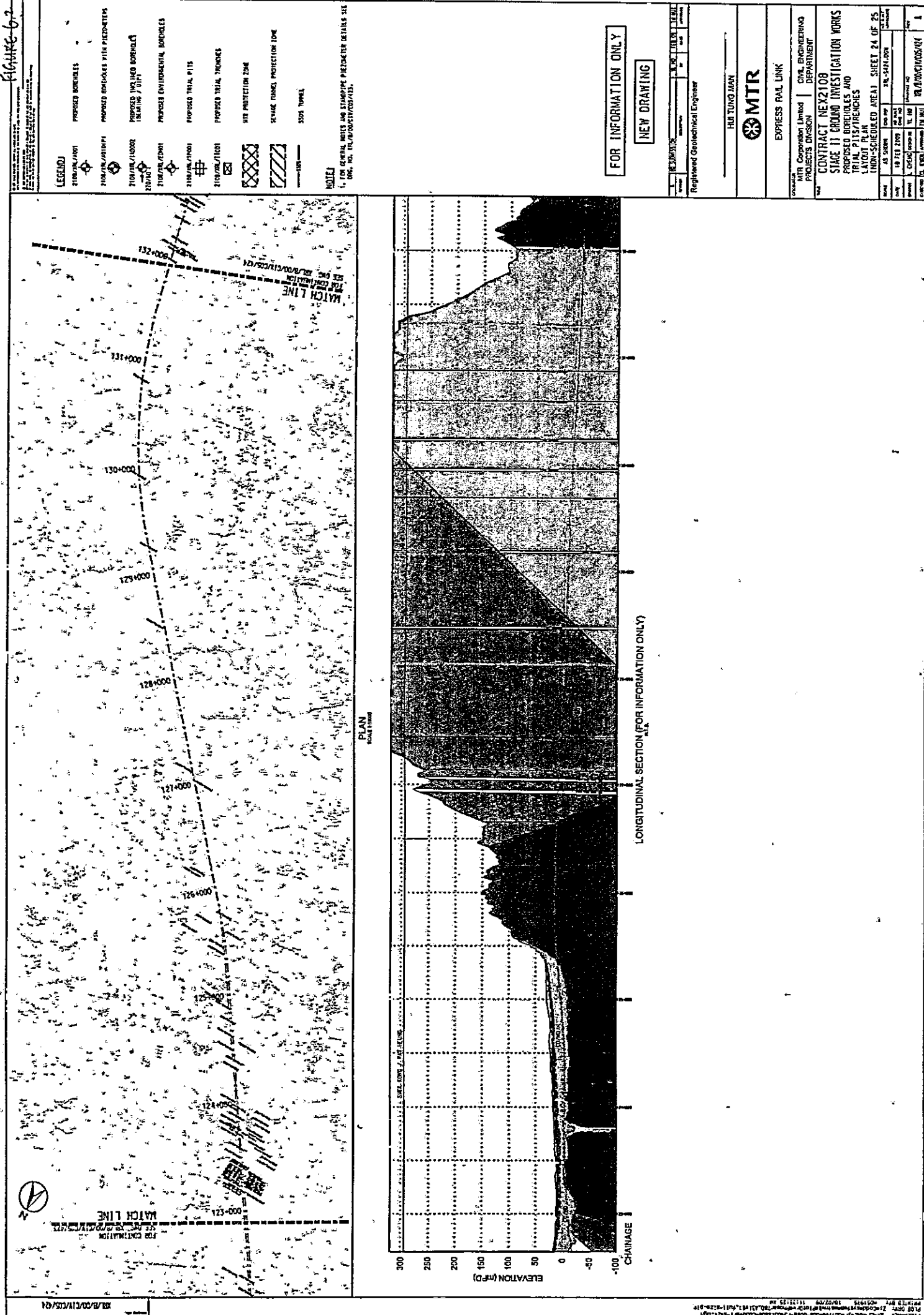


HONG KONG TUNNELS	
TBM	8.5 km
DRILL & BLAST	14.0 km
CUT & COVER	2.0 km
CUT & COVER (WKT & Approach Tunnel)	1.2 km
TOTAL	25.7 km



PROJECT	AS SHOWN	DATE	10 FEB 2009	DATE	10 FEB 2009	DATE	10 FEB 2009
DESCRIPTION	CHANG RESOURCES	W. NO.	140	PROJECT NO.	1927000100000000	NO.	1
CL. CODE	13-14-49	APPROVED	(16 NOV)				

~~FIGURE 6.2~~



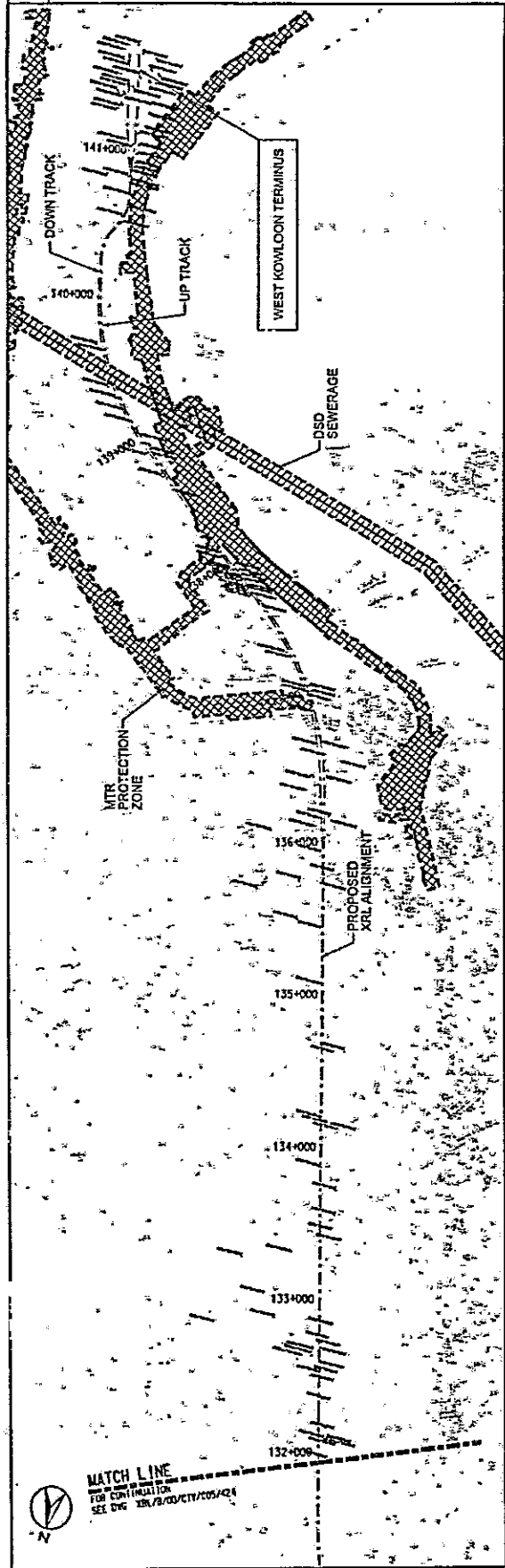
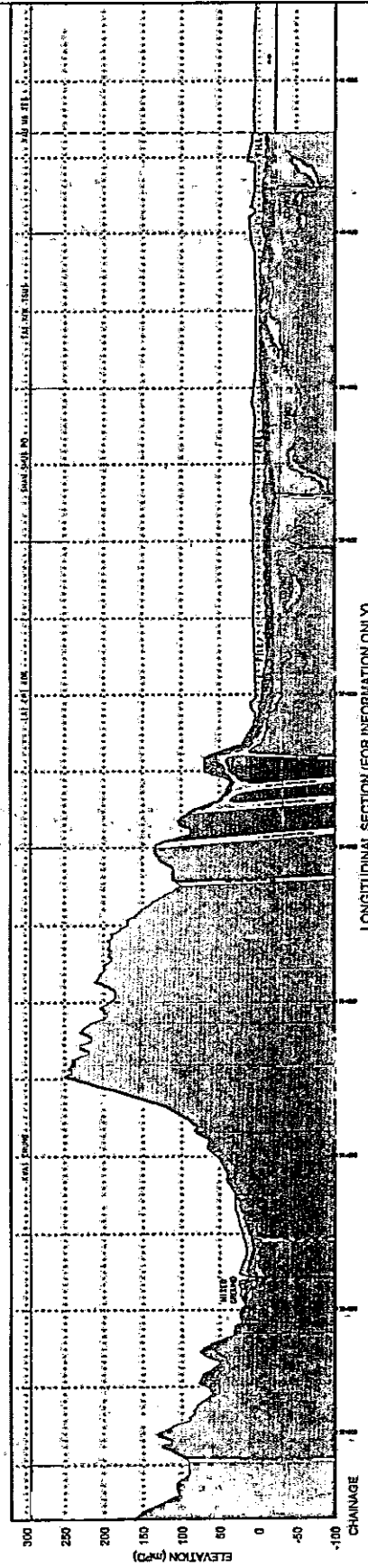
NEW DRAWING



EXPRESS RAIL LINK

CONTRACT NEX2108

BY	AS SHOWN	FILE NO	2RL-422.DCM	DATE RECEIVED
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PLAN
02/01/11 11:00 AM

LONGITUDINAL SECTION (FOR INFORMATION ONLY)

CHAINAGE

The graph shows a linear relationship between distance and elevation. The y-axis is labeled 'ELEVATION (m)' with major ticks at 0, 50, 100, and 150. The x-axis is labeled 'DISTANCE (km)' with major ticks at 0, 50, and 100. A single line starts at the origin (0, 0) and rises steadily to a point at approximately (100, 140).

Distance (km)	Elevation (m)
0	0
25	35
50	70
75	105
100	140

(Faint header information at the top of the page)

FIGURE 6.4 - LOCATION OF PROPOSED BARGING POINTS

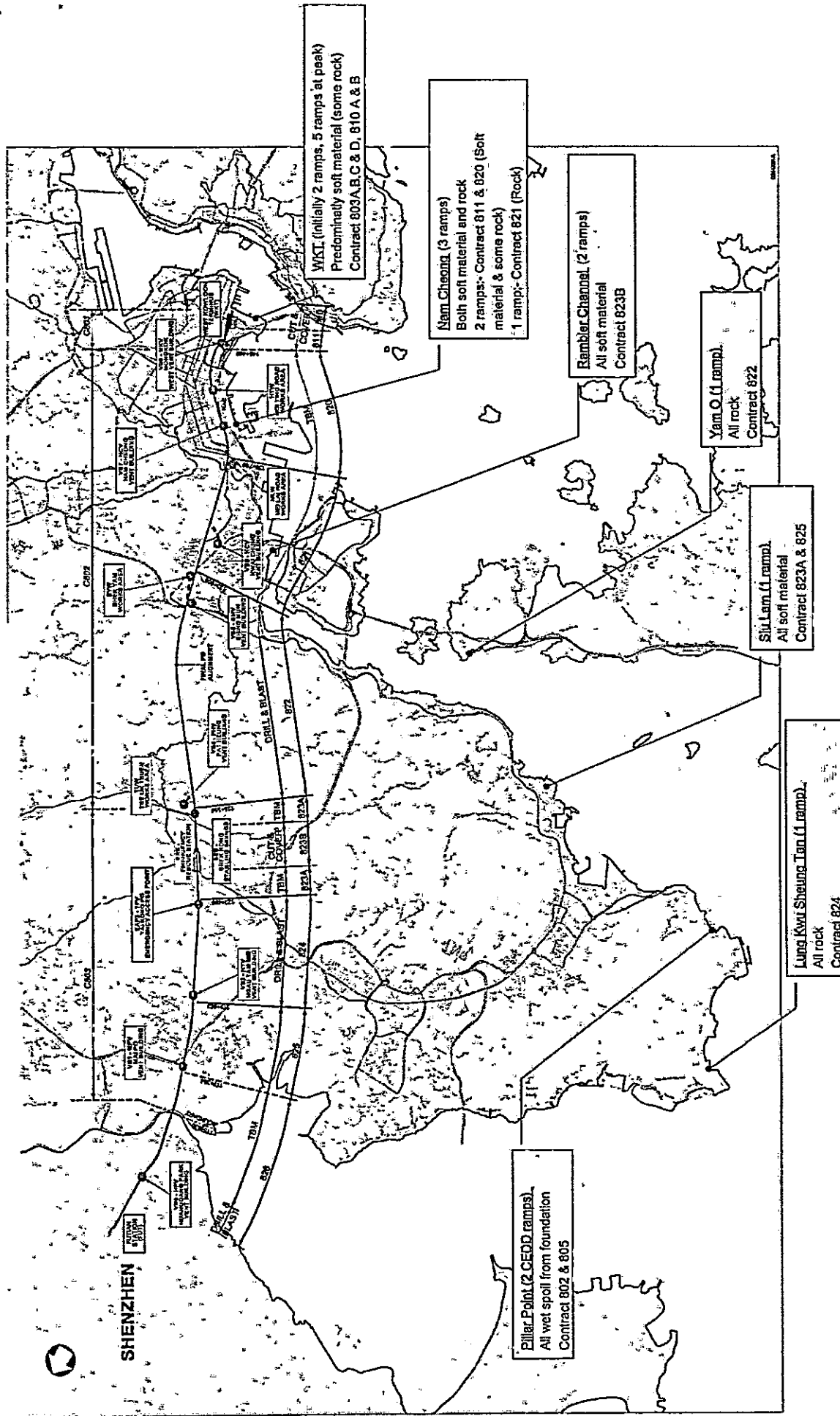


Table 1: Responses to Comments from Secretary, HyD C&D Material Vetting Committee dated 1-April-2009 Ref (2MHN) in HRD 7/8/13

Item	Government Department	Comments	Response
General comment			
1.	Secretary, HyD C&D Material Vetting Committee	Your attention is drawn to paragraphs 11 and 12 of the ETWB TC(W) No. 33/2002 for your necessary action of submission of the C&DMMP to the Public Fill Committee if the project falls into the categories mentioned therein. Please also advise whether the project is a designated project under Schedule 2 of the EIAO.	The Express Rail Link (XRL) is a designated project under Schedule 2 of the EIAO. For your information that we have submitted to PFC the EIA report on 22-May-09, draft C&D MMP to CEDD/FMD on 30-Mar-09. A presentation to PFC, MFC and FMD was also held on 18-May-09 to go through the C&DMMP.
2.		As regards C&D materials generated, the C&DMMP should address the feasibility of the reuse of the materials in the project and by other projects within HyD. The C&DMMP should also address the feasibility of the reuse of the surplus materials by the works projects of other departments following consultation with the PFC. A copy of the list summarizing the works projects of the forecast of public fill generation and demand is attached for your reference and necessary action.	Section 6.3 was updated to elaborate the feasibility of reusing surplus materials in the project. Close coordination with the Hong Kong-Zhuhai-Macau Bridge (HZMB) and the Central Kowloon Route (CKR) is underway to agree the possible disposal arrangement between different projects. The report has been updated to record the details.

Table 1: Responses to Comments from Secretary, Hyd C&D Material Vetting Committee dated 1-April-2009 Ref (2MHN) in HRD 7/8/13

Item	Government Department	Comments	Response
3.		Further to (2) above, please advise whether MTRCL has consulted the proponents of other projects regarding receipt of the surplus material from the project.	Letters were sent to other possible spoil receivers within Hyd and other government departments on 18-Jun-09 (see attachment 1).
4.		Section 5 – Please spell out the development options considered and give justifications for adopting the preferred option. For each option, please provide the estimated quantities of C&D materials generated or imported fill required.	Section 5 was rewritten to elaborate the different development options for station and tunnel alignment. Please note that the spoil quantities in all development options are similar as the facilities we are constructing are the optimised provision for the safe operation of the 26km-long high speed railway.
General comment			
5.		<u>Section 6</u> It is noted that only about 4% (0.45 Mm³) of C&D material generated is to be reused in the project. Please critically review and consider reusing the material generated in the project as much as possible.	Express Rail Link consists of the construction of a massive underground station (13 hectare plan area) and 26km tunnels. Since the works involved are almost completely underground, possibility to use the C&D material generated for backfilling is limited. Nevertheless, the

Table 1: Responses to Comments from Secretary, Hyd C&D Material Vetting Committee dated 1-April-2009 Ref (2MHN) in HRD 7/8/13

Item	Government Department	Comments	Response
			only three areas that need backfilling will consume the spoil generated from the project, with an amount of ~0.63 Mm ³ .
		Please provide detailed breakdown and locations of reusing inert C&D materials.	Detailed breakdown and locations of reusing inert C&D materials was provided in Section 6.3 of the revised report.
		It is noted that 7.54 Mm³ of C&D materials will be disposed to the Mainland. Please clarify whether this arrangement has been accepted by CEDD.	Confirmed. Please refer Appendix C-3 of the revised C&D MMP. a letter from RDO to MTR, cc to CEDD, which record the disposal arrangement to Taishan.
		It is noted that 0.25 Mm³ of artificial hard materials (broken concrete and asphalt) will be generated and disposed off site. Please critically review the reuse of these materials in the project. For example, the broken concrete can be reused for sub-base or pipe bedding material as a substitute for aggregates, or producing general grade concrete in the project. Also, the reclaimed asphalt payment (RAP) can be recycle and reused in the project / other projects or collected by	Latest proposal and agreement with PFC and FMD/ CEDD on broken concrete and asphalt was recorded in Section 6 of the report. Both materials would be reused on site as far as possible.

Table 1: Responses to Comments from Secretary, HyD C&D Material Vetting Committee dated 1-April-2009 Ref (2MHN) in HRD 7/8/13

Item	Government Department	Comments	Response
		bituminous suppliers for recycling.	
		Please clarify whether the proposal of delivery of the artificial hard materials to Tuen Mun Area 38 recycling Plant has been accepted by CEDD.	The materials would be reused on site according to the latest proposal.
General comment			
5. (Cont'd)		Please advise whether bituminous pavement will be constructed under the project. If so, please consider recycling and reusing the RAP generated in the project as far as possible and details of reusing the RAP should be given.	RAP would be retained and stockpiles within XRL's site area and later reuse for backfilling. Please refer Appendix C1 of the revised C&D MMP for agreement with FMD/CEDD.
		It is noted that quite a large quantity of C&D materials is to be disposed to landfills. Please critically review the measures to reduce the quantity for disposal.	The figures were critically reviewed and now reduced to 32,000m ³ from 12 construction contracts.
		Please give reasons for the proposed open sea disposal of soft materials (not marine deposit) instead of disposal of these materials to public fill. Please be reminded that the consent of CEDD and	Report was updated to show only marine sediments would be disposed of into the sea.

Table 1: Responses to Comments from Secretary, Hyd C&D Material Vetting Committee dated 1-April-2009 Ref (2MHN) in HRD 7/8/13

Item	Government Department	Comments	Response
		EPD should be sought for such arrangement.	
		Please be reminded to observe the procedure for seeking approval to dredge / excavate sediment and the management framework for marine disposal of such sediment set out in ETWB TC (W) No. 34/2002.	Noted.
		The surplus C&D material for open sea disposal by barge is noted. Please clarify who will provide and operate the barging point(s).	The barging point would be operated by the respective contractor under MTR's supervision. Arrangement would be similar to KSL.
General comment			
6.		<u>Table 6.1</u> Breakdown should be given for the estimate of C&D materials for individual contract. A proforma and the estimate previously submitted by the West Island Linde project are attached for your reference.	Breakdown was enclosed into the revised C&D MMP in Table 6.1.
		It is noted that quite a large quantity of	Study ongoing with regard to the

Table 1: Responses to Comments from Secretary, HyD C&D Material Vetting Committee dated 1-April-2009 Ref (2MHN) in HRD 7/8/13

Item	Government Department	Comments	Response
		rock will be generated from the project. Please consider to provide a crushing plant/ concrete batching plant for reusing the material in the project. Please also consider to set up a buffer storage area to process excavated rock generated to facilitate its reuse within the MTRCL projects or other HyD projects.	establishment of a centralized rock crushing facilities and concrete batching plant, for XRL, SCL projects or other Government projects. Related details were added to Section 6.3 of the revised report.
		Please provide separate estimate for concrete and asphalt. Please make reference to the proforma mentioned above.	Breakdown was enclosed into the revised C&D MMP in Table 6.1.
		Is the volcanic rock mentioned in the table Grade II or better rock? Please make reference to the proforma mentioned above to prepare the estimate.	Volcanic rock would be entered as "others" as they are not granite and cannot be used as concrete aggregate.

Table 2: Responses to Comments from Chief Engineer / Fill Management dated 7-April-2009 Ref. (08 NW4-01) in FM PF/CDM/00

Item	Government Department	Comments	Response
General comment			
1.	Chief Engineer / Fill Management	"Toi Shan" throughout the report should read "Taishan"	Report was amended.
2.		<u>Para. 5</u> Please spell out other development options considered and give full justifications for adopting the preferred option. For each development option, please estimate the quantity of C&D materials produced or imported fill required and the associated technical, financial and programming implications.	Section 5 was rewritten to elaborate the different development options for station and tunnel alignment. Please note that the spoil quantities in all development options are similar as the facilities we are constructing are the optimised provision for the safe operation of the 26km-long high speed railway.
3.		<u>Para. 6</u> Estimate of C&D Material – slurry should be treated before disposal.	Noted.
4.		Measures to Maximize Reuse of C&D Material Generated – To maximize the reuse of C&D material to be generated from the project, the project proponent has to liaise with other major projects to see if the surplus excavated material could be resused in other projects.	Section 6.3 was updated to elaborate the feasibility of reusing surplus materials in the project. Close coordination with the Hong Kong- Zhuhai- Macau Bridge (HZMB) and the Central Kowloon Route (CKR) is underway to agree the possible disposal

Table 2: Responses to Comments from Chief Engineer / Fill Management dated 7-April-2009 Ref. (08 NW4-01) in FM PF/CDM/00

Item	Government Department	Comments	Response
		The C&DMMP must include the details of such liaisons and agreements for the reuse of part or whole of the surplus C&D material. Please advise the latest situation of the proposed centralized rock crushing facility as this would have a big impact on the reuse of C&D material.	arrangement between different projects. Study ongoing with regard to the establishment of a centralized rock crushing facilities and concrete batching plant, for XRL, SCL projects or other Government projects. Related details were added to Section 6.3 of the revised report.
General comment			
5.		Disposal Programme – Taishan Disposal – The details of disposal of surplus inert C&D material to the Mainland from 2010 onwards have yet to be agreed. It is inappropriate to name a specific Mainland receptor site in the C&DMMP to be the destiny of the surplus excavated material to be disposal of. To facilitate possible direct disposal to the Mainland by vessel at the barging points provided under the project, the minimum berthing place has to be 100m wide and the minimum water depth to be 5m. The proposed barging points have to be clearly indicated in the C&DMMP for PFC's consideration.	Noted. Disposal destiny to Taishan would be removed from the report. Berthing requirements were added to Section 6 of the revised C&D MMP.

Table 2: Responses to Comments from Chief Engineer / Fill Management dated 7-April-2009 Ref. (08.NW4-01) in FM PF/CDM/00

Item	Government Department	Comments	Response
6.		Disposal Programme – Public Fill Disposal – no more recycling plant is provided at TM38; recycling plant is now provided at TKO137 only. Please provide half-yearly C&D material generation figures for each type of surplus C&D materials.	Noted. Half-yearly C&D material generation figures were included in Table 6.2 to 6.13 of the revised C&D MMP.
7.		Tables 6.1 to 6.4 – There should be a summary of C&D material to be generated presented by the different types (e.g. inert soft C&D material, Grade II or above rock (granite or volcanic or others), Grade III or below rock, artificial hard and C&D waste, etc.) amount to be reused, amount to be recycled, and the proposed disposal arrangement of surplus material.	Noted. Please refer revised table 6.1 of the revised C&D MMP.
General comment			
8.		<u>Para. 7</u> It is unclear what "Public Filling area" is referring to.	"Public Filling area" was deleted and replaced by "the designated receptor site in Mainland".
9.		Disposal of excavated marine deposits is subject to agreement of Marine Fill Committee.	Noted

Table 2: Responses to Comments from Chief Engineer / Fill Management dated 7-April-2009 Ref. (08 NW4-01) in FM PF/CDM/00

Item	Government Department	Comments	Response
10.		<u>Para. 8</u> C&DMMP is submitted to PFC, not MFC, for endorsement. Appendix C is not required.	Report was amended and Appendix C deleted.

Table 3: Responses to Comments from Secretary, Hyd C&D Vetting Committee dated 26-Jun-09 Ref. (2QN0) in HRD 7/8/13

Item	Government Department	Comments	Response
1.	Secretary, Hyd C&D Material Vetting Committee	<u>Para. 7</u> A summary of our understanding of the management of the C&D material generated from the project is attached for your reference. This summary is prepared based on Table 6.1 and the discussion with MTR. I understand the MTR would include similar information in para. 7 or where appropriate.	Table 7.1 added in Rev. B C&DMMMP.
2.		<u>Para. 5</u> Appendix A Table 6.1. Construction contract 806 cannot be found in Table 6.1. Please explain.	Footnotes added in Para. 5 page 9 and Appendix A Table 6.1 explaining nil spoil from contract 806.
3.		<u>Para. 6.1</u> MTR would further elaborate the figure of 10.388 Mm ³ in this paragraph.	Para. 6.1 expanded for the total spoil figure of 10.388 Mm ³ .
4.		<u>Para. 6.3</u> MTR would include the reuse of artificial hard materials (bitumen and broken concrete in this paragraph.)	Reuse of artificial hard materials is included under Para. 6.3.
5.		Please check and make sure that the figures in the summary and Table 6.1 tally with those quoted in the text of the report.	Confirmed all figures in table and report are tally with each other in Rev. B C&DMMMP.
General comment			

Table 4: Responses to Comments from Secretary, Public Fill Committee, CEDD dated 28-Sept-09 Ref. (0BZ6R-01) in FM PF/CDM/00

Item	Government Department	Comments	Response
1.	Secretary, Public Fill Committee, CEDD	As the C&DMMP was prepared in July 2009, I wish to have the update on the following points covered in para. 6.3 of the C&DMMP: - study on centralized rock crushing facilities and concrete batching plant in Kai Tak - status of arrangement with the HZMB (HKBCF) project on delivery of suitable surplus excavation materials from this project for the HKBCF filling works - status of arrangement with the Central Kowloon Route (CKR) project on delivery of suitable surplus excavation materials from this project for the CKR backfilling works. (Please also clarify if 0.91 Mm³ or 0.91 M tonnes of rock is planned to be delivered from this project to CKR.) Please amend the para. In accordance with the updated information.	Study of the centralized rock crushing facilities and concrete batching in Kai Tak is undertaken by the SCL project and will form part of scope of their Scheme to be implemented after authorization some time in 2010 should there be no adverse comments from the stakeholders. The quantities of spoil required by HZMB remains unchanged. Delivery schedule and quantities for the respective railway projects including WIL, SIL, XRL, KTE and SCL will be coordinated among HZMB and the railway projects during the course of the works. The quantity of rock to be required by CKR project is 0.91 M tonnes instead of 0.91Mm³. THE C&DMMP will be corrected accordingly. The quantity and programme remains unchanged and will be coordinated among CKR and all railway projects during the course of the works.

Table 4: Responses to Comments from Secretary, Public Fill Committee, CEDD dated 28-Sept-09 Ref. (0BZ6R-01) in FM PF/CDM/00

Item	Government Department	Comments	Response
2.	Secretary, Public Fill Committee, CEDD	The base plan of the XRL alignment as shown on Figure 5.3 is too fade to be legible. Please consider providing a series of A3 size drawing of larger scale to improve legibility.	Figure 5.3 will be replaced by a good quality colour print.
3.	Secretary, Public Fill Committee, CEDD	It appears that the correspondence included in Appendix C recorded the liaisons between MTRC and various parties on the proposals for disposal of surplus excavated material from the project before the preparation of the C&DMMP. As far as the C&DMMP is concerned, such details need not be presented. Please omit Appendix C and amend the text to delete reference to it.	Appendix C deleted.