Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Funding Arrangement of The Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link

In order to take forward the Hong Kong section of the XRL project, the Administration wishes to submit in the near future for the Public Works Subcommittee (PWSC)'s recommendation to Finance Committee's approval for the following funding applications:

(a) the construction of the railway works for the Hong Kong section of the XRL (at an estimated cost of $55.0 billion in money-of-the-day prices);

(b) the construction of the non-railway works for the Hong Kong section of the XRL (at an estimated cost of 11.8 billion in money-of-the-day prices); and

(c) special ex-gratia payments in relation to the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (at an estimated cost of $86 million).

2. The draft PWSC paper on (c) prepared by the Administration was issued on 11 November 2009. The draft PWSC papers on (a) and (b) are now attached at **Annex** for Members' consideration.

Transport and Housing Bureau
November 2009

Annex

DRAFT

PWSC(2009-10)68

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS
Transport – Railways
53TR – Hong Kong Section of Guangzhou–Shenzhen–Hong Kong Express Rail Link – construction of railway works

Members are invited to recommend to Finance Committee the upgrading of **53TR** to Category A at an estimated cost of $55,017.5 million in money-of-the-day prices for the construction of the railway works for the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link.

PROBLEM

We need to undertake the construction of the railway works of the Hong Kong section (HKS) of the Guangzhou–Shenzhen–Hong Kong Express Rail Link (XRL).

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade **53TR** to Category A at an estimated cost of $55,017.5 million in money-of-the-day (MOD) prices for the construction of the railway works of HKS of the XRL.

PROJECT SCOPE AND NATURE

3. The HKS of 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 XRL 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. A plan showing the proposed alignment of the HKS of the XRL is at **Enclosure 1**.

4. The scope of **53TR** comprises –

(a) construction of the railway works for the HKS of the XRL, which include –

(i) railway facilities at the WKT, including station concourse, passenger waiting areas, platforms, control and signal systems, etc.;

(ii) approximately 26 km long tunnels from WKT to the boundary at Huanggang;

(iii) a depressed below ground ERS and an at-grade SSS in Shek Kong with necessary facilities to provide emergency rescue, passenger evacuation, as well as maintenance of rolling stock and infrastructure; and

(iv) eight ventilation buildings, one emergency access point and the associated ventilation shafts and adits/accesses for the tunnels.

(b) procurement of rolling stock, railway systems, as well as safety, operation and maintenance equipment; and

(c) consultant's fees for monitoring and vetting the work of the MTR Corporation Limited (MTRCL) relating to the railway works under the HKS of the XRL.

5. Detailed design work has been substantially completed. Subject to the approval of the Finance Committee (FC), construction of the railway works of the HKS of the XRL is expected to commence in December 2009 for completion in 2015. Separate funding applications will be made for the construction cost of the non-railway works (PWSC(2009-10)69) and the cost of a special ex-gratia

rehousing package exclusively for residents affected by land resumption and clearance (PWSC(2009-10)72) for the XRL project.

JUSTIFICATION

Strategic values of the XRL to Hong Kong

6. The HKS of the XRL is one of the priority railways recommended for implementation in the Railway Development Strategy 2000[1]. It is also one of the Ten Major Infrastructure Projects announced in the 2007 Policy Address. Upon completion, it will provide express rail service between Hong Kong and Guangzhou, with intermediate stations at Futian, Longhua and Humen (**Enclosure 2**). The travelling time between Hong Kong and Guangzhou by trains will be reduced significantly from about 100 minutes to 48 minutes. Through the stations in the Mainland section, XRL passengers can interchange with the wider urban metro, regional and national railway lines in the Mainland. Thus, the XRL will greatly enhance Hong Kong's connectivity with various parts of the Mainland and is of great strategic importance to Hong Kong.

7. On the national level, the HKS of the XRL will become part of the 16,000-km national high-speed rail network now being developed full steam. (**Enclosure 3**). The train journey times between Hong Kong and the Central and Southern Mainland and various major Mainland cities will be greatly shortened. For example, XRL passengers from Hong Kong will take only four hours to arrive at Changsha, five hours to Wuhan, Xiamen and Fuzhou, and eight and ten hours to Shanghai and Beijing respectively without changing trains.

8. Within the Pearl River Delta (PRD) region, the XRL provides high frequency shuttle services up to the New Guangzhou Passenger Terminus at Shibi in Guangzhou. The Terminus will be extensively served by high-speed railway routes, inter-city rapid transit routes, urban metro lines of Guangzhou and Foshan and major highways and various public transport services. Through interchanging with the PRD Rapid Transit System at Humen, Dongguan, the XRL will also put Hong Kong within easy reach of major PRD cities.

9. Works on the Mainland section of the XRL commenced in December 2005. The section from Shibi to Longhua is now scheduled for commissioning

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[1] The Railway Development Strategy 2000 maps out the railway network expansion plan for Hong Kong up to 2016.

by early 2010, while the remaining section between Longhua and Futian in 2011/12. As for the HKS, our aim is to start construction in 2009 for completion in 2015.

Economic benefits and patronage forecast

10. Under the current planning, in initial years of commencement of the HKS of the XRL, there will be 90 and 24 daily train pairs for shuttle services to the Shenzhen and Guangzhou areas respectively. These translate into an average 15-minute headway to Shenzhen (Longhua) and 30-minute headway to Guangzhou for most hours. Subject to the development of the national railway schedules, there will be 24 daily train pairs to 15 Mainland cities initially, which will gradually increase to 33 daily pairs to 16 cities.

11. With this level of service, the XRL will effectively enhance Hong Kong's connectivity with major cities in the PRD and beyond, and will bring significant economic benefits to Hong Kong, which can be broadly categorized into –

(a) direct benefits to passengers – value of time savings, reduction in road accidents, etc;

(b) direct, indirect and induced benefits– value-added and employment by the rail operators and major system and service suppliers to the rail operators, and household spending of their employees; and

(c) catalytic benefits – facilitation of tourism, trade, professional services and other sectors, etc. Such spillover benefits cannot be captured by merely tracing the flows of cash from passengers to the rail operator, its suppliers, and their employees.

12. While the direct benefits to passengers in (a) above can be readily quantified, the benefits of other categories in (b) and (c) above are less quantifiable. However, these benefits are believed to be generally much larger than the direct benefits to passengers. This is particularly the case for Hong Kong, a service based economy in the PRD region. The commissioning of the HKS of the XRL will further accelerate the economic integration in the Greater PRD, thereby paving the way for more opportunities for our economy in the long run.

13. We have examined the direct economic benefits based on a patronage forecast, which comprises: (a) shuttle services (from West Kowloon to Shenzhen/Humen/Guangzhou)[2]; and (b) long haul services (from West Kowloon to cities beyond PRD area). The forecast patronage in 2016 and direct economic benefit mainly in terms of passenger time saving over 50 years of operation are summarized in Table 1 below.

Table 1 – Key forecast parameters

Forecast 2-way Daily Patronage (2016) • West Kowloon – Shenzhen / Humen /Guangzhou • West Kowloon – beyond Guangzhou ***Total***	 84,000 15,000 ***99,000***
Economic Internal Rate of Return (EIRR) in real terms	6%
Average time saving over 50 years of operation per annum	42 million hours
Discounted economic benefits[3] over 50 years (in 2009 prices) (in terms of time savings to passengers)	$87 billion

14. Our economic benefit forecast has focussed mainly on direct benefits to passengers only, simply because this alone is already sufficient to establish the cost-effectiveness of the HKS of the XRL. That said, we are also mindful of the greater economic contribution of the XRL project to Hong Kong as explained above.

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[2] Including interchange passengers at Shenzhen/Humen/Guangzhou, with destinations in cities beyond the Pearl River Delta region.

[3] Social discount rate at 4% per annum.

15. The patronage forecast is sensitive to the XRL fare level. We have assumed the XRL fares at a level comparable to other transport modes, which are set out in **Table 2** -

Table 2 – Assumed fare (per trip) of various transport modes

Destination	**XRL**	**Boundary/ Through Trains**	**Buses**
Shenzhen	$45 (Futian) – $49 (Longhua)	$34 - 41	$10 - 45
Dongguan	$131 (Humen)	$145	$100
Guangzhou	$180 (Shibi)	$190 - 210	$80 - 100

Sensitivity analysis

16. It should be noted that the base case scenario above represents a practical, yet conservative, scenario. For example, Hong Kong businessmen working in the Mainland may choose to return to Hong Kong more frequently for business or family reunion thanks to a much shorter travelling time after the implementation of the HKS of the XRL. Some PRD residents may have more day-trips to Hong Kong which are otherwise impossible. These additional trips are not included in the forecast.

17. In order to have a full picture, we have established a high case scenario by adopting more optimistic assumptions. We have assumed a higher, yet still reasonable, annual GDP growth in Guangdong and Hong Kong (details of the GDP growth assumptions are summarised in **Table 3**). The estimated patronage in 2016 for the high case can go up to 116,000, with discounted economic benefits over 50 years of $106 billion, representing an EIRR of 7%.

18. On the other hand, we have also considered a low case scenario. We have assumed a lower GDP growth for Guangdong of 7.6% to 9.8% between 2009 and 2015. Even so, the estimated patronage in 2016 would be around 89,000, with discounted economic benefits over 50 years of $78 billion, representing an EIRR of 5%. This demonstrates that the HKS of the XRL is economically viable.

Table 3 – Summary of GDP growth assumptions for patronage forecast

	Low			**Base**			**High**		
GDP Growth per annum (%)									
	Short Term (2009-2015)	Medium Term (2015-2020)	Long Term (2020-2031)	Short Term (2009-2015)	Medium Term (2015-2020)	Long Term (2020-2031)	Short Term (2009-2015)	Medium Term (2015-2020)	Long Term (2020-2031)
Hong Kong	2.0 – 2.5	2.0		2.0 – 3.5	2.0		2.5 – 4.0	3.0 – 4.0	2.0 – 3.0
Guangdong	7.6 – 9.8	7.1	3.4	9.6 – 11.8	9.0	4.4	11.6 – 13.8	11.0	6.4
Estimated patronage in 2016									
	89,000			99,000			116,000		
Discounted economic benefits over 50 years ($ billion, in 2009 prices)									
	78			87			106		
EIRR in real terms									
	5%			6%			7%		

Project Cost

19. In the Legislative Council (LegCo) Brief for the HKS of the XRL presented to the Railways Subcommittee on 2 May 2008, the then estimated capital cost for the HKS of the XRL covering the design and construction of both railway works and non-railway works is $39.5 billion in 2009 prices or $44 billion in MOD prices. A comparison on railway works cost and non-railway works cost between that estimate and the latest estimate in September 2009 is set out in **Table 4** below-

Table 4 – comparison of project cost estimates (including design cost)

All figures in 2009 prices	Estimate announced in April 2008 ($billion)	Project enhancements ($billion)	Price escalation ($billion)	September 2009 estimate ($billion)
(a) Railway works cost	35.4	7.7	10.6	53.7
(b) Non-railway works cost	4.1	5.0	2.4	11.5

20. The cost estimate for the railway works of the HKS of the XRL has risen from $35.4 billion to $53.7 billion, representing an increase of $18.3 billion. Price escalation ($10.6 billion) accounts for more than half of the increase. The estimate announced in April 2008 adopted a relatively conservative set of assumption on the inflation factors (5% in 2007, 4.5% in 2008 and 3.5% in 2009). Such inflation factors prepared by the MTRCL, though already higher than the Government Economist's corresponding forecast at that time, are still far lower than the actual inflation in the construction sector during the recent years.

21. Construction prices surged rapidly in the past three to four years and the HKS of the XRL is no exception. For the HKS of the XRL, the latest estimate reflects an overall escalation of the project cost of some 42% between 2006 and 2009, which is in line with the relevant magnitude of 48% of the MTR West Island Line project. In view of the current downward trend of the relevant tender prices, the 42% of the increase is considered reasonable.

22. Enhancements to railway works ($7.7 billion) account for the rest of the cost increase which are required to improve the railway scheme, overcome unforeseen site constraints and meet Mainland interface requirements. Improvements to the railway scheme include optimizing the use of underground station area in the West Kowloon Terminus so that the ground area can be turned into a public open space which will facilitate better interface and connectivity with the West Kowloon Cultural District. Unforeseen site constraints have led to the adjustment of tunnel alignment and additional ground treatment. To match the Mainland's latest passenger comfort standards, our tunnels for the HKS of the XRL would also bee to be larger in diameter.

23. The design cost approved at $2,782 million in MOD prices by FC in July 2008, covering both railway and non-railway works, has been included under 52TR. Excluding the sum, the construction costs of the railway and non-railway works of the HKS of the XRL are set out in **Table 5** below-

Table 5 – construction cost of railway and non-railway works of the HKS of XRL

	Estimate ($B) (in September 2009 prices)	Estimate ($B) (MOD)
Construction of railway works	51.4	55.0
Construction of non-railway works	11.0	11.8

Project Management Cost

24. On 22 April 2008, the Executive Council (ExCo) decided that the HKS of the XRL would be undertaken under the concession approach. Under this approach, the construction of HKS of the XRL will be funded by the Government under the Public Works Programme. In July 2008, the FC approved a sum of $2,782 million in MOD prices for the design and site investigation of the project. On 20 October 2009, the ExCo decided, that the MTRCL should be asked to proceed with the construction, testing and commissioning of the HKS of the XRL on the understanding that it would be invited to undertake the HKS of the XRL under the concession approach.

25. The works to be entrusted to MTRCL covers the construction, testing and commissioning of the railway works, including all civil, architectural, building services, fire safety provisions, railway, electrical and mechanical (E&M) systems, trackwork and procurement of rolling stock, equipment and systems. MTRCL's project management cost[4] for the XRL project covering the railway works (under this **53TR**), is estimated at $3,261 million (in September 2009 prices).

[4] Project management cost for the project includes staff costs for the project team, project headquarters and other support services. The project team provides support for the design, project management, project planning, design management and construction supervision; the project headquarters team provides support for the project control, planning and programming and procurement and contracts etc. Other support services cover human resources, legal, public relations, finance and information technology etc.

Vetting by independent engineering consultants

26. In the PWSC Note (PWSCI(2008-09)6) prepared to facilitate Members' consideration for the cost of design and site investigation, we undertook to employ independent consultants to assess the cost estimate for the project, including the project management cost. The Highways Department (HyD) engaged two IECs to conduct assessments to ascertain the construction cost and project management cost of the HKS of the XRL respectively.

27. One IEC has reviewed the rates and quantities of the cost items of the project and checked against the latest construction price trends and scope of the proposed works. It considers the estimate of construction costs is reasonable. Furthermore, under the project entrustment arrangement, the Government will pay for the actual costs of the construction works based on prices established from appropriate tendering processes, which HyD will closely monitor.

28. Having reviewed and analyzed the manpower budget data given by MTRCL in the light of the nature and scale of the project and benchmarked against the relevant costs of other railway projects, the other IEC considered the estimate of project management cost is reasonable. The entire project management cost for the design and construction of both railway and non-railway works represents about 7.3% of the cost of the relevant works entrusted to MTRCL plus contingency. It is lower than the relevant rate of the recent West Island Line (9.8%). As a general reference, the standard rate for project management cost for entrustment works between the Government and the MTRCL is 16.5%.

FINANCIAL IMPLICATIONS

29. We estimate the cost of 53TR to be $55,017.5 million in MOD prices, made up as follows –

			$ million
(a) Works to be undertaken by MTRCL			46,876
(I) construction of railway works		43,615	
(i) civil works		31,596	

	- Terminus	9,454			
	- Tunnel and associated structures	18,985			
	- ERS and SSS	3,157			
(ii)	architectural works		1,900		
(iii)	building services		2,500		
(iv)	railway E&M works		5,714		
(v)	rolling stock		1,905		
(II)	Project management costs payable to the MTRCL for construction planning, management and supervision, overheads and management expenses of the MTRCL			3,261	
(b)	Fees for consultants appointed by the Government for monitoring and vetting the MTRCL's work including cost			95	
(c)	Contingencies			4,445.5	
				Sub-total 51,416.5	(September 2009 prices)
(d)	Provision for price adjustment			3,601.0	
				Total 55,017.5	(MOD prices)

30. Subject to approval, we will phase the expenditure as follows –

Year	$ million (Sep 2009)	Price adjustment Factor	$ million (MOD)
2009 – 2010	102.9	1.00000	102.9
2010 – 2011	6,060.9	1.02000	6,182.1
2011 – 2012	12,848.6	1.04040	13,367.7
2012 – 2013	12,681.2	1.06121	13,457.4
2013 – 2014	9,682.3	1.08243	10,480.4
2014 – 2015	5,187.3	1.11220	5,769.3
2015 – 2016	3,624.1	1.14557	4,151.7
2016 – 2017	699.1	1.17993	824.9
2017 – 2018	203.4	1.21533	247.2
2020 – 2021	326.7	1.32802	433.9
	51,416.5		55,017.5

31. We have derived the MOD estimate on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2009 to 2021. The MTRCL will tender the proposed works with price adjustments where appropriate. We will engage consultants to undertake the service described in paragraph 29(b) above on a lump sum basis with the provision for price adjustment.

32. Subject to execution of the concession agreement with the MTRCL as mentioned in paragraph 24 above, we will fund the recurrent expenditure of the railway works using the revenue of the railway operation and take this into account in receiving the service concession payment from the MTRCL. According to the preliminary estimate based on the latest patronage forecast, the concession payment is about $28.1 billion over 50 years of operation.

PUBLIC CONSULTATION

33. Extensive public consultation has been carried out on the HKS of the XRL project since May 2008 upon the ExCo's decision to proceed with the planning and design of the project. We have consulted seven relevant District Councils (Yau Tsim Mong, Sham Shui Po, Tsuen Wan, Sha Tin, Kwai Tsing, Yuen Long and Tuen Mun) and/or their subcommittees, the Heung Yee Kuk, and the relevant Rural Committees. We also held individual meetings, public fora and briefings with the local communities and concerned parties. Views and comments collected have been considered in refining the project details.

34. We gazetted the HKS of the XRL scheme covering both the railway and non-railway works under the Railways Ordinance (Cap. 519) (the Ordinance) on 28 November and 5 December 2008, and its amendments and corrections on 30 April and 8 May 2009. We received a total of 119 objections to the scheme and its amendments. The objectors were concerned over various issues such as the overall planning and the need of the railway project, alignment selection, location of the XRL terminus, site selection for the ERS and SSS, resumption of land and underground strata and associated re-housing and compensation arrangement, provision of an intermediate station and environmental impacts during construction and operation. After the Administration's explanation of the considerations made for the scheme and responses to concerns on the above issues, nine objectors withdrew their objections unconditionally [5] and the remaining objections remained unwithdrawn.

35. Villagers of Choi Yuen Tsuen (CYT) are one of the most affected groups as the village has to be vacated and cleared for building the ERS and SSS. We had extensive communication with the villagers. The Secretary for Transport and Housing visited CYT meeting different groups of villagers and listening to their concerns. The Under Secretary for Transport and Housing has also made many visits to CYT and met the villagers. The HyD, Lands Department, other concerned departments and MTRCL regularly met with CYT villagers, either individually or in small groups, to understand their concerns and explain to them details of the HKS of the XRL scheme.

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[5] Under the Railways Ordinance, an objection that is withdrawn unconditionally is treated as if the objector had not lodged the objection. An objection which is not withdrawn or withdrawn with conditions is treated as an unresolved objection which will then be submitted to the Chief Executive-in-Council for consideration.

36. We consulted the Subcommittee on Matters Relating to Railways of the LegCo Panel on Transport (the Subcommittee) on 14 May, 17 and 23 September 2009. At the meeting on 14 May 2009, there were 51 deputations/individuals expressing their views on the HKS of the XRL project. Deputations from the residents of CYT and their supporters expressed objection to the proposed land resumption and clearance at CYT. Some deputations proposed alternative locations for building the ERS and SSS, and requested for an intermediate station in the New Territories (NT) North for XRL. Deputations from conservation groups commented that the project would bring adverse impacts on the environment and upset ecological balance. Members expressed concern on the clearance for CYT and urged the Government to provide reasonable compensation with flexibility to cope with the needs of CYT villagers. Throughout the processes, we maintained close liaison with the CYT residents and some of the concerned deputations to address their concerns. We have explained to them that their proposals on alternative locations of the ERS and SSS would either bring more disturbances to the neighbouring community or be infeasible. As for the setting up of an intermediate station, we responded to them that this would lower the strategic values of the HKS of XRL. On the other hand, the environmental impact assessment (EIA) of the project already addressed the construction and operation impacts and the MTRCL would implement mitigation measures as recommended in the EIA report to minimize the environmental impacts.

37. After considering the unresolved objections and the proposed modifications, the Chief Executive-in-Council authorized the HKS of the XRL scheme, and the amendments and corrections to the scheme with modifications under the Ordinance on 20 October 2009. The notice of authorization was gazetted on 30 October 2009. Details of the unresolved objections are reported in the LegCo Brief on the HKS of the XRL Authorization of Scheme issued on 21 October 2009.

38. We further consulted the Subcommittee on the funding application for the HKS of the XRL project on XX November 2009 [Subject to confirmation]. Members …. **[To be provided later]**

ENVIRONMENTAL IMPLICATIONS

39. The HKS of the XRL project is a designated project under Schedule 2 of the EIA Ordinance (Cap. 499) and an environmental permit (EP) is required for the construction and operation of the HKS of the XRL. The Director of Environmental Protection issued the EP for the HKS of XRL on 16 October 2009. The EIA report concluded that the environmental impacts of the HKS of the XRL project can be controlled to within the criteria under the EIA Ordinance and its Technical Memorandum (TM).

40. The MTRCL will implement the measures recommended in the approved EIA report for the HKS of the XRL project and comply with relevant conditions under the EP and other statutory requirements for environmental protection.

41. The MTRCL has considered measures in the planning and design stages to reduce the generation of construction waste where possible. Such measures include the use of bored/mined tunnelling method instead of cut-and-cover method to reduce the amount of excavation works; reduction of the size and number of offline plant rooms; and minimisation of the overall size of the plant buildings and tunnel section through effective structural scheming for plant building and tunnel layout. In addition, the MTRCL will require the contractors to reuse inert construction waste (e.g. excavated rock and soil materials) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities[6]. The MTRCL will encourage the contractors to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

42. The MTRCL will also require the contractors to submit for approval plans setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. The MTRCL will ensure that the day-to-day operations on site comply with the approved plan. The MTRCL will require the contractors to separate the inert portion from non-inert construction waste on site for disposal at appropriate

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[6] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

facilities. The MTRCL will control the disposal of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

43. The MTRCL estimates that the HKS of the XRL project will generate in total about 20,215,200 tonnes of construction waste. Of these, the MTRCL will reuse about 1,444,500 tonnes (7.1%) of inert construction waste on site and 7,348,700 tonnes (36.4%) of inert construction waste on other construction sites, and deliver 11,349,400 tonnes (56.1%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, the MTRCL will dispose of 72,600 tonnes (0.4%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be $315,508,800 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[7] at landfills).

HERITAGE IMPLICATIONS

44. The MTRCL will appoint a licensed archaeologist to conduct further investigation in Tai Kong Po and Shek Kong and conduct excavation to preserve any archaeological remains with detailed records should such be discovered. Potential vibration impact on the former Lai Chi Kok Hospital (a Grade III Historical Building) will be controlled through the implementation of vibration monitoring. The project would not result in any direct adverse impact on historical buildings with mitigation measure implemented except the earth shrines at Nam Hing Lei, Leung Uk Tsuen and Tai Kong Po, which will be affected by the project. Consultation with the local villagers was made and it was agreed that the earth shrines will be relocated by themselves.

LAND ACQUISITION

45. About 24 hectares (ha) of private land and about 19 ha of underground strata of land will be resumed for the construction of the entire XRL project. We will also create rights of temporary occupation for about 8 ha of land and for

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[7] This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90/m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

about 0.7 ha of underground strata. About 226 ha of government land in Yuen Long, Tsuen Wan and Kwai Tsing in the New Territories and Kowloon will be affected. The land resumption and clearance will affect about 160 households involving about 520 residents, about 43 commercial/industrial undertakings.

46. A special ex-gratia rehousing package is designed for households (including those from CYT) residing at the sites to be resumed and cleared under the XRL project. The details of the scheme, which is estimated to cost about $86 million, are set out in a separate submission (PWSC(2009-10)72).

47. Apart from the special ex-gratia rehousing package mentioned above, other compensation cost for land acquisition and clearance, excluding the special ex-gratia rehousing package, is estimated at $1,843.5 million. Funds will be made available under **Head 701** – Land Acquisition of the Capital Works Reserve Fund. We have already reviewed the design of the project to minimise the land acquisition and clearance cost. A breakdown of the land acquisition and clearance costs is at **Enclosure 4**.

BACKGROUND INFORMATION

48. We upgraded **52TR** "Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link – design and site investigation" in July 2008 at an estimated cost of $2,782 million in MOD prices for the design and site investigation for the HKS of XRL. We have substantially completed the planning and design for the HKS of XRL.

49. We upgraded **53TR** "Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link – construction of railway works" to Category B in October 2009.

50. Of the 11,800 trees within the project boundary, 5,500 trees will be felled and 5,200 trees will be preserved. The proposed works will involve transplanting 1,100 trees elsewhere or to be replanted within the project site. All of them are not classified as "important trees"[8]. We will incorporate planting

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[8] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –
(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument and trees in memory of important persons or events;
(c) trees of precious or rare species;

proposals as part of the project, including no less than 5,500 new trees and around 74,000 m^2 of grassed area.

51. According to the MTRCL's assessment, the HKS of the XRL will create about 11,000 jobs (9,200 for labourers and another 1,800 for professional/technical staff) during the peak period, providing a total employment of 377,800 man-months.

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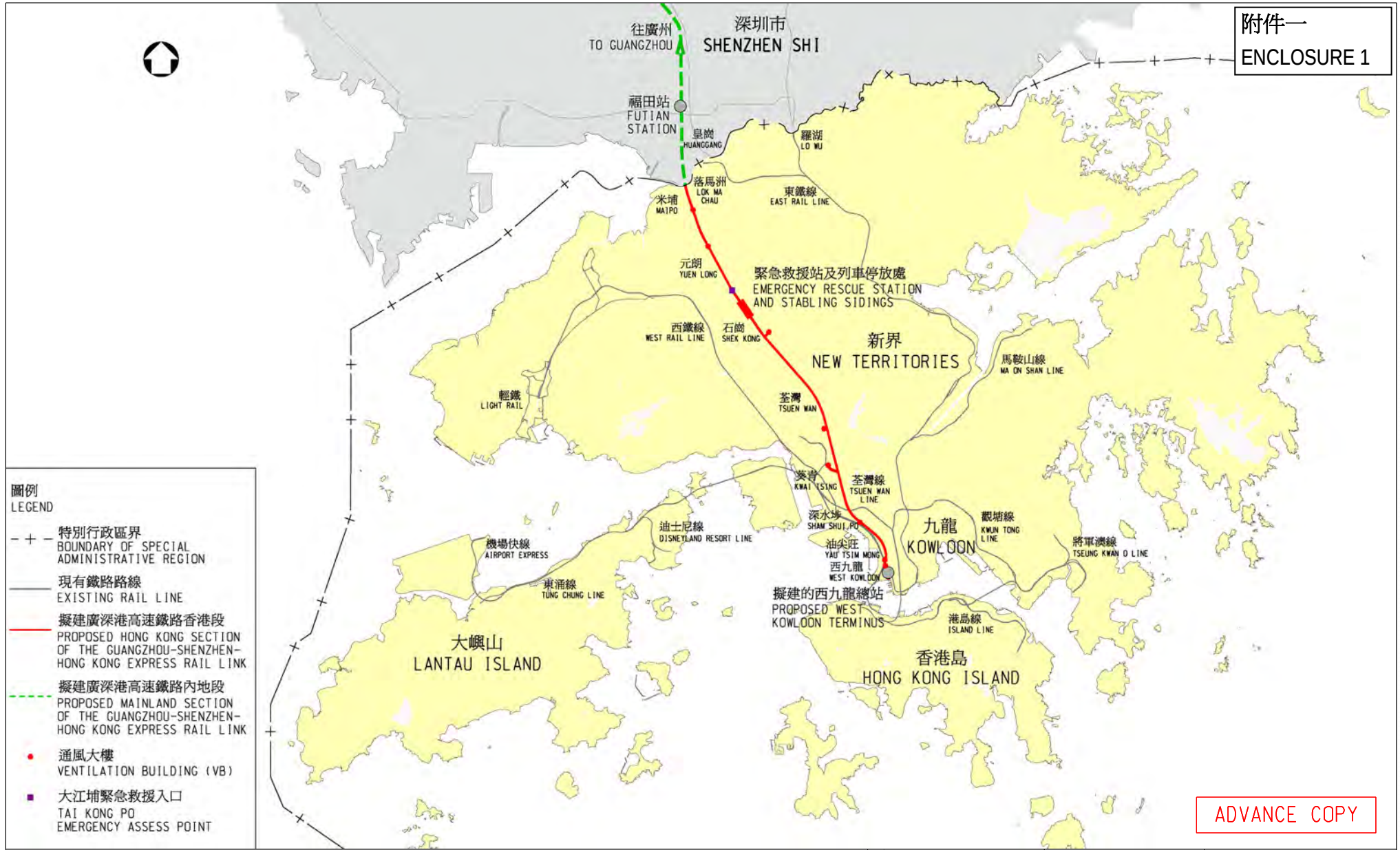
(d) trees of outstanding form (taking account of overall tree size, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.

附件一
ENCLOSURE 1



ADVANCE COPY

圖則名稱 drawing title
工務計劃項目第53TR號
廣深港高速鐵路香港段 — 鐵路建造工程
香港段位置圖
PWP ITEM No. 53TR
HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK – CONSTRUCTION OF RAILWAY WORKS
LOCATION PLAN OF HONG KONG SECTION

總工程師 CHIEF ENGINEER
日期 DATE

設計 designed
繪圖 drawn
核對 checked
核准 approved

圖號 drawing no.
HRWXRL002-SP0009

鐵路拓展處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

A3 297X420

附件二
ENCLOSURE 2

京廣客運專線
BEIJING-GUANGZHOU PASSENGER LINE

現有廣深鐵路
EXISTING GUANGZHOU-SHENZHEN RAILWAY

佛山
FOSHAN

石壁站
(新廣州站)
SHIBI

番禺
PANYU

東莞
DONGGUAN

惠州
HUIZHOU

虎門站
HUMEN

杭福深客運專線
HANGZHOU-FUZHOU-SHENZHEN PASSENGER LINE

龍華站
(新深圳站)
LONGHUA

廣深港高速鐵路
GUANGZHOU-SHENZHEN-HONG KONG
EXPRESS RAIL LINK

深圳
SHENZHEN

福田站
FUTIAN

香港
HONG KONG

內地段
MAINLAND SECTION

香港段
HK SECTION

香港段
HONG KONG SECTION

西九龍總站
WEST KOWLOON
TERMINUS

ADVANCE COPY

圖則名稱 drawing title
工務計劃項目第53TR號
廣深港高速鐵路香港段 — 鐵路建造工程
廣深港高速鐵路全段位置圖
PWP ITEM No. 53TR
HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK – CONSTRUCTION OF RAILWAY WORKS
LOCATION PLAN OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK

總工程師 CHIEF ENGINEER

日期 DATE

設計 designed

繪圖 drawn

核對 checked

核准 approved

圖號 drawing no.
HRWXRL002-SP0016

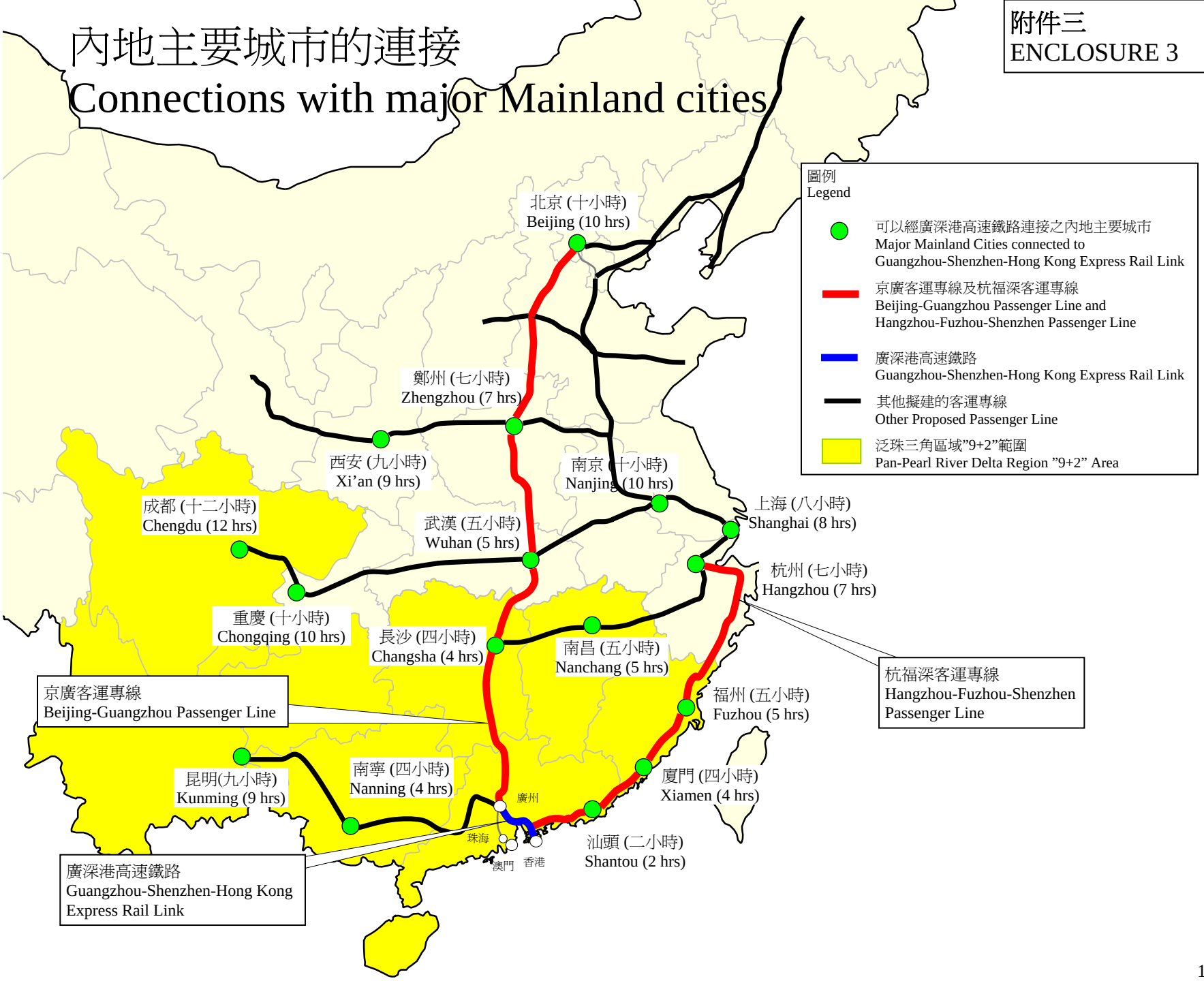
鐵路拓展處 RAILWAY DEVELOPMENT OFFICE

路政署
HIGHWAYS DEPARTMENT

A3 297X420

內地主要城市的連接
Connections with major Mainland cities

附件三
ENCLOSURE 3



Enclosure 4

Breakdown of the Estimated Land Resumption and Clearance Costs

			$ million
(I) Estimated Resumption Cost			1,600.95
(a)	Agricultural land ex-gratia compensation - 352 agricultural lots and 1 mixed lot in the New Territories [see Note 1] (with a total area of 236,008.8 square metres (m^2)) will be resumed - 236,008.8 m^2 x $5,670.43 per m^2 [see Notes 2 & 3 below]		1,338.27
(b)	Building land compensation		
	(i) Building land ex-gratia compensation - 5 building lots and 1 mixed lot in the New Territories [see Note 1] (with a total area of 2,528.8 m^2) will be resumed - 2,528.8 m^2 x $11,205.23 per m^2 [see Notes 2 & 3 below]		28.34
	(ii) Valuation on land - 5 building lots and 1 mixed lot in the New Territories and a portion of land with area of 249.3m^2 in Kowloon		40.15
(c)	Underground Stratum Resumption - underground stratum with a total area of about 19 hectares (ha) will be resumed [see Notes 4 below]		194.19

(II) Estimated Clearance Cost			29.55
	(a) Ex-gratia allowance of crops compensation	11.00	
	(b) Ex-gratia allowance for farm structures and miscellaneous permanent improvements to farms and fishery undertakings	2.46	
	(c) Ex-gratia allowance for miscellaneous indigenous villager matters e.g. Tun Fu ceremonies, removal of grave/urns and shrines	2.86	
	(d) Ex-gratia allowance for domestic occupiers and business undertakings	13.23	
(III) Compensation for Creation of Rights of Temporary Occupation of Land [see Notes 4 and 5 below]		28.30	28.30
(IV) Disturbance Compensation [see Notes 4 below]		30.00	30.00
(V) Interest and Contingency Payment			154.65
	(a) The interest payment on various ex-gratia compensations for private land	102.12	
	(b) Contingency on the above costs	52.53	
		TOTAL	**1,843.45**
		(say	**$1,843.5 million)**

Notes:

1. One mixed lot with both ex-gratia land compensation for agricultural land and ex-gratia land compensation for building land.
2. There are four ex-gratia compensation zones, namely Zones A, B, C and D, for land resumption in the New Territories as approved by ExCo in 1985 and 1996. The boundaries of these zones are shown on the Zonal Plan for Calculation of Compensation Rates. The land to be resumed in the project "53TR – Hong Kong Section of Guangzhou – Shenzhen – Hong Kong Express Rail Link" has been upgraded from Zone C to Zone A.
3. In accordance with G.N. 5982 dated 15.9.2009 on the revised ex-gratia compensation rates for resumed land, the ex-gratia compensation rate of agricultural land for "Zone A" is $ 526.8 per ft^2 (or $5,670.43 per m^2) and the ex-gratia compensation rate of building land for "Zone A" is $1,041 per ft^2 (or $ 11,205.23 per m^2). The above figures may be subject to adjustment following the review of the rates.
4. This is a provisional estimate based on current information available and subject to valid statutory claims being received.
5. Rights of temporary occupation will be created for about 8 ha of land and for about 0.7 ha of underground strata.

Annex

DRAFT

PWSC(2009-10)69

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS
Transport – Railways
57TR – Hong Kong Section of Guangzhou–Shenzhen–Hong Kong Express Rail Link – construction of non-railway works

Members are invited to recommend to Finance Committee the upgrading of **57TR** to Category A at an estimated cost of $11,800.0 million in money-of-the-day prices for the non-railway works for the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link.

PROBLEM

We need to undertake the non-railway works in conjunction with the railway works for the Hong Kong section (HKS) of the Guangzhou–Shenzhen–Hong Kong Express Rail Link (XRL).

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade **57TR** to Category A at an estimated cost of $11,800.0 million in money-of-the-day (MOD) prices for carrying out the non-railway works for the HKS of the XRL.

PROJECT SCOPE AND NATURE

3. The scope of **57TR** comprises –

(a) construction of essential public infrastructure works (EPIW) including –
    (i) three footbridges linking to the 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 a footpath 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 associated noise barriers/enclosures.

(b) construction of the reprovisioning, remedial and improvement works (RRIW);

(c) construction of the enabling works –

(i) for the topside property development at Site A[1];

(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 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; and

(e) consultant's fees for monitoring and vetting the work of the MTR Corporation Limited (MTRCL) relating to the EPIW, RRIW, enabling works and the concerned government facilities.

A list of EPIW, RRIW and enabling works, together with the respective drawings, are at **Enclosure 1, 2 and 3** respectively.

4. Subject to the approval of the Finance Committee (FC), construction of the above non-railway works is expected to commence in December 2009 for completion in tandem with the railway works of the HKS of the XRL in 2015. Separate funding applications will be made for the construction cost of the railway works (PWSC(2009-10)68) and the cost of a special ex-gratia rehousing

package exclusively for residents affected by land resumption and clearance for the XRL project (PWSC(2009-10)72).

JUSTIFICATION

EPIW

5. To facilitate the operation of the XRL and enhance the accessibility of WKT and connectivity with the nearby areas, we propose to construct the EPIW items mentioned in paragraph 3(a). The depressed road system at Austin Road West and Lin Cheung Road will separate the through traffic between other districts from the local traffic to WKT, the WKCD and other local developments. It will contribute to smooth traffic in the West Kowloon and create an at-grade pedestrian area, which provide a comfortable walking environment embracing the WKT, WKCD, nearby railway stations and developments.

6. The depressed road system is one of the recommendations in the West Kowloon Reclamation Development Traffic Study. With the implementation of these recommendations as described at **Enclosure 4**, the reserved capacity of major junctions at the West Kowloon district will remain acceptable up to at least 2031, taking into consideration the increased traffic demand arising from the WKT, WKCD and new developments in the vicinity.

RRIW

7. As regards the RRIW items mentioned in paragraph 3(b) above, certain sites along the HKS of the XRL, which currently accommodate government facilities, will be occupied either temporarily or permanently for the construction and/or operation of the HKS of the XRL. Reprovisoning of these facilities in conjunction with the construction of the HKS of the XRL is necessary.

Enabling Works

8. At the meeting of the Executive Council on 22 April 2008, the Council decided that the development right of Site A will not be granted to the MTRCL, and the site should be disposed of by Government in accordance with the prevailing land policy with due attention paid to ensuring proper integration with the XRL terminus. The current plan is to erect office buildings at the site. The

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[1] The site was zoned as Comprehensive Development Area (1) on the draft South West Kowloon Outline Zoning Plan No. S/K20/22A on top of the West Kowloon Terminus for non-railway development.

topside property development at Site A and part of the future WKCD development will be located above and supported by the WKT. The enabling works items mentioned in paragraphs 3(c)(i) and 3(c)(ii) need to be constructed as part of the XRL project, as execution of such enabling works as erection of the foundation facilities within WKT after the operation of the XRL would become practically impossible without seriously affecting rail operation.

9. The XRL tunnel will be in conflict with the foundations of three proposed public footbridges along Sham Mong Road, which are currently under planning by the Civil Engineering and Development Department. The enabling works mentioned in paragraph 3(c)(iii) entail construction of some footbridge piles so as to protect the XRL tunnel from being affected by the future piling works for the three footbridges.

Government Facilities

10. The government facilities mentioned in paragraph 3(d) mainly include the construction of the BCF such as customs, immigration, quarantine facilities; provision of the equipment/facilities for a dedicated emergency team and other associated fire fighting equipment and road-rail dual mode fire appliances for the use by the Fire Services Department in case of emergencies / incidents in the XRL tunnel during the construction and operation of HKS of the XRL; and other government facilities.

Project Cost

11. In the Legislative Council (LegCo) Brief for the HKS of the XRL presented to the Railways Subcommittee on 2 May 2008, the then estimated capital cost for the HKS of XRL covering the design and construction of both railway works and non-railway works was $39.5 billion in 2009 prices or $44 billion in MOD prices. A comparison on railway works cost and non-railway works cost between that estimate and the latest estimate in September 2009 is set out in **Table 1** below-

Table 1 – Comparison of project cost estimates (including design cost)

All figures in 2009 prices	Estimate announced in April 2008 ($billion)	Project enhancements ($billion)	Price escalation ($billion)	September 2009 estimate ($billion)
(a) Railway works cost	35.4	7.7	10.6	53.7
(b) Non-railway works cost	4.1	5.0	2.4	11.5

12. The cost estimate for the non-railway works of the HKS of the XRL has risen from $4.1 billion to $11.5 billion, representing an increase of $7.4 billion. Price escalation ($2.4 billion) accounts for about one-third of the increase. The estimates announced in April 2008 adopted a relatively conservative set of assumption on the inflation factors (5% in 2007, 4.5% in 2008 and 3.5% in 2009). Such inflation factors prepared by the MTRCL, though already higher than the Government Economist's corresponding forecast at that time, are still far lower than the actual inflation in the construction sector during recent years.

13. Construction prices surged rapidly in the past three to four years and the HKS of the XRL is no exception. For the HKS of the XRL, the latest estimate implies an overall escalation of the project cost of some 42% between 2006 and 2009, which is in line with the relevant magnitude of 48% of the MTR West Island Line project. In view of the latest trend of the relevant tender prices, a 42% increase is considered reasonable.

14. Enhancements to the non-railway works ($5 billion) account for the rest of the cost increase. The works include enabling works for topside development at Site A, construction of road improvement network surrounding the terminus and serving the West Kowloon area, additional equipment and facilities for the Government as well as additional EPIW and RRIW identified during the design stage. They are essential for the safe and efficient operation of the XRL. The costs of these items were not included in the project cost estimate in April 2008 because the necessary design parameters for the facilities were not available at that time. These could only be developed in conjunction with the detailed design of the WKT.

15. The design cost approved at $2,782 million in MOD prices by FC in July 2008 covering both railway and non-railway works, has been included under

52TR. Excluding this sum from the aggregated total in Table 1, the construction costs of the railway and non-railway works of the HKS of the XRL are set out in **Table 2** below-

Table 2 – construction cost of railway and non-railway works of the HKS of the XRL

	Estimate ($B) (in September 2009 prices)	Estimate ($B) (MOD)
Construction of railway works	51.4	55.0
Construction of non-railway works	11.0	11.8

Project Management Cost

16. The works to be entrusted to MTRCL covers the construction, testing and commissioning of the EPIW, RRIW, and government facilities at the WKT. MTRCL's project management cost[2] for the non-railway works (under this 57TR) of the HKS of the XRL, is estimated at $699 million (in September 2009 prices).

Vetting by independent engineering consultants

17. In the PWSC Note (PWSCI(2008-09)6) prepared to facilitate Members' consideration for the cost of design and site investigation, we undertook to employ independent consultants to assess the cost estimate for the project, including the project management cost. The Highways Department (HyD) engaged two IECs to conduct assessments to ascertain the construction cost and project management cost of the HKS of the XRL respectively.

18. One IEC has reviewed the rates and quantities of the cost items of the project and checked against the latest construction price trends and scope of the proposed works. It considers the estimate of construction costs is reasonable. Furthermore, under the project entrustment arrangement, the Government will

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[2] Project management cost for the project includes staff costs for the project team, project headquarters and other support services. The project team provides support for the design, project management, project planning, design management and construction supervision; the project headquarters team provides support for the project control, planning and programming and procurement and contracts etc. Other support services cover human resources, legal, public relations, finance and information technology etc. The estimated cost would be $4,590 million (MOD).

pay for the actual costs of the construction works based on prices established from appropriate tendering processes, which HyD will closely monitor.

19. Having reviewed and analyzed the manpower budget data given by MTRCL in the light of the nature and scale of the project and benchmarked against the relevant costs of other railway projects, the other IEC considered the estimate of project management cost is reasonable. The entire project management cost for the design and construction of both railway and non-railway works represents about 7.3% of the cost of the relevant works entrusted to MTRCL plus contingency. It is lower than the relevant rate of the recent West Island Line (9.8%). As a general reference, the standard rate for project management cost for entrustment works between the Government and the MTRCL is 16.5%.

FINANCIAL IMPLICATIONS

20. We estimate the cost of 57TR to be $11,800.0 million in MOD prices, broken down as follows –

			$ million
(a) Works to be undertaken by MTRCL			9,835.8
(I) construction of EPIW		1,808.8	
	(i) seven footbridges at WKT	280.0	
	(ii) two subways at WKT	138.8	
	(iii) depressed roads at part of Austin Road West and Lin Cheung Road, re-construction of Wui Man Road and construction of Road D1A	1,390.0	
(II) construction of RRIW		1,200.0	
(III) enabling works		3,519.0	
	(i) enabling works for Site A	1,880.0	

(ii) enabling works for WKCD	1,604.0			
(iii) enabling works for footbridges at Sham Mong Road	35.0			
(IV) Boundary crossing facilities		2,609.0		
(V) Project management cost payable to the MTRCL for construction planning and management, overheads and management expenses of the MTRCL		699.0		
(b) Consultants' fees for monitoring and vetting MTRCL's work including cost			38.0	
(c) Government costs including fire fighting equipment, furniture and equipment[3] and other associated costs			200.0	
(d) Contingencies			953.8	
		Sub-total	11,027.6	(in September 2009 prices)
(e) Provision for price adjustment			772.4	
		Total	11,800.0	(in MOD prices)

[3] Based on an indicative list of furniture and equipment items required, including furniture and equipment in BCF.

21. Subject to approval, we will phase the expenditure as follows –

Year	$ million (Sep 2009)	Price adjustment factor	$ million (MOD)
2009 – 2010	22.1	1.00000	22.1
2010 – 2011	1,299.9	1.02000	1,325.9
2011 – 2012	2,755.7	1.04040	2,867.0
2012 – 2013	2,719.8	1.06121	2,886.3
2013 – 2014	2,076.6	1.08243	2,247.8
2014 – 2015	1,112.6	1.11220	1,237.4
2015 – 2016	777.3	1.14557	890.5
2016 – 2017	149.9	1.17993	176.9
2017 – 2018	43.6	1.21533	53.0
2020 - 2021	70.1	1.32802	93.1
	11,027.6		11,800.0

22. We have derived the MOD estimate on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2009 to 2021. The MTRCL will issue tenders for the proposed works with price adjustments where appropriate. We will engage consultants to undertake the service described in paragraph 17(b) above on a lump sum basis with the provision for price adjustment.

23. We estimate that the additional annual recurrent expenditure upon completion of the EPIW, RRIW, enabling works, and government facilities under the HKS of the XRL is about $500.2 million.

PUBLIC CONSULTATION

24. Apart from the public consultation of the entire HKS of XRL, extensive public consultation has been carried out for the EPIW and RRIW. We started public consultation in May 2008. In particular for the EPIW at West Kowloon, we consulted Yau Tsim Mong (YTM) District Council (DC) on 26 February 2009 on the West Kowloon Terminus-related roadworks and associated footbridges and subway connections.

25. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures[4] (ACABAS) on 19 May 2009 for the two reprovisioned footbridges at Sham Mong Road. The ACABAS accepted the proposed aesthetic designs. Regarding other footbridges, noise barriers/enclosures and subway entrances above ground level etc., we will consult ACABAS in late 2009/early 2010.

26. We gazetted the HKS of the XRL scheme including the EPIW and RRIW under the Railways Ordinance (Cap. 519) (the Ordinance) on 28 November and 5 December 2008, and its amendments and corrections to the scheme on 30 April and 8 May 2009. Among the 119 objections to the scheme and its amendments, two objections were specifically related to the EPIW/RRIW. One of the objectors raised concerns on the access to his building during construction of the proposed road works around WKT. We had responded to the objector that the access would not be affected. The objector maintained his objection. The other objector raised concerns on the impacts of the reprovisioned footbridge at Hoi Fai Road on his lot. We had clarified with the objector of the need of the reprovisioning works and made minor changes in the design to address his concerns. The objector was satisfied with our response and withdrew his objection unconditionally[5].

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[4] The Advisory Committee on the Appearance of Bridges and Associated Structures, which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, an academic institution, Architectural Services Department, Highways Department, Housing Department and Civil Engineering and Development Department, is responsible for vetting the design of bridges and other structures associated with the public highway system, including noise barriers and semi-enclosures, from the aesthetic and visual impact points of view

[5] Under the Railways Ordinance, an objection that is withdrawn unconditionally is treated as if the objector had not lodged the objection. An objection which is not withdrawn or withdrawn with conditions is treated as an unresolved objection which will then be submitted to the Chief Executive-in-Council for consideration.

27. After considering the unresolved objections and the proposed modifications, the Chief Executive-in-Council authorized the scheme of the HKS of the XRL (including EPIW and RRIW), and the amendments and corrections to the scheme with modifications under the Railways Ordinance on 20 October 2009. The notice of authorization was gazetted on 30 October 2009. Details of the unresolved objections are reported in the LegCo Brief on the HKS of XRL Authorization of Scheme issued on 21 October 2009.

28. We consulted the Subcommittee on Matters Relating to Railways of the LegCo Panel on Transport (the Subcommittee) on the HKS of the XRL project including the EPIW, RRIW, enabling works and government costs on XX November 2009 [Subject to confirmation]. Members …**[To be provided later]**

ENVIRONMENTAL IMPLICATIONS

29. The depressed roads at part of Austin Road West and Lin Cheung Road, the new Road D1A, and reconstruction of Wui Man Road of the non-railway works are designated project elements under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and an environmental permit is required for these road works. The Director of Environmental Protection issued the Environmental Permit for the road works at West Kowloon on 14 October 2009. The EIA Report concluded that, with the implementation of recommended mitigation measures, the environmental impacts of the road works at West Kowloon can be controlled to within the criteria under the EIA Ordinance.

30. For those non-railway works other than the road systems mentioned in paragraph 29, they are non-designated projects, the construction impacts of which will have little potential of giving rise to adverse environmental impacts. We will implement pollution control measures during their construction to meet all relevant environmental standards and requirements. We have included in the project estimate the cost to implement suitable mitigation measures to control these short term environmental impacts. An environmental monitoring and audit (EM&A) programme will be implemented to monitor the cumulative construction noise and dust impact arising from the construction of the concurrent works.

31. The MTRCL has considered measures in the planning and design stages of the non-railway works to reduce the generation of construction waste where

possible. In addition, the MTRCL will require the contractor to reuse inert construction waste (e.g. excavated rock and soil materials) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities[6]. The MTRCL will encourage the contractor to maximise the use of recycled / recyclable inert construction waste, as well as the use of non-timber formwork to further reduce the generation of construction waste.

32. The MTRCL will also require the contractor to submit for approval plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. The MTRCL will ensure that the day-to-day operations on site comply with the approved plan. The MTRCL will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. The MTRCL will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

33. The MTRCL estimates that the EPIW and RRIW project will generate in total about 1,399,800 tonnes of construction waste. Of these, the MTRCL will reuse about 65,000 tonnes (4.7%) of inert construction waste on site and deliver 1,327,400 tonnes (94.8%) of inert construction waste to public fill reception facilities for subsequent reuse. The MTRCL will dispose of 7,400 tonnes (0.5%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be $36,764,800 for this project (based on a unit cost of $27 per tonne for disposal at public fill reception facilities and $125 per tonne[7] at landfills).

HERITAGE IMPLICATIONS

34. The proposed non-railway works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites

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[6] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

[7] This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90 per m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

35. The proposed non-railway works do not require any land acquisition.

BACKGROUND INFORMATION

36. We upgraded **52TR** "Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link – design and site investigation" in July 2008 at an estimated cost of $2,782 million in MOD prices for the design and site investigation of the HKS of the XRL including the non-railway works. We have substantially completed the planning and design for the HKS of the XRL.

37. We upgraded **57TR** "Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link – construction of non-railway works" to Category B in November 2009.

38. Of the 390 trees within the project boundary, 120 trees will be felled and 270 trees will be preserved. All of them are not "important trees[8]". We will incorporate planting proposals as part of the project, including no less than 120 new trees and around 12,000m^2 of grassed area.

39. According to the MTRCL's assessment, the HKS of the XRL will create about 11,000 jobs (9,200 for labourers and another 1,800 for professional/technical staff) during the peak period, providing a total employment of 377,800 man-months.

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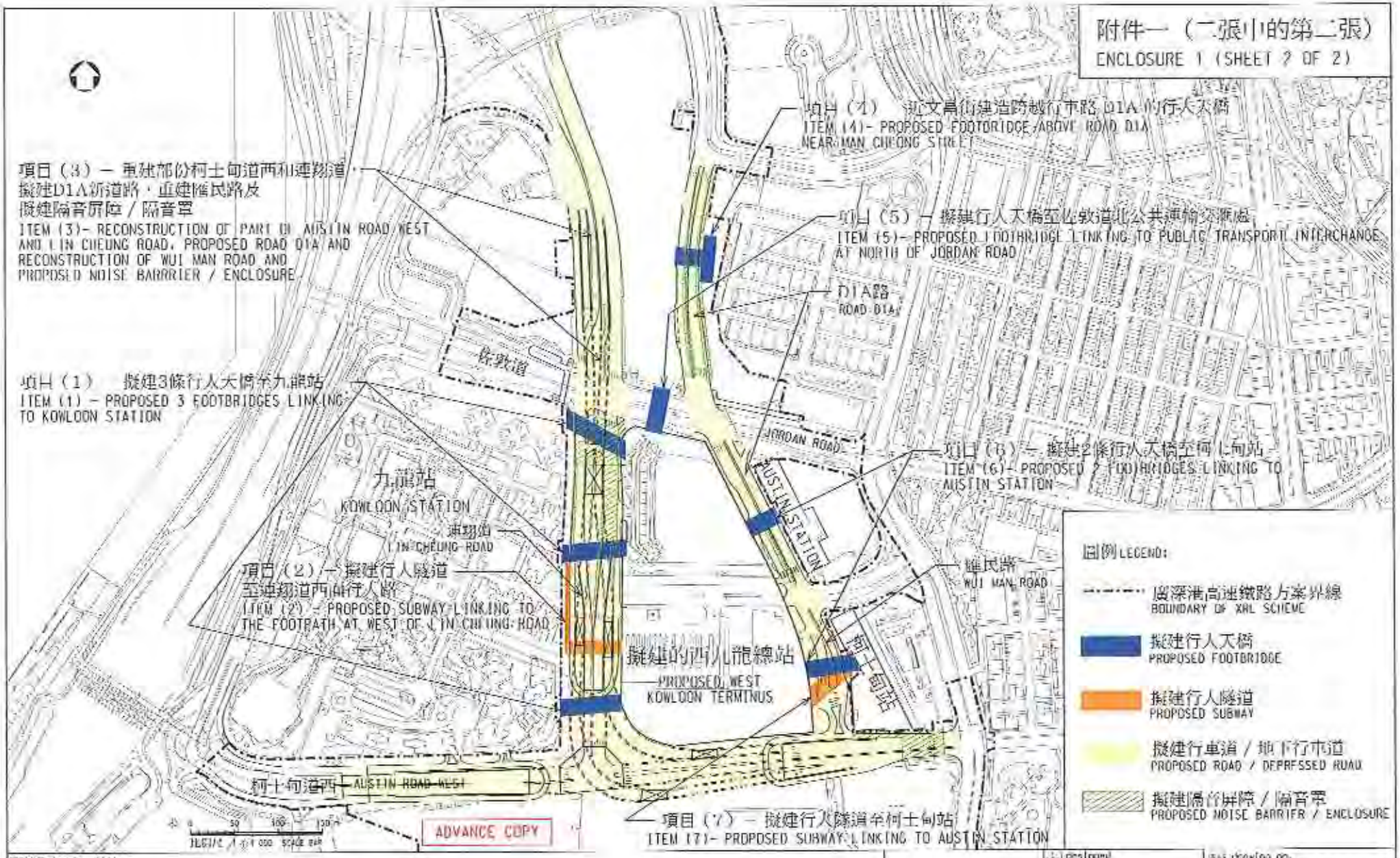
[8] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument and trees in memory of important persons or events;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree size, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.

Transport and Housing Bureau
November 2009

List of Essential Public Infrastructure Works (EPIW)

Item	Location	Description	Drawing
1	West Kowloon	Proposed 3 footbridges linking to Kowloon Station	Enclosure 1 (Sheet 2 of 2)
2	West Kowloon	Proposed subway linking to the footpath at west of Lin Cheung Road	
3	West Kowloon	Reconstruction of part of Austin Road West and Lin Cheung Road, proposed road D1A and reconstruction of Wui Man Road and proposed noise barrier/enclosure	
4	West Kowloon	Proposed footbridge above Road D1A near Man Cheong Street	
5	West Kowloon	Proposed footbridge linking to public transport interchange at north of Jordan Road	
6	West Kowloon	Proposed 2 footbridges linking to Austin Station	
7	West Kowloon	Proposed subway linking to Austin Station	



drawing title
工務計劃項目第577號 － 廣深港高速鐵路香港段 非鐵路建造工程
主要基建工程
項目 (1)、(2)、(3)、(4)、(5)、(6)及(7)
PWP ITEM NO. 577TR HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
ESSENTIAL PUBLIC INFRASTRUCTURE WORKS
ITEM (1), (2), (3), (4), (5), (6) & (7)

CHIEF ENGINEER
DATE

designed
drawn
checked
approved

drawing no.
HRWXRL002-SP0001

RAILWAY DEVELOPMENT OFFICE
HIGHWAYS DEPARTMENT

AS 297X420

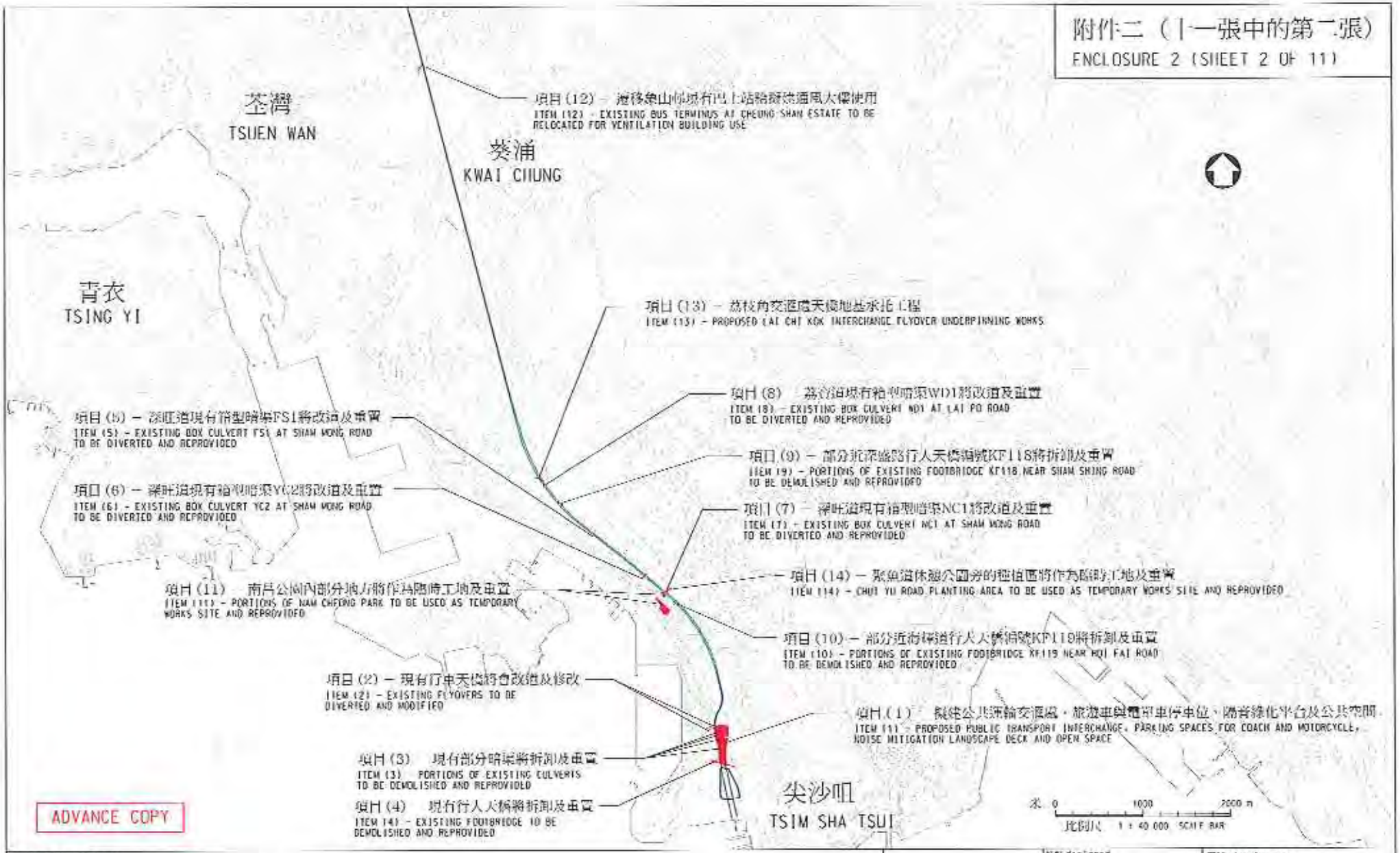
HRWXRL002-SP0001.DGN

List of Reprovisioning, Remedial and Improvement Works (RRIW)

(Item locations are shown in Enclosure 2 (Sheet 2 of 11)

Item	Location	Description	Drawing
1	West Kowloon	Proposed public transport interchange, parking spaces for coach and motorcycle, noise mitigation landscape deck and open space	Enclosure 2 (Sheet 3 of 11)
2	West Kowloon	Existing flyovers to be diverted and modified	
3	West Kowloon	Portions of existing culverts to be demolished and reprovided	
4	West Kowloon	Existing footbridge to be demolished and reprovided	
5	Sham Shui Po	Existing Box Culvert FS1 at Sham Mong Road to be diverted and reprovided	Enclosure 2 (Sheet 4 of 11)
6	Sham Shui Po	Existing Box Culvert YC2 at Sham Mong Road to be diverted and reprovided	Enclosure 2 (Sheet 5 of 11)
7	Sham Shui Po	Existing Box Culvert NC1 at Sham Mong Road to be diverted and reprovided	
8	Lai Chi Kok	Existing Box Culvert WD1 at Lai Po Road to be diverted and reprovided	Enclosure 2 (Sheet 6 of 11)
9	Tai Kok Tsui	Portions of existing footbridge KF118 near Sham Shing Road to be demolished and reprovided	Enclosure 2 (Sheet 7 of 11)
10	Sham Shui Po	Portions of existing footbridge KF119 near Hoi Fai Road to be demolished and reprovided	Enclosure 2 (Sheet 8 of 11)
11	Sham Shui Po	Portions of Nam Cheong Park to be used as temporary works site and reprovided	Enclosure 2 (Sheet 9 of 11)
12	Tsuen Wan	Existing Bus Terminus at Cheung Shan Estate to be relocated for ventilation building use	Enclosure 2 (Sheet 10 of 11)
13	Lai Chi Kok	Proposed Lai Chi Kok Interchange flyover underpinning Works	Enclosure 2 (Sheet 11 of 11)
14	Tai Kok Tsui	Chui Yu Road planting area to be used as temporary works site and reprovided	Enclosure 2 (Sheet 9 of 11)

附件二（1一張中的第二張）
ENCLOSURE 2 (SHEET 2 OF 11)



ADVANCE COPY

圖則名稱 drawing title
工務計劃項目第57TR號 – 廣深港高速鐵路香港段 非鐵路建造工程
重置、補救及改善工程
位置圖
PWP ITEM NO. 57TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
LOCATION PLAN

總工程師 CHIEF ENGINEER 日期 DATE

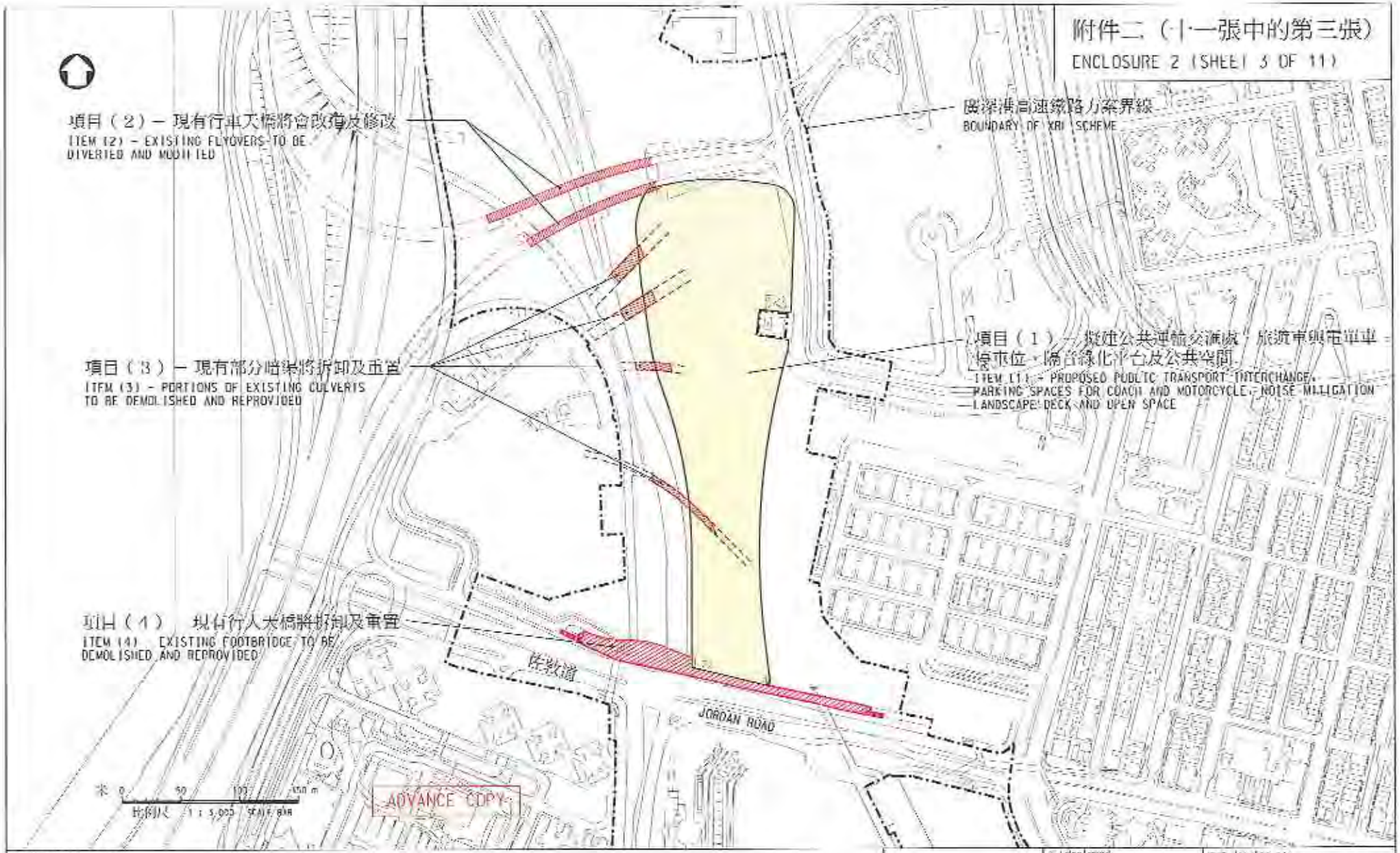
設計 designed
繪圖 drawn
核對 checked
批准 approved

圖則 drawing no.
HRWXRL002-SP0010

鐵路發展處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

A3 297X420

HRWXRL002-SP0010.DGN



drawing title
工務計劃項目第57TR號 － 廣深港高速鐵路香港段 － 非鐵路建造工程
重置、補救及改善工程
項目(1)、(2)、(3)及(4)
PWP ITEM NO. 57TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (1), (2), (3) & (4)

CHIEF ENGINEER | DATE

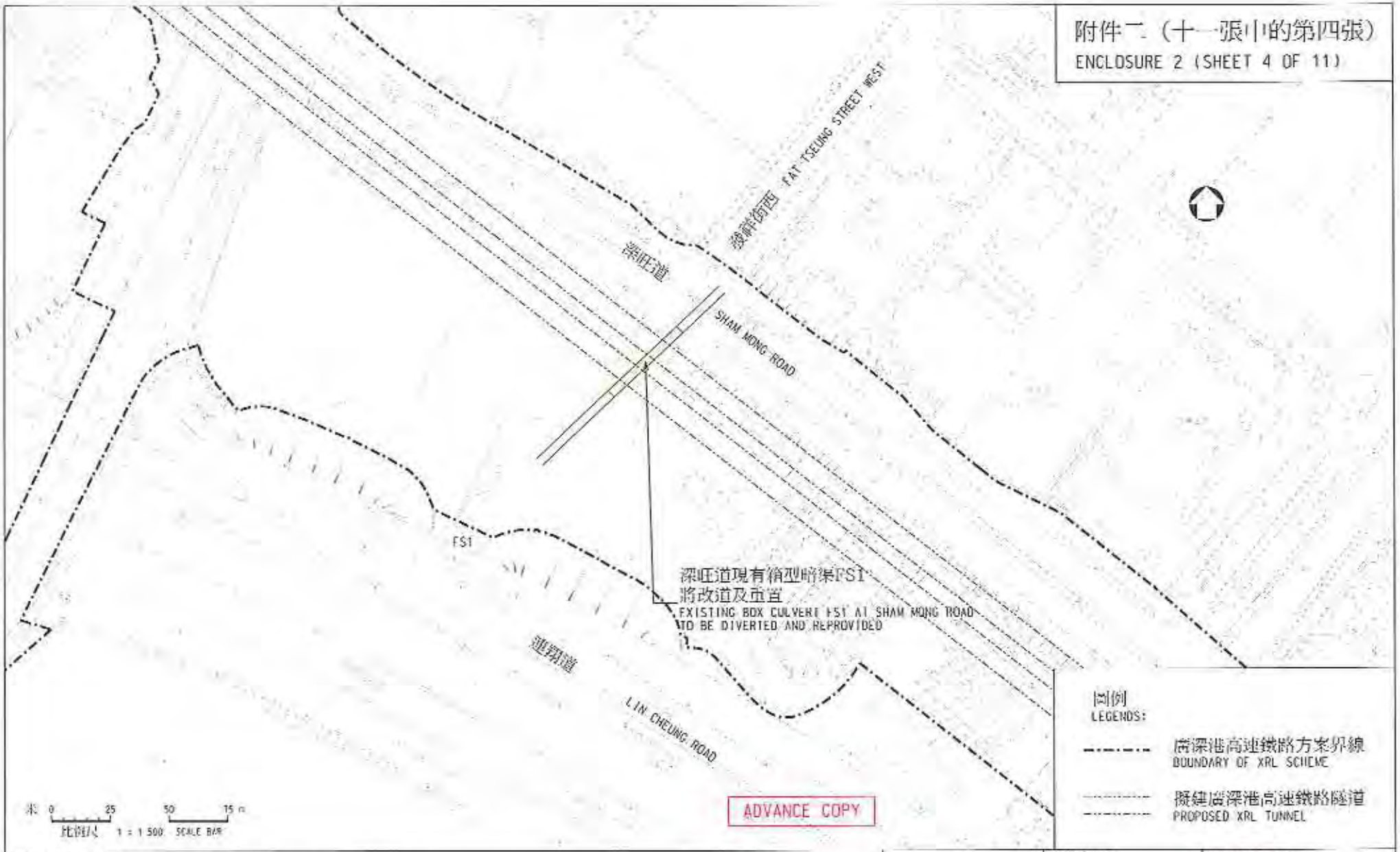
designed
drawn
checked
approved

drawing no.
HRWXRL002-SP0008

RAILWAY DEVELOPMENT OFFICE
HIGHWAYS DEPARTMENT

A3 297X420

HRWXRL002-SP0008.DGN
HRWXRL002-SP0008.dgn 27-10-2009



drawing title
工務計劃項目第57TR號 廣深港高速鐵路香港段 — 非鐵路建造工程
重置、補救及改善工程
項目(5) — 深旺道現有箱型暗渠FS1將改道及重置
PWP ITEM NO. 57TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (5) - EXISTING BOX CULVERT FS1 AT SHAM MONG ROAD TO BE DIVERTED AND REPROVIDED

CHIEF ENGINEER DATE

designed
drawn
checked
approved

drawing no.
HRWXRL002-SP0007

RAILWAY DEVELOPMENT OFFICE
HIGHWAYS DEPARTMENT

HRWXRL002-SP0007

A3 297X420

附件二（十一張中的第五張）
ENCLOSURE 2 (SHEET 5 OF 11)

圖則名稱 drawing title
工務計劃項目第57TR號 — 廣深港高速鐵路香港段 — 非鐵路建造工程
重置、補救及改善工程
項目(6)及(7) — 深旺道現有箱型暗渠YC2及NC1將改道及重置
PWP ITEM NO. 57TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (6) & (7) EXISTING BOX CULVERT YC2 AND NC1 AT SHAM MONG ROAD TO BE DIVERTED AND REPROVIDED

設計人 designed
繪圖 drawn
核對 checked
批准 approved
總工程師 CHIEF ENGINEER 日期 DATE

圖則編號 drawing no. HRWXRL002-SP0006

香港鐵路有限公司 HONG KONG RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

HRWXRL002-SP0006
A3 297X420

附件二 (十一張中的第六張)
ENCLOSURE 2 (SHEET 6 OF 11)

圖則名稱 drawing title
工務計劃項目第57TR號 — 廣深港高速鐵路香港段 — 非鐵路構造工作
重置、補救及改善工程
項目 (8) — 荔寶道現有箱型暗渠WD1將改道及重置
PWP ITEM NO. 57TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (8) - EXISTING BOX CULVERT WD1 AT LAI PO ROAD TO BE DIVERTED AND REPROVIDED

HRWXRL002-SP0015

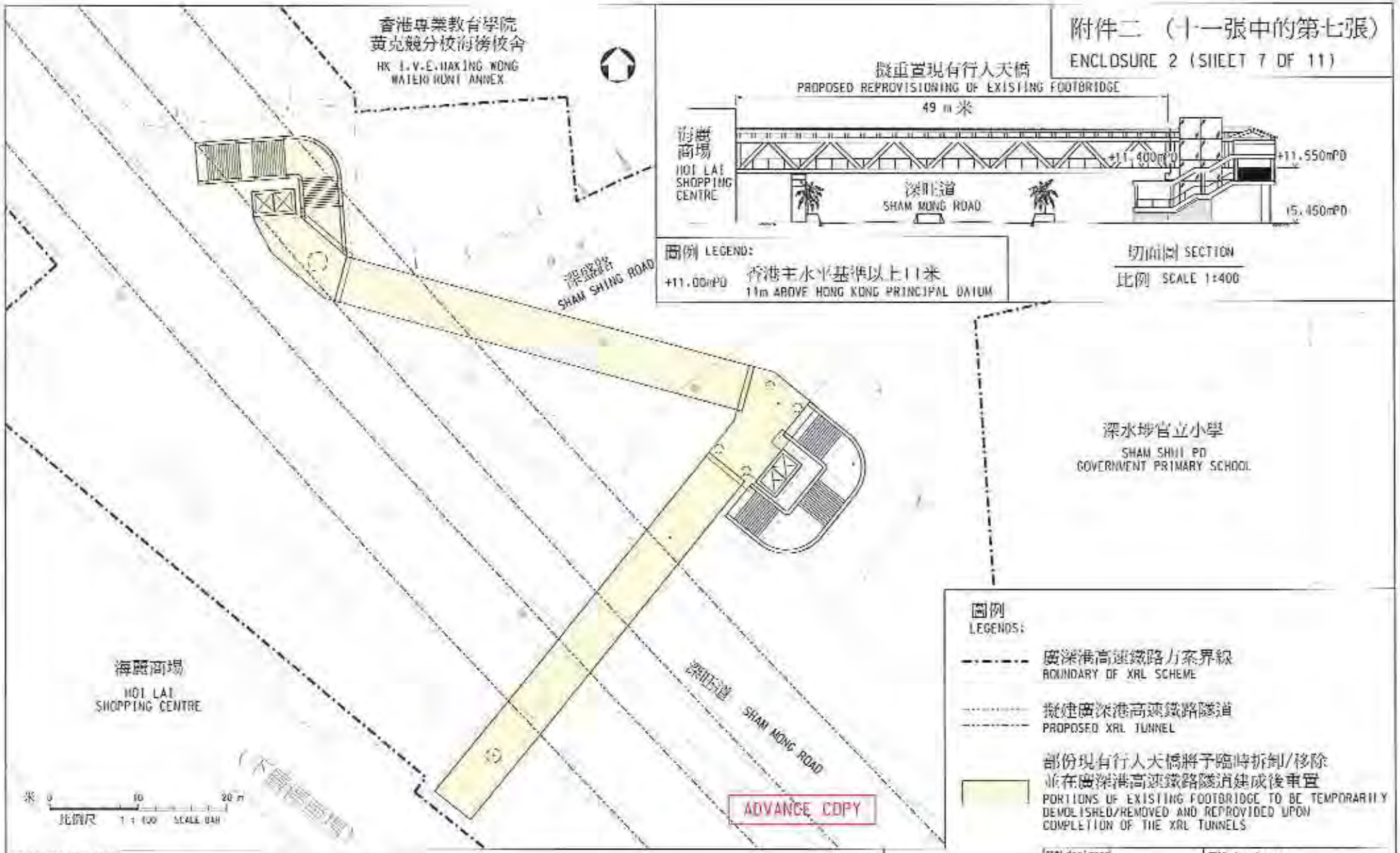
設計 designed	
繪圖 drawn	
核對 checked	
批准 approved	

總工程師 CHIEF ENGINEER 日期 DATE

圖則編號 drawing no.
HRWXRL002-SP0015

鐵路發展辦事處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

A3 297X420



合約名稱 drawing title
工務計劃項目第577TR號 — 廣深港高速鐵路香港段 — 非鐵路建造工程
重置、補救及改善工程
項目(9) — 部分近深盛路行人天橋編號KF118將拆卸及重置
PWP ITEM NO. 577R - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (9) - PORTIONS OF EXISTING FOOTBRIDGE KF118 NEAR SHAM SHING ROAD TO BE DEMOLISHED AND REPROVIDED

總工程師 CHIEF ENGINEER 日期 DATE

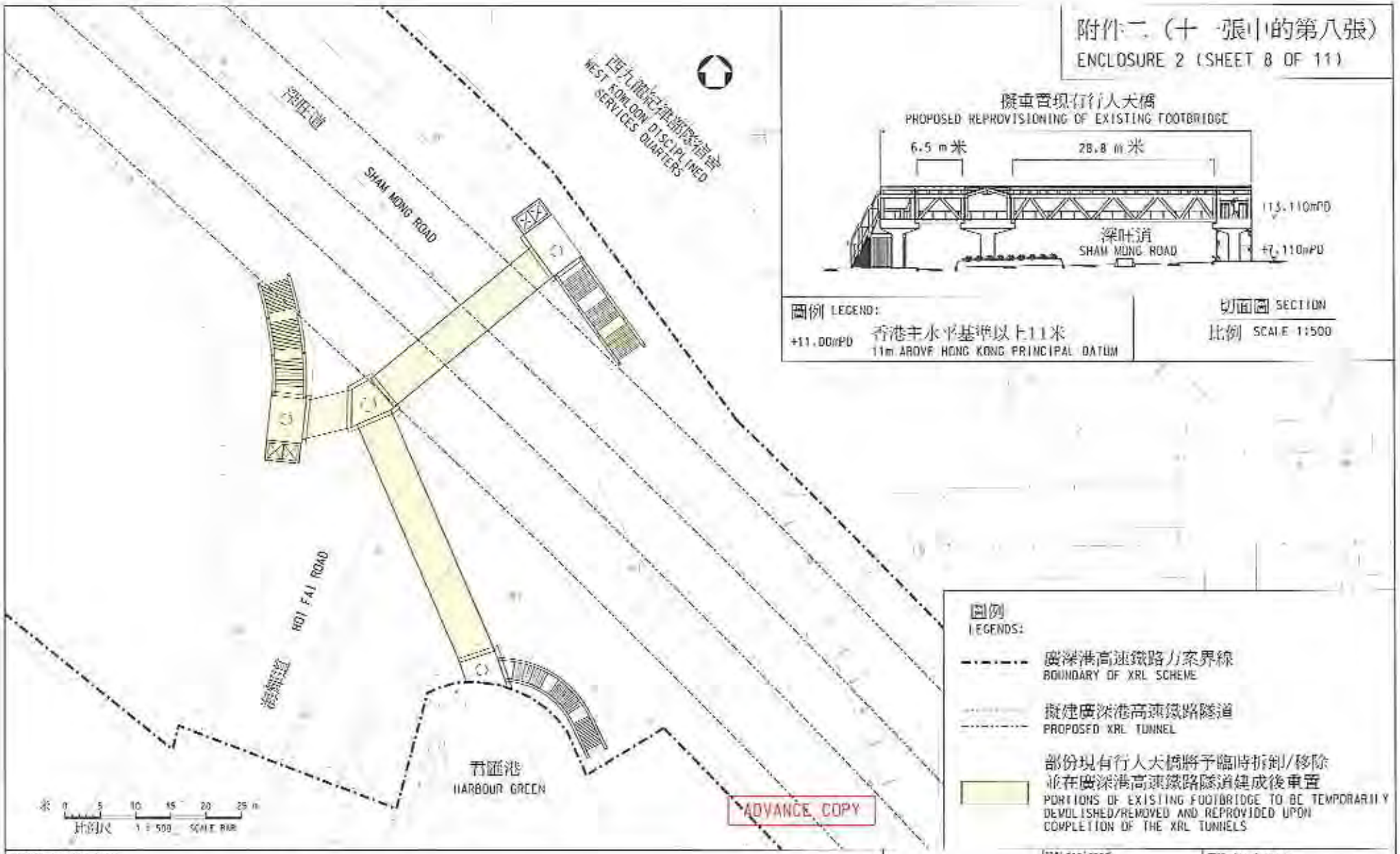
設計 designed
繪圖 drawn
核對 checked
批准 approved

合約圖則編號 drawing no.
HRWXRL002-SP0002

鐵路發展處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

HRWXRL002-SP0002
A3 297X420

附件二（十 張中的第八張）
ENCLOSURE 2 (SHEET 8 OF 11)



擬重置現有行人天橋
PROPOSED REPROVISIONING OF EXISTING FOOTBRIDGE

圖例 LEGEND:

+11.00mPD 香港主水平基準以上11米
11m ABOVE HONG KONG PRINCIPAL DATUM

切面圖 SECTION

比例 SCALE 1:500

圖例
LEGENDS:

廣深港高速鐵路方案界線
BOUNDARY OF XRL SCHEME

擬建廣深港高速鐵路隧道
PROPOSED XRL TUNNEL

部份現有行人天橋將予臨時拆卸/移除
並在廣深港高速鐵路隧道建成後重置
PORTIONS OF EXISTING FOOTBRIDGE TO BE TEMPORARILY DEMOLISHED/REMOVED AND REPROVIDED UPON COMPLETION OF THE XRL TUNNELS

圖則名稱 drawing title
工務計劃項目第577TR號 廣深港高速鐵路香港段 非鐵路建造工程
重置、補救及改善工程
項目(10) 部分近海輝道行人天橋編號KF119將拆卸及重置
PWP ITEM NO. 577TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (10) - PORTIONS OF EXISTING FOOTBRIDGE KF119 NEAR HOI FAI ROAD TO BE DEMOLISHED AND REPROVIDED

HRWXRL002-SP0003
HRWXRL002-SP0003.dgn 23-10-2009

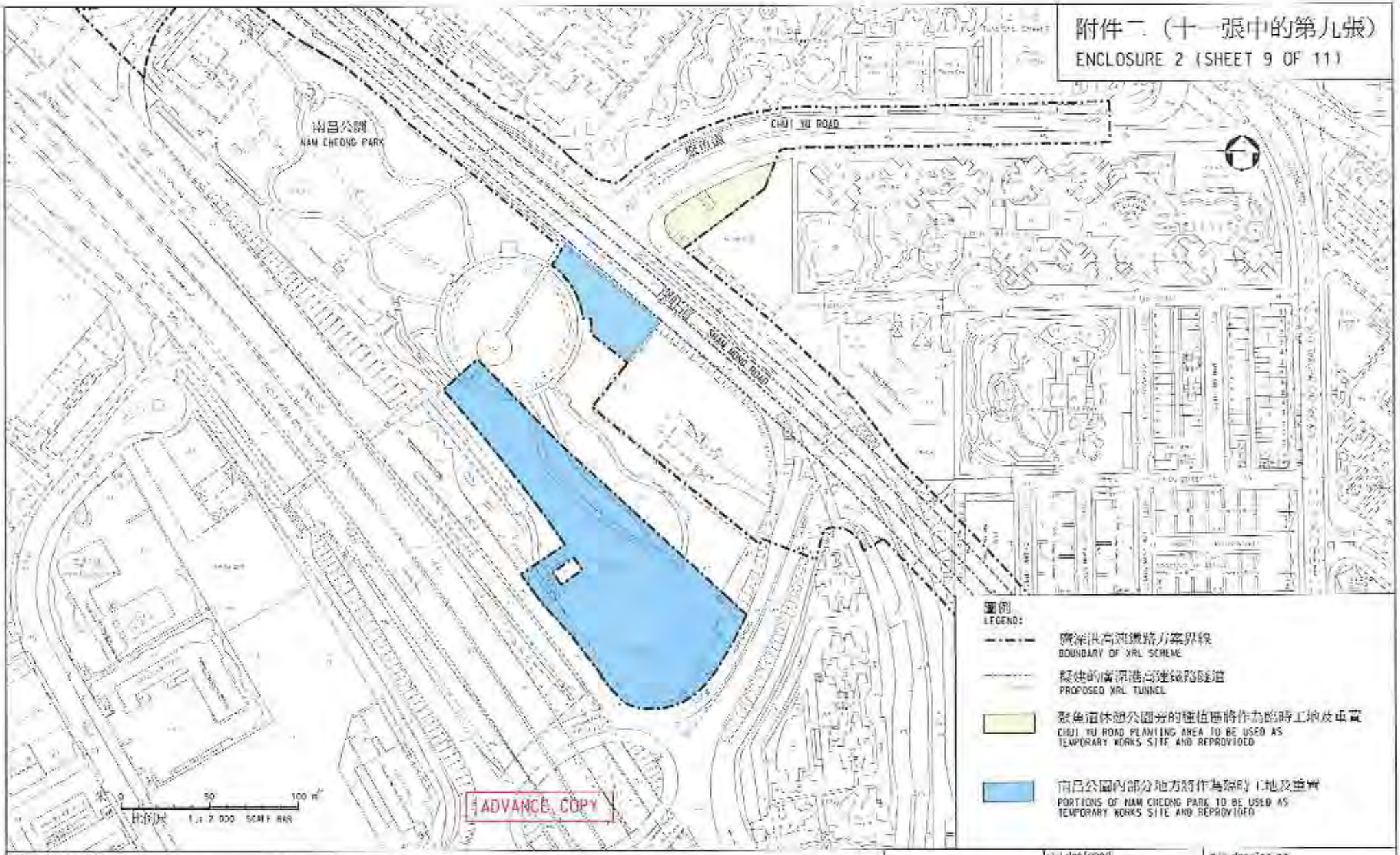
設計 designed	
繪圖 drawn	
核對 checked	
批准 approved	
總工程師 CHIEF ENGINEER	日期 DATE

圖則編號 drawing no.
HRWXRL002-SP0003

鐵路發展辦事處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

A3 297X420

附件二（十一張中的第九張）
ENCLOSURE 2 (SHEET 9 OF 11)



圖例
LEGEND:

廣深港高速鐵路方案界線
BOUNDARY OF XRL SCHEME

擬建的廣深港高速鐵路隧道
PROPOSED XRL TUNNEL

聚魚道休憩公園旁的種植區將作為臨時工地及重置
CHUI YU ROAD PLANTING AREA TO BE USED AS TEMPORARY WORKS SITE AND REPROVIDED

南昌公園內部分地方將作為臨時工地及重置
PORTIONS OF NAM CHEONG PARK TO BE USED AS TEMPORARY WORKS SITE AND REPROVIDED

圖則名稱 drawing title
工務計劃項目編號577R號 — 廣深港高速鐵路香港段 — 非鐵路建造工作
重置、補救及改善工作
項目(11)及(14) — 南昌公園內部分地方及聚魚道休憩公園旁的種植區將作為臨時工地及重置
PWP ITEM NO. 577R - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (11)&(14) - PORTIONS OF NAM CHEONG PARK & CHUI YU ROAD PLANTING AREA TO BE USED AS TEMPORARY WORKS SITE & REPROVIDED

設計 designed	圖號 drawing no. HRWXRL002-SP0005
繪圖 drawn	版權所有 COPYRIGHT RESERVED
核對 checked	鐵路發展辦事處 RAILWAY DEVELOPMENT OFFICE
批准 approved	路政署 HIGHWAYS DEPARTMENT

總工程師 CHIEF ENGINEER　日期 DATE

A3 297x420

HRWXRL002-SP0005
HRWXRL002-SP0005.dgn 26-10-2009

附件二（十一張中的第十張）
ENCLOSURE 2 (SHEET 10 OF 11)

drawing title
工務計劃項目第5/TR號 廣深港高速鐵路香港段 — 非鐵路建造工程
重置、補救及改善工程
項目(12) — 遷移象山邨現有巴士站給擬建通風大樓使用
PWP ITEM NO. 5/TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (12) - EXISTING BUS TERMINUS AT CHEUNG SHAN ESTATE TO BE RELOCATED FOR VENTILATION BUILDING USE

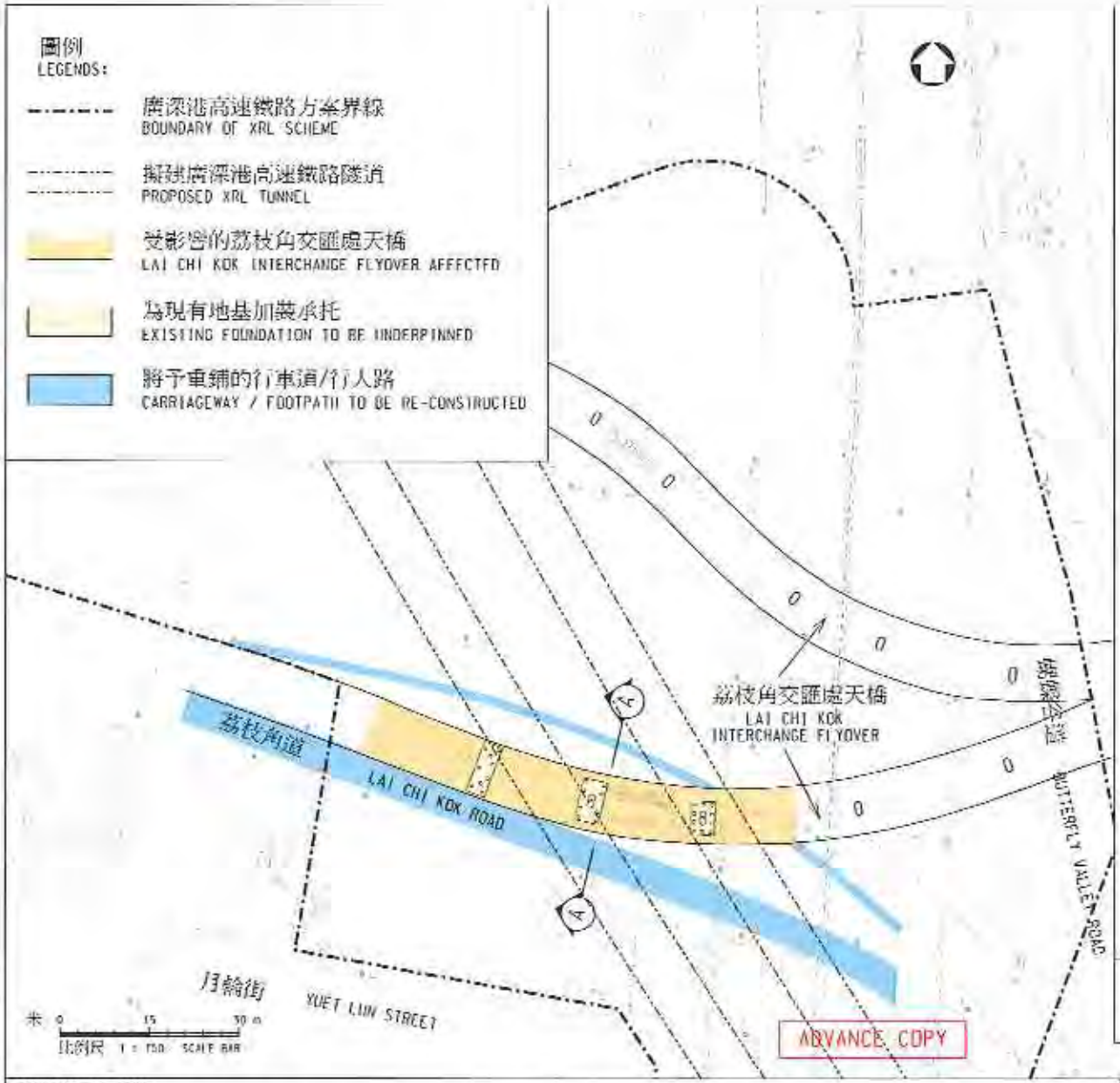
HRWXRL002-SP0012

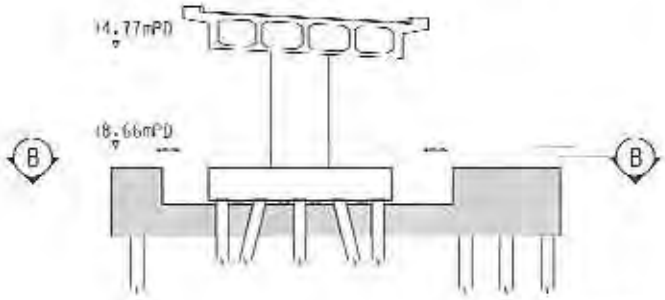
設計 designed	drawing no. HRWXRL002-SP0012
繪圖 drawn	版權所有 COPYRIGHT RESERVED
核對 checked	鐵路發展處 RAILWAY DEVELOPMENT OFFICE
批准 approved	路政署 HIGHWAYS DEPARTMENT
總工程師 CHIEF ENGINEER	日期 DATE

A3 297x420

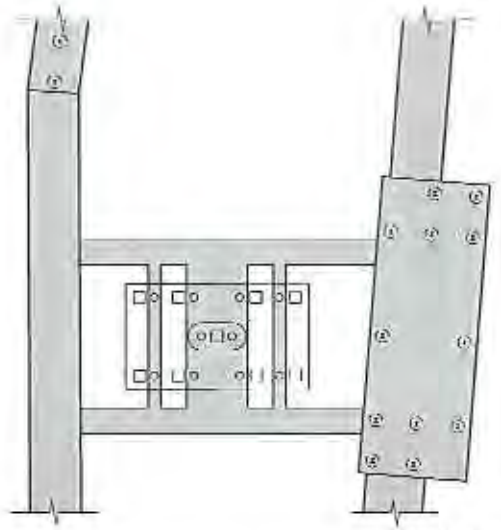
圖例
LEGENDS:

- 廣深港高速鐵路方案界線 BOUNDARY OF XRL SCHEME
- 擬建廣深港高速鐵路隧道 PROPOSED XRL TUNNEL
- 受影響的荔枝角交匯處天橋 LAI CHI KOK INTERCHANGE FLYOVER AFFECTED
- 為現有地基加裝承托 EXISTING FOUNDATION TO BE UNDERPINNED
- 將予重鋪的行車道/行人路 CARRIAGEWAY / FOOTPATH TO BE RE-CONSTRUCTED





切面圖 SECTION A-A
比例 SCALE 1:200



切面圖 SECTION B-B
比例 SCALE 1:200

圖例 LEGEND:
8.66mPD 香港主水平基準以上11米
8.66m ABOVE HONG KONG PRINCIPAL DATUM

drawing title
工務計劃項目第577TR號 — 廣深港高速鐵路香港段 — 非鐵路建造工程
重置、補救及改善工程
項目(13) — 荔枝角交匯處天橋地基承托工程
PWP ITEM NO. 577TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS
ITEM (13) - PROPOSED LAI CHI KOK INTERCHANGE FLYOVER UNDERPINNING WORKS

CHIEF ENGINEER | DATE

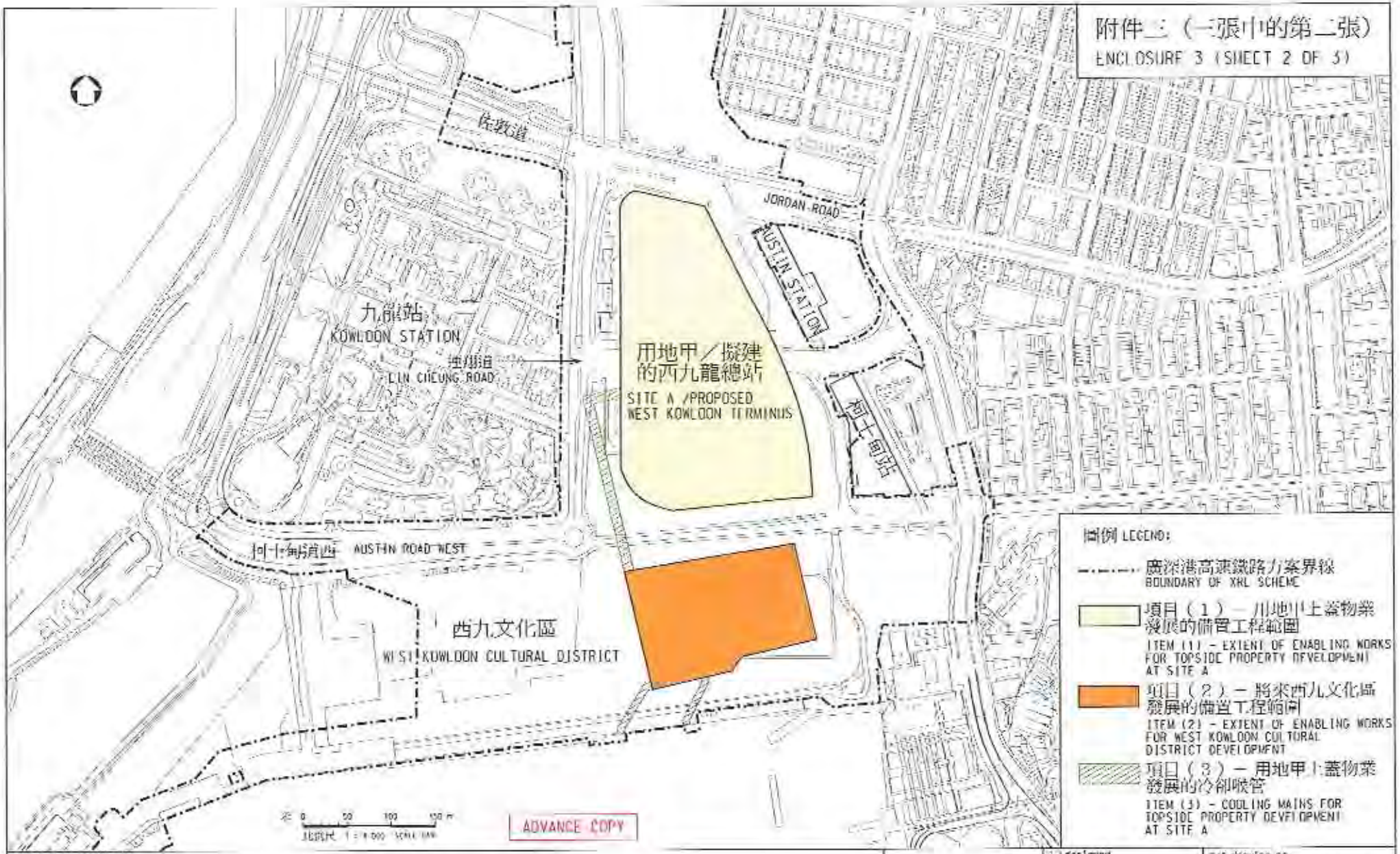
designed	
drawn	
checked	
approved	

drawing no. HRWXRL002-SP0004

HRWXRL002-SP0004
A3 297X420
HRWXRL002-SP0004.dgn 23-10-2009

List of Enabling Works

Item	Location	Description	Drawing
1	West Kowloon	Enabling works for topside property development at Site A	Enclosure 3 (Sheet 2 of 3)
2	West Kowloon	Enabling works for West Kowloon Cultural District Development	
3	West Kowloon	Cooling Mains for topside property development at Site A	
4	Sham Shui Po	Enabling works for future footbridges at Sham Mong Road.	Enclosure 3 (Sheet 3 of 3)



圖則名稱 drawing title
土木工程拓展署第STTR號 — 廣深港高速鐵路香港段 — 非鐵路建造工程
備置工程
項目(1)、(2)及(3)
PWP ITEM NO. 571R - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
ENABLING WORKS
ITEM (1), (2) & (3)

CHIEF ENGINEER 日期 DATE

designed
drawn
checked
approved

圖則編號 drawing no.
HRWXRL002-SP0014
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鐵路發展辦事處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

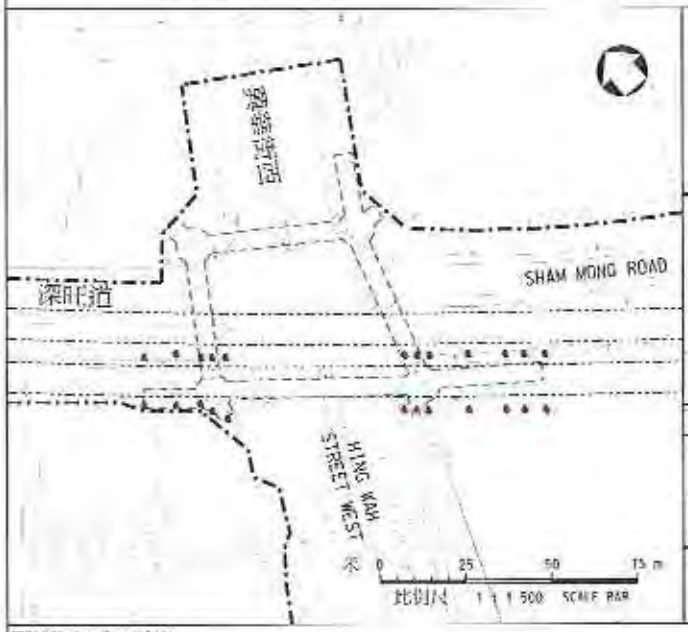
HRWXRL002-SP0014.DGN
HRWXRL002-SP0014.dgn 10-11-2009

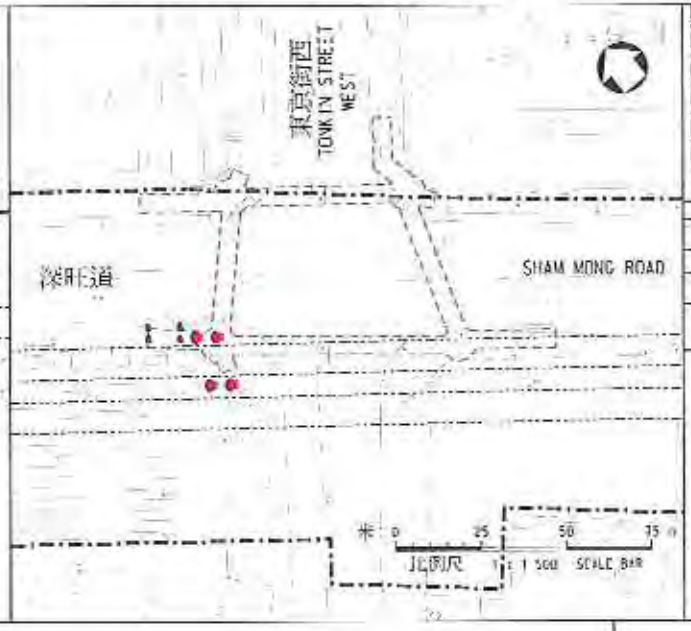
A3 297X420

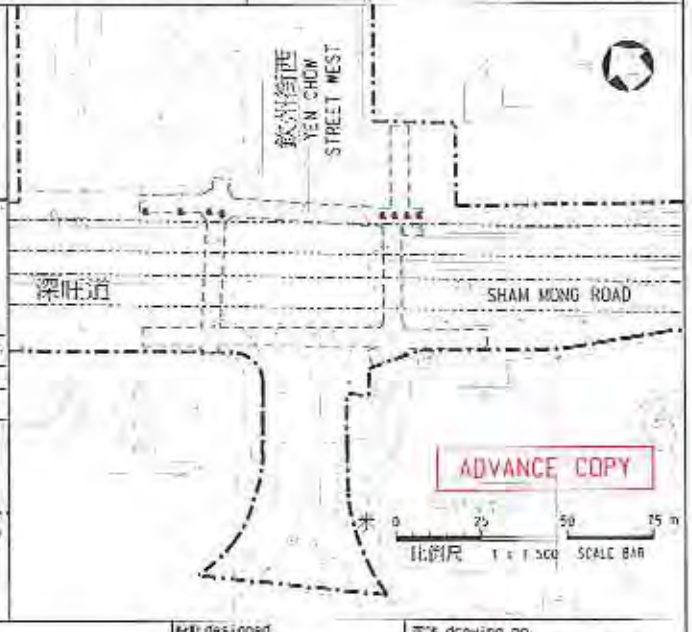
附件 三（三張中的第三張）
ENCLOSURE 3 (SHEET 3 OF 3)

圖例
LEGENDS:

- 擬建廣深港高速鐵路方案界線 BOUNDARY OF XRL SCHEME
- 擬建廣深港高速鐵路隧道 PROPOSED XRL TUNNEL
- 規劃中的公眾行人天橋佈局 PROPOSED LAYOUT OF THE PLANNED FOOTBRIDGES
- 深旺道未來行人天橋的備置工程（1.2米／2米直徑鑽孔樁） ENABLING WORKS FOR FUTURE FOOTBRIDGES AT SHAM MONG ROAD (1.2m / 2.0m DIA. BORED PILES)







圖則名稱 drawing title
工務計劃項目第577TR號 — 廣深港高速鐵路香港段 — 非鐵路建造工程
備置工程
項目 (4) — 深旺道未來行人天橋的備置工程
PWP ITEM NO. 577TR - HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - CONSTRUCTION OF NON-RAILWAY WORKS
ENABLING WORKS
ITEM (4) - ENABLING WORKS FOR FUTURE FOOTBRIDGES AT SHAM MONG ROAD

CHIEF ENGINEER 總工程師 DATE 日期

設計 designed
繪圖 drawn
核對 checked
批准 approved

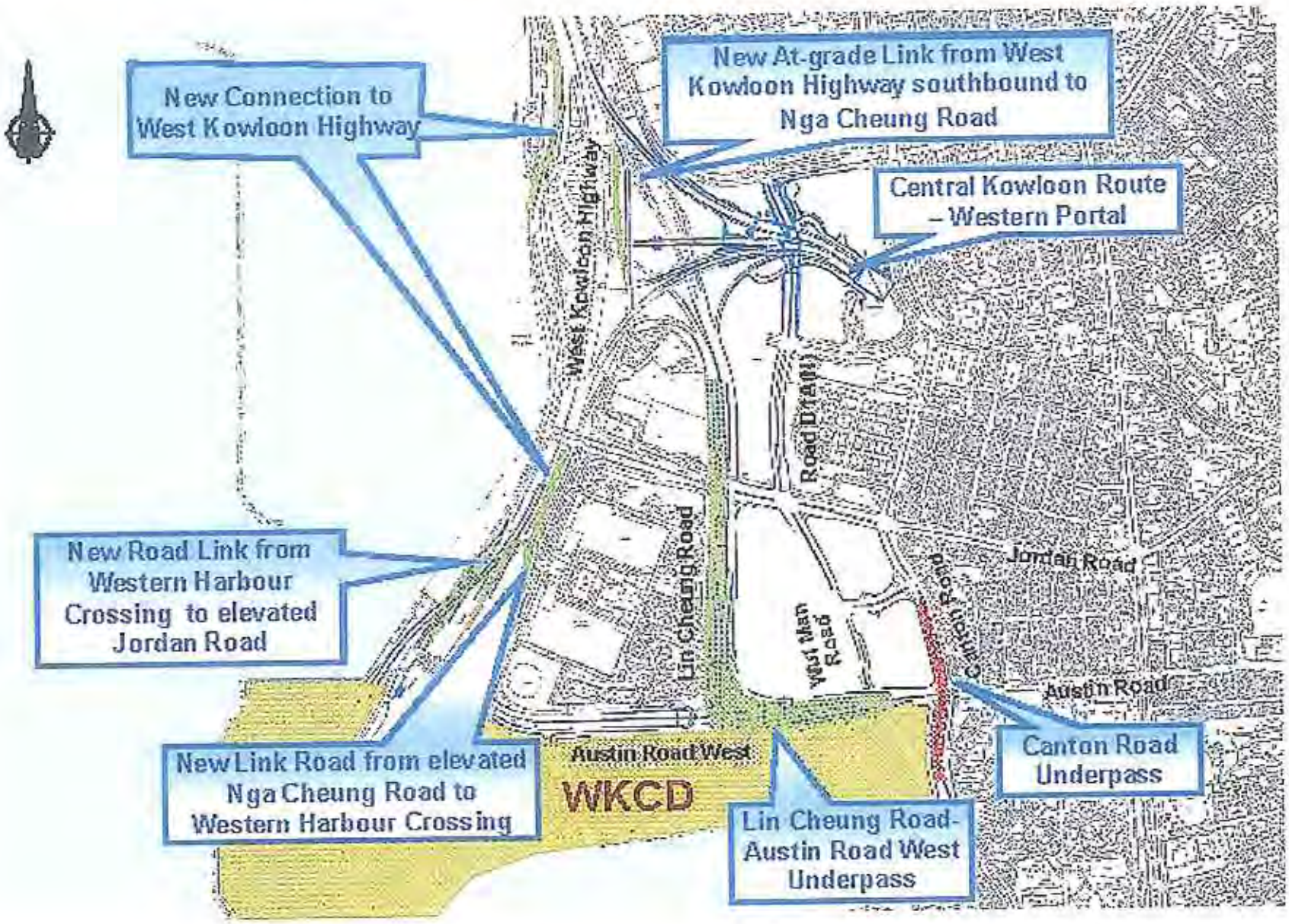
圖則編號 drawing no.
HRWXRL002-SP0013

鐵路發展辦事處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

A3 297x420

HRWXRL002-SP0013.dgn 03.11.2009

Road Improvement Schemes



Future Junction Capacity (with improved Road Network in 2031)