ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS Transport – Railways 60TR – Kwun Tong Line Extension – essential public infrastructure works

Members are invited to recommend to Finance Committee the upgrading of **60TR** to Category A at an estimated cost of \$826.9 million in money-of-the-day prices for the essential public infrastructure works for the Kwun Tong Line Extension.

PROBLEM

We need to provide a safe, convenient and barrier-free access to the Kwun Tong Line Extension (KTE) through enhancement of pedestrian and transport links to the Ho Man Tin Station (HOM) in order to fully realise the consequential social and economic benefits of the KTE, which will commence operation by 2015.

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade **60TR** to Category A at an estimated cost of \$826.9 million in money-of-the-day (MOD) prices for the construction of essential public infrastructure works (EPIW) for the KTE.

PROJECT SCOPE AND NATURE

3. The KTE is an extension of the existing MTR Kwun Tong Line from Yau Ma Tei Station to Whampoa, with two new stations at Ho Man Tin and Whampoa. Passengers can interchange at the proposed Ho Man Tin Station for the future Shatin to Central Link (SCL). The schematic layout of KTE is at Enclosure 1.

4. The scope of **60TR** comprises –

- (a) construction of a pedestrian link system connecting HOM to the Ho Man Tin Estate, Oi Man Estate and the Hung Hom area south of Chatham Road North ("the pedestrian link system"), which includes
 - (i) covered footbridges of about 2.5 metres (m) in width and about 330 m in total length crossing and along Sheung Lok Street, Fat Kwong Street, Chung Yee Street, and Hau Man Street, with a total of three staircases and four lifts at Fat Kwong Street western footpath, Sheung Lok Street and Oi Man Estate outside Po Man House;
 - (ii) a covered footbridge of about 3.5 m in width and about 95 m in length connecting Chung Yee Street to Chung Hau Street;
 - (iii) a subway of about 3 m to 4 m in width and about 205 m in length crossing Chung Hau Street and Fat Kwong Street to HOM, with a total of two staircases and five lifts at Chung Hau Street and Fat Kwong Street eastern footpath;
 - (iv) covered walkways of 2.5 m to 3.5 m in width and about 270 m in total length at the northwest corner of Ho Man Tin East Service Reservoir Playground and along the eastern boundary of Ho Man Tin Sports Centre; and
 - (v) associated road, drainage, electrical and mechanical (E&M), geotechnical and landscaping works;

- (b) construction of a footbridge integrating with the existing footbridge across Chatham Road North and connecting HOM to Wuhu Street, which includes
 - (i) a covered footbridge of about 6 m in width and about 100 m in length across Chatham Road North linking HOM to Wuhu Street, which integrates with the lifts and staircases of the existing footbridge across Chatham Road North;
 - (ii) three escalators at Wuhu Street Temporary Playground for access to the footbridge described in (i) above;
 - (iii) demolition of the existing footbridge decks across Chatham Road North and Wuhu Street; and
 - (iv) associated road, drainage, E&M and landscaping works; and
- (c) construction of a public transport facility (PTF) with a floor area of about 1 900 m² at Chung Hau Street near HOM, which includes
 - (i) a lay-by of about 160 m in length for buses and green minibuses with a covered walkway;
 - (ii) a lay-by of about 30 m in length to serve as a drop-off area for taxis and private cars;
 - (iii) modification of a section of Chung Hau Street; and
 - (iv) associated road, drainage, street lighting, E&M, geotechnical and landscaping works.

Layout plans of the proposed EPIW are at Enclosure 2.

5. We plan to entrust the EPIW to the MTR Corporation Limited (MTRCL) in conjunction with the KTE railway works. Subject to the approval of the Finance Committee, construction works for the EPIW are scheduled to commence in mid-2011 for completion in tandem with the KTE in 2015.

JUSTIFICATION

6. The proposed EPIW are necessary for enhancing accessibility to the proposed HOM of KTE. Without the EPIW providing convenient and safe access to KTE, the consequential social and economic benefits such as enhancing connectivity between Ho Man Tin and Hung Hom, reduction in travel time and reduction in emission of air pollutants from road-based traffic, cannot be fully realised.

Pedestrian Link System connecting HOM to Ho Man Tin Estate and Oi Man Estate

- 7. The future HOM will be located at the ex-Valley Road Estate Phase I site, which is about 350 m away from the Ho Man Tin Estate and Oi Man Estate. The Ho Man Tin Estate and Oi Man Estate are situated on raised terrain. The existing pavements from the two estates leading to the Hung Hom area and the location of the future HOM are long and sloping, which have created much inconvenience for local residents, particularly for the elderly and physically disabled.
- 8. The proposed pedestrian link system comprising covered footbridges, walkways and subways with barrier-free access will provide a vital connection between HOM and the housing estates and local areas in the vicinity. Furthermore, it will provide a more comfortable walking environment in the area and improve accessibility to HOM, thereby encouraging the use of the railway service. The anticipated peak-hour pedestrian flow of the proposed pedestrian link system will reach about 3 700 per hour in 2031.

Footbridge from HOM to Wuhu Street

9. The Hung Hom area near Wuhu Street is separated from the Ho Man Tin area by Chatham Road North with a level difference exceeding 30 m. At present, there is only one uncovered footbridge crossing Chatham Road North near Wuhu Street. We propose to build a covered footbridge across Chatham Road North connecting the Hung Hom area and the station entrance of HOM near Yan Fung Street Rest Garden, which will be integrated with the lifts and staircases of the existing footbridge. The anticipated peak-hour pedestrian flow of the proposed footbridge will reach about 7 400 per hour in 2031. Together with free passage inside HOM during operating hours and the proposed pedestrian link system described in paragraphs 7 and 8 above, connectivity between Ho Man Tin and Hung Hom will be greatly improved.

PTF near HOM

10. To facilitate optimum inter-modal coordination between KTE and other modes of public transport, we propose to construct a PTF near HOM. The proposed PTF will serve the residents of the neighbouring areas and passengers using KTE and SCL.

Works to be entrusted to the MTRCL

11. We plan to entrust the EPIW to the MTRCL to better co-ordinate the EPIW and the railway works, so as to ensure that the EPIW and the KTE project will be completed in tandem in 2015.

FINANCIAL IMPLICATIONS

12. We estimate the cost of the project to be \$826.9 million in MOD prices (please see paragraph 13 below), broken down as follows –

(a)	Pedestrian Link connecting HOM to Ho Man Tin and Oi Man Estate (i) footbridges (ii) lifts (iii) covered walkway (iv) subway (v) associated road, drainage, E&M, geotechnical and landscaping works	128.9 67.5 27.7 122.5 85.5	\$ million 432.1	
(b)	Footbridge connecting HOM to Wuhu Street (i) footbridge (ii) escalators (iii) associated road, drainage, E&M and landscaping works	57.2 7.5 3.5	68.2	
(c)	PTF at Chung Hau Street near HOM (i) bus bays and passenger shelters (ii) road modification (iii) associated road, drainage, street lighting, E&M, geotechnical and landscaping works	57.8 8.1 3.5	69.4	\$ million

(d)	On-cost payable to MTRCL ¹	\$ million 94.0	
(e)	Contingencies	66.4	
	Sub-total	730.1	(in September 2010 prices)
(f)	Provision for price adjustment	96.8	p
	Total	826.9	(in MOD _prices)

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

Year	\$ million (Sep 2010)	Price Adjustment Factor	\$ million (MOD)
2011 - 2012	50.4	1.04250	52.5
2012 – 2013	306.7	1.09463	335.7
2013 – 2014	250.0	1.14936	287.3
2014 – 2015	79.0	1.20682	95.3
2015 – 2016	42.0	1.27169	53.4
2016 – 2017	1.6	1.34163	2.1
2017 – 2018	0.4	1.41542	0.6
	730.1	-	826.9

14. We have derived the MOD estimate on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period 2011 to 2018. MTRCL will tender the EPIW as parts of the railway contracts with provision for price adjustments.

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An on-cost at 16.5% of the project base cost (i.e. items (a), (b) and (c) of paragraph 12 above) will be payable to MTRCL for undertaking the technical studies, design and construction supervision of the EPIW.

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15. We estimate the annual recurrent expenditure arising from the EPIW to be \$6.1 million.

PUBLIC CONSULTATION

- 16. We have been keeping the Kowloon City District Council (KCDC) abreast of the progress of the EPIW and KTE projects. Representatives of the Transport and Housing Bureau, Highways Department and MTRCL have attended a series of public forums organised by KCDC members and various political parties with participation by the local community.
- 17. At the meeting of the KCDC Traffic and Transport Committee on 7 January 2010, a motion was passed to urge the Government to provide more entrances at HOM for serving the Ho Man Tin Estate, Oi Man Estate, Ka Wai Chuen and the Hung Hom area. In response, MTRCL has revised the layout of the station entrances and proposed to provide an additional subway leading from Fat Kwong Street near the Ho Man Tin East Service Reservoir Playground to HOM. Pedestrians can access HOM from the Ho Man Tin Estate through this proposed subway.
- 18. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures² (ACABAS) on 21 September and 16 November 2010. The ACABAS in general accepted the proposed aesthetic design of the structures described in paragraph 4 above.
- 19. We gazetted the KTE scheme, which comprises the proposed EPIW, under the Railways Ordinance (Cap. 519) (the Ordinance) on 27 November 2009. Amendments to the scheme were subsequently gazetted on 25 June 2010. We received 50 objections to the original gazetted scheme and the amendment scheme, including six objections relating to the proposed EPIW. The gist of these six objections which remain unresolved are as follows
 - (a) the proposed HOM located at ex-Valley Road Estate would be distant from the main housing estates in the vicinity such as Oi Man Estate and Ho Man Tin Estate;

/ (b).....

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.

- (b) the proposed pedestrian link system would be a detour to the station and would not directly connect the Ho Man Tin Estate and Oi Man Estate to HOM; and
- (c) subways should be constructed between the Ho Man Tin Estate and HOM, as well as between the Oi Man Estate and the HOM.

We have explained to the objectors that the proposed HOM will be an interchange station for KTE and the future SCL. The location of HOM is dictated by the alignment of SCL and KTE, leaving limited scope for its relocation. We further explained that the pedestrian link system (i.e. paragraph 4(a) above refers) would provide a barrier-free access with a gentle gradient to HOM. It would also improve the existing walking environment in the district. The alternative proposals put forth by the objectors of providing direct subway connections from HOM to Ho Man Tin Estate and Oi Man Estate could only provide limited improvement to the pedestrian network in the district. However, the risk associated with necessary construction works underneath the existing reservoirs in Ho Man Tin would be significant. The proposed pedestrian link system is considered the most appropriate option in terms of improvement to the existing footpath network, providing a more comfortable walking environment, minimising energy consumption and land occupation, etc.

- 20. Having considered the unresolved objections, the Chief Executive-in-Council authorised the KTE scheme without modifications of the EPIW under the Ordinance on 30 November 2010. The notice of authorisation was gazetted on 10 December 2010.
- 21. We briefed the Subcommittee of Matters relating to Railways of the Legislative Council Panel on Transport on the latest progress of the KTE and consulted the Subcommittee on the EPIW on 6 December 2010 and 16 December 2010. Members had no objection to the proposed funding application for the EPIW. Members requested us to provide supplementary information on the location of station entrances and the design of the ventilation shaft/lift/emergency access as well as the pedestrian connections of the future Whampoa Station. We will provide the required information to the Subcommittee. We also briefed the Subcommittee on the latest cost estimate and the latest situation of property development for the rail plus property model of the KTE at the above meetings. Details are at Enclosure 3.

/ ENVIRONMENTAL.....

ENVIRONMENTAL IMPLICATIONS

22. The proposed EPIW is not a designated project under the Environmental Impact Assessment Ordinance. The footbridge link of the proposed EPIW belongs to the categories that have very limited potential to give rise to adverse environmental impacts. We completed a preliminary environmental review (PER) in December 2010, which has also covered the pedestrian link with footbridges and a subway and the PTF under the EPIW. The PER concluded that the project would not cause long-term environmental impacts. We will implement the standard pollution control measures during the construction of the EPIW as promulgated by the Director of Environmental Protection.

- 23. At the planning and design stages, MTRCL has considered measures to reduce the generation of construction waste where possible. Such measures include the use of piling foundation instead of spread footing foundation to minimise the amount of excavation material to be generated; use of footbridge for the Oi Man Estate and Ho Man Tin Estate connection in lieu of subway as to minimise the amount of excavation material. In addition, 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 facilities³. MTRCL will encourage the contractor 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.
- 24. At the construction stage, MTRCL will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. MTRCL will ensure that the day-to-day operations on site comply with the approved plan. MTRCL will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. MTRCL will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfill respectively through a trip-ticket system.

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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.

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MTRCL estimates that the project will generate in total about 76 390 tonnes of construction waste. Of these, MTRCL will reuse about 19 860 tonnes (26%) of inert construction waste on other construction sites and deliver 56 400 tonnes (73.8%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, MTRCL will dispose of the remaining 130 tonnes (0.2%) 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 about \$1.5 million for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne⁴ at landfills).

HERITAGE IMPLICATIONS

26. The project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

27. Most of the EPIW will only affect unleased Government land, except the proposed construction of a lift tower at Oi Man Estate outside Po Man House (paragraph 4(a)(ii) refers). The proposed lift tower will take up portion of land and an air stratum within the lot boundary of Oi Man Estate (i.e. The Remaining Portion of Kowloon Inland Lot No. 9826). In this regard, no objection in principle has been obtained from the lot owners, i.e. The Hong Kong Housing Authority and The Link, to carve out the required portion of land and air stratum from the lot by way of a Deed Poll and then to surrender the same free of cost to the Government by executing a Deed of Surrender. Details are being worked out by the concerned parties and are expected to be finalised in early 2012, before the relevant construction works commence in mid-2012 tentatively. On the basis that the affected private land and air stratum are to be surrendered voluntarily to the Government, the project does not require land resumption under the Railways Ordinance (Cap. 519). Crops are found within the scheme area of the EPIW and will have to be cleared. We will charge the clearance cost estimated at \$143,000 to Head 701 - Land Acquisition. A breakdown of the land resumption and clearance costs is at Enclosure 4.

/ BACKGROUND

⁴ 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 m³), nor the cost to provide new landfills, (which is likely to be more expensive) when the existing ones are filled.

BACKGROUND INFORMATION

28. We upgraded **60TR** to Category B in September 2010.

Of the 715 trees within the project boundary, 209 trees will be preserved. The proposed EPIW will involve the removal of 506 common trees including 491 trees (of which 160 trees are self-seeded trees⁵ of undesirable species requiring no compensation planting) to be felled and 15 trees to be transplanted elsewhere. All trees to be removed are not important trees⁶. We will incorporate planting proposals as part of the project, including planting about 343 trees.

30.	We estimate that the works in paragraph 4 will create about 325 jobs
(265	for labourers and another 60 for professional/technical staff) providing a total
empl	oyment of 13 800 man-months.

Transport and Housing Bureau January 2011

⁵ "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 –

⁵ Pursuant to Environment, Transport and Works Technical Circular No. 3/2006, no compensation planting is required for self-seeded trees of undesirable species such as "*Leucaena leucocephala*", which would prevent natural succession of indigenous species.

⁽a) trees of 100 years old or above;

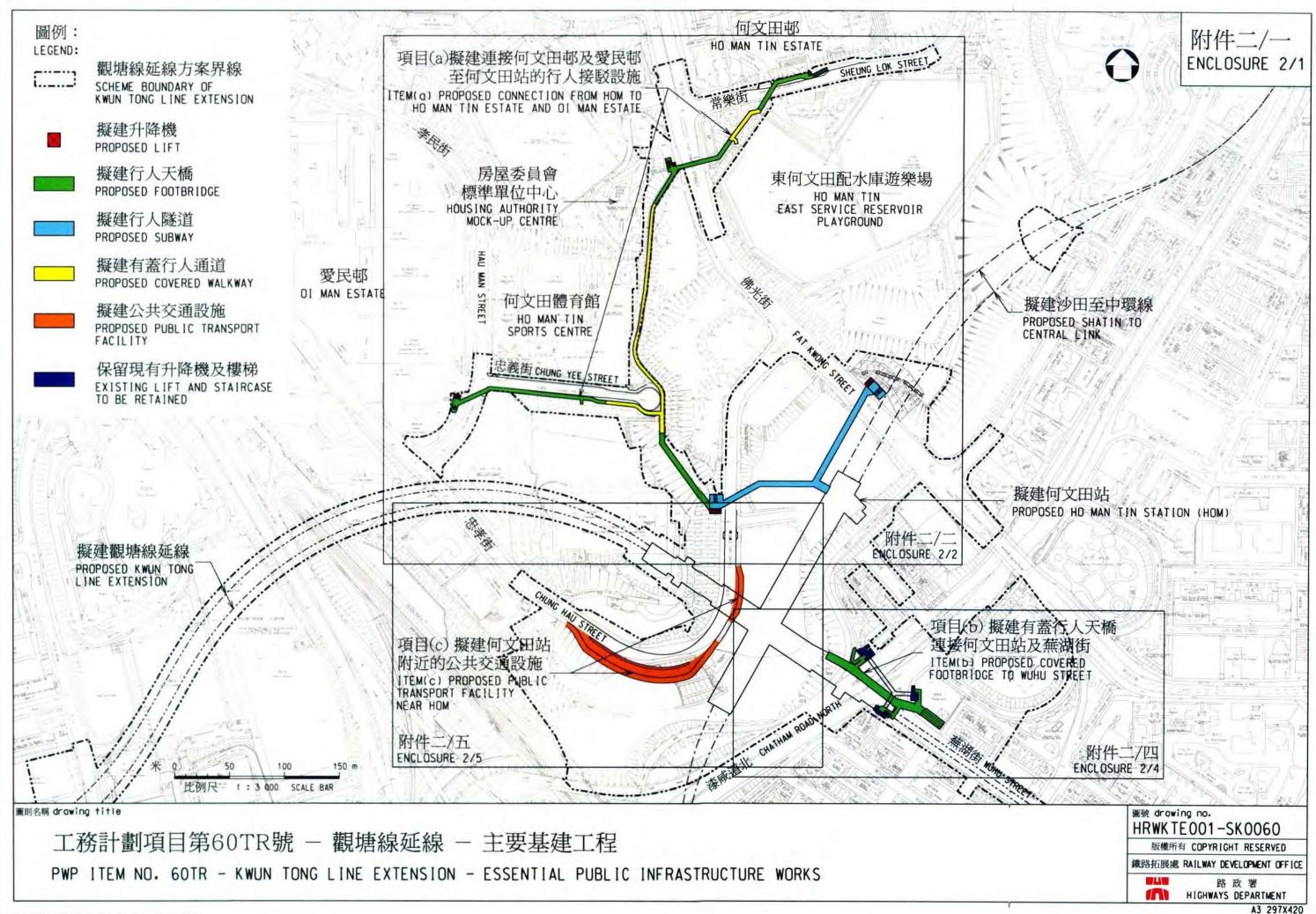
⁽b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of important persons or events;

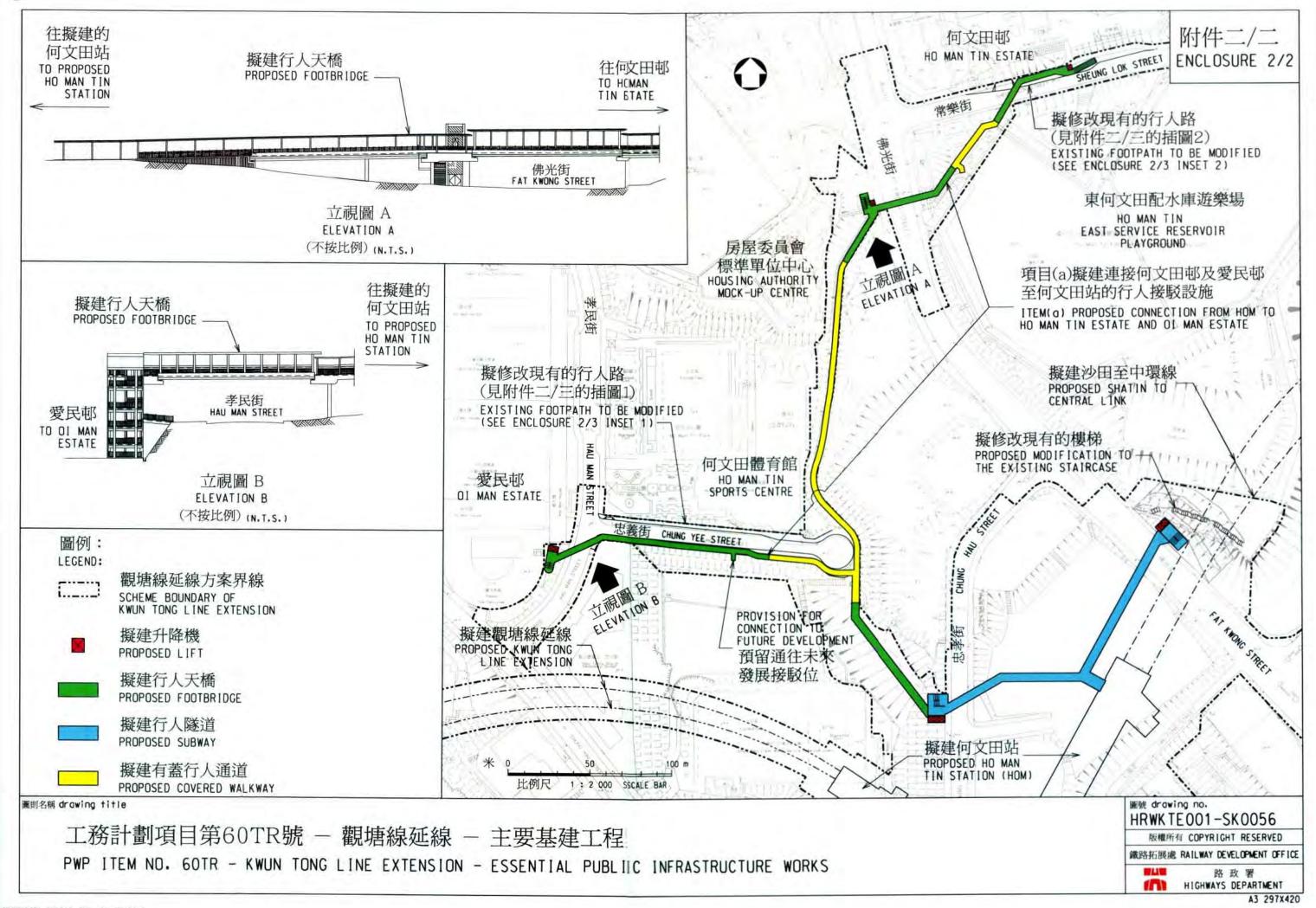
⁽c) trees of precious or rare species;

⁽d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or

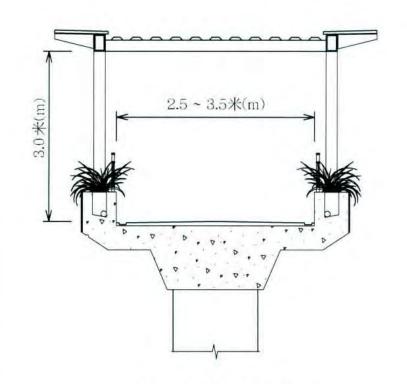
⁽e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.



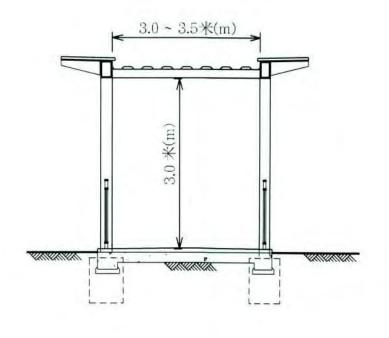




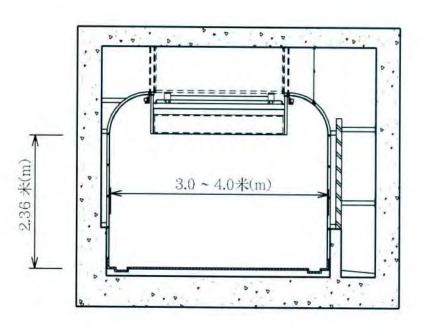
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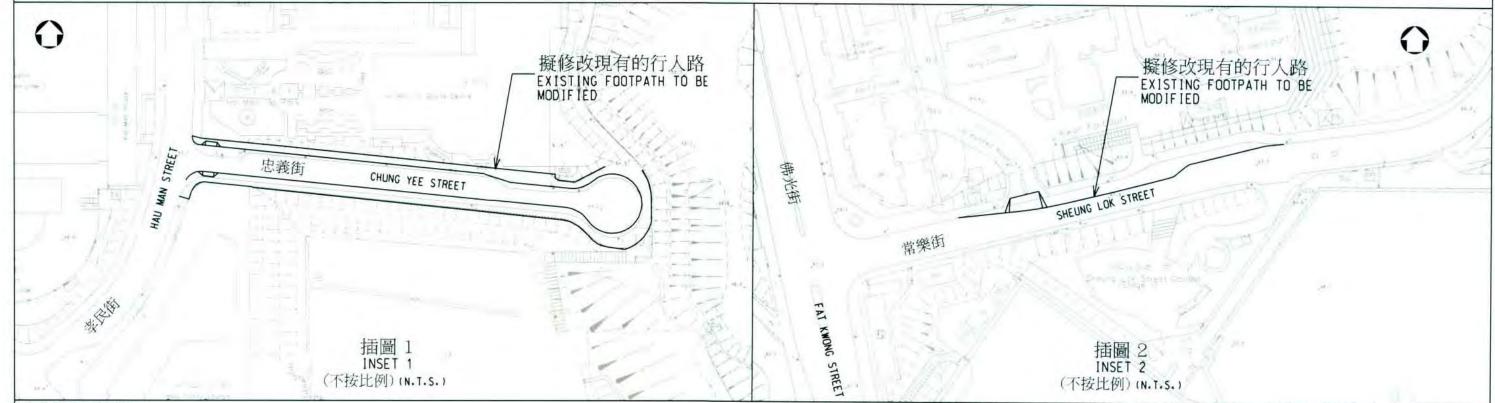
行人天橋典型切面圖
TYPICAL SECTION OF FOOTBRIDGE
(不按比例)(N.T.S.)



有蓋行人通道典型切面圖
TYPICAL SECTION OF COVERED WALKWAY
(不按比例)(N.T.S.)



行人隧道典型切面圖 TYPICAL SECTION OF SUBWAY (不按比例) (N.T.S.)



圖則名稱 drawing title

工務計劃項目第60TR號 - 觀塘線延線 - 主要基建工程

PWP ITEM NO. 60TR - KWUN TONG LINE EXTENSION - ESSENTIAL PUBLIC INFRASTRUCTURE WORKS

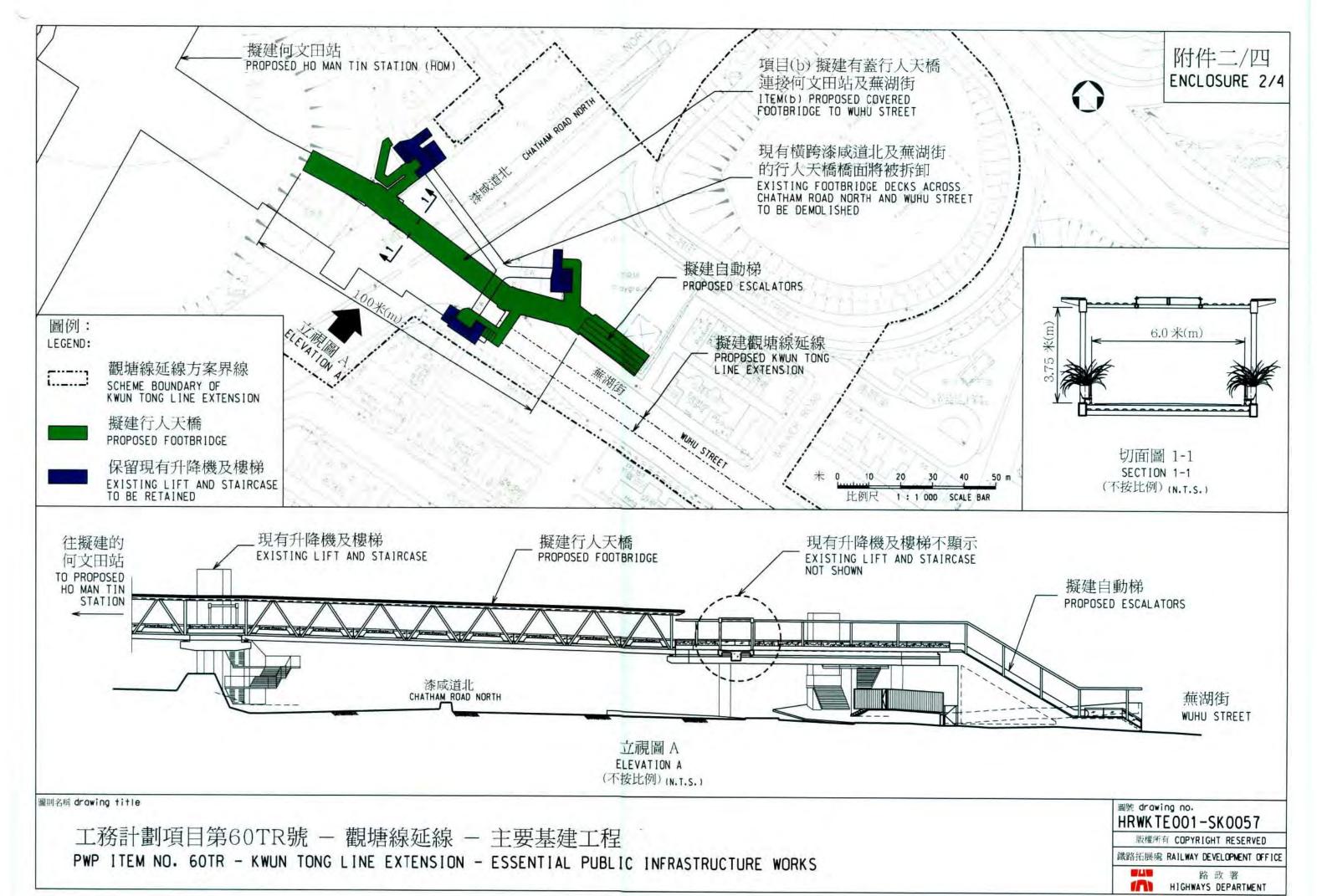
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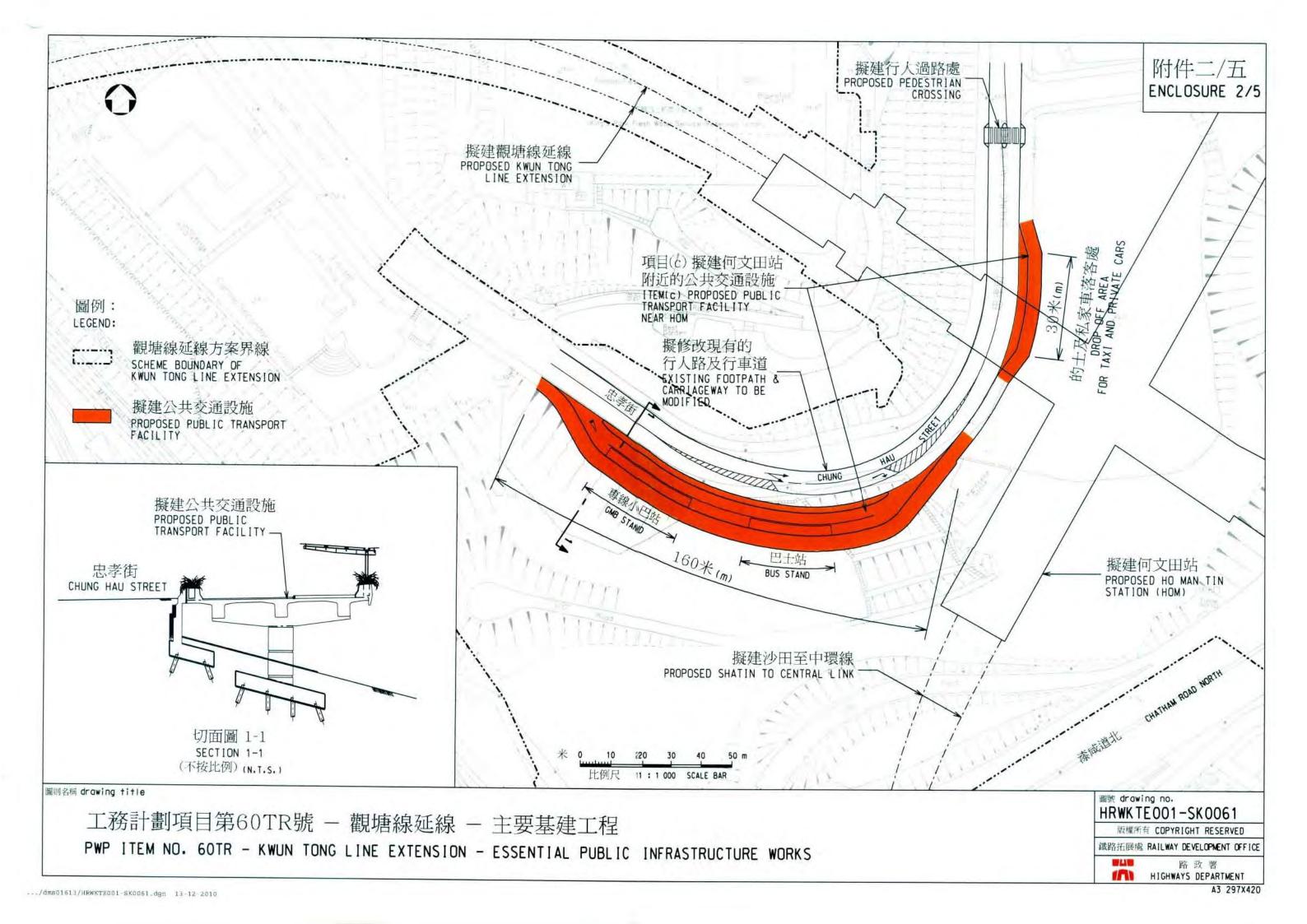
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鐵路拓展處 RAILWAY DEVELOPMENT OFFICE



路 政 署 HIGHWAYS DEPARTMENT





60TR – Kwun Tong Line Extension – essential public infrastructure works

Cost Estimate and Rail Plus Property Development for the KTE

The KTE will be an extension of the existing MTR network. It will be implemented as a MTRCL project under the ownership approach. In March 2008, the cost estimate of the KTE was about \$4.2 billion (in 2007 prices) and the project was considered as not financially viable. Construction prices have escalated by about 30% from 2007 to 2009 due to the surge in construction material prices. For reference, Architectural Services Department's Building Works Tender Price Index increased by 29% from 859 in the second quarter of 2007 to 1111 in the third quarter of 2009. Apart from that, refinement of the project details and amendments in the detailed design also attributed to the increase in project cost estimate. According to the MTRCL's latest assessment, the construction cost estimate of KTE ranges from \$5.3 billion to \$5.6 billion (in 2009 prices). Although the railway scheme has been authorised for implementation and the detailed design is at the final stage, fine-tuning in engineering and technical details and adjustments to the cost estimate are still expected. Therefore, the cost estimate is expected to be finalized in the first quarter of 2011. The Administration will continue close monitoring of the project expenditure and ensure MTRCL will exercise due diligence in budget control. We have also engaged an independent engineering consultant (IEC) to conduct an assessment of the project cost estimate and the funding gap.

2. In March 2008, the Chief Executive in Council requested the Administration to investigate whether the site (the ex-Valley Road Estate), of about 2.6 hectares, was suitable to serve the rail plus property model at the proposed Ho Man Tin Station. After due consideration and investigation, the Administration has considered that the site would be available for the rail plus property development for KTE. At present, the MTRCL is carrying out the planning of the topside development of the station. We will carefully consider and scrutinize the development proposal with the assistance of the IEC in paragraph 1. We will comply with the planning requirements of the subject site and ensure that the value of the property development right is comparable with the funding support required. We will give due consideration to ensure that the support is fair and reasonable, without affecting the prudent commercial principle in railway operation.

- 3. Having considered the land use, development intensity, building height, landscape, air ventilation of the neighbouring area and public concerns, we have requested the MTRCL to adopt a maximum plot ratio of 5 for the planning and design of the site, notwithstanding that maximum allowable plot ratio in the Ho Man Tin Outline Zoning Plan No. S/K7/20 is 9.
- 4. According to the preliminary discussions with the MTRCL, the site is planned for a residential development of about ten blocks, each of over twenty storeys. It is anticipated that the development will produce 1 400 to 1 800 number of flats of size ranging from 400 to 2 000 square metres.
- 5. The Government has recently introduced a series of measures to foster a quality and sustainable built environment. Although the relevant guidelines have not been promulgated, the MTRCL has agreed to follow the new requirements. Detailed planning of the property development is underway.

${\bf 60TR-Kwun\ Tong\ Line\ Extension-essential\ public\ infrastructure\ works}$

Breakdown of the land resumption and clearance costs

			\$
(a)	Ex-gratia allowance of crop compensation		130,000
(b)	Contingency		13,000
		Total	143,000