For discussion **PWSC(2009-10)50**
on 10 June 2009

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT
Subventions – Miscellaneous
1QR – West Island Line – funding support

Members are invited to recommend to Finance Committee the upgrading of **1QR** to Category A at an estimated cost of $12,252 million (in June 2009 Net Present Value (NPV) [1] which is equivalent to $12,252 million in money-of-the-day prices) to provide the second stage funding support for West Island Line.

PROBLEM

We need to extend the Mass Transit Railway (MTR) Island Line from Sheung Wan to Kennedy Town to improve the traffic conditions in the Central and Western (C&W) District and provide greater convenience to the public. The project will also help boost economic activities and improve the living environment.

/PROPOSAL…..

[1] Net present value is defined as the total present value on a given date of a series of future cash outflows minus inflows, adjusted by a discount rate to reflect the time value of money.

PROPOSAL

2. The Director of Highways (D of Hy), with the support of the Secretary for Transport and Housing, proposes to upgrade **1QR** to Category A at an estimated cost of $12,252 million (in June 2009 Net Present Value (NPV) which is equivalent to $12,252 million in money-of-the-day (MOD) prices) to provide the second stage funding support to the MTR Corporation Limited (MTRCL) to cover the design phase expenditure after authorisation of the West Island Line (WIL) project under the Railways Ordinance (Cap. 519) (the Ordinance) and to bridge the funding gap[2] to make WIL project financially viable.

PROJECT SCOPE AND NATURE

3. The WIL is a three-kilometre long railway extension of the existing Island Line from Sheung Wan Station to Kennedy Town with two intermediate underground stations at Sai Ying Pun and the University of Hong Kong. A plan showing the proposed WIL alignment is at Enclosure 1.

4. The scope for **1QR** comprises a capital grant as the Government's funding support to the MTRCL to make the WIL project financially viable. The capital grant is to lower the WIL project costs for –

(a) the detailed design after authorization of the project under the Ordinance and construction of the railway works for the WIL which includes –

(i) underground railway stations and facilities at Sai Ying Pun, near the HKU and at Kennedy Town, together with the associated station entrances;

(ii) an approximately 2.1 kilometres (km) long underground railway tunnel and 0.7 km long underground overrun / refuge tunnel;

/(iii)

[2] A railway project is considered financially not viable if the present value of all its projected revenues net of projected expenditures falls short of the expected return on capital. This shortfall is known as the funding gap.

(iii) rail track formation works, earthworks, civil and structural works, electrical and mechanical works, and facilities including trackwork, train control and communication facilities, ventilation shafts and electrical and mechanical plants;

(iv) re-construction, modification and re-alignment of existing roads, preventive or remedial works including underpinning the foundations of existing buildings and ground treatment, and ancillary works including associated drainage works, slope works, landscaping works;

(b) detailed design after authorization of the project under the Ordinance and construction of reprovisioning, remedial and improvement works (RRIW) in connection with the WIL (see Enclosure 2);

(c) procurement of rolling stocks; and

(d) land costs, including rental for works areas, acquisition, clearance, compensation and Lands Department administrative cost etc., to provide land for the construction and operation of WIL.

5. The MTRCL plans to commence the construction of the WIL in July 2009 for completion in end 2014.

JUSTIFICATION

6. Adopting railways as the backbone of our transport system is our stated transport policy. The WIL project will bring significant transport and economic benefits as well as providing an environmentally friendly and efficient mass carrier for the C&W District.

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7. Commuters travelling to and from the C&W District are now relying on road-based transport modes. Upon completion, the WIL will provide a fast and reliable service to the C&W District and will bring upon substantial economic benefits to the community primarily through saving in transportation time. At present, a road journey during the rush hours for the three kilometres between Kennedy Town and Sheung Wan takes 15 to 25 minutes. In comparison, the same journey by WIL will take no more than eight minutes. We estimate that the WIL will save the public a total of 12 million hours in 2016 and the economic benefits including time savings over 50 years of operation of WIL is about $62 billion in 2007 prices.

8. The C&W District is a traditional district with a lot of scope for rejuvenation. The WIL will provide the impetus for the rejuvenation as there are likely to be more economic activities and redevelopment with the improvement in traffic conditions.

9. There are sites along the WIL currently accommodating Government facilities that are to be occupied either temporarily or permanently for the construction and/or operation of the WIL. We need to reprovision these facilities in conjunction with the construction of the WIL. These works are grouped as RRIW under the WIL project. A list of the RRIW is at Enclosure 2.

10. We have identified three items of the essential public infrastructure works (EPIW)[3], which are to be funded by Government, for enhancing pedestrian or vehicular flows in the vicinity of the WIL stations, as follows –

(a) Provision of pedestrian link at Sands Street;

(b) Provision of footbridge link to the University of Hong Kong Centennial Campus; and

(c) Provision of a public transport interchange at Kennedy Town Station.

/ **FINANCING** …..

[3] We upgraded **55TR** "West Island Line – essential public infrastructure works" to Category B in February 2009. We will make a separate submission at the same PWSC meeting under PWSC(2009-10)51 for upgrading **55TR** to Category A at an estimated cost of $103.6 million in MOD prices for the construction of the EPIW.

FINANCING ARRANGEMENT

(A) Funding arrangement

11. The Government has in the past mainly relied on granting property development rights as the means for providing financial support to bridge the funding gap for most of the railway projects under the ownership approach. However, due to the lack of suitable sites along or adjacent to the WIL alignment for property development, alternative methods to provide the funding would have to be considered. For the WIL, Government proposes to provide a capital grant as financial support. The grant is intended as an upfront payment to lower the capital costs of the project in order to provide the incentive for the MTRCL to embark on the project which it would otherwise not undertake at all given the financial non-viability.

12. In establishing the capital grant to MTRCL which is a listed company operating under commercial principles, we adopt the following criteria for non-government projects under which capital grants can be provided to profit-oriented organisations –

(a) the capital subvention should be given for the purpose of inducing the organisation in question to undertake a project which it would otherwise not undertake;

(b) the project in question should be a major infrastructure which is expected to bring about significant social and economic benefits to the public in line with the policy objectives of the Government, but is projected to be financially not viable to the organisation in question;

(c) the Government should have given due consideration to the availability of other alternative organisations that are capable of undertaking the project without the capital subvention, as well as all other viable means for causing the project to be undertaken, and have come to the view that the capital subvention is the most appropriate means; and

(d) requests for such capital subvention, if supported by the Government, should be approved by the FC of LegCo before the capital grant can be released.

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13. The funding support to MTRCL is being provided in two stages. The first stage covers the design phase expenditure of the WIL project up to authorisation under the Ordinance. The second stage covers the remainder of the funding gap for the WIL project.

14. The MTRCL commenced the detailed design in February 2008 after receiving the first stage funding support (see paragraph 52 below). Upon receipt of the second stage funding support, the MTRCL will commence construction for the WIL project. The MTRCL will bear all the commercial risks associated with the operation of the railway line in future. To illustrate, should the patronage and the corresponding fare revenue arising from the WIL turn out to be substantially lower than those assumed in determining the funding gap amount, the Government has no obligation to provide any further financial support to the MTRCL.

(B) Project cost and funding gap

15. The estimated capital cost of the WIL is $15,400 million (in December 2008 prices), including the costs for design and construction of the railway works, procurement of rolling stock, the RRIW and land costs except compensation due to loss of redevelopment potential.

16. Highways Department (HyD) engaged an independent engineer consultant (IEC), which is not engaged in any current consultancies with MTRCL, to conduct an assessment to ascertain the construction costs and operation costs of the WIL estimated by the MTRCL based on the scheme design developed by the MTRCL. This is to ensure that the MTRCL has come up with a reasonable estimate of the costs and the funding support required. After completion of the assessment, the IEC considered that MTRCL's estimate was generally in order. To be prudent and to safeguard against overpayment to the MTRCL, we have proposed to introduce a claw-back mechanism in case the actual tender prices turn out to be lower than the estimated project cost (see paragraph 22 below).

17. In the PWSC(2007-08)59 paper, the estimated capital cost of the WIL is $8,900 million (in January 2006 prices) and the corresponding funding gap is about $6,000 million (January 2007 NPV). Based on the MTRCL's estimate, the capital cost is increased to about $15,400 million (in December 2008 prices) and the corresponding funding gap is increased to $12,700 million (in June 2009 NPV). The above increases are mainly attributed to the increase in the scope of the works for the railway and the price escalation for the construction sector since January 2006 as described in paragraph 18 below.

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18. The increase in the capital cost of $6,500 million ($15,400 million minus $8,900 million) from January 2006 to December 2008 is attributed to –

(a) Increase in the scope of works of about $2,200 million –

		$ million (Dec 2008 prices)
(i)	Scope change for RRIW	200
(ii)	Scope change for railway works	1,300
(iii)	Changes in construction methods	200
(iv)	Additional electrical and mechanical works	400
(v)	Additional rolling stock	100
	Total	2,200

Details of the increase in scope of works are at Enclosure 3.

(b) MTRCL's estimate for general price escalation in the construction sector is $4,300 million for the three year period from January 2006 to December 2008 representing an increase of about 48%.

The Architectural Services Department (ArchSD) Building Works Tender Price Index (BWTPI) has been chosen as the reference for our review of the price escalation on tender prices which is a direct measurement of cost increases on Government works already tendered. The BWTPI at 1Q of 2006 (the $8,900 million original cost estimate was based on January 2006 prices) and 3Q of 2008 (being the latest available figures) are 714 and 1 401 respectively, representing an increase of 96% in the cost of tender prices between these two periods. The data for 4Q of 2008 onward has yet to be published by ArchSD. We consider that the MTRCL's estimate of price escalation is reasonable, even after taking into account the possible fall in tender prices after the financial tsunami in late 2008. A graph showing the trend of the BWTPI is at Enclosure 4.

19. In the computation of the second stage funding support in paragraph 2 above, we have made some assumptions in the inflation factors, included as Enclosure 5.

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20. The funding gap of the WIL project is calculated by discounting and summing the estimated cost and revenue cash-flows of MTRCL arising from the WIL project over a 50-year period. The discount rate adopted for the discounting equals to 1% above MTRCL's Weighted Average Cost of Capital (WACC)[4]. The Financial Services and the Treasury Bureau (FSTB) has engaged an independent financial adviser to assess MTRCL's WACC and the funding gap for the WIL project. The financial adviser concluded that a funding gap of $12,700 million in June 2009 NPV should be acceptable. The Government and MTRCL then agreed that the funding gap should be $12,700 million in June 2009 NPV which is equivalent to $12,700 million in MOD prices.

(C) **Funding cap and claw-back**

21. The funding support which is to be provided by the Government in the form of a capital grant is calculated on the basis of a set of project cost estimates. It will be granted to MTRCL before the construction works begin. To safeguard the Government's interest, we propose to introduce a claw-back mechanism such that any over payment of capital expenditure, escalation costs and land costs will be reimbursed to the Government with interest. In other words, the funding gap represents the maximum commitment of the Government financial support to the MTRCL for the WIL project.

22. The framework for the claw-back mechanism is as follows –

(a) Methodology for calculation of the claw-back amount

A reassessment of the funding gap will be made, within about two years after commencement of operation of the WIL, on the basis of the actual contract award prices, actual fluctuation payments (actual payment to contractors for adjustment according to contract provisions), actual land cost payments (paid by the MTRCL for compensation, land resumption and administrative costs) and adjusted contingency sum (see paragraph 24 below), adopting the same methodology as the estimated funding gap is derived currently. The excess of the original funding support over this reassessed amount will be returned to the Government, with interest. As mentioned in paragraph 21 above, if there is a shortfall instead of excess, the MTRCL will be required to meet such shortfall.

/(b)…..

[4] The WACC is the rate that a company is expected to pay to finance its assets. It is the minimum return that a company must earn on existing asset base to satisfy its creditors, owners, and other providers of capital. It is calculated taking into account the relative weights of each component of the capital structure.

(b) Interest accruing period

The interest accruing period will be the period between the payment date of the capital grant and the date(s) of refund of the respective sum(s) of the excessive capital grant by the MTRCL.

(c) Interest rate on claw-back amount

We have agreed with the MTRCL that the interest should be charged on the amount(s) to be refunded to the Government. The interest to be adopted should be calculated on a yearly basis and based on the average rate of return of the Exchange Fund's investment portfolio over the immediately preceding six years for a particular year, subject to a cap at the discount rate in assessing the funding gap. In other words, the interest rates to be applied on the amount(s) to be refunded would equal the rates of return on the Government's fiscal reserves placed with the Exchange Fund during the interest-accruing period.

(d) Option for staged refund of excess capital grant

If after return of tenders for the major civil engineering contracts and the MTRCL is aware that the tender prices have turned out to be sufficiently lower than the estimated cost, the MTRCL may propose partial refund at an earlier stage. Such condition of refund is considered reasonable. From the Government's point of view, we welcome the early return of any excessive funding support given to the MTRCL which may be used to fund other infrastructure projects. However, the MTRCL is aware that any amount, once refunded to Government, is irreversible.

23. The contingency sum will cater for unforeseen costs including variations and claims (e.g. due to unforeseen ground conditions) attributable to change of scope of works during construction which are not envisaged when the project agreement is signed. The MTRCL has proposed project contingency to be 13% of the estimated construction costs. IEC has checked MTRCL's cost database on different risk elements and contingency allowances on different categories of works. In addition, it has looked at the unforeseen additional expenditure on the past railway projects, namely Tseung Kwan O Extension, Disneyland Resort Line, East Rail Extension and West Rail and such expenditure ranged from 12% to 25% of the tendered prices. This reflects the additional risks on railway works in substantial underground construction in densely populated urban areas. The 13% proposed by the MTRCL is considered reasonable.

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24. At the time of grant of the funding support to the MTRCL, the contingency provision will be calculated on the basis of 13% of the estimated capital expenditure. The MTRCL has further agreed that since the actual project cost is subject to review upon project completion, the amount of contingency provision will also be reassessed as 13% of the actual capital expenditure.

25. MTRCL's project management cost for the WIL, estimated at $1,250 million (December 2008 prices), are staff costs for the project team, project headquarters and other support services. The project team provides support for the detailed 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. IEC has also checked these cost items and considers that they are in order given the scale and complexity of the project.

26. As the sum for contingency will be reassessed based on the actual capital expenditure and project management costs will not vary with the construction contract tender prices, they will not be subject to the proposed claw back mechanism.

FINANCIAL IMPLICATIONS

27. The MTRCL estimates the cost of the project to be $15,400 million in December 2008 prices made up as follows –

			$ million (Dec 2008 prices)
(a)	Construction works and procurement (capital works)		11,270
	(i) civil works	6,620	
	(ii) architecture builders works and finishes	530	
	(iii) building Services	630	
	(iv) E&M works	960	

/**$ million**…..

			$ million (Dec 2008 prices)
	(v) signalling and control	600	
	(vi) rolling stocks	700	
	(vii) RRIW	1,230	
		Sub-total	11,270
(b)	Contingencies		1,470
		Sub-total	12,740
(c)	Design costs		660
(d)	Project management costs		1,250
(e)	Land costs (excluding compensation due to loss of redevelopment potential) (see paragraph 49)		750
		Total	15,400

The D of Hy considers that the estimates are reasonable.

28. As mentioned in paragraph 20 above, by converting all the relevant costs including the capital costs, future asset replacement costs, operating costs and rail & non-rail revenue to June 2009 NPV, the estimated funding gap is $12,700 million in June 2009 NPV which is equivalent to $12,700 million in MOD prices. As discussed under paragraphs 21 to 26, the level of the Government funding support to the MTRCL will be reassessed and excessive funding support provided to the MTRCL by way of capital grant will be returned to Government with interest in accordance with the agreed claw-back mechanism.

29. Since we had paid the MTRCL the first stage funding support of $400 million in February 2008, we need to bring it up to the June 2009 NPV with the same discount rate of 9% and deduct this from the funding support. Accordingly, the second stage funding support is $12,252 million in MOD prices, made up as follows –

/**$ million** …..

		$ million (MOD)
(a)	Funding support (see paragraph 20)	12,700
	Less	
(b)	First stage funding support	448
	Total	12,252

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

Year	**$ million (MOD)**
2009 – 2010	12,252
Total	12,252

31. We estimate that the additional annual recurrent expenditure upon completion of the RRIW under the WIL project to be about $4.0 million.

PUBLIC CONSULTATION

32. Very extensive public consultation has been carried out on the WIL project. We have been meeting the Central and Western District Council (C&WDC) and local residents regularly and frequently on the project. They have all along been asking for the early implementation of the project.

33. As from April 2007, representatives of the Transport and Housing Bureau, Highways Department and Transport Department have attended a series of meetings and public forums organised by the C&WDC members and various political parties with participation by the local community.

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34. During the public consultation, the public generally welcomes and looks forward to the early implementation of the WIL. However, there are concerns over the reprovisioning of the affected facilities (such as David Trench Rehabilitation Centre, Kennedy Town Swimming Pool, Centre Street Market West Block and open spaces); the possible adverse effect of ventilation shafts to the residents at Hill Road and to students and residents at Bonham Road; the proposed locations of station entrances and the preservation of tree walls at Forbes Street etc.

35. We have carefully considered the public views and addressed their concerns as far as practicable. The MTRCL will reprovision the affected facilities in conjunction with the construction of the WIL. The MTRCL have explained that the ventilation shafts will not affect the health of the public and the proposed locations have to take into account the constraints of the design and alignment of the railway as well as the availability of land. The MTRCL have determined all entrance locations based on the public needs and the principle that resumption of private land should be avoided as far as possible. In response to the tree walls issue, the MTRCL deliberately locates the cut and cover Kennedy Town Station as far to the east as the topography permits and, by adopting a radical internal station design so that the length of the station is reduced to a minimum, thus avoiding or minimising the disturbance to the tree walls.

36. We gazetted the WIL scheme which comprises the proposed EPIW under the Ordinance on 26 October 2007 and an amendment scheme not relating to the proposed EPIW on 12 September 2008. We received 27 objections to the gazetted scheme and amendment scheme, including two objections relating to the proposed EPIW. Two objectors withdrew their objections unconditionally[5] and the remaining 25[6] objectors have maintained their objections or have not indicated their withdrawal.

37. To make clear that the existing piles and foundations of most of the buildings within the scheme boundary will be excluded from the underground strata resumption required for the construction of the railway, we gazetted the corrections to the scheme under the Ordinance on 9 January 2009.

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[5] Under the 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 is then submitted to the Chief Executive-in-Council for consideration.

[6] Two unresolved objections are related to the proposed EPIW under **55TR** and their details are included in the PWSC(2009-10)51 for upgrading **55TR** to Category A.

38. Having considered the unresolved objections and the proposed modifications, the Chief Executive-in-Council authorised the WIL scheme, the amendment scheme and corrections to the scheme with modifications under the Ordinance on 10 March 2009. We gazetted the notice of authorisation on 20 March 2009. The details of the unresolved objections are reported in the Legislative Council Brief on Mass Transit Railway West Island Line Authorization of Scheme Following Receipt of Objections issued on 25 March 2009.

39. We consulted the Subcommittee on Matters relating to Railways of the LegCo Panel on Transport (the Railways Subcommittee) for the authorisation of the WIL scheme on 31 March 2009. Thirteen deputations were also invited to the meeting to express views on the WIL project. Members and the deputations supported the project in general but had some concerns mainly on ventilation shafts, blasting, tree preservation and construction impact. We explained to them that the operation of ventilation shafts would not affect the air quality of the surrounding environment. However, the residents nearby the ventilation shaft at Hill Road and the Parents and Teachers Association of the Bonham Road Government Primary School were not satisfied with the answer. The residents in the Belcher's were still not comfortable with the use of explosive for tunnel construction underneath the Belcher's. We would continue to keep close dialogue with these groups. The MTRCL would monitor the noise level of the ventilation shafts during the operation stage to ensure no exceedance of the requirement under the Noise Control Ordinance. The MTRCL would design and implement the blasting works in full compliance with the Buildings Ordinance to minimise the impacts to the adjacent structures and to ensure public safety. The MTRCL would supervise the blasting work and monitor the vibrations and noise to keep them within specified limits. The MTRCL would endeavour to protect the trees; if unavoidable, try to transplant them as far as practicable; and implement compensatory planting. The Environmental Impact Assessment (EIA) already addressed the construction and operation impact and the MTRCL would implement mitigation measures recommended in the EIA report.

40. We further consulted the Railways Subcommittee for the funding arrangement of the WIL project on 1 June 2009. Members requested the Administration and the MTRCL to provide supplementary information on the locations of the ventilation shafts, blasting method, assessment by the IEC, funding gap computation, cost breakdown and reasons of providing a capital grant to bridge the funding gap. While the Railways Subcommittee will convene another meeting to discuss the subject further, it had no objection to the Administration proceeding with consulting the PWSC on the funding arrangement.

/ ENVIRONMENTAL…..

ENVIRONMENTAL IMPLICATIONS

41. The WIL project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and an environmental permit is required for the construction and operation of the WIL. The Director of Environmental Protection (DEP) approved the EIA report for the WIL project with conditions under EIA Ordinance on 23 December 2008. The EIA report concluded that the environmental impacts of the WIL project can be controlled to within the criteria under the EIA Ordinance and the Technical Memorandum on EIA Process.

42. We shall implement the measures recommended in the approved EIA report for the WIL project. The key measures include construction air-borne noise mitigation measures such as movable noise barriers, the appointment of a Certified Arborist to advise on and supervise tree protection measures, the appointment of a qualified and licensed archaeologist to keep an Archaeological Watching Brief on excavation works, the use of specially designed rail tracks in some parts of the alignment to mitigate against operation ground-borne noise, the additional concrete paving in the works area at the Ex-Kennedy Town Incinerator and Abattoir site to allow temporary use by the WIL project, aesthetic landscape and architectural measures on above ground structures of the WIL project, reprovision/restoration of affected public open space, the set up of Community Liaison Groups to facilitate communication, enquiries and complaints handling, and the follow up on proposals such as indirect technical remedy (ITR)[7] in the form of upgraded glazing and air conditioning for about 109 eligible dwellings affected by construction air-borne noise impact arising from the WIL project. MTRCL has included in the project estimate the cost to implement these measures.

43. All RRIW are not designated projects under the EIA Ordinance. They belong to the categories listed in ETWB TCW No. 13/2003 that have very little potential for giving rise to adverse environmental impacts. We undertake to implement the standard pollution control measures during their construction as promulgated by DEP.

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[7] ITR will generally require the provision of upgraded window glazing for the noise sensitive facades exposed to excessive residual impacts, and provision of air-conditioning.

44. 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 minimization 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 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 to public fill reception facilities[8]. The 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.

45. 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 plans. The MTRCL will require the contractors 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 to public fill reception facilities and landfills respectively through a trip-ticket system.

46. The MTRCL estimates that the WIL project will generate in total about 2 010 000 tonnes of construction waste. Of these, the MTRCL will reuse about 120 000 tonnes (6%) of inert construction waste on site and deliver 1 860 000 tonnes (93%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, the MTRCL will dispose of 30 000 tonnes (1%) 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 $53,970,000 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[9] at landfills).

/ **HERITAGE**…..

[8] 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.

[9] 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.

HERITAGE IMPLICATIONS

47. The cultural heritage impact assessment in the EIA report for the WIL project indicates that the construction and operation of the WIL project will pose limited impact on the existing cultural heritage resources in the Western District with the implementation of the mitigation measures recommended in the EIA report.

48. The WIL project will involve the use of the ex-Upper Level Police Station (ex-ULPS) at High Street for the reprovisioning of the David Trench Rehabilitation Centre which will be vacated for the construction of the Sai Ying Pun Station. The use of the ex-ULPS was not covered by the EIA report but was assessed separately by a Heritage Impact Assessment (HIA). The ex-ULPS building is a Grade III historical building. The MTRCL has carried out a HIA study for the restoration and adaptive re-use of the ex-ULPS and concluded that the proposed usage will not affect the historical value of the building. The Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department has no objection to the HIA report and the proposed mitigation measures. On 25 February 2009, the HIA report was also presented to the Antiquities Advisory Board (AAB)[10] who expressed support for the project. We shall implement the mitigation measures proposed in the HIA report.

LAND ACQUISITION

49. We will resume about 1 349 square metres of private land and stratum of land for the construction of station entrances at Sai Ying Pun. It will affect about 61 households involving about 156 residents, about ten commercial units involving five operators and two cooked food stalls involving one operator. The Director of Housing will offer the eligible clearees accommodation in public housing in accordance with the existing housing policy. In addition, we will also resume about 72 300 square metres of underground strata of land, creation of easement and/or other permanent rights of land of about 868 square metres, creation of rights of temporary occupation of land of about 3 066 square metres and underground strata of land of about 15 200 square metres. MTRCL estimates the land costs to be $750 million (in December 2008 prices). A breakdown of the land acquisition and clearance costs and land related costs to be included in the funding support is at Enclosure 6. The cost, subject to claw-back, is considered justified for the implementation of the WIL project.

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[10] The AAB is a statutory body consisting of members with expertise in various relevant fields. It was set up to advise the Antiquities Authority on any matters relating to antiquities and monuments.

50. In addition, the resumption of the underground strata of land may affect the future redevelopment potential of some private developments due to the presence of the proposed underground railway facilities in the vicinity of and/or underneath the affected private lots. We estimate the compensation due to loss of redevelopment potential arising from underground strata resumption to be $380 million (in December 2007 prices). We will seek funding for the compensation arising from the potential claims as and when the person having compensable interest submits details of the claim to ascertain the relevant cost figures in future.

BACKGROUND INFORMATION

51. We upgraded **1QR** (previously known as **11YD**) to Category B in October 2007.

52. We upgraded part of **1QR** to Category A as **2QR** (previously known as **12YD**) "MTR West Island Line – funding support for design phase" in December 2007 at an estimated cost of $400.0 million in MOD prices for the provision of the first stage funding support to the MTRCL to cover the design phase expenditure of the WIL project up to authorisation under the Ordinance.

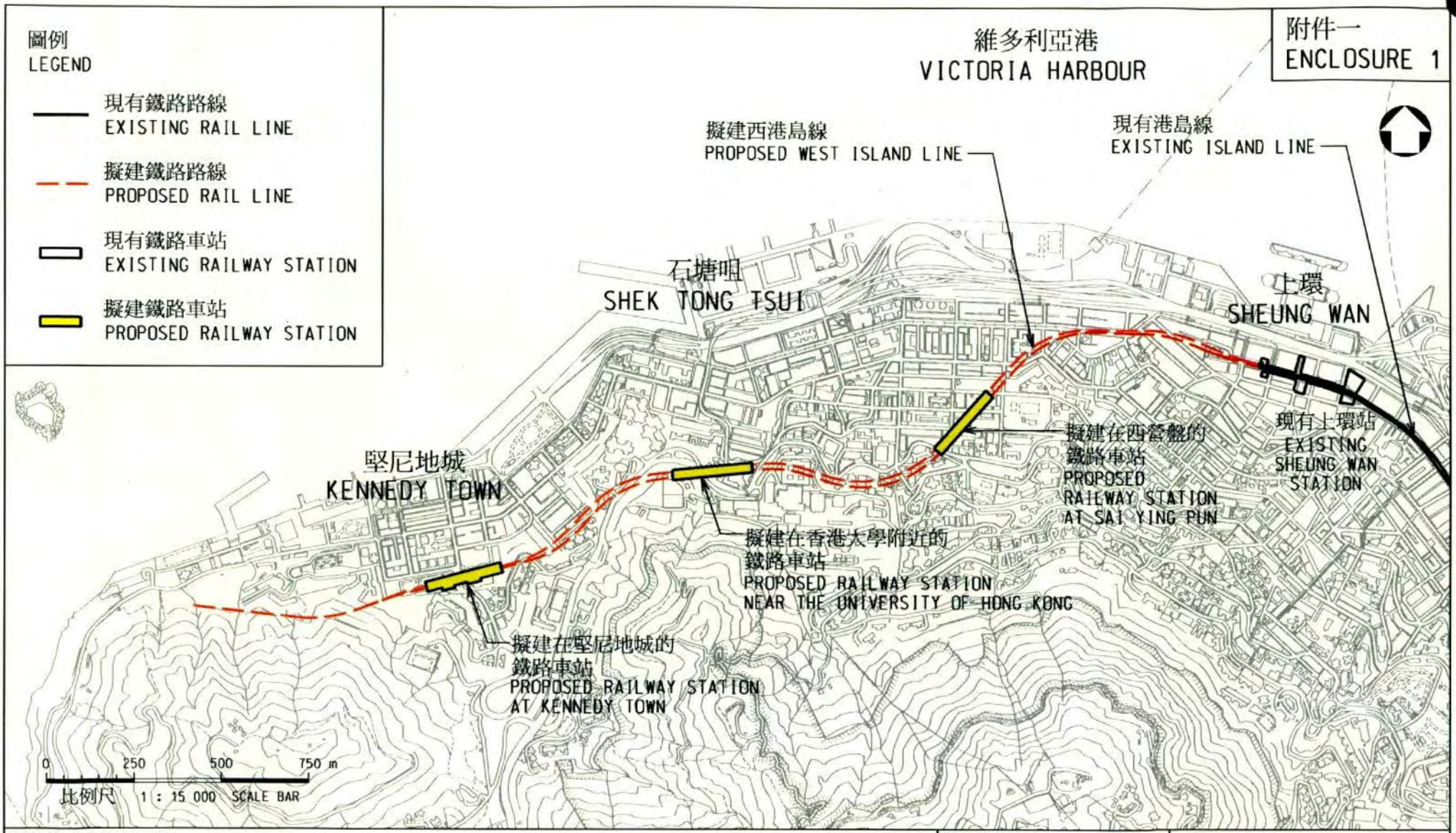
53. The proposed WIL project will involve removal of 430 trees, including 348 trees to be felled, 82 trees to be transplanted elsewhere within the project site. All trees to be removed are not important trees[11]. We will incorporate planting proposals as part of the project, including estimated quantities of 490 trees and 34 000 shrubs.

/54. …..

[11] An "important tree" refers 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 over 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 an important person or event;
(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.

54. We estimate that the works in paragraph 4 will create about 3 000 jobs (2 400 for labourers and another 600 for professional/technical staff) providing a total employment of 159 000 man-months.

Transport and Housing Bureau
June 2009



圖則名稱 drawing title

基本工程計劃項目第1QR號 - 西港島線 - 財務資助

CWP ITEM NO. 1QR - WEST ISLAND LINE - FUNDING SUPPORT

設計 designed M. K. LI	Signed	18/5/09
繪圖 drawn H. K. TSANG	Signed	18/5/09
核對 checked M. K. LI	Signed	18/5/09
核准 approved MATTHEW P. K. HO	Signed	18/5/09

圖號 drawing no.
HRWWIL003-LP0005

鐵路拓展處 RAILWAY DEVELOPMENT OFFICE

路政署
HIGHWAYS DEPARTMENT

A4 210X297

HRWWIL003-LP0005.dgn 19-05-2009

1QR – West Island Line – funding support

List of the reprovisioning, remedial and improvement works (RRIW)

1. Reprovisioning of facilities included in Centre Street Market West Block;

2. Reprovisioning of Whitty Street public toilet and Pest Control Office therein;

3. Reprovisioning of playgrounds/sitting out areas/amenity areas permanently closed for making way for station entrances or other railway facilities;

4. Reprovisioning of Hong Kong Central Dental Laboratory;

5. Modification of Centre Street Market East Block (comprising both temporary and permanent reprovisioning works);

6. Reprovisioning of facilities at Kwok Hing Lane (comprising both temporary and permanent reprovisioning works);

7. Modification of market toilet at Shek Tong Tsui Cooked Food Centre;

8. Temporary reprovisioning of public toilets at David Lane;

9. Modification of a footbridge linking Haking Wong Building across Pok Fu Lam Road;

10. Reprovisioning of Central & Western EPD Monitoring Stations;

11. Reprovisioning of the Kennedy Town Swimming Pool; and

12. Reprovisioning of the David Trench Rehabilitation Centre.

1QR – West Island Line – funding support

Details of the increase in scope of works

(A) Reprovisioning, Remedial and Improvement Works (RRIW)

There are scope changes for the reprovisioning of the David Trench Rehabilitation Centre (DTRC) and the Kennedy Town Swimming Pool (KTSP), which have led to an increase of $200 million.

2. The DTRC will be demolished to make way for the Bonham Road entrance to the Sai Ying Pun Station, and will be re-located to the heritage building at the ex-Upper Level Police Station (ex-ULPS) nearby. The façade and major architectural features of the ex-ULPS building will have to be retained which imposes constraints on the design. More detailed investigation of the existing building has revealed a need for a greater extent of structural modifications. To accommodate additional user requirements allowing for an anticipated expansion of service, additional accommodation in a new wing next to the ex-ULPS will be required.

3. Kennedy Town Station will be located at the existing KTSP, instead of the original proposal near Forbes Street where there are precious tree walls. The KTSP will be reprovisioned near the Western waterfront. Additional wall cladding, external ceiling and maintenance walkway, additional air conditioning and E&M provisions are necessary for the new swimming pool to suit the latest design and maintenance standards.

(B) Railway Works

4. Changes to the design are also necessary to meet the requirements of Environmental Protection Department, Buildings Department (BD) and Fire Services Department (FSD). These include –

(a) University and Sai Ying Pun Stations and associated tunnels - Lengthened and enlarged adits including the provision of moving walkways, provision of additional temporary supports during construction, additional tree transplanting, additional fire safety provisions and adjustments to more accurately reflect the difficult access provisions.

(b) Sheung Wan Station to Sai Ying Pun Station tunnels – Modification to the existing Island Line turnback and overrun tunnel, provision of additional temporary noise enclosures to meet Environment Impact Assessment requirements, allowance for additional ground treatment

and more extensive building protection measures to satisfy BD requirements and allowance for 24-hour standby teams to satisfy FSD requirements for compressed air working.

(c) Additional slope stabilisation works – As a result of the severe rainstorm in May 2008, additional slope protection works were found to be necessary.

(d) Kennedy Town Station and overrun tunnels – Modifications to the tunnel linings to accommodate more adverse ground conditions, provision of additional ventilation plantrooms to meet FSD requirements, additional provisions at harbour side works areas and additional barging points.

(e) Underground Magazine and Ex-Abattoir Site in Kennedy Town – Additional grouting to tunnels and increased floor areas to accommodate more adverse ground conditions and revised FSD requirements respectively.

(f) Sheung Wan Station – Further modifications to the central concourse to improve passenger circulation.

(g) Additional ground investigation works

All the above have led to an increase of about $1,300 million.

(C) Construction Methods

5. During the design development for the project and upon further ground investigation, it was found necessary to change some of the construction methods to cater for more difficult geotechnical conditions in the soft ground areas. These include: allowance for night works at Sheung Wan Station; addition of a slurry tunnel boring machine type for Sheung Wan to Sai Ying Pun tunnels; use of ground freezing methods for construction of entrances at Sai Ying Pun Station; change from secant piles to bored piles at Kwun Lung Lau and associated ground treatment; and extended soft ground tunneling at the magazine site. All these have resulted in an increase of about $200 million.

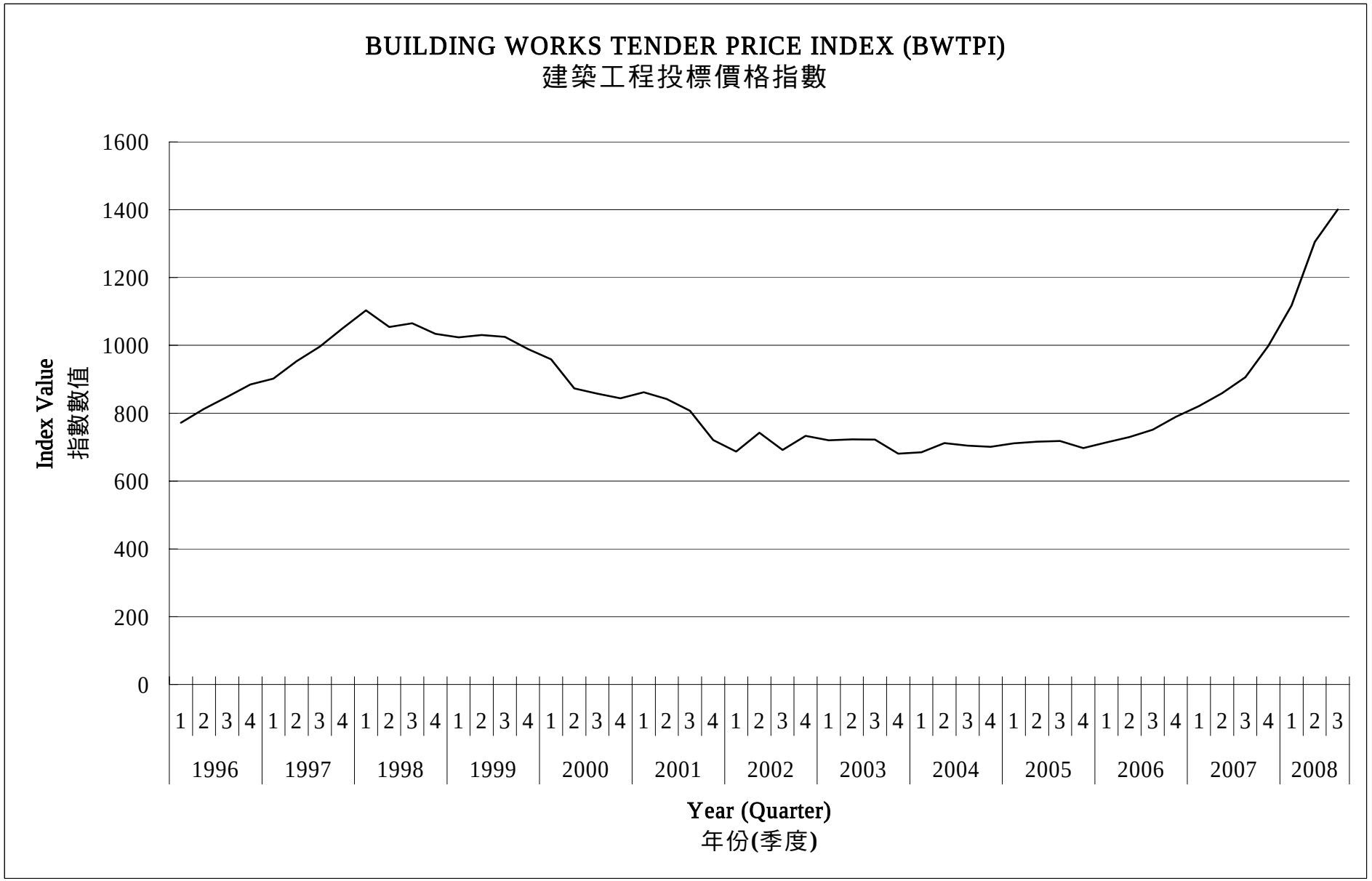
(D) Additional E&M Works

6. Additional E&M works were found to be required in various railway E&M systems during the design stage to accommodate changes to the scope of the civil works, improved customer service requirements or revised FSD provisions. These include additional modifications to the Island Line signalling system; other changes to the tunnel environmental control system; platform screen doors; power supply system; track side auxiliaries; main control system; communications and radio system; auto fare collection system; additional lifts and

escalators; modification of the existing Island Line Railway System. All these have resulted in an increase in cost of about $400 million.

(E) Additional Rolling Stock

7. In additional to the changes in the above categories, one additional train is required to meet the latest standard in passenger comfort level and train service frequency. This will cost about $100 million.


BUILDING WORKS TENDER PRICE INDEX (BWTPI)
建築工程投標價格指數
Index Value
指數數值
1600
1400
1200
1000
800
600
400
200
0
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3
1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008
Year (Quarter)
年份(季度)

1QR – West Island Line – funding support

Assumptions in inflation factors

While Government Economist (GEcon) has estimated price deflators of 2% per annum for 2009-13 and 3% per annum for 2014-19, MTRCL has proposed 5% per annum for 2009-14, and 2.5% per annum thereafter for construction cost increases and 3% per annum increase after 2014 for wages. We have looked at the cost indices compiled by the Civil Engineering and Development Department (CEDD) and the Highways Department (HyD) over the past 20 years. While the average year-over-year changes of the cost indices during the period 1989-2008 are 4.6% and 5.0% respectively, these yearly changes fluctuate. Out of the 20 yearly changes figures, not less than 10 yearly changes are above 5%. MTRCL's proposals are not out of line with past inflation on construction industry. We propose to accept MTRCL's proposed increases taken into account that any excess in the estimated capital costs will be dealt with under the claw-back mechanism.

Enclosure 6 to PWSC(2009-10)50

1QR – West Island Line – funding support

Breakdown of the land costs

		$ million (in December 2008 prices)
(a)	Rental (Note 1)	202
(b)	Rates (Note 2)	10
(c)	Compensation (Note 3)	51
(d)	Resumption of building and compensation due to creation of easements or other rights (Note 4)	242
(e)	Lands Department administrative cost (Note 5)	245
(f)	Others (Note 6)	Included
	Total	750

Notes:

1. "Rental" covers all the tenancy fees, application fees for Works Sites and Works Areas, Excavation Permit application fees and other associated costs.

2. "Rates" is payable to the Rating and Valuation Department for Works Areas.

3. "Compensation" covers the potential compensation claims arising from loss of business, rental losses and professional fees due to road closures. The legal fees for issuing of road closure notices are included.

4. "Resumption of Building and compensation due to creation of easements or other rights" covers the compensation to affected interest parties for two resumed buildings at Sai Woo Lane and compensation due to creation of easements or other rights under the WIL project.

5. "Lands Department administrative cost" covers mainly the salary, administration costs and office accommodation of the Lands Department's staff and all other associated expenses in relation to the WIL project.

6. "Others" include postal fees for issuing notices in relation to the WIL project.