

# **LEGISLATIVE COUNCIL BRIEF**

## **SOUTH ISLAND LINE (EAST) FUNDING ARRANGEMENT**

### **INTRODUCTION**

At the meeting of the Executive Council on 17 May 2011, the Council ADVISED and the Chief Executive ORDERED that approval should be given to grant the MTR Corporation Limited (MTRCL) property development rights of ex-Wong Chuk Hang Estate site (WCH Site) as a form of financial assistance to the MTRCL to implement the South Island Line (East) (SIL(E)) project.

### **BACKGROUND**

2. SIL(E) is a new rail corridor from South to North of Hong Kong Island. It starts from South Horizons on Ap Lei Chau to Admiralty via Lei Tung, Wong Chuk Hang and Ocean Park. SIL(E) will connect MTR Island Line, Tsuen Wan Line and the future Shatin to Central Link at Admiralty and the existing Admiralty Station will be extended to form an integrated station for the four lines to provide seamless interchanges for passengers. SIL(E) will serve the 350 000 people living and working in the Southern District and the estimated daily patronage in 2016 is 170 000. It will provide convenient and reliable railway service to the residents and working population of South Horizons, Lei Tung and Wong Chuk Hang area as well as the visitors to Ocean Park. It will bring about visible economic benefits to the community through saving in transportation time. At present, traffic congestion from the Aberdeen Tunnel seriously affects access to and from the Southern District during peak hours with traffic tailing back from the Aberdeen Tunnel to the road networks in Wong Chuk Hang area. Travelling by road-based transport between South Horizons and Admiralty takes about 25 to 45 minutes during rush hours. With SIL(E), passengers from the Southern District will be able to reach Admiralty in about ten minutes. The Highways Department estimates that the economic internal rate of return (EIRR) for the SIL(E) will be at 5.8%.

3. On 18 December 2007, the Chief Executive in Council decided, inter alia, that-

- (a) MTRCL should be asked to proceed with the preliminary planning and preliminary design of SIL(E);

- (b) negotiations with the MTRCL on the detailed scope, cost and implementation programme for SIL(E) should commence; and
- (c) the WCH Site should be reserved for the SIL depot with above-depot private property development, and the site to the north of the Ocean Park Station (Ocean Park Site) should be reserved for private property development with associated park and ride facilities, both subject to rezoning approval.

We briefed the Legislative Council Panel on Transport's Subcommittee on Matters Relating to Railways (the Railways Subcommittee) on 11 January 2008.

4. SIL(E), being an extension of the Island Line, will be an ownership project under the terms of the Operating Agreement between the Government and the MTRCL signed in 2007 upon implementation of the rail merger. Under the ownership approach, the MTRCL will be responsible for the finance, design, construction, operation and maintenance of the SIL(E) and will own the SIL(E). Funding support will be required from the Government if the project is considered not financially viable<sup>1</sup>.

5. In January 2008, we briefed the Railway Subcommittee that the then estimated capital cost for the project was over \$7 billion. SIL(E) would not be financially viable based on fare and non-fare revenue alone. As funding support is necessary, we would engage consultants to assess the financial details of the estimate in the detailed design stage. Further studies would also need to be conducted on the planning parameters and scope of development at the railway station and depot sites. In this respect, we continued to study the proposal of granting the property development rights at railway station and depot sites along SIL(E) to bridge the funding gap of the project.

6. With detailed design for the project nearing completion and the scope of the works clearly defined, the MTRCL submitted to the Administration the latest estimate of the total project costs and revenue. In December 2010, we commissioned an independent checking consultant (ICC) to check the estimated cost and revenue for the SIL(E) project prepared by the MTRCL. This is to ensure that the MTRCL has not grossly over-estimated the costs and hence the funding support required. ICC completed the checking in April 2011 and considered that MTRCL's estimate was generally in order. A breakdown of the cost estimate

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<sup>1</sup> A railway is considered not financially viable if the present value of all its projected revenues net of projected expenditures falls short of the expected return on capital, which in the case of the MTRCL is its Weighted Average Cost of Capital (WACC) plus 1% to 3%. This shortfall is known as the funding gap.

checked by ICC is as follows:-

<b>Description</b>	<b>Cost Estimate Checked by ICC \$ million, (Dec 2009 prices)</b>
Civil, architectural and building works, finishes, trackwork and overhead line	5,570
Building services, E&M systemwide, signalling and control	2,950
Rolling stock	638
Design and site investigation	605
Land costs <sup>2</sup>	532
Project management cost	963
Contingency	1,171
<b>Total</b>	<b>12,429</b>

7. The cost estimate checked by ICC, as compared with that in 2006, is summarised below:

Item	Estimate by MTRCL in 2006	Estimate Checked by ICC in March 2011
(a) Capital Cost	Over \$7 billion	\$12.4 billion (Dec 2009 prices)
(b) Economic Internal Rate of Return	9%	5.8%
(c) Funding Gap	\$4.1 billion	\$9.9 billion (net present value at Dec 2010)

The increase in the capital cost of about \$5.4 billion (\$12.4 billion minus \$7 billion = \$5.4 billion) is attributed mainly to the price escalation in the construction sector and a number of changes as explained below.

8. Over the three years from 2006 to 2009, the Building Works Price Index indicated an increase of about 55%, which was mainly resulted from the upsurge in the cost of materials. Furthermore, during the public consultation conducted in the past few years, we have adopted a considerable number of suggestions and requests raised by the public on the design and provision of facilities for the SIL(E) project, which have in turn led to an increase in the capital cost of the project. Major suggestions and requests adopted include:

- a. providing noise barriers for viaducts;

<sup>2</sup> Land costs include rental for works areas, acquisition, clearance, compensation and Lands Department administrative cost etc.

- b. replacing a number of viaduct sections with tunnels (e.g. the section between Sham Wan Towers and Yue On Court, the section at Nam Fung Road near a school); and
  - c. relocating two thirds of the ventilation facilities of the South Horizons Station to the Lee Nam Road industrial area, etc.
9. In addition, the MTRCL has made some amendments to the scheme at the planning and detailed design stages:
- a. expanding the Admiralty Station to provide an integrated station to tie in with the interchange arrangement at Admiralty for the SIL(E) and the Shatin to Central Link;
  - b. making a number of amendments to the detailed design in light of the findings of ground investigation; and
  - c. revising the detailed design of the railway to meet the latest fire safety requirements.

10. The additional construction cost for the amendments mentioned above is estimated to be about \$1.4 billion. Taking note of the price increase of 55% as mentioned above which accounts for about \$4 billion and other miscellaneous changes, the ICC estimated that the capital cost of the SIL(E) will be increased to \$12.4 billion (Dec 2009 prices).

#### **(A) The Rail-plus-Property Model**

11. The Rail-plus-Property Model had served the rail development of Hong Kong well; MTRCL always paid full market premium (on a green field basis <sup>3</sup>); and the Government had, through this arrangement, transferred all the associated commercial risks arising from market fluctuations and rail operations to MTRCL. There were also other operational advantages such as streamlining the interface among station, depot and above-depot developments, and facilitating the arrangement to allow works to be done simultaneously. It not only enables timely completion of the construction works, but also avoids the need of carrying out works for the property development within the railway in future affecting the railway operation.

12. We have examined carefully how the WCH Site and the Ocean Park Site should be used under the rail-plus-property model to ensure that the funding support provided by the Government for the SIL(E) project is reasonable. The aim is to enable the rail project to be smoothly

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3 Land premium is assessed based on greenfield site principle by which the “full market value” ignoring the presence of the railway shall be the amount payable by the MTRCL to the Government.

implemented and public resources used properly without undermining the prudent commercial principles for rail operation. To achieve this, we have adopted two measures. Firstly, when considering how the MTRCL should be allowed to develop the WCH Site and the Ocean Park Site, we have taken into account relevant planning considerations to ensure that any development should be compatible with the surrounding land uses and public expectation. Secondly, the ICC, which helps us to check the project cost and funding gap of the project, is also commissioned to conduct an estimation on whether the financial support generated from the property development is sufficient to bridge the funding gap. This provides us a useful basis to assess whether the funding assistance is reasonable.

### **(B) The Ocean Park Site and WCH Site**

13. Although the Executive Council has decided to reserve both the WCH Site and the Ocean Park Site for consideration of bridging the funding gap of SIL(E) project under the rail-plus-property model, we note that the area in the vicinity of the Ocean Park Station is predominantly occupied by Government, Institution or Community (GIC), recreational and tourism facilities developed in low to medium density. From the planning perspective, using the Ocean Park Site for other purposes, such as recreational or tourism related uses, would be more compatible with the surrounding developments. As to the WCH Site, it is mainly surrounded by medium-to-high-rise developments, and the WCH Site was formerly occupied by estate buildings of about 20 storeys. The use of the WCH Site for a rail depot, above-depot residential property and shopping centre development will be in general compatible with the surrounding land uses, and will facilitate the transformation of the Wong Chuk Hang area. After consultation with the Southern District Council (SDC) and discussion with the MTRCL, we consider it is more appropriate to concentrate property development at the WCH Site to bridge the funding gap. We will free up the Ocean Park Site for other more suitable purposes while the associated park and ride facilities will be provided in the Ocean Park Station instead. Such a proposal is considered to be more beneficial to the overall development of the Southern District and is welcomed by the SDC, the local community, the Ocean Park and other stakeholders.

14. The WCH Site will sit above the proposed Wong Chuk Hang Station and the railway depot for SIL(E). It has an area of about 7.17ha zoned as “Comprehensive Development Area” (“CDA”) on the Aberdeen and Ap Lei Chau Outline Zoning Plan No. S/H15/27. A site plan is at **Annex A**. In planning the development of the WCH Site, we take note of the aspiration of the local community in providing public transport

interchange (PTI) as well as an anchor shopping mall in the WCH Site with retail, entertainment, dining and community facilities <sup>4</sup>.

15. According to the OZP, development within the “CDA” zone is subject to a maximum gross floor area (GFA) of 357 500 m<sup>2</sup> for domestic use, a maximum GFA of 121 800m<sup>2</sup> for non-domestic uses and a maximum building height of +150mPD. The non-domestic GFA includes a maximum of 47 000m<sup>2</sup> commercial GFA for a shopping centre and the remainder for the railway and public transport facilities. These are equivalent to an overall plot ratio of about 6.68, with five for residential development and 1.7 for non-domestic development, which is considered optimal as the Site lies on a major east-west air path comprising residential buildings of comparable height and low to medium-rise GIC developments in the WCH area. There is a need to provide at least three air/visual corridors within the future property development to facilitate air ventilation as well as visual permeability.

16. The MTRCL has proposed to develop the site with 14 residential towers of approximately 27 to 38 storeys and maximum building height of +150 mPD with about 4 700 flats. To meet the market demand and satisfy the housing needs of the working population of surrounding districts, the majority of the proposed property development will be small to medium-sized units having an average size of 76 m<sup>2</sup>. In addition, about 20% of the flats will be of about 50 m<sup>2</sup> in size to help meet the Government’s housing policy of ensuring adequate housing supply. To meet housing demand, the MTRCL plans to complete the residential development in three phases, with the first phase to be available in about five years after the completion of the SIL(E), while the rest two phases in the subsequent four years, depending on the prevailing market conditions. As for the maximum GFA 47 000 m<sup>2</sup> for commercial use, up to 1 500 m<sup>2</sup> will be reserved for social enterprises or other GIC facilities and 2 000 m<sup>2</sup> will be reserved for GIC facilities, subject to further discussion with the Social Welfare Department; the rest will be used for retail, dining and entertainment facilities. We envisage that the proposed development will act as a catalyst to rejuvenate the Wong Chuk Hang industrial area, creating jobs as well as providing labour force and economic activities.

### **(C) Funding Assistance**

17. We are cautious that the land to be granted to the MTRCL should not be more than what is required to bridge the funding gap. In this regard, apart from ICC’s assessment, two independent surveying firms have also been engaged to provide property valuation for the development. The valuations by ICC and the two independent surveying firms were

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<sup>4</sup> This planning concept was supported by the SDC and the majority at the workshops organized by the SDC in 2007.

conducted according to the Valuation Standards on Properties published by Hong Kong Institute of Surveyors and other relevant statutory regulations. The differences among these assessments are within 2%. Based on the property valuations provided by ICC and the two independent surveying firms as well as the capital cost mentioned in Paragraph 7 above, the estimated funding gap of the SIL(E) is about \$9.9 billion<sup>5</sup>, the ICC estimates that even with the funding support generated from the property development, there may still be a gap of about \$2.1 billion to \$2.3 billion in the development of the SIL(E) project.

18. ICC has conducted a sensitivity analysis against various key assumptions in the assessment on funding assistance to be generated from the property development, including  $\pm 10\%$  of the construction cost of the property development and  $\pm 10\%$  of the assessed cumulative increase in property prices over a period of fourteen years<sup>6</sup>. The two independent surveyors have reviewed the assumptions for property prices and agreed that the range is appropriate. Taking into account of the above variations, the ICC has estimated the financial situation of the SIL(E) under the pessimistic scenario and the optimistic scenario. The ICC concluded that a funding gap of \$3.4 billion will remain under the pessimistic scenario, which will be larger than that under the base case as explained in paragraph 16 above. Even under the optimistic scenario, there may still be a funding gap in the SIL(E) project of \$1.0 billion even with the funding assistance to be generated from the funding arrangement.

19. In the interest of the development of the Southern District, we propose to grant only the WCH Site to the MTRCL so that the Ocean Park Site can be reserved for other uses more compatible with the area. In considering the plot ratio and GFA adopted for the WCH Site, we have taken due consideration of the compatibility of the development with the surrounding land uses as well as public concerns and expectation. The MTRCL will also be required to set aside specified amount of commercial GFA for the use of social enterprises and social welfare organizations in this convenient location well served by public transport. To meet market demand, particularly that of the working population in the vicinity, the MTRCL has agreed that the majority of the flats to be provided in the Site will be small and medium-sized. The timeframe that the MTRCL plans to complete the residential development is considered reasonable in view of the site size and unit number. We have engaged an ICC to assist us to assess the cost and revenue of the property development, and two additional independent surveying firms to help in the property valuation process. Based on the ICC's estimation, the profit to be generated from

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5 All estimates regarding profit and funding gap in paragraphs 17 and 18 are in net present value at December 2010.

6 Assessment is done on the basis of the MTRCL's plan to complete the residential development in three phases, with the first phase to be completed in 2020 and the rest two phases in 2022 and 2024.

the property development may just be barely able to cover the estimated funding gap even under the optimistic scenario, and the MTRCL has to bear all the associated commercial risks from market fluctuations as well as rail operations. This is a balanced approach which will fund the implementation of the SIL(E) with effective use of resources without undermining the prudent commercial principles of rail operation.

## **FINANCIAL AND CIVIL SERVICE IMPLICATIONS**

20. The funding gap of SIL(E) is \$9.9 billion (NPV at December 2010) and would be bridged by granting development right of the WCH Site under the rail-plus-property model at the proposed Wong Chuk Hang Station and railway depot.

21. Essential Public Infrastructure Works (EPIW) for the SIL(E) is to provide a safe, convenient and barrier free access to the SIL(E) through enhancement of pedestrian and transport links to the railway line. The fund required for the EPIW for the SIL(E) has been approved by Financial Committee on 15 April 2011.

22. Additional civil service posts have been supported for the bureau/department concerned to take forward a number of railway projects, including SIL(E) in past Resource Allocation Exercises.

## **ENVIRONMENTAL IMPLICATIONS**

23. The SIL(E) is a designated project under the Environmental Impact Assessment (EIA) Ordinance and an Environmental Permit (EP) is required for the construction and operation of the SIL(E). The Director of Environmental Protection approved the EIA report on 26 October 2010 and granted the EP to MTRCL on 8 December 2010. The MTRCL will implement all recommended mitigation measures in the approved EIA report and comply with the conditions in the EP, requirements under the EIA Ordinance, and other statutory requirements for environmental protection.

24. Future development at the WCH site would be planned, designed and implement in accordance with environmental guidelines and criteria laid down in the Environment Chapter of the Hong Kong Planning Standards and Guidelines.

## **ECONOMIC IMPLICATIONS**

25. The SIL(E) is a new rail corridor connecting the Southern Districts to the existing MTR network and is essential for meeting the



transport needs of the Southern Districts and to serve the continuing economic and social development in Hong Kong. The Highways Department estimates that SIL(E) would generate net economic benefits over 50 years of operation of the SIL(E) of about \$42.0 billion in December 2009 prices. These economic benefits include time savings to commuters, operating cost savings for other public transport operators and safety benefits. The economic internal rate of return (EIRR) of the SIL(E) is estimated at 5.8%.

26. Apart from the economic benefits mentioned above, the provision of mass transit mode of transport should help improve connectivity of the Southern Districts, thereby revitalising and bringing along business opportunities to these areas.

### **SUSTAINABILITY IMPLICATIONS**

27. According to our sustainability assessment, the proposed SIL(E) should help improve mobility and air quality in the long term through enabling more commuters to switch from road to rail transport. The implementation of the project would inevitably cause some adverse impacts on the environment, including noise during construction and operation, air pollution from works sites and ventilation shafts, loss of open space, loss of trees and waste generated from tunnel excavation. Proper measures and temporary traffic arrangement will be implemented to reduce the adverse impact as far as possible. The differing concerns and views of the public, in particular those from various stakeholders, will be handled with care.

### **PUBLIC CONSULTATION**

28. The Administration and the MTRCL have carried out extensive consultation on the SIL(E) in the past few years. We have been staying in very close touch with the SDC on the progress of the project. The SDC has all along been urging for the early implementation of the project.

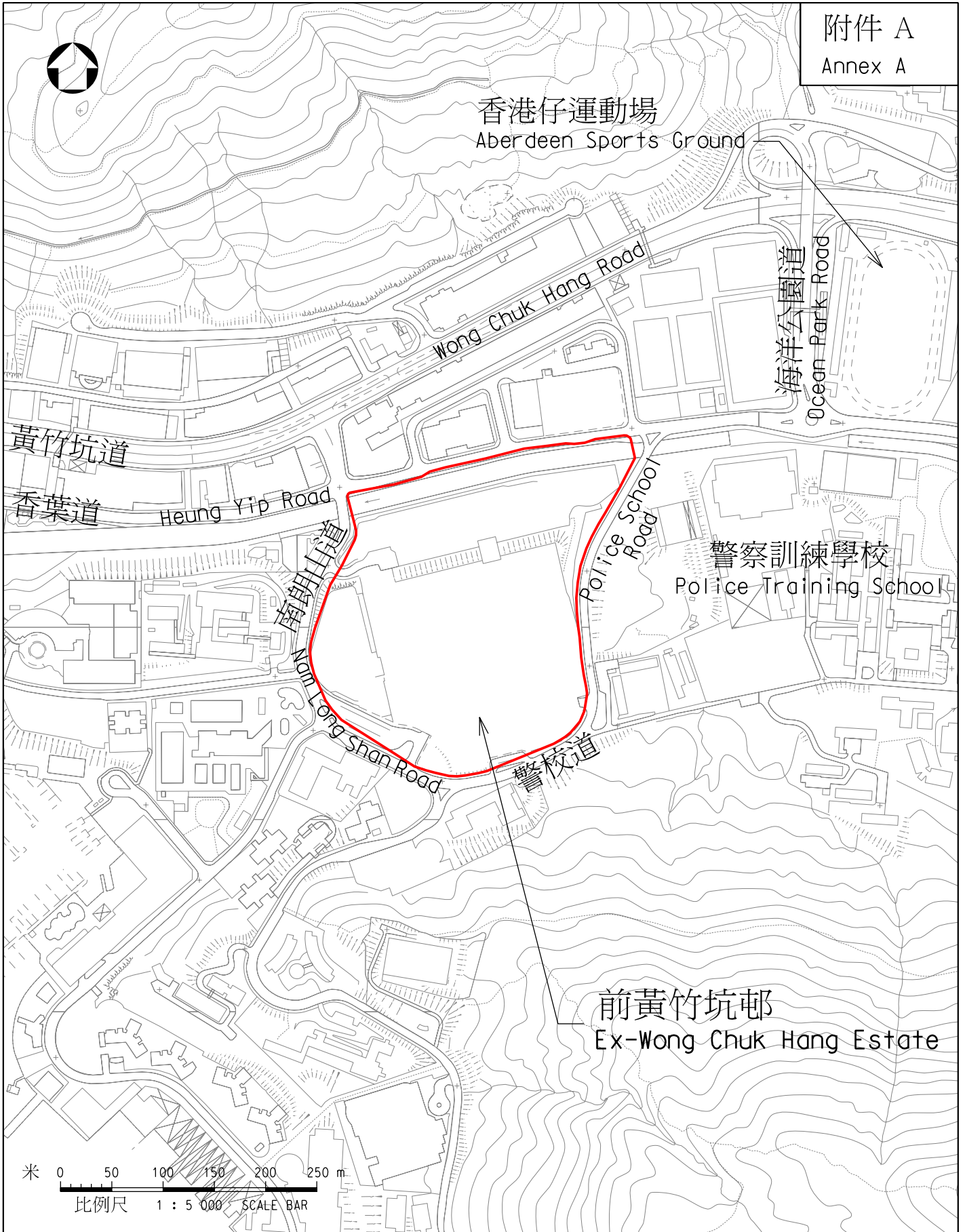
29. We have also been keeping the Legislative Council Panel in the picture. The Subcommittee on Matters relating to Railways of the Legislative Council Panel on Transport also expresses the wish to see the early implementation of the SIL(E).

30. Before the commencement of the SIL(E) works, the MTRCL will set up community liaison groups to enable direct dialogue with the local community including affected owners and residents and to handle enquiries and complaints.

**SUBJECT OFFICER**

31. The subject officer is Mr. C. W. CHOW, Principal Assistant Secretary for Transport and Housing (Transport), (Tel: 2189 2187).

**May 2011**  
**Transport and Housing Bureau**



圖則名稱 drawing title

南港島線 (東段)  
擬設於前黃竹坑邨用地物業發展 — 位置圖  
South Island Line (East)  
Proposed Property Development at  
Ex-Wong Chuk Hang Estate Site - Location Plan