

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways
Progress Update of the Construction of the Shatin to Central Link
(As at 31 December 2015)

Introduction

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 31 December 2015.

Background

2. SCL, with a total length of 17 kilometres, consists of the following two sections –

- (a) Tai Wai to Hung Hom section: this is an extension of the Ma On Shan Line from Tai Wai via Southeast Kowloon to Hung Hom where it will join the West Rail Line; and
- (b) Hung Hom to Admiralty section: this is an extension of the East Rail Line from Hung Hom across the Victoria Harbour to Wan Chai North and Admiralty.

3. SCL will have ten stations. Apart from bringing improvements to the existing Tai Wai Station, the SCL project will involve construction of new stations or extension of existing stations at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Ho Man Tin, Hung Hom, the Hong Kong Convention and Exhibition Centre, and Admiralty. It is a territory-wide strategic railway project (alignment layout at **Annex 1**). Admiralty Station and Ho Man Tin Station will become integrated stations providing interchange service to passengers of SCL and South Island Line (East)(“SIL(E)”), as well as passengers of SCL and Kwun Tong Line Extension (“KTE”) respectively.

4. The Approved Project Estimate for the entire SCL project is \$79,800 million (in money-of-the-day prices) and the project is funded by the Government under the “concession approach”. On 11 May 2012, the Finance Committee of the Legislative Council approved the funding application for “61TR – Shatin to Central Link – construction of railway works – remaining works” and “62TR –

Shatin to Central Link – construction of non-railway works – remaining works”. Thereafter, the Government and the MTR Corporation Limited (“MTRCL”) entered into an agreement for entrusting construction, testing and commissioning of SCL to the latter. MTRCL has been entrusted to provide management and monitoring service to the SCL project. The main works commenced in July 2012. According to the agreement, the original target commissioning date for the Tai Wai to Hung Hom Section is December 2018 and the original target commissioning date for the Hung Hom to Admiralty Section is December 2020.

5. Upon expansion, Admiralty Station will become an integrated station serving passengers of SCL and SIL(E). Hence, except for the construction cost (about \$300 million in money-of-the-day prices) of the overrun tunnel of SCL which would be fully absorbed by the SCL project, the construction cost of the expansion works of Admiralty Station will be apportioned between SCL and SIL(E) projects at a ratio of 70:30 in accordance with the estimated patronage at peak hours at the station. According to the cost estimate in 2011, SCL project has to share about \$2,700 million (in money-of-the-day prices) for the costs of building works, building services works, electrical and mechanical (E&M) works for the portion of SCL at Admiralty Station. Besides, the SCL project has to share about \$350 million (in money-of-the-day prices) for the construction costs of the portion of ventilation facilities at Admiralty Station for SCL. Hence, the SCL will have to share an overall cost of about \$3,350 million (in money-of-the-day prices) at Admiralty Station. MTRCL advised the Highways Department (“HyD”) on 12 August 2015 that the completed cost estimate review of the expansion works of Admiralty Station of SIL(E) indicated an upward adjustment of the relevant cost of expansion works of Admiralty Station to be shared by SCL. According to the apportionment ratio of 70:30 above, the cost shared by SCL has to be adjusted upward from about \$3,350 million to about \$4,650 million with an increase of about \$1,300 million. HyD has provided comments and raised questions on the preliminary information provided by MTRCL and will continue to critically examine the latest cost estimate with the assistance of its monitoring and verification consultant upon receipt of detailed information from MTRCL.

6. Ho Man Tin Station is also an integrated station connecting both SCL and KTE and providing convenient interchange for passengers between of these two railway lines. The construction cost of Ho Man Tin Station is therefore apportioned between SCL and KTE projects at a ratio of about 74:26 in accordance with the estimated patronage at peak hours at the station. According

to the cost estimate in 2011, the SCL project has to share about \$2,900 million (in money-of-the-day prices) for the costs of building works, building services works, E&M works for the portion of SCL at Ho Man Tin Station. MTRCL advised HyD on 12 August 2015 that the completed cost estimate review of KTE indicated that the relevant construction cost of Ho Man Tin Station shared by SCL would remain within the budget.

Latest Progress of the Works

7. The progress report of the SCL project as at 31 December 2015 submitted by MTRCL is at **Annex 2**. The analysis and supplement made by HyD on the progress report are provided below.

Tai Wai to Hung Hom section

Shatin Section (Section of Railway between Tai Wai Station and Ma Chai Hang, Wong Tai Sin, including Hin Keng Station and Modification of Station Platforms of Ma On Shan Line)

8. The progress of Hin Keng Station, the associated connecting elevated and at-grade track works and the modification of station platforms of Ma On Shan Line are generally in line with the planned programme. The Automatic Platform Gates (APG) of Ma On Shan Line at Tai Wai Station towards Wu Kai Sha have been in operation since the end of July 2015. Apart from Tai Wai Station, installation works for the APG at other stations of Ma On Shan Line have also commenced progressively. The main structural works of Hin Keng Station were substantially completed at the end of April 2015. Building Services works, E&M works and track laying works for the station are currently in progress.

9. The drill and blast works of the Hin Keng to Ma Chai Hang tunnel have been completed, there is a delay of 2 months as compared to the original planned programme. Water-proofing system installation and tunnel lining construction are being carried out inside the tunnel and the current progress is generally in line with the planned programme.

Wong Tai Sin Section (Section of Railway between Ma Chai Hang, Wong Tai Sin and Kai Tak Station, including Diamond Hill Station)

10. The two sections of tunnels from Kai Tak Station to Diamond Hill

Station and from Diamond Hill Station to Ma Chai Hang are constructed with tunnel boring machine (“TBM”). The excavation of the tunnel from Kai Tak Station to Diamond Hill Station was completed in October 2015. Regarding the tunnel from Diamond Hill Station to Ma Chai Hang, the up-track tunnel excavation was also completed in mid-June 2015 with a delay of about 3 months as compared to the original planned programme. The excavation work of the down-track tunnel commenced at the end of September 2015. About 30% of the tunnel has now been completed and it is anticipated that the construction will be completed in the second quarter of 2016.

11. The construction of the Diamond Hill Station structure has fully commenced. The construction of the station main structure is now underway. Besides, the up-track tunnel and the shaft for the emergency access point at the junction of Wong Tai Sin Road and Sha Tin Pass Road are connected. The construction of the Public Transport Terminus adjacent to the emergency access point continues, and it is anticipated that the main structure would be completed in mid-2016. It is anticipated that the drill and blast works for the ventilation tunnel starting from the works site at Ma Chai Hang Recreation Ground will be completed in the first quarter of 2016.

12. “Diamond Hill Station Extension” contract was awarded to Sembawang Leader Joint Venture¹ (“JV”). One of the JV partners (“Sembawang”) was reported to be involved in financial problem. MTRCL became aware of and discussed the issue with the JV, and reported the situation to HyD in October 2015. HyD required MTRCL to closely monitor the development, and provide assessment on the effect of the works. According to the information provided by MTRCL, there are provisions in all the contracts of SCL to protect the implementation of the works. Should any partner of the JV be involved in legal proceeding or financial problem, the existing contract provisions would ensure that the contract works could continue without being affected. HyD required MTRCL to ensure that the above contract could continue without being affected. MTRCL reached an agreement with the Leader Civil Engineering Corporation Limited (“Leader”), the other partner of the JV, in January 2016. Leader will undertake all the contractual obligations of Sembawang, ensuring that the works are not affected. The extension works of Diamond Hill Station have proceeded as planned since the incident happened. The structural works of the platform were completed. The structural works of the concourse and the building services

¹ Sembawang Leader Joint Venture is formed by the Sembawang Engineers and Constructors Pte. Ltd. (“Sembawang”), and the Leader Civil Engineering Corporation Ltd.

works at platform are currently in progress.

13. The improvement works of the pedestrian connecting facilities between Tsz Wan Shan area and Diamond Hill Station of SCL (the layout plan of the pedestrian connecting facilities at **Annex 3**) are originally scheduled for completion in stages between 2014 and 2016. Due to unpredicted and complicated geological conditions, and the existence of congested underground utilities which have made the construction more difficult, there has been delay to some of the works. MTRCL and the contractor would continue to carry out the works of pedestrian facilities at different locations simultaneously where conditions permit, so as to catch up with the progress as far as possible. Apart from the covered walkway south and north of Fung Tak Road that had been open to public use, the covered walkway near Hong Tim House of Tsz Hong Estate, the footbridge spanning across Yuk Wah Street and the lift tower at Yuk Wah Street near Hong Sau House of Tsz Hong Estate were in operation in October and November of 2015 and January 2016 respectively. Some other facilities would also be operational in stages starting from the first quarter of 2016 after completion of inspection and testing by relevant Government departments and completion of the necessary statutory procedures. The facilities include the covered walkway at Po Kong Village Road and the lift tower at Tsz Wan Shan Road near Tsz Man Estate.

Kowloon City Section (Section of Railway between Kai Tak Station to Ho Man Tin Station, including To Kwa Wan Station and Ma Tau Wai Station)

Kai Tak Station

14. Kai Tak Station is located inside the Kai Tak Development Area. The main structure of the station was substantially completed in July 2015. The backfilling works and structural works of two station entrance adits are anticipated to be complete by the first quarter of 2016. The fitting-out works, E&M works and track laying works are in progress. Tunnelling works between Kai Tak Station and To Kwa Wan Station are in progress, with the completion of about 85% of the 700-metre tunnel structure as at 31 December 2015.

To Kwa Wan Station

15. Under the close supervision of the Antiquities and Monuments Office (“AMO”), the independent archaeologist team completed the archaeological

excavation at the end of September 2014. The Antiquities Authority (i.e. the Secretary for Development), after considering the views of the Antiquities Advisory Board, the Legislative Council and the Kowloon City District Council, decided on the conservation options on 8 December 2014 with most of the archaeological discoveries preserved in-situ. The archaeological remnants to be preserved in-situ have to be protected by backfilling of protective materials. Under the close supervision of AMO, the protective works for the remnants to be preserved in-situ were completed in May 2015. Regarding Well J2 and the water channel, they were removed piece by piece by hand in March 2015 after detailed recording and under the close supervision of AMO. The components are stored properly for future reinstatement.

16. The construction works of To Kwa Wan Station fully resumed in March 2015. The excavation of the station was substantially completed in December 2015. The pile loading test and the construction of station structure commenced. The TBM works for the down-track tunnel from To Kwa Wan Station to Ho Man Tin Station commenced in April 2015 and about 70% of the tunnel was completed as at 31 December 2015. It is anticipated that the TBM will reach Ho Man Tin Station in the second quarter of 2016. On the other hand, the TBM works for the up-track tunnel from To Kwa Wan Station to Ho Man Tin Station commenced in September 2015 and about 40% of the tunnel was completed. It is anticipated that the TBM will reach Ma Tau Wai Station in the first quarter of 2016. As at 31 December 2015, MTRCL estimated that the archaeological works would result in a delay of at least 11 months and a minimum additional cost of about \$4.1 billion to the Tai Wai to Hung Hom Section of SCL. However, the ultimate implication is subject to the final assessment of MTRCL and the verification of HyD.

Ma Tau Wai Station

17. Ma Tau Wai Station is an underground station beneath Ma Tau Wai Road. The station will be constructed by a top-down method. To cater for the construction of the station, the traffic diversion scheme implemented at a section of Ma Tau Wai Road between Chi Kiang Street and Sheung Heung Road continues. Two southbound traffic lanes and a single northbound lane would be maintained. MTRCL has carried out the excavation and structural works of the station in full swing. Construction of the station concourse was completed in November 2015. It is anticipated that the excavation and construction of the station upper platform will be completed by mid-2016.

Hung Hom Section (Section of Railway between Ho Man Tin Station and Hung Hom Station, including the modification works of Hung Hom Station and associated tunnelling works)

18. As the tunnelling works of SCL to the north of Hung Hom Station have to be carried out on a very busy road and along the operating East Rail Line, it is necessary to exercise due care to prevent the construction from affecting the busy road sections nearby. Temporary traffic diversions along Chatham Road North for the tunnelling works were fully implemented at the end of 2014. So far, the traffic has been generally smooth. For the construction work of the section between Ho Man Tin Station and Hung Hom Station, excavation works have been completed while construction of structural work is in progress. The foundation works of the noise enclosure near Oi Sen Path south of Princess Margaret Road have also been completed. Installation of noise enclosure is underway. The construction works at Hung Hom Station have to be carried out underneath the existing station podium. The limited space available has rendered the construction highly difficult and the works must be carried out in a prudent manner. The impact of the constraint of working space on the completion date of part of pipe-piling works has led to a delay of about 4 months for the subsequent works. MTRCL and the contractor continue to adjust the work sequences and, where practicable, carry out multiple activities simultaneously. The contractor has also progressively deployed additional machinery and manpower in order to recover some of the delay of the works at Hung Hom Station.

Hung Hom to Admiralty Section

Cross Harbour Section (Section of the tunnel across Victoria Harbour)

19. The main construction works of the Cross Harbour Section have commenced progressively. Such works include ground investigation of the seabed, installation of instrumentation monitoring system, erection of temporary marine platforms and dredging works. The contractor started constructing the temporary marine cofferdam at Hung Hom landfall in the second quarter of 2015 to prepare for the future excavation and tunnel construction works. Also, the construction of the immersed tube tunnel units has commenced. The progress is as planned.

Hong Kong Island Section (Section of Railway between Wan Chai North and Admiralty Station, including Exhibition Station)

20. With the continuous progress of the advance works for the Hong Kong Island Section, the re-provisioned Wan Chai Swimming Pool was opened in October 2015. Demolition of the old swimming pool is currently underway while the foundation works for the re-provisioning of Harbour Road Sports Centre are in progress. Meanwhile, the modification works for the foundation of flyovers are progressing smoothly. Diversion of box culverts at the Tunnel Approach Rest Garden was completed in November 2015.

21. The advance works for the excavation of railway tunnels, including ground stabilization, ground investigation and underground utilities diversion, are underway along the tunnel alignment and at the portal area of the Cross-Harbour Tunnel, Wan Shing Street, Wan Chai Sports Ground and the ex-Wan Chai West Preliminary Treatment Works. The progress is satisfactory. As the two launching shafts for the assembling of TBM are located at the Causeway Bay Typhoon Shelter (“CBTS”) temporary reclaimed area and Fenwick Pier Street work site, the contractor is carrying out excavation works for the launching shaft at CBTS temporary reclaimed land. The TBM works is expected to start excavation in the second quarter of 2016 for the construction of the tunnel from CBTS to Exhibition Station. Construction of diaphragm walls for the launching shaft at Fenwick Pier Street work site continues.

22. Demolition of the existing Police Officers’ Club (“POC”) to facilitate the construction of ventilation facilities for the tunnel of SCL was substantially completed. Upon completion of the project, the POC, which will integrate with the railway tunnel ventilation system, will be re-provisioned at its original location.

23. Construction of Exhibition Station at the ex-Wan Chai Ferry Pier Public Transport Interchange continues. The works include ground investigation, utilities diversion, construction of diaphragm walls and piling works. To allow flexibility for the construction of new convention facilities above Exhibition Station, a certain part of the enabling works for the topside development would be incorporated into the underground structure of Exhibition Station. The works mainly include the addition of essential piles adjacent to the station. Based on the currently available information on the geological condition, it is initially estimated that this would result in a delay of at least 5 months for the construction

of Exhibition Station and an increase in construction cost. MTRCL would continue to work with the contractor to explore feasible measures to improve the progress and reduce the impact on the works, as well as assess the additional cost of construction.

24. Regarding the large metal object found on the seabed within the reclamation area under Wan Chai Development Phase II (“WDII”), the Civil Engineering Development Department (“CEDD”) removed it from the reclamation site in June 2015 to allow resumption of the reclamation and relevant works. The reclamation works were completed and associated works are underway. Originally, the reclaimed land will be handed over to the contractor of SCL at the end of December 2016. As the discovery of the metal object has affected the progress of reclamation works there, CEDD indicates that the handover date of part of the works area would be deferred by 7 months. HyD and MTRCL will liaise with CEDD on the handover arrangement of works areas.

25. In addition, as mentioned in previous progress reports, CEDD has estimated that the handover date of the associated critical work sites adjoining the junction of Expo Drive East and Convention Avenue will be deferred for about 6 months. Since then, CEDD has implemented measures to catch up with part of the works progress and most of the work sites could be handed over to MTRCL in accordance with the original schedule. It is estimated that the original delay of 6 months for the handover dates of other critical work sites would also be shortened. For those remaining work sites which cannot be handed over as scheduled, HyD and MTRCL will discuss further with CEDD on measures to minimise the risk of delay to SCL as far as possible.

26. Since parts of the Exhibition Station are located underneath roads in Wan Chai North where the traffic is busy, the main construction works for the Station have become highly complicated and there are risks to the progress of construction. It is anticipated that the overall 6-month delay in the completion of Exhibition Station and the Hung Hom to Admiralty section of SCL will remain. As a result, the commissioning date of the Hung Hom to Admiralty Section would be deferred to 2021. Besides, apart from the additional construction cost arising from the enabling works at Exhibition Station, the construction delay as a result of the deferred handover of work sites may also lead to additional construction cost.

Conclusion

27. In view of the above assessments mentioned in paragraphs 8 to 26 and taking into account the delay of about 11 months to the Tai Wai to Hung Hom Section of SCL arising from the archaeological works, archaeological discoveries and conservation options for archaeological features at To Kwa Wan Station earlier on, HyD will co-ordinate and oversee the construction of SCL so that MTRCL could try its best to recover some of the delay to the Tai Wai to Hung Hom Section, with a view to commissioning the Tai Wai to Hung Hom Section in 2019 as far as possible. Due to the impact of site handover arrangement of WDII and to allow flexibility for the construction of new convention facilities above Exhibition Station, the commissioning date of the Hung Hom to Admiralty Section will be deferred to 2021.

28. MTRCL is conducting a cost review of the entire SCL in phases, including the additional construction costs in Admiralty Station and Ho Man Tin Station, and the additional costs arising from the archaeological and conservation works, the enabling works to cater for the topside development, as well as the deferred site handover. MTRCL has recently advised that additional time is necessary to conduct the cost review in view of the complexity of the project. The review is expected to be completed in the second quarter of 2016. MTRCL will then submit the cost review to HyD for scrutiny. As the current contingency of SCL will not be sufficient to meet the additional cost, we will seek additional funding from the Legislative Council in due course in order to proceed with the works.

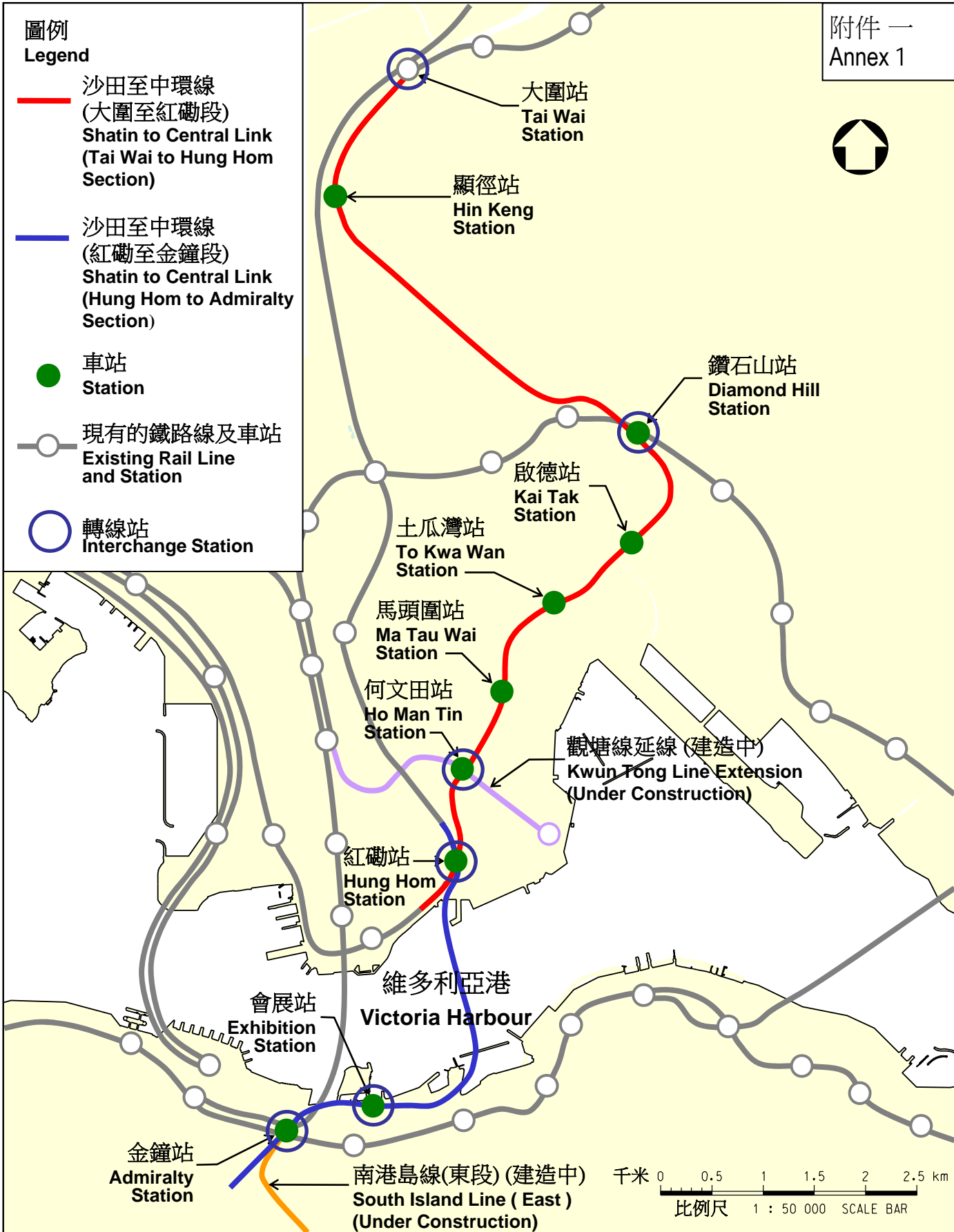
29. SCL is a major underground infrastructure project of a considerable scale. There are various difficulties and challenges encountered in the course of construction. It is unavoidable that there are deviations from the original plan for individual works contracts. MTRCL has adjusted its works procedures having regard to the actual situation of work sites. Additional manpower and machinery have also been deployed in order to overcome the difficulties. The Government will closely monitor the progress of works and the construction. It will also assist MTRCL to resolve the problems encountered in the course of construction as early as possible and conduct timely reviews of the commissioning programme taking into account the latest situation of the works.

**Transport and Housing Bureau
Highways Department
February 2016**



圖例
Legend

- 沙田至中環線
(大圍至紅磡段)
Shatin to Central Link
(Tai Wai to Hung Hom Section)
- 沙田至中環線
(紅磡至金鐘段)
Shatin to Central Link
(Hung Hom to Admiralty Section)
- 車站
Station
- 現有的鐵路線及車站
Existing Rail Line and Station
- 轉線站
Interchange Station



圖則名稱 drawing title

沙田至中環線的走線

Alignment of the Shatin to Central Link

圖號 drawing no.

HRWSC003-SK0437

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鐵路拓展處 RAILWAY DEVELOPMENT OFFICE



路政署
HIGHWAYS DEPARTMENT

**Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways**

**Progress Update of the Shatin to Central Link
(As at 31 December 2015)**

INTRODUCTION

This report aims to update Subcommittee members on the progress of Shatin to Central Link (“SCL”) as at 31 December 2015.

OVERVIEW OF THE SCL PROJECT

Cost and expenditure

2. Since mid-2012, 25 major civil and 25 major electrical & mechanical (“E&M”) contracts¹, together with other minor contracts, have been awarded with a total sum of \$55.315 billion. The contract sums for civil works and E&M works are about \$42.660 billion and \$12.655 billion respectively (Please refer to Enclosure I for details).

3. Under the Entrustment Agreement for the SCL, the Government of the Hong Kong Special Administrative Region (“the Government”) is responsible for funding the construction of the SCL. As previously reported, currently the East-West Corridor (“EWC”) and North-South Corridor (“NSC”) are expected to complete in 2019 and 2021 respectively.

Works progress

Overall progress

4. As at 31 December 2015, the overall works for SCL were 48% complete compared to the planned completion rate of 55% against the original project completion target in 2018 for EWC and 2020 for NSC respectively (Please refer to Enclosure II for details). The progress below

¹ Major civil contract/E&M contract refers to any individual contract with value above \$50 million, and includes Contract 11227 with a value of \$49.8 million.

is also measured against the original programme. As reported before, the construction works were affected by various factors, including the archaeological works at To Kwa Wan Station site, late land handover in Wan Chai North, and complicated underground conditions of Lion Rock. In the last few months, works have been carrying out in line with the current completion dates for EWC and NSC in 2019 and 2021 respectively.

5. With the continuous efforts of the construction team, around 63% of the works of the EWC have been completed as at 31 December 2015 compared to the originally planned completion rate of 73%. It is anticipated that EWC will be completed in 2019. In the last reporting period, notable progress has been made in several areas below. These include:

- a. The Lion Rock tunnel from Hin Keng to Ma Chai Hang was broken through in early November 2015. Both up-track tunnels from Ma Chai Hang to Diamond Hill, and Kai Tak to Diamond Hill have been completed. The up-track tunnel has now been bored through from Hin Keng to Kai Tak; and
- b. Two newly built stations, namely Hin Keng Station and Kai Tak Station, have been topped out and gradually shifted from civil works to the fitting-out and E&M works. Structural works for the expansion of Diamond Hill Station are expected to be substantially completed in mid-2016.

6. While the NSC is at an earlier stage in the works cycle, a number of work fronts have been opened up. It was 23% complete in overall terms as at 31 December 2015 compared to the originally planned completion rate of 27%. Key progress includes:

- a. Construction of pre-cast units has commenced in the casting yard at the ex-Shek O Quarry for the immersed tube (“IMT”) to be used for the construction of the new cross-harbour rail tunnel that would extend the existing East Rail Line (“EAL”) across the Harbour to Hong Kong Island;
- b. On Hong Kong Island, launching shafts for tunnel boring machines (“TBM”) are underway as planned. The tunnel boring works are expected to commence in the 2nd quarter of 2016; and

- c. Foundation works for Exhibition Station are now underway in the former Public Transport Interchange (“PTI”) area. The new Wan Chai Swimming Pool has been handed over to the relevant department for use in October 2015 after a series of testing and commissioning. The original Wan Chai Swimming Pool was demolished for the construction of Exhibition Station and new Sports Centre.

7. In addition to the SCL construction works, progress has been made in train conversion in order to facilitate the 8-car operation of the EWC. The first 8-car train of West Rail Line (“WRL”) has been put into service since 2 January 2016. Associated improvement works for facilities for the operating railway are also underway, including retrofitting of Automatic Platform Gates (“APG”) at the stations of Ma On Shan Line (“MOL”), and platform strengthening works at the stations of EAL in preparation for the retrofitting of APG. The APG retrofitting works are expected to be completed firstly at Tai Wai Station in the first quarter of 2016. Modification and extension works of the existing Pat Heung Depot have been substantially completed. Most of the facilities have already been put into operations.

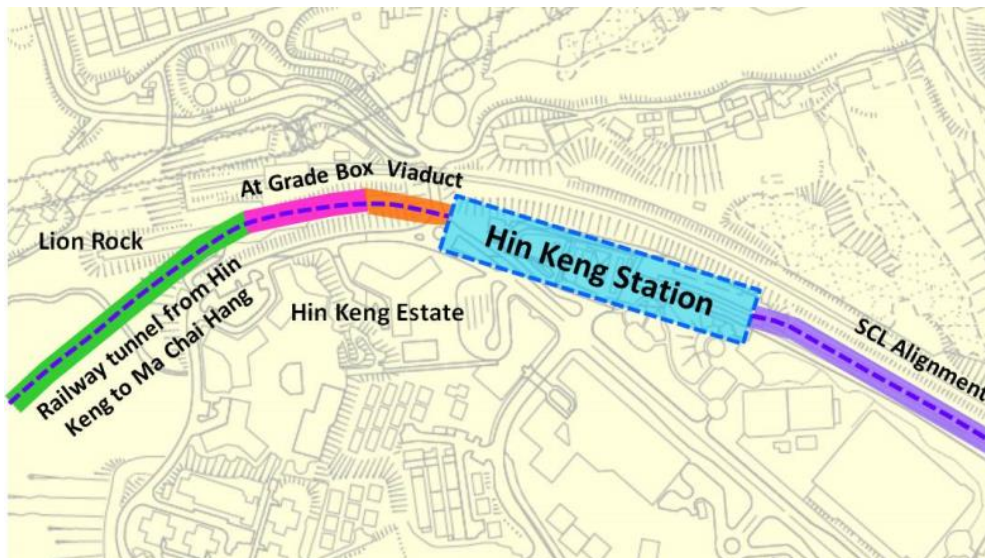
Progress in different sections

8. SCL comprises six sections according to geographical locations -

- (a) Shatin Section;
- (b) Wong Tai Sin Section;
- (c) Kowloon City Section;
- (d) Hung Hom Section;
- (e) Cross Harbour Section; and
- (f) Hong Kong Island Section.

(a) Shatin Section (Section of railway between Tai Wai Station and Ma Chai Hang in Wong Tai Sin)

9. Following the substantial completion for the structural works of Hin Keng Station in April 2015, building services works were then carried out with about 55% completed. Track works for connecting the existing track of Ma On Shan Line and Hin Keng Station are underway.



Location map of Hin Keng Station and associated tunnel structures

10. About 80% of the viaduct structure has been completed. To enhance work efficiency, the excavation and structural works of the at-grade tunnel box are carried out in parallel. The structural works were over 70% complete.



Hin Keng Station and part of the viaduct

11. The section of tunnel between the at-grade tunnel box and Lion Rock tunnel is being constructed by cut-and-cover method. Excavation and supporting works were completed in early November 2015. Construction of the tunnel structure has commenced.

12. The tunnel section inside Lion Rock constructed by drill and blast method was broken through in early November 2015. Construction of the internal tunnel structure including partition walls and walkways commenced in early December 2015. Tunnel lining installation is also

being carried out concurrently in order to speed up the works programme. As at 31 December 2015, around 74% of tunnel lining works was completed.

(b) Wong Tai Sin Section (Section of railway between Ma Chai Hang and Kai Tak Station)

13. For the TBM tunnel from Diamond Hill to Ma Chai Hang, down-track tunnel construction has commenced since September 2015 with about 30% completed. As previously reported, the cutter head of the TBM was modified and the spoil handling systems had been improved. These have effectively enhanced the efficiency of the TBM when excavating through the high clay ground condition areas. Based on the current progress, the down-track tunnel is expected to be completed in the second quarter of 2016. Track-laying works in the completed up-track tunnel commenced in November 2015 and about 900 metres out of 1700 metres of the tracks have been constructed.



Track-laying at DIH up-track tunnel

14. At Ma Chai Hang, excavation for the ventilation shaft was completed at the end of October 2015 and construction of the permanent internal structure is now ongoing. Excavation for the ventilation tunnel connecting to the Lion Rock tunnel is also in progress with about 75% completed. The excavation is expected to be completed in early 2016.



Excavation of ventilation tunnel in progress at Ma Chai Hang

15. At Fung Tak, excavation for the adit connecting the up-track tunnel and the emergency access point at the junction of Wong Tai Sin Road and Sha Tin Pass Road was completed in October 2015. Structural works are in progress. The major structural works for the adjacent Public Transport Terminus are underway and expected to be completed in mid-2016.

16. In view of the financial issue of the parent company of Sembawang, one of the Joint Venture (“JV”) partners of the Contract “Diamond Hill Station Extension”, agreement was reached between the Corporation and the other JV partner Leader in January 2016 that Leader will take up Sembawang’s contractual responsibility to ensure that the contract and the construction works would not be affected. Despite the above contractual issue, structural works for the expansion of Diamond Hill Station are progressing as planned. The works for station platform level were completed and the works for station concourse level are in progress. Building services works have also commenced at platform level.



Expansion works of Diamond Hill Station

17. Modification works continue at the existing Diamond Hill Station to transform it into an interchange station of the existing Kwun Tong Line and SCL. Preparation works for strengthening the external wall at northern concourse of Diamond Hill Station commenced in December 2015. The first stage construction works of the pedestrian subways connecting the existing Diamond Hill Station and its extended part was completed in November 2015. To facilitate the construction of the remaining pedestrian subways works, the temporary traffic diversion of Lung Cheung Road has been implemented in phases starting from end December 2015. The number of traffic lanes at Lung Cheung Road remains unchanged.

18. The excavation of TBM tunnels from Kai Tak to Diamond Hill was fully completed in mid-October 2015. The construction of the cross passage tunnels between the up-track and down-track TBM commenced in December 2015 and is expected to be completed in the second quarter of 2016. Track-laying works will start in early 2016.



Down-track tunnel from Kai Tak to Diamond Hill

19. As part of the SCL, the Government entrusted the Corporation to carry out improvement works on pedestrian facilities in Tsz Wan Shan district to enhance the connectivity between the district and Diamond Hill Station. This includes the provision of footbridge, covered walkways, lifts and escalators. Some works had been encountering unexpected and complicated geological condition, and complex underground utilities, which had affected the original programme. The contractor is striving to carry out works at different locations in parallel to catch up with the progress. The facilities are being opened for public use starting from 2015. The opened facilities included the covered walkways at Fung Tak Road and Tsz Hong Estate, the footbridge across Yuk Wah Street, and the lifts

at Tsz Hong Estate and Tsz Lok Estate.

(c) Kowloon City Section (Section of railway between Kai Tak Station and Ho Man Tin Station)

20. After the completion of excavation and station box structure for Kai Tak Station in July 2015, backfilling works are being carried out at the station area and has achieved 90% completion. Meanwhile, the structural works for the two station entrance subways are in progress for completion in early 2016. Fitting-out, E&M and track works are ongoing in the station. For the cut-and-cover tunnels between Kai Tak Station and To Kwa Wan Station, over 85% of the tunnel structure was completed. Within the cut-and-cover tunnels, a short section beneath the Lung Tsun Stone Bridge is constructed by mining method in order to protect the archaeological foundations of the Lung Tsun Stone Bridge and that section of tunnel has been completed.



Kai Tak Station Construction Site

21. As previously reported, the archaeological works at To Kwa Wan Station have caused a delay of at least 11 months to the programme of the Tai Wai to Hung Hom Section.

22. Excavation for To Kwa Wan Station was substantially completed and the station structural works commenced in September 2015. Excavation for the adit connecting with the entrance at Nam Kok Road is underway and was approximately 27% complete.

23. The down-track tunnel from To Kwa Wan Station to Ho Man Tin Station is being constructed by the TBM, “Princess Wencheng”, and has reached 70% completion. After passing through Ma Tau Wai Station in early December 2015, “Princess Wencheng” continues her drive and is

expected to complete the excavation upon reaching Ho Man Tin Station in the second quarter of 2016. In parallel, the TBM “Princess Iron Fan” is excavating along Ma Tau Wai Road for the construction of the up-track tunnel and is expected to reach Ma Tau Wai Station in the first quarter of 2016.



Construction site of To Kwa Wan Station

24. Shaft excavation of the emergency access for the railway tunnels near Tam Kung Road is in progress with completion at about 60%.

25. At Ma Tau Wai Station, excavation and structural works are ongoing underneath the station roof slab. All concourse slabs were built in November 2015 while excavation has proceeded down to the upper platform level. The excavation and structural works for the upper platform are expected to be completed in mid-2016. To facilitate the construction of the station, temporary traffic management arrangement at Ma Tau Wai Road will continue with two south-bound and one northbound traffic lanes provided.

26. Excavation for the station entrances at Lok Shan Road and Kiang Su Street is in progress. Pipe piling works continue for the construction of a ventilation shaft in front of To Kwa Wan Market and excavation will commence in the first quarter of 2016. At Chi Kiang Street, excavation is being carried out for the emergency access shaft.



Construction site of Ma Tau Wai Station

(d) Hung Hom Section (Section of railway between Ho Man Tin Station and Hung Hom Station)

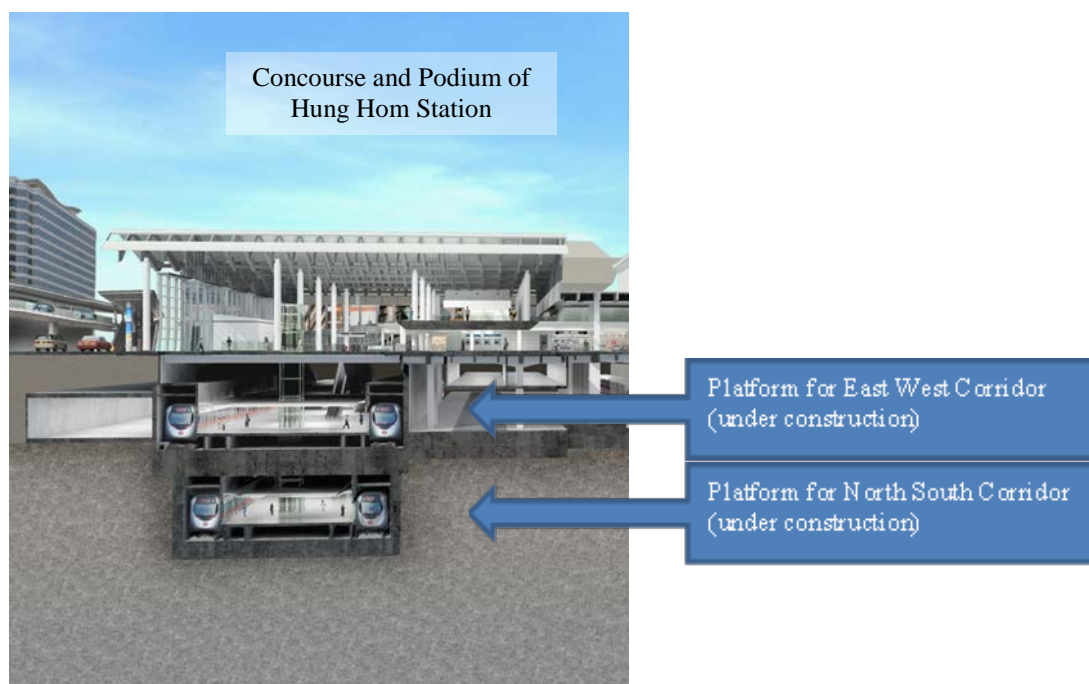
27. Under SCL, two railway tunnels are being constructed at north of Hung Hom Station to connect the existing EAL and WRL to form the NSC and EWC respectively. For the future connection from Ho Man Tin Station to Hung Hom Station and the existing WRL, excavation was completed in December 2015 and structural works are in progress. For the tunnel connecting with the existing EAL to form NSC, excavation works have also commenced. As at 31 December 2015, the overall works completion was 71%.



Tunnel excavation under Chatham Road North and near Winslow Street

28. For the future connection with the existing EAL, construction of a new section of tunnels and tracks with noise enclosure near Oi Sen Path south of Princess Margaret Road is now underway. With the foundation works of the noise enclosure completed in December 2015, lifting and

installation works of the noise barrier covers immediately commenced at the end of 2015. As the construction site is in the vicinity of EAL, the construction team will carry out the works in a prudent manner and review the construction method and the works sequence from time to time to avoid disruption of the existing railway service, as well as the impact on the existing foundations and underground utilities.



29. Hung Hom Station will become the interchange station of EWC and NSC of the SCL. To cater for the future railway services, two levels of new platforms designated for EWC and NSC are now being built under the existing station podium. Modification works are on-going in the southern concourse of Hung Hom Station and the structural works for the new mezzanine level are now being carried out. The refurbished southern concourse will be opened to the public in the first quarter of 2016. Subsequently, the northern concourse will be temporarily closed for the second stage of the concourse modification works in the second quarter of 2016.

30. The construction of the diaphragm walls and foundation for the new platforms was completed. Excavation and slab construction for EWC across the whole Hung Hom Station are in progress. As previously reported, the works are about four months behind the original schedule due to the complicated geological conditions under the station podium, as well as limited space and height available for construction works. The contractor is striving to deploy additional manpower and to re-sequence the works in order to catch up with the progress and complete the works

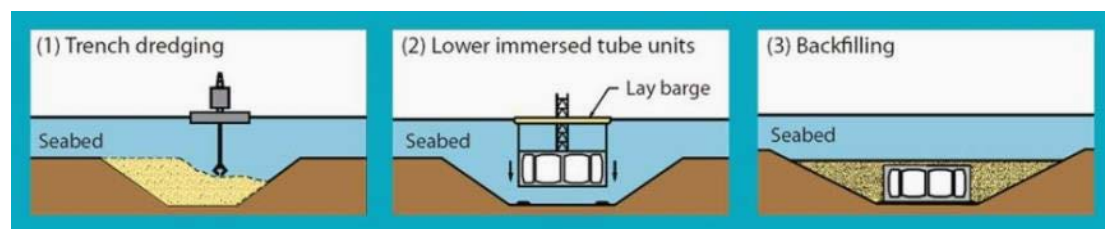
on schedule, provided that the structural safety of the station and adjoining buildings can be ensured.

31. To facilitate future railway operations, stabling sidings for EWC trains are now under construction at the former Hung Hom Freight Yard. Structural and building services works are now underway.

(e) Cross Harbour Section (Section of railway across Victoria Harbour)

32. To extend the existing EAL across the Harbour to Hong Kong Island, a new cross-harbour rail tunnel will be built under the SCL project. A section of the cross-harbour rail tunnel near the seashore at Hung Hom will be constructed by cut-and-cover method. Marine pipe piling works to build a temporary cofferdam and temporary decking installation are now being carried out. The temporary cofferdam will be completed in the second quarter of 2016. Afterwards, the excavation works for tunnel construction will commence.

33. The section of the cross-harbour rail tunnel between Hung Hom and Causeway Bay Typhoon Shelter (“CBTS”) will be constructed by IMT method (See the diagram below).



Construction Method of IMT

34. A total of 11 IMT pre-cast units are now being fabricated in the casting yard located at the ex-Shek O Quarry. Fabrication of all units will be completed in the first quarter of 2017. The finished IMT units will be stored in the basin and then towed to Victoria Harbour for installation in mid-2017.



Casting yard of IMT pre-cast units

35. The trench dredging works for the section of IMT in Victoria Harbour continue. The dredging works will be carried out in phases in Victoria Harbour until 2017 to prepare for the installation of the IMT units. Backfilling will be carried out after IMT installation.

36. To prepare for the installation of the IMT units inside CBTS, pipe piling works will be carried out near the breakwater of CBTS in early 2016 to form a temporary wave barrier. Afterwards, part of the existing breakwater will be temporarily removed and dredging works will follow. To facilitate the works, moorings within CBTS will be adjusted in early 2016 and relevant stakeholders are being consulted.

(f) Hong Kong Island Section (Section of railway on Hong Kong Island ending at Admiralty Station)

37. Two TBMs, namely “Athena” and “Zhi-nu”, will undertake the tunnel boring works on Hong Kong Island. To facilitate the works, construction of the TBM launching shafts at the temporarily reclaimed land at CBTS and at the Fenwick Pier Street works site are in progress as scheduled. The TBM “Athena” for the eastern tunnel drives will be delivered via sea route to the temporarily reclaimed land at CBTS in the first quarter of 2016. It is expected to be launched in the second quarter of 2016, heading towards Exhibition Station for the 600-metre-long up-track tunnel.

38. Demolition of the Police Officers’ Club (“the Club”) at Causeway Bay was completed in December 2015. The area will serve as the works site for the construction of ventilation facilities for the SCL cross-harbour tunnel and to support the TBM works at the temporarily reclaimed land at CBTS. Upon completion of railway construction, the Club will be

reinstated and integrated with the ventilation facilities of SCL. Mobilisation of the piling rigs for the foundation works of the future ventilation facilities and the Club has commenced.

39. Preparatory works for tunnel boring including diversion of underground utilities, bridge underpinning and ground stabilisation works along the tunnel alignment passing through Tunnel Approach Rest Garden and the former Wan Chai West Preliminary Treatment Works continue. Pile extraction at Wan Shing Street will start in the first quarter of 2016 and is expected to be completed in the fourth quarter of 2016 together with the associated ground treatment works.

40. In Wan Chai North area, the Exhibition Station will be located under the former PTI, the former Wan Chai Swimming Pool and the Harbour Road Sports Centre. Construction works for the diaphragm walls of Exhibition Station at the former PTI area are underway. In this connection, temporary traffic management arrangements will be implemented in phases along Convention Avenue, Fleming Road, Expo Drive East and Tonnochy Road in the first half of 2016. Traffic lanes of the abovementioned roads will be diverted in phases while the number of traffic lanes will remain unchanged at peak hours. With the completion of the ground stabilisation works in Wan Chai Sport Ground in October 2015, the construction for the diaphragm walls of Exhibition Station railway facilities at the corner of the sports ground also commenced in November 2015.

41. The construction of the temporary footbridge connecting Great Eagle Centre/ Harbour Centre with the Wan Chai Ferry Pier is on-going and targeted to be completed in the third quarter of 2016. By then, the existing footbridge would be demolished to facilitate the construction of Exhibition Station.

42. Regarding the large metal object found on the seabed within the reclamation area under the Wan Chai Development Phase II (“WDII”) project, managed by Civil Engineering and Development Department (“CEDD”), the object had been relocated to a neighbouring seabed area of the reclamation site in June 2015. This allows the reclamation works and relevant works to resume. According to the work plan of WDII and SCL projects, the reclaimed land will be handed over to the contractor of SCL at the end of December 2016 for the implementation of temporary traffic arrangements to facilitate the construction of Exhibition Station. As the discovery of the metal object has affected the progress of

reclamation works there, CEDD estimated that the handover date of part of the works areas would be deferred by seven months.



Location map of Exhibition Station and associated tunnels

43. As previously reported, the handover date of the associated critical site areas adjoining the junction of Expo Drive East and Convention Avenue has a delay of six months as compared with the original programme, because of the need to cater for the reclamation works under WDII of the CEDD. Since the availability of these site areas will have a direct impact on the critical construction for Exhibition Station, efforts have been made by CEDD with a series of delay recovery measures. Up to this moment, some parts of the works site have already been handed over to SCL project.

44. According to the latest information of the site handover schedules from CEDD and the enabling works at Exhibition Station mentioned above, the Corporation has explored possible measures to improve the progress, and will continue to closely communicate with relevant government departments, with a view to closely monitoring the latest situation of the site handover and minimising the risks of delay. It is anticipated that the delay of six months in the completion of Exhibition Station will bring the current completion of NSC to 2021.

45. For the construction of Exhibition Station, the current Harbour Road Sports Centre and Wan Chai Swimming Pool need to be reprovisioned. After a series of testing and commissioning, the new swimming pool was handed over to the Leisure and Cultural Services Department in September 2015 and opened in October 2015. The demolition of the original swimming pool commenced subsequently and

was completed at the end of 2015. Construction of the new Sports Centre and Exhibition Station will follow.

NEW TRAINS

46. New trains for EWC and NSC are being delivered to Hong Kong in batches starting from September 2015. Stringent testing and commissioning for the new trains of EWC and NSC are on-going in Pat Heung and Ho Tung Lau Depots respectively. From September 2015 onwards, dynamic testing is also underway at the existing WRL and EAL. New trains for both EWC and NSC are equipped with new design features including dynamic route map and gangway end display system.

47. Apart from the procurement of new trains, the existing trains are being gradually converted into 8-car trains to facilitate the 8-car train operation in EWC. The first 8-car converted train has been put into service on WRL on 2 January 2016 and a total of 28 WRL trains will be converted over the next 30 months. When all 8-car trains are in service in 2018, the overall capacity on the WRL will be enhanced by about 14%. Teething problems during the initial stage of train operation will be tackled in a timely manner. Stringent and integrated testing is being carried out to minimize the possible impact on railway services.

IMPROVEMENT WORKS FOR THE OPERATING RAILWAY FACILITIES

48. To facilitate the 8-car train operation of the EWC, extension of platforms and roofs are being carried out at stations along MOL. The works commenced in 2012 and are about 95% completed. The modification works are expected to be substantially completed by end 2016. The retrofitting works of APGs for MOL are underway at Tai Wai, Sha Tin Wai and City One Station. The APG retrofitting works at Tai Wai Station of MOL are expected to be completed by the first quarter of 2016. The Corporation is committed to completing the retrofitting works of APGs in the stations of MOL in 2017, one year earlier than originally scheduled.

49. As for EAL, the retrofitting of APGs will also be carried out. Before the commencement of the retrofitting works, platforms have to be

strengthened in advance and equipment rooms for the relevant signalling system and facilities have also to be constructed. To avoid interrupting normal train services, most of the above works can only be carried out overnight after normal train service hours. Platform strengthening works at Sheung Shui, Fanling, Tai Wo and Tai Po Market Station were substantially completed. Works are underway in phases in the remaining stations of EAL as planned. Construction of equipment rooms for the signalling and communication systems in EAL stations is also in progress. The equipment room construction works at Sha Tin, Racecourse, University, Tai Po Market and Sheung Shui Station were completed, while signalling and communication equipment works have commenced. The retrofitting works of APGs will commence after the completion of the platform strengthening works, as well as the replacement of the signalling system and the use of new trains.

50. Modification and extension works of the existing Pat Heung Depot are being carried out in good progress. The extension of Maintenance Building and Ancillary E&M Plant Building was completed and put into operations. Construction of stabling siding for EWC trains was also completed in November 2015 and overhead line cable laying works are in progress.

STAKEHOLDER COMMUNICATION AND ENGAGEMENT

51. Most of the SCL works sites are in urban areas and close to local communities. We attach great importance to frequent communication and engagement with the local communities and relevant stakeholders, in order to keep them informed of the works progress and to listen to their views.

52. Apart from the regular progress updates to the Subcommittee members and respective District Councils, another major channel for communicating with the local communities is the Community Liaison Groups (“CLGs”), which have been set up across districts to provide regular updates on possible impacts of works relating to the SCL. Members of the CLGs include representatives of local District Councils, residents, schools, local organisations, etc. Representatives from government departments sitting in the CLGs include the Highways Department, Hong Kong Police Force, Transport Department, Lands Department and Home Affairs Department. Newsletters, leaflets and notices are also distributed to the local communities to provide updated

and necessary information about the SCL. Dedicated MTR and Contractors' Hotlines are also available for handling any enquiries and complaints in relating to the project; while the SCL Information Centre in To Kwa Wan has also handled nearly 1000 enquiries since October 2012.

EMPLOYMENT OPPORTUNITIES

53. As at 31 December 2015, about 7,400 construction workers and technical/ professional staff members are employed for the SCL project. The situation of labour shortage still brought serious challenges to the works progress. To attract new blood to join the construction industry, the Corporation has initiated the "SCL Contractors Cooperative Training Scheme" in 2012. Under the Scheme, all SCL civil works contracts require contractors to recruit a specified amount of trainees. Training and internship programmes are provided to the trainees by the contractors of SCL and the Construction Industry Council. After passing relevant trade tests, the graduates would be offered 12-month employment contracts on the SCL. So far, the scheme has provided training to 480 trainees with 210 having completed the programme and continuing their careers in the field.

CONCLUSION

54. Members are invited to note the above information.

MTR Corporation Limited
February 2016

Expenditure report as at 31 December 2015

Table 1 – Situation of expenditure

	Awarded contract sum for the contracts (\$ million)	Cumulative expenditure of awarded contracts (\$ million)	Estimated amount of unresolved claims* (\$ million)
Civil works	42,659.8	23,295.0	1,198.3
E&M works	12,655.1	1,952.5	0.0
Total	55,314.9	25,247.5	1,198.3

* The estimated amount of unresolved claim: Amount claimed (\$1,369.4 million) – Interim award (\$171.1 million) = \$1,198.3 million (See Table 2)

Table 2 – Situation of substantiated claims

	Claims resolved			Claims unresolved		
	Number	Amount claimed (\$ million)	Amount awarded (\$ million)	Number	Amount claimed (\$ million)	Interim award (\$ million)
Civil works	14	31.9	20.2	271	1,369.4	171.1
E&M works	6*	0	0	30 [#]	0	0
Total	20	31.9	20.2	301	1,369.4	171.1

* The claims only involved extension of time without cost implication.

For the claims, the contractors have yet to submit detailed information and substantiation, therefore the amount claimed is provisionally stated as \$0.

1. The Government and the Corporation conducted risk assessment at the planning and budgeting stages of the project to minimise claims arising from the works. Nevertheless, there were often unforeseeable situations in the course of works. For instance, the foundation or excavation works might come across a larger amount of or more complicated obstructions than expected. As this would add difficulties to the works, the contractors might have to use more machines or switch to other machines that were more suitable and employ more staff to cope with these situations. The contractors would submit claims in accordance with the contract terms to cover the additional expenditures. Upon receipt of claims from contractors, the corporation would examine such claims and assess the amount concerned based on the relevant contract terms, justifications, documents, records, etc.

2. As at 31 December 2015, the Corporation received 321 substantiated claims and the amount claimed in total was about \$1,401.3 million, representing 2.5% of the awarded contract sum for the contracts. The Corporation has been discussing the details of the claims with the contractors concerned, and would thoroughly assess the amount claimed. The Corporation would process each claim in a prudent manner, and the contractors would have to provide sufficient justifications and information. As at 31 December 2015, 20 cases were resolved and about \$20.2 million was awarded, representing about 0.04% of the awarded contract sum for the contracts. Having regard to the needs of individual works and progress of the relevant assessment and discussion, interim award amounting to about \$171.1 million was made for some cases.

Enclosure II

Overall works progress of the SCL as at 31 December 2015

Overall works completed : 48%

Percentage completed as originally planned ⁽¹⁾: 55%

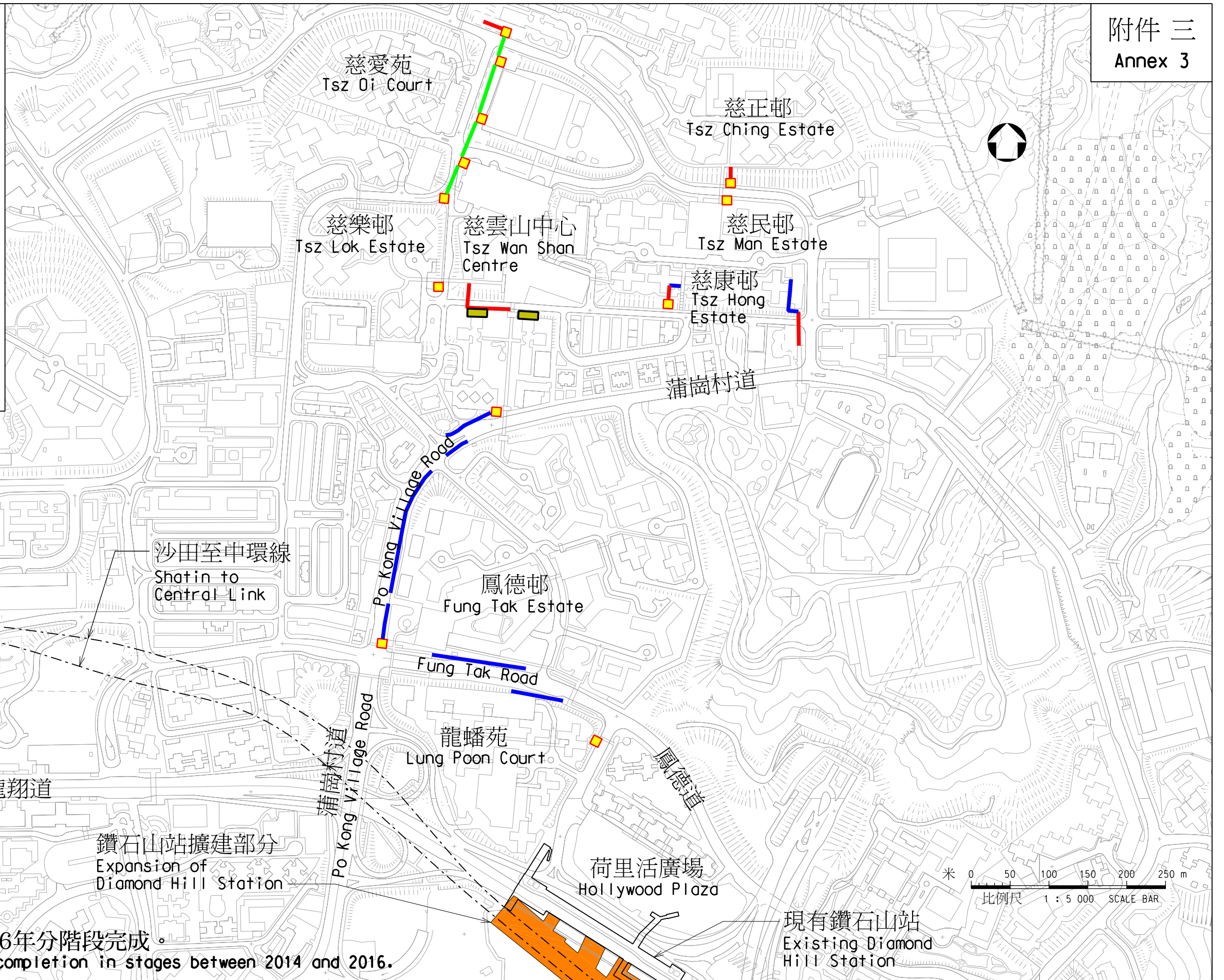
Culminated progress of major civil contracts awarded :

Contract No.	Contract Name	Percentage completed
1101	Modification of Ma On Shan Line	95%
1102	Hin Keng Station and Approach Structures	89%
1103	Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange	78%
1106	Diamond Hill Station Extension	69%
1107	Diamond Hill to Kai Tak Tunnels	96%
1108	Kai Tak Station and Associated Tunnels	89%
1109	Stations and Tunnels of Kowloon City Section	59%
1111	Hung Hom North Approach Tunnels	71%
1112	Hung Hom Station and Stabling Sidings	67%
1114	Pedestrian Links at Tsz Wan Shan	65%
11209	Platform Modification and Associated Works at East Rail Line	62%
1121	North South Line (NSL) Cross Harbour Tunnels	26%
1122	Admiralty South Overrun Tunnel	Less than 1% ⁽²⁾
1123	Exhibition Station and Western Approach Tunnel	6%
1125	Police Sports and Recreation Club Enhancement Works	100%
1126	Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool	66%
1128	South Ventilation Building to Admiralty Tunnels	21%
1129	SCL - Advance Works for NSL	100%

Note:

- (1) The original programme is to commission the Tai Wai to Hung Hom Section and the Hung Hom to Admiralty Section in December 2018 and December 2020 respectively.
- (2) Civil Contract 1122 was awarded on 19 October 2015.

- 圖例：
Legend:
- 行人天橋
Footbridge
 - 有蓋行人通道
Covered Walkway
 - 行人天橋
(連自動行人道/扶手電梯)
Footbridge
(Including Moving Walkway / Escalator)
 - 升降機
Lift
 - 扶手電梯
Escalator



有關設施預計在2014年至2016年分階段完成。
The facilities are scheduled for completion in stages between 2014 and 2016.

圖則名稱 drawing title

沙田至中環線 - 慈雲山區與沙田至中環線鑽石山站的行人接駁設施

Shatin to Central Link - Pedestrian connecting facilities between Tsz Wan Shan Area and Diamond Hill Station of Shatin to Central Link