

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways
Progress Update of the Construction of the Shatin to Central Link
(As at 30 September 2015)

Introduction

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 30 September 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 target commissioning date for the Tai Wai to Hung Hom Section is December 2018 and the target commissioning date for the Hung Hom to Admiralty Section is December 2020.

5. Upon expansion, Admiralty Station will become an intergated station serving passengers of SCL and SIL(E). Hence, except for the construction cost (about \$300 million) 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 for the costs of the portion of ventilation facilitates 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 that the recently 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 requested the MTRCL to submit further information and will critically examine the latest cost estimate with the assistance of its monitoring and verification consultant.

6. Ho Man Tin Station is also an integrated station connecting both SCL and KTE and providing convenient interchange for passengers between 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 that the recently 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 30 September 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 enclosed trackworks 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. Interior fitting-out works and E&M works for the station are currently in progress and track laying works have also commenced.

9. The advance excavation works of the Hin Keng to Ma Chai Hang tunnel have been completed. Due to difficult ground conditions, the advance excavation works have led to a delay of about 2 months in the tunnelling works. MTRCL has implemented a series of measures to catch up with the progress. Such measures include erecting the noise enclosure at the tunnel shaft to extend the working hours for blasting; widening the access road near the Hin Keng tunnel portal to allow the contractor to dispose excavated materials in an orderly manner to avoid stockpiling of excavated materials inside the tunnel that would affect the excavation inside the tunnel; and increasing the blasting charge weight to enhance works efficiency. MTRCL has also changed the sequence and method for the drill and blast works, such that the drill and blast operation as well as the tunnel lining construction could be implemented simultaneously. The above measures

have slightly recovered some of the delay.

10. Regarding the current progress of the drill and blast works, around 2 kilometres of tunnel excavation have been completed. Water-proofing system installation and tunnel lining construction are being carried out concurrently inside the tunnel and the current progress is 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)

11. 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 works commenced in the third quarter of 2014. It is anticipated that the excavation of the tunnel from Kai Tak Station to Diamond Hill Station could be completed in the fourth quarter of 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 construction of the down-track tunnel commenced at the end of September 2015.

12. Regarding Diamond Hill Station, the construction of the station structure has fully commenced. The construction of the station main structure is now underway. Besides, the connection between 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 is in progress. The construction of the Public Transport Terminus adjacent to the emergency access point continues.

13. “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

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

above contract could continue without being affected.

14. 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 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 north of Fung Tak Road that had been open to public use, the lift tower near Lok Shun House of Tsz Lok Estate at Wan Wah Street was in operation in the end of October of 2015. Some other facilities would also be operational in stages starting from the fourth quarter of 2015 after completion of inspection and testing by relevant Government departments and completion of the necessary statutory procedures. The facilities include the covered walkway south of Fung Tak Road, the lift tower at Yuk Wah Street near Hong Sau House of Tsz Hong Estate, and the footbridge spanning across Yuk Wah Street near Hong Tim House of Tsz Hong 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

15. Kai Tak Station is located inside the Kai Tak Development Area. The station main structure was substantially completed in July 2015. The backfilling works, structural works of two station entrance adits, fitting-out works and track laying works inside the station are in progress. Tunnelling works between Kai Tak Station and To Kwa Wan Station are in progress, with the completion of about 70% of the 700-metre tunnel structure as at 30 September 2015.

To Kwa Wan Station

16. 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.

17. The construction works of To Kwa Wan Station fully resumed in March 2015. The excavation of the station and construction of tunnels have fully commenced. The TBM works for the down-track tunnel towards Ma Tau Wai Station commenced in April 2015 and about 700m of the tunnel was completed as at 30 September 2015. **As at 30 September 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

18. 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 would continue. Two south-bound traffic lanes and a single north-bound lane would be maintained. MTRCL has expedited the excavation and structural works of the station. The roof slab of the station was completed in July 2015. Construction of the station concourse also commenced in September 2015.

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)

19. 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 last year. So far, the traffic has been generally smooth. The main piling works were substantially completed. Excavation and structural works for railway tunnels, as well as the foundation works for the noise enclosures near Oi Sen Path south of Princess Margaret Road are 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. As the completion date of part of pipe-piling works was deferred due to limited working space, it has resulted in a delay of about 4 months for the subsequent works. MTRCL and the contractor have been adjusting the construction sequence, and, where practicable, multiple activities are carried out 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)

20. 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 within Victoria Harbour. The contractor started constructing the temporary marine cofferdam at Hung Hom landfall in the second quarter of this year to prepare for the future excavation and tunnel construction works. Also, at the immersed tube casting yard in Shek O, the reinforcement bending yard and the barging point are in operation. The concrete batching plant there for the construction of the immersed tube tunnel units would commence operation soon. Progress is as planned.

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

21. The advance works for the Hong Kong Island Section is in progress while the re-provisioning of Wan Chai Swimming Pool has substantially completed. Upon opening of the new swimming pool in October 2015, the old swimming pool would be demolished for the subsequent construction of Exhibition Station and re-provisioning of the Harbour Road Sports Centre. Meanwhile, the modification works for the foundation of flyovers and box culverts diversion at the

Tunnel Approach Rest Garden continue.

22. The advance works for the railway tunnels, including ground stabilization, ground investigation and underground utilities diversion, are underway along the tunnel alignment and at the portal area of Cross-Harbour Tunnel, Wan Shing Street, Wan Chai Sports Ground and the ex-Wan Chai West Preliminary Treatment Works. The current progress is satisfactory. The two railway tunnels running from the Causeway Bay Typhoon Shelter (“CBTS”) to Exhibition Station, and Fenwick Pier Street work site, which is to the west of Exhibition Station, to Admiralty Station will be constructed with TBM. Launching shafts have to be constructed prior to the tunnel excavation works for transporting components of the TBM to the bottom of the shaft where the TBM will be assembled for excavation. The two launching shafts of the Island Section will be located at 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 section between CBTS and Exhibition Station. Construction of diaphragm walls for the launching shaft at Fenwick Pier Street work site is also underway.

23. With the progressive implementation of the project, the demolition of the existing Police Officers’ Club (“POC”) adjacent to the temporary reclamation area have started so as to make way for the construction of ventilation facilities for the tunnel of the Hung Hom to Admiralty Section of SCL. Upon completion of the project, the POC, which will integrate with the railway tunnel ventilation system, will be re-provisioned at its original location.

24. Construction of Exhibition Station at the ex-Wan Chai Ferry Pier Public Transport Interchange continues. The works include ground investigation, utilities diversion and construction of diaphragm walls. 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.

25. Regarding the large metal object found on the seabed within the reclamation area under Wan Chai Development Phase II (WDII), Civil Engineering Development Department (“CEDD”) relocated the object to a neighbouring seabed area of the reclamation site in June this year. 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 area would be deferred by 7 months.

26. In addition, CEDD estimated that the handover date of the associated critical site areas adjoining the junction of Expo Drive East and Convention Avenue has a delay of 6 months as compared with the original programme because of the need to cater for the reclamation works under WDII of the CEDD, including the tunnel works of Central-Wan Chai Bypass (“CWB”) thereof. As the main construction works for Exhibition Station is further complicated by the heavy road traffic at Wan Chai North, there is a risk to the construction progress.

27. Based on the latest site handover schedule from CEDD and the enabling works at Exhibition Station mentioned above, HyD and MTRCL have explored delay mitigation measures to minimize the programme impact. It is anticipated that **the overall 6-month delay to 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 deferred handover of work sites may also lead to additional construction cost.**

Conclusion

28. In view of the above assessments contained in paragraphs 8 to 27, it is estimated that the Tai Wai to Hung Hom Section of SCL may have a delay of about 11 months arising from the archaeological works, archaeological discoveries and conservation options for archaeological features at To Kwa Wan Station.

HyD will co-ordinate and oversee the construction of SCL so that MTRCL could try 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. For the Hung Hom to Admiralty Section, the commissioning date will be deferred to 2021** to allow flexibility for the topside development of the convention centre at Exhibition Station, to cater for the reclamation works under WDII including the construction of the CWB tunnel thereof, and the impact due to the large metal object found on the seabed within the reclamation area under WDII.

29. **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. **The review is expected to be completed in the first 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.

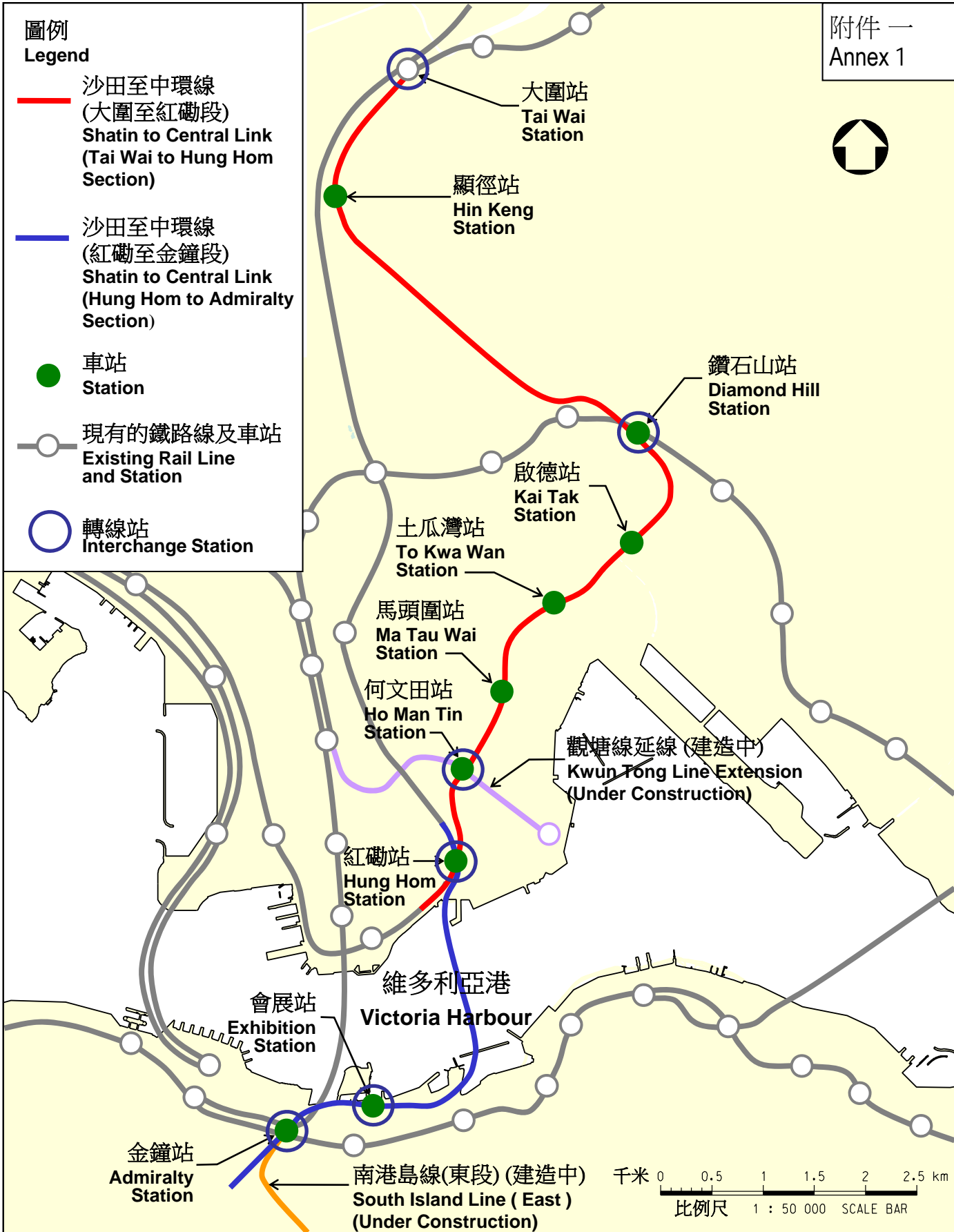
30. SCL is a major underground infrastructure project of a considerable scale. There are various difficulties and challenges encountered in the course of construction. It is unavoidable that there are deviations from the original plan for individual works contracts. MTRCL has adjusted its works procedures 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 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
November 2015**



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 30 September 2015)**

INTRODUCTION

This report aims to update Subcommittee members on the progress of Shatin to Central Link (“SCL”) as at 30 September 2015.

OVERVIEW OF THE SCL PROJECT

Cost and expenditure

2. Since mid-2012, 24 major civil and 25 major electrical & mechanical (“E&M”) contracts¹, together with other minor contracts, have been awarded with a total sum of \$54.903 billion. The contract sums for civil works and E&M works are about \$42.248 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, the commissioning of the East-West Corridor (“EWC”) and North-South Corridor (“NSC”) will be in 2019 and 2021 respectively.

Works progress

Overall progress

4. As at 30 September 2015, the overall works for SCL are 42% completed compared to the planned completion rate of 50% 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 is also measured against the original schedule. As reported before, the

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.

construction works were impacted 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 picking up and moving in line with the anticipated completion dates for EWC and NSC in 2019 and 2021 respectively.

5. With the continuous efforts of construction team, over half of the works of the EWC (56%) had been completed as at 30 September 2015. It is anticipated that EWC will complete in 2019. Despite that the planned completion rate against the original project target in 2018 is 67%, notable progress has been made in several areas below. These include:

- a. Two newly built stations, namely Hin Keng Station and Kai Tak Station, have been topped out and handed over from civil works to the fitting-out and E&M works;
- b. Two up-track tunnels from Ma Chai Hang to Diamond Hill, and Kai Tak to Diamond Hill have been completed. They would be ready for track works by November 2015; and
- c. Excavation works have made improved progress for the Lion Rock tunnel from Hin Keng to Ma Chai Hang following implementation of effective delay recovery measures. Excavation is nearly 90% completed and around 35% of tunnel lining works have also been completed.

6. While the NSC is at an earlier stage in the works cycle, a number of work fronts have already been opened up. It was 18% completed in overall terms as at 30 September 2015 compared to the originally planned completion rate of 22%. Key progress includes:

- a. Construction of pre-cast units would soon commence in the casting yard at the ex-Shek O Quarry for the immersed tube (“IMT”) to be used in 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. Launching shafts for tunnel boring machines (“TBM”) are being constructed on Hong Kong Island and the tunnel boring works are expected to commence in the 2nd quarter of 2016; and
- c. Foundation works for Exhibition Station commenced in August this year. To pave way for construction of the station, the Wan Chai Swimming Pool is being reprovisioned to vacate the land

for construction works. Construction of the new swimming pool has been substantially completed.

7. In addition to the SCL construction works, good progress is being made in associated improvement works for facilities for the operating railway, 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. New trains for both EWC and NSC have begun to arrive in Hong Kong in batches, starting from September 2015. Following comprehensive testing, the first new eight-car train is expected to enter service on the existing West Rail Line (“WRL”) in early 2016, which will increase the carrying capacity to bring more comfortable and convenient journeys to passengers. Modification and extension works of the existing Pat Heung Depot have also entered the final stage and is expected to complete by end of this year.

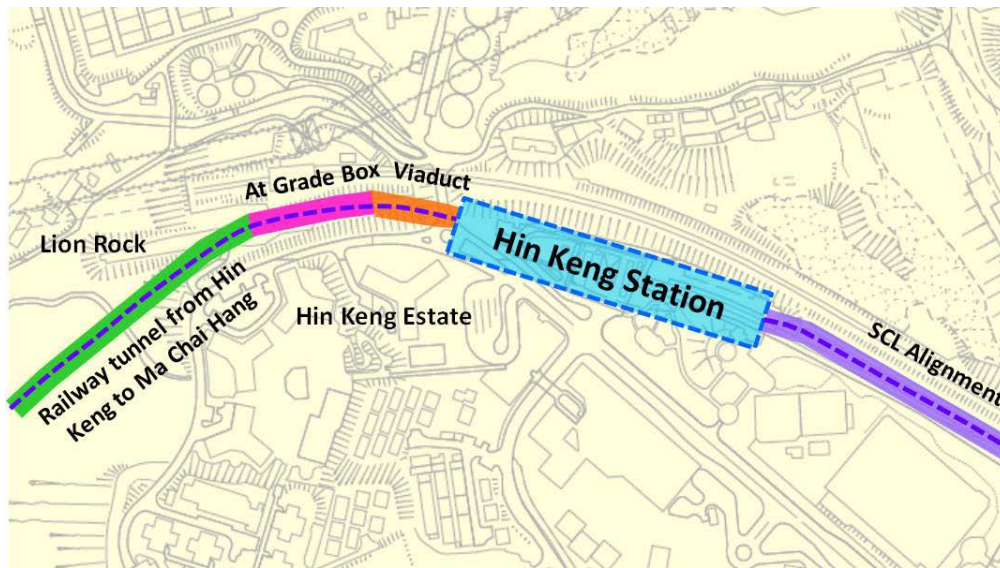
Progress in different sections

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. Structural works for Hin Keng Station were substantially completed and topped out in April this year. The fitting-out and E&M works are in progress. Track works for connecting the existing track of Ma On Shan Line and Hin Keng Station also commenced in late August this year.



Location map of Hin Keng Station and associated tunnel structures

10. Over 30% of the viaduct structure has been completed. The excavation for the construction of the at-grade box tunnel and tunnel box structural works are on-going concurrently.



Hin Keng Station and part of the viaduct

11. For the railway tunnel from Hin Keng to Ma Chai Hang, a section of the tunnel between the at-grade structure and Lion Rock is being constructed by cut-and-cover method. Pipe piling works were completed in mid-May. Excavation and supporting works are being carried out.

12. The tunnel section inside Lion Rock is being constructed by drill and blast method. As previously reported, the tunnelling works are about two months behind the original schedule because of the complicated geological conditions under the Hin Keng portal area of Lion Rock. Effective mitigation measures have since been taken in the last few months such as increase in blasting charge and adjustment of the

construction process which successfully recovered some of the delays. As at 30 September 2015, nearly 90% of the Lion Rock tunnel was excavated and the excavation is expected to be completed by the end of November 2015. In order to speed up the works programme, permanent tunnel lining installation is being carried out concurrently. As at 30 September 2015, around 35% of tunnel lining works was completed.

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

13. The two tunnels from Diamond Hill to Ma Chai Hang, and Kai Tak to Diamond Hill are being constructed by TBM. The down-track TBM drive from Diamond Hill to Ma Chai Hang commenced in the third quarter of 2015. During the construction of the up-track tunnel, the TBM has encountered some areas of high clay ground condition, which accelerated the wear and tear of the cutter head of TBM and hence affected the progress of the excavation with TBM. The tunnel boring progress was about three months behind the original schedule, it is still within the float time built in for target completion. To draw on the experience of up-track construction and to secure the programme of the down-track TBM tunnel, the cutter head of TBM has been modified, along with improvements to the spoil handling systems to enhance excavation efficiency. The down-track tunnel is expected to be completed in the first half of 2016.

14. At Ma Chai Hang, excavation works for the ventilation shaft and the ventilation tunnel connecting to the Lion Rock tunnel are in progress with completion at around 90% and 16% respectively.



Excavation of ventilation tunnel in progress at Ma Chai Hang

15. Excavation works 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 are in progress. The major structural works for the adjacent Public Transport Terminus are expected to be completed in the first half of 2016.

16. Structural works for the expansion of Diamond Hill Station are in progress. Construction of the base slab for the station was completed in August this year.



Expansion works of Diamond Hill Station

17. Modification works continue at the existing Diamond Hill Station to pave way for transforming the station into an interchange station of the existing Kwun Tong Line and SCL. After the opening of a new lift and two escalators connecting the existing platform and concourse in September 2015, more new facilities including an external lift at Entrance A1 will be opened in phases as planned. The strengthening works for the external wall at the southern concourse of Diamond Hill Station were completed in June 2015. Construction for pedestrian subways connecting the existing Diamond Hill Station and the extended part is underway. To vacate an area for the construction works of pedestrian subways, a temporary traffic management scheme will be implemented at Lung Cheung Road in phases starting from the fourth quarter of 2015. A section of the westbound lane at Lung Cheung Road will be diverted towards the works site of the former Tai Hom Village. During the implementation period, the number of traffic lanes will remain unchanged.

18. The construction of the tunnel from Kai Tak to Diamond Hill is progressing well. After the up-track tunnel was broken through in March 2015, the down-track tunnel commenced in July 2015 and is expected to be broken through by mid-October of 2015.



Down-track tunnel from Kai Tak to Diamond Hill

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

19. The structure of Kai Tak Station was substantially completed and topped out in July 2015, while the structural works for the two station entrance adits are in progress. The structural works are expected to be completed in early 2016. The fitting-out, E&M and track works have commenced at the platform level of the station. Tunnel works between Kai Tak Station and To Kwa Wan Station are in progress. About 70% of the structure of the tunnel between Kai Tak Station and To Kwa Wan Station has been completed. A short section of mined tunnel beneath the archeological foundations of the Lung Tsun Stone Bridge has been excavated and lining works are ongoing.



Kai Tak Station Construction Site

20. As previously reported, the archaeological works at To Kwa Wan Station have contributed to a delay of at least 11 months to the programme of the Tai Wai to Hung Hom Section in accordance with the original target completion date of 2018.

21. The excavation works for To Kwa Wan Station are progressing well after the resumption of works in March 2015. The down-track tunnel from To Kwa Wan Station to Ho Man Tin Station is being constructed by the TBM, namely “Princess Wencheng”, and has reached 40% completion. The down-track tunnel is expected to reach Ma Tau Wai Station by the end of October 2015. In parallel, the TBM, namely “Princess Iron Fan”, was launched in September 2015 for the construction of the up-track tunnel.



Construction site of To Kwa Wan Station

22. Shaft excavation of the emergency access for the railway tunnels near Tam Kung Road is in progress with completion of about 50%.

23. At Ma Tau Wai Station, construction works for all the diaphragm walls of the station and entrance at Ma Tau Wai Road/To Kwa Wan Road Garden were completed in December 2014 and August 2015 respectively. The whole roof slab was completed in July 2015. It was followed by excavation to the concourse level. Sheet pile wall installation for the station entrances at Lok Shan Road and Kiang Su Street is in progress. Pipe piling for the ventilation shaft in front of To Kwa Wan Market has resumed following the completion of the associated utility diversion work. At Chi Kiang Street, the pipe piling work for the emergency access shaft was completed.



Construction site of Ma Tau Wai Station

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

24. Under SCL, two railway tunnels are being constructed to connect the existing EAL and WRL respectively. Pipe piling works underneath Chatham Road North and in the vicinity of Winslow Street have been completed. As at 30 September 2015, the overall works completion was 65%. Excavation and structural works of the tunnel have already commenced.

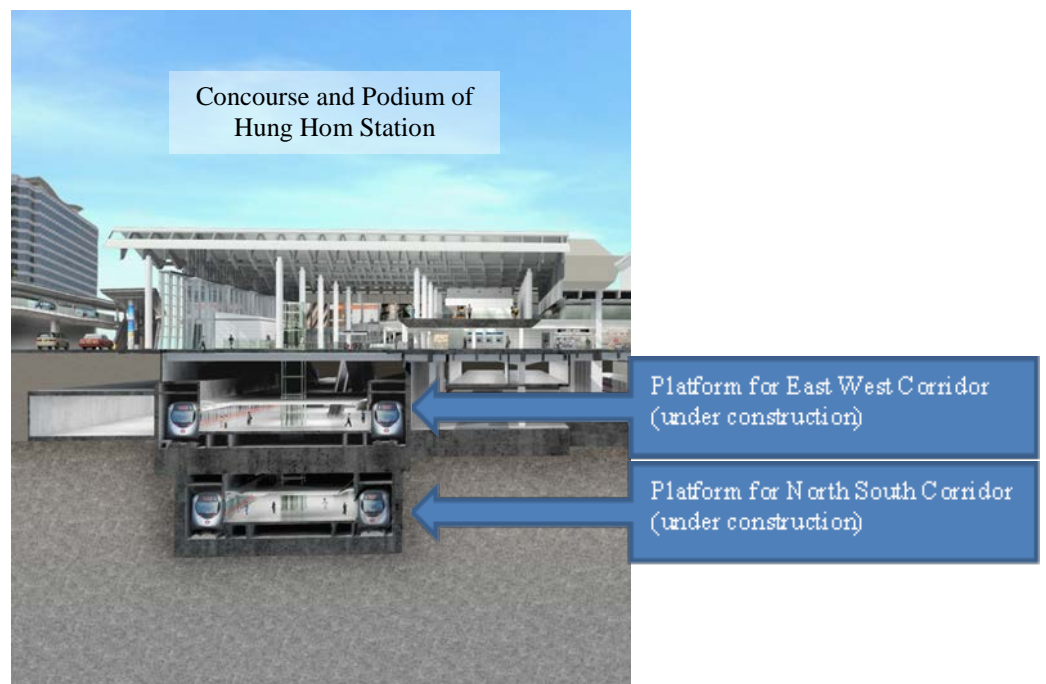


Tunnel excavation under Chatham Road North and near Winslow Street

25. For the future connection with the existing EAL, construction of a new section of tunnels and tracks with noise barriers near Oi Sen Path south of Princess Margaret Road is now underway. The foundations of the noise barriers are now being constructed, and the lifting and installation works of the noise barrier covers will commence in end 2015 or early 2016. As the construction site is in 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 to the existing railway service, as well as the impact on the existing foundations and underground utilities.

26. Hung Hom Station will become the interchange station of EWC and NSC of the SCL. To facilitate 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 at the southern concourse of Hung Hom Station and the structural works for the new mezzanine level are now being carried out. Refurbished southern concourse with new and modified facilities will be opened to the public in the second quarter of 2016. Subsequently, the northern concourse will be temporarily closed for the second stage of the modification works of concourse.



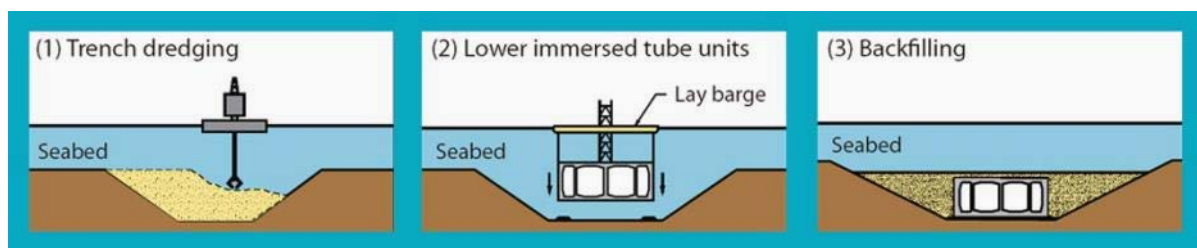
27. The construction of the diaphragm walls and foundation for the new platforms was substantially completed in July 2015. As previously reported, the works are about four months behind the original schedule due to the complicated geological conditions under the station podium, as well as limited space and height available for construction works. The contractor is striving to deploy additional manpower and special equipment 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.

28. 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)

29. 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 are now being carried out to build a temporary cofferdam. Afterwards, the excavation works for tunnel construction will commence.

30. 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

31. The casting yard for the IMT pre-cast units has been set up at the ex-Shek O Quarry. The barging point is now in operation. The operation of the concrete batching plant will commence soon. The construction of IMT pre-cast units will then follow. The IMT units are targeted to be towed to Victoria Harbour for installation in mid-2017.



Casting Yard of IMT Pre-cast Units

32. The trench dredging works for the section of IMT in Victoria Harbour near Hung Hom has commenced. 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 done after IMT installation.

33. The construction works near CBTS will commence in early 2016. Pipe pile walls will first be carried out to form a temporary wave barrier near the breakwater of CBTS. Afterwards, part of the existing breakwater will be temporarily removed and dredging works within pipe pile walls will follow to prepare for the IMT installation. This construction method has been consulted with relevant stakeholders.

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

34. To prepare for the tunnel boring works on Hong Kong Island, launching shafts are now being constructed at the temporarily reclaimed land at CBTS and at the Fenwick Pier Street works site for the TBMs, namely “Athena” and “Zhi-nu”. The first TBM for the eastern tunnel drives will be delivered via sea route to the temporarily reclaimed land at CBTS in the first half of 2016 and the tunnel boring works will follow.

35. The Police Officers’ Club at Causeway Bay has been occupied as the works area since August this year and the building is now being demolished. 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.

36. Preparatory works for tunnel boring including diversion of underground utilities, bridge underpinning, pile investigation and ground stabilisation works are now on-going along the tunnel alignment which passes through Tunnel Approach Rest Garden, Wan Shing Street, Wan Chai Sports Ground and the former Wan Chai West Preliminary Treatment Works.

37. In Wan Chai North area, construction works for the diaphragm walls of Exhibition Station at the former PTI commenced in August this year. 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.

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

39. Regarding the large metal object found on the seabed within the reclamation area under Wan Chai Development Phase II (WDII), Civil Engineering Development Department (“CEDD”) relocated the object to a neighbouring seabed area of the reclamation site in June this year. 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 area would be deferred by 7 months.



Location map of Exhibition Station and associated tunnels

40. In addition, CEDD estimated that the handover date of the associated critical site areas adjoining the junction of Expo Drive East and Convention Avenue has a delay of 6 months as compared with the original programme because of the need to cater for the reclamation works under WDII of the CEDD, including the tunnel works of Central-Wan Chai Bypass (“CWB”) thereof. As the main construction works for

Exhibition Station is further complicated by the heavy road traffic at Wan Chai North, there is a risk to the construction progress.

41. 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 continue to closely communicate with relevant government departments, with a view to closely monitoring the latest situation of the site handover and to minimising the risks of delay. It is anticipated that the delay in the completion of the Exhibition Station as well as the Hung Hom to Admiralty Section will remain, i.e. six months behind schedule.

42. To vacate space for the construction of Exhibition Station, the current Harbour Road Sports Centre and Wan Chai Swimming Pool need to be reprovisioned. The construction of the reprovisioned Swimming Pool was substantially completed in September 2015. Familiarisation for professional training groups, final testing and commissioning are underway. Upon the opening of the new Swimming Pool, the existing swimming pool will be demolished and construction of the new Sports Centre and Exhibition Station will follow.



The reprovisioned Wan Chai Swimming Pool is substantially completed

IMPROVEMENT WORKS FOR THE OPERATING RAILWAY FACILITIES

43. Modification works including extension of platforms and roofs are being carried out at stations along MOL to facilitate the 8-car train operation of the EWC. The works commenced in 2012 and are about

93% completed. The modification works are expected to be substantially completed by 2016. The retrofitting works of Automatic Platform Gates (“APG”) for MOL are underway at Tai Wai Station and the works have been completed at platform 4 at Tai Wai Station toward Wu Kai Sha. The retrofitting works of APG at Sha Tin Wai and City One Stations also commenced in mid-September 2015. The Corporation is committed to completing the retrofitting works of APGs in the stations of MOL in 2017, one year earlier than originally scheduled.

44. The retrofitting of APGs will also be carried out along the EAL. 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. The platform strengthening works is now underway in phases along EAL stations. Construction of equipment rooms for the signalling and communication systems in EAL stations is also in progress. The equipment room construction at Sha Tin, Racecourse and University Stations was completed and relevant signalling equipment works are on-going. 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.

45. New trains for EWC and NSC are being delivered to Hong Kong in batches starting from September this year. Stringent and integrated tests are in progress in the Pat Heung and Ho Tung Lau Depots. After this, on-track dynamic testing will be conducted at the existing running lines including WRL and EAL starting from the fourth quarter of 2015. Initial testing will be carried out during non-service hours to avoid disruption to the existing railway service. In addition to the new train-cars, some of the existing train-cars will be reconfigured and modified to serve for the future 8-car train operation of EWC. New facilities such as dynamic route map and gangway end displays will be added. The first new eight-car train is expected to be ready for passenger service on the existing WRL in early 2016.

46. Modification and extension works of the existing Pat Heung Depot are being carried out. The extension of Maintenance Building and Ancillary E&M Plant Building was completed and put into operations. Other modification works including track-laying works and overhead line cable laying works are in progress and expected to be completed by the end of this year.

STAKEHOLDER COMMUNICATION AND ENGAGEMENT

47. 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.

48. Apart from the regular progress updates to the Subcommittee members, the Corporation also maintains close dialogues with District Councils (“DC”). There are regular updates on works progress and key issues at the DC meetings of respective districts. Consultation, briefings and site visits have also been arranged for DC members to facilitate better understanding of the construction works and relevant temporary traffic arrangements.

49. A 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. A total of 60 meetings have been conducted so far across different sections of the SCL. Newsletters, leaflets and notices are also distributed to the local communities to provide updated and necessary information about the SCL.

50. To facilitate closer communication with residents and shops owners in different districts, Community Liaison Officers and the construction teams of the Corporation proactively visit the shops and nearby residents to address any concerns they have in a timely manner. Dedicated MTR and Contractors’ Hotlines are established for handling any enquiries and complaints in relating to the project. An SCL Information Centre has also been set up in To Kwa Wan since October 2012 and over 900 enquiries have already been handled.

EMPLOYMENT OPPORTUNITIES

51. As at 30 September 2015, about 6,800 construction workers and technical/ professional staff members are employed for the SCL project. It is estimated that the project manpower figure will increase to around 8,200 when construction reaches its peak in the fourth quarter of 2015.

52. Since the commencement of the construction, works sites of SCL have seen labour shortage of about 20% across different skill sets. This 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

53. Members are invited to note the above information.

MTR Corporation Limited
November 2015

Expenditure report as at 30 September 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	42,247.7	20,571.5	1,217.6
E&M works	12,655.1	1,689.1	0.0
Total	54,902.8	22,260.6	1,217.6

* The estimated amount of unresolved claim: Amount claimed (\$1,340.4 million) – Interim award (\$122.8 million) = \$1,217.6 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	236	1340.4	122.8
E&M works	5	0	0	20	0	0
Total	19	31.9	20.2	256	1340.4	122.8

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 30 September 2015, the Corporation received 275 substantiated claims and the amount claimed in total was about \$1,372.3 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 30 September 2015, 19 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 \$122.8 million was made for some cases.

Overall works progress of the SCL as at 30 September 2015

Overall works completed : 42%

Percentage completed as originally planned⁽¹⁾: 50%

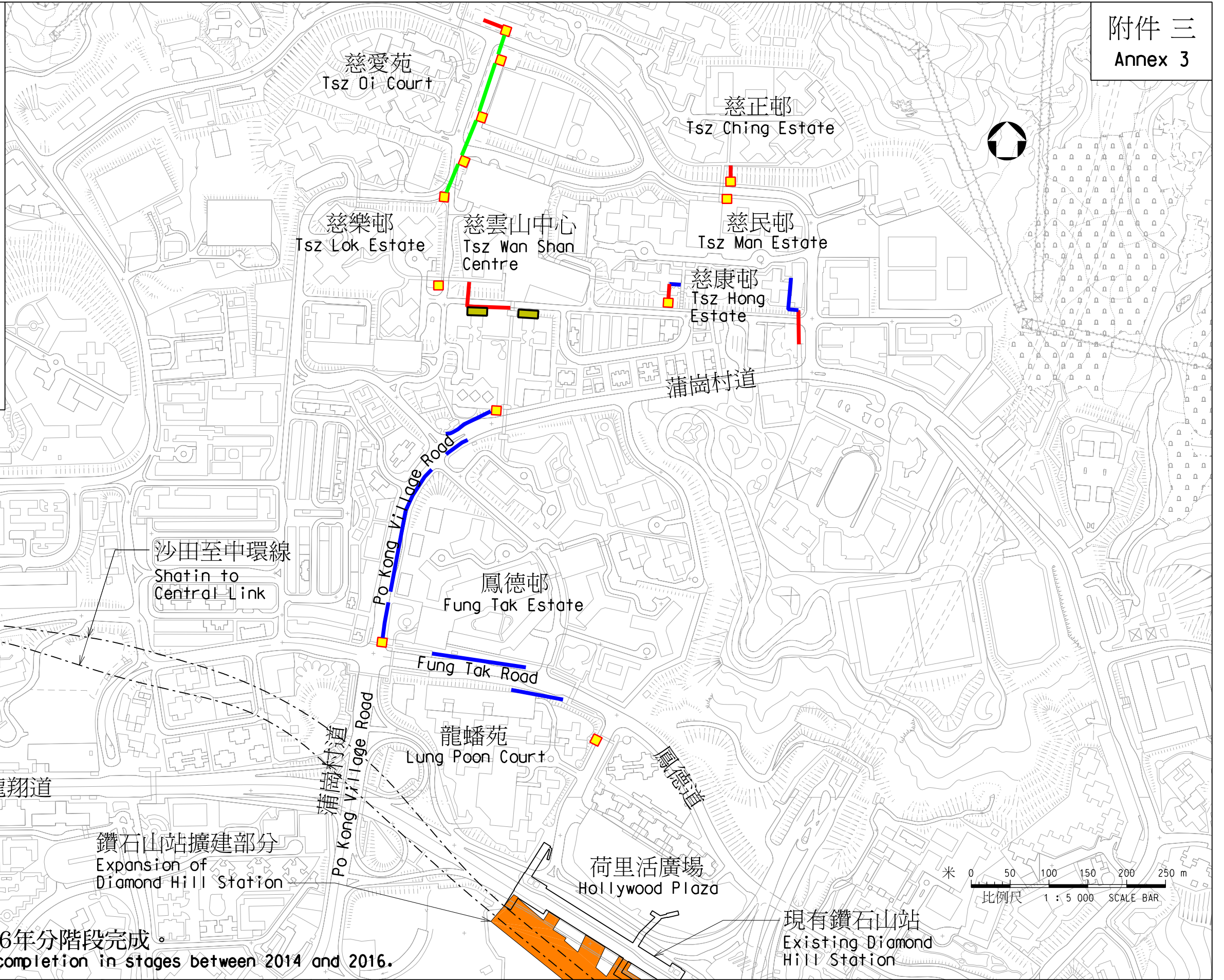
Culminated progress of major civil contracts awarded :

Contract No.	Contract Name	Percentage completed
1101	Modification of Ma On Shan Line	93%
1102	Hin Keng Station and Approach Structures	79%
1103	Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange	71%
1106	Diamond Hill Station Extension	63%
1107	Diamond Hill to Kai Tak Tunnels	91%
1108	Kai Tak Station and Associated Tunnels	83%
1109	Stations and Tunnels of Kowloon City Section	51%
1111	Hung Hom North Approach Tunnels	65%
1112	Hung Hom Station and Stabling Sidings	56%
1114	Pedestrian Links at Tsz Wan Shan	58%
11209	Platform Modification and Associated Works at East Rail Line	47%
1121	North South Line (NSL) Cross Harbour Tunnels	17%
1123	Exhibition Station and Western Approach Tunnel	2% ⁽²⁾
1125	Police Sports and Recreation Club Enhancement Works	100%
1126	Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool	64%
1128	South Ventilation Building to Admiralty Tunnels	14%
1129	SCL - Advance Works for NSL	99%

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 1123 was awarded on 15 January 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