

**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 March 2019)**

(Translation)

Introduction

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 31 March 2019.

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. There are ten stations in SCL. Apart from bringing improvements to the existing Tai Wai Station, the SCL project involves construction of new stations or extension of existing stations at Hin Keng, Diamond Hill, Kai Tak, Sung Wong Toi, To Kwa Wan, 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 entire SCL project is funded by the Government under the “concession approach”. The MTR Corporation Limited (“MTRCL”) is entrusted by the Government to carry out the construction of the project. On 18 February

2011, the Finance Committee of the Legislative Council approved the funding applications for “**63TR** – Shatin to Central Link – construction of railway works – advance works” and “**64TR** – Shatin to Central Link – construction of non-railway works – advance works” with a total of about **\$7,700 million** (in money-of-the-day prices). Thereafter, the Government and MTRCL entered into an agreement for entrusting to the latter the advance works of SCL at the expanded Admiralty Station and Ho Man Tin Station while implementing SIL(E) and KTE respectively. The advance works commenced in May 2011.

5. Regarding the main works of SCL, the Finance Committee of the Legislative Council approved the funding applications on 11 May 2012 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” with a total of about **\$71,400 million** (in money-of-the-day prices). Thereafter, the Government and MTRCL entered into an agreement for entrusting construction, testing and commissioning of the main works of SCL to the latter. The entrustment cost concerned is about \$70.8 billion. 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 for the main works of SCL, 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.

6. The Finance Committee of the Legislative Council approved the funding application for increasing the Approved Project Estimate of **63TR** by \$847.7 million from \$6,254.9 million to \$7,102.6 million at its meeting on 17 June 2017 for the additional fund required by the Government for the SCL advance railway works. The Approved Project Estimate for the entire SCL project is adjusted upward from the original estimate of \$79,800 million to **\$80,700 million**¹ (in money-of-the-day prices).

7. The Government received the revised cost estimate of the main works of the SCL project from MTRCL on 5 December 2017. MTRCL indicated a need of adjusting upward the entrustment cost of the main works of the SCL project,

¹ The Approved Project Estimate for the entire SCL project comprises (i) Protection Works (**58TR** Shatin to Central Link – construction of railway works – protection works and **59TR** Shatin to Central Link – construction of railway works – protection works in Wan Chai Development Phase II) of about \$700 million (in money-of-the-day prices); (ii) Advance Works (**63TR** and **64TR**) of about \$8,600 million (in money-of-the-day prices); and (iii) Main Works (**61TR** and **62TR**) of about \$71,400 million (in money-of-the-day prices). The total is about \$80,700 million.

from \$70.8 billion to \$87.3 billion, i.e. an increase of about \$16.5 billion. MTRCL considered that the main reasons for the increase in construction cost including the archaeological and conservation works at Sung Wong Toi Station, the additional expenses due to delays in the handover of work sites at Wan Chai north, and the station works required for allowing flexibility for the topside development at Exhibition Centre Station.

8. Since December 2017 when MTRCL submitted the revised cost estimate of the main works of SCL project, the Highways Department (“HyD”), in collaboration with the monitoring and verification (“M&V”) consultant, have held several meetings with MTRCL, and is reviewing rigorously the information given by MTRCL as well as the assumptions and basis of the cost estimate of works by MTRCL to ascertain whether there are sufficient justifications for the estimate. In view of the recent development of SCL project, the Government needs time to verify the facts and the condition of the works. Upon completion of the detailed assessment and review, the Government will apply for additional funds from the LegCo to continue with the SCL works.

Latest Progress of the Main Works

9. The progress report of the SCL project as at 31 March 2019 submitted by MTRCL is at **Annex 2**. Our analysis and supplement 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)

10. Building services works and electrical and mechanical (E&M) works at Hin Keng Station, the connecting elevated and at-grade tracks were completed and the relevant system testing inside the station was on-going. Construction of the Emergency Vehicular Access outside the station, diversion works for the underground utilities and road reinstatement works at Che Kung Miu Road were completed.

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

11. Building services works and E&M works of the two pedestrian adits, in the Diamond Hill Station and underneath Lung Cheung Road, connecting SCL and the Kwun Tong Line were completed. The relevant system testing and statutory inspections at the Diamond Hill Station continued. Reinstatement works for all the carriageways and footpath of Lung Cheung Road as well as the emergency access point at the junction of Wong Tai Sin Road and Sha Tin Pass Road were completed. The structure at the adjacent Public Transport Terminus was substantially completed and the associated access road construction was being arranged. The construction of the Ventilation Building at the former Ma Chai Hang Recreational Ground was completed and the relevant system testing was in progress.

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

Kai Tak Station

12. The building services systems, E&M systems as well as the statutory inspections at Kai Tak Station were substantially completed. Most at-grade footpaths outside the station were handed over to the relevant departments and opened for public use.

Sung Wong Toi Station

13. As we stated in the papers submitted to this Subcommittee and the Panel on Development in November 2014, due to the preservation in-situ of the remnants at and in the vicinity of Adit C connecting the station and Pak Tai Street (i.e. items 6 to 10 of the archaeological features at **Annex 3**), the entire alignment of the adit would be seriously affected. It would be necessary to identify a suitable alternative alignment. MTRCL awarded a works contract in July 2018 to study the alternative alignment of Adit C, including the archaeological investigation work along the alternative alignments. In other words, Adit C connecting the station and Pak Tai Street would hardly be completed at the same time as Sung Wong Toi Station. A temporary access at-grade would be required to connect the station entrance/exit. In case that suitable and cost-effective

alternative alignment could not be constructed eventually as a result of further archaeological discoveries or other constraints of on-site situation, residents in the vicinity of Pak Tai Street could still use the existing pedestrian crossing facilities at Sung Wong Toi Road to gain access to Sung Wong Toi Station (see **Annex 4**). MTRCL is also preparing to construct the addition of at-grade crossing at Sung Wong Toi Road and Tam Kung Road, which is adjacent to Pak Tai Street, for reducing the walking distance between the vicinity of Pak Tai Street and the station entrance/exit. MTRCL plans to temporarily close part of the Pak Tai Street with effect from the end of June 2019 for the commencement of archaeological investigation work. Upon completion of the preliminary study on the replacement of the alignment of the Adit C and other alternative scheme for connecting the station, MTRCL will consult the Kowloon City district council and relevant local community about to the relevant result of the preliminary study so as to ensure that the alternative scheme was as convenient as possible and could meet the residents' needs.

14. After completion of the archaeological investigation work in 2014, the construction works of Sung Wong Toi Station fully resumed in March 2015. Up to end-March 2019, the structural works, building services works and E&M works of the station were completed. Relevant system tests inside the station and the statutory inspections were underway. The fitting out works at the station entrances were also in progress.

To Kwa Wan Station

15. The structural works, building services works and E&M works of the To Kwa Wan Station were completed. Tests for the relevant system inside the station and the statutory inspections were underway. Fitting out works at the station entrances and ventilation building, and the reinstatement of underground utilities at Ma Tau Wai Road were also on-going. To cater for the underground construction works of To Kwa Wan Station, the traffic diversion had to be implemented for a section of Ma Tau Wai Road between Chi Kiang Street and Sheung Heung Road. Most of the section of Ma Tau Wai Road affected by the SCL works are operating in two-lane and two-way mode. It is expected that Ma Tau Wai Road will be resumed in three-lane and two-way mode in phases progressively starting from the fourth quarter of 2019.

16. Regarding the earlier incident about the removal of reinforcement bars from a platform wall at the To Kwa Wan station, we provided the details at a

special meeting of the Subcommittee on Matters Relating to Railways on 6 July 2018. Please refer to the paper submitted by the Government to the Sub-committee (LC Paper No. CB(4)1354/17-18(01)). MTRCL completed the reinstatement works according to the agreed reinstatement proposal in the first quarter of 2019.

17. The status of the settlement monitoring points near the To Kwa Wan Station was presented in details at the special meeting of Subcommittee on Matters Relating to Railways on 31 August 2018. Currently, the cumulative settlement of the affected facilities near To Kwa Wan Station, including buildings, public utilities and roads, does not exceed the pre-set or updated trigger levels. The MTRCL would continue to monitor these monitoring points. In view of the public's concerns, in January 2019, MTRCL launched the scheme "To Kwa Wan Station Community Care Programme" on a without prejudice basis for the provision of financial assistance through simplified procedures and practical means to the affected owners of building units in the vicinity of To Kwa Wan Station for repairing walls in their units.

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. E&M installation works adjacent to the railway track in the tunnel of the section from Ho Man Tin Station to Hung Hom Station were completed. For the tunnel section near Princess Margaret Road connecting the East Rail Line and the new platforms of Hung Hom Station, track laying works and E&M installation works adjacent to the railway track were substantially completed.

19. The Government attaches great importance to the incident of re-bar cutting at the platform of the Hung Hom Station Extension under the SCL project reported in end-May 2018 as it is related to public safety. The Chief Executive and the Executive Council appointed on 10 July 2018 a Commission of Inquiry ("Commission") which is chaired by Michael Hartmann, former Non-Permanent Judge of the Court of Final Appeal, under the Commissions of Inquiry Ordinance (Chapter 86) to carry out investigations on the facts and circumstances surrounding the construction works of the diaphragm wall and platform slab of Hung Hom Station Extension under the SCL project. The Commission would review the MTRCL's project management system and supervision system, etc. as

well as the monitoring and regulatory mechanisms of the Government, and would also suggest appropriate measures in order to promote public safety and assurance on the quality of works.

20. Since MTRCL has failed to submit comprehensive as-constructed records including the working drawings used during construction to ascertain the as-constructed condition and clarify the quality of works where there were honeycomb etc, the Transport and Housing Bureau (“THB”) and its Expert Adviser Team (“EAT”), relevant government departments, experts of the Department of Civil Engineering and the Department of Statistics and Actuarial Science of the University of Hong Kong (HKU) and MTRCL have held several meetings to discuss the solutions. The Government requested MTRCL to formulate a holistic strategy to verify the condition of the platform slab structure of the Hung Hom Station Extension.

21. After several discussions between the government and MTRCL, MTRCL submitted the proposed holistic assessment strategy on 4 December 2018. According to the MTRCL’s proposal, the holistic assessment will be conducted in three stages. For the first stage, the MTRCL will review the relevant construction records and the latest design amendment drawings. In the second stage, MTRCL will open up part of the East West Corridor and the North South Corridor platform slabs to verify the details of the rebar connections and whether the couplers and rebars are properly connected. In the third stage, MTRCL will conduct a comprehensive review and analysis of the structural safety and integrity of the entire Hung Hom Station based on the verification results of the first and second stages to ascertain if the overall structural integrity of the works is acceptable and determine if it is necessary to carry out strengthening works. On 5 December 2018, the Government accepted the proposed holistic assessment strategy submitted by the MTRCL regarding the platform slabs and diaphragm wall of the Hung Hom Station Extension under the SCL.

22. The opening-up of concrete and test under the second stage commenced on 10 December 2018. The relevant results have been uploaded to the Highways Department's website for the SCL project on a regular basis for reference by the public. On 29 January 2019, we observed a large deviation between the embedded length measured using Phased Array Ultrasonic Test (“PAUT”) and the direct measurement after cutting the rebar with the coupler connected. In response to the Government’s request, MTRCL investigated the issue with its technical team, carried out an in-depth study and improved the PAUT in order to

enhance its accuracy and reliability. MTRCL also conducted validation on the enhanced PAUT. During the investigation and validation process, the EAT of THB, the expert team from HKU, HyD and the Buildings Department (“BD”) also provided comments to MTRCL. The Government accepted the proposal submitted by MTRCL for the enhanced PAUT on 14 March 2019, and MTRCL resumed the tests on 15 March 2019 on the exposed couplers (including those previously tested and those not yet tested). On 29 April 2019, MTRCL confirmed the completion of the PAUT under the opening-up investigation in the second stage of the holistic assessment strategy for the Hung Hom Station Extension under the SCL project. All test results have been uploaded to the Highways Department's website for the SCL project (https://www.hyd.gov.hk/en/road_and_railway/railway_projects/scl/index.html) for reference by the public.

23. MTRCL has commenced the third stage of the holistic assessment strategy and targeted to submit the report to the Government and the Commission of Inquiry by the end of June 2019. In conducting the structural analysis under the third stage, the MTRCL would consolidate the test results found in the first two stages and use the information obtained such as as-constructed details of the platforms and quality of works, and taking into account the technical data provided by the coupler supplier, to ascertain the overall structural integrity of the works for the Hung Hom Station Extension. The EAT of THB, HyD and BD have been closely communicating with the MTRCL, discussing the technical details of the structural analysis and providing MTRCL with comments, trying their best to assist MTRCL in a timely submission of the report by the end of June 2019.

24. As a matter of prudence, other than the Hung Hom Station, the Government would check the major structural works of other stations of the SCL project to confirm if there are quality issues similar to those at the Hung Hom Station Extension. Under the supervision of the EAT of THB, HyD and the M&V consultant have reviewed the construction works of Tai Wai Station, Hin Keng Station, Diamond Hill Station, Kai Tak Station, Sung Wong Toi Station and To Kwa Wan Station along East West Corridor under the SCL project focusing on the deficiencies of the records related to quality control of works and site supervision. Government has informed MTRCL of the initial findings and requested MTRCL to carry out an investigation into the deficiencies identified during inspection including incomplete construction records, for assessing the potential implications, and proposing remedial actions. Besides, MTRCL has voluntarily conducted an

internal audit on the major works of Tai Wai Station, Hin Keng Station, Diamond Hill Station, Kai Tak Station, Sung Wong Toi Station, To Kwa Wan Station and Ho Man Tin Station in order to review the situation of construction records of relevant stations and propose remedial actions for incomplete records.

25. The Government made a public announcement on 30 January 2019 that some of the works-related documentation of the North Approach Tunnels (NAT), the South Approach Tunnels (SAT) and the Hung Hom Stabling Sidings (HHS) were missing and some of the construction works involving deviations from the designs, plans or drawings accepted by HyD or BD might have been carried out. The Chief Executive in Council approved on 19 February 2019 the expansion of the terms of reference of the Commission of Inquiry under the chairmanship of Mr Michael Hartmann, former Non-Permanent Judge of the Court of Final Appeal, to inquire into the above issues.

26. The Commission submitted to the Chief Executive on 25 February 2019 the Interim Report of Commission of Inquiry into the Construction Works at and near Hung Hom Station Extension. Based on legal consideration, the Government released the redacted Interim Report on 26 March 2019 to avoid any prejudice (actual or perceived) to any ongoing criminal investigations and any potential prosecutions of any criminal offences in the future (if so decided to be justified after the relevant investigations).

27. The Commission conducted a preliminary hearing on 6 May 2019 in relation to the expanded part of the inquiry. The substantive hearing commenced on 27 May 2019 to take factual evidence, and would continue until 19 June 2019. In view of the expanded scope of the inquiry, pending for MTRCL to submit the related reports by 30 June 2019 and thereafter obtaining expert evidence, the Commission indicated in the preliminary hearing of 6 May 2019 that it might have to defer its submission of the final report to the Chief Executive to November 2019.

28. Regarding the issues announced on 30 January 2019 (see above paragraph 25), the Government sternly requested MTRCL to provide a detailed account of the case; review whether there are similar problems in other parts of the relevant contract; submit a holistic study to ascertain the as-constructed conditions; and assess the programme implications on the full or partial commissioning of the Tuen Ma Line. On 7 May 2019, MTRCL submitted a Verification Proposal of As-Constructed Conditions of the NAT, SAT and HHS to HyD. After

discussions with EAT, HyD and BD, MTRCL submitted a revised Verification Proposal to HyD on 15 May 2019. The Government accepted the Verification Proposal on 15 May 2019, and urged MTRCL to expedite the verification works in order to submit the corresponding report to the Commission by 30 June 2019. In the meantime, the EAT of THB, HyD and BD continue to closely communicate with MTRCL with a view to assisting MTRCL for submission of the report on time by the end of June 2019.

Hung Hom to Admiralty Section

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

29. The main works of the Cross Harbour Section were completed. The construction works of the ventilation building near the shore at Hung Hom was in progress. Track laying works and E&M installation works adjacent to the railway track inside the cross harbour tunnel commenced in April 2019. The overall progress of the cross harbour tunnel section is generally on schedule.

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

30. For the cut and cover Western Approach Tunnels from the west of Exhibition Centre Station to Fenwick Pier Street, the tunnel construction works for the down track tunnel box were on-going.

31. To facilitate the remaining construction works of the Exhibition Centre Station, temporary traffic management measures would continue in stages at Wan Chai North. The temporary traffic management measures near Convention Avenue, Fleming Road, Expo Drive East implemented in March 2019 would tentatively continue to late 2019 or early 2020, followed by another stage of temporary traffic management measures at the junction of Tonnochy Road, Harbour Road and Convention Avenue.

32. At the former Harbour Road Sport Centre (HRSC) and Wan Chai Swimming Pool sites, which were demolished to make room for the construction of Exhibition Centre Station, rock excavation towards the final formation level was in progress. Besides, results of the further ground investigation works at the

original HRSC showed that the actual rockhead level was higher than anticipated, thus requiring the need to excavate more rock, protracting the construction period and affecting the progress of the works.

33. After the erection of a section of the permanent footbridge at Convention Avenue connecting to Wan Chai Ferry Pier in November 2018, MTRCL scheduled the re-provision of the remaining section of the permanent footbridge and the demolition of the associated temporary footbridge in late 2019 or early 2020. By then, Convention Avenue would be temporarily closed for several nights for the construction of the relevant works.

34. To deal with a left-in pipe pile located at Fenwick Pier Street, MTRCL's contractor had carried out grouting works in the vicinity of the abandoned pile to replace the construction of part of the diaphragm wall there. MTRCL also completed the construction of a flood protection wall at the western approach tunnel under the atrium of the convention centre to cope with possible flooding risk due to the changes in the continuous diaphragm walls as mentioned above. Subsequent to the completion of the excavation works at the concerned location, risk of flooding is significantly reduced and the structural works for tunnels were underway. MTRCL previously indicated that given the issue of the left-in pipe pile, there would be a further 3-month delay to the progress of the SCL and an increase in construction cost.

35. The details about the settlement monitoring points in Wan Chai North were presented at the special meeting of Subcommittee on Matters Relating to Railways on 31 August 2018 as well as the subsequent quarterly progress update. According to MTRCL's monitoring data, the cumulative settlement of the affected facilities near Exhibition Centre Station, including buildings, public utilities and roads, does not exceed the pre-set or updated trigger levels. The updated pre-set trigger levels are listed in MTRCL's progress report (Enclosure III of **Annex 2**).

Conclusion

36. In view of the assessments as mentioned in paragraphs 9 to 35 above, 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 Sung Wong Toi Station from 2012 to 2014, the commissioning date of "Tai Wai to Hung Hom Section" is

deferred to end 2019. HyD has been coordinating and overseeing the construction of SCL. With the efforts of the construction team, the delay recovery measures implemented at the “Tai Wai to Hung Hom Section” have originally showed their effect. Hence, the target commissioning date of this section could originally be advanced to about mid-2019. However, due to the series of incidents related to the quality of works of the Hung Hom Station Extension revealed in May last year and associated investigation works, the target commissioning date will need to be further reviewed.

37. At the request of the Government, MTRCL is studying the feasibility and different proposals of partial commissioning of the East West Corridor of the SCL. The partial commissioning proposals should take into account the technical feasibility to commission part of the railway section, the capacity of the railway system, the modification to the signaling system, the compatibility of the road transport, etc. and there is no decision at this stage. The Government continues actively studying with the MTRCL and, in considering the proposals, will accord priority to practicability and railway operational safety for making and announcing a decision in due course.

38. Besides, owing to the incident of new signaling test at Tsuen Wan Line on 18 March 2019, MTRCL had immediately suspended the signaling test of all railway lines including East Rail and the new signaling system train test of the SCL Tuen Ma Line (TML) according to the instruction from its internal investigation panel. Subsequently, MTRCL, together with its Independent Safety Assessor and the Independent Software Assessor for the new signaling system, assessed the new signaling system and confirmed its safety. After that, MTRCL resumed the dynamic train tests for the new signaling system for the East Rail and planned to resume that for TML on 28 May and in the night of 10 June 2019 respectively. At the request of the Government, the MTRCL is studying different partial commissioning proposals for the SCL TML, in which the final completion date of the tests for the new signaling systems (affected by the incident) would be considered.

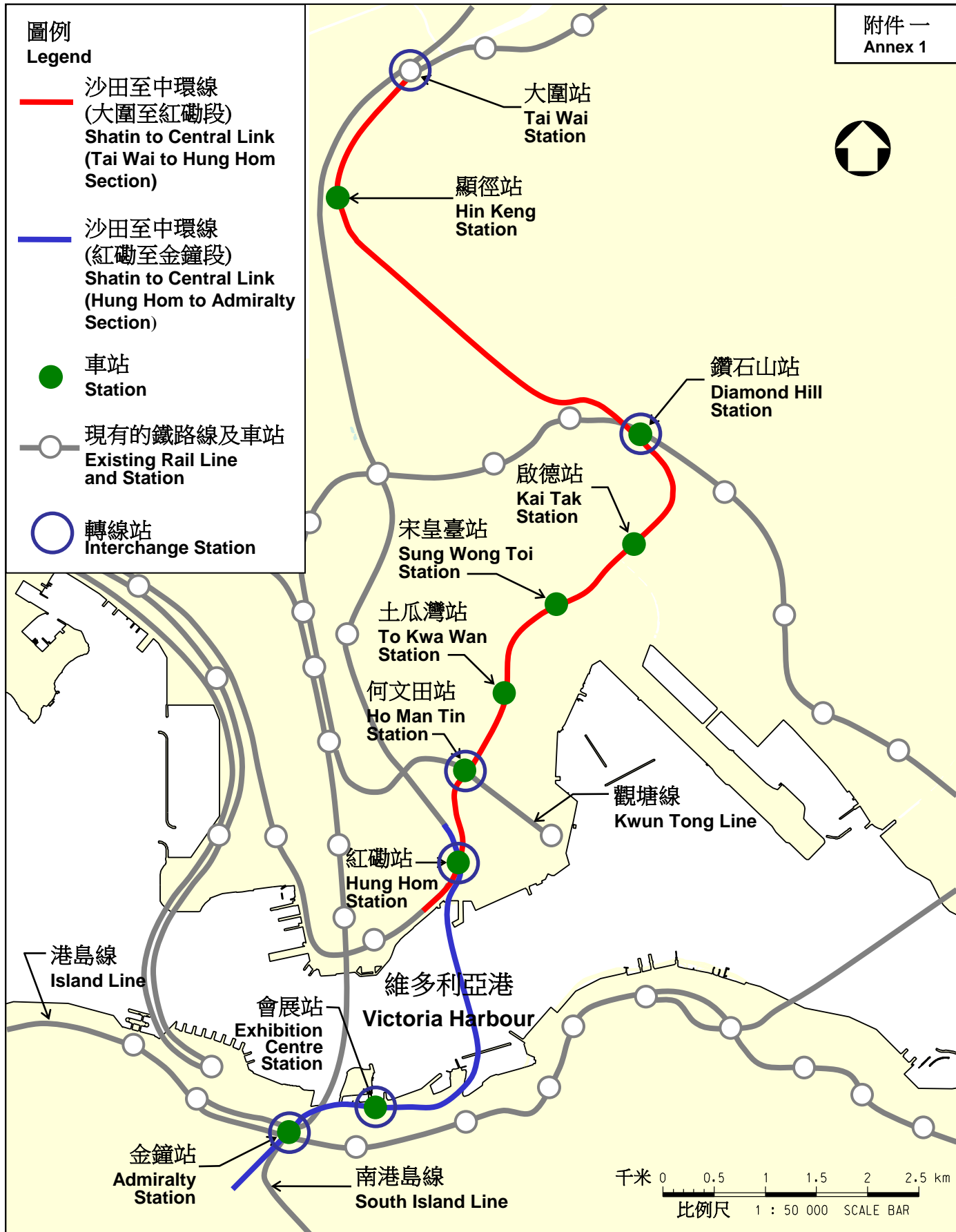
39. Given the impact of site handover arrangement under the WDII project, the complicated ground conditions below Exhibition Centre Station, the settlement issue leading to a suspension of the excavation works at the Exhibition Centre Station, as well as the allowance of flexibility for the construction of new convention facilities atop Exhibition Centre Station, the works progress of the Hung Hom to Admiralty Section have been affected. Whether the target

commissioning date could remain to be 2021 will be reviewed pending the final results of the holistic assessment strategy of Hung Hom Station Extension. We will continue to coordinate and oversee the construction of SCL so as to complete the works for commissioning the railway line as soon as possible.

Transport and Housing Bureau
Highways Department
June 2019

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



千米 0 0.5 1 1.5 2 2.5 km
比例尺 1 : 50 000 SCALE BAR

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-SK0465

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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 March 2019)**

INTRODUCTION

This report updates Subcommittee members on the progress of Shatin to Central Link (“SCL”) as at 31 March 2019.

OVERVIEW OF THE SCL PROJECT

Works progress

Overall progress

2. As at 31 March 2019, the overall works for SCL were 89% complete compared to the planned completion rate of 96% against the original project completion target in 2018 for Tai Wai to Hung Hom Section and 2020 for Hung Hom to Admiralty Section respectively (Please refer to Enclosure II for details).

3. Over 99% of the works of the Tai Wai to Hung Hom Section have been completed as at 31 March 2019, compared to the originally planned completion rate of 100%. Statutory inspections for various stations and railway facilities are being conducted progressively.

4. Hung Hom to Admiralty Section was 77% complete in overall terms as at 31 March 2019, compared to the originally planned completion rate of 91%. Connection works of all Immersed Tube Tunnel (“IMT”) units have been completed and track laying works commenced in April 2019.

5. A lot of work is being done to manage the construction issues related to SCL. Full or even partial opening of Tuen Ma Line (“TML”) will hinge on the situation at Hung Hom Station, including the connecting structures, which is subject to site verification and investigation by the Commission of Inquiry (“CoI”), while audit of the documentation at other

TML stations is also in progress. In addition, we also need to look into many technical factors including testing of the signalling system. We understand the public's concern on the timing of opening or potential phased opening of TML, and we are now in the final stage of finalising the relevant studies and assessment. We will continue to work with the Government on the matter.

6. Meanwhile, the Corporation is carrying out a feasibility study upon the request of the Government on opening the TML in phases. The study covers a number of complex technical and operational issues including the feasibility of making modifications to the signalling system and planned operational arrangements to accommodate train operations for a possible phased opening. We also need to investigate any consequential impacts on the services on existing railway lines and on full TML opening. As the critical signalling equipment and related cabling covering all stations along TML are located in the Hung Hom Station extension and its connecting structures, we need to carefully study the feasibility of relocating or rerouting the signalling equipment and cables.

7. As the opening of the Hung Hom to Admiralty Section is also linked to the opening of TML, we need to first conclude the TML programme before we could have a clearer picture on the target completion of Hung Hom to Admiralty Section. In addition, the programme for the opening of the Hung Hom to Admiralty Section may be influenced by any remedial works that might have to be carried out at Hung Hom Station extension. This will be determined in conjunction with the Government along with the holistic assessment of Hung Hom Station.

Progress in different sections

8. SCL comprises below six sections according to geographical locations.

(i) Sha Tin Section (Section of railway between Tai Wai Station and Ma Chai Hang in Wong Tai Sin)

9. Statutory inspections on civil, E&M, building and fire services installation works for Hin Keng Station were completed. For the tunnel section inside Lion Rock, overhead line fixing and E&M installation works were also completed. As to the above-ground works site at Hin Keng portal area of Lion Rock tunnels, relevant reinstatement works were

substantially completed. As previously reported, due to the complicated geological conditions under the Hin Keng portal area of Lion Rock, the progress of tunnelling works was once behind the original schedule. The tunnel was broken through in November 2015 after adopting a number of mitigation measures, such as increase of blasting charge, re-sequencing of works procedures and adoption of alternative tunnel lining formwork design which have proved to be effective to recover the delay.

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

10. As previously reported, the first Tunnel Boring Machine (“TBM”) drive from Diamond Hill to Ma Chai Hang encountered substantial amount of clay materials, which required additional cleaning and maintenance of the cutter head of TBM and more frequent changes of disc cutters. Changes to the disc cutter design and modification of cutter head and ancillary facilities were then adopted in the second drive which recovered some of the delay.

11. For the tunnels between Ma Chai Hang and Diamond Hill Station, track-laying works, overhead line fixing and E&M installation works were completed.

12. At Ma Chai Hang, structural works and architectural builder’s works and finishes (“ABWF”) of the ventilation building were completed. Statutory inspections were also completed in the first quarter of 2019.

13. The structural works, ABWF and buildings services works for the adjacent Wong Tai Sin Public Transport Terminus (“PTT”) were substantially completed. Inspection of the fire services installation at the PTT was completed in February 2019 with remaining statutory inspections to be finished in the second quarter of 2019. The design of the entrance / exit of lower deck of the PTT connected with Shatin Pass Road was revised as requested by relevant government departments. The corresponding temporary traffic management schemes are expected to be implemented at a later stage. Additional conduits and signage at coach parking area at the upper deck of the PTT will be required to suit its revised operation and management arrangements, subject to relevant government departments’ confirmation.

14. At Diamond Hill Station Extension, all statutory inspections for Diamond Hill Station Extension were completed in the first quarter of

2019. Meanwhile, modification works continue at the existing Diamond Hill Station to facilitate its transformation into an interchange station for the existing Kwun Tong Line and the future TML. Part of Entrance A2, which falls within the existing Diamond Hill Station boundary, was opened for public use in late February. At the other end, the new structure connecting the existing Entrance B with the station extension was substantially completed.

15. To cater for the development plan coordinated by the Housing Department, the two historical structures, namely the former Royal Airforce Hanger and Old Pillbox which were once stored within the site area of Diamond Hill Station, had been relocated to the future Water Feature Park of the Diamond Hill Comprehensive Development Area Site. The original temporary storage area within the site area of Diamond Hill Station will be handed over to relevant government departments in two phases in the second and fourth quarters of 2019 respectively.

16. For the tunnels between Diamond Hill and Kai Tak stations, trackside auxiliary, E&M installation works and statutory inspections were completed.

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

17. Fitting out, E&M works and statutory inspections at Kai Tak Station were substantially completed. The temporary footpaths connecting Kai Tak Station and the public roads in the vicinity were also substantially completed. With coordination and consensus with relevant government departments, the temporary footpaths connecting Muk On Street and Muk Yuen Street as well as Kai Tak Station Entrance A and Muk Chui Street were opened for public use in January and March 2019 respectively.

18. As mentioned in our previous reports, the archaeological works at Sung Wong Toi Station have once caused a delay of 11 months to the original programme of the Tai Wai to Hung Hom Section. A number of delay recovery measures in Kowloon City area, such as re-sequencing the works procedures, adjustment in site interface management, have been implemented to recover some of the delays.

19. Due to previous archaeological discovery at Sung Wong Toi Station, the adit connecting Pak Tai Street could not be constructed according to the original plan. A separate archaeological survey is needed

so as to identify a suitable alternative alignment for the construction of the adit. After obtaining the license for archaeological survey in January 2019, preparation works including temporary traffic management schemes designs and excavation permit applications, are in progress with a target to commence the archaeological survey in the second quarter of 2019. The survey will start at key locations i.e. the connecting ends at Pak Tai Street and the station. The survey, subject to the findings, may be extended to confirm the feasibility of an alternative alignment.

20. To provide an interim connectivity to Sung Wong Toi Station upon the commissioning of Tai Wai to Hung Hom Section, a feasibility study for a temporary at-grade crossing at Sung Wong Toi Road near Tam Kung Road was conducted and the design has been approved by relevant government departments. Preparation works for the temporary traffic management schemes design and excavation permits are underway. The construction works are targeted to commence in the third quarter of 2019 and to be completed by end of 2019.

21. For Sung Wong Toi Station, fire services inspection was completed and other statutory inspections are scheduled for the second quarter of 2019. The remaining external finishing for the five station entrances are also in progress.

22. The reinstatement works of Nam Kok Road footpath is expected to be completed in the second quarter of 2019. Construction of footpaths connecting Sung Wong Toi Station and the vicinity was substantially completed.

23. Fire services inspection for To Kwa Wan Station was completed and other statutory inspections will be carried out in the second quarter of 2019. The remaining fitting out works inside the station and external finishing works for the four station entrances at To Kwa Wan Market, Lok Shan Road, Kiang Su Street and Chi Kiang Street are in progress. Permanent reinstatement of the previously affected public utilities along Ma Tau Wai Road such as water mains, drainage and roads are being carried out in phases. The target completion date of these works on Ma Tau Wai Road hinges on the progress and development of each works phase.

24. Remedial works for the non-compliance at an internal wall adjacent to two staircases near the platform level in To Kwa Wan Station were completed in February 2019.

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

25. Structural works and track-laying works of the tunnel connecting Ho Man Tin and Hung Hom stations were completed. For the tunnel connecting the existing East Rail Line (EAL) to the extension of Hung Hom Station to form the cross-harbour EAL, structural works, track works and E&M installation works were substantially completed.

26. With the completion of all tunnel structures, all related temporary traffic management schemes along Chatham Road North, Winslow Street underpass slip road as well as Hong Chong Road slip road have been completed and re-opened for use. Reinstatement of Oi Sen Path walkway and amenity area were also completed and opened for public use.

27. E&M works, building services and fitting out works for the future TML platforms built under the existing Hung Hom station podium were substantially completed for testing and commissioning works. Stage three modification works of the existing station to accommodate future station re-arrangements, including ABWF works, building services provisions, as well as new escalators and lifts installations were substantially completed.

28. As previously reported, structural works, building services works, E&M works, track-laying and overhead line installation works of the stabling sidings at the former Hung Hom Freight Yard were completed and inspection on fire services installation was also completed.

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

29. To extend the existing EAL across Victoria Harbour to Hong Kong Island, a new cross-harbour rail tunnel has been built under the SCL project by the IMT method. With the IMT itself completed, track laying works commenced in April 2019.

30. Marine works in the Causeway Bay Typhoon Shelter (“CBTS”) for SCL have been substantially completed. To suit the schedule of the seabed improvement works in CBTS by other government infrastructure projects, moorings in CBTS will be reinstated in phases. The Corporation will continue to liaise with the Marine Department and relevant stakeholders to ensure that the mooring arrangement is well coordinated to minimise the possible impact.

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

31. For the tunnel section between CBTS to Exhibition Centre Station, E&M installation works are underway in the up-track tunnel.

32. At the works site of the former Police Officers' Club ("POC"), following the completion of foundation works and bulk excavation, relevant structural works are in progress.

33. At the Tunnel Approach Rest Garden near CBTS, reinstatement of the underground box culvert and underpinning of the Canal Road flyover were completed. Reinstatement of the rest area and recreational facilities has commenced and expected to be completed in 2020.

34. For the tunnel on the western side of Exhibition Centre Station, following tunnel breakthrough for SCL platforms at Admiralty Station and completion of tunnel lining works, track laying works are targeted to commence in mid-2019. Preparation works for track laying and overhead line installation are now underway.

35. In Wan Chai North area, construction works for Exhibition Centre Station and the relevant railway facilities are underway. Excavation at all works sites has passed through the risk zones of potential wartime bomb discovery, including the former Wan Chai Swimming Pool and former Harbour Road Sports Centre works sites where unexploded wartime bombs were discovered previously. Bulk excavation works are expected to be completed in the first half of 2019. The Corporation will further review the impacts of the discoveries of the wartime bombs as well as the subsequent temporary suspension of relevant excavation works on works progress. Temporary traffic management schemes are being implemented in the area in stages to facilitate the construction works.

36. At locations where excavation has been completed, remaining foundation works, including the piling works to facilitate the station entrance and nearby facilities, are being carried out. As unexploded bombs were discovered in the vicinity previously, the project team will continue construction works in a prudent manner to uphold safety and to minimise risks. In the meantime, structural works for the Exhibition Centre Station including the construction of base slab and station concourse are being carried out progressively.

37. Subject to works progress, the reinstatement works for the footbridge across Convention Avenue is expected to be completed in late 2019 or early 2020. The existing temporary footbridge will be dismantled after the opening of the new footbridge.

38. As reported previously, the construction works were previously affected by various factors, including the delay handover of critical works areas under the Wan Chai Development Phase II (“WDII”) project in Wan Chai North, the need to allow flexibility for the convention facilities above Exhibition Centre Station, as well as the uncompleted construction works of a section of diaphragm wall cofferdam entrusted to WDII. These entailed additional construction cost and have generated a delay of nine months in the completion of Exhibition Centre Station. With the mitigation measures being implemented, some of the delay caused by the above factors could be recovered.

39. The 900-metre overrun tunnel, extending southwards from the SCL platform at Admiralty Station for future train regulation is structurally complete. Building services as well as track laying works are on-going. Reinstatement works are in progress at Hong Kong Park works site, while structural works of the Hong Kong Park Ventilation Building are being carried out and expected to be completed in mid-2019.

40. The internal structural works, architectural finishes and building services installation works for the extended Admiralty Station are in progress.

QUALITY AND SAFETY OF SCL CONSTRUCTION WORKS

Verification of platform slab at Hung Hom Station extension

41. Safety and quality of railway projects have always been the top priorities of the Corporation and safety to the public and site workers had at no time been compromised. After allegations of poor workmanship, in order to provide assurance to the public’s concerns on the structural safety of the platform slabs of Hung Hom Station extension, the Corporation has engaged external consultants to develop a set of measures to test and verify the integrity of the platform slab. In December 2018, the Government accepted the Corporation’s holistic proposal with a three-stage approach to verify if the as-built conditions of

the platform slabs are consistent with the latest design drawings received as well as the workmanship quality of the coupler connections.

42. Stage One of the staged approach, i.e. to compile the design amendment drawings and construction record, has been completed. For the Stage Two non-destructive tests, the Corporation suspended the Phased Array Ultrasonic Test (“PAUT”) in late January 2019 when some discrepancies were found between the results of PAUT and the actual measurement of the engagement of the steel bars inside the couplers.

43. After a detailed review on the methodology and the application of PAUT, enhanced testing procedures were accepted by the Government in mid-March 2019 and testing resumed in March to re-measure all previously tested couplers, as well as other couplers not yet tested.

44. Stage Two verification works were substantially completed in end April. According to the PAUT measurement results in Stage Two verification, varying lengths of coupler engagement are observed. A total of 152 steel bar samples i.e. around 80% of the total number of samples, recorded an engagement length above 37mm. Of the remaining 20%, about 17% of them are engaged by over 32mm. All information obtained in the first two stages, such as as-constructed details of the platforms and information on quality of works are being taken into account in the Stage Three assessment on structural integrity and safety of the works for the Hung Hom Station extension. Whether any follow-up action is required will also be considered in this assessment.

45. The Corporation welcomes the interim report of the CoI into the Construction Works at and near the Hung Hom Station Extension, which was released by the Government on 26 March 2019. The CoI has made a clear determination that the diaphragm wall and platform slab construction works are safe and finds no rebuilding or strengthening of the works to be necessary. The CoI is also satisfied that there was no extensive or systematic cutting of the threaded ends of rebars.

46. The Corporation also welcomes and recognises the other findings and recommendation in the interim report. Many of these recommendations are in line with the findings of the review conducted by the Capital Works Committee (“CWC”) under the MTR’s Board of Directors aided by an external consultant. The Corporation has already started to implement these recommendations and a special taskforce has been set up to monitor implementation progress. Details are set out in Paragraph 51.

Construction works of the structures connecting to Hung Hom Station

47. As previously reported, the Corporation received from the Contractor, Leighton Contractors (Asia) Limited (“Leighton”), the as-constructed drawings on construction works connecting to the Hung Hom Station, namely the North Approach Tunnel (“NAT”) and South Approach Tunnel (“SAT”). The Corporation issued Non-conformance Reports (“NCRs”) to Leighton in respect of missing Request for Inspection and Survey Check (“RISC”) forms relating to NAT and SAT in April 2018. In late 2018, similar issue was identified at Hung Hom Stabling Sidings (“HHS”). To date, some of these RISC forms are still missing even after the as-constructed drawings have been received. The Corporation is very disappointed with Leighton for failing to keep and submit the required records, and we reserve our legal rights to seek redress.

48. In view of the information gaps found in the construction records, the Corporation has reviewed the as-constructed conditions of NAT and SAT by checking the as-constructed drawings against relevant construction records and evidence. The same exercise is being done for the HHS and for this latter area it is target to complete the review by end June 2019. A report will be submitted to the Government as soon as possible. After review by the Government, the final report will be submitted to CoI.

49. At the same time, the Corporation is carrying out an audit of the key documentation in other SCL stations. The check is substantially completed and shows that overall 90% of the structure related RISC forms are available, while supporting materials including photographic records and site diaries are being reviewed for the remaining 10%.

Review conducted by CWC

50. The CWC under the MTR’s Board of Directors has been reviewing the Corporation’s Project Integrated Management System (“PIMS”) and other related factors to provide recommendations on the improvement of SCL and future projects. The external consultant appointed by the CWC to undertake the review submitted an interim report with a number of recommendations. While some of the recommendations are strategic in nature having long term implications on the organisation set-up and contract strategy for future projects, the Corporation has taken prompt

actions for those short-to-medium term recommendations that can fulfil the continuing need of SCL in quality management.

51. In light of the recommendations, the Corporation has implemented a number of measures over the past few months, including:

- i. Strengthening project management
 - The project integrated management policy under PIMS has been revised to more clearly set out management principles and behaviours;
 - A specific SCL Project Quality Management Plan has been prepared to act as a guide to the quality expectations within PIMS;
 - NCRs are re-categorised with a new management protocol to enhance site supervision and works tracking;
 - A digital central NCR database has been established and will be extended to include the NCR issued by Contractors to their sub-contractors.
- ii. Organisation Revamp
 - Following the review, the QA Team under the Projects Division will be retained as the first line of assurance on implementing PIMS. To further enhance governance, an Independent QA Team having a formal and independent line of reporting to the Engineering Division on the quality assurance management and processes on site will be introduced. External recruitment of quality engineers is in progress;
 - In the meantime, the strength and expertise of the team has been bolstered with seconded QA staff.
- iii. Commercial & Contract Strategy
 - Recommendations will be implemented on future MTR projects.
- iv. People & Capability
 - The first phase of specific training on quality management has been delivered to MTRCL and contractors' site teams;
 - Internal communication on site quality issues has been enhanced. Quality issues will also be included in toolbox talks with an aim to monitor staff competence on site;

v. Quality Planning and Reporting

- Review and enhance the planning for “hold point” and “quality control point” arrangements.

vi. Tools & Technology

- Digital smartphone applications have been launched since January 2019 to the key SCL live civil contracts for capturing data of site-based communication as well as site supervision and inspection to provide more robust traceability and governance. These are being further developed and will be rolled out more extensively.

Measures taken to address the settlement issue adjacent to SCL stations

52. The Government has announced in September 2018 a notification mechanism on the monitoring of the structures and public facilities in the vicinity of the SCL works, with a view to providing timely information to the public when the monitoring data in relation to relevant structures and public facilities have reached the settlement trigger values. The Corporation is working closely with the Government in accordance with the mechanism.

53. Enclosure III shows the most recent information on the monitoring levels, the data at monitoring points where the pre-set trigger levels were reached or exceeded, and where pre-set trigger levels for temporary suspension of works have been updated.

54. The excavation works for Exhibition Centre Station resumed in September 2018. Since then, no monitoring readings have reached or exceeded the pre-set trigger levels. The project team will continue the works in a prudent manner with stringent monitoring over any impact on nearby structures and underground utilities to ensure safety. If settlement readings reach trigger level, appropriate follow-up actions will be taken.

55. For To Kwa Wan Station, Registered Structural Engineers were deployed to assess the safety conditions of the buildings which were reported to be affected by the settlement near the station works sites. The concerned buildings are confirmed to be safe.

56. The Corporation has funded a community care programme since January 2019 to provide financial support to the owners of the residential buildings near the construction sites of To Kwa Wan Station to carry out

the repair works. A professional building surveyor consultant has been appointed to administer and manage the execution of the programme.

TESTING OF NEW TRAINS AND SIGNALLING SYSTEMS

57. To facilitate the future operation of the extension of EAL to Hong Kong Island, 37 sets of new trains are being delivered to Hong Kong in batches. Stringent testing and commissioning for the delivered new trains are underway at Ho Tung Lau Depot. Dynamic testing has been in progress at the existing EAL during non-service hours since December 2015. New trains are equipped with new features including dynamic route map and gangway end display system. The locations of the doors of the new trains are also improved by being evenly spaced along the trains, bringing more convenience to passengers when alighting and boarding.

58. All 17 sets of new trains for TML have been delivered to Hong Kong in November 2018.

59. Apart from the procurement of new trains, some of the existing train cars on Ma On Shan Line (“MOL”), West Rail Line (“WRL”) and EAL have to undergo modification and reconfiguration to form the 8-car train fleet for the TML together with the newly procured train cars. All 15 4-car MOL trains have been upgraded to 8-car trains, doubling the overall carrying capacity on MOL. Conversion of 7-car WRL trains to 8-car trains has also been completed in May 2018.

60. To facilitate the future operation of the TML, testing of new trains and other railway systems has been carried out at various sections of the TML, including the existing WRL and MOL. Dynamic testing and reliability testing of new trains was completed in January 2019. Meanwhile, sectional integrated tests of other railway systems including passenger information systems are underway.

61. Since the EAL signalling replacement works commenced in the third quarter of 2015, the installation of the equipment in trains and at trackside along the EAL has been substantially completed. Dynamic testing of the new signalling system commenced by sections since October 2016 and was extended to the full line of EAL in March 2018. Reliability testing is now being carried out along the EAL. In the final stage of the reliability testing, normal train operation patterns including

that of peak period will be simulated at some nights to ensure a smooth operation of the new signalling system and trains in the future.

62. To avoid impact on day time train service, the signalling tests are conducted during non-service hours and hence may have some noise impact on residents nearby. The new trains were equipped with better noise-reduction features. During the tests, mitigation measures such as restriction of the number of trains in night test would be in place as appropriate to minimise the possible noise impacts as possible. The Corporation will continue to communicate with the residents nearby and keep them updated on the information about the night tests.

63. Since the incident on the Tsuen Wan Line (“TWL”) on 18 March, all train tests for all new signalling systems were suspended immediately. For prudence’s sake, tests related to the new signalling system for the EAL were also temporarily suspended pending a comprehensive review, despite the fact that the new signalling system design for the EAL is different to the new signalling system of TWL. During the suspension period, the contractor of signalling system has completed a review of the system and confirmed the system meet the safety requirement for the purpose of testing. As a further prudent measure, the contractor was asked to submit detailed assessment and conduct verification to further confirm that their system meet the safety requirements for testing before resuming dynamic tests of train operations. At the same time, an Independent Safety Assessor appointed by the Corporation has conducted a safety assessment, which has confirmed that the new signalling system meet international safety standards for dynamic testing. After reviewing the information submitted by the Contractor and confirming that the testing plans are safe, the dynamic train tests of EAL resumed in late May.

OTHER IMPROVEMENT WORKS FOR THE OPERATING RAILWAY FACILITIES

64. On the MOL, the retrofitting works of a total of 720 pairs of Automatic Platform Gate (“APG”) at all 9 stations is complete.

65. Retrofitting of APGs will also be carried out for the EAL. Before the commencement of this retrofitting works, platforms have to be strengthened and equipment rooms for the relevant signalling system and facilities have to be constructed. These preparatory works are substantially complete. Subsequent works including floor tiling and

defect rectification are underway. Because the locations of the doors of the existing trains and the new trains are different, in order to make the APGs along the EAL match with the new locations of the train doors, the retrofitting works will commence after the EAL is entirely operated by new trains.

66. As regards the replacement of 12-car trains with 9-car trains on the EAL, in view of passengers' concern on the carrying capacity of new trains, the new trains will be progressively launched upon the commissioning of Tai Wai to Hung Hom Section of the TML, which will divert some of the passenger traffic off the EAL. To facilitate the future operation of new trains and APGs, the existing signalling system of the EAL is being upgraded.

COSTS

Cost and expenditure

67. Since mid-2012, 28 major civil and 30 major electrical & mechanical ("E&M") contracts¹, together with other minor contracts, have been awarded with a total sum of \$57.750 billion. The contract sums for civil works and E&M works are about \$43.848 billion and \$13.902 billion respectively (Please refer to Enclosure I).

68. 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.

Cost control mechanism

69. The Corporation attaches great importance to the monitoring and cost control of railway projects. The Corporation has a robust governance framework and a set of stringent procedures governing procurement, contract administration and cost control of its projects, be it an ownership project or a concession project.

70. Under the Entrustment Agreements for concession projects, the Corporation is obliged to use the same management system and

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.

procedures that are applicable to all other MTR projects. For concession projects like the SCL project, there is also an independent rigorous monitoring and verification system in place conducted by the concerned Government authority and its consultants in addition to the Corporation's contract management and control procedure.

71. To enhance the control of expenditure, the Corporation has its Project Control Group ("PCG") as gate keeper, to scrutinise the assessments of variations and claims arising from consultancies and works contracts under the SCL project. Representatives from the Railways Development Office of Highways Department are invited to attend the PCG meetings.

72. Where the progress of works has been delayed, the Corporation would consider implementing delay recovery measures as appropriate. The proposals of delay recovery measures including the cost and benefits implications are required to be reviewed and approved by PCG.

Latest estimate of Cost to Complete ("CTC")

73. In December 2017, the Corporation announced that a detailed review of the estimated CTC for the main construction works of SCL has completed. This increased the estimate of the entrustment cost of the main works by \$16.5 billion from \$70.8 billion to \$87.3 billion. Since submission of this latest estimate to the Government, the Corporation has been liaising with the Government to facilitate their review and verification process. Taking account of various factors and further delaying events since the previous cost validation in December 2017, the Corporation intends to complete a further review and revalidation of the CTC within 2019.

STAKEHOLDER COMMUNICATION AND ENGAGEMENT

74. Most of the SCL works sites are in urban areas and close to local communities. We attach great importance to maintain close 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. Apart from the regular progress updates to the Subcommittee members and respective District Councils, Community Liaison Groups, which have been set up across districts, is another major

communication channel with the local communities where regular updates about SCL are provided. Newsletters, leaflets and notices about the works are distributed to the local communities. The SCL Information Centre in To Kwa Wan has also handled over 1,300 enquiries since October 2012. Meanwhile, dedicated MTR and Contractors' Hotlines are available for handling enquiries and complaints in relating to the project.

EMPLOYMENT OPPORTUNITIES

75. About 2,800 construction workers and technical / professional staff members are employed for the SCL project as at 31 March 2019, which in general could meet the labour requirement. This is lower than the number employed when the project was in its construction peak. Nevertheless, for sustainable development of the construction industry, the Corporation will continue the "SCL Contractors Cooperative Training Scheme" to attract new blood to join the construction industry. 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 a minimum 12-month employment contracts on the SCL. So far, the scheme has provided training to 764 trainees with 520 having completed the trade test and continuing their careers in the field.

CONCLUSION

76. Members are invited to note the above information.

MTR Corporation Limited
June 2019

Expenditure report as at 31 March 2019

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	43,848.2	43,747.9	2,065.8
E&M works	13,901.8	6,385.6	1,352.9
Total	57,750.0	50,133.5	3,418.7

* The estimated amount of unresolved claim: Amount claimed (\$4,576.3 million) – Interim award (\$1,157.6 million) = \$3,418.7 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	302	3,039.2	1,780.8	548	2846.9	781.1
E&M works	9*	0	0	146	1,729.4	376.5
Total	311	3,039.2	1,780.8	694	4,576.3	1,157.6

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

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 March 2019, the Corporation received 1,005 substantiated claims and the amount claimed in total was about \$7,615.5 million, representing 13.2% 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 March 2019, 311 cases were resolved and about \$1,780.8 million was awarded, representing about 3.08% 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 \$1,157.6 million was made for some cases.

Enclosure II**Overall works progress of the SCL as at 31 March 2019**

Overall works completed : 89%

Percentage completed as originally planned ⁽¹⁾: 96%

(A) Cumulative progress of 28⁽²⁾ major civil contracts awarded :

Contract No.	Contract Name	Percentage completed
1101	Modification of Ma On Shan Line	100%
1102	Hin Keng Station and Approach Structures	100%
1103	Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange	100%
1106	Diamond Hill Station Extension	100%
1107	Diamond Hill to Kai Tak Tunnels	100%
1108	Kai Tak Station and Associated Tunnels	100%
1108A	Kai Tak Barging Point Facilities	100%
1109	Stations and Tunnels of Sung Wong Toi and To Kwa Wan stations	99%
1111	Hung Hom North Approach Tunnels	100%
1112	Hung Hom Station and Stabling Sidings	99%
1113	Reprovisioning of New Territories South Animal Management Centre and Shatin Plant Quarantine Station	100%
1114	Pedestrian Links at Tsz Wan Shan	100%
1117	Pat Heung Depot Modification Works	100%
1119	Trackwork and Overhead Line Modification Works at Lo Wu and PHD	100%
1120	Trackwork and Overhead Line for SCL Phase 1	100%
1120B	Trackwork and Overhead Line for SCL Phase 2	41%
1121	EAL Cross Harbour Tunnels	98%
1122	Admiralty South Overrun Tunnel	94%
1123	Exhibition Centre Station and Western Approach Tunnel	71%

1124	Admiralty SCL Related Works	63%
1125	Police Sports and Recreation Club Enhancement Works	100%
1126	Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool	100%
1128	South Ventilation Building to Admiralty Tunnels	83%
1129	SCL - Advance Works for Cross-harbour EAL	100%
11209	Platform Modification and Associated Works at EAL	100%
11227	Advance Works for EAL Cross Harbour Tunnels	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) The 28 awarded major civil contracts as mentioned in Paragraph 67 of this report include Contract 11230 and 11241. Contract 11230 is a tenancy agreement for the Joint Site Office for Contracts 1123 and 1128, and it is part of the project cost for Contracts 1123 and 1128. Contractor 11241 is the archaeological survey for connection to Pak Tai Street. As these two contracts involve no civil construction works, they are not included in the table above.

(B) Cumulative progress of 30 major E&M contracts awarded :

Contract No.	Contract Name	Percentage completed
1141A	New Rolling Stock for SCL Phase 1	100%
1141B	New Rolling Stock for SCL Phase 2	65%
1151	Rolling Stock Modification and New Train Cars for SCL Phase 1	100%
1152	Signalling System for SCL Phase 1 & Signalling System Modification for MOL and WRL	99%
1152B	Signalling System for SCL Phase 2	82%
1153	Tunnel ECS for SCL Phase 1	100%
1153B	Tunnel ECS for SCL Phase 2	48%
1154	Platform Screen Doors for SCL Phase 1 & APG Retrofit for MOL	100%
1154B	Platform Screen Doors for SCL Phase 2 & APG Retrofit for EAL	44%
1155	Power Supply System and Trackside Auxiliaries for SCL Phase 1	100%
1155B	Power Supply System and Trackside Auxiliaries for SCL Phase 2	59%
1159	Lifts for SCL Phase 1	98%
1162	TETRA System for SCL Phases 1 & 2	98%
1162B	Radio Distribution Network System for SCL Phases 1 & 2	77%
1163	AFC System and SAM System for SCL Phases 1 & 2	77%
1164	Building Services for Diamond Hill Station	99%
1164B	Building Services for SCL Hong Kong Island Section	21%
1165	Building Services for Hin Keng Station, Ma Chai Hang Ventilation Building and Fung Tak Emergency Access	100%
1166	Main Control System for SCL Phase 1	99%
1166B	Main Control System for SCL Phase 2	71%
1169	Communications System for SCL Phase 1	99%
1169B	Communications System for SCL Phase 2	34%

1172	Escalators for SCL Phase 1	100%
1172B	Lift and Escalators for SCL Phase 2	26%
1173	Building Services for Hung Hom Station and Hung Hom Stabling Sidings	96%
1175	Building Services for Kai Tak Station	100%
1176	Building Services for Sung Wong Toi Station and Ancillary Building	100%
1177	Building Services for To Kwa Wan Station and Ancillary Building	100%
1183	EAL Signalling System Modification	100%
1191	Floodgate System for SCL Phase 2	57%

The Latest Updated Pre-set Trigger Levels

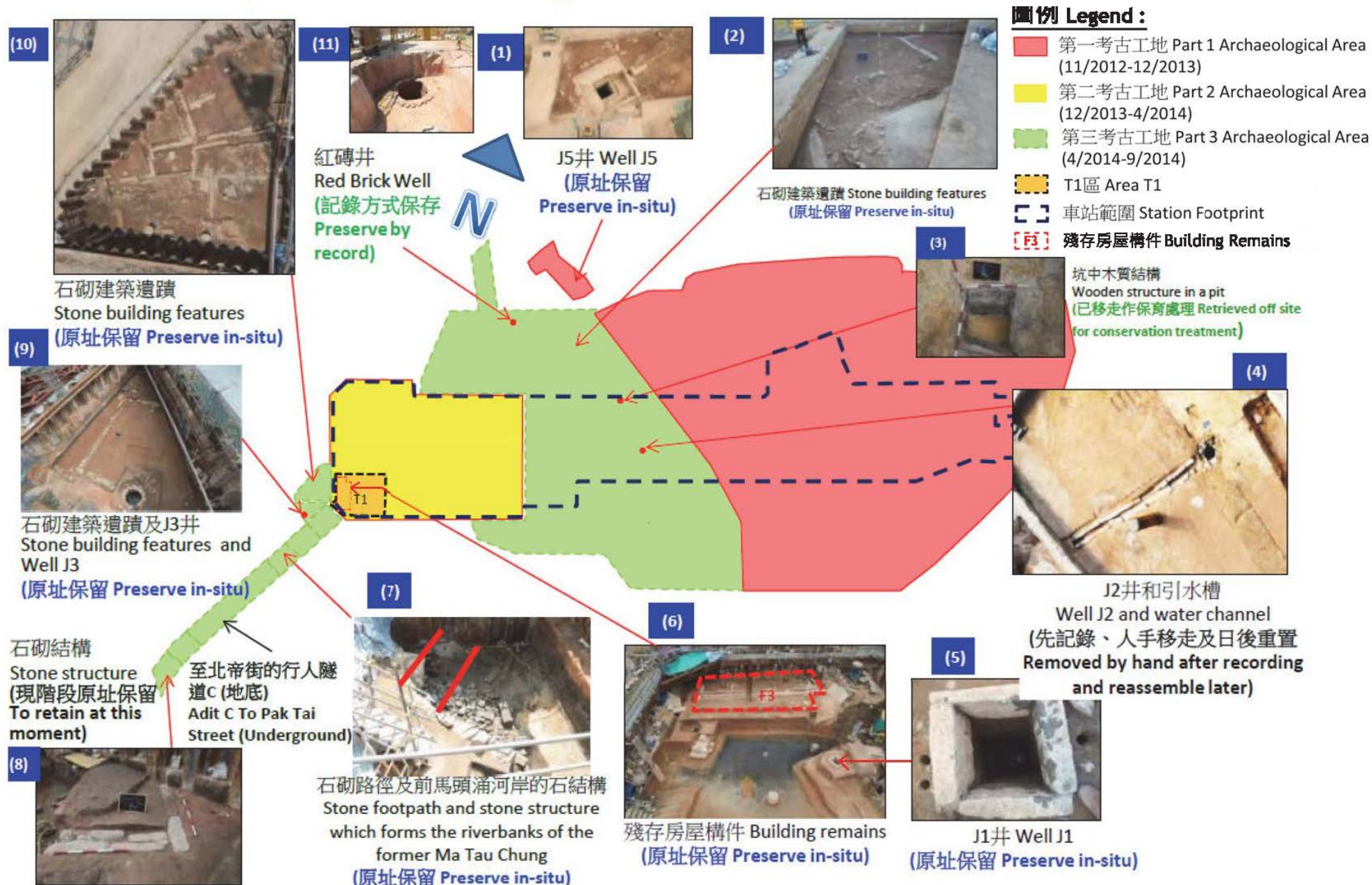
	Monitoring Point	Type	Settlement Readings (mm)	Latest pre-set trigger levels (mm)
1. Exhibition Centre Station East Approach Tunnels (Readings as at March 2019)				
1	1128-W2-BSM-032	Highway Structure	-3	-19
2	1128-W2-BSM-033	Highway Structure	-6	-19
3	1128-W2-BSM-034	Highway Structure	-12	-22
4	1128-W2-BSM-035	Highway Structure	-14	-22
5	1128-W2-BSM-036	Highway Structure	-10	-17
6	1128-W2-BSM-037	Highway Structure	-11	-17
7	1128-W2-BSM-038	Highway Structure	-8	-21
8	1128-W2-BSM-039	Highway Structure	-8	-21

Remarks: The number of active monitoring points changed as the construction progressed. Monitoring of some settlement points may have stopped due to a variety of reasons such as after the structure has already been demolished or when the excavation works-front has already moved far away.

宋皇臺 站工地考古文物保育方案

Conservation Options for Archaeological Features Discovered at Sung Wong Toi Station

附件三 Annex 3



行人隧道 C 的走線 Alignment of Adit C

附件四 Annex 4

