

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways
Progress Update of the Construction of the Shatin to Central Link
(As at 31 December 2014)

Introduction

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 31 December 2014.

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**).

4. The Approved Project Estimate for the entire SCL project is \$79,800 million (in the MOD 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 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 while the target commissioning date for the Hung Hom to Admiralty Section is December 2020.

Latest Progress of the Works

5. The progress report of the SCL project as at 31 December 2014 submitted by MTRCL is at **Annex 2**. The analysis and supplement made by the Highways Department (“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)

6. 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 superstructure works of the Hin Keng Station currently ongoing are also in line with the programme. The construction of the major structure is expected to complete in the second quarter of 2015, to be followed by track laying works, architectural builder works and finishes, as well as electrical & mechanical works.

7. The advance excavation works of the Hin Keng to Ma Chai Hang tunnel have been completed while the tunneling works experience a delay of about 2 to 3 months due to difficult ground conditions. 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 order manner to avoid stockpiling of excavated materials inside the tunnel that affect the construction of the tunnel; and, changing the sequence and method for the drill and blast works, such that the drill and blast operation as well as the tunnel construction can be implemented simultaneously to catch up with the original programme as much as possible.

The current progress of the drill and blast works is generally in line with the planned programme with around 500 metres(m) of tunnel excavation completed. With the implementation of the above measures, some of the original work procedures have been improved. HyD and MTRCL are reviewing the effectiveness of the measures to prevent further delays and catch up with the progress as planned as far as possible.

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

8. The two sections of tunnels from Kai Tak Station to Diamond Hill Station and from Diamond Hill Station to Ma Chai Hang are constructed by tunnel boring machine (“TBM”). The excavation works commenced in the third quarter of 2014. The progress of tunnel construction from Kai Tak to Diamond Hill Station is in line with the planned programme. It is anticipated that the tunnel boring of the 750m long up-track tunnel will be completed by the first half of 2015. The construction of the down track tunnel will then commence. Regarding the tunnel from Diamond Hill Station to Ma Chai Hang, the tunnel boring from Diamond Hill Station to the Fung Tak Emergency Access Point has been completed. Due to more complicated geological condition, the works have a delay of about 3 months. MTRCL is considering various measures to try to catch up with the progress.

9. The diaphragm wall for Diamond Hill Station has been completed. The contractor is carrying out excavation for the station structure.

10. To enhance the pedestrian connecting facilities between Tsz Wan Shan area and SCL Diamond Hill Station, MTRCL is carrying out improvement works to the pedestrian facilities within the district. It is originally scheduled for completion in stages between 2014 and 2016. Due to unpredicted and complicated geological condition, and congested underground utilities which have made the construction more difficult, the progress of part of the works is experiencing delays. MTRCL and the contractor are adjusting the sequence of construction and implementing temporary traffic management measures to allow works of pedestrian facilities to be carried out simultaneously, where conditions permit, so as to catch up with the progress as far as possible. Currently, part of the covered walkway north of Fung Tak Road has been completed and open for public use.

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

11. Kai Tak Station is located inside the Kai Tak Development Area. The construction of the main structure of the station commenced in early 2014. With the completion of parts of the platform and concourse structures, the main structure of the station is expected to complete by the end of 2015.

To Kwa Wan Station

12. 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. To facilitate the archaeological work and minimise the impact on the construction works, it was inevitably to adjust the works, thereby leading to additional cost. Adjustments directly related to the archaeological work include an extension of the archaeological area, and an increase in the manpower involved with a view to expediting the expanded archaeological excavation work. Besides, it is necessary to build temporary protection walls, and modify the design of the temporary supporting struts and the construction sequence for the launching shaft of TBM to protect the unearthed features in T1 Area. To minimise the impact on the expanded archaeological work, certain excavation works for the launching shaft of TBM and the construction works for To Kwa Wan Station have been suspended. As a result, the contractor has had part of its manpower, machinery and equipment left idle. The extended construction period will also lead to rises in both the construction cost and the daily operation cost. MTRCL has estimated that the additional cost is about \$3.1 billion. The proposed conservation plan for parts of remnants requires corresponding adjustments to the design of the station and construction method. MTRCL estimates that this will require another \$1.0 billion. Hence, MTRCL estimates that the additional cost to the project arising from archaeological works and discoveries would be at least \$4.1 billion in total. The relevant details are referred to the supplementary information provided by the Transport and Housing Bureau to the Subcommittee on Matters Relating to Railways on 4 December 2014.

13. The Antiquities Authority (i.e. the Secretary for Development), after consulting 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 (details are at **Annex 3**). Regarding Well J2 and the associated water channel (Item 4 of archaeological discoveries in **Annex 3**), a detailed recording will be conducted before dismantling them by hand and then moving them off-site for proper storage and future reinstatement. HyD has subsequently requested MTRCL to submit the detailed assessment of the additional cost and programme implications to the SCL project in accordance with the decision made by the Antiquities Authority. Upon receipt of the assessment submitted by MTRCL, HyD, with the aid of the appointed monitoring and verification consultant, will scrutinize the relevant assessment. Besides, MTRCL has submitted the proposal for recording and dismantling Well J2 and the associated water channel to AMO, and commenced in late January 2015 the dismantling works with the consent and under the supervision of AMO. As at the end of January 2015, MTRCL has estimated that there will be a minimum delay of 11 months and an additional cost of at least \$4.1 billion for the Tai Wai to Hung Hom section of SCL. The eventual implication is subject to the final assessment of MTRCL and the scrutiny of HyD.

14. MTRCL commenced the additional piling works due to modification of station layout for preservation of the remnants at T1 Area (Item 6 of archaeological discoveries in **Annex 3**) and the excavation at the eastern side of the station in December 2014. Nevertheless, the overall progress of the construction works of the station will depend on the progress of the recording work and dismantling of the Well J2 and the associated water channel.

Section of Railway between To Kwa Wan Station and Homantin Station via Ma Tau Wai Station

15. MTRCL is currently engaging in the advance work of assembling TBM inside the tunnel launching shaft at To Kwa Wan Station. The tunnel boring towards Ma Tau Wai Station is expected to commence in the second quarter of 2015.

Ma Tau Wai Station

16. Ma Tau Wai Station is an underground station beneath Ma Tau Wai Road, which is a major traffic corridor at Kowloon East with old buildings on both sides. In the past two years, MTRCL was mainly engaged in the construction of the station diaphragm wall along the section of Ma Tau Wai Road between Chi Kiang Street and Sheung Heung Road, and construction of the station diaphragm wall of Ma Tau Wai Station was completed at the end of 2014. The construction of the diaphragm wall of the station involved various difficult tasks, including the implementation of large scale temporary traffic management schemes on Ma Tau Wai Road, extensive utilities diversion works and unpredicted geological conditions. As the construction of the diaphragm wall has a delay of about 5 months, the subsequent station excavation and roof slab construction also experience delay. MTRCL has progressively increased the equipment and manpower, as well as re-arranging the sequence of some of the excavation and structural works for the roof of the station to prevent further delays and even catch up with the progress partly. It is expected that the excavation and construction of the roof slab of the station at the western side of Ma Tau Wai Road will be completed by the middle of this year.

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

17. As the tunnelling works of SCL to the north of Hung Hom Station has to be carried out on a very busy road and along the operating East Rail Line, the construction has to be carried out with due care to avoid affecting the busy road sections nearby. Temporary traffic diversions along Chatham Road North for the tunneling works were fully implemented at the end of last year. So far, the traffic has been generally smooth. In view of the slippage of the progress of part of the pipe-piling works, MTRCL has started putting in additional machinery and manpower in order to catch up with the progress as much as possible. The construction works at Hung Hom Station have to be carried out underneath the existing station podium. They are highly difficult and have to be carried out in a prudent manner. The current progress shows that there is a delay of about 3 months for the works at Hung Hom Station. MTRCL has adjusted some of the construction sequence and the contractor has started increasing machinery and manpower to prevent further delays and even catch up with the progress partly.

Hung Hom to Admiralty Section

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

18. To cater for the construction of immersed tubes for the cross harbour railway tunnel, MTRCL completed a number of advance works in the third and fourth quarters of 2014. They included drilling works, excavation of investigation trenches and removal of a large quantity of hard soil in conflict with the alignment of the tunnel of SCL at the seabed of Victoria Harbour. Moreover, the protection works for a section of SCL tunnel within Causeway Bay Typhoon Shelter, which were constructed under the Central-Wan Chai Bypass (“CWB”) project, were completed in the third quarter of 2014.

19. With the award of the contract for the main works of the Cross Harbour Section in December 2014, some works including such advance works as ground investigation and installation of instrumentation monitoring system have already commenced. Also, the site formation of the casting yard at ex-Shek O Quarry for the immersed tube tunnel (“IMT”) started in December 2014. MTRCL would set up a barging point, a rebar bending yard and a concrete batching plant at the casting yard for the construction of IMT and the progress is as planned.

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

20. The advance works for the Hong Kong Island Section, including the re-provisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool, and the alternation works for the footbridges and box culvert at the Cross Harbour Tunnel Portal Rest Garden, have commenced by stages since June 2013. The progress is as planned.

21. The tunnel works and the construction of Exhibition Station, constituting the main works of the Hong Kong Island Section, commenced in August 2014 and January 2015 respectively. Currently, MTRCL is making good progress in its preparation for the tunnel works.

22. To cater for and make way for the construction of Exhibition Station, the Wan Chai North Public Transport Interchange (“PTI”) has to be temporarily relocated to the newly reclaimed land constructed under the Wan Chai Development Phase II (“WDII”). PTI will be reprovisioned at the original location after the completion of the station. The construction of the temporary PTI within the reclamation area has been carried out by stages since October 2014. The target date of commissioning is mid-2015.

23. To allow flexibility for the construction of new convention facilities above Exhibition Station, some extent of enabling works for the topside development would be incorporated into the underground structure of Exhibition Station. The works includes the construction of additional 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 to the construction of Exhibition Station. MTRCL would explore with the contractor to implement feasible measures to improve the progress and reduce the impact on the works.

24. In addition, it is 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 Civil Engineering Development Department, and the tunnel works of CWB. The last piece of these critical areas might only be handed over to the SCL contractor for construction by early 2017. Owing to the heavy road traffic at Wan Chai North, the main construction works for Exhibition Station have become highly complicated and the construction progress will be at risk. To minimise the risk of delay to the Hong Kong Island Section of SCL, HyD is closely monitoring the progress of the reclamation and tunnel works while MTRCL is exploring feasible improvement measures with the contractor with a view to recovering the progress. The current estimate is that the commissioning date of the Hung Hom to Admiralty Section will very likely be deferred to mid-2021.

Conclusion

25. In view of the above assessments contained in paragraphs 6 to 24, HyD estimates that the Tai Wai to Hung Hom Section of SCL may have a delay of at least 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 would 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 very likely be deferred to 2021 to allow flexibility for the topside development of the convention centre at Exhibition Station, and to cater for the reclamation works under WDII as well as the tunnel works of CWB.

26. As the archeological works at To Kwa Wan Station will incur delay and additional expenditure, and the contingency of the SCL project does not cover the extended archeological works as well as the construction costs arising from the archeological findings, the current contingency will not be sufficient to meet the expenditure. We will therefore work with the Development Bureau in due course to seek additional funding from the Legislative Council in order to proceed with the works.

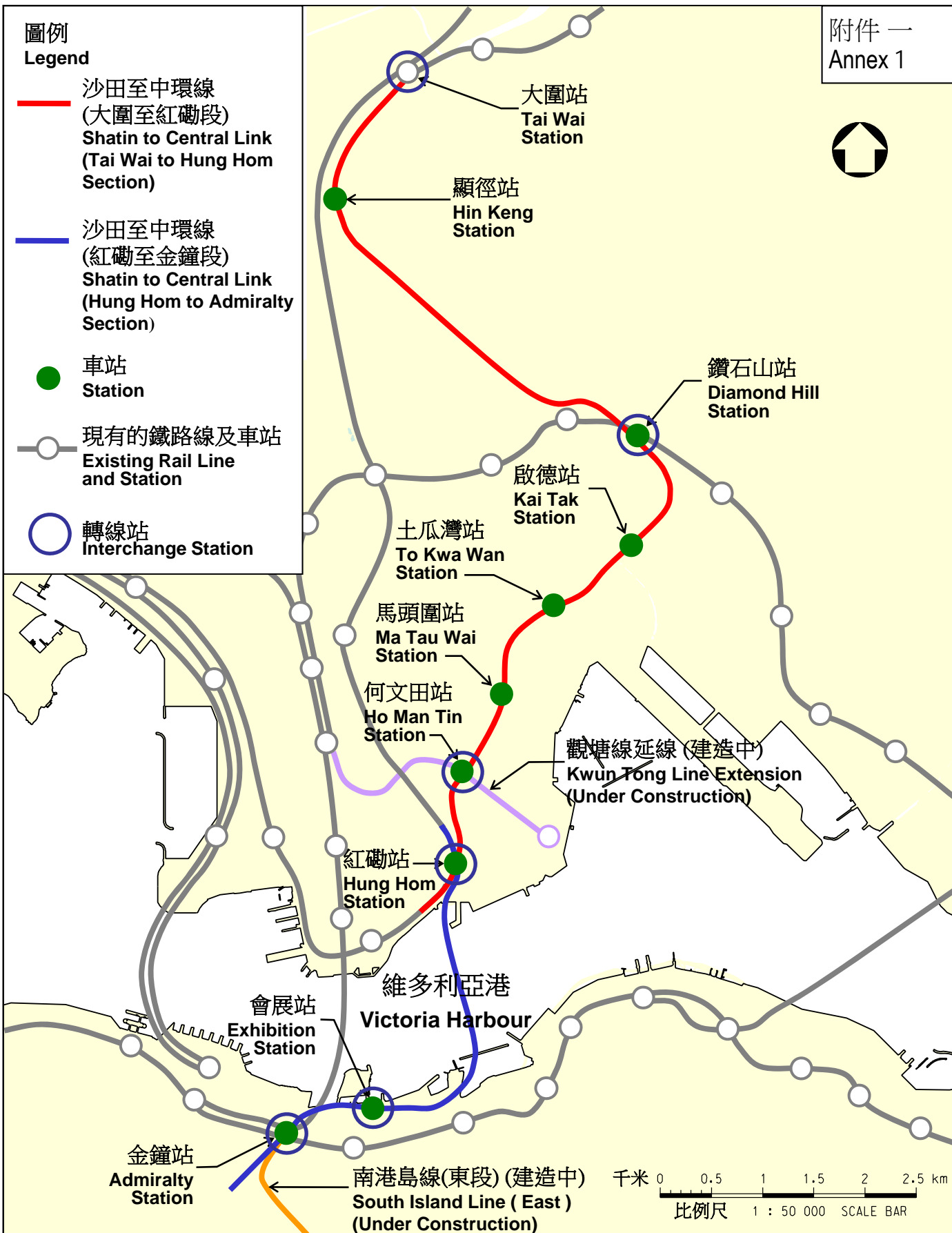
27. SCL is a major underground infrastructure project with various difficulties and challenges encountered during construction. It is unavoidable that there are deviations from the original plan for individual works contracts. MTRCL has adjusted its works procedures having regard to the actual situation 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
March 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

附件一
Annex 1



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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HIGHWAYS DEPARTMENT

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

**Progress Update of the Shatin to Central Link
(As at 31 December 2014)**

INTRODUCTION

At the Subcommittee meeting on 24 November 2014, Subcommittee members discussed the progress of the Shatin to Central Link (“SCL”) as at the end of September 2014. This report aims to update members on the progress of SCL as at 31 December 2014.

OVERVIEW OF THE SCL PROJECT

Cost and expenditure

2. Since mid-2012, 23 major civil and 22 major electrical & mechanical (“E&M”) contracts¹, together with other minor contracts, have been awarded with a total sum of \$48.601 billion. The contract sums for civil works and E&M works are about \$36.364 billion and \$12.237 billion respectively (Please refer to Enclosure I for details).

3. As for the cost implication of archaeological works and discoveries at the site of To Kwa Wan Station (include the revision of station design and the adjustments of works sequence), the details have been set out in paragraphs 19 to 21 of the paper for the meeting of the Subcommittee on Matters Relating to Railways under the Panel on Transport of the Legislative Council (“LegCo”) held on 24 November 2014 [LC Paper No.: CB(1)260/14-15(03)]. The Government then announced the conservation plan for the archaeological discoveries on 8 December 2014 (Please refer to paragraph 13 below for details). According to the estimation stated in the aforementioned paper, the archaeological works

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.

and the conservation plan announced by the Government would induce an additional cost of about \$4.1 billion to the SCL.

4. The Corporation always attaches great importance to the cost control of railway projects. However, it has been common in recent years that major infrastructure projects are facing a tough challenge from the surge in construction prices, and the SCL project is no exception. Apart from the surge in construction prices, there are also uncertainties which would involve additional costs, such as the conservation plan of the archaeological discoveries. The overall cost estimate of SCL will be affected and it may be needed for the Government to seek additional funding from LegCo in the future.

Works progress

5. As at 31 December 2014, the overall works for the SCL are 27% completed compared to the originally planned completion rate of 34%. (Please refer to Enclosure II for details). The SCL comprises of 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)

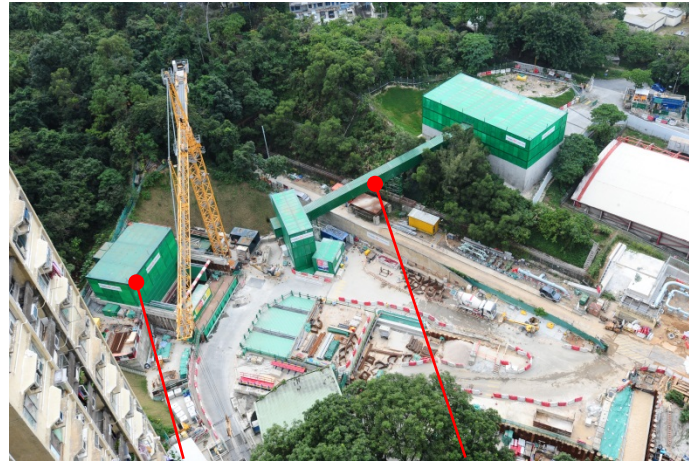
6. The structural works for Hin Keng Station are in progress and expected to be completed by the second quarter of 2015, to be followed by E&M and fitting out works. Meanwhile, track works will also be carried out. As for the foundation works of the viaduct and the at-grade box tunnel structure, both are generally progressing on schedule. The contractor is also carrying out pipe piling works as temporary support for the construction of the at-grade box tunnel structure. The excavation works for the section between the at-grade structure and the Lion Rock tunnel section commenced in late 2014.



Hin Keng Station construction site

7. The railway tunnels between Hin Keng and Ma Chai Hang in Wong Tai Sin have been under construction using the drill and blast method² since July 2014. As mentioned in the previous Subcommittee paper submitted in November 2014, the tunnel construction was lagging behind because of the unforeseeable complicated geological condition under the Hin Keng portal area of Lion Rock. Additional temporary supports and high-pressured grouting technology are needed to stabilise the strata and to prevent the loss of underground water and soil, thereby imposing a certain degree of impact on the works programme. The construction team have applied for the necessary permits from the Government for using heavy rock crushing machine to accelerate the spoil delivery process. To speed up the tunnel construction process, the team have also increased the blasting charge weight and pull length to enhance works efficiency. When blasting goes further inside Lion Rock, fault zones (mixed ground) may be encountered. Consideration will be given to implementing various recovery measures, such as adding blasting work fronts and carrying out tunnel lining in parallel with the blasting works.

² The drill and blast method is adopted for the construction of tunnels through rock stratum for the SCL project. The blasting procedure would include drilling holes into the rock, filling the blast holes with explosives, and detonating the explosives. Once blasting has been carried out, the spoil is removed from the tunnel and shotcrete is applied to support the tunnel structure. The drill and blast method is commonly used for rock strata excavation worldwide and in Hong Kong. Such method requires less works area and hence reduces the impact of construction works on the community.



Noise enclosure

Enclosed conveyor belt

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

8. The two tunnels from Diamond Hill to Ma Chai Hang and Kai Tak to Diamond Hill are being constructed by using tunnel boring machines (“TBM”). The two TBMs, namely “*Nu-wa*” and “*Mu Gui-ying*”, were assembled and launched in the former Tai Hom Village works site and Kai Ching Estate works site in August and September 2014 respectively. The former is constructing the 1,700 metre long up-track tunnel from Diamond Hill towards Ma Chai Hang. The progress is behind schedule by about three months as of December 2014 due to the unforeseen geological conditions which affected the diaphragm wall construction of the launching shaft and the soil with a high clay content also affected the tunnel boring progress. The latter is progressing well in the construction of the 750 metre long up-track tunnel from Kai Tak to Diamond Hill. The construction of the two TBM up-track tunnels is expected to be completed by the first half of 2015. The construction of the down-track tunnels will follow.



Up-track tunnel from Kai Tak to Diamond Hill

9. Shaft excavation for the emergency access point at the junction of Wong Tai Sin Road and Sha Tin Pass Road commenced in early September 2014, and is expected to be completed by the first quarter of 2015. Due to unforeseen underground utilities, sheet piling instead of diaphragm wall has been adopted for the construction of the adjacent Public Transport Terminus (“PTT”) to avoid any potential delay of the programme. The sheet piling works that began in mid-June 2014 are making good progress and are expected to be completed by the first quarter of 2015. The structural works of the PTT will follow. Based on the views of the community, additional facilities including toilets and lifts will be constructed in the PTT at the same time with the construction of the SCL.

10. Diaphragm wall construction for the extension of Diamond Hill Station was completed in early October 2014. The progress was slower than the original plan as the rock layer that supports the diaphragm wall underground was deeper than expected. As a result, more time was required to complete the works. To avoid affecting the whole excavation programme, the Corporation has rendered assistance to the contractor to adjust the works procedures so as to commence the excavation works for the station structure in phases. Currently, the excavation works are ongoing. The construction of retrieval shaft of the Kai Tak tunnel TBM is expected to be completed by the first quarter of 2015.

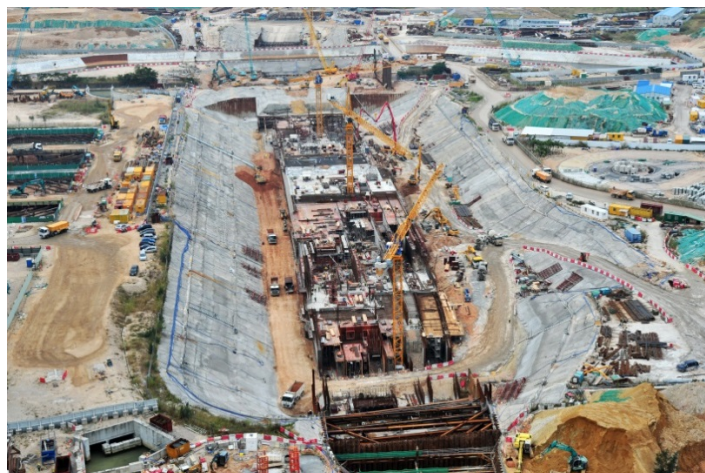
11. Station modification works are underway in the existing Diamond Hill Station including the construction of new lifts and escalators. To facilitate the construction of pedestrian subways linking to the new part of Diamond Hill Station, the jack-arch wall of the southern concourse of the existing station has to be strengthened. The strengthening works are underway. To vacate an area for construction of the pedestrian subways, a temporary traffic management scheme will be implemented at Lung Cheung Road in phases this year.



Diamond Hill Station Extension construction site

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

12. The structural works of Kai Tak Station are on-going and the construction of the station platform structure has been substantially completed. Tunnelling works between Kai Tak Station and To Kwa Wan Station are in progress and part of the tunnel structure has been completed.



Kai Tak Station construction site

13. The archaeological field investigation at To Kwa Wan Station was completed by the end of September 2014. The proposed preliminary conservation and interpretation plans were discussed at the meeting of the Subcommittee on Matters Relating to Railways under the LegCo Panel on Transport on 24 November 2014 and the meeting of the LegCo Panel on Development on 25 November 2014. On 8 December 2014, the

Government announced the conservation plan for archaeological features, including the well J2 and water channel³ located at the centre of the footprint of To Kwa Wan Station. The Corporation has been working with the relevant government departments on the detailed works procedures upon the announcement of the conservation plan. Regarding the conservation option for the stone structures dating back to Song-Yuan period at the southern end of the passenger adit leading to Pak Tai Street, the Government has decided to retain them at this stage.



To Kwa Wan Station construction site

14. The archaeological survey and the preservation of the relics have inevitably caused significant impact on the railway construction of the Kowloon City Section. Preserving remnants in-situ within To Kwa Wan Station footprint requires revision in station design and works sequence. Together with the extension of the archaeological survey works, the archaeological issue at To Kwa Wan Station has contributed to a delay of at least 11 months to the programme of the Tai Wai to Hung Hom Section.

15. The construction of TBM launching shaft for tunnelling works between To Kwa Wan Station and Ho Man Tin Station, which were previously affected by the archaeological works at To Kwa Wan, have resumed. The excavation of the TBM launching shaft and strut installation have been completed. TBM assembly will commence in late January 2015 and excavation of the down-track tunnel is planned to commence in the second quarter of 2015.

³ The conservation plan accepted by the Government is to first conduct detailed recording, then to dismantle Well J2 and water channel by hand and move it off-site for proper storage. After the completion of construction works, the remnants will be reinstated at the original position or at other suitable locations nearby.

16. The diaphragm wall construction of Ma Tau Wai Station has been completed. The construction of diaphragm walls for the station entrance at Chi Kiang Street, and roof slab for Ma Tau Wai Station are in progress. As announced earlier, it is estimated that the construction of Ma Tau Wai Station works are about five months behind schedule. The Corporation has requested the contractor to deploy additional equipment and staff, as well as to rearrange works procedures for the diaphragm walls and station, in order to catch up the programme as far as possible. Temporary traffic management schemes at Ma Tau Wai Road that have been implemented for almost two years will be continued. The traffic schemes would be revised to tie in with the construction programme. The traffic is generally smooth.



Ma Tau Wai Station construction site

17. To facilitate the upcoming tunnel boring works from To Kwa Wan Station to Ho Man Tin Station, underpinning and pile removal works for the East Kowloon Corridor are underway and are expected to be completed in mid-2015.

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

18. Two railway tunnels are being constructed at the north of Hung Hom Station, connecting the East Rail Line (“EAL”) and West Rail Line respectively. To facilitate the tunnel construction works by cut and cover method, the traffic lanes of Chatham Road North were shifted in phases. The shifting of traffic lanes can vacate the area for piling works at Chatham Road North, Winslow Street and sites next to the EAL to prepare for tunnel excavation at a later stage. The shifting was completed

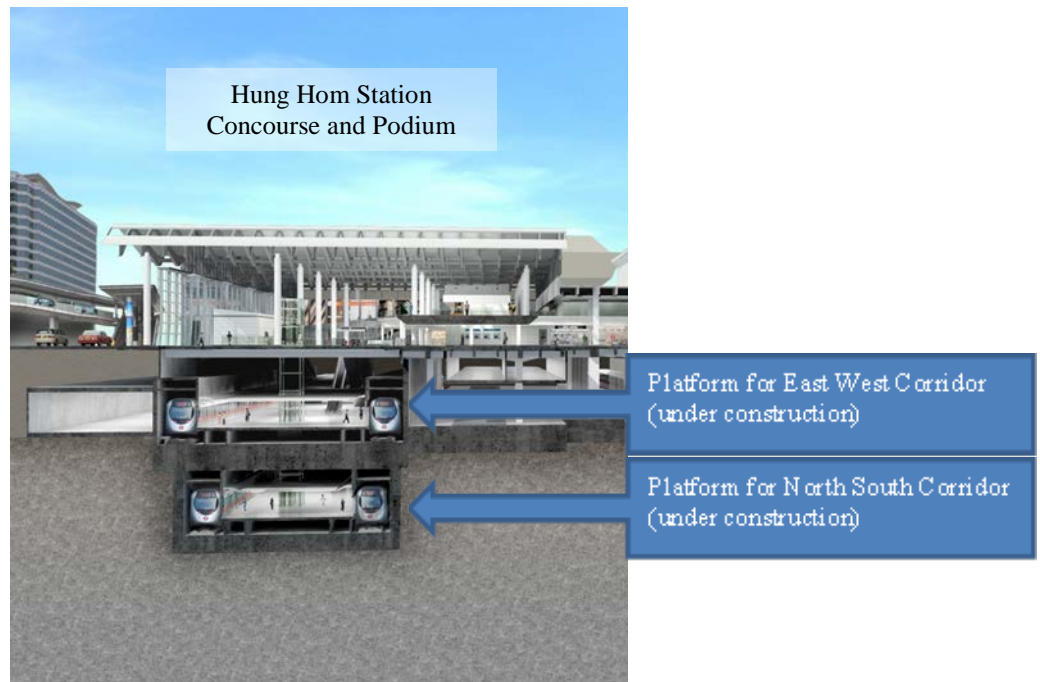
in December 2014 and the road will be reinstated after the works are completed.



Piling works at the north of Hung Hom Station

19. Hung Hom Station will become an interchange station for the “East West Corridor” (“EWC”) and “North South Corridor” (“NSC”) of SCL. Two levels of new platforms located under the station podium are designated for EWC and NSC. To provide easy connectivity to the new platforms in future, the Hung Hom Station concourse has to be modified. The modification works have commenced in phases since September 2014. Currently, the southern part of the concourse has been temporarily closed for modification works. New and enhanced facilities will also be provided. The first stage of concourse modification works will last until early 2016 and the second stage will follow.

20. As mentioned in the previous Subcommittee paper submitted in November 2014, the geological condition under the station podium was found to be more complicated than expected and there is limited space for construction works. As a result, the construction of the diaphragm walls and foundations of the new platforms are about three months behind schedule.

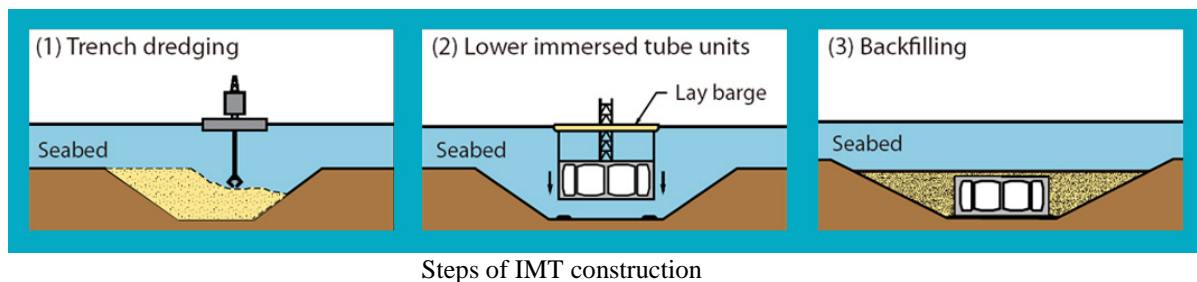


21. Since the construction of the new platforms and tunnels are in close proximity to the operating railway lines, construction works have to be carried out in a prudent manner in order not to affect the existing railway service, foundations and underground utilities. Some works have to be carried out after the suspension of train services at night. The works progress may be further affected given the unforeseeable risks due to geological conditions and site constraints. The Corporation and the contractor are now reviewing various progress recovery measures with a view to speeding up the construction process. At the same time, the construction team is committed to implement every feasible measure to ensure the safety of the station, structure of nearby buildings and the public.

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

22. Under the SCL project, the fourth cross-harbour rail tunnel will be constructed. The existing EAL will be extended from Hung Hom to the north of Hong Kong Island. The civil engineering contract for the SCL cross-harbour rail tunnel was awarded in the fourth quarter of 2014. The cross-harbour rail tunnel will be constructed by immersed tube method (See the graphics below). Site formation for the immersed tube tunnel (“IMT”) casting yard at the ex-Shek O Quarry is in progress. The contractor will soon start to set up a barging point and a concrete batching plant at the casting yard for construction of the IMT. The advance works in Victoria Harbour including geological investigation, trial trench

excavation and removal of hard material on the seabed conflicting with the SCL alignment have been completed.



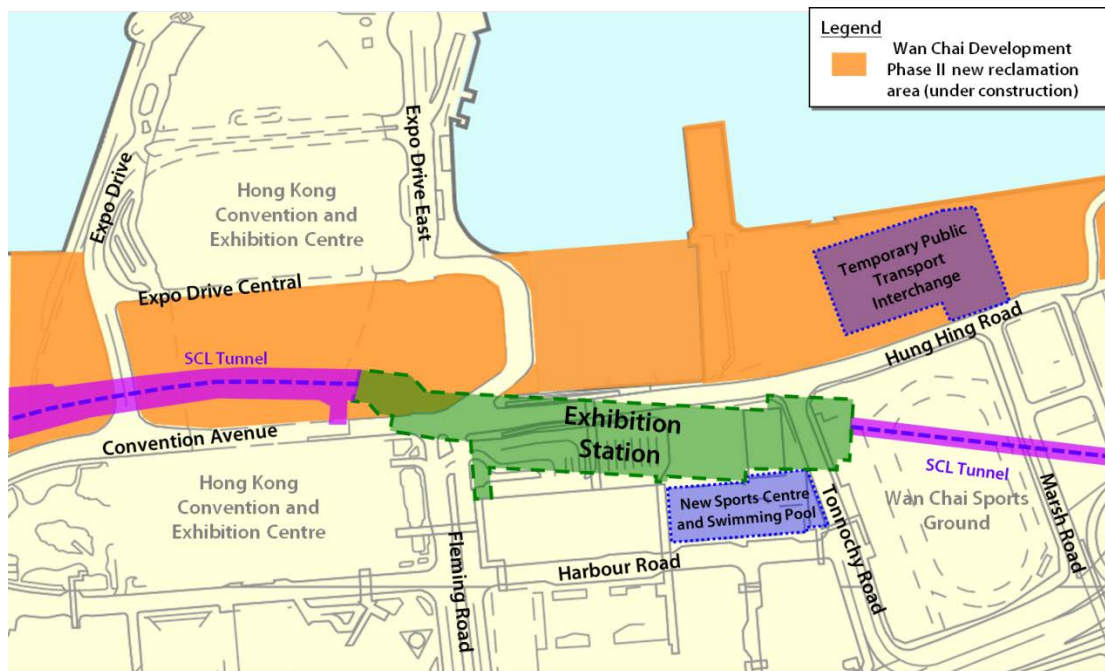
23. The tunnel construction is expected to commence in Causeway Bay Typhoon Shelter (“CBTS”) and its vicinity in mid-2015, following completion of the protection works for the SCL under the Central-Wan Chai Bypass (“CWB”) project in the third quarter of 2014.

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

24. Preparatory works for railway tunnel construction of the Hong Kong Island Section has commenced at Wan Chai North. The works include ground investigation works and advance works for temporary traffic arrangements.

25. To cope with the construction of Exhibition Station, the existing Wan Chai North Public Transport Interchange (“PTI”) will be relocated to a new site as part of the Wan Chai Development Phase II (“WDII”) reclamation. The construction of the temporary PTI commenced in October 2014. There is an expected delay due to the late handover of land from the WDII to the SCL. According to the latest estimation, the relocation cannot be completed until the second quarter of 2015. Construction of Exhibition Station will commence once the PTI is relocated.

26. Some of the critical areas adjacent to Expo Drive East / Convention Avenue under the WDII reclamation would only be available and handed over to SCL six months later than the original schedule, while the last piece of works area would only be handed over in early 2017. Meanwhile, enabling works will be required for the future topside development at Exhibition Station. As of December 2014, a delay of six months is expected in the programme of the Hung Hom to Admiralty Section.



Location map of Exhibition Station and associated tunnels

27. The Corporation will work closely with the contractors to explore programme recovery measures and will continue to maintain close communication with the Government regarding the progress of other infrastructure projects, arrangements of land handover and coordination of construction sequence.

IMPROVEMENT WORKS FOR THE OPERATING RAILWAY FACILITIES

28. Modification works including extension of platforms and roofs are being carried out at Ma On Shan Line (“MOL”) stations for the 8-car train operation of the East West Corridor. Works began in 2012 and are nearly 75% completed. The modification works are expected to be completed by mid-2016. The first pair of Automatic Platform Gate (“APG”) for MOL has been retrofitted at the non-service area of Platform 4 of Tai Wai Station in late November 2014. The Corporation is committed to completing APGs retrofitting works in MOL stations in 2017, one year earlier than originally scheduled.

29. APGs retrofitting will also be carried out along the EAL. Before the commencement of APGs retrofitting works, platform strengthening, equipment rooms for relevant signalling system and facilities are all required. To avoid interrupting normal train service, the above works

could only be carried out overnight after normal train service hours. Platform strengthening works at Racecourse Station have already been completed and platform modification works are in progress at other stations including Sheung Shui, Fanling, Tai Wo, Tai Po Market, University, Fo Tan and Sha Tin. APGs retrofitting works for the whole EAL are expected to be completed by 2020.

30. Modification and extension works are being carried out at the existing Pat Heung Depot. The Maintenance Building extension superstructure is substantially completed and the superstructure works of the Ancillary E&M Plant Building have been completed.

PREPARATION AND CO-ORDINATION FOR CONSTRUCTION WORKS

31. In order to keep local communities and the general public informed of the progress of the SCL project and to listen to their views, an SCL Information Centre was set up in To Kwa Wan in October 2012. Over 700 enquiries have been handled. An Information Counter has also been set up at Hin Keng Shopping Centre since February 2014 for the convenience of local residents in Sha Tin District. Over 1,000 enquiries have been handled since it opened for service.

32. Community Liaison Groups (“CLGs”) have been set up in the districts to be served by the SCL as a channel to communicate with the local communities. At the regular CLG meetings, reports on project progress and possible impacts to the community are provided. A total of 47 meetings have been conducted so far. Members of the CLGs include representatives of local District Councillors, residents, schools, local organisations, etc., and representatives from government departments (include the Highways Department, Hong Kong Police Force, Transport Department, Lands Department and Home Affairs Department).

33. Since most SCL works areas are close to residents and shops, Community Liaison Officers and the construction teams of the Corporation proactively visit shops and nearby residents to maintain close dialogue and to address any concerns they have in a timely manner.

EMPLOYMENT OPPORTUNITIES

34. As at December 2014, about 6,300 construction workers and technical/ professional staff members are employed on the SCL project. It is estimated that the project manpower figure will be increased to around 8,000 when reaching its peak in the third quarter of 2015.

CONCLUSION

35. Members are invited to note the above information.

MTR Corporation Limited
March 2015

Expenditure report as at 31 December 2014

Table 1 – Situation of expenditure

	Awarded contract sum for the contracts (\$ million)	Cumulative expenditure (\$ million)	Estimated amount* of unresolved claim (\$ million)
Civil works	36,364	12,330	478.2 (see Table 2)
E&M works	12,237	825	0
Total	48,601	13,155	478.2

*Amount stated in the contractor's claim report

Table 2 – Situation of substantiated claims

	Claims resolved			Claims unresolved		
	Number	Amount claimed originally* (\$ million)	Amount awarded (\$ million)	Number	Amount claimed* (\$ million)	Interim award (\$ million)
Civil works	11	20	20.2	141	478.2	15.6
E&M works	2	0	0	9	0	0
Total	13	20	20.2	150	478.2	15.6

*Amount stated in the contractor's claim report, which may be revised from time to time during the claims process.

1. The Government and the MTR 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 foundations or excavation works might come across a larger amount of or more complicated obstructions than expected. As this would add difficulties to the works, the contractors might have to use more machines or switch to other machines that were more suitable and employ more staff to cope with these situations. The contractors would submit claims in accordance with the contract terms to cover the additional expenditures. Upon receipt of claims from contractors, the Corporation would examine such claims and assess the amount concerned based on the relevant contract terms, justifications, documents, records, etc.

2. As at 31 December 2014, the Corporation received a total of 404 claims with a total amount of \$1.4 billion. Among the claims, 163 are considered valid in principle and the amount claimed in total of the valid claims was about \$496.5 million subject to submissions of detailed particulars, representing about 1.0% of the awarded contract sum for the contracts. The Corporation has been discussing the details of the claims with the contractors concerned, and would thoroughly assess the amount claimed. The Corporation would process each claim in a prudent manner, and the contractors would have to provide sufficient justifications and information. As at 31 December 2014, 13 cases were resolved and about \$20.2 million was awarded, representing about 0.04% of the awarded contract sum for the contracts. The Corporation would continue to handle the other cases cautiously.

Overall works progress of the SCL as at end of December 2014

Overall works completed : 27%

Percentage completed as originally planned: 34%

Cumulative progress of major civil contracts awarded :

Contract No.	Contract Name	Percentage completed
1101	Modification of Ma On Shan Line	75%
1102	Hin Keng Station and Approach Structures	37%
1103	Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange	52%
1106	Diamond Hill Station Extension	48%
1107	Diamond Hill to Kai Tak Tunnels	76%
1108	Kai Tak Station and Associated Tunnels	49%
1109	Stations and Tunnels of Kowloon City Section	39%
1111	Hung Hom North Approach Tunnels	46%
1112	Hung Hom Station and Stabling Sidings	36%
1114	Pedestrian Links at Tsz Wan Shan	38%
11209	Platform Modification and Associated Works at East Rail Line	23%
1121	North South Line (NSL) Cross Harbour Tunnels	NA*
1125	Police Sports and Recreation Club Enhancement Works	93%
1126	Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool	36%
1128	South Ventilation Building to Admiralty Tunnels	1%*
1129	SCL - Advance Works for NSL	76%

*Civil Contracts 1128 and 1121 were awarded on 18 August and 15 December 2014 respectively.

Archaeological Discoveries at To Kwa Wan Station and Conservation Options

	Archaeological Discoveries	Location	Period	Conservation Options
1)	Well J5	Part 1 Archaeological Area	Song-Yuan	Preserve in-situ
2)	Stone building features	Part 3 Archaeological Area, Zone A	Song-Yuan	Preserve in-situ
3)	Wooden structure in a pit	Part 3 Archaeological Area, Zone A	Song-Yuan	Retrieved off site for conservation treatment
4)	Well J2 and water channel	Part 3 Archaeological Area, Zone A	Song-Yuan (Well) and Early 20 th Century (water channel)	First conduct detailed recording, then dismantle well J2 and water channel by hand and move them off-site for proper storage; reinstate them in future
5)	Well J1	Part 2 Archaeological Area, T1 Area	Song-Yuan	Preserve in-situ
6)	Building remains	Part 2 Archaeological Area, T1 Area	Song-Yuan	Preserve in-situ
7)	Stone footpath and stone structure which forms the riverbanks of the former Ma Tau Chung	Part 3 Archaeological Area, northern end of Zone C	Song-Yuan (stone footpath) and late Qing to Republican (stone structure)	Preserve in-situ
8)	Stone structure	Part 3 Archaeological Area, southern end of Zone C	Song-Yuan	To retain the features at this moment
9)	Stone building features and Well J3	Part 3 Archaeological Area, Zone D	Song-Yuan (Stone building features) and Late Qing (Well J3)	Preserve in-situ
10)	Stone building features	Part 3 Archaeological Area, Zone B and northern end of Zone C	Song-Yuan	Preserve in-situ
11)	Red brick well	Part 3 Archaeological Area, Zone A	Modern	Preserve by record

考古文物保育方案

Conservation Options for Archaeological Features Discovered

附件三
Annex 3

