**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 2015)**

## Introduction

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

## Background

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

(a) Tai Wai to Hung Hom section: this is an extension of the Ma On Shan Line from Tai Wai via Southeast Kowloon to Hung Hom where it will join the West Rail Line; and

(b) Hung Hom to Admiralty section: this is an extension of the East Rail Line from Hung Hom across the Victoria Harbour to Wan Chai North and Admiralty.

3. SCL will have ten stations. Apart from bringing improvements to the existing Tai Wai Station, the SCL project will involve construction of new stations or extension of existing stations at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Ho Man Tin, Hung Hom, the Hong Kong Convention and Exhibition Centre (the Exhibition), 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 March 2015 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 by the end of April 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 orderly manner to avoid stockpiling of excavated materials inside the tunnel that affect the excavation inside the tunnel; and, increased the blasting charge weight to enhance works efficiency. Besides, MTRCL would change the sequence and method for the drill and blast works, such that the drill and blast operation as well as the tunnel lining construction can be implemented simultaneously to prevent further delays and catch up with the

progress as planned as far as possible. The above measures have improved part of the original construction sequence.

8. Regarding the current progress of the drill and blast works, around 900 metres(m) of tunnel excavation have been completed. When the drill and blast tunnel construction advances further inside Lion Rock, MTRCL anticipates that fault zones (mixed ground) may be encountered. The ground conditions would be more complicated and might require more strengthening works to ensure safety. The progress of the works may slow down. As such, MTRCL is considering the increase of blasting works fronts at the entrance to the tunnel at Ma Chai Hang in Wong Tai Sin to allow parallel tunnel construction works at both tunnel faces when necessary so as to lessen the implications of fault zones on the progress of works. To facilitate the above progress recovery measure, MTRCL has consulted the local District Council and is considering corresponding temporary traffic arrangements.

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

9. 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. The tunnel boring of the up-track tunnel was completed in mid-March 2015. The construction of the down-track tunnel will then commence in the third quarter of 2015. Regarding the tunnel from Diamond Hill Station to Ma Chai Hang, the tunnel boring machine is approaching the Ma Chai Hang Recreation Ground. Due to more complicated geological condition, there is delay of works for about 3 months. MTRCL is considering various measures to try to catch up with the progress.

10. Regarding Diamond Hill Station, some of the excavation works for the station box are completed and the construction of the station structure has commenced in phases. Besides, the shaft excavation for the emergency access point at the junction of Wong Tai Sin Road and Sha Tin Pass Road is completed. The structural works of the emergency access point is now in progress. The construction of the Public Transport Terminus adjacent to the emergency access point has commenced.

11. 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. They are 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, there have been delay of some of the works. MTRCL and the contractor would continue to carry out the works of pedestrian facilities at different locations of the district simultaneously where conditions permit, so as to catch up with the progress as far as possible. The covered walkway north of Fung Tak Road has been progressively open to public use since July 2014. Besides, the first lift tower (located near Lok Shun House at Wan Wah Street) could be open for use in the third quarter of this year.

*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*

12. Kai Tak Station is located inside the Kai Tak Development Area. The construction of the main structure of the station commenced in early 2014. The construction of the platform structures is completed and the construction of the concourse structures is in progress. The main structure of the station is expected to complete by the end of 2015.

*To Kwa Wan Station*

13. 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 its impact on construction works, it is inevitable that adjustments have to be made to the works and this incurs 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, some of the manpower, machinery and equipment of the

contractor are 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 $3,100 million. The proposed conservation plan for part of remnants requires corresponding adjustments to the design of the station and construction method. MTRCL estimates that this will require another $1,000 million. Hence, MTRCL estimates that the additional cost to the project arising from archaeological works and discoveries would be at least $4,100 million in total[1].

14. The Antiquities Authority (i.e. the Secretary for Development), after considering the views of the Antiquities Advisory Board, the Legislative Council and the Kowloon City District Council, decided on the conservation options on 8 December 2014 with most of the archaeological discoveries preserved in-situ (details are at **Annex 3**). The archaeological remnants to be preserved in-situ will be protected by backfilling of protective materials. As at the end of March 2015, under the close supervision of AMO, the protective works for more than half of the remnants to be preserved in-situ are completed. The remaining protection works is expected to complete by May 2015. Regarding Well J2 and the water channel, they have been removed piece by piece by hand after detailed recording and under the close supervision of AMO. The components are stored properly for future reinstatement. MTRCL has not submitted to HyD with 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 assistance of its appointed Monitoring and Verification Consultant, will scrutinize the relevant assessment. As at the end of March 2015, MTRCL has estimated that there will be a minimum delay of about 11 months and an additional cost of at least $4,100 million for the Tai Wai to Hung Hom section of SCL. The ultimate implication is subject to the final assessment of MTRCL and the verification of HyD.

15. In December 2014, 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 at **Annex 3**) and the excavation at the eastern side of the station. The construction works of To Kwa Wan Station fully resumed in March 2015.

[1] For details, please refer to the supplementary information provided by the Transport and Housing Bureau to the Subcommittee on Matters Relating to Railways on 4 December 2014.

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

16. MTRCL is currently engaging in the TBM assembling works and preparation works for tunnel boring inside the tunnel launching shaft at To Kwa Wan Station. The tunnel boring towards Ma Tau Wai Station is expected to commence in mid-April 2015.

*Ma Tau Wai Station*

17. 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 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 machinery and manpower, as well as adjusting the sequence of some of the excavation and structural works for the roof of the station to prevent further delay. With the completion of the roof slab of the station at the western side of Ma Tau Wai Road, the construction of the roof slab of the station at the eastern side has started progressively.

*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)*

18. 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, it is necessary to exercise due care to prevent the construction from affecting the busy road sections nearby. Temporary traffic diversions along Chatham Road North for the 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. The limited space available has made the construction highly difficult and the works must 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. To avoid further delays and catch up with some of progress as far as possible, MTRCL and the contractor are adjusting some of the construction sequences, and, where practicable, multiple activities are carried out simultaneously. The contractor has also started increasing machinery and manpower.

Hung Hom to Admiralty Section

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

19. Construction of the Cross Harbour Section commenced progressively, which includes such advance works as ground investigation of the seabed, installation of instrumentation monitoring system, erection of temporary marine platforms and dredging works. The contractor will carry out trench dredging in Victoria Harbour in the second quarter of this year to prepare for the future laying of immersed precast tunnels. Also, the site formation of the casting yard at ex-Shek O Quarry for the immersed tube tunnel ("IMT") is in progress. 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 modification works for the foundation of flyovers and box culverts at the Tunnel Approach Rest Garden, have commenced by stages since June 2013. The current progress is as scheduled.

21. The preparation works for the railway tunnels and Exhibition Station, including ground stabilization works, soil and underground utility investigations are underway. The current progress is satisfactory.

22. To cater for the construction of the Exhibition Station, the Wan Chai Ferry Pier Public Transport Interchange ("PTI") has to be temporarily relocated to the newly reclaimed land constructed under the Wan Chai Development Phase II ("WDII"). The 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 commenced by stages since October 2014 for commissioning in May 2015.

23. To allow flexibility for the construction of new convention facilities above the Exhibition Station, a certain extent of enabling works for the topside development would be incorporated into the underground structure of the Exhibition Station. The works mainly include the construction of additional piles adjacent to the station. Based on 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 the Exhibition Station. MTRCL would continue to work with the contractor to explore 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 (CEDD), and the part of the tunnel works of Central-Wan Chai Bypass (CWB) thereof. The last piece of critical sites could only be handed over to the SCL contractor for construction in early 2017. As the main construction works for Exhibition Station is further complicated by the heavy road traffic at Wan Chai North, there is a risk to the construction progress. The commissioning date of the Hung Hom to Admiralty Section is expected to be deferred to 2021.

25. On 27 March 2015, CEDD announced that a large metal object was found on the seabed in the vicinity of the old Wan Chai Ferry Pier. As the pier is within the project area of WDII, CEDD is conducting an investigation of the discovery. The metal object may have an impact on part of the reclamation works. According to works plans of WDII and SCL projects, the reclaimed land will be used for relevant temporary traffic diversion arrangement for the construction of Exhibition Station. As the metal object would affect the reclamation project in the area, it may defer the handover date of the site. HyD and MTRCL have expressed concern to CEDD about the handover date of the

reclaimed land and would follow up closely to the progress of the investigation by CEDD and timely assess the possible impact on SCL progress.

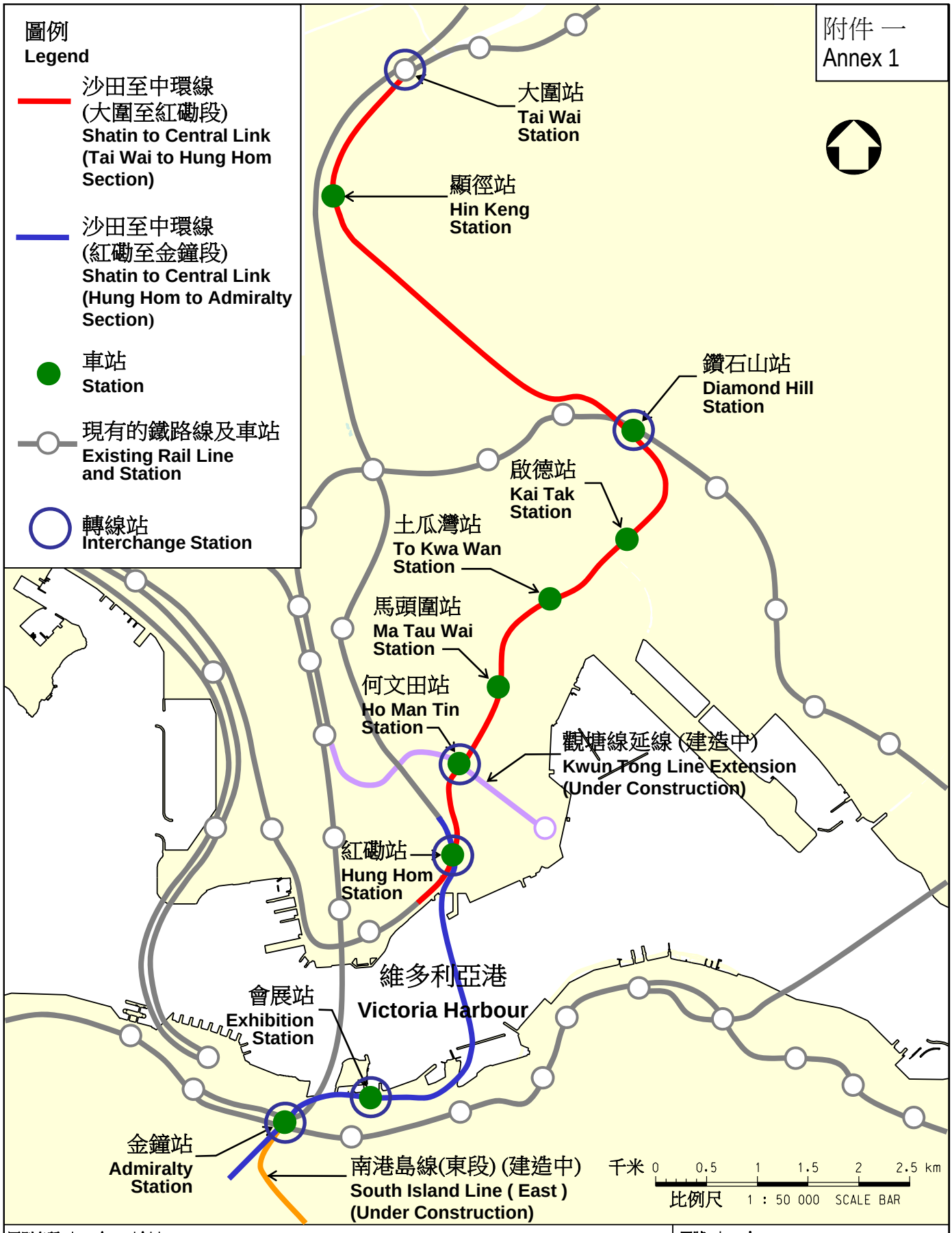
**Conclusion**

26. In view of the above assessments contained in paragraphs 6 to 25, 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 the 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 be deferred to 2021 to allow flexibility for the topside development of the convention centre at the Exhibition Station, and to cater for the reclamation works under WDII and the construction of the CWB tunnel thereof.

27. MTRCL is conducting a cost review for the entire SCL for submission to HyD for scrutiny. As the current contingency of SCL will not be sufficient to meet the additional expenditure arising from the archaeological and conservation works, we will seek additional funding from the Legislative Council together with the Development Bureau in due course in order to proceed with the works.

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

**Transport and Housing Bureau**
**Highways Department**
**May 2015**




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.
HRWSCL003-SK0437



鐵路拓展處 RAILWAY DEVELOPMENT OFFICE

路政署
HIGHWAYS DEPARTMENT

A4 210X297

**Annex 2**

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

**Progress update of the Shatin to Central Link**
**(As of 31 March 2015)**

## INTRODUCTION

This report aims to update members on the progress of Shatin to Central Link ("SCL") as of 31 March 2015.

## OVERVIEW OF THE SCL PROJECT

Cost and expenditure

2. Since mid-2012, 24 major civil and 24 major electrical & mechanical ("E&M") contracts[1], together with other minor contracts, have been awarded with a total sum of $54.702 billion. The contract sums for civil works and E&M works are about $42.233 billion and $12.469 billion respectively (Please refer to Enclosure I for details).

3. Under the Entrustment Agreement for the SCL, the HKSAR Government ("Government") is responsible for funding the construction of the SCL. Due to the archaeological issues at To Kwa Wan Station and late site handover in Wan Chai Development Phase II ("WDII") to the SCL, there will be delays for the completion of the East West Corridor ("EWC") and North South Corridor ("NSC"). The commissioning of EWC and NSC will be in 2019 and 2021 respectively. With the complexity of the project, together with the significantly increased costs due to the archaeological works at To Kwa Wan Station, we are reviewing the project cost estimate taking into account the continued construction challenges. After the review we will report the findings to the Government and will continue to monitor and review the project cost.

[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.

Works progress

4. As of 31 March 2015, the overall works for the SCL are 31% completed compared to the planned completion rate of 39%. (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)

5. The structural works for Hin Keng Station has been progressing well and is expected to be substantially completed by the end of April 2015. Track laying works, E&M and fitting out works will then commence. The foundation works of the viaduct and the at-grade box tunnel structure are progressing on schedule, which are expected to be completed by the second quarter of 2015. Major structural works will then follow. Besides, the excavation and pipe piling works for the railway section near Hin Keng Estate are ongoing in parallel.

Hin Keng Station construction site

6. As mentioned in the previous paper to the Subcommittee on Matters Relating to Railways submitted in March 2015, the construction of the railway tunnel between Hin Keng and Ma Chai Hang is lagging behind because of the complicated geological condition under the Hin

Keng portal area of Lion Rock which needs extra time to stabilise the strata. The blasting charges have been increased to speed up the tunnel construction process. When blasting goes further inside Lion Rock, fault zones (mixed ground) may be encountered. Additional temporary supports and high-pressured grouting technology are needed to stabilise the strata and to prevent the loss of underground water and soil. As a result, the programme may be further affected. A number of recovery measures have been developed for catching up with the progress. For example, tunnel lining works could be carried out in parallel with the blasting works. It was developed to have an additional blasting work front at Ma Chai Hang works site with explosive delivered from the shaft at the junction of Wong Tai Sin Road and Shatin Pass Road to Ma Chai Hang works site via the underground tunnel. The consultation for this proposal has been conducted and will be implemented depending on the actual works progress.

Tunnel construction inside the Lion Rock

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

7. The two tunnels from Diamond Hill to Ma Chai Hang and Kai Tak to Diamond Hill are being constructed by using tunnel boring method. The construction of the tunnel from Kai Tak to Diamond Hill is progressing well while its up-track tunnel was completed by the tunnel boring machine (TBM) “Mu Guiying” in March 2015. The construction of down-track tunnel by “Mu Guiying” will follow and is expected to be completed by the fourth quarter of 2015.

Breakthrough of the up-track tunnel from Kai Tak to Diamond Hill

8. The progress of the tunnel construction from Diamond Hill to Ma Chai Hang is about three months behind schedule due to unforeseen geological conditions. It is expected the construction of its up-track tunnel will be completed by the first half of 2015.

9. For the construction of the emergency access point at the junction of Wong Tai Sin Road and Sha Tin Pass Road, the shaft excavation was completed in the first quarter of 2015 and the structural works of the emergency access point is now in progress. The sheet piling works for the adjacent Public Transport Terminus ("PTT") was also completed in the first quarter of 2015. The excavation and supporting works are now being carried out in parallel with the structural works of the PTT including the construction of toilets and lifts.

10. The excavation works for the station box of the extended Diamond Hill Station fully commenced after the completion of diaphragm wall construction in October 2014. As of 31 March 2015, parts of the excavation works have been completed and construction of the station structure have commenced in phases.

11. Regarding the on-going modification works in the existing Diamond Hill Station, new lift and escalators connecting the platform and concourse will be opened for public use by the end of 2015. Other new and modified facilities in the station will be opened in phases at a later stage. The strengthening works of external wall at the southern concourse are now underway for the connection of the pedestrian subways of the extended part of Diamond Hill Station. The works are expected to be completed by the second quarter of 2015, followed by the construction works of the pedestrian subways. To vacate an area for the construction works, a temporary traffic management scheme will be implemented at

Lung Cheung Road in phases in the third quarter of 2015.

Diamond Hill Station Extension construction site

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

12. The platform construction of Kai Tak Station was completed and the structural works of the station concourse are in progress. Tunnelling works between Kai Tak Station and To Kwa Wan Station are in progress and one third of the tunnel structure was completed.

Kai Tak Station construction site

13. Works at To Kwa Wan Station have resumed in stages since March 2015. The tunneling works, which have been affected by the additional archaeological works, will soon commence following the completion of assembling the TBM "Princess Wenching" in March this year. Preparation for the launch of the tunneling works is in progress and the tunneling boring works for the down-track tunnel from To Kwa Wan

Station towards Ho Man Tin Station is expected to start in mid-April this year.

14. The Antiquities Authority (i.e. the Secretary for Development) decided on the conservation options on 8 December 2014 with most of the archaeological discoveries to be preserved in-situ. The stone structures dating back to Song-Yuan period at the southern end of the passenger adit leading to Pak Tai Street are retained at this stage and are being backfilled with protection material with the agreement of the Antiquities and Monuments Office ("AMO"). This is to protect the features before confirming their conservation plan. The dismantling works of Well J2 and the water channel by hand were completed in March 2015 under the close supervision of the AMO. Detailed recording was conducted before the works. The components are stored properly off-site for future reinstatement.

To Kwa Wan Station construction site

15. Pipe pilling works of the emergency access for the railway tunnels near Tam Kung Road were completed. Excavation will commence soon.

16. Construction works for the diaphragm walls of the station entrance at Chi Kiang Street, and the roof slab of Ma Tau Wai Station are in progress. The works are about five months behind schedule while the contractor has rearranged the works procedures and deployed additional equipment and staff for the station construction in order to catch up with the programme. Temporary traffic management schemes at Ma Tau Wai Road will be revised to tie in with the construction programme in the second quarter of 2015.

Ma Tau Wai Station construction site

17. Underpinning and pile removal works for part of the foundation of the East Kowloon Corridor to facilitate the upcoming tunnel boring works from To Kwa Wan Station to Ho Man Tin Station have been completed.

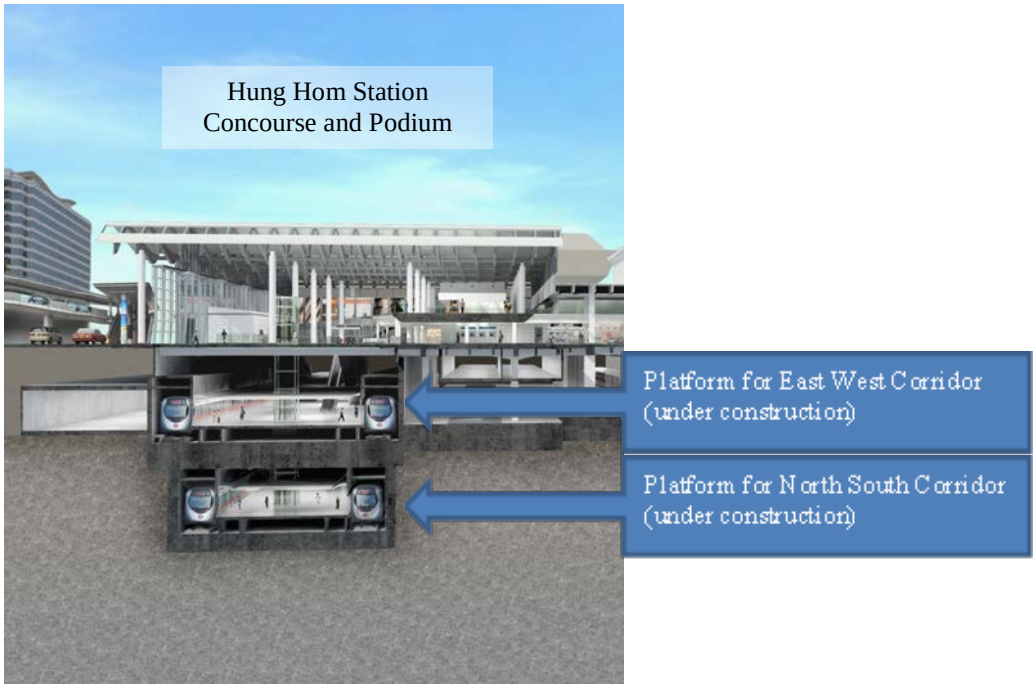
(d) Hung Hom Section (Section of railway between Ho Man Tin Station and Hung Hom Station)

18. Under the SCL, two railway tunnels are being constructed for connecting the East Rail Line ("EAL") and West Rail Line respectively. To facilitate the tunnel construction works, the traffic lanes of Chatham Road North were altered in December 2014 and tunnel excavation works are now in full swing. The concerned roads will be reinstated after the works are completed.

19. For connecting the existing EAL with the SCL, a section of tunnels with noise barriers will be built near Oi Sen Path from the southbound of Princess Margaret Road. Construction works have commenced in a prudent manner and the construction method will be reviewed from time to time to avoid disruption to the existing railway service, as well as the impact on the existing foundations and underground utilities.

20. The "East West Corridor" ("EWC") and "North South Corridor" ("NSC") will have an interchange at Hung Hom station, and two levels of new platforms located under the existing station podium are designated for EWC and NSC. The southern part of the concourse of Hung Hom Station has been temporarily closed since September 2014 to carry out modification works, that will, in the future, provide good connectivity to the new platforms and enhance the station facilities. The first stage of the modification works of the concourse will be completed by early 2016 and the southern part of the concourse will be opened to the public. The

second stage of modification works of the concourse will then follow, requiring the northern part of the concourse to be temporarily closed during the period of modification works.




21. As mentioned in the previous Subcommittee papers submitted in November 2014 and March 2015 respectively, the geological conditions under the station podium were found to be more complicated than expected. And, the space and height available for construction works are limited. As a result, the construction of the diaphragm walls and foundation for the new platforms are about three months behind schedule. Based on the current assessment, there remain risks of further delay.

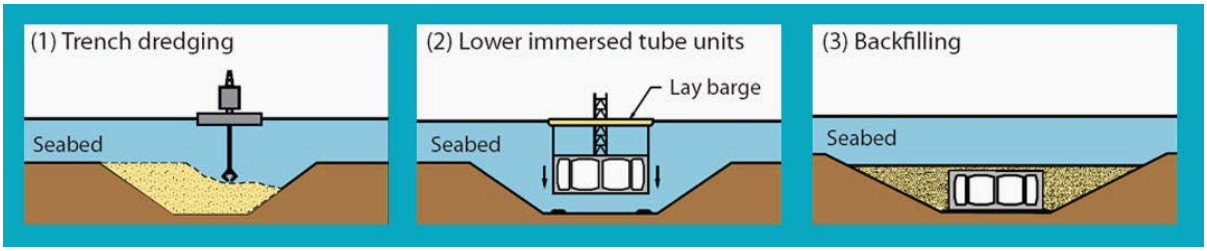
22. The construction team will closely monitor the construction progress by reviewing the effectiveness of progress recovery measures taken to date and reviewing proposals for future works. MTRCL has instructed the contractor to deploy additional manpower and equipment in order to catch up with the progress on the condition that the safety and integrity of the station and adjacent structures would be ensured.

23. Apart from the construction works of the platform, the former Hung Hom Freight Yard is being converted into stabling sidings for SCL train. Foundation works for the stabling sidings will be completed in the second quarter of 2015 and structural works are now underway.

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

24. After the commissioning of the NSC, the existing EAL will be extended to the Hong Kong Island through the newly constructed fourth cross-harbour rail tunnel. A section of the cross harbour rail tunnel near the seashore at Hung Hom will be constructed by cut-and-cover method. Marine working platforms are now being constructed near the seashore at Hung Hom for tunnel construction at a later stage.

25. The section of the cross-harbour rail tunnel between the offshore at Hung Hom to Causeway Bay Typhoon Shelter ("CBTS") will be constructed by immersed tube ("IMT") method (See the diagram below).




Steps of IMT construction

26. The pre-cast units of IMT will be constructed at the ex-Shek O Quarry. Site formation at the quarry is now in progress and the contractor will start to construct the barging point, bar bending yard and concrete batching plant at the site in the second quarter of 2015 for the construction of the pre-cast units of IMT.


Casting Yard for IMT units

27. The trench dredging works of IMT will commence in the second quarter of 2015 to prepare for the lowering of the IMT units, the dredging works will be carried out in phases until 2017.

28. The tunnel construction of SCL is expected to commence in CBTS in early 2016. The construction team will carry out pipe piling and excavation works near the breakwater of CBTS and its vicinity to prepare for the future IMT installation.

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

29. To prepare for the railway tunnel construction of the Hong Kong Island Section, advance works including ground investigation works and soil stabilisation works have commenced at Wan Chai North.

30. The railway tunnels from CBTS and Exhibition Station and from Exhibition Station to Admiralty Station will be constructed by the TBM. It is necessary to construct launching shafts first. One of the launching shafts for the TBM drives is located at the temporarily reclaimed land inside CBTS, preparatory works for the excavation of launching shaft have started to prepare for the launching of the TBM in the third quarter of 2016.

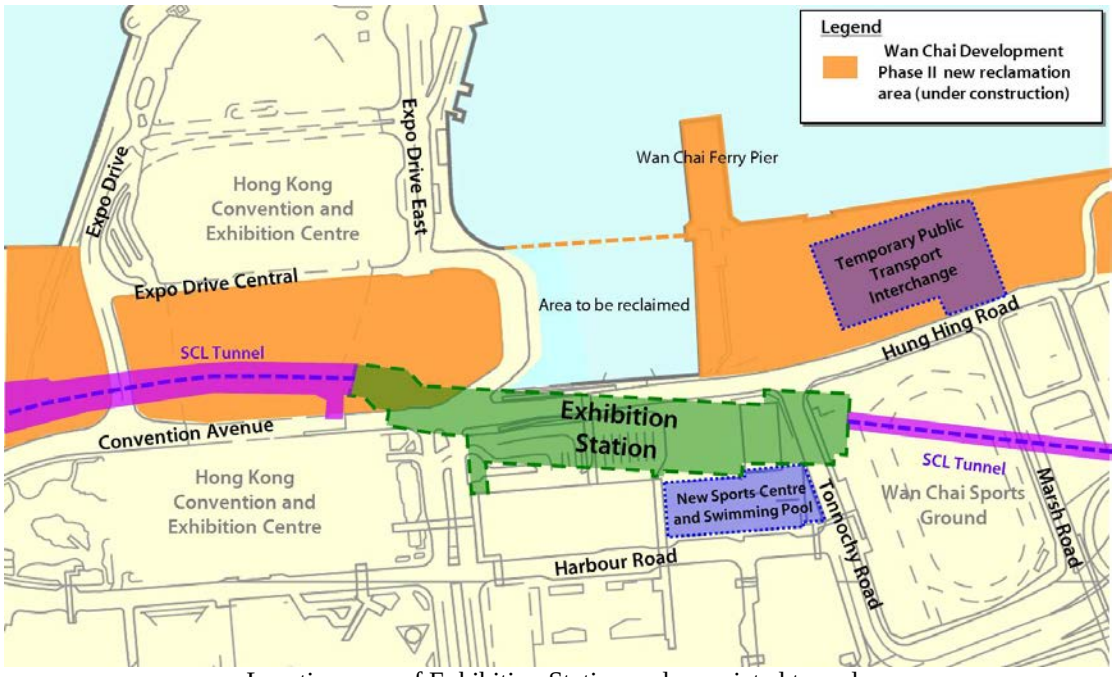
31. To provide area for the ventilation facilities of the section of SCL between Hung Hom and Admiralty, the Police Officers' Club at Causeway Bay will start to demolish in the third quarter of 2015. The club will be reprovisioned and integrated with the ventilation facilities upon completion of railway construction.

32. Exhibition Station will be located under the existing Public Transport Interchange ("PTI") at Wan Chai Ferry Pier. The PTI will be relocated to a new reclaimed site under the WDII in May 2015 in order to vacate the land for the construction of Exhibition Station. Ground investigation works will be carried out at the site in mid-2015 and construction of diaphragm walls will follow. Temporary traffic management arrangements will be implemented in the vicinity to facilitate the construction of Exhibition Station. Traffic lanes of Fleming Road and Convention Avenue will be shifted in phases while the number of traffic lanes will remain unchanged. Since the land required for the implementation of the above traffic arrangements would have to coordinate with other infrastructure projects in the vicinity, as mentioned in the previous paper submitted to the Subcommittee, the critical lands

under the WDII reclamation will be available and handed over to SCL six months behind the original schedule. At the same time, enabling works for the future topside development at Exhibition Station are required. As a result of the above, a delay of six months is expected in the programme of the section between Hung Hom and Admiralty.

33. To facilitate the construction of diaphragm wall within the PTI site, the existing footbridge connecting Eagle Centre/ Harbour Centre with former Wan Chai Ferry Pier will be diverted. A temporary footbridge will be constructed and the existing footbridge will be demolished.

34. The Civil Engineering and Development Department (CEDD) announced in end March about the discovery of a large metal object in the seabed within the reclamation area of the WDII. The discovery affected the reclamation works in that area, with a possible impact on the site handover. The Corporation and HyD have expressed concern about the handover date, and will maintain close monitoring of the progress of the investigation on the metal object by CEDD and assess in due course whether the discovery will delay further to the completion date of the SCL.



Location map of Exhibition Station and associated tunnels

35. Harbour Road Sports Centre and Wan Chai Swimming Pool will be demolished and reprovisioned to make space for the construction of Exhibition Station. The re-provisioning works of the Sports Centre and the Swimming Pool have been in progress since 2013 and progress is as

planned. The new swimming pool will be topped out in February 2015 and building service work is now underway. Upon its completion in the first quarter of 2016, the existing swimming pool will be demolished to make space for the construction of the new Sports Centre and Exhibition Station.

The reprovisioned Wan Chai Swimming Pool was topped out in February this year

## IMPROVEMENT WORKS FOR THE OPERATING RAILWAY FACILITIES

36. Modification works including extension of platforms and roofs are being carried out at Ma On Shan Line ("MOL") stations to facilitate the 8-car train operation of the EWC. The works commenced in 2012 and are nearly 84% completed. The modification works are expected to be completed by mid-2016. The retrofitting works of Automatic Platform Gate ("APG") for MOL commenced at Tai Wai Station in late 2014. The Corporation is committed to completing the retrofitting works of APGs in MOL stations in 2017, one year earlier than originally scheduled.

37. The retrofitting of APGs will also be carried out along the EAL. Before the commencement of the retrofitting works, platforms shall be strengthened in advance and equipment rooms for relevant signalling system and facilities are also required to be constructed. To avoid interrupting normal train services, most of the above works could only be carried out overnight after normal hours of train service. The strengthening works of platform at Sheung Shui, Fanling, Tai Wo, Tai Po Market, University, Fo Tan and Sha Tin Stations are currently in progress and those for the remaining stations will commence in the end of 2015. Construction of equipment rooms for the signalling and communication

systems in the EAL stations are also in progress. The equipment rooms at Sha Tin and University Stations were handed over to the contractor in March 2015 for the relevant signalling equipment works. The retrofitting works of APGs will commence after the completion of the platform strengthening works, as well as the replacement of the signaling system and the use of new trains.

38. Modification and extension works of the existing Pat Heung Depot are being carried out at. Fitting out and E&M works at the extension of the Maintenance Building are in progress. E&M works are underway in the Ancillary E&M Plant Building.

## PREPARATION AND CO-ORDINATION FOR CONSTRUCTION WORKS

39. 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. Around 800 enquiries have been handled. Roving exhibitions have also been toured at 4 interchange stations of the SCL including Tai Wai, Diamond Hill, Hung Hom and Admiralty since mid-2014. Passengers could learn more about the modification and enhancement works at respective stations.

40. Community Liaison Groups ("CLGs") for the SCL have been set up in the districts 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 50 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). Newsletters are also distributed to the local communities in regular basis for the projects updates.

41. Since most of the 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. The teams also arrange site inspections with the local community to address

their views and concerns on the construction works and relevant temporary traffic arrangements.

## EMPLOYMENT OPPORTUNITIES

42. As at March 2015, about 6,600 construction workers and technical/ professional staff members are employed for the SCL project. It is estimated that the project manpower figure will be increased to around 8,200 when reaching its peak in the fourth quarter of 2015.

## CONCLUSION

43. Members are invited to note the above information.

MTR Corporation Limited
May 2015

**Enclosure I**

# Expenditure report as of 31 March 2015

Table 1 – Situation of expenditure

| | **Awarded contract sum for the contracts ( $ million )** | **Cumulative expenditure ( $ million )** | **Estimated amount of unresolved claims* ( $ million )** |
|---|---|---|---|
| Civil works | 42,233.4 | 14,356.6 | 686.0 |
| E&M works | 12,469.1 | 1,059.4 | 0.0 |
| **Total** | **54,702.5** | **15,416.0** | **686.0** |

* The estimated amount of unresolved claim: Amount claimed ($705.8 million) – Interim award ($19.8 million) = $686.0 million (See Table 2)

**Enclosure I**

Table 2 – Situation of substantiated claims

| | **Claims resolved** | | | **Claims unresolved** | | |
|---|---|---|---|---|---|---|
| | Number | Amount claimed ( $ million ) | Amount awarded ($ million ) | Number | Amount claimed ($ million ) | Interim award ($ million) |
| Civil works | 14 | 31.9 | 20.2 | 167 | 705.8 | 19.8 |
| E&M works | 2 | 0 | 0 | 14 | 0 | 0 |
| **Total** | **16** | **31.9** | **20.2** | **181** | **705.8** | **19.8** |

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

2. As at 31 March 2015, the Corporation received 197 substantiated claims and the amount claimed in total was about $737.7 million, representing 1.3% 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 2015, 16 cases were resolved and about $20.2 million was awarded, representing about 0.04% of the awarded contract sum for the contracts. Subject to the needs of individual works and progress of the relevant assessment and discussion, interim award amounting to about $19.8 million was made for some cases.

**Enclosure II**

## Overall works progress of the SCL as of end of 31 March 2015

Overall works completed：31%

Percentage completed as originally planned: 39%

Culminated progress of major civil contracts awarded：

| Contract No. | Contract Name | Percentage completed |
|---|---|---|
| 1101 | Modification of Ma On Shan Line | 84% |
| 1102 | Hin Keng Station and Approach Structures | 48% |
| 1103 | Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange | 58% |
| 1106 | Diamond Hill Station Extension | 53% |
| 1107 | Diamond Hill to Kai Tak Tunnels | 80% |
| 1108 | Kai Tak Station and Associated Tunnels | 59% |
| 1109 | Stations and Tunnels of Kowloon City Section | 42% |
| 1111 | Hung Hom North Approach Tunnels | 52% |
| 1112 | Hung Hom Station and Stabling Sidings | 43% |
| 1114 | Pedestrian Links at Tsz Wan Shan | 47% |
| 11209 | Platform Modification and Associated Works at East Rail Line | 30% |
| 1121 | North South Line (NSL) Cross Harbour Tunnels | 1%* |
| 1125 | Police Sports and Recreation Club Enhancement Works | 100% |
| 1126 | Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool | 53% |
| 1128 | South Ventilation Building to Admiralty Tunnels | 4%* |
| 1129 | SCL - Advance Works for NSL | 91% |

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

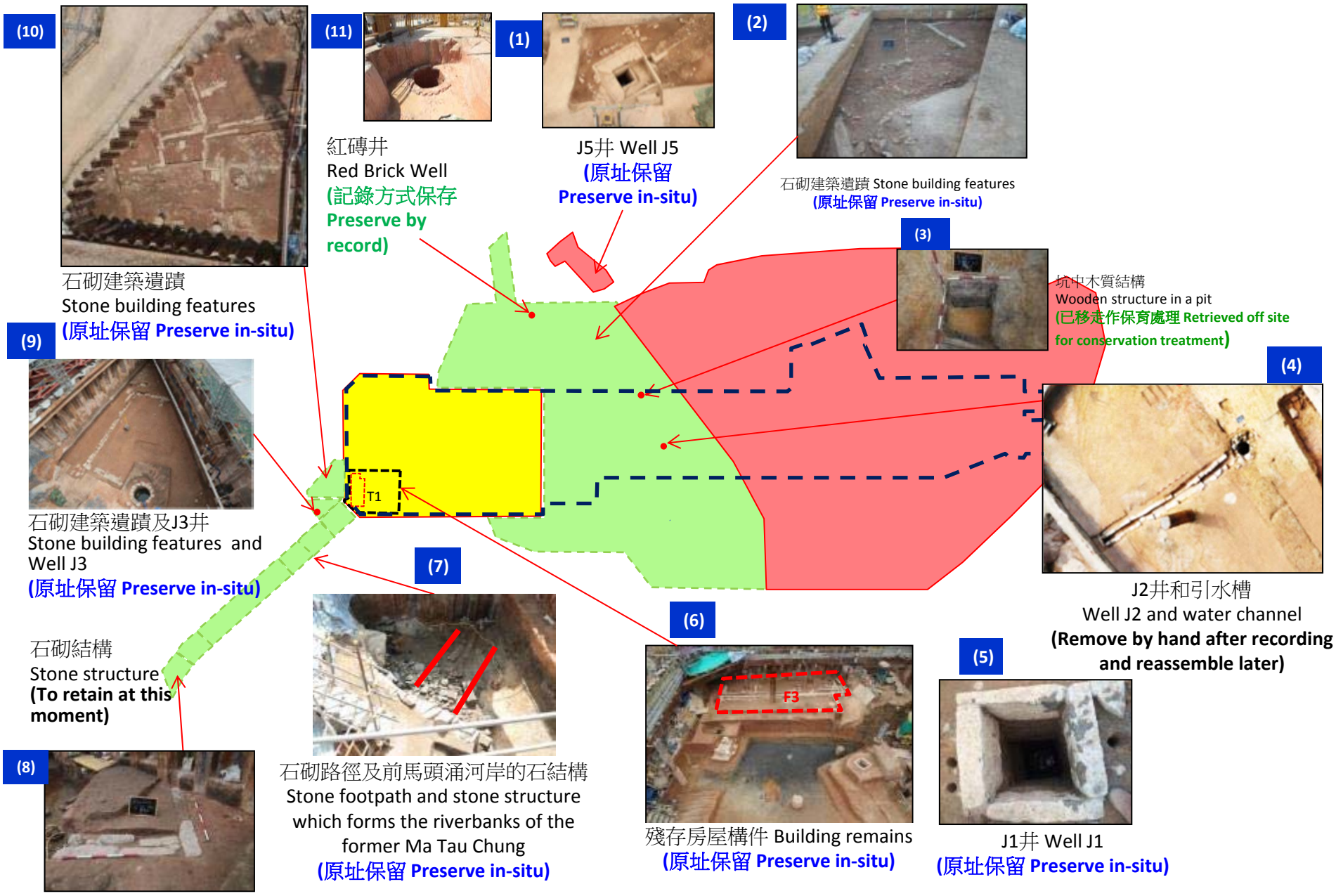
# Annex 3

## 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 20th 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




(10) 石砌建築遺蹟
Stone building features
(原址保留 Preserve in-situ)

(11) 紅磚井
Red Brick Well
(記錄方式保存
Preserve by record)

(1) J5井 Well J5
(原址保留
Preserve in-situ)

(2) 石砌建築遺蹟 Stone building features
(原址保留 Preserve in-situ)

(3) 坑中木質結構
Wooden structure in a pit
(已移走作保育處理 Retrieved off site for conservation treatment)

(4) J2井和引水槽
Well J2 and water channel
**(Remove by hand after recording and reassemble later)**

(5) J1井 Well J1
(原址保留 Preserve in-situ)

(6) 殘存房屋構件 Building remains
(原址保留 Preserve in-situ)

(7) 石砌路徑及前馬頭涌河岸的石結構
Stone footpath and stone structure which forms the riverbanks of the former Ma Tau Chung
(原址保留 Preserve in-situ)

(8) 石砌結構
Stone structure
**(To retain at this moment)**

(9) 石砌建築遺蹟及J3井
Stone building features and Well J3
(原址保留 Preserve in-situ)