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METHOD STATEMENT TITLE	Rev. A
Method Statement for General Underground Utility Survey for Construction Area (CA)	

	Prepared by:	Checked by:	Reviewed by:			Approved by:
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Name:	Nick Wang	Howard Siu / CF Chan	KF Leung / Ernest Young	MH Isa / WH Lam	MH Isa / Iris Ho	Eric Fong
Position:	Site Agent	Construction Manager	SM/SO	QM/QE	EM/EO	Project Director
Date:	20-2-2024	20-2-2024	20-2-2024	20-2-2024	20-2-2024	20-2-2024

Response to Comment on Method Statement for General Underground Utility Survey for Construction Area (CA)

Item	ACC Comment	Created By	Description	Response
1.	Issue #602 – 1.13.6	Adrian Tan	Please clarify extent, whether it includes SSK drive W8, please supplement in Apx A as well.	SSK drive W8 is included in this MS. The Appendix A has been updated.
2.	Issue #603 – 1.13.6	Adrian Tan	Please ensure existing UU infor has been studied and collated. This apx appears not to cover all available info, inclduign those in site info (NEX1064) and other (e.g. 1732 As-built ductings/throughs). This is to ensure the survey to be carried out will be comprehensive and informed.	Noted, the Appendix A has been updated with site information records.
3.	Issue #604 – 1.13.6	Adrian Tan	The survey report shall clearly identify HKTS/OA equipment/services.	The survey report with clearly identified HKTS/OA equipment/services will be submitted separately.
4.	Issue #634 – 1.13.6	Adrian Tan	works shall be led by WPIC. CP(T)/CP(NT) is to look after the works not affect the safety of operating railway. Thus, CP(T)/CP(NT) is to ensure works are within CA area and any opening of the existing Manhole shall notify Depot relevant parties such as IMD in advance.	Noted,
5.	Issue #634 – 1.13.6	Adrian Tan	<p>Please note:-</p> <p>No worker shall enter into the Manhole unless adequate safety measure such as for confined space provided and notify Depot relevant parties.</p> <p>Barrier shall be provided to fence off any opening for safety.</p> <p>The opening shall be closed as soon as possible and do not allow it remain open when not attended.</p>	Noted and added in the updated method statement.
6.	Issue #634 – 1.13.6	Adrian Tan	This Method Statement is for works within CA area only. So this point can be deleted	Noted and deleted.
7.	Issue #634 – 1.13.6	Adrian Tan	This para. is not required here.	Noted and deleted.
8.	Issue #634 – 1.13.6	Adrian Tan	Not require here	Noted and deleted.

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1.	Introduction (Overview of the operation/works)																																								
	<p>This Method Statement gives a general guideline for the execution of the Underground Utility Detection and Survey work procedure for the Construction Area (CA) under Contract 1701. This document shall be distributed to relevant parties to introduce the work scopes, to present the sequence of works and to define the associated responsibilities to ensure the health, safety, environment and quality issues addressed. The details of the procedures contained herewith shall be reviewed periodically and updated based on the actual site conditions. The principle methods as described in the following sections are subject to review during construction and may be amended if required.</p> <p>The general working procedures outlined in this method statement are applicable to the following scopes of work:</p> <ul style="list-style-type: none">● Conducting non-destructive underground utility survey in Construction Area● Provision of underground utility reports and drawings for Construction Area																																								
2.	Reference Documents (Identify relevant documents by name and reference number)																																								
	<ul style="list-style-type: none">● General Specification for Civil Engineering Works (NEC4) (MTR Corporation Limited - 2022)● Particular Specification for Contract 1701.● Materials and Workmanship Specification for Civil Engineering Works																																								
3.	Responsibilities for Activities described within Method Statement																																								
	<p>CSHK is responsible to inspect and carry out the construction works. The following persons, as listed in the table below, will attend the specific tool-box talk and be responsible for the activities:</p> <table><tr><th>Name</th><th>Position</th><th>Area</th></tr><tr><td>Howard Siu</td><td>Construction Manager</td><td rowspan="6">W2A5, W4, W5, W6A,W6B, W7, W8, W10</td></tr><tr><td>CF Chan</td><td>Construction Manager</td></tr><tr><td>Anthony He</td><td>Assistant Construction Manager</td></tr><tr><td>Nick Wang</td><td>Section Agent</td></tr><tr><td>Kanson Woo</td><td>Senior Engineer</td></tr><tr><td>Andrew Lo</td><td>Graduate Engineer</td></tr><tr><td>Vincent Li</td><td>Construction Manager</td><td rowspan="5">W3, W12, W11G, W11D, W11C, W2A1, W2B, W2A2, W2A3, W2A4</td></tr><tr><td>Nana Chung</td><td>Assistant Construction Manager</td></tr><tr><td>Johnson Chun</td><td>Senior Engineer</td></tr><tr><td>David Lam</td><td>Senior Engineer</td></tr><tr><td>Man Hin Li</td><td>Assistant Engineer</td></tr><tr><td>Ted Leung</td><td>Construction Manager</td><td rowspan="6">W11B3, W11A, W11B2, W11B1, W11E, W11F2, W11F3</td></tr><tr><td>Li Yuk Wa</td><td>Assistant Construction Manager</td></tr><tr><td>Jack Wong</td><td>Senior Engineer</td></tr><tr><td>Andy Lo</td><td>Engineer</td></tr><tr><td>Edward Yang</td><td>Graduate Engineer</td></tr><tr><td>Kyle Lai</td><td>Graduate Engineer</td></tr></table>	Name	Position	Area	Howard Siu	Construction Manager	W2A5, W4, W5, W6A,W6B, W7, W8, W10	CF Chan	Construction Manager	Anthony He	Assistant Construction Manager	Nick Wang	Section Agent	Kanson Woo	Senior Engineer	Andrew Lo	Graduate Engineer	Vincent Li	Construction Manager	W3, W12, W11G, W11D, W11C, W2A1, W2B, W2A2, W2A3, W2A4	Nana Chung	Assistant Construction Manager	Johnson Chun	Senior Engineer	David Lam	Senior Engineer	Man Hin Li	Assistant Engineer	Ted Leung	Construction Manager	W11B3, W11A, W11B2, W11B1, W11E, W11F2, W11F3	Li Yuk Wa	Assistant Construction Manager	Jack Wong	Senior Engineer	Andy Lo	Engineer	Edward Yang	Graduate Engineer	Kyle Lai	Graduate Engineer
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	Leung Kwok Fung	Safety Manager	All
	Ernest Young	Assistant Safety Officer	
	Lau Yu Tat	Senior Surveyor	
	Cheung Siu Kei	Superintendent	
	<p>(a) Construction Manager Responsible for overall administration, monitoring, controlling progress and quality of works in a safe manner.</p> <p>(b) Site Engineer/ Assistant Engineer/ Site Foreman Responsible for developing works procedures, controlling progress and quality of works in a safe manner. They also have to implement safety at works area for workers via guidance from safety officers.</p> <p>(c) Safety Manager/ Safety Officer Responsible for assessing working conditions of work areas in safety means. To prepare risk assessment before works, enforce safety works practice and environment in the workplace and work site.</p> <p>(d) Worksite Person In Charge (WPIC) WPIC is in charge of the work in the works areas, which are located at various positions of site. Site Supervisor is also responsible in implementing works control checklist.</p> <p>(e) Registered Electrical Workers (REW) Workers who have valid certificate of registered electrical worker and completed MTR RSI training and obtain qualification.</p> <p>(f) Workers Workers who have completed RSI training and received a valid qualification.</p> <p>(g) Competent Person (CP(T)/CP(NT)) CP shall provide pre-work briefing to all workers and anyone work within the Railway Operation Area (Siu Ho Wan Depot). Briefing attendance records shall be kept on site for inspection. CP shall report to depot before works could commence.</p> <p>Emergency Team contact list is enclosed so that work can be safely arranged to suspend for contingency/ reasons. Please refer to Appendix C.</p>		
4.	Programme and Working Hours (Start & finish date of operation/works)		
	<p>The tentative work commencement is scheduled in Early Feb 2024. The general working hours will be from 08:00 – 19:00 daily, from Monday to Saturday. However, it may be required to carry out works from 19:00 to 23:00 and Sunday and Public Holidays in case of essential speeding up of the working process. CSHK would check internally to fulfil the Construction Noise Permit Requirement.</p> <p>All the works shall be led by WPIC during the approved working period at different areas, details are</p>		

	summarised in the below table. Competent Person for Underground Utilities Survey shall be assigned and in the presence of works. CP(T)/CP(NT) is to look after the works not affect the safety of operating railway. Thus, CP(T)/CP(NT) is to ensure works are within CA area and any opening of the existing Manhole shall notify Depot relevant parties such as IMD in advance.
5.	Plant, Equipment & Material (Identify type, model and specification of MAJOR plant & equipment)
	<p>The major equipment will be deployed to carry out the works are as follow: -</p> <p>For Underground Signal/Electrical Cable:</p> <ul style="list-style-type: none"> ● Radiodetection Precision Locator RD8200 or equivalent ● Ground-penetrating radar (GPR) ● Theodolite ● Tape measures ● Spray paint/ chalk ● Removable tape ● Assorted tools for opening and closing manholes ● Torches ● Manhole cover lifters <p>The specification of major plants and equipment are shown in Appendix B.</p>
6.	Construction Methods
	<p>The location for inspection (for underground drainage, underground signal/ Electrical cables and other pipelines) is summarised on the combined existing underground utility layout with Works Area in Appendix A.</p> <p>6.1 Survey Methods for Underground Signal/ Electrical Cables</p> <p>6.1.1 Prior to beginning the survey, carry out a visual inspection of the area for familiarization purposes. Photographs of each site location shall be taken and kept for reference purposes and inclusion in the report.</p> <p>6.1.2 Locate the corners/ boundary of the area and mark with spray paint/ chalk. Using these points to mark out a grid pattern covering the entire survey area. If this grid overlaps the boundaries of the survey area, scans shall still be carried out over the entire grid. A grid pattern shall be used dependent on the size of the site.</p> <p>6.1.3 Carry out a visual inspection of the area and locate all manholes, valves, vaults and chambers and record their location, size and type. Measurements shall be made using a tape measure. Before open any covers, relevant parties shall be informed.</p> <p>6.1.4 Open all the located manholes, valves, vaults and chambers, measure, and record the depth and the form of structure.</p> <p>6.1.5 For storm water and foul sewer manholes check for pipes and record the depth to the bottom of the pipe from ground level, the diameter of the pipes and the direction of flow, if any, through the pipes. Also, record and measure the dimensions, if possible, of the chamber (i.e. Depth, width & length). For power cables, Electrical & Mechanical Services cable, street lighting cables, cable TV or telecom cable manholes, record the configuration of inlet and outlet ducts and their depths to the top of the ducts</p> <p>6.1.6 Check and record all surface features relating to the underground utilities. (i.e. fire hydrants, standpipes, lamp posts, bollards, traffic lights or telephone booths).</p>

6.2 Methods for Opening Cable Trough, Manhole or Draw Pit Cover

- 6.2.1 Clean the surrounding loose materials and elements to avoid materials fell into the cable trough/ manholes/ draw pit.
- 6.2.2 Use appropriate manholes cover lifters for opening the manhole cover. Below pictures are shown several typical safe working procedures for opening heavy duty manhole cover.



- 6.2.3 The lifting handles are for two-handed lifting
- 6.2.4 Locking nut on the threaded key section shall be secured with the key in place tightly on the cover.
- 6.2.5 Worker shall check the key nut fully insert to the cover hole to reduce risk of dropping cover.
- 6.2.6 Carefully lift up the cover simultaneously with two workers, and then place the cover onto the flat ground.
- 6.2.7 After completion of UU survey, workers shall reverse the above-mentioned procedure to reinstate.

	<p>6.2.8 No worker shall enter into the Manhole unless adequate safety measure such as for confined space provided and notify Depot relevant parties.</p> <p>Barrier shall be provided to fence off any opening for safety.</p> <p>The opening shall be closed as soon as possible and do not allow it remain open when not attended.</p>
7.	<p>Precaution and Preparation Before Commencement of Works</p>
	<ul style="list-style-type: none"> Fully Supervision at all times shall be provided at work fronts, especially for the location with significant interfaces with SHD daily operation or other construction works within depot. Temporary Protective Fence will be installed to isolate work fronts from MTR/s tracks as required in the contract. Advanced coordination and communication shall be made with interfacing contractors to facilitate works nearby. For lifting works by crane lorry or crane, the operator shall ensure a clear and unrestricted view of the load carried in prior to lifting works. CP shall report to depot before works could commence and brief safety rules to workers before commencement of work.
8.	<p>Safety (Risk Assessments)</p>
	<p>8.1 General Safety</p> <ul style="list-style-type: none"> All workers shall attend a site-specific induction course conducted by Safety Team. The Safety Officer shall explain the necessary safety requirements as identified in the Risk Assessment Record and the Construction Manager/ Engineer / Foreman in charge of the work shall explain the system of work to his supervisors and workers. All workers shall be equipped with reflective vests and safety helmets during operation. All workers must go through a briefing by the Construction Manager / Safety Officer / Safety Supervisor before commencement of any works. All workers on site shall obtain an approved "Mandatory Basic Safety Training Certificate". Toolbox talk training with reference to the recommended safety and environmental control measures after Construction Risk Assessment will be provided to the site personnel prior to commencing works. A pre-meeting will be arranged before commencement of the work among Foreman / Engineer / Construction Manager, MTR's representatives and Safety Department to brief the nature of works, the safety aspects and the requirements. Safety helmets fitted with chin straps must be worn within the site, safety boots, hearing protectors (if needed), high visibility jackets / sashes, reflective vest, goggles, gloves and full body harnesses for work at height will be provided to all staff working on site. Warning signs and barriers will be erected where necessary. Particular care needs to be taken when working on or near busy roads. No works will be undertaken unless safe access, including approved and fully implemented TTM / TTAs where necessary. The voltage of any handheld power tools should not exceed 110V and preferably be less than 24V

	<ul style="list-style-type: none"> Any emergency situation shall be reported to Subcontractor and Contractor (i.e. Construction Manager / Engineer / Foreman and Safety Department, etc.) for prompt response. The emergency contact list is shown in Appendix C. <p>8.2 Risk Assessment The risk for the works shall be assessed and the Risk Assessment Analysis is shown in Appendix D.</p>
9.	Environmental
	<ul style="list-style-type: none"> Trees The risk of causing damage to existing trees during survey works is low. If any of the proposed location is immediately adjacent to an existing tree, Construction Manager will be informed immediately for resolving.
10.	Quality Control
	Refer to Appendix E for Inspection and Test Plan. Construction works shall be fully complied with Quality Plan. For work activity which is classified as "Quality Hold Point", no subsequent work can be started unless the former work activity was inspected and accepted by MTR's inspectorate.
11.	Appendices (Identify and include additional information in the submission package)
	A. Combined Underground Utility Layout B. Technical Specification of Major Equipment C. Emergency Contact List D. Risk Assessment E. Inspection and Test Plan (ITP)