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METHOD STATEMENT TITLE	Rev. -
Method Statement for Tree Felling Work at Sham Shui Kok Drive	

	Prepared by:	Checked by:	Reviewed by:			Approved by:
Signature:						
Name:	Kanson Woo	Howard Siu / CF Chan	Leung Kwok Fung / Ernest Young	MH Isa / ~~WH~~ Lam	MH Isa / ~~Iris~~ Ho	Eric Fong
Position:	Engineer	Construction Manager	~~SM~~/SO	~~QM~~/QE	~~EM~~/EO	Project Director
Date:	23/02/24	23/02/24	23/02/24	23/2/24	23/2/24	23/2/24

CONTENT

1. Introduction

This Method Statement is a safety working method & procedures documents to describing the health, safety, environment & quality requirements for carrying out the tree fell, preservation and protection plan under the Contract 1701. The methodologies of elimination, mitigation and control of risks shall be addressed.

The Details of protection, transplanted and removal shown as **Appendix A**. The principle methods as described in the following sections are subject to review during construction and may be amended if required.

2. Reference Documents

- 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

CSHK is responsible to inspect and carry out the construction works. The responsible persons are listed below and be responsible for the activities:

Name	Position	Area
Howard Siu	Construction Manager	W2A5, W4, W5, W6A, W6B, W7, W8A, W8B, W10
CF Chan	Construction Manager	
Anthony He	Assistant Construction Manager	
Nick Wang	Site Agent	
Kanson Woo	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	
Leung Kwok Fung	Safety Manager	All
Ernest Young	Assistant Safety Officer	
Lau Yu Tat	Senior Surveyor	
Cheung Siu Kei	Superintendent	

(a) Construction Manager
Responsible for overall administration, monitoring, controlling progress and quality of works in a safe manner.

(b) Site Engineer / Superintendent / 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.

(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.

(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.

(e) Registered Electrical Workers (REW)
Workers who have valid certificate of registered electrical worker and completed MTR RSI training and obtain qualification.

(f) Workers
Workers who have completed RSI training and received a valid qualification.

(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.

Emergency Team contact list is enclosed so that work can be safely arranged to suspend for contingency/ reasons. Please refer to **Appendix D**.

4. Programme and Working Hours

The method statement is applicable for tree fell, preservation and protection under Contract 1701. The general working hours will be from 08:00 – 18:00 daily, from Monday to Saturday and expected to be completed within a week. 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.

All the works shall be led by CP(T)/CP(NT) during the approved working period at different areas, details are summarised in the below table. Competent Person for Underground Utilities Survey shall be assigned and in the presence of works.

Location of Works	Allowed Working Period	Remarks
Mainline	Non-Traffic Hour	3 days per week

	(02:00 – 04:00)	
Test Track	Night Shift (Exact time to be coordinated)	3 days per week
Depot Track Area	Non-Peak Hour (11:00 – 15:00) Night Shift (Exact time to be coordinated)	

5. Plant, Equipment & Material

All equipment will be inspected prior to the mobilization on site to ensure that they are in good working condition and comply with the current regulations.

For Tree Felling

- Labels
- Hand-saw (Petrol / Cordless electric)
- Grab Lorry
- Chain saw (Petrol / Cordless electric)
- Aluminium mobile tower
- Aerial working platform
- Mobile Crane
- Flatbed Tractor & trailer

6. Works Methodology

6.1 Preparation Works

- Trees to be felled were marked with label. Contractor shall only fell those trees shown as **Appendix A**.
- Before the tree felling, the trees will be cordoned off by temporary fence to fence off the operation area and other people from their falling zone. The cordoned off area should be as far as practicable, based on on-site situation.
- The worker holds relevant certificates (Chainsaw Safety Pruning, Tree Climbing, etc)
- All certificates and documents of equipment required shall be checked on site.
- Pre-work Briefing or training shall be provided to workers by frontline supervisors daily.
- Non-transparent plastic panels shall be provided at adequate distance around the tree to be felled.
- "Lookout man" shall be provided to standby outside the tree felling works area during the whole operation to keep anyone from not entering the workplace.
- Outmost care shall be taken into consideration during the felling works to avoid adjacent existing properties and plants to be retained/ transplanted from any damages.
- All worker for tree felling works shall wear their personal protective equipment, such as safety belt and helmet, at all times of the works.
- Protection from damage of existing underground utilities shall be completed commencement of the tree felling works.
- An escape route shall be established. A path of escape from the work area shall be determined for the chain saw operator to use after the felling cuts are made and the tree begins to fall. An ideal escape route should be at a 45-degree angle from the tree's direction of fall.

- The escape route shall be cleared of any brush or ground debris, including any equipment. The minimum retreat distance shall be 6 meters.
- A least 2 ground operators shall manage pedestrian safety at 2 ends of the works area during the whole operation
- TTA will be provide if necessary.

6.2 Tree Felling

6.2.1 Sequence of Tree Felling Works by Climbing (Scenario 1)

- Tree Felling will comply with the standard of American National. Standard for Arboricultural Operations (ANSI Z133) - Safety Requirements.
- Before starting any tree felling work, the supervisor will coordinate with site representative to ensure that no trees are felled wrongly. All trees to be felled shall be confirmed ad double checked by the Supervisor.
- Cherry picker/ working platform/ crane lorry will be used, if necessary, to facilitate the removal of tree by pieces and it will be temporarily parked inside the site only. During the working at height on the trees, the workers shall wear the proper personal protective equipment including protective shoes, goggles, gloves, safety helmet with chin-strap, reflective vest, and safety harness.
- The worker should wear a safety harness with the secured self-retracting lifelines (sala block system attached at the anchor point of Cherry picker Cherry picker/ working platform/ crane lorry). Anchor points must always be attached above the head.
- A temporary working area will be cordoned off and alert others and against the hazards of falling objects.
- The tree will be felled piece by piece using rigging/ cherry picker/ working platform which will be started from tip of branch piece by piece until all branches removed. Then the trunk shall remove from top to the bottom also piece by piece above ground level.
- The tree workers will get to the crown of the slope trees by tree climbing if necessary, depending on site constraint shall also consider the risk of electrocution, especially if branches being fell off to the overhead line. This might cause serious injury to the staff and any workers nearby. The tree workers who climb the tree should be qualified tree worker. Starting the tree felling, the worker will cut the crown pieces by pieces with poles saws or chainsaws after holding the branches firmly by min.12mm rope to ground or any suitable rigging points.
- In general, for branches with Diameter at breast height (DBH) between 100mm to 300mm, maximum length of each piece should be 5 m. For branches with DBH 300mm, maximum length of each piece should be 2m. However, the dimension of the cut pieces could be adjusted based on the on-site situation including target availability, slope gradient and the presence of buffers, for example, for the trees adjacent to public road, maximum size of cut piece should limit to 1.5m in length to reduce risk. For higher target availability, the cut branches will be lifted by min.12mm rope to the ground safely so that the lowering of cut limbs and stumps to avoid causing injury to person and damage to property. After the cutting of branches, the main trunk will be held firmly by the min.12mm ropes to limit its movement. Then the trunk will be cut at trunk base. Then the trunk will be laid onto the ground by the min.12mm ropes and will be cut into pieces that can be removed by the grab lorry from the site.
- There might be some minor adjustment of the felling procedure in account of the on-

site situation, with the same safety manner.

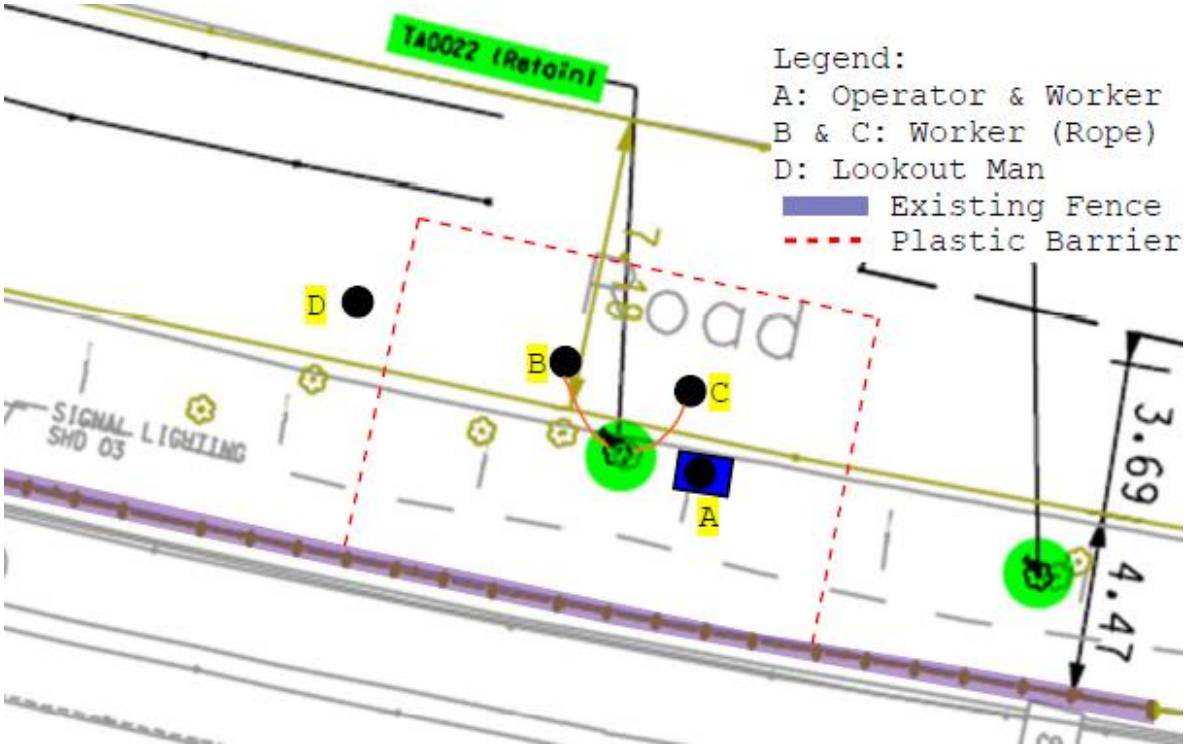
- Tree trunks and branches shall be removed in pieces for reasons of safety and to such a manner that any potential damage to the public and adjacent railway utilities, services or pipes, structures, slopes or stream course vegetation is avoided. Care should be taken to avoid damaging such facilities
- Other existing trees to be retained adjacent to the trees to be felled shall be maintained properly, care should be taken to avoid damaging any structures or neighbouring trees, stubs, grass or surfaces.

6.2.2 Sequence of Tree Felling Works (Scenario 2)

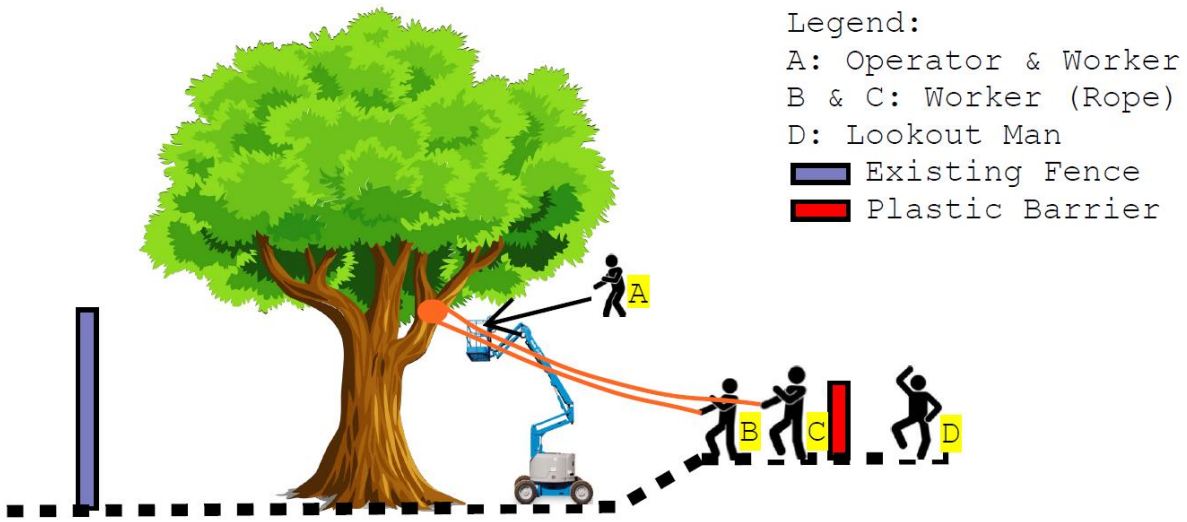
- Position the mobile crane and aluminium foldable mobile tower on ground at optimum distance from tree to be felled.
- Fence off the tree felling work area before operation.
- Securely tie the chain saw to the man cage of aluminium foldable mobile tower or aerial working platform to avoid chain saw falling.
- Tagline should be fastened to the tree branch which will be cut.
- The cutting shall be started from the tallest branches to the lower branches.
- Fasten and tie one end of the tree branch to be felled with min.12mm heavy-duty rope by the skilled workmen in the man cage and the other end of the min.12mm rope to be attached to the crane's b in order to control the felling down position of the tree branch.
- Cut the bottom of the tree branch with the chain saw at about 1 inch depth.
- The cut section of branch / truck shall be slowly brought down and directed to a safe location within the work area. The cutting length for all diameter of trunk shall be 500mm with safe working load 1 ton.
- The stump shall be removed by hand grubbing and winching; stump cutting machine: hydraulic lifting or other method approved by the Engineer.
- The felled tree branches and trunk shall be cut into pieces and removed offsite at the end of each working day to our nursery for mulching or compost.

6.3 Rigging system

- Rigging system shall be used to control the falling zone of the tree branches during removing the trees located near the road or foot path.



Plan



Section

7.	**Safety**
	● All workers shall be equipped with reflective vests and safety helmets during operation. All workers must go through a briefing by the Construction Manager / Engineer / Safety Officer / Safety Supervisor before commencement of any works. ● A pre-meeting will be arranged before commencement of the work among Survey Team, Construction Team and Safety Team to brief the nature of works, the safety aspects and the necessary safety requirements as identified in the Risk Assessment in **Appendix D**.

	● To ensure the worker carrying out the tree felling works are fully informed of the risks and they are aware of the measures to control those risks, the Briefing will be provided before operation commence. ● Safety helmets fitted with chin straps must be worn within the site, safety boots, hearing protectors (if needed), high visibility jackets / sashes, reflective vests, goggles, gloves and full body harnesses for work at height will be provided to all staff working on site. Plastic barriers and reflective traffic cones will be prepared prior to work commencement to demarcate the working area. ● Permit-to-Dig system shall be implemented and strictly followed to mitigate the risk of damages to underground utilities. Relevant valid underground utilities plans shall be obtained and cable detection shall be conducted by competent person before commencement of works. Briefing shall be conducted to workers to acknowledge them on the underground utility conditions at the works area and precautions required. The proposed working area should be marked physically on site by CP. ● Any emergency situation shall be reported to site supervisors (i.e. Construction Manager/ Engineer/ Foreman etc.) and Safety Department for prompt response. The emergency contact list is shown in **Appendix D.** The risk for the works shall be assessed and the Risk Assessment Analysis is shown in **Appendix C**.
8.	**Environmental**
	The following mitigation measures will be followed: - General works shall be carried out during normal working hours (08:00 to 18:00). No works using PME will be carried out after 07:00pm on Sunday and public holiday without a valid construction noise permit. - The risk of causing damage to existing trees during survey works is low. If any survey will affect the existing tree, construction team will be informed immediately for resolving. - Excavated soil shall be stocked pile at designated area and covered properly by tarpaulin sheets to prevent dust generation and reused on site prior to disposal. - The tree debris produced during the tree removal shall be stored in the empty area temporarily. The tree debris shall not be stored in site for more than 7 calendar days. - ULSD Diesel will be used in all PME - Plant with QPME label will be employed if available - All chemicals will be placed on drip tray - Any wastewater produced during the work will be treated prior to disposal
9.	**Quality Control**
	Refer to **Appendix B** 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.

10.	Appendices
	A. Construction Drawing B. Inspection and Test Plan (ITP) C. Risk Assessment D. Emergency Contact List