MS Reference Number:	CSHK	CET	MS	C	2024	000088
ACC Reference Number:	1701	W	000	CSC	760	000431

METHOD STATEMENT TITLE	Rev.-
Site Clearance and RP Fencing Installation at W2 including OYB Northern Station Structure, Bifurcation Area and Depot Edge Pile	

	Prepared by:	Checked by:	Reviewed by:	Reviewed by:
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Position:	Assistant Construction Manager	Construction Manager	SM/SO	QM/QE
Date:	3-May-2024	3-May-2024	3-5-2024	3-5-2024
	Reviewed by:	Reviewed by:	Reviewed by:	Approved by:
Signature:		WL Yeung.	M. Mcleenon.	Eric Fong
Name:	James Ma / Iris Ho	Yeung Wai Lun	Paul Freeman/ Mark McGleenon	Eric Fong
Position:	EM/EO	A. Project Director	Sr. Project Director / A. Project Director	Project Director
Date:	3/5/24	3/5/24	06/05/2024	6/5/24

Document Title: 1701 - MS of Site Clearance and RP Fencing Installation for OYB Station, Bifurcation Area and Depot Edge Pile

Document Revision:

Deadline:

Item	Section	Reference	Comment	Contractor's Response
			General items still to be addressed and acceptance is subject to these:	
1			1) Detail alignment design against constraints (existing throughs, brackets, OHL, ground conditions, drains)	Please refer to Appendix C, the RP fence layout plan.
2			2) Survey and protection/diversion of existing equipment	the as-built drawing of existing equipement will be submitted separately. We will protect all the existing equipment prior to commence the construction works
3			3) Design&installation of crossing platform	The material submission of crossing platform will be submitted separately.
4			4) Agreement on the level crossings and gates	The MS of level crossing and gates will be submitted separately. Before submitting the MS, we will get the approval of MTR for location of level crossing and gates.
5			5) Temp platform design	The temp platform design to be submitted in separate submission
6			6) Lifting plans, controls and any required BUGN	The general lifting over test track to be submitted in separate submission
7			7) Management of surface water after u-channel removal and the extent of removal.	The surface water/drainage management to be submitted in separate submission
8			8) Please agree and clearly list out which works are subject to EDOC (or BUGN), such that certain works can commence prior.	Please refer to the revised MS.
9		1.13.27 RP Comment	RP attached comment on the MS, items:	
10			Earthing system details	Please refer to the revised MS, the layout plan are shown in Appendix C.
11			Lifting Arranagement	Please refer to the revised MS.
12			Insulation mat shall be provided and installed at RP Fence at OHL Level	Noted. Please refer to the revised MS.

CONTENT

1. Introduction (Overview of the operation/works)

Prior to the commencement of piling works, station/depot structures and the new track bifurcation Works, a 4.5m or 7m high Railway Protection (RP) fence shall be installed to protect the existing railway infrastructure from the adjacent construction Works.

This method statement describes the general method and sequence of site clearance and RP fence installation at Works Area W2 within the depot area, located between the mainline and test trac, from GLA1 to GL120 as shown in Figure 1.1. The method statement for the site clearance and RP fence installation at OYB south shall be submitted separately.

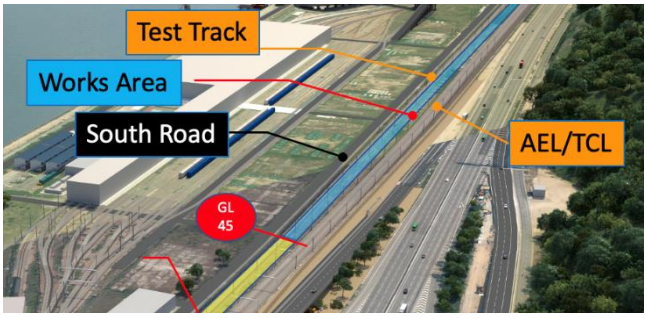


Figure 1.1 Location Plan for RP Fence at W2 located between the Mainline and Test Track

Supplementary method statements shall be submitted separately to tackle any condition encountered on site that requires a specific RP fence detail to be developed. The detailed protection fence setting out plan or installation details will be provided under separate submission. As the works will be carried in the Operation Areas, EDOCs will be required to be submitted. The lifting plan and protection measures to the existing OA equipment/utilities shall be submitted separately after detailed site inspections and surveys have been completed.

All UU diversions along the mainline and test track as show Figure 1.2 below (such as signalling equipment, cable trough, cable draw pit, etc..) shall be completed by the designated contractors before commencement of the site clearance and RP fence installation. UU detection will be conducted after site clearance to verify if any uncharted UU is found. The method statement for UU detection is under separate submission.

Figure 1.2 Cable diversion from existing cable trough shall be completed by DC

The installation method for the level crossings across the test track and forming access gates within the existing RP fence will be submitted separately.

2. Reference Documents (Identify relevant documents by name and reference number)

(Library) Working Paper No.6 – Railway Protection
Approved EDOC (pending) for RP fence installation
Approved BUGN (pending) for RP fence installation, if required
PNAP APP-24 & PNRC14 as reference documents

3. Details of Sub-Contractor/Specialist Sub-Contractor

The works will be carried out by our subcontractor (pending award) and supervised by our front-line staff such as foreman and engineer. We will also provide full time CP(T) (Railway Safety Rules and Requirements) on site, 1 CP(T) will be appointed for 20 workers at the same work area and at each work front. All workers shall possess the Railway Safety Training (RSI) qualification. In addition, a WPIC will be assigned to supervise the construction works at each work site / each work front.

4. Responsibilities for Activities described within Method Statement

CSHK is responsible to supervise, 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:

Company	Name	Position
CSHK	Vincent Li	Construction Manager
	Nana Chung	Assistant Construction Manager
	Lewis Ng	Assistant Section Agent
	David Lam	Senior Engineer
	Johnson Chung	Senior Engineer
	Sam Tsang	Engineer
	Edmond Man	Engineer
	Li Wenguang	Engineer
	Kinsley Zhao	Assistant Engineer
	Li Man Hin	Graduate Engineer

	Cheung Siu Kei	Superintendent (WPIC)
	Benny Yeung	General Foreman
	Jacky To	Foreman
	Chan Man Hin	Foreman
	TBC	CP(T)

5. Programme and Working Hours (Start & finish date of operation/works)

The works are planned to commence in June 2024 subject to the method statement/EDOC approval.

Access to the works area (W2) will initially be via the existing emergency gate 4 (EAG 4) and 5 (EAG 5). Temporary new accesses will be constructed at the existing test track (proposed works access Gate TT06, Gate TT07 and Gate TT0A. The method statement for the installation of these will be submitted separately). Subject to site condition and agreement with depot/RP/HKTS, the works will be carried out during a combination of NTH, TH and NPH, subject to the PA works approval. For any lifting over the Test Track, the OHL must be de-energised, earthed and isolated. An AP and PTW(E) are required to supervise the OHL isolation works.

1.Site Clearance, ground levelling, Construction of Temporary Platform, Installation of Earthing System and Installation of Cross Track Duct in W2

Item	Works	TH/NPH/NTH	EDOC	BUGN
1	Setup waterfilled barrier along the test track and install orange net, firmly fixed on the mainline side, of the existing cable brackets. We will provide a CP(T), WPIC to carry out the works	NPH/TH	☒	☒
2	Site clearance of the cable trough, vegetation, level up the ground condition	TH	☒	☒
3	Form the working platform for the RP Fence and piling works	TH	☑	☑
4	Install the earthing system at ground level	TH	☒	☒
5*	Install the RP Fence along the mainline side	NTH	☑	☑
6*	Install the RP Fence along the test track side	NPH	☑	☑
7	Backhoe access across the test track	NPH	☑	☒
8	Materials lifting over the test track with a mobile crane.	NPH	☑	☑

6. Plant, Equipment & Material (Identify type, model and specification of MAJOR plant & equipment)

All plant and equipment will be inspected prior to mobilization on site to ensure that they are in good working condition and comply with all current regulations. A plant permit system and permit to lift will be adopted to ensure the condition of the lifting crane and lifting equipment are checked before use.

To meet the programme requirement, 6 work fronts will be mobilised for OYB North. The major plant and equipment that will be deployed to carry out the works are as follows: -

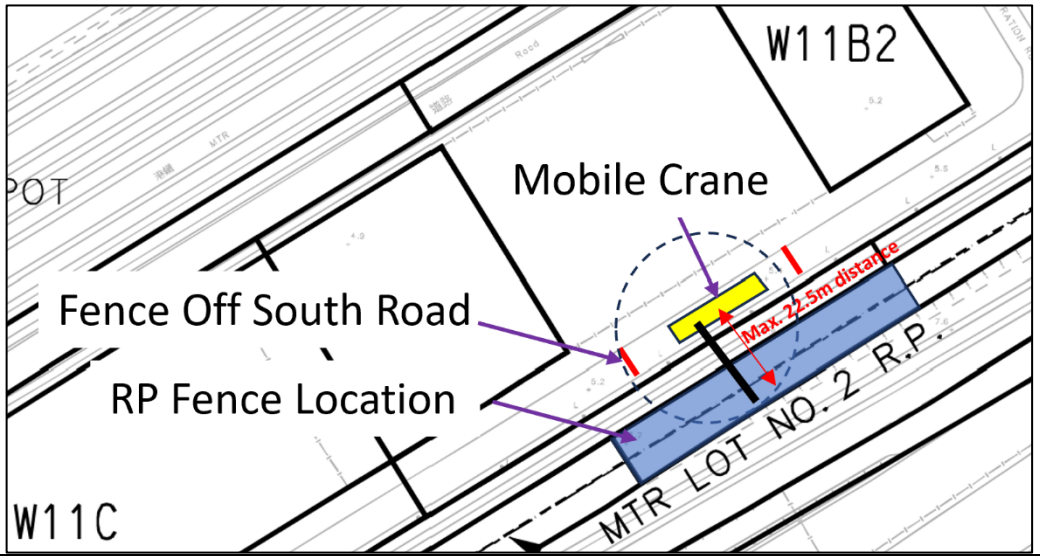
Northern work area at SHD Depot at W2
6 no. Workfront

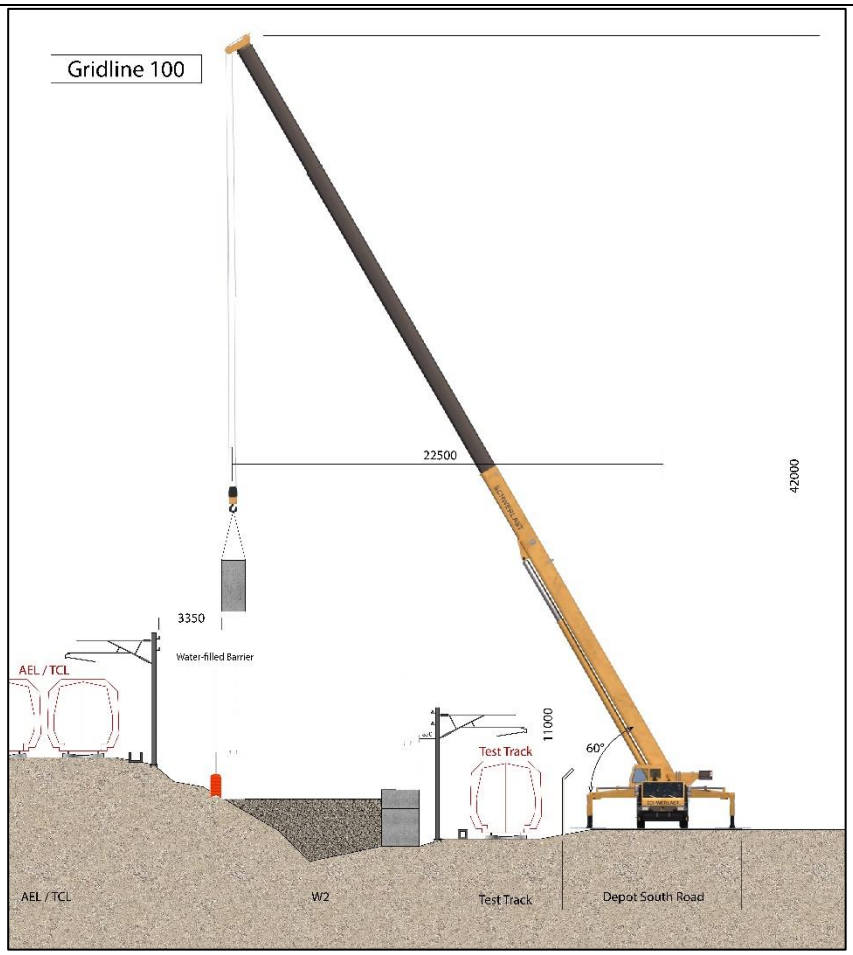
Plant / Equipment	Quantity
Backhoe (Northern work area at SHD Depot)	6
Mobile Crane (Northern work area at SHD Depot)	6
Cherry Picker	6
Compactor	6

Manpower	Quantity
General Labour	40
Driver	6
Rigger	12
Operator	6

Lifting Arrangement

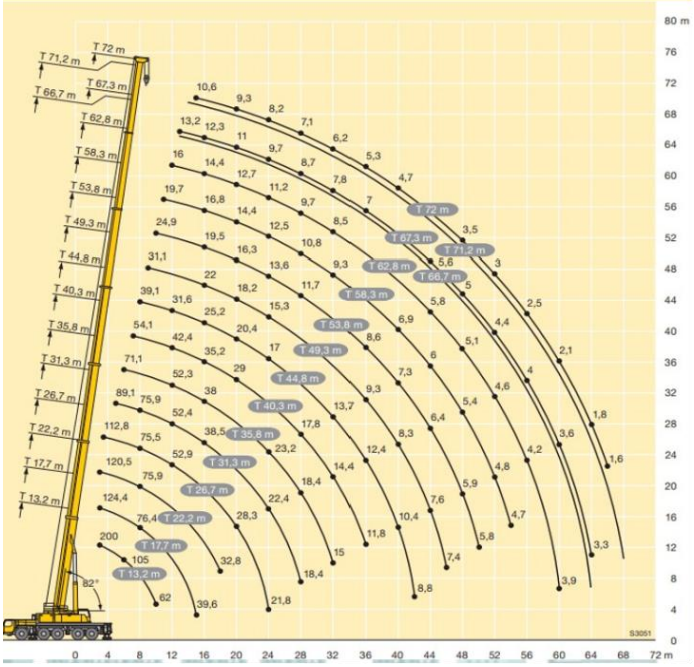
No part of the mobile crane/crane lorry will work beyond the water filled barrier and the maximum lifting load shall be <80% of the SWL.
The weight of the lifting gear must be included as part of the lifting load.
For any lifting operation, the mobile crane / crane lorry outriggers must be fully extended and the unsafe zone fenced off. For details of the lifting work over the test track, please refer to Section 8.5 and the general lifting method statement will be submitted separately.





90 Ton Mobile Crane

- Concrete Block weight = 7.1 ton
- Fence Frame = 0.32 ton
- Lifting Distance <24m, boom length from ground<44.8m = 15.3Ton
- 80% Safety Factor = 15.8 * 0.8 = 12.2Ton > 7.1 ton OK!



7. Traffic and Security Management

Contractor Vehicle Arrangement

Access to the site shall be as follows:

- Access to W2: Up to May 2024, access to the site will be via the west gate and west level crossing as shown in Figure 7.1.

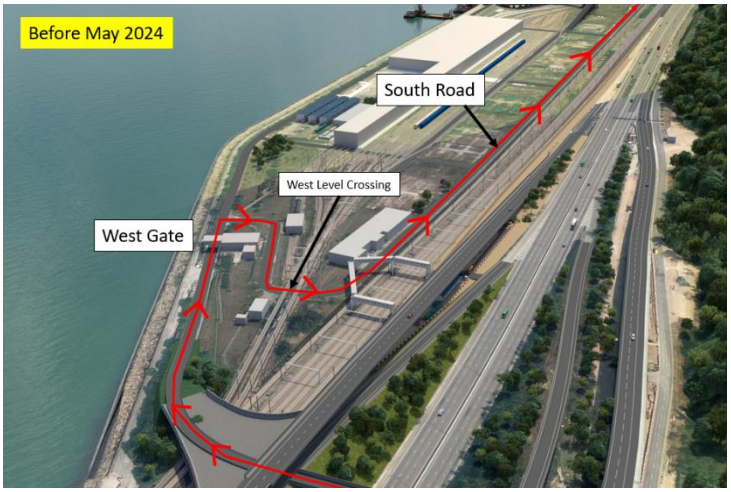


Figure 7.1 Access to W2 before May 2024

- From June 2024, access to W2 will be from the east gate and the steel vehicle bridge as shown in Figure 7.2.

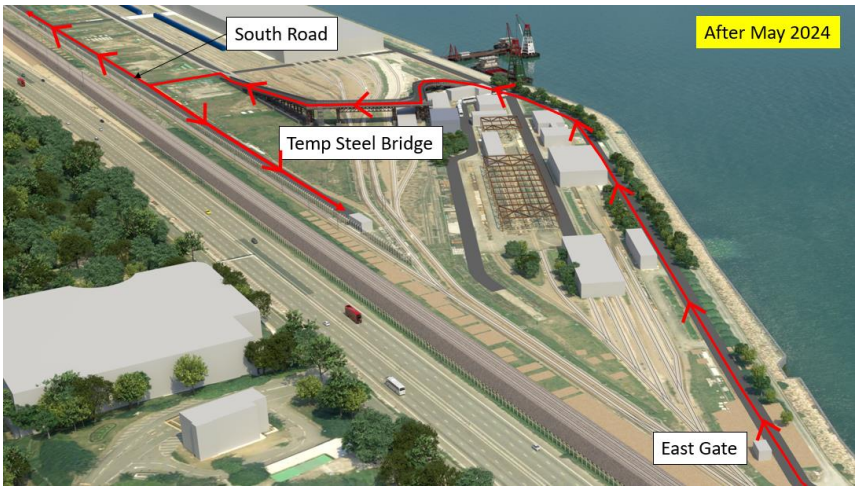


Figure 7.2 Access to W2 After May 2024

The procedure to access the site from West gate and West level crossing is as follows:

- Pre-registration of the vehicle number plate and driver information will be provided to the Security Operation Centre (SOC) to obtain the entry permit through the west gate.
- Contractor Vehicle shall display the entry permit, a label with the wordings '1701 contractor vehicle' and location plan, and the destination on the windscreen.
- CSHK will report the total number of workers 'In/Out' Records to SOC Daily.
- Pre-registered vehicles shall not carry unauthorized/unregistered passengers.

- Before entering the west gate, the CSHK CP(T) will measure the height of vehicle to ensure the height is within 4m.
- After entering the west gate, the Contractor Vehicle will be accompanied by the escort vehicle with CP(T).
- No vehicle over 4m high and below 4.5m high is allowed unless a Permit-to-Move is issued by CWBU to DCC for approval. Vehicle height measurements/ checks shall be conducted by CP(T)s before entering depot areas and passing through the west level crossing.
- When accessing the west level crossing, the escort car of the CP(T) shall communicate with DCC in order to get permission to drive across the level crossing. The CP(T) shall inform DYM when vehicles are passing through the yellow line underneath the height restriction gauge, and within the double white zone. No vehicle Reversing is allowed.
- Permitted vehicles must be driven through level crossings at a speed of not more than 10kph.
- All vehicles, except shuttle buses for staff and workers, shall not enter from the West gate between 7:30am to 8:30am in order to minimize traffic congestion.
- Details of the traffic and security management plan are provided under separate submission.
- All security guards shall have RSI training.

Worker Verification

- All workers will be picked up at designated collection point such as Tung Chung Station.
- During boarding of the shuttle bus, hand-held facial recognition will be performed to verify the worker's qualification.
- The facial recognition system will check if the person has passed the RSI and possesses a green card.
- A list of workers shall be submitted to MTR for registration before starting of works. The list shall be updated weekly and available for MTR as requested.

Uniform and Safety Equipment: All workers shall wear PPE and the standard uniform and safety helmet for easy recognition by the security guards and YM.

Template of Label for Safety Helmet

Identify the color for the Safety Helmet

Reflective Vest (MTR Approved Type) 反光衣(港鐵指定款)

Gate Arrangement

During site clearance and construction of the RP Fence, access to the work area will be via the existing gates EAG4, EAG5 and proposed gate TT06, TT07 and TT0A. All the gates will be closed and locked when not in use. The key will be provided to the Depot DCC/IMD for proposed gates TT06, TT07 and TT0A.

8.	Construction Methods / Construction Sequence Drawings

In general, this method statement covers: i) site clearance, ground levelling and building of the temporary platform for the RP fence installation, ii) RP fence installation
Prior to start the site work, the CCTV and C-smart facilities will be installed on site, the MS for CCTV and C-smart Installation will be submitted in the separate submission.

8.1 Site clearance, ground levelling and building the temporary platform for fence installation

Workfront in W2

Prior to the RP fencing installation, site clearance and ground levelling will be carried to remove vegetation, abandoned cable troughs, remove the cable manhole, track signage and to level up the ground condition.
We will use the hand tools to remove the vegetation. For remove the cable troughs and manhole we will erect shed net to fence off the drilling area, use the electric portable drill to break the concrete and then remove the broken concrete at the same shift. Handheld grinder will be used for existing equipment removal including the existing signage, existing gate relocation, and existing RP Fencing. The hot-work permit will be executed. The fire servers and equipment and fire marshal will be provided.
To meet the programme requirement, it is planned to have 6 work fronts at peak as shown in Figure 8.1-1 below.

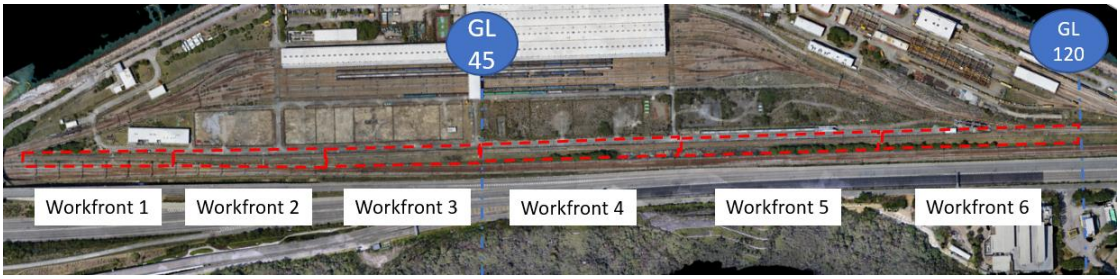


Figure 8.1-1 Workfronts to be mobilised for W2

The existing ground condition varies between grid lines as shown in Figure 8.1-2.
Between GLA1 to GL45; generally flat ground area
Between GL45 to GL58; from test track 5m is flat ground, then slope area.
Between GL58 to GL77; from test track 3m is flat ground, then rock slope area.
Between GL77 to GL100; from test track 6m is flat ground, then slope area.

Between GL100 to GL120; all area is flat area.

Figure 8.1-2 Existing Ground Condition at W2

As the working area is 10.7m wide, including 2.7m width for the RP footing and sheet/PBSH pile installation, a temporary platform is required to be constructed to provide a level surface to carry out the works.

At locations with flat ground

Referring to the existing site condition, from GL 1A to GL 45, granular sub-base will be used to fill and level up the existing ground condition and shall be well compacted. The ground surface will be compacted by the vibratory roller with repeated passes, the actual passes subject to the weight of roller and thickness of subbase. The maximum depth of the filling materials is 150mm.

Step 1- Install barrier

Waterfilled barriers will be installed along the test track (2.8m distance from the centre of track) with orange net securely fixed to the existing cable brackets along the mainline side in order to confine the workfront as shown in Figure 8.1-3. After enclosing the works area with water filled barriers and orange net, the workfront area will be declared as a CA Area. Subsequent work can then be carried out during TH, except for passing or lifting over the test track which can only be undertaken during NPH.

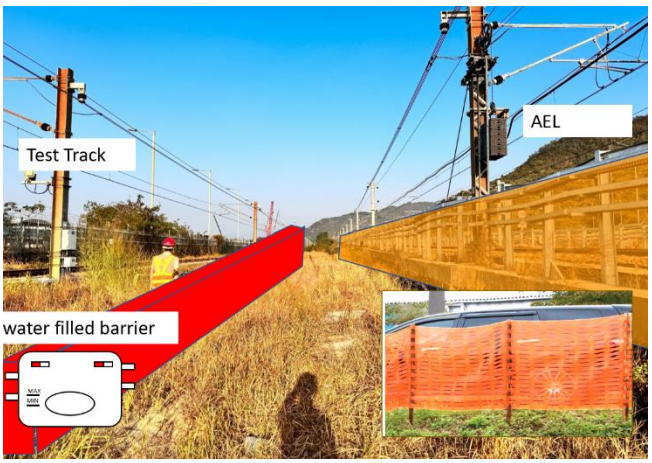


Figure 8.1-3 Arrangement for Water Filled Barrier and Orange Net

Step 2-Remove Vegetation

A 3 or 5-ton excavator, to suit availability, will be delivered to the works areas via the access gates and across the test track. To allow the excavator to cross the test track a prefabricated temporary platform will be built to deck over the track when the temporary level crossings are not available. The temporary platform will be removed after the excavator has crossed over the test track. The platform (Figure 8.1-4) will be installed and removed during the same shift and will be designed to allow for lightweight components that can be installed using either the 3 or 5 ton excavator or a mobile crane located on the South Road. Site clearance and ground levelling will be carried out with the assistance of the excavator. In general, granular sub-base will be used for ground levelling. The sub-base, if required, will be delivered to the works area by 5.5 ton dump trucks via the level crossing or steel platform (if the level crossing has not been installed).

Figure 8.1-4 Temporary Platform for Backhoe Access Over the Test Track (will be built and removed during the same shift)

The existing RP fence will be temporarily removed locally to allow the excavator to cross the test track and reinstated immediately after the works. The connection details to allow temporary removal of the existing RP fence are shown in Figure 8.1-5, the location for temporary removal of existing fence are shown in Appendix C.

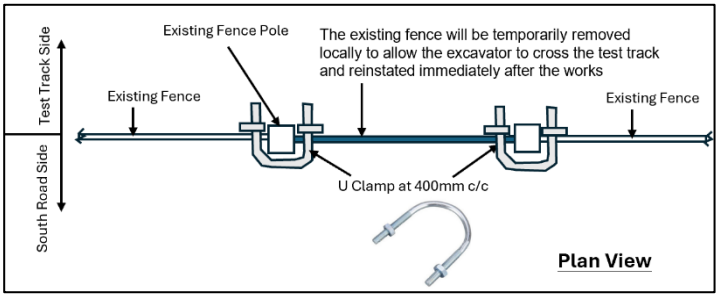


Figure 8.1-5 Temporary Connection Details for Existing RP Fence

Garbage removal or material delivery will be by manual delivery or rail mounted wagon/engineering train (subject to advance booking and availability) at the initial stage when the BUGN for material lifting over the test track is pending approval. For the manual removal and delivery, access to the works areas will be via the existing emergency gates 4 (EAG4) & 5 (EAG5) during NPH/TH.

At locations with sloping ground - Form the working platform for RP Fence and piling works at TH/NPH

From GL 45 to GL 100 the mainline and test track are at different levels and are separated by an existing slope. A working platform shall be formed to provide a level surface for RP fence installation and piling works. The platform will be formed by concrete blocks and filled with compacted granular fill or light weight concrete. The design of the working platform will be submitted separately. The construction sequence is shown below in Figure 8.1.6 with detailed sections at GL20,40,60,80,100 shown in Figure 8.1-7 to 8.1-11.

After completion, the platform shall be checked by the TWC and a Permit to Load issued before use.

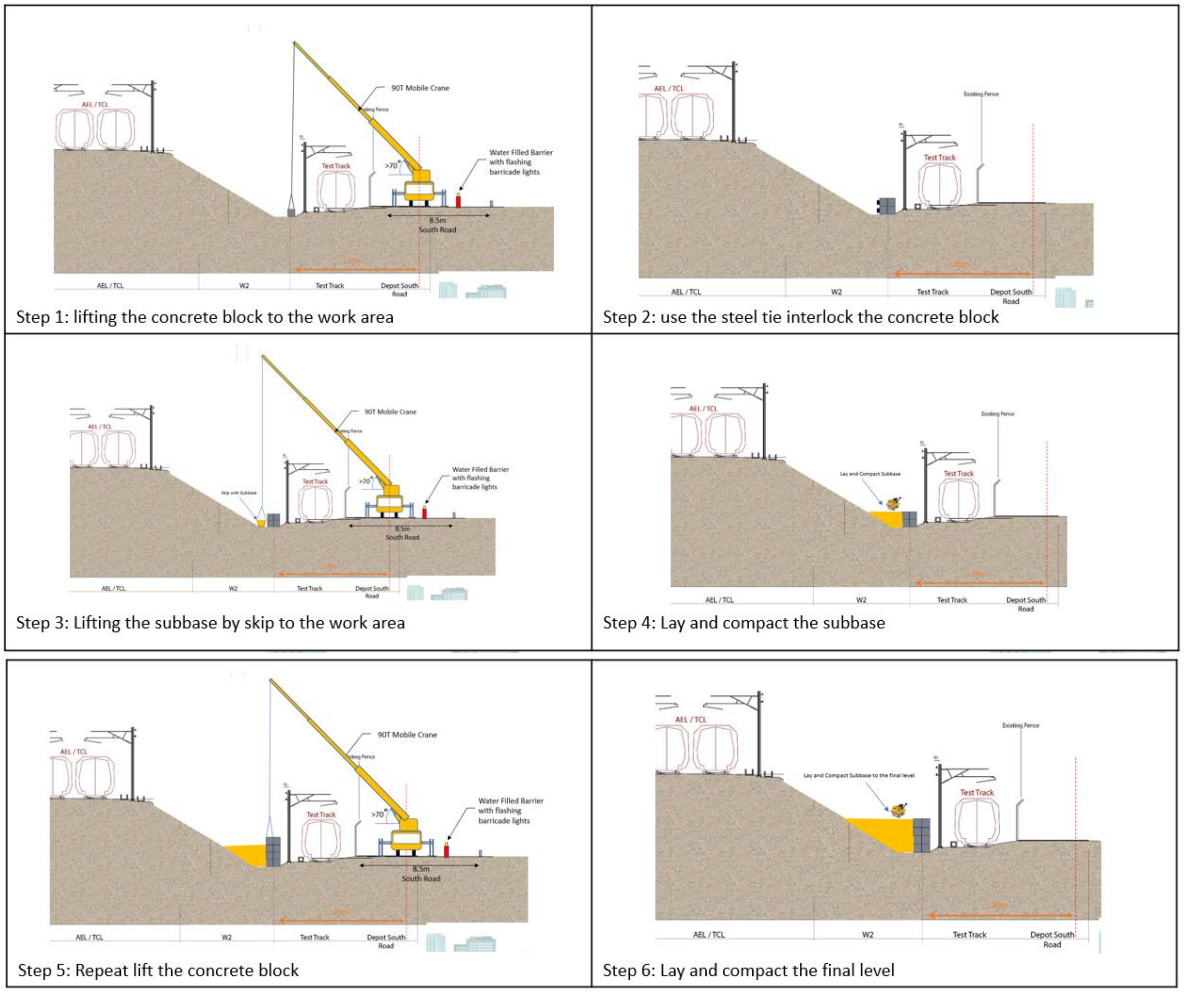
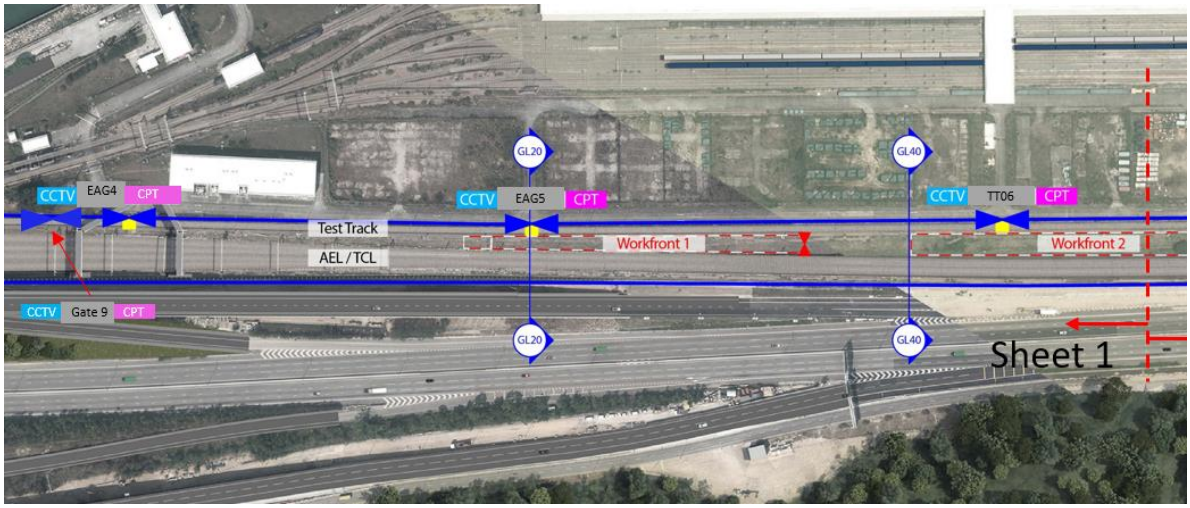


Figure 8.1-6 Detailed Construction Sequence for Working Platform

The working platform will be constructed from gates TT06 and TT07 from GL 45 to GL 100. The level crossings will be used for material delivery (such as concrete block, backfilled material etc) in order to minimise the lifting method (or waiting for BUGN approval) over test track.



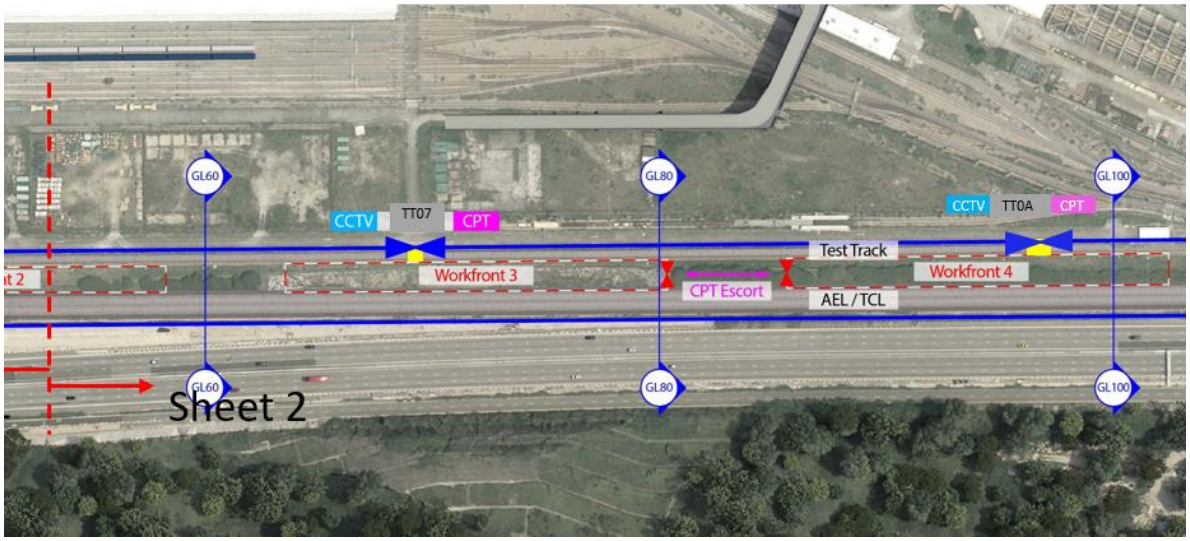


Figure 8.1-7 Layout Plan and Grid Line Plan Working Platform at W2

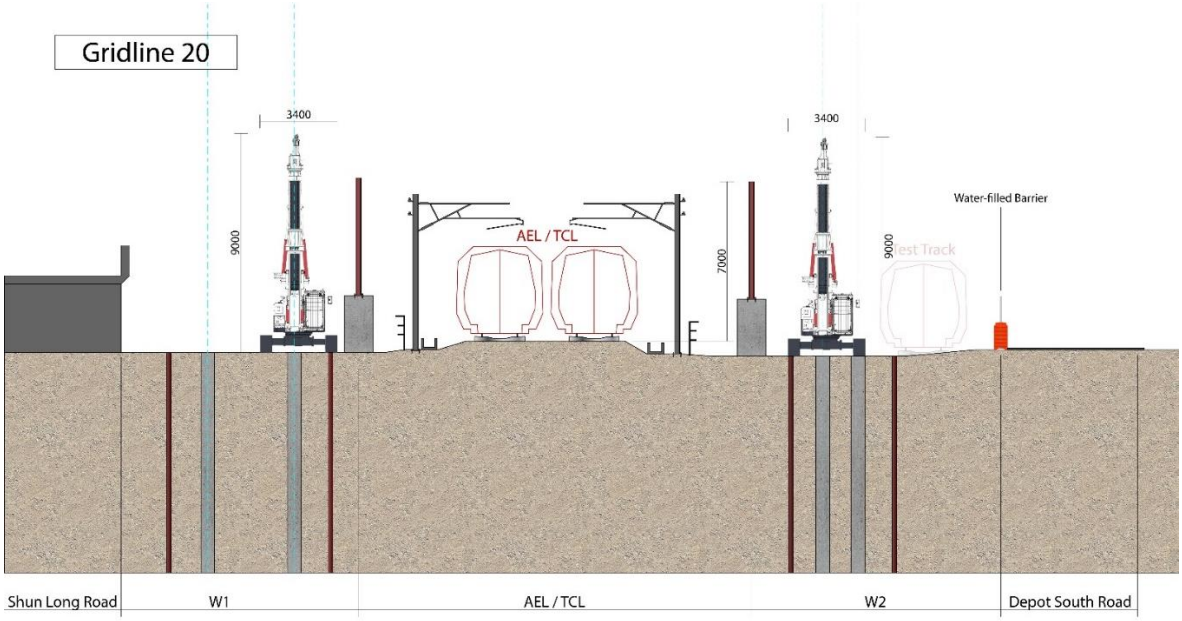


Figure 8.1-8 Section Grid Line 20

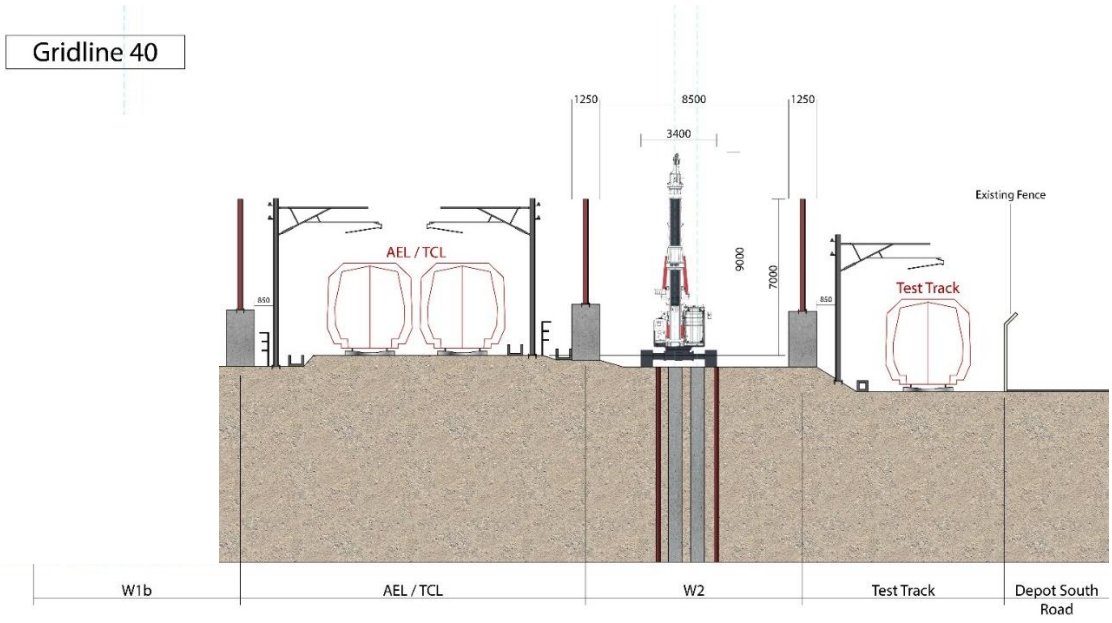


Figure 8.1-9 Section Grid Line 40

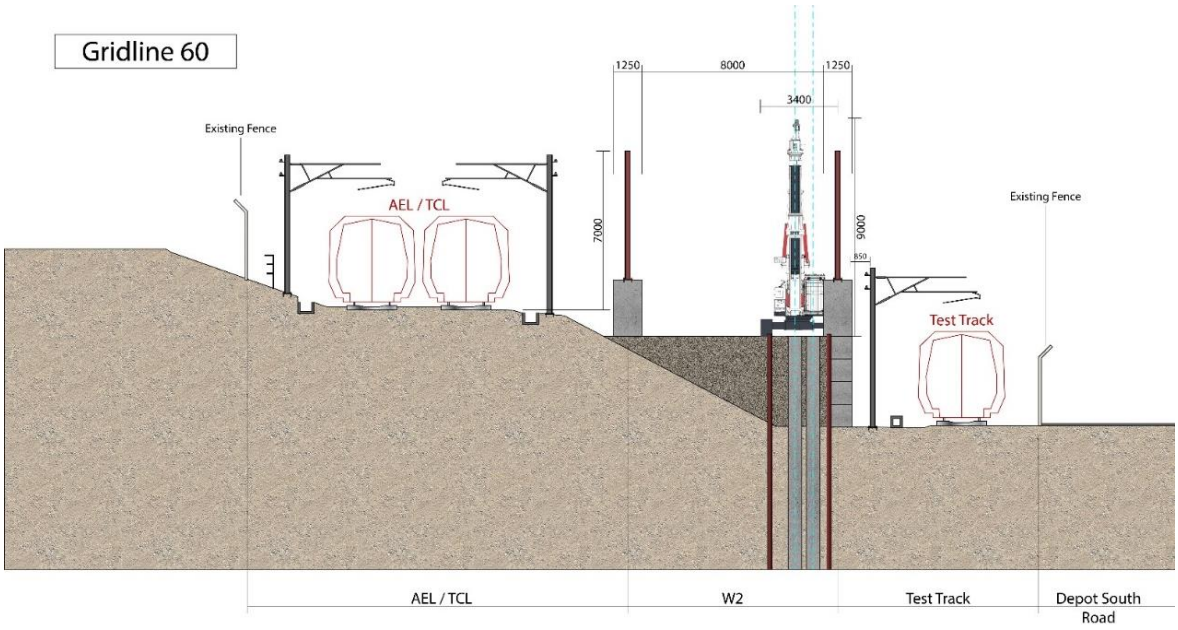


Figure 8.1-10 Section Grid Line 60

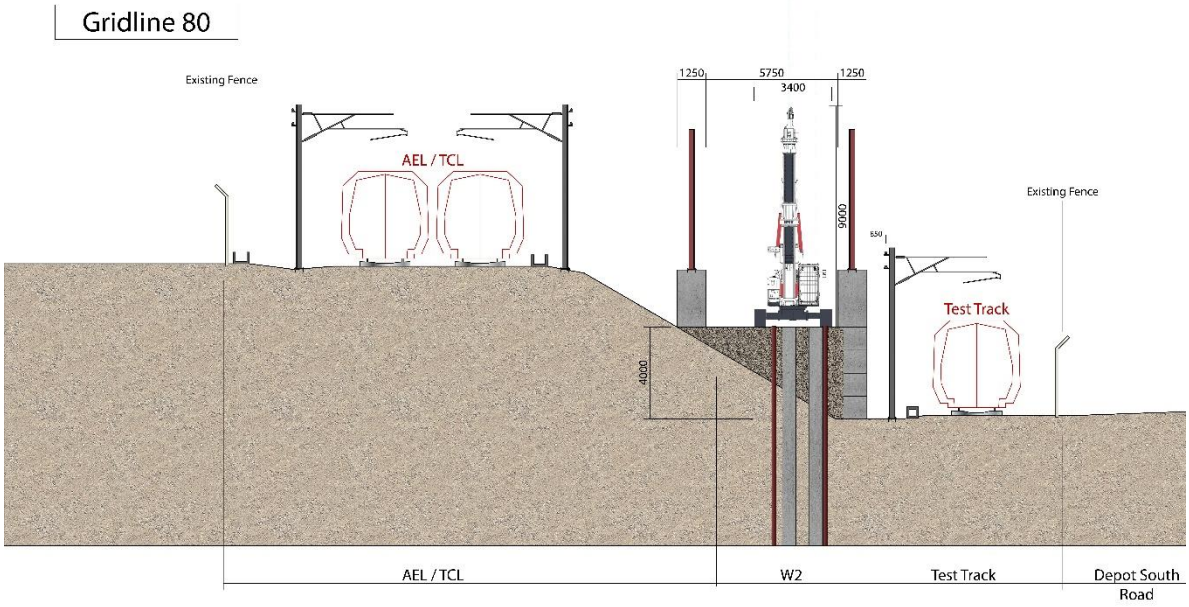


Figure 8.1-11 Section Grid Line 80

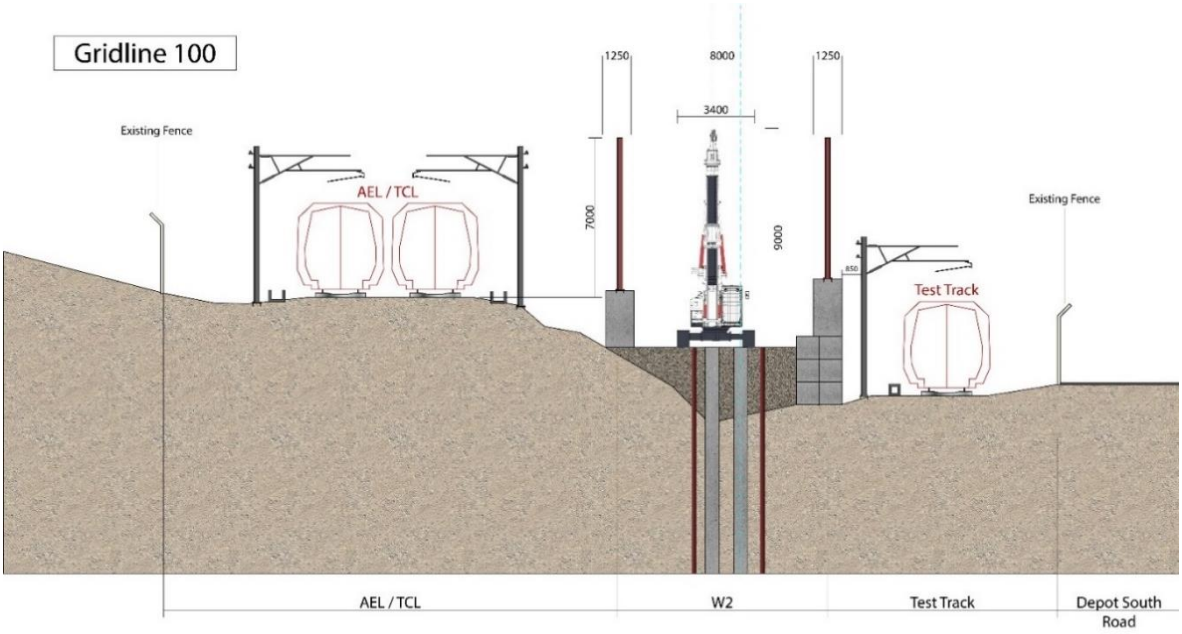
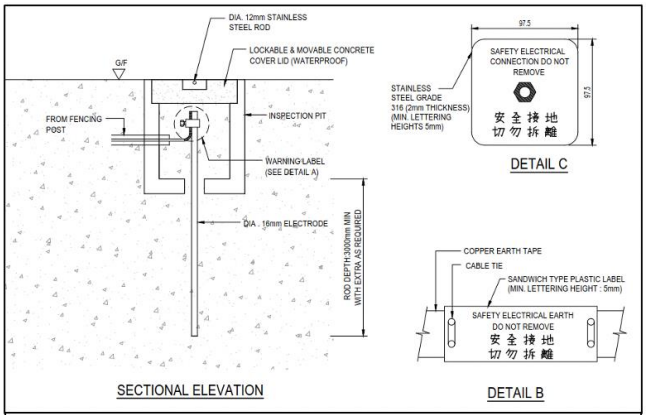


Figure 8.1-12 Section Grid Line 100

8.2 Install the earthing system at ground level during TH

After forming the temporary platform and compacting the sub-base, the electrode rod and earthing pit will be installed below the ground level at a maximum spacing of 20m along the proposed RP Fence, as shown in Figure 8.2-1. The post hole borer will be used to make a ~3m depth of hole for the earthing installation as shown in Figure 8.2-2. The layout plan is shown in the RP Fence layout in Appendix C.



All RP fence will be connected to a maximum 10Ω earthing system, with earthing pits located at a maximum spacing of 20 m

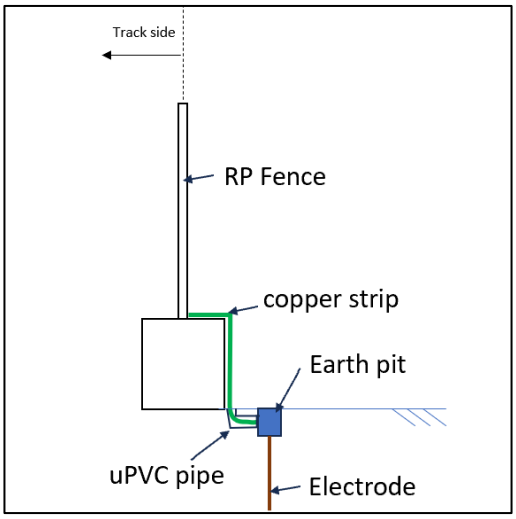


Figure 8.2-1 Earthing System to the RP Fence

Figure 8.2-2 – Post Hole Borer

8.3 RP fencing installation

Upon completion of the site clearance and working platform, the RP fence installation will commence. The early stages of RP fence installation (Jun 2024 to Dec 2025) will be divided into two stages. The details of the RP fence setting out are shown Appendix C. The sequence of work will be as follows:

Stage 1 of RP Fence

Fencing installation will start from GL 20 to GL 120 from June 2024 to Sept 2024 (when the west test track is still in use) and existing gates 4 (EAG4) & 5 (EAG5) will be maintained. Workers will access the works areas via the test track during NPH subject to depot approval. From GL 1A to GL 20, the clearance between the OHL masts of the test track and mainline is constrained such that the potential risk of OHL wire damage or contact during lifting is considered too high. It is proposed to install the RP fence at this location adjacent to the mainline after the west test track closure August 2024.
The Stage 1 Layout Plan shown in Figure 8.3-1 refers.

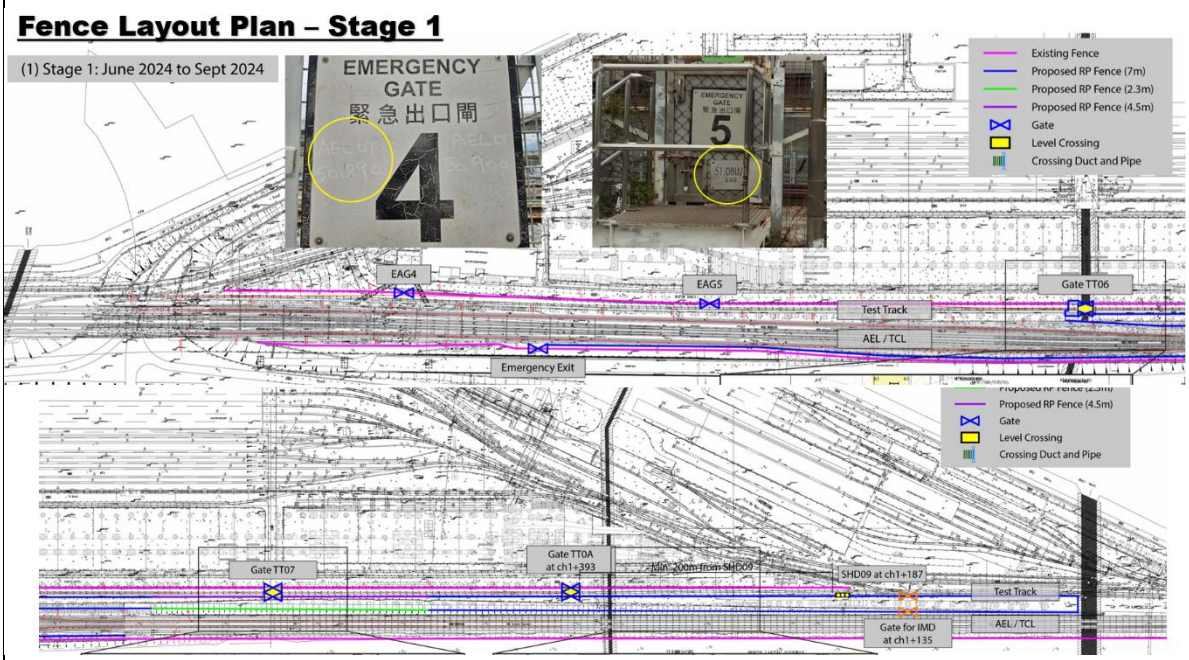


Figure 8.3-1 Stage 1 RP Fence Layout Plan

After the west test track has closed, the RP Fence for GL1A GL20 as shown in the Layout Plan in Figure 8.3-2 will be installed. The existing access gates EAG4 and EAG5 will be relocated to the 1701 7m high RP fence at the same chainage before removal of the existing test track RP fence. Waterfilled barriers shall be installed to establish the construction area before removal of the existing fence. The existing door of EAG4 and EAG5 will be re-used and relocated within the installed RP fence during the same shift.

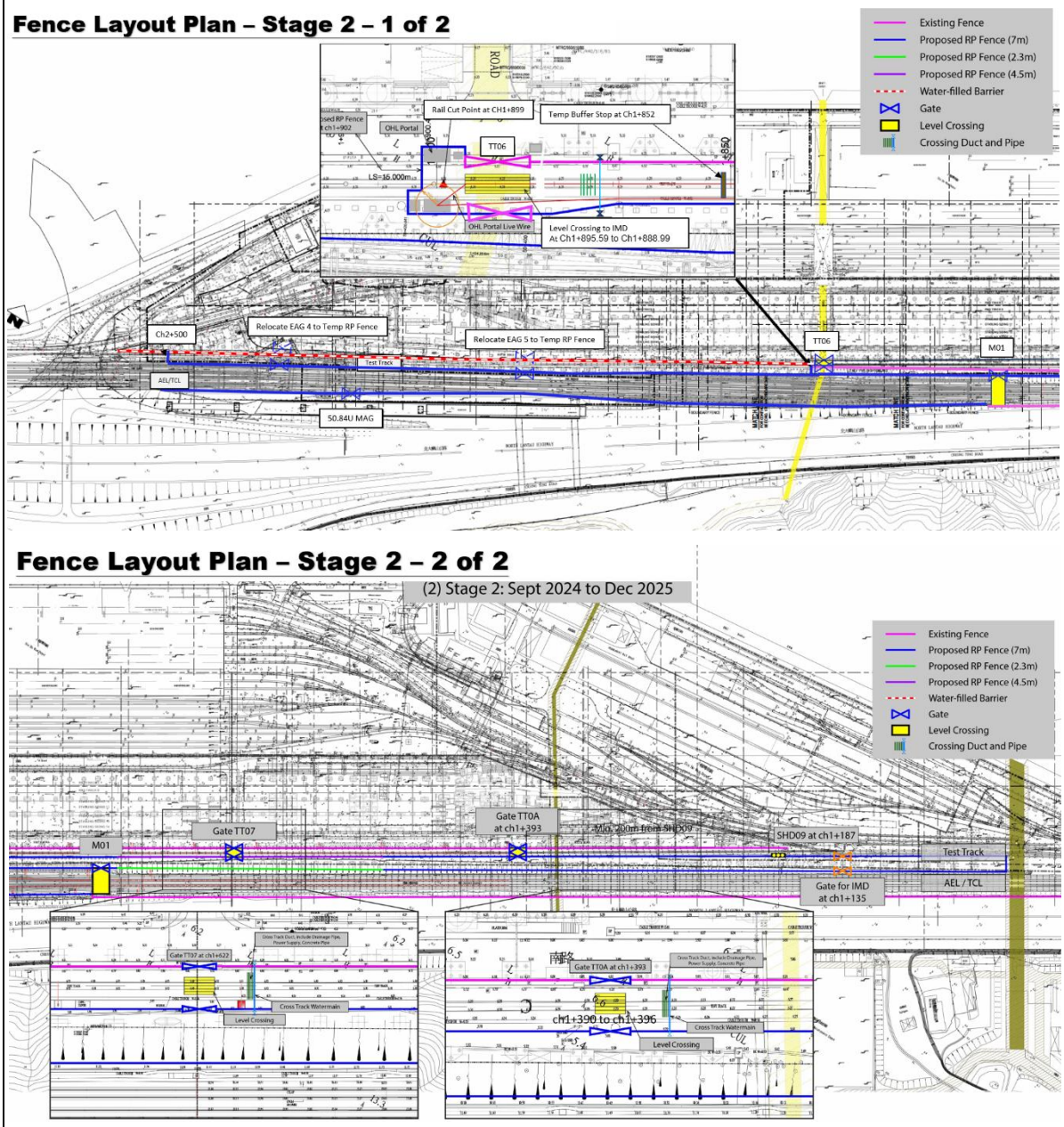


Figure 8.3-2 Stage 2 RP Fence Layout Plan

8.4 RP Fence Construction Arrangement and Sequence

Construction works will be carried out in close proximity to the existing test track and AEL/TCL mainline which require robust railway protection measures to be in place before commencement of any physical site works. Referring to (Library) Working Paper No.6 & the approved BUGN – Railway Protection (pending), a minimum 4.5 m high fence is proposed for activities that do not require plant/machinery with high boom or where there are no overhead line (OHL) masts on that particular side of the track. A minimum 7 m high fence is proposed for activities which require the use of plant/machinery with high booms adjacent to the fence, or where the OHL masts are located on that side of the track. The minimum clearance between fence mesh and the OHL fault return wire is required to be at least 850 mm as shown in Figure 8.4-1.

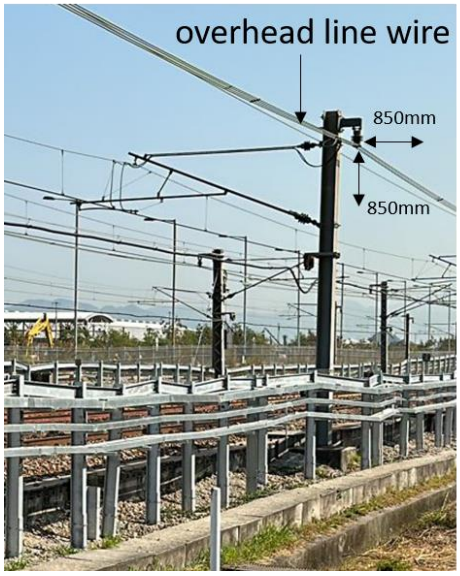


Figure 8.4-1 minimum clearance between fence mesh and the OHL

The closest part of the fence structure is required to have sufficient clearance to the structural gauge which is a minimum of 2615 mm measured from rail centreline for the depot track and 2995 mm for the mainline track as shown in Figure 8.4-2.

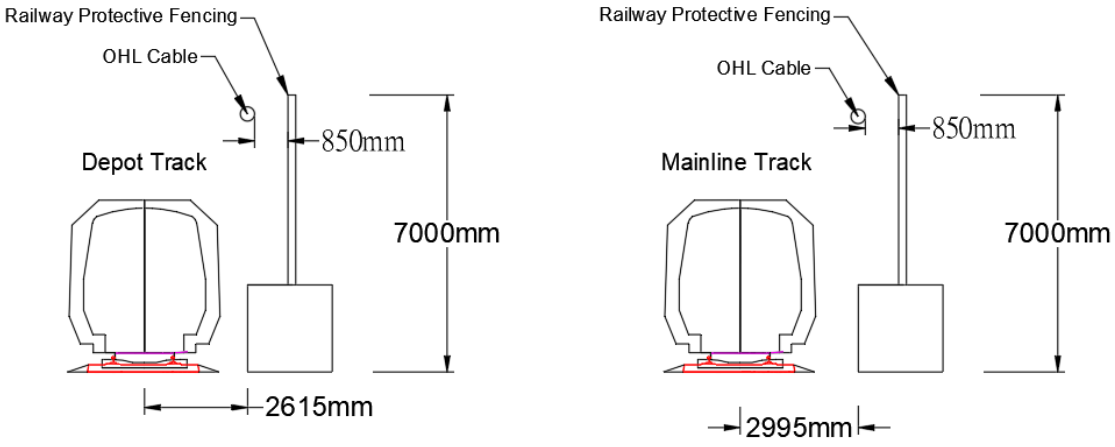


Figure 8.4-2 - Minimum Distance of Structural Gauge for Depot Track and Mainline Track

As the installation of the RP fence will be undertaken with close proximity to the OHL line (within 2m radius), a PTW(E) is also required to be provided. The RP Fence installation works will be undertaken during NTH after the OHL has been de-energised.

The footing and RP fence frame will be prefabricated off site using a standard size to allow installation of the footing and fence frame directly on site. As the distance between the OHL & RP fence is only 850mm, an insulation mat shall be provided and installed on the RP fence at OHL level. The details of the 4.5m and 7m fence are shown in Figures 8.4-3 and 8.4-4. The concrete footing will be interlocked by the PFC steel tie as shown in Figure 8.4-5. For the layout plan of the RP Fence please refer Appendix C.

The sequence for installation of PFC steel tie:

1. Place the U-channel on the top of the RP concrete footing;
2. Using the slot of U-channel to guide the drilling holes;
3. Drill the holes and install the anchor bolt;

The prefabricated fence will be first delivered to the storage yard in Hong Kong (detailed location TBC) for quality checking before installation. Material will be delivered to site from 8:00pm to 12:00am on the same night as there is insufficient space for material storage on site.

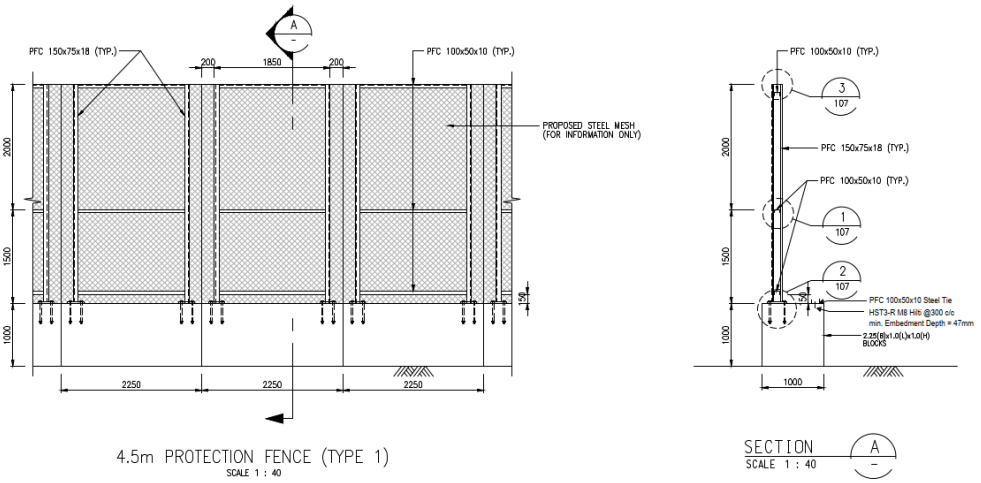


Figure 8.4-3 Details for 4.5m RP Fence

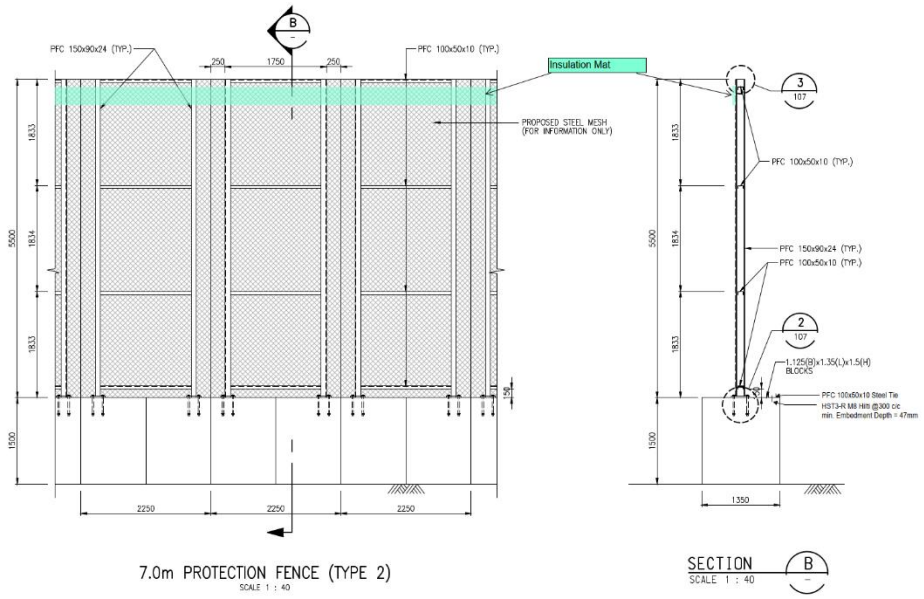


Figure 8.4-4 Details for 7m RP Fence

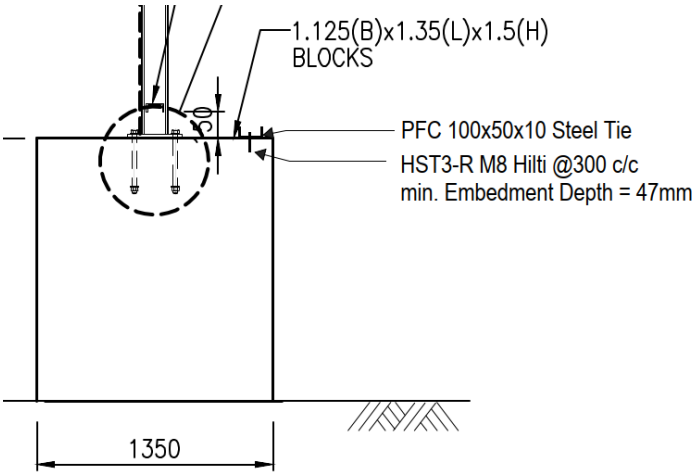


Figure 8.4-5 Details of RP Footing Interlocked by the PFC Steel Tie

Fencing installation trial for workers

As the installation of the RP Fence requires NTH/NPH as well as working in close proximity to the existing railway lines, to ensure no potential incident / accident / damage / disruption to the railway a 'mock-up' will be set up at the outside storage yard to simulate the site condition of the OHL mast and fault return wire. Foreman, workers and plant operators will be able to carry out a trial installation of the RP fence in a non-railway environment. The aim of this arrangement is to allow the foremen and workers to familiarise themselves with the sequence, methods and risks associated with the installation works off-line from the railway. Through this trial, all workers/staff involved with the operation will be properly trained and conversant with a safe system of work before accessing and carrying out installation works on the railway.

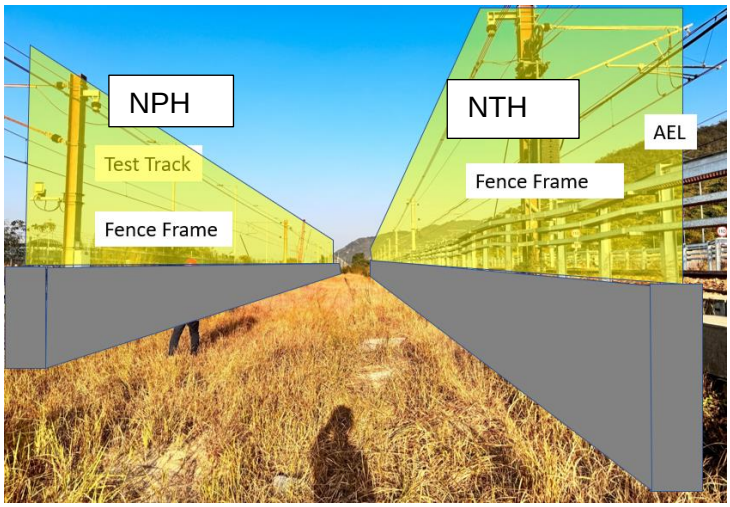
Weather Condition for Construction of RP Fence

In order to provide the safe working condition for RP Fence installation, we will carry out weather condition check prior to start the work.

- wind speed less than 40 km/h
- Call off if adverse Weather occur or within 2 hours
- Stop construction work when thunderstorms occur

RP Fence Construction Time

RP Fence installation along the mainline will be carried out during NTH, tentatively 2:00 to 4:00 am on Fri-Sat, Sat-Sun and one other night during the week. RP Fence installation along test track will be carried out during NPH, tentatively 11:00 am to 03:00 pm.



A pre-work briefing and mobilisation of equipment and materials will be carried out in advance of track access. Once track possession has been granted by the TC, the OHL de-energised and flashing lamps installed, fencing installation work will commence. Before the end of each shift, all completed fence installation works shall be checked by the MTR inspector and CSHK's TWC to ensure the installation is in accordance with the working drawings and stable before leaving the site. In addition, the fence shall be earthed at the end of each shift and checked by a suitably qualified REW. The table below shows the detailed working schedule.

Steps for RP Fence installation:

1. During TH, set out the RP Fence location.
2. During NTH, lift the RP Fence footing to the right position along the mainline.
3. During NTH, lift and install the RP Fence frame to the footing and connect the earthing system.
4. During NPH, lift the RP Fence footing to the right position along the test track.
5. During NPH, lift and install the RP Fence frame to the footing and connect the earthing system.

Programme for lifting of RP footing / frame at NTH

	Lifting of RP Fence Footing /Frame at NTH	Target Time		Duration (mins)	Check Point	Condition
		From	To			
A	**Setup before each lifting**					
1	Fence off lifting zone, Material, Lifting Plant arrive	21:50	22:00	10		
2	Check the moblie crane to the designated position as per lifting plan	22:00	22:10	10		
B	**Permit to lift (Pre check before lifting)**					
1	LA/LG compliance check	22:10	22:20	10		
2	Resources attendance check	22:20	22:30	10		
3	weather condition check	23:00	23:15	15	Weather Check Point	Call off if adverse Weather occur or within 2 hours
4	check slew the mobile crane in according to lifting plan	23:15	23:30	30		
5	Trial lifting 3-3-3 arrangement	23:30	0:00	30	Lifting Check Point	Abort lift if 3-3-3 arrangement not satisfy
6	Issue the permit to lift	0:00	0:15	15		Abort lift if lifting permit not issued
7	prework briefing to lifting team	0:15	0:30	15		
8	Prepare lifting item	0:30	1:30	60		
9	Confirm to Traffic Controller (TC) / Depot Yard Master (DYM) to proceed	1:30	1:45	15		
C	**Lifting Operation**					
1	CP(T) report to TC/DYM to obtain authorization to set up	1:45	2:00	15		
2	Possession / SPA setup	2:00	2:10	10		
3	Possession / SPA Granted	2:10	2:15	5		
4	Lift the RP Fence Footing / RP Fence Frame to the designated position, Positioning / Pin, Bolting and Torque	2:15	3:40	85	Lifting Check Point #3:20 Lift the final item	
5	TW4 Temporary Work Certificate	3:30	3:40	10		
6	Site clearance and line clear check	3:40	3:50	10		
7	Leave	3:50	4:00	10		

Programme for lifting of RP footing / frame at NPH

	Lifting of RP Fence Footing /Frame at NPH	Target Time		Duration (mins)	Check Point	Condition
		From	To			
A	**Setup before each lifting**					
1	Fence off lifting zone, Material, Lifting Plant arrive	8:00	8:10			
2	Check the moblie crane to the designated position as per lifting plan	8:10	8:20	10		
B	**Permit to lift (Pre check before lifting)**					
1	LA/LG compliance check	8:20	8:30	10		
2	Resources attendance check	8:30	8:45	10		
3	weather condition check	8:45	9:00	15	Weather Check Point	Call off if adverse Weather occur or within 2 hours
4	check slew the mobile crane in according to lifting plan	9:00	9:30	30		
5	Trial lifting 3-3-3 arrangement	9:30	10:00	30	Lifting Check Point	Abort lift if 3-3-3 arrangement not satisfy
6	Issue the permit to lift	10:00	10:15	15		Abort lift if lifting permit not issued
7	prework briefing to lifting team	10:15	10:30	15		
8	Confirm to Traffic Controller (TC) / Depot Yard Master (DYM) to proceed	10:30	10:45	15		
C	**Lifting Operation**					
1	CP(T) report to TC/DYM to obtain authorization to set up	10:45	11:00	15		
2	Possession / SPA setup	11:00	11:10	10		
3	Possession / SPA Granted	11:10	11:15	5		
4	Lift the RP Fence Footing / RP Fence Frame to the designated position, Positioning / Pin, Bolting and Torque	11:15	14:30	195	Lifting Check Point #2:20 Lift the final item	
5	TW4 Temporary Work Certificate	14:30	14:40	10		
6	Site clearance and line clear check	14:40	14:50	10		
7	Leave	14:50	15:00	10		

The RP Fence installation arrangement will be divided into two sections. For the section between GLA1 to GL45, the RP Fence will be installed along AEL northern side only as shown in Figure 8.4-6, as the test track will close in Aug 2024.

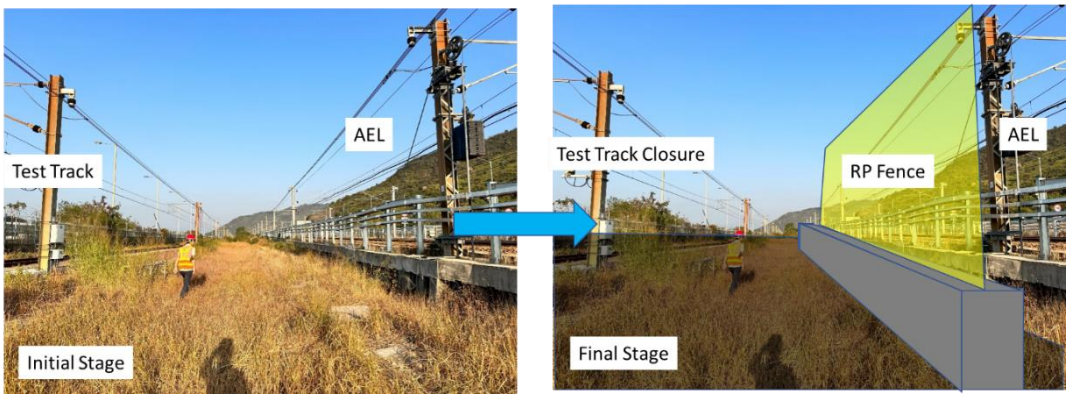
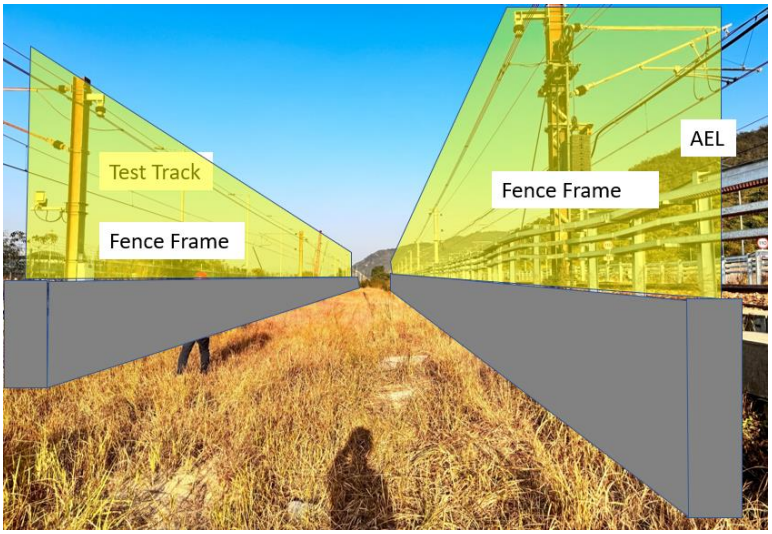


Figure 8.4-6 Installation of RP Fence at W2 between GLA1 to GL45

For the section between GL45 to GL120, the RP Fence will be installed along AEL northern side and test track southern side as shown in Figure 8.4-7, as the test track will remain live at this location.

Figure 8.4-7 Installation of RP Fence at W2 between GL45 to GL120



All installed RP Fencing will be securely connected to the earthing system at both ends by bolt and nuts. Access will be via a temporary working access platform or Cherry Packer as shown in Figure 8.4-8.

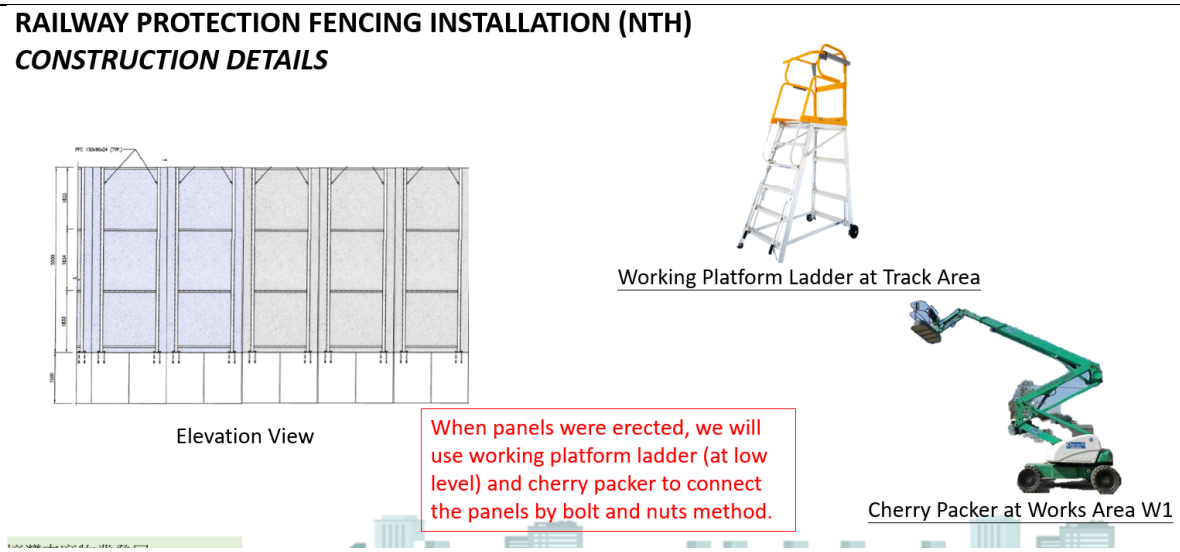


Figure 8.4-8 – Plants and Equipment

8.5 Lifting Arrangement

1. Post drill the holes and install the Stopper (C-channel), and tie the double tag lines on the lifting object, and then lift up the object 300mm from the ground, keep 3m distance from the object, hold 3 second;

2. Lift the concrete block over the Test Track, then lower down the concrete 300mm above ground, and then swift the concrete to proposed locations slowly as shown in Figure 8.5-1;

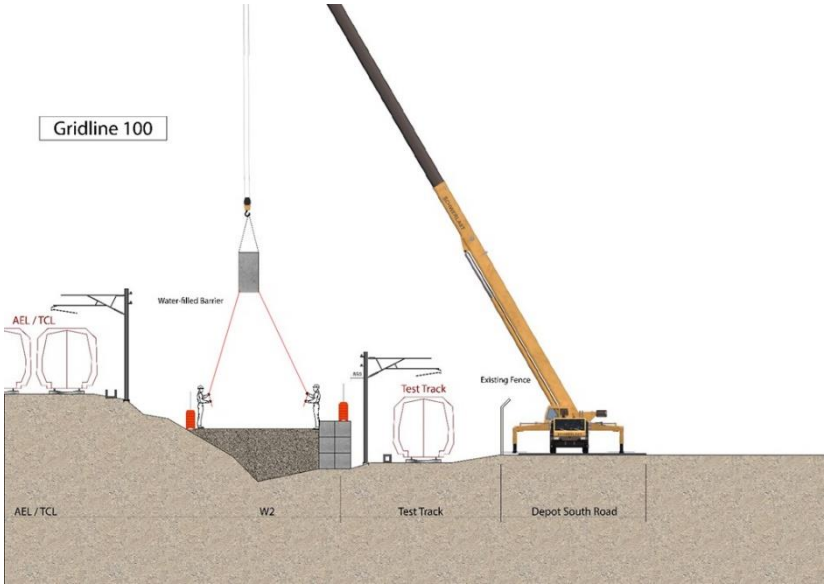


Figure 8.5-1 Lifting the RP Fence Footing

3. Lift the concrete block to proposed locations;

4. Lift the fence panels to the proposed alignment slowly, and two workers will assist that. One worker will use the tag line to control the position of RP Fence Panel; and the other worker will swift and hold the RP fence in right position as shown in Figure 8.5-2.

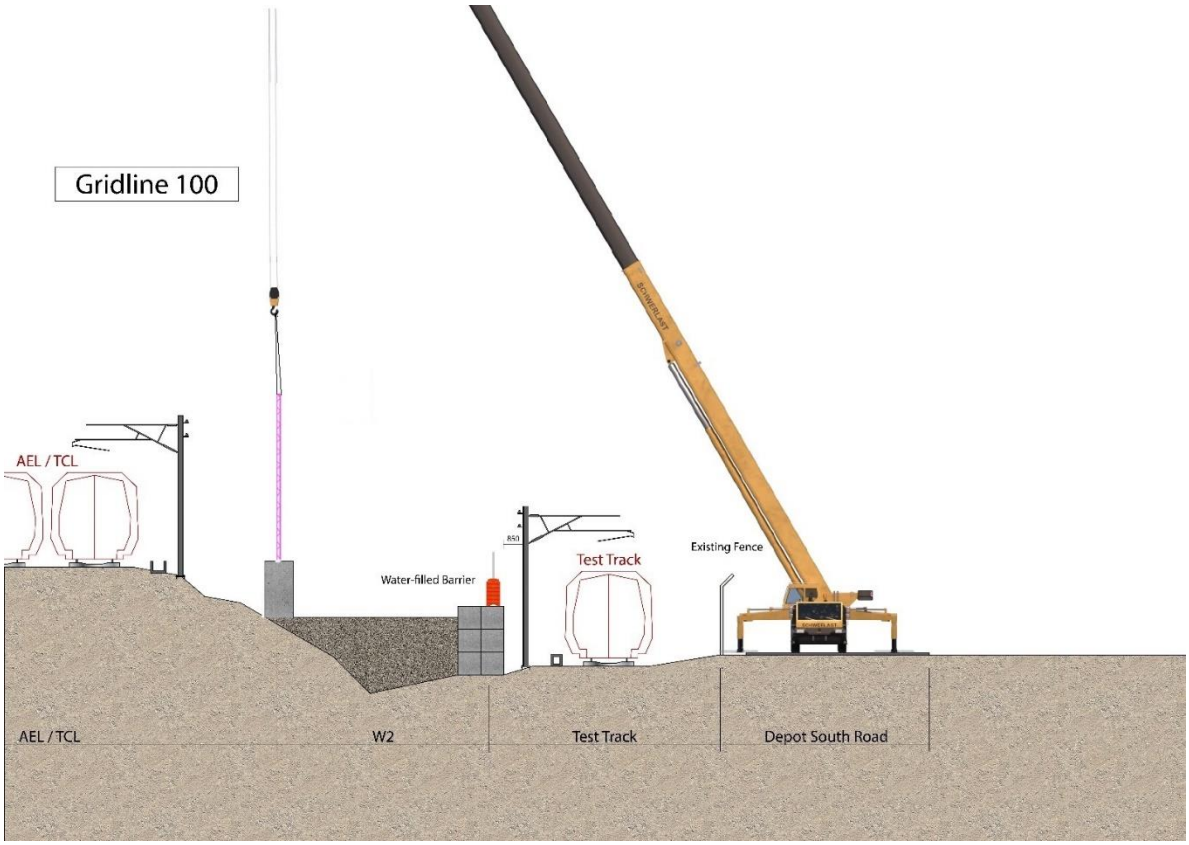


Figure 8.5-2 Lifting the RP Fence Panel

5. The RP Fence Panel fixed by holding the bolts. The workers will use ladder platform to reach the top of the concrete block and tight the screws;

6. The existing RP Fence will be removed section by section after the new RP Fence has been installed ensuring there is no gap between the existing RP Fence and the new RP Fence. A chain link fence will be installed to close up the east and west ends with the existing RP fence outside the works area. The type of chain link fence will be similar to that of the existing RP fence.

7. On completion of the RP fence and issue of a TW4 Permit-to-Load, subsequent construction Works including Pre-drilling and Piling works will commence (please refer to separate submissions for details).

8. Upon completion of a 50m length of RP Fence, water-filled barriers with top panel will be erected at both ends as shown in Figure 8.4-9, in order to allow piling works to commence.

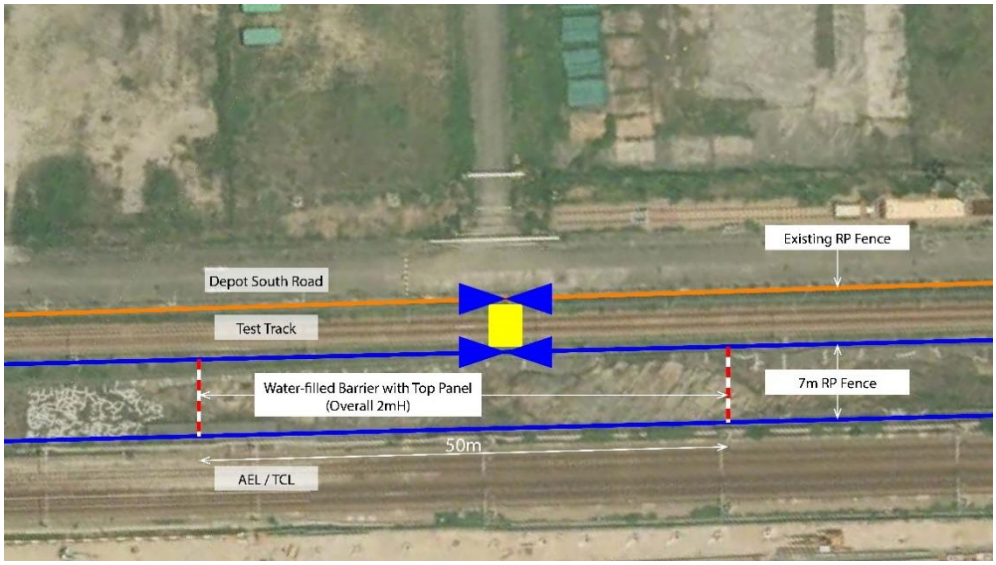


Figure 8.4-9 50m long 1701 RP Fence work area

Workmanship/quality control during/after fencing installation

Following the MTR approved BUGN, the following will be carried out

1. During the erection of the protective fencing, a site check will be carried out after each shift of work to ensure all protection fence erected does not infringe the Structural Gauge (SG) and achieves or maintains the design clearance.

2. After completion of installation, a weekly inspection is carried out and the RP fence maintained by CSHK.

3. In addition, the fencing will be erected with non-reflective coverings, so as to ensure light glare will not affect train operations. Moreover, there will be no impact to the EMU speed limit within the depot, inbound and outbound train arrangements and the Train Operator accessing EMU

4. A Guideline with communication protocol, following RSR, will be developed and included in the Traffic and Security Management Plan for describing how to access the mainline by using any EAGs (i.e. Gate 4 and 5) / CA access gates. All the EAGs / CA access gates shall be locked with designated MTR padlocks. The Traffic and Security Management Plan will be discussed and submitted separately. Warning signs shall be erected, which should follow those installed on the existing Mainline

5. Access Gates, to be added to alert indi,iduals to potential hazards of opening EAGs / CA access gates. CCTVs will be installed and available for the Depot Control Centre (DCC) to provide real-time monitoring of EAG / access gate status by YMs. Meanwhile, MTR QR-codes to be applied for the CA access gates at Area W2 (G) for mainline access.

Contingency Arrangement for Plant Breakdown during NTH or NPH

Spare 90T to 100T mobile cranes will be arranged on site and will be parked at W11 with 6 workers available for any emergency (such as plant breakdown etc), during fencing installation and lifting work for concrete block installation during the construction of the working platform for piling works. Larger excavators, crane lorries or tele-handler's will be available for towing the 3 or 5t excavators clear in the event of breakdown when crossing the test track.

9.	**Safety** (Risk Assessments)
	The Risk Assessment attached in Appendix A has been prepared for all general activities. Specific safety procedures and precautions have been developed for all site operatives to follow. The Construction Manager together with the RSO, will supervise the implementation and make adjustment according to the actual site operations, in order to maintain a safe and amicable working environment. <u>Smoking Arrangement</u> All workers should possess the qualification Railway Safety training (RSI), and smoking is only permitted in the designated smoking area provided by CSHK. **Facilities for Smoke Area** -Cigarette Butt Receptacle -Fire Extinguisher -Sand Bucket  
10.	**Environmental** (Environmental aspect & impact identification as well as mitigation measures)
	• Works will be carried out during normal hours from 08:00 am to 07:00 pm and outside of normal hours after 07:00 pm on Monday to Sunday with an approved construction noise permit. • ULSD Diesel will be use in all PME; • Plant with QPME label will be used if available; • Only plant with NRMM label will be used unless exempted; • All chemicals will be placed on a drip tray; • Any wastewater produced during the work will be treated prior to disposal; • The works shall follow relevant mitigation measures as required under the Environmental Permit (EP) / EP submission and Contractor's Environmental Management Plan (EMP).
11.	**Quality Control** (Inspection and Test Plan including hold points)
	Refer to Appendix B for the Inspection and Test Plan. To ensure the attainment of the required standard of works, the methods of working and the required works standards / acceptance criteria are defined in the method statement and inspection & test plans, which are communicated to the relevant staff and workers carrying out the works. Day to day routine inspections of the works will be carried out by the Construction Team Leader, Site Engineers and

	Foreman as appropriate, to ensure that all works are performed following the requirements of these documents. Specific quality checks shall be carried out in accordance with the approved Inspection & Test Plan with "Hold Points" at critical elements for confirmation of compliance before proceeding further. Request for Inspection and Survey Check (RISC) shall be issued to the RSS following inspection of the works by the CSHK's project team. The Inspection & Test Plan for the works (Appendix B) will identify all Hold Points and Witness Points. As each Inspection & Test is completed, inspection and / or test records are to be prepared to indicate whether the specified requirements have been met. Records of Inspection and testing will be maintained and kept available for inspection and final handover as appropriate.
12.	**Appendices** (Identify and include additional information in the submission package)
	Appendix A – Risk Assessment Appendix B – Inspection and Test Plan (ITP) Appendix C – Drawing Appendix D – Emergency Contact List