CSF Reference Number:	CSHK	CET	CSF	C	2024	000176
ACC Reference Number:	1701	W	000	CSC	143	000615

EDOC for Lifting over Test Track for OYB Station

Description:

Refer to 9th HAZOP Meeting, dated on 22 May 2024, enclosed herewith the EDOC Application for EDOC for Lifting over Test Track for OYB, and relative Hazard Log, Meeting Minutes and presentation materials for your review.

Revision	Date	Prepared by	Checked by	Reviewed by		Approved by
A2	03/06/2024					
	Name:	David Lam	Vincent Li	Max Leung	Paul Freeman/ McGleenon Mark	Eric Fong
	Position:	Senior Engineer	Construction Manager	Engineering Manager	Sr. Project Director/ A. Project Director	Project Director

Engineering Document for Works

Part A

Engineering Works No: ZCV20377

Change History	Issue/Rev.	Reason for Change	Date
	1/0	First Formal Issue	03/06/2024

Part B

1. F1 No. N/A

2. C&R Works No. N/A

3. Baseline Programme[i] Please refer to attached **Appendix A**

Design	Installation	Testing & Commissioning	Completion	Associated Actions (Refer to Item 19)
SHD Property Development Contract 1701 – Oyster Bay Station and Associated Works	June 2024	N/A	May 2025 (tentatively)	N/A

4. Description of works

4.1 Title: Contract 1701 – Lifting over Test Track for OYB Station

4.2 Reason: To facilitate the construction of Oyster Bay Station and Siu Ho Wan Depot property enabling works, lifting of materials above and across the depot test track and located adjacent to the AEL/TCL mainline tracks is required.

4.3 Description

A. GENERAL

1701 Contractor will carry out lifting of plant, equipment and material at south road as per correlated latest version of method statement under **ACC Reference Number: 1701-W-000-CSC-760-000287**. Precaution measures for various potential risks/ situation have been reviewed and summarized in the hazard log referring to **Appendix B**.

[i] For any programme change or update, please refer to the Project Controller / Project Manager

B. WORKING TIME

Mainline: 3 Nos of NTH per week (2:00am to 4:00am);

Test Track: 3 night time (Friday^Saturday, Saturday^Sunday and one on weekday) per week or NPH subject to Depot Schedule;

#The first lifting operation will be carried out during NTH on Sat^Sun

C. PREPARATION WORK

Before commencement of the lifting, the following procedure shall be followed.

C.1 Site Clearance

Site clearance shall be completed and existing ground shall be levelled up before commencement of general lifting works.

Site Clearance and Water Filled Barrier erection at works area W1, W2 and W11G shall bed carried out as per approved method statement (**ACC Reference Number : 1701/W/000/CSC/760/000173, 000240, 000430**).

C.2 Setting Out

The location of general lifting works will be set out at the co-ordinates shown on the Construction Drawings or as agreed with MTR's representatives on site.

Once the location has been set out a joint inspection will be held with MTR's representatives on site and other stakeholders

C.3 Cable Detection

Cable detection will be carried out before commencement of works according to approved Method Statement (**ACC Reference No. : 1701/W/000/CSC/760/000095**).

C.4 Trial Pit

Trial Pits will be carried out in accordance with Permit-to-Dig System before start of the works. For details, please refer to separate submissions (**ACC Reference No. : 170-W-000-CSC-760-000115**).

C.5 Utility Diversion/ Abandoned Works

Any utilities required diversion or to be abandoned will be carried out with relevant approved EDOCs prior to start the instrumentation installation works.

C.6 Temporary Drainage System Supply

Wetsep will be set up when fencing/ waterfilled barriers once installed to cater for the temporary drainage discharge.

C.7 Pre-construction survey

Pre-construction survey, Survey and UU detection will be carried out and completed before the commencement of the works, survey of existing MTR equipment at ground level. Reports to be submitted to MTR, showing the protections applying to the MTR equipment.

C.8 Waterfilled Barriers

Some works area will be fenced off by waterfilled barriers (without panel), and they will be left inside the OAs during site clearance works before RP fence installation.

D. LIFTING OPERATION

The lifting operation shall follow approved Method Statement (**ACC Re. No. : 1701-W-000-CSC-760-000287**)

It should be noted that overlapping of lifting zone for each crane is not permitted.

4.4	Application	General lifting works at south road shall be carried out during NTH 2:00 am to 4:00 am. The lifting works do not modify any system or operations of the Operating Railway.
4.5	Category	N/A
4.6	In-house/Contract	CONTRACT 1701
4.7	Estimated Cost	Under SHD Property Development Contract 1701 – Oyster Bay Station and Associated Works
4.8	Nature	Trial project carried out by HKTS Business Unit and costing $4.5M or above ☐ **Yes** ☑ **No** If yes, please attach the SMART Success Criteria for Trial [Template can be obtained via the link below http://opinfomall.corp.mtrc.com/dept_T&ES/tes_admin/other%20files/smart%20success%20criteria%20for%20trials.docx]

5. Name and Title of Responsible Parties

Design Manager / Chief Construction Manager	Project Controller / Project Manager	Implementer / Senior Construction Manager	Maintainer / Asset Owner
CHONG Daniel Hing Pong **Chief Design Manager – OYB**	**KOO Raymond Kai On** **Chief Construction Manager – OYB Civil**	**KOO Raymond Kai On** **Chief Construction Manager – OYB Civil**	**KOO Raymond Kai On** **Chief Construction Manager – OYB Civil**

6. Implication on Safety

• Affecting / modifying on Safety Critical System(s)[ii] If no, please provide justification.	☐ **Yes**	☑ **No**
There is no safety critical system involved.		
• Confirming ISA Requirement for SCS Related Change Assessment Form[iii] is completed (ref. P/OD/SMS/004) If no, please provide justification.	☐ **Yes**	☑ **No**
There is no safety critical system involved.		
• Modifying on PSD/APG/MGF/Floodgate [iv] [Specific Safety Related System(s)]	☐ **Yes**	☑ **No**
• Confirming ISR Requirement for Safety Related System Related Change Assessment Form[v] is completed (ref. P/OD/SMS/004) If no, please provide justification.	☐ **Yes**	☑ **No**
There is no safety critical system involved.		
• Mitigation of R1 / R2 Hazards	☐ **Yes**	☑ **No**
• Affecting Signal Sighting (ref. P/OD/SMS/028) If yes, please specify	☐ **Yes**	☑ **No**
• Affecting maintenance or operational requirements e.g. Safety-related Application Conditions (SRAC) / Safe Operating Requirements (SOR) If yes, please specify in Section 19.	☐ **Yes**	☑ **No**
• Submission of a paper to SAFTEC[vi] If yes, please specify the paper number and if the paper has been accepted by SAFTEC	☐ **Yes**	☑ **No**

[ii] The list of Safety Critical Systems (SCS) stipulated in Exhibits E1 of P/OD/SMS/004 refers.

[iii] For modification work on SCS or affects SCS, project controller of C&R work shall complete the assessment form.

[iv] The list of Safety Related Systems (SRS) stipulated in Exhibits E1 of P/OD/SMS/004 refers. Independent safety review on operation and control, as well as signalling interface, shall be deployed for i) PSD and APG (automatic sliding door), ii) Floodgate and iii) MGF.

[v] For modification work on PSD/APG/MGF/Floodgate [Specific Safety Related System], Project Controller of C&R work shall complete the assessment form. E4 of P/OD/SMS/004 refers.

[vi] Refer to SAFTEC ToR in Operations Knowledge Mall, submission of a paper to SAFTEC is required for engineering work involving:-

- application of new technology;
- modifications to approved technical standards on operational / occupational / system safety (including deviations from approved technical standards);
- improvement on safety of the railway and other prescribed businesses in Hong Kong by mitigating R1 / R2 hazards; or
- modification which may induce high consequence risk including derailment or train collision which affecting rail integrity / switch and crossing integrity / track adhesion performance

1. CP(T) or CP (NT) shall be full time looking after the railway safety and report to the OCC/ SC daily before and after the construction works. Full-time supervision shall be carried out by MTR Project Team under the approved MS during the construction work. Trucks and workers shall be restricted to use a designated route as delivery and worker's pedestrian route within the site which shall be further agreed with the SHD Manager / YM.
2. Proper safety barriers shall be erected to demarcate the work site from the railway area.
3. Proper personal protective equipment shall be employed while carrying out of works.
4. The 1701 Contractor shall carry out temporary pedestrian / traffic diversion and implement TTM wherever the works will interfere with existing roads, footways or other ways over which there is a public or private right of way. Minimum width of EVA will be maintained at all times during the works.
5. Delivery of equipment shall be considered carefully and avoid damaging any structure on site such as depot warehouse, OHL, track work, light post, etc.
6. No storage of additional fuel for the rigs/plants is allowed.
7. Measures including sandbags and standby water pump shall be provided to avoid flooding.
8. Designated works area shall be fenced off by proper safety barriers with warning notices and shall be securely fastened together to prevent unauthorized entry. The detailed safety measures shall be specified in the method statement.
9. All workers shall receive Railway Safety Induction training and follow Railway Safety Rules (RSR).

The contractor's person-in-charge (CPIC) shall be present at the work site at all times of work. The responsible person shall ensure that all sources of ignition are removed, all power supplies are isolated, and the work site is in a safe condition before leaving the site.

7. Implication on Fire Safety

- Affecting / modifying on Fire Safety System(s) ☐ **Yes** ☑ **No**
- Smoking is not permitted on site.
- Storage of flammable and dangerous materials are prohibited.
- Cleaning of garbage shall be carried out regularly to maintain good housekeeping.
- Fire extinguisher shall be provided at site container offices and each work front with mechanical plants/fire risk as identified in risk assessment (part 5 below).
- Risk assessment shall be carried out to identify safety and fire hazard as well as the relevant control measures.
- Grass cutting shall be arranged before any hot works.
- Fire Management Plan will be followed as reference to the formal submission (**ACC Ref. No. : 1701-W-000-CSC-705-000196)**.

- Implication to existing Fire Service Installations (FSIs) ☐ **Yes** ☑ **No**

  Example to implication:

  - Obstructions to the existing active FSIs[vii], including but not limited to sprinklers, detectors, hose reels, smoke curtain, natural smoke vent, some extraction outlet etc.

  If yes, please provide the justification to demonstrate the compliance of statutory requirement.

8. Deployment of Licensed Staff on Safety Critical / Safety Related Work

This is not a safety critical / safety related works, but the following measures will be implemented to ensure safety.

1. Contractor shall work in compliance with the Corporation's railway safety rules and procedures.
2. CP(T) or CP(NT) shall be deployed on site responsible for arranging protection and supervision of working parties for works carried out inside operating railway premises.
3. The 1701 Project Team CIOW and Safety teams will also put full teams on work supervision and site safety during the construction.

9. Implication on Operating Procedures

No implication on operating procedures.

10. Statutory Submissions

Are there any statutory submissions ☐**Yes** ☑ **No**

If yes, please state the details:

_____

[State any submission/approval dates and consequences of non-approval by external statutory parties]

11. Design Capacity / Design Limit[viii]

All permanent design works are designed to MTR NWDSM, M&W specification and GS, the related code of practice and HK regulations.

The temporary works for shoring support or working platform would be certified by nominated Temporary Works Co-ordinator (TWC), checked by TCPs and approved by MTR CWBU.

12. Electromagnetic Compatibility

No impact on the electromagnetic compatibility.

[vii] Refer to M&W Standards for the definition of obstruction.
1. S/EM-fss/MW/04(99) - Material & Workmanship Standard for Sprinkler System - Clause 10.10 & 10.17.
2. S/EM-fss/MW/03(99) - Material & Workmanship Standard for Fire Hydrant / Hose Reel System - Clause 7.1, 10.1, 11.13 & 11.14.
3. S/EM-fss/MW/02(99) - Material & Workmanship Standard for Automatic Fire Alarm and Detection System - Clause 4.1.10 to 4.1.13.

[viii] Refer to P/OD/AMS/015 for the definition, use and updating of design limits.

13. Implementation, Inspection, Testing or Commissioning Instruction

Prior to the commencement of works, the Contractor shall provide submission including detailed method statements with Inspection & Testing Plan (ITP) to MTR for approval.

Before submission of EDOC, the method statement and ITP has been approved.

The proposed work shall be inspected and checked by MTR CSHK team under related ITP procedure, and will be registered by digital RISC forms under iSuper system for quality control.

All construction works shall be carried out according to the approved method statements and agreed safety plans and measures.

13.1 State the pre-requisite tests / safety precautions before allowing an item/system to be put in operation/testing on the Operating Railway, e.g. gauge checking, approach-locking distance, signal sighting etc., for:

- works on a Safety Critical System, or
- works on other items/system which may result in disruption to train services for more than 20 minutes or to station operation for more than 1 hour, if the change causes the item / system / its interfacing system(s) to fail to perform its intended function.]

13.2 Safety independent check [~~is~~/is not *] required for the installation, T&C in this modification.

[If not required, please provide justification.

Safety independent check is required for the modifications to safety critical systems / equipment / items as defined in the divisional procedure P/OD/SMS/004.]

There are no T&C modification works.

13.3 On-Site Design Verification [~~is~~/is not *] required after Testing and Commissioning for the installation of this modification,

[Provide justification particularly when no or sample check on On-Site Design Verification is required by P/OD/AMS/015.]

No on-site design verification is required, as no major modification on existing equipment and/or safety critical systems is envisaged for the captioned works.

14. Design Standards / Manuals / Procedures / References

- Works to be designed and constructed to comply with the latest requirement of: -
- Contract 1701 Scope of Work
- MTR New Work Design Standard Manual (NWDSM)
- MTR Operation Division Safety Requirement and Information for Contractors
- Operation Division Railway Safety Rule
- Approved method statement

15. Environmental Management

The Contract shall follow all requirements and conditions set on Environmental Permit issued by EPD. All construction waste, dust and noise will be controlled during construction.

16. Configuration Management

N/A

17. Application to New Extension Projects

N/A

18. Other Concerns / Instructions

Prior to site construction, the Contractor shall conduct site survey, route verification and measurement.

19. Impact of the works (Please mark the appropriate check box)

[State any concerns (other than those mentioned in other parts of this EDOC) that this test, trial or modification may have]

Impact on			Responsible Parties (Name & Title)	Actions Required
☐	19.1	Operations Manuals / Procedures	N/A	N/A
☐	19.2	Maintenance Manuals / Procedures / Work Instructions/ Schedules	N/A	N/A
☐	19.3	Spare parts catalogues and stock levels	N/A	N/A
☐	19.4	Interfaced Systems	N/A	N/A
☐	19.5	Drawings, and schematic and wiring diagram if applicable	N/A	N/A
☐	19.6	Training for staff	N/A	N/A
☐	19.7	Registration of new assets[ix]	N/A	N/A
☐	19.8	Any other related matters (please specify)	N/A	N/A

20. Incoming Goods Inspection (IGI) Requirements

- The contractor will be responsible for the inspection of all material prior to the installation on site.

[ix] Remind Project Controller and/or Lead Maintainer to register the new assets according to CGI 239 and Asset Registration guideline.

21. FMECA

[FMECA is mandatory for engineering works involving any of the following:

- Change to a SCS / introduce a new SCS
- Change to PSD/APG/MGF/floodgate [Specific SRS]
- Affecting or Interface with SCS
- Act as measures to mitigate R1/ R2 hazards
- Change to C1/ C2 systems / equipment or introduce a new C1/C2 system / equipment
- Introduce a new design (i.e. new hardware or change to hardware / modify a hardware involving non-standard design)
- Redundancy for systems on controlling / carrying / supplying power to Signalling or Power Remote Control
- Change to a revenue-critical equipment or introduce a new revenue-critical equipment
- Change to P-Way systems/equipment[x] or interface with P-Way systems/equipment

The engineering works involving any of the above-mentioned items ☐ **Yes** ☑ **No**
If no, please provide justification.

The captioned works do not involve the above items.

22. Concept of Design (ConDes)

ConDes[xi] is mandatory for engineering works involving any of the following:

- SCS Design Change
- Design change for PSD, APG, MGF and floodgate [Specific SRS]
- Change to C1/C2 systems/equipment or introduce a new C1/C2 systems / equipment
- Redundancy for systems on controlling/ supplying power to Signalling or Power Remote Control
- Modification affecting track adhesion performance / rail integrity / switch and crossing integrity
- New design affecting inter-system interface
- Application of technology that is newly introduced in MTR

The engineering works involving any of the above-mentioned items? If yes, please attach the ConDes to this EDoc. If no, please provide justification[4]. ☐ **Yes** ☑ **No**

The captioned works do not involve the above items.

23. Safety Impact of Trackside Equipment Installation – SG Infringement

23.1 Is the gauging and clearance assessment required according to P/OD/AMS/041? ☐ **Yes** ☑ **No**

If no, please provide justification.

There is no SG Infringement for the captioned works.

[x] Involving high consequence risk including derailment or train collision which affecting rail integrity / switch and crossing integrity / track adhesion performance.

[xi] Project Definition Documents such as Service Requirement Document (SRD), Functional Requirement Manual (FRM) might be used as a substitute to ConDes.

23.2	Is the clearance requirement compiled with the requirement in S/NT-Saf/DS/01(01)? If no, please state the endorsed SAFTEC Paper number and/or approved Operations Engineering Standard (OES) Waiver Request number which has/have been obtained.	☑	**Yes**	☐	**No**
23.3	State whether the trackside installation of fixed equipment with potential hazard[xii] of Structure Gauge (SG) infringement during operations and maintenance. If yes, please quote the hazard log reference and/or the ASRisk ID. The preventive / monitoring measure is stated in the hazard log in **Appendix B** to mitigate the potential hazard. If no, please provide justification.	☑	**Yes**	☐	**No**

24. New / Modified Trackside Installation in EAL

	Is earth/equipotential bond required to add or modify on the traction return rail? If yes, please seek approval from EAL Bonding Review Working Group [xiii] (EALBRWG) and attached the endorsed form as record. If no, please provide justification. There is not any earth/equipment bond add/ modify on the traction return rail.	☐	**Yes**	☑	**No**

[xii] The potential gauge infringement hazards during operations and maintenance, include operation/working condition and potential failure impacts on the systems, equipment or facilities.

[xiii] For EAL bonding application form, applicant shall seek MM-S&T EAL.

Approval List for Works Requiring EDOC Approval
(Engineering Works No. : ZCV20377)

Responsibilities	Name & Title	Signature	Date
Prepared by *(Designer or delegate)* [1] *(SCM or delegate)*	**YIU Alex Chun Ting** **Sr Construction Engineer – Civil**		
Checked by *(Design Manager or delegate)* [1] *(SCM or delegate)*	**TAN Adrian Choong Meng** **Sr Construction Manager - Civil**		
Checked by [2] *(GM-PP&D(O) or delegate)*	**CHAN Taky Tsun Kei** **Chief Projs Plan &** **Dev Mgr (Ops)**		
Approved by [3] *(On behalf of CCB)*	**N/A**		
Approved and authorised by [6] *(Design Manager from HKTS only)*	**N/A**		
Approved by [4] [1]*(Design Manager or CCM from CWBU / HKPBU)*	**CHONG Daniel Hing Pong** **Chief Design Manager – OYB** **KOO Raymond Kai On** **Chief Construction Manager – OYB**		
Independent Checked by [5] *(COAM / SOSoAM or delegate)*	**N/A**		
Endorsed by [8] *(Lead T&ES Representatives)*	**NG Patrick Chi Chung** **Lead Civil&Stn Fac Engg Mgr** **LUI William Ching Man** **Acting Lead Design Mgr-PWEngg**		
Authorised by [7] *(CSE(Ops) or COES&I)*	**CHAN HK Hing Keung** **Chief of Ops Engg Serv & Inno** **TANG Simon Siu Cheung** **DGM-Technical & Asset Engg**		
Endorsed by [9] *(Maintainer)*	**KOO Raymond Kai On** **Chief Construction Manager – OYB Civil**		
Endorsed by [10] *(Asset Owner)*	**KOO Raymond Kai On** **Chief Construction Manager – OYB Civil**		

Responsibilities	Name & Title	Signature	Date
Endorsed by [11] *(Head of Line Group Management /HTO or delegate)*	**LEE Andy Po Wing** **Chief Ops Mgr – AEL, TCL & DRL**		
Endorsed by *(Project Controller)*	**KOO Raymond Kai On** **Chief Construction Manager – OYB**		
Endorsed by	**FAN Dave Pui Kiu** **Sr. Railway Protection Engineer**		
Endorsed by *(SHD Landlord)*	**TSUI Barry Ka Fai** **Senior Depot Manager - SHD**		

Notes:

[1] Applicable to works on the Operating Railway by Capital Works Business Unit or Hong Kong Property Business Unit.

[2] Check is required by:- GM-PP&D(O) or delegates when (i) the work is Extension related (e.g. new lines) or (ii) the changes will be adopted in New Extension Projects as stated in Section 17; or (iii) when the work is major C&R works (e.g. station modification, ped-links etc).

[3] Approval by relevant CCB(s) is required when works involves changes of software and configurations under the (P/OD/AMS/012) System Configuration Management and Change Control Procedure

[4] Approval by Design Manager(s) or Chief Construction Manager (CCM) from CWBU/HKPBU is required for works on the Operating Railway undertaken by Capital Works Business Unit or Hong Kong Property Business Unit prior to the authorisation by COES&I or CSE(Ops).

[5] Independent Check is required for works which affect / modify on Safety Critical Systems or modify PSD/APG/MGF/Floodgate [Specific Safety Related Systems] or for mitigating R1/R2 hazards of the Operating Railway; and shall be carried by Operations Assurance Section according to the scope of modification.

[6] Approval by Design Manager(s) from HKTS is required for all works on the Operating Railway undertaken by HKTS.

[7] Authorisation from CSE(Ops)/ COES&I on their respective discipline is required when the works is:
- affecting / modifying on Safety Critical Systems, or
- modifying PSD/APG/MGF/Floodgate [Specific Safety Related Systems]
- affecting the Fire Safety of the Railway, or
- for mitigating R1/R2 hazards, or
- works on OR undertaken by Capital Works Business Unit or Hong Kong Property Business Unit.

[8] Endorsement by Lead T&ES Representatives is required for works on the Operating Railway undertaken by Capital Works Business Unit or Hong Kong Property Business Unit prior to the authorisation by COES&I or CSE(Ops). The Lead T&ES Representatives shall be identified based on the relevant discipline of the lead designer.

[9] Endorsement by the relevant maintainer(s) is required when the works affect / introduce new maintenance procedures / practices.

[10] Endorsement by the relevant Asset Owner is required when the works affects the cost of ownership for or life expectancy of the asset.

[11] Head of Line Group Management's delegated representatives is:-

a.) COM for modifications on (i) station based systems for specific line and/or specific station(s) & (ii) train services related modifications;

b.) Head of Traffic Operation (HTO) for modification on OCC migration systems and train service related issues such as equipment alteration or new equipment provision which have impact to the train service.

Endorsement by (Head of Line Group Management/HTO)'s delegated representatives is required when the works affect railway operations or operating procedure.

Engineering Drawings affected by this Engineering Work

The following circuit diagrams shall be updated

< Please also fill in the "Requisition for Drawing Service" (OPM781D/R1/04.97) >

Drawing Title	Drawing no.

Summary of Comment Sheet (Engineering Works No. : ZCV20377)			
EDOC Clause No.	Commented by (and Date)	Comments	Action (including the decision and rationale if comment is not accepted)

Summary of Comment Sheet (Engineering Works No. : ZCV20377)			
EDOC Clause No.	Commented by (and Date)	Comments	Action (including the decision and rationale if comment is not accepted)

	Appendices (Identify and include additional information in the submission package)
	Appendix A – Programme Appendix B – Hazard Log Appendix C – Emergency Contact List Appendix D – Method Statement (Extract from Method Statement : Lifting Over Test Track ACC No. 1701-W-000-CSC-760-000287, Section 8.1 to 8.5.3)