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Date: 1 September 2026

**CIRCULAR TO PROFESSIONAL INSTITUTES
ENHANCED TECHNICAL REQUIREMENTS IN CODE OF PRACTICE FOR RAILWAY PROTECTION
FOR DEVELOPMENT WORKS AFFECTING BORED TUNNELS IN COMPRESSIBLE SOILS**

Effective date

1 March 2027

Who should know

Building owners, Developers, Architects, Engineers and Contractors/Builders

1. Proposed works in the vicinity of compressible soils can have significant impact on RTS tunnels as compared to other type of soils. To manage the risks posed by such works, LTA will be revising the relevant technical requirements in Code of Practice for Railway Protection (CPRP).
2. The enhanced Code requires consolidation analysis to be carried out to assess long-term ground changes and impact to existing RTS tunnels for development and building works near railway tunnels in compressible soils. Qualified Persons (QPs) are also required to minimize additional loading and groundwater drawdown and demonstrate that there is no adverse impact to railway tunnels in compressible soils.

Please find the enhancements in the Addendum. They will take effect from 1 September 2026. There are no changes to the submission/approval processes.

3. Additionally, please be informed that the Handbook on Development & Building Works in Railway Protection Zone (January 2005 Edition) will be removed from the LTA website as the information it contains has either been incorporated into the December 2024 edition of the CPRP or other applicable guides.
4. We would appreciate if you can convey the contents of this circular to the members of your organisation. Should you have any further clarification, please email LTA at LTA-DBC_Registry@lta.gov.sg.

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Code of Practice for Railway Protection – Addendum, September 2026

Revision	File name	Month/year	Remark
1	Addendum to 2024 Edition Code of Practice for Railway Protection.pdf	September/2026	Enhancements to technical requirements

This document acts as an addendum to the 2024 Edition Code of Practice for Railway Protection. This document is meant to supplement the Circular attached and assist Developers and Consultants in preparing their submission to and obtaining approval from the Land Transport Authority (LTA).

Due to tunnel movements observed near multiple sites of development and building works, LTA has decided to enhance the Code's requirements for works near/on thick compressible soils. The Addendum intends to provide clarity on the new and enhanced requirements, to assist Developers and Consultants to produce better quality submissions.

In addition, the Handbook on Development & Building Works in Railway Protection Zone (January 2005 Edition) will be removed from the LTA website, and changes to the code have been made accordingly.

	Original Clause	New Clause
PART II – SUBMISSION REQUIREMENTS 6 INSTRUMENTATION PROPOSAL 6.3 RAPID TRANSIT SYSTEM STRUCTURES & TRACKS MONITORING	6.3.8 The rapid transit system tunnels shall be monitored for movements along its length spaced not more than 3m intervals within the predicted zone of influence. At least four points around each tunnel ring at these intervals shall be monitored. Monitoring shall extend at least 20m beyond the zone of influence. This monitoring and that for more massive part of rapid transit system stations and related structures shall not be more than 5m apart as illustrated in Figure 7.	6.3.8 The rapid transit system tunnels shall be monitored for movements along its length spaced not more than 3m intervals within the predicted zone of influence. At least four points around each tunnel ring at these intervals shall be monitored, approximately at the crown, track bed, and both axes of the tunnel. Monitoring shall extend at least 20m beyond the zone of influence. This monitoring and that for more massive part of rapid transit system stations and related structures shall not be more than 5m apart as illustrated in Figure 7.
PART III – TECHNICAL REQUIREMENTS 3 DEEMED-TO-SATISFY PROVISIONS 3.3.8 Excavation Works	3.3.8.1 Excavation works in the railway protection zone shall satisfy the following conditions, where applicable: (a) Piezometric Pressure in Compressible Soil The piezometric pressure in compressible soils within the first and second reserves shall not be reduced by more than 10kPa. Where the rapid transit system structures are supported on piles or other foundations extending below the compressible layer, this clause may be waived. The definition of compressible soils shall be referred from the LTA Civil Design Criteria for Road and Rail Transit Systems.	3.3.8.1 Excavation works in the railway protection zone shall satisfy the following conditions, where applicable: (a) Piezometric Pressure in Compressible Soil The piezometric pressure in compressible soils within the first and second reserves shall not be reduced by more than 10kPa. Where the rapid transit system structures are supported on piles or other foundations extending below the compressible layer, this clause may be waived. Compressible soils include all Beach, Estuarine, Fluvial and Marine soils as defined in the LTA Civil Design Criteria for Road and Rail Transit Systems.
PART III – TECHNICAL REQUIREMENTS	<i>New section</i> <i>New clause</i>	3.5 WORKS AFFECTING BORED TUNNELS IN COMPRESSIBLE SOILS 3.5.1 This section applies to all works affecting RTS bored tunnels located within or above compressible soil layers, which include all Beach, Estuarine, Fluvial and Marine soils as defined

3 DEEMED-TO-SATISFY PROVISIONS		in the LTA Civil Design Criteria for Road and Rail Transit Systems. Where requirements in this section overlap with requirements in other sections, the more onerous shall apply.
	<i>New clause</i>	
	<i>New clause</i>	3.5.2 The design and construction of any development or building works must make provisions to minimize: (a) Any additional loading on the compressible soil layers; (b) Any groundwater drawdown of the compressible soil layers; and (c) Any other actions which may lead to consolidation of the compressible soil layers.
	<i>New clause</i>	3.5.3 Impact assessments shall include the consideration of induced long-term consolidation of the compressible soil and impact on the RTS bored tunnels.
	<i>New clause</i>	3.5.4 Ground investigation shall be carried out to determine the extent of the compressible soil layers and in-situ soil parameters, for the consolidation analysis.
	<i>New clause</i>	3.5.5 The allowable imposed loads in Table 2(a) are not applicable due to the sensitivity of the bored tunnels within or above the compressible soil layers, where consolidation of compressible soil may induce significant impact to the bored tunnels. The allowable imposed loads shall be rigorously assessed based on the consolidation analysis. It shall be demonstrated that the imposed loads from the proposed development will not cause excessive tunnel deformation triggered by soil consolidation.
	<i>New clause</i>	3.5.6 The allowable movement limits stated in Table 2(b) shall refer to the long-term steady state values obtained from consolidation analysis.

	Original clause	New Clause
PART I – GENERAL 1 USEFUL REFERENCES	1.1 HANDBOOK ON DEVELOPMENT & BUILDING WORKS IN RAILWAY PROTECTION ZONE The handbook is written in an easy-to-read manner, and it contains supplementary materials such as photographs, diagrams, explanatory notes, case examples, etc. to illustrate the interpretation of the technical requirements in this Code.	Removed
PART III – TECHNICAL REQUIREMENTS 3 DEEMED-TO- SATISFY PROVISIONS	3.2.1 MOBILIZATION WORKS Mobilization works in the railway protection zone and railway corridor shall satisfy the following conditions: (a) The first, second and third reserve lines of the rapid transit system structures, where applicable, must be pegged and demarcated clearly on site by a registered surveyor based on the approved certified survey plan. Details of first reserve line should follow the typical cross section given in the Handbook on Development and Building Works in Railway Protection Zone.	3.2.1 MOBILIZATION WORKS Mobilization works in the railway protection zone and railway corridor shall satisfy the following conditions: (a) The first, second and third reserve lines of the rapid transit system structures, where applicable, must be pegged and demarcated clearly on site by a registered surveyor based on the approved certified survey plan. Details of first reserve line should follow the typical cross section given in the Handbook on Development and Building Works in Railway Protection Zone.