



Bridge Design Details 12A June 2019

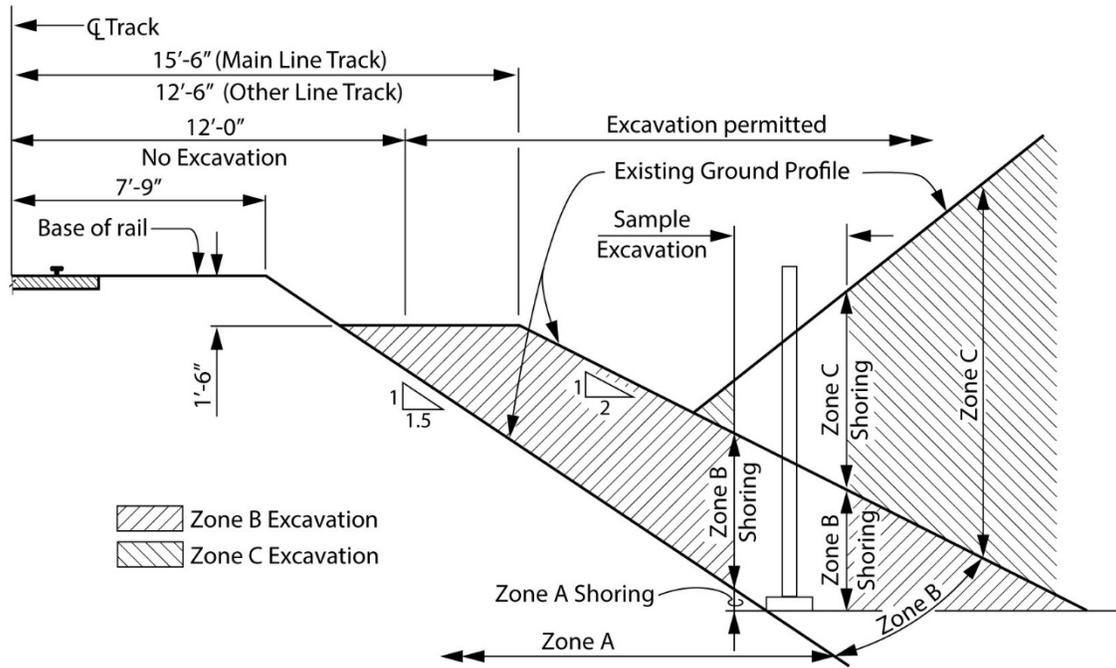


Figure 12A.A.1 General Railroad Excavation Zones

General Railroad Shoring Notes:

1. All dimensions are measured perpendicular to CL track.
2. Prior to commencing any work, the Contractor shall submit detailed plans indicating the nature and proposed work for approval by the Railroad. The Contractor shall install the planned temporary shoring system per the submitted plans. Design of the temporary shoring system shall comply with current *RAILROAD GUIDELINES FOR TEMPORARY SHORING*.
3. For excavations which encroach into Zone A or B, shoring plans shall be accompanied by design calculations. Plans and calculations must be signed and stamped by a Professional Engineer registered in the State of California.
4. Shoring must be designed for Railroad Live Load Surcharge in addition to OSHA Standard Loads excavation in Zone A. Applicable Railroad Live Load: Cooper E 80.

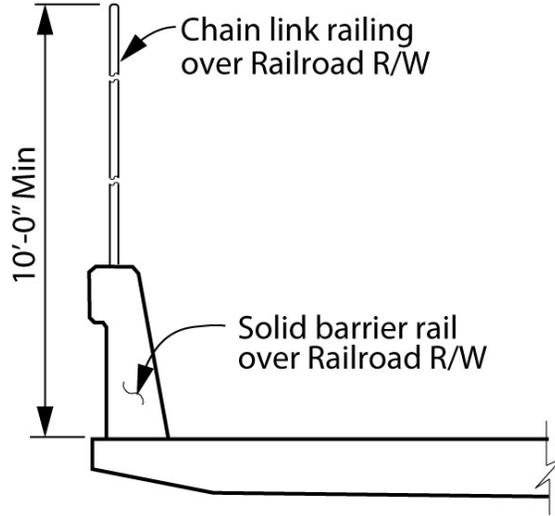


Figure 12A.A.2 Typical Fence on Barrier Detail

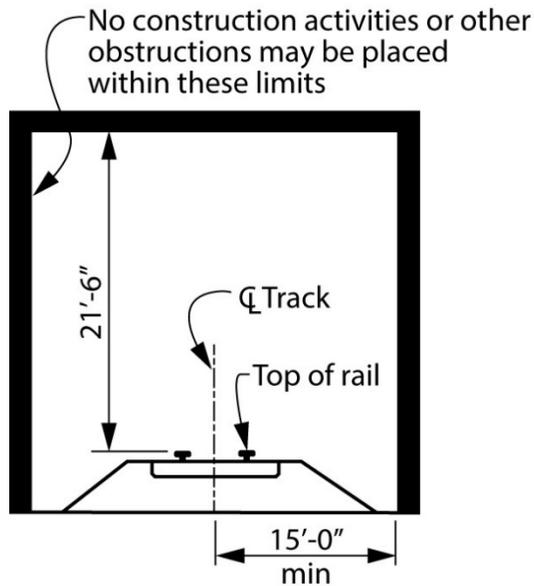


Figure 12A.A.3 Minimum Construction Clearance Envelope
Dimension Measured Perpendicular to ⌀ Track