



# Bridge Design Details 12.1 June 2019

## Railroads

Structure Design and forwarded to the District Design Office and the District Railroad Coordinator for submittal to the railroad. This submittal may be requested during both the Advance Planning or General Plan stages of a project.

The following is a list of general railroad requirements applicable to most projects which should be shown on both the ADVANCE PLANNING STUDY and GENERAL PLAN submittals. For other applicable notes and details, see *Bridge Design Details: 12 Railroad Details*, Attachment 12A.A.1 and 12A.A.2.

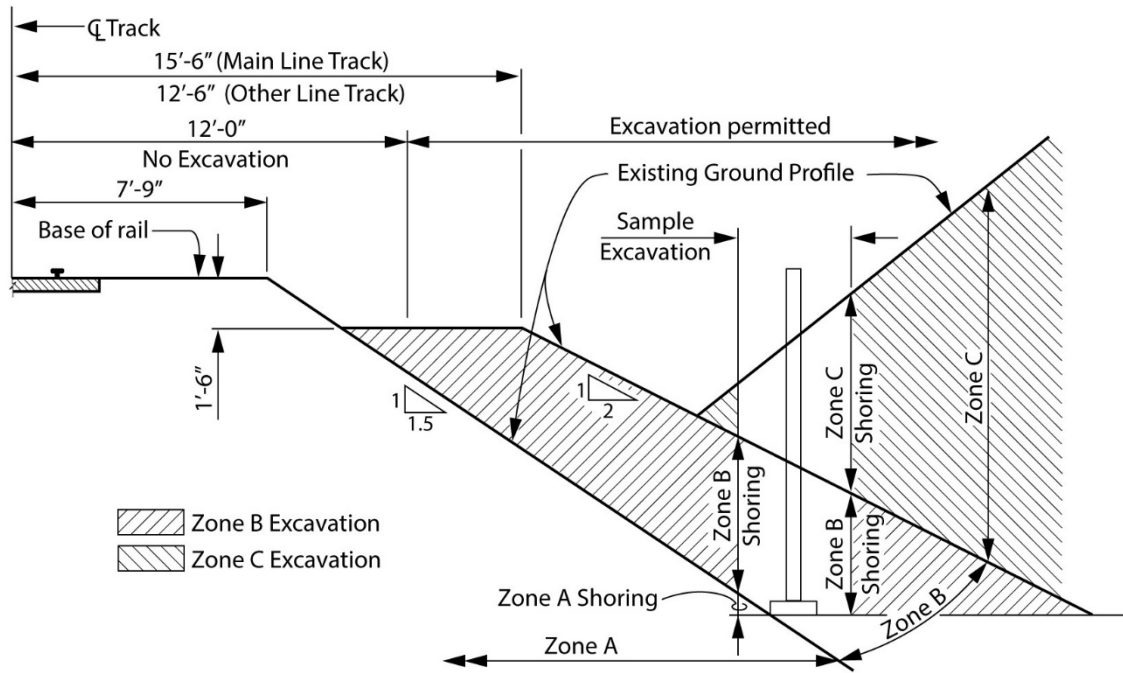
1. Show district-provided alignment or layout line.
2. Show track layout information and limits of railroad right-of-way with respect to centerline of the tracks.
3. Show future tracks and access roadways. Identify the existing tracks as Main, Siding or Spur, etc.
4. Show rail elevation and location of minimum vertical clearance over all existing and future tracks, as well as access roads. A table may be used to present information at multiple locations.
5. Show minimum horizontal clearance, measured perpendicular from the centerline of the nearest existing or future track, to the face of obstruction, such as substructure or below grade foundation.
6. Show horizontal spacing measured perpendicular between the centerlines of the existing or future tracks.
7. Show depth of bridge foundation and excavations below the bottom of the rail elevation when excavations will encroach on railroad. For "GENERAL RAILROAD EXCAVATION ZONES" and general shoring notes, see *Bridge Design Details: 12 Railroad Details*, Attachment 12A.A.1.
8. Show limits of barrier rail and fence combination over the railroad right-of-way. For "TYPICAL FENCE ON BARRIER DETAIL", see *Bridge Design Details: 12 Railroad Details*, Attachment 12A.A.2.
9. Show existing or proposed finished grade and roadway profile.
10. Show Railroad identifying information: railroad Name, Sub-Division, MP (Post Mile) and DOT No. \_\_\_. Show direction of increasing Post Mile.
11. Show type of slope paving and any modifications to existing slope paving.
12. Show total width of superstructure including travel way, shoulders, or sidewalk.



13. Show top and bottom elevation of the crash wall, if applicable.
14. Show "MINIMUM CONSTRUCTION CLEARANCE ENVELOPE" diagram, see *Bridge Design Details: 12 Railroad Details, Attachment 12A.A.2.*
15. Show all existing and proposed utilities within railroad right-of-way.



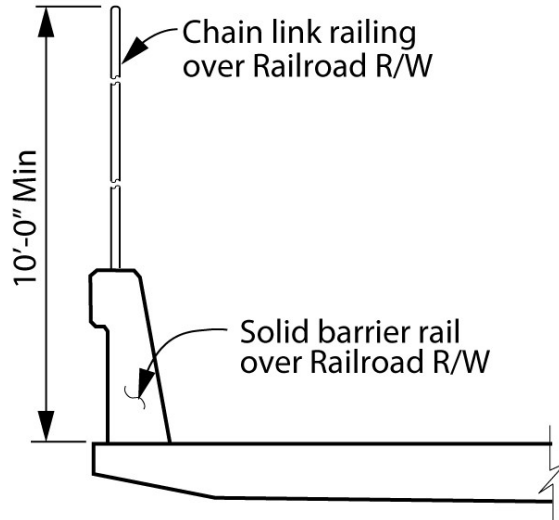
# Bridge Design Details 12A June 2019



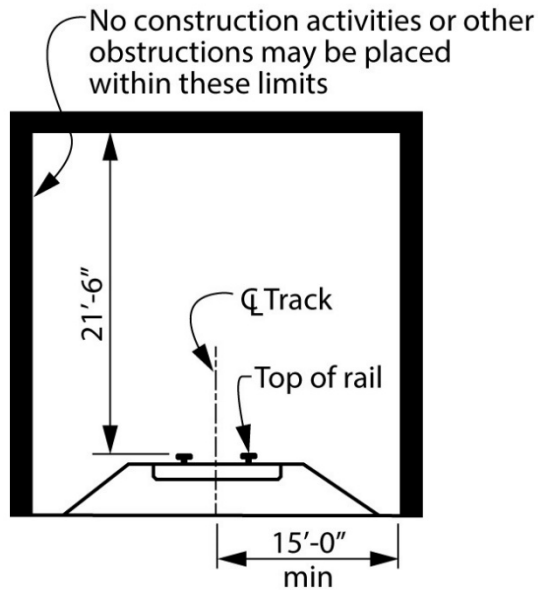
**Figure 12A.A.1 General Railroad Excavation Zones**

## General Railroad Shoring Notes:

1. All dimensions are measured perpendicular to  $\text{CL}$  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



Figure 12A.B.1 Railroad Submittal Detailing Example 1

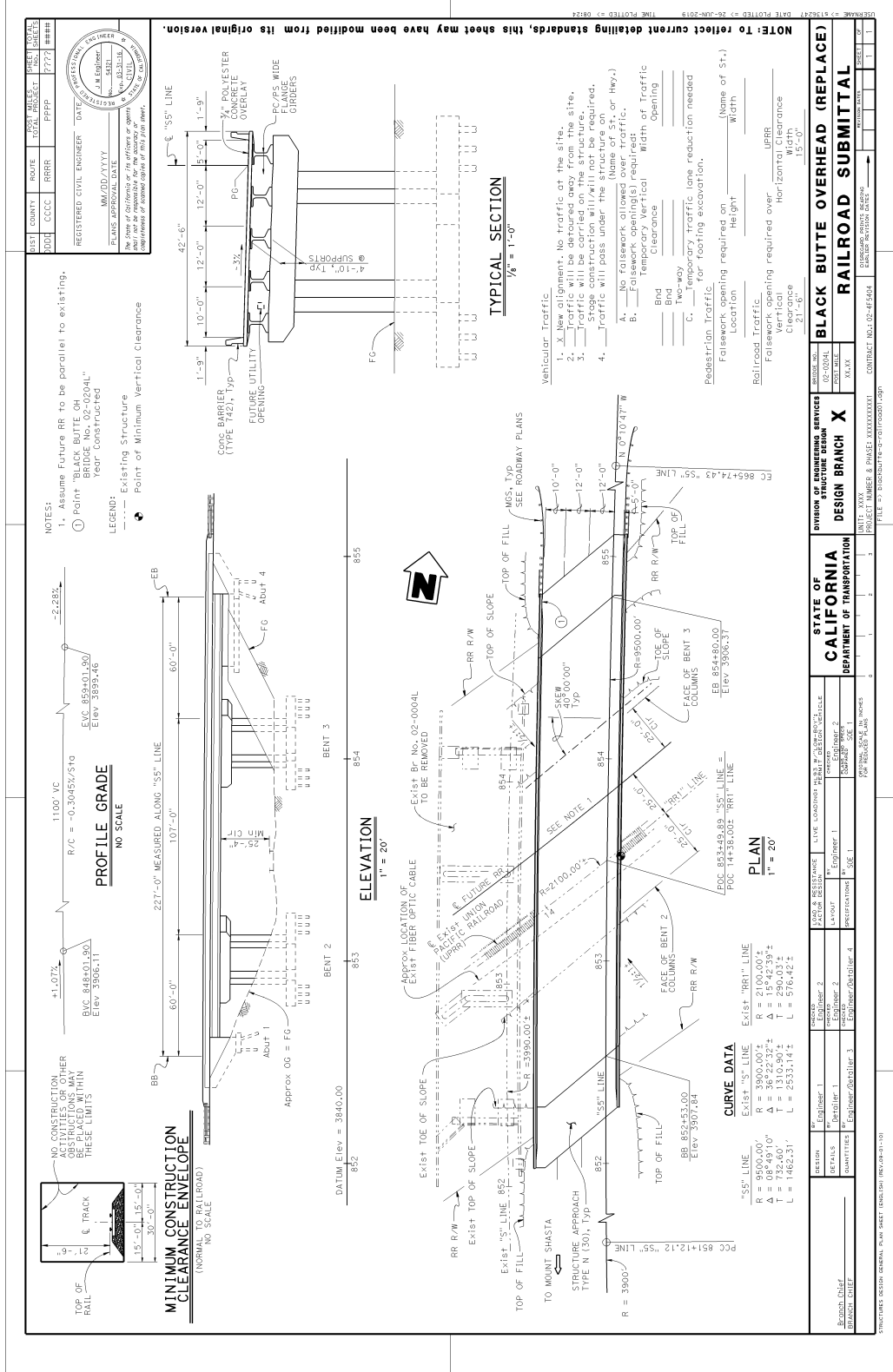
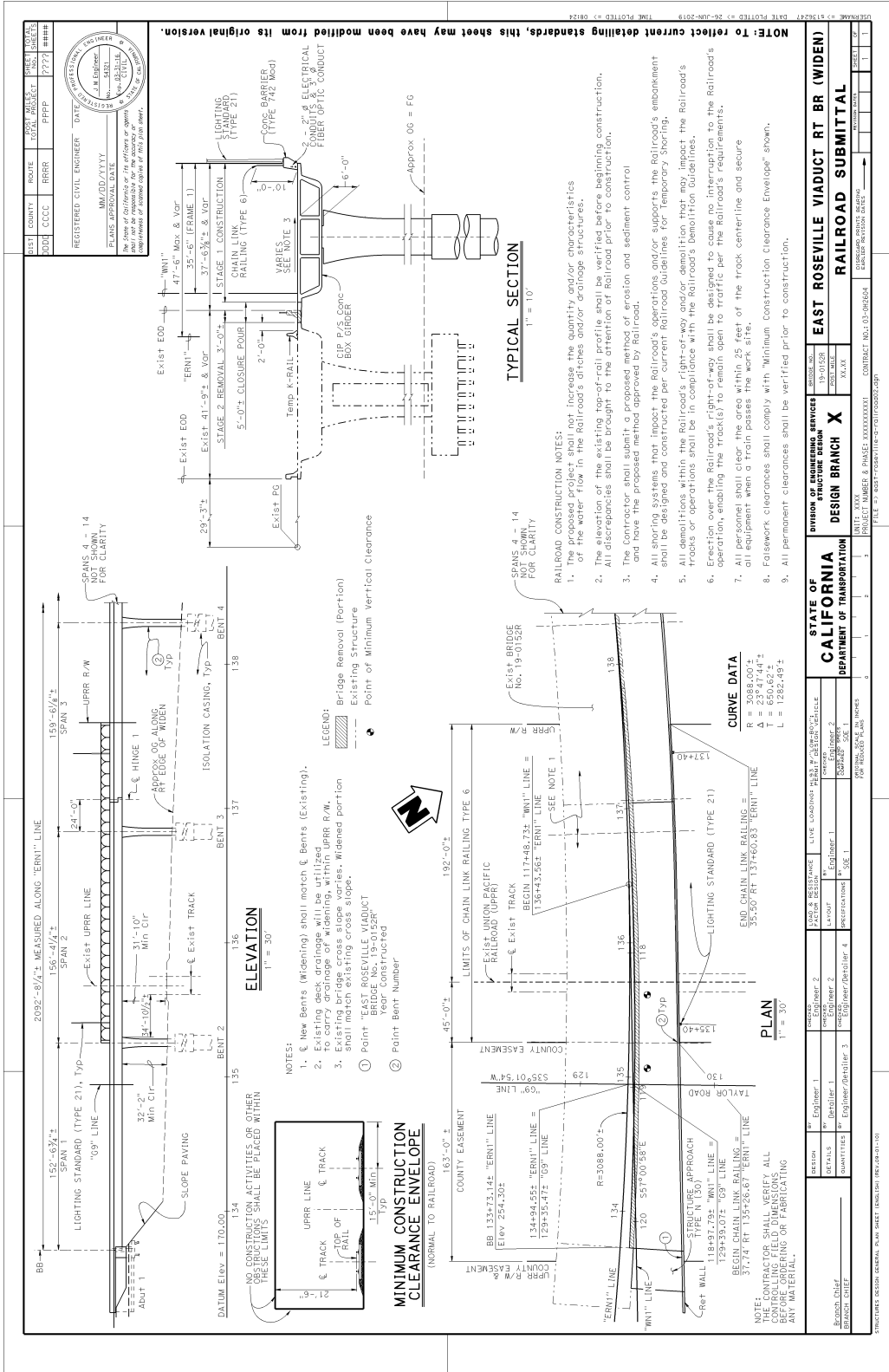




Figure 12A.B.2 Railroad Submittal Detailing Example 2





# Railroad – Checklist

Structure:	Structure Number:
Contract Number:	Project Number & Phase:
Detailer:	Date:
Designer:	Date:
Checker:	Date

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- 14. Show "MINIMUM CONSTRUCTION CLEARANCE ENVELOPE" diagram, see *Bridge Design Details: 12 Railroad Details, Attachment 12A.A.2.*
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