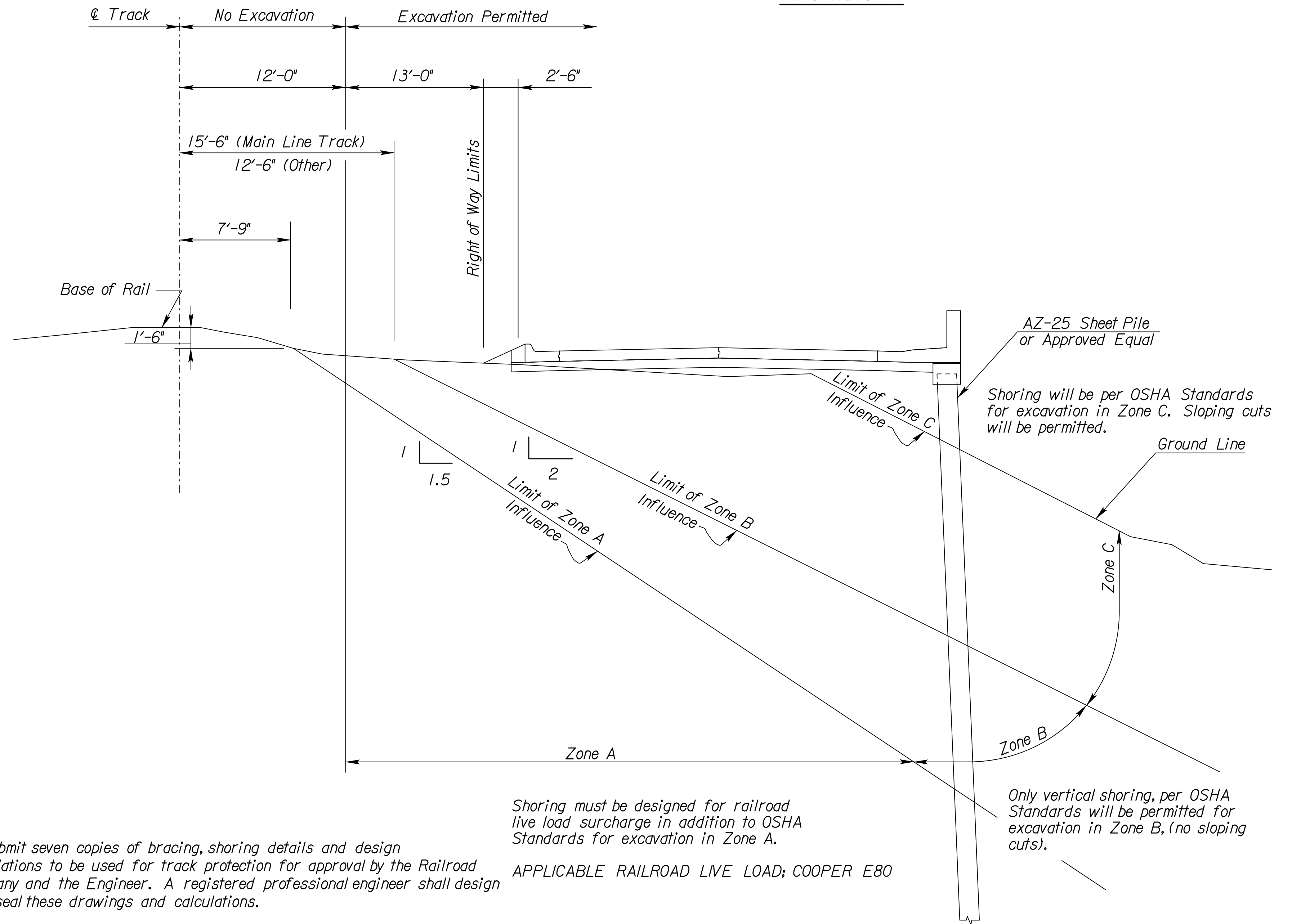


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84890	2010	23	59

**Sheet Pile Retaining Wall  
(Alternate #1)**



NOTE: Submit seven copies of bracing, shoring details and design calculations to be used for track protection for approval by the Railroad Company and the Engineer. A registered professional engineer shall design and seal these drawings and calculations.

NOTE: Drilled Shafts located within the Railroad Live Load influence shall be cased.

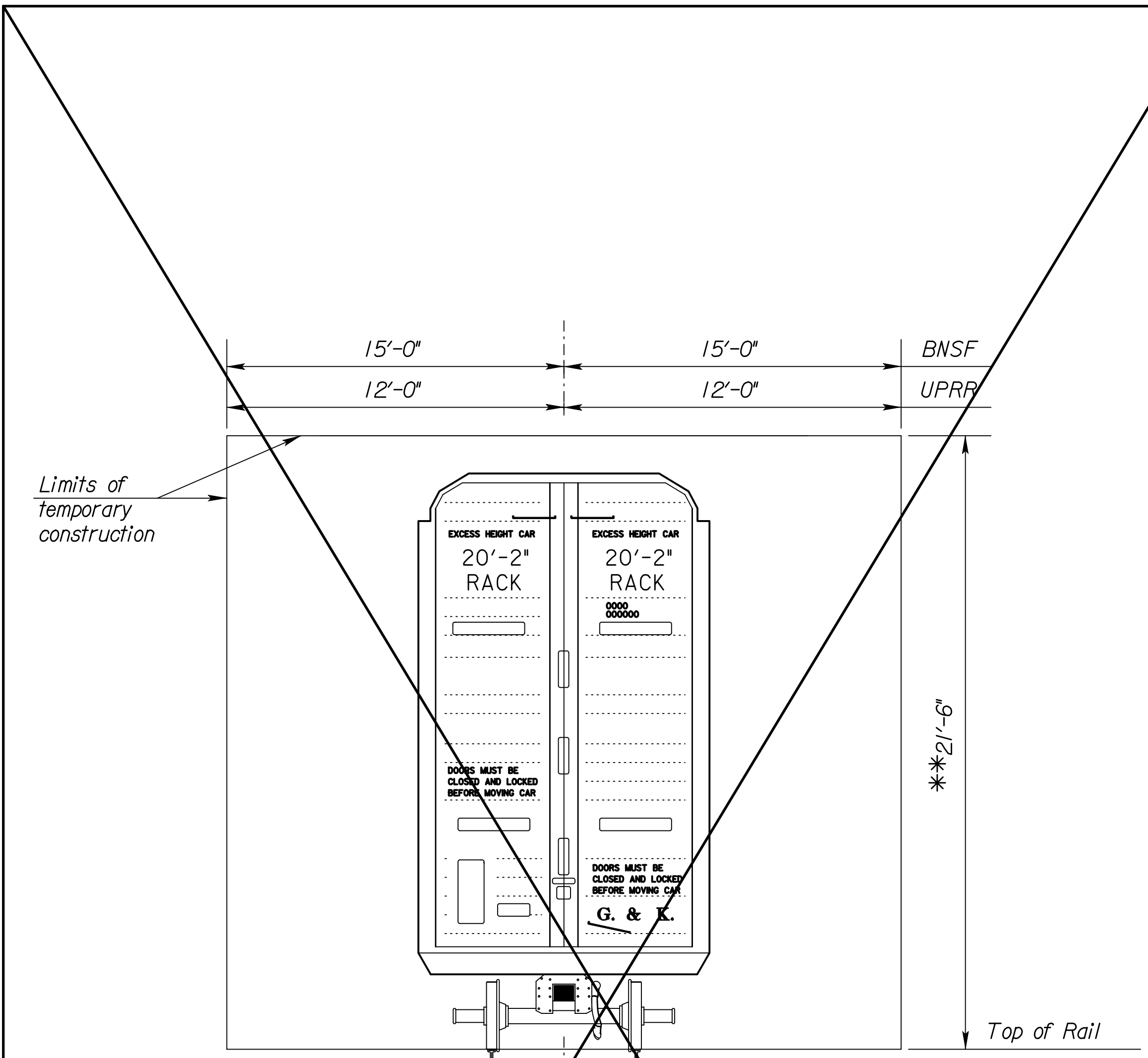
Shoring must be designed for railroad live load surcharge in addition to OSHA Standards for excavation in Zone A.

APPLICABLE RAILROAD LIVE LOAD; COOPER E80

**TRACK PROTECTION SHORING REQUIREMENTS**

(All dimensions are measured perpendicular to  $\phi$  track.)

NOTE: The location of the theoretical lines that denote the "Zones of Influence" do not necessarily correspond to the geometrics of the track. Use the applicable shoring requirements within the defined zones.



**CONSTRUCTION CLEARANCE DETAILS**

\* Clearances may not be attainable at all locations. If the clearances cannot be met, see the Construction Layout sheet for a sketch of Railroad approved clearances.

\*\*21'-6" is preferred 21'-0" is the Railroad Minimum

RAILROAD PROTECTION: Execute the work in such a manner and take any precautions necessary to prohibit broken concrete and other debris from falling on and damaging the rails, ties, ballast or other railroad property. As much as possible, do the work so as not to interfere with the normal use of the tracks. The Railroad Company and the Engineer shall approve the methods of protection proposed by the Contractor before any work begins.

Std. Base File: br105.dgn  
 Plotted By: rjm  
 File: I:\2009\0307-Retaining Wall\0307-000-RailClear.dgn  
 Plot Date: 1/17/2011

NO.	DATE	REVISIONS	BY	APP'D
6	6-26-07	Revised Clearances & Shoring	JPJ	KFH
5	11-17-04	Revised Horizontal Distances	RAM	KFH
4	5-01-00	Revised shoring requirements	RAM	KFH
3	4-2-99	New Constr. Clearance Details	RAM	KFH
2	11-17-97	Revised SIVert. Clearance	RAM	KFH
1	4-4-97	Add US dimensions	LRR	KFH

**KANSAS DEPARTMENT OF TRANSPORTATION**

**RAILROAD CLEARANCE AND TRACK PROTECTION**

**BR105**

FHWA APPROVAL	7/25/07	APP'D	KENNETH F. HURST
DESIGNED	DETAILED	GFKI QUANTITIES	CADD
DESIGN CK.	DETAIL CK.	LRR QUAN. CK.	CADD CK.