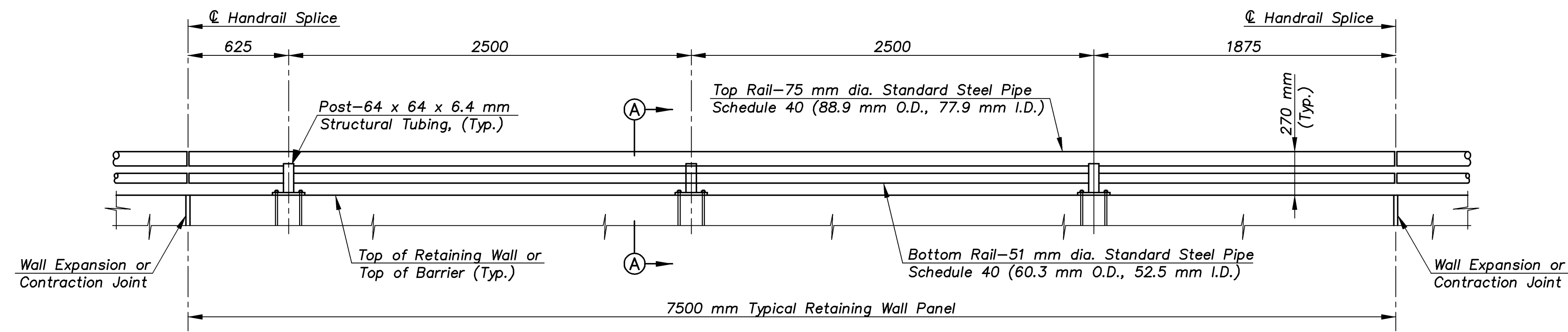
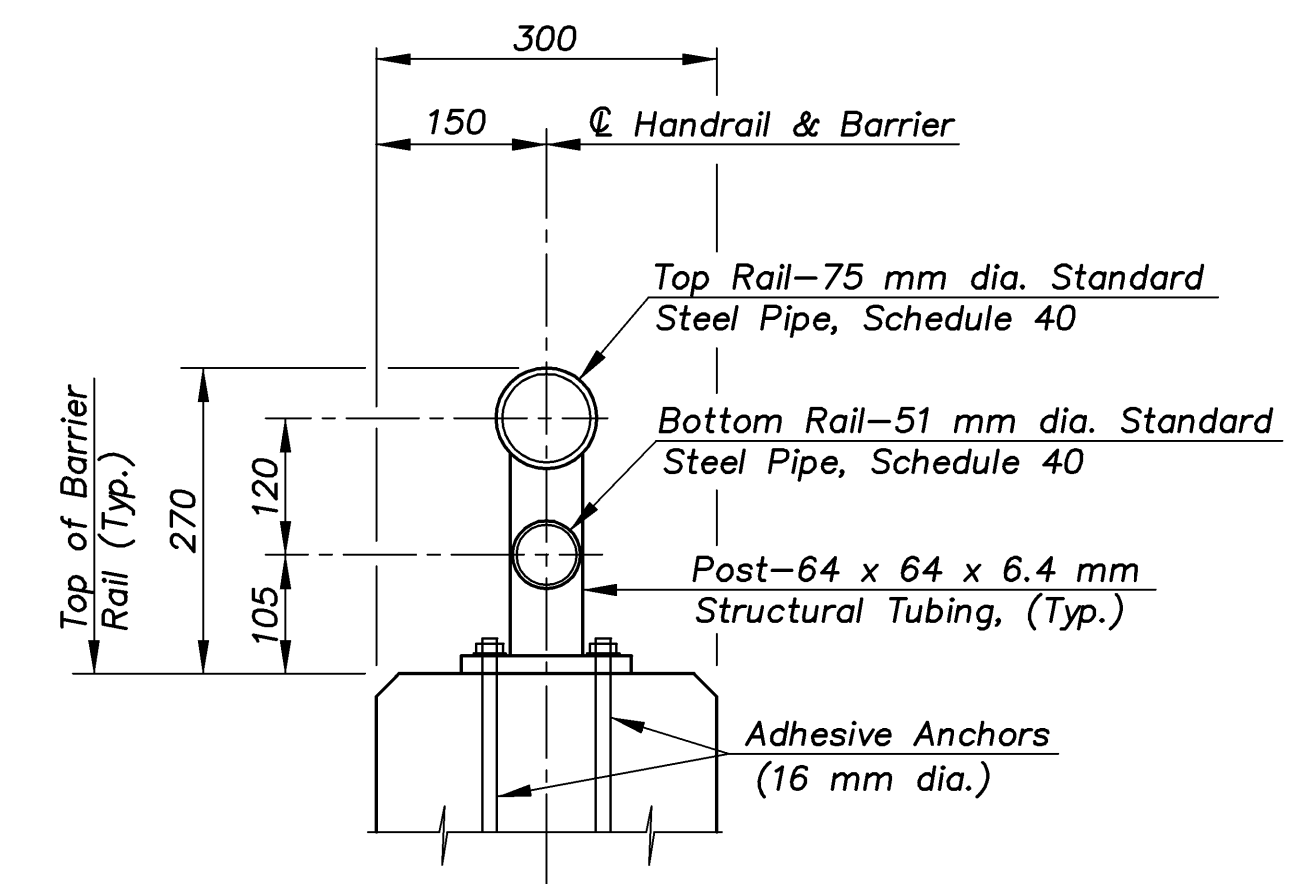


E.F. INDICATES EACH FACE.
N.F. INDICATES NEAR FACE.
F.F. INDICATES FAR FACE.

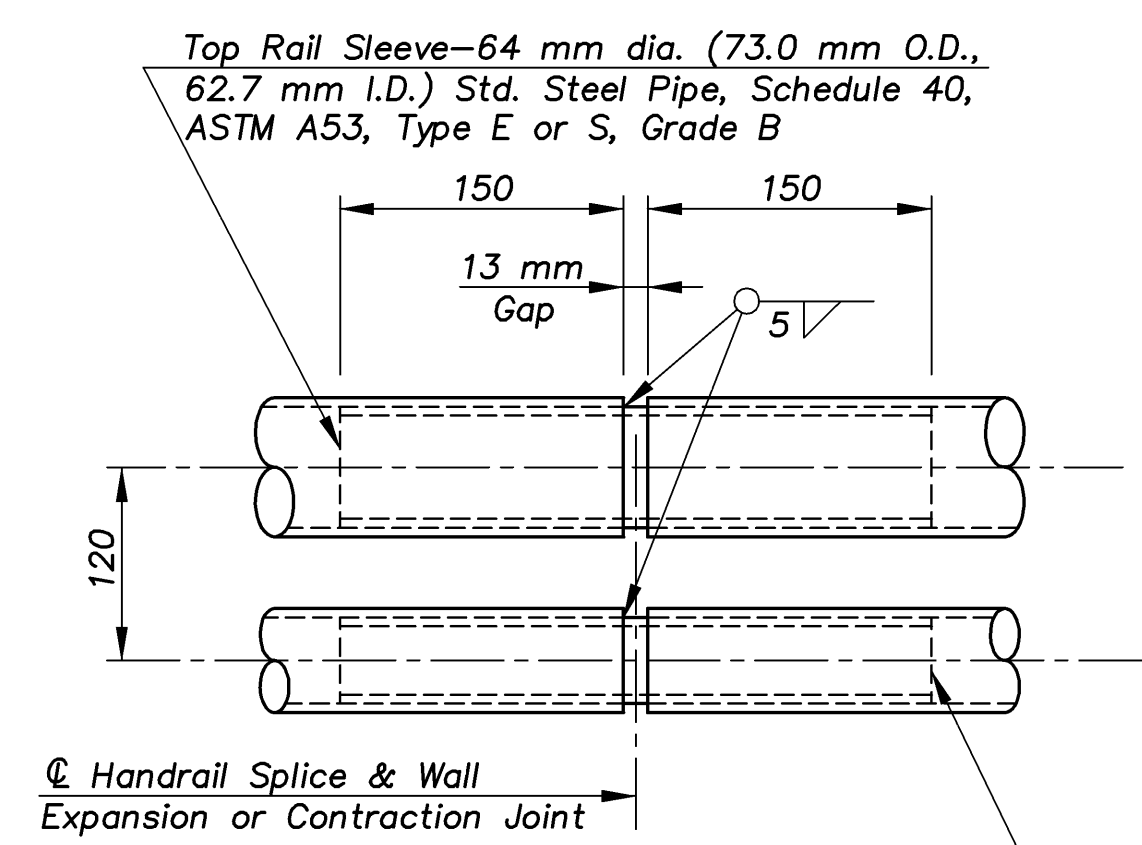
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	54-87 K-8258-01	2007	238	556



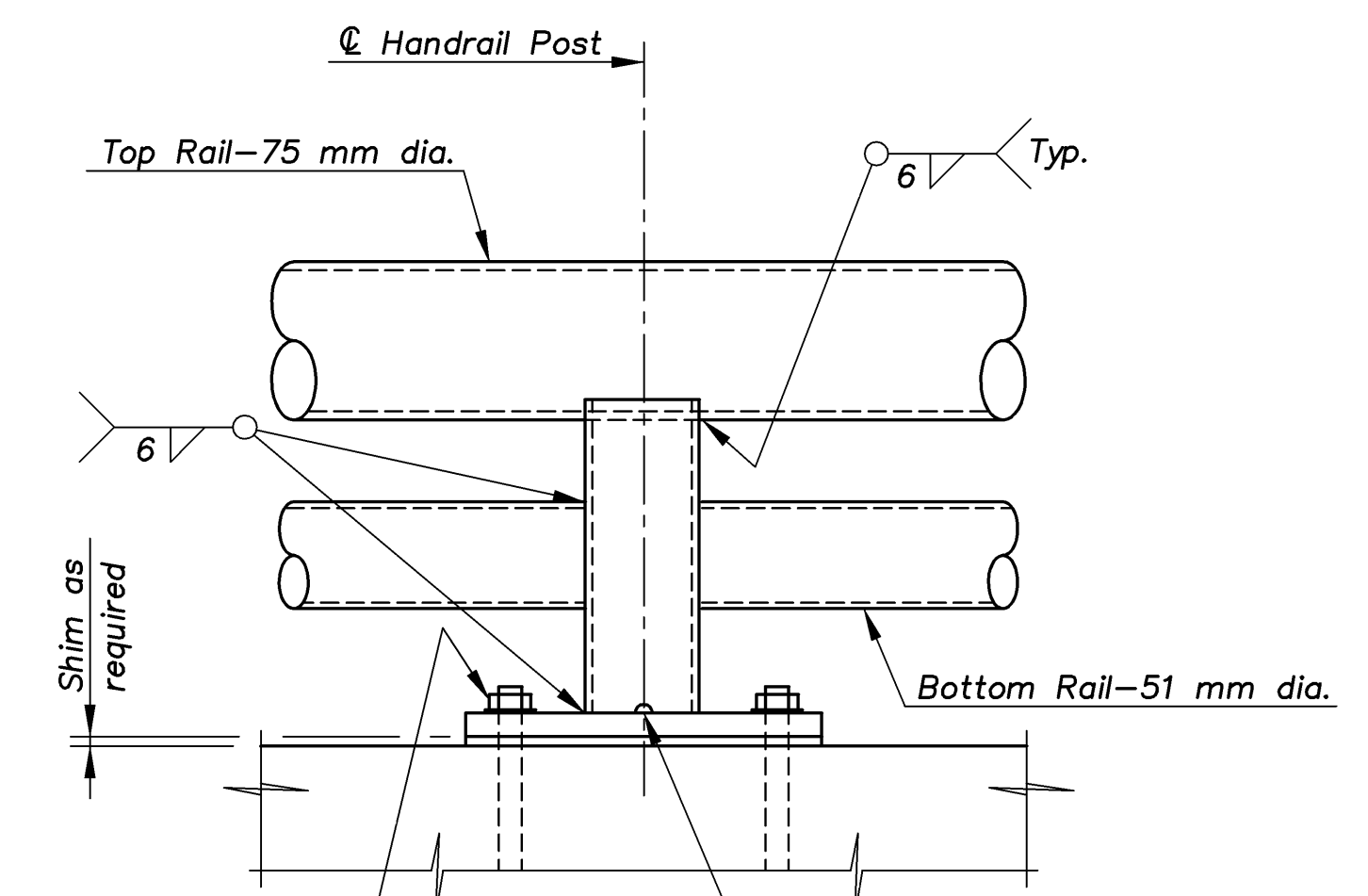
TYPICAL HANDRAIL ELEVATION



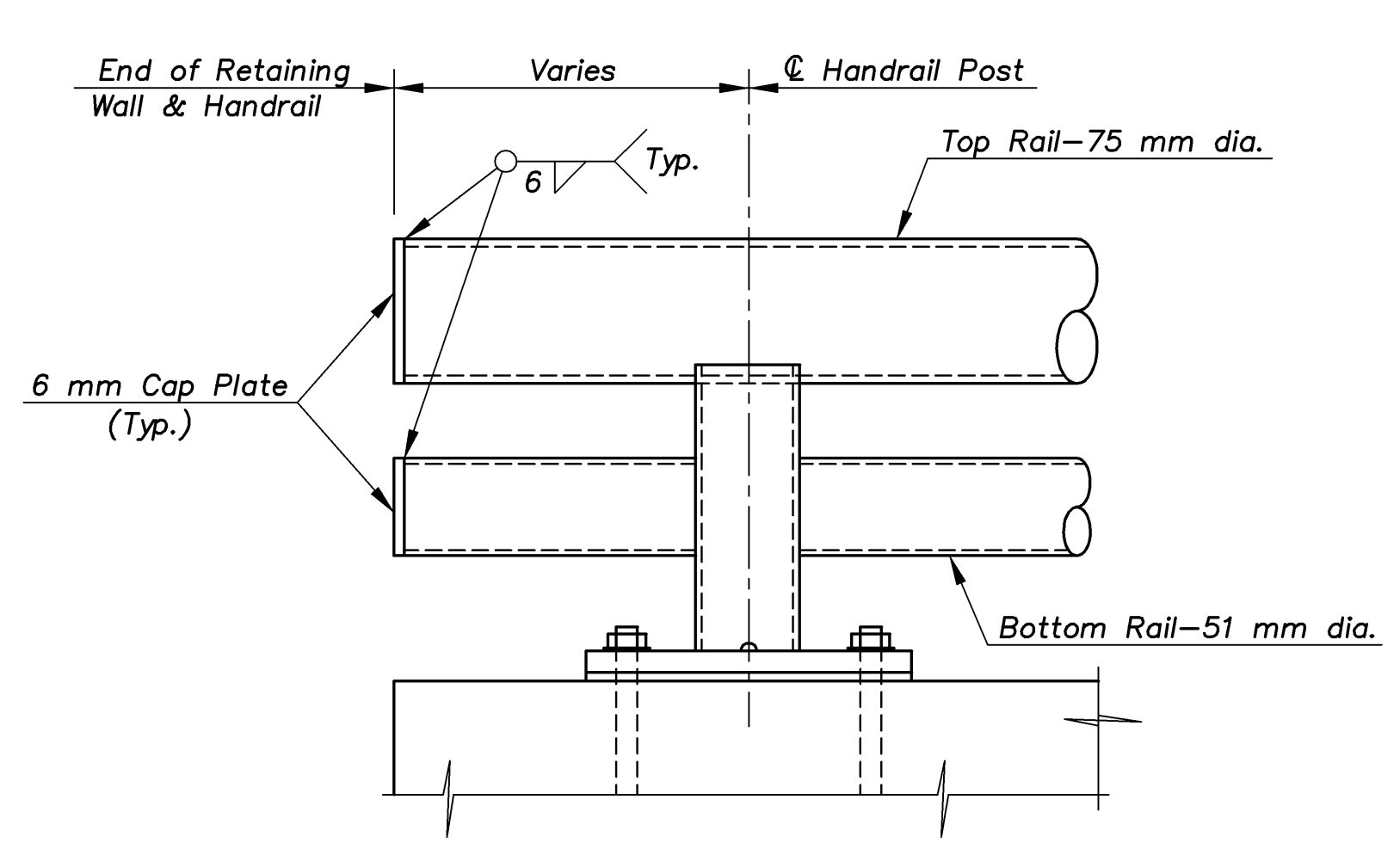
SECTION A-A



RAIL SPLICE DETAIL



ELEVATION AT POST



END OF HANDRAIL ELEVATION
(Except at Bridge Locations)

METAL HANDRAIL NOTES

The 75 & 51 mm dia. rails shall be standard steel pipe conforming to ASTM A53M Type E or S, Grade B Schedule 40. Posts shall be 64 x 64 x 6.4 mm structural tubing conforming to ASTM A500M. The 20 x 20 mm intermediate pickets and 25 x 50 mm bottom rails shall conform to ASTM A709M (Grade 250). rails, pickets and base plates shall conform to ASTM A709M (Grade 250).

All rails, posts, pickets and base plates shall be galvanized and painted after fabrication. Galvanizing shall be done in accordance with the requirements of the KDOT Specifications. The paint system shall be as described in the Special Provisions. Color of the finish coat shall be black.

Retaining Wall handrail shall be constructed according to Section 709 of the Standard Specifications.

The rails shall be set parallel to top of retaining wall. All posts and pickets shall be set vertical. Shims may be used between the concrete and the base plate of the steel post.

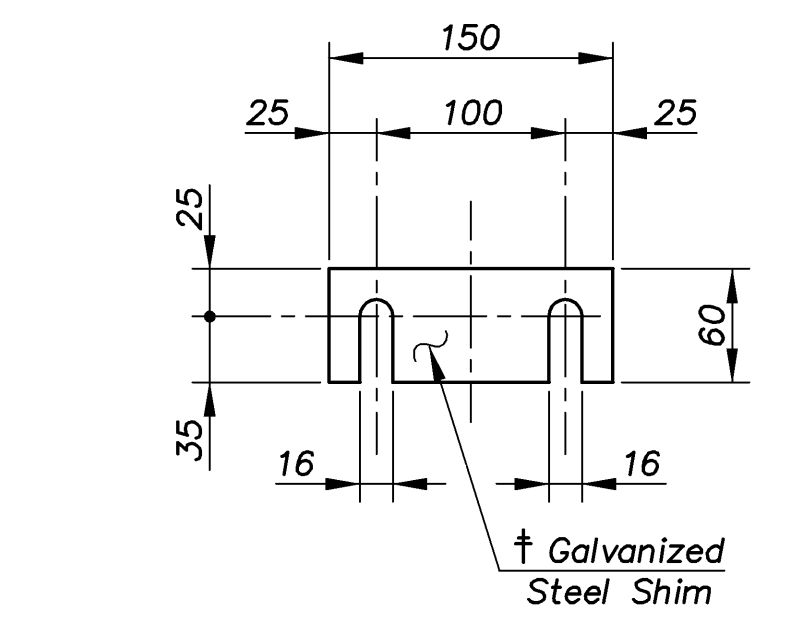
All top, intermediate and bottom handrail-to-post welded connections shall be ground smooth. No field welding will be permitted. The Contractor shall submit shop drawings to the Engineer for approval prior to fabrication of the retaining wall handrail.

All material, labor, splices, shims and the installation shall be paid for under the bid item "Handrail (Metal) (270 mm)". The handrail is to be bid on a per meter basis measured from end to end of the top rail.

The adhesive anchors shall consist of an all thread anchor rod, nut, washer and adhesive capsule. The rod, nut and washer shall be coated in accordance with the weight of coating requirements of ASTM A153 and shall conform to ASTM A36/A36M.

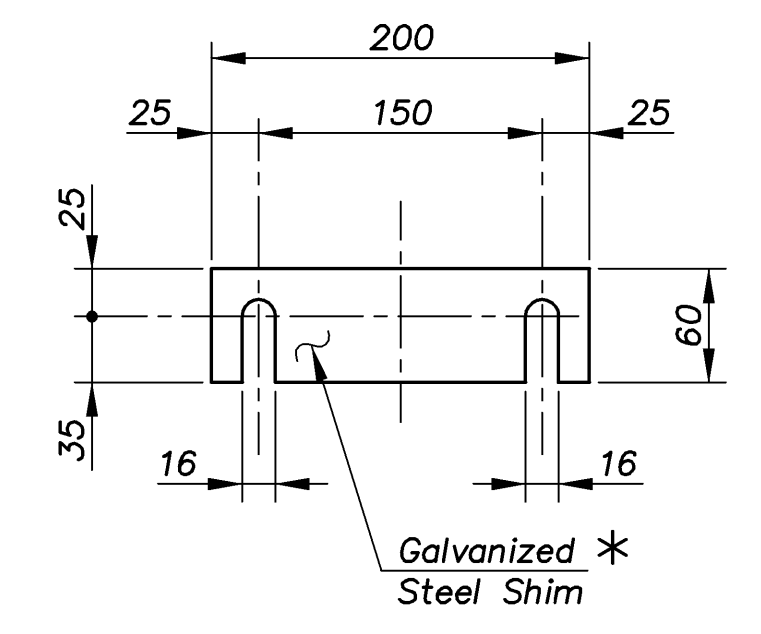
Bottom Rail Sleeve—38 mm dia. (48.3 mm O.D., 40.9 mm I.D.) Std. Steel Pipe, Schedule 40, ASTM A53, Type E or S, Grade B

Exposed surfaces of all anchors, nuts and washers shall be field painted after installation



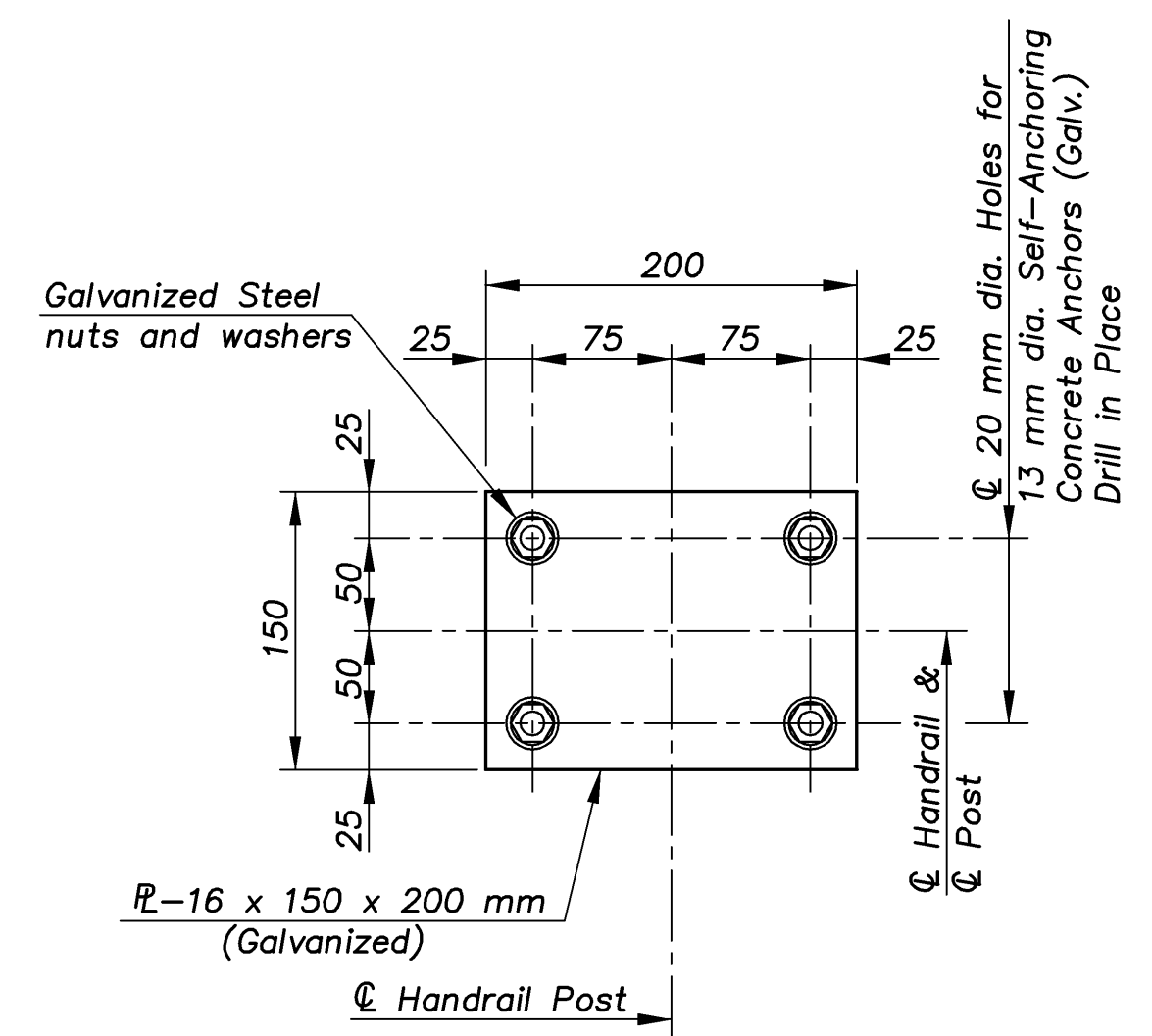
150 mm SHIM DETAIL

Note: Provide 1-2 x 150 mm galvanized steel shims for each post, to be used as required.



200 mm SHIM DETAIL


Note: Provide 2-2 x 200 mm galvanized steel shims for each post, to be used as required.



BASE PLATE DETAIL

* NOTE: At the Contractor's option a grouted leveling pad may be used in lieu of the steel shim plates to erect the posts vertical. The leveling pad shall be of a non-shrink grout as approved by the Engineer. The grout shall be mixed, applied and cured according to the manufacturer's recommendations.

RET WALL/DETAILS 1:200

KANSAS DEPARTMENT OF TRANSPORTATION		 Cook, Flatt & Strobel ENGINEERS, P. A.	
ROCK ROAD RETAINING WALLS METAL HANDRAIL DETAILS			
DESIGNED	R.S.C.	SCALE	Noted
DETAILED	T.R.G.	DATE	
Proj. No. 54-87 K-8258-01		QUANTITIES	T.R.G. SHEET 19 OF 27