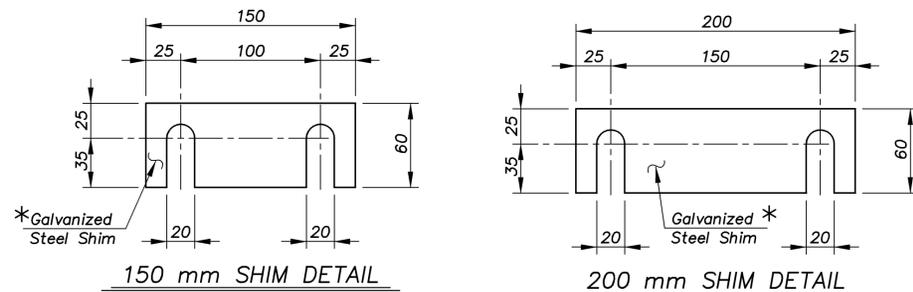


E.F. INDICATES EACH FACE.
N.F. INDICATES NEAR FACE.
F.F. INDICATES FAR FACE.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	54-87 K-8258-01	2007	281	556



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

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

* 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.

BRIDGE HANDRAIL NOTES

The top rails shall be 75 mm dia. standard steel pipe conforming to ASTM A53M Type E or S, Grade B Schedule 40. The bottom and intermediate rails shall be 25 x 50 mm bars. Posts shall be 64 x 64 x 6.4 mm structural tubing. Tubing for posts shall conform to ASTM A500M, Grade B. The bottom and intermediate 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.

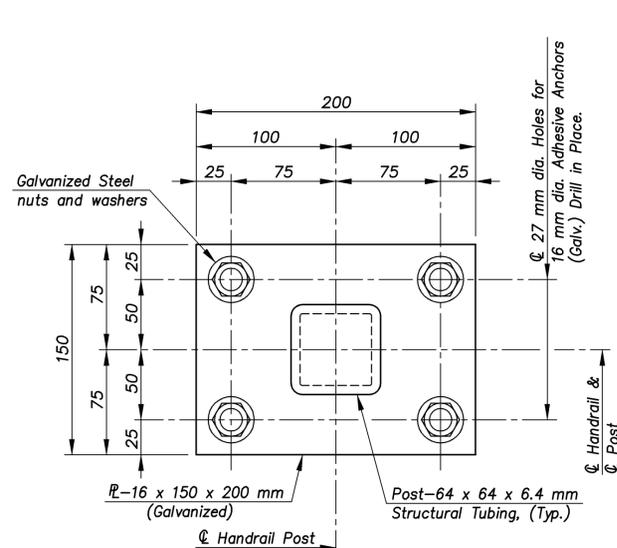
Bridge handrail shall be constructed according to Section 709 of the Standard Specifications.

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

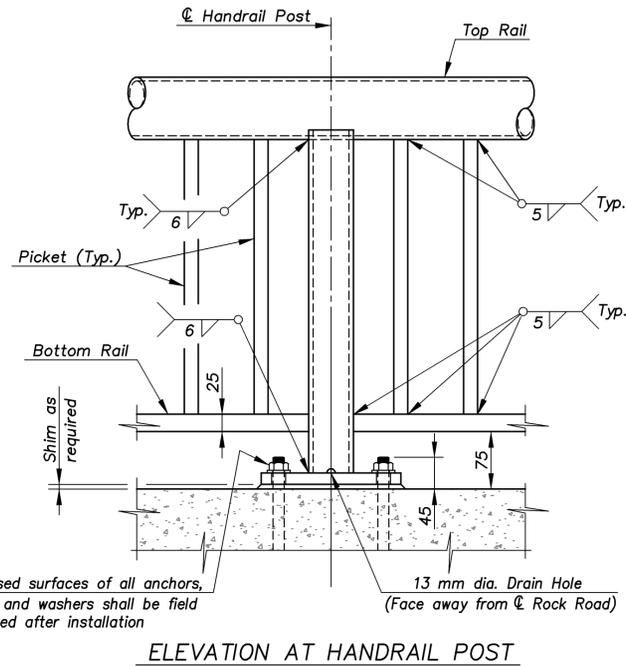
All top, intermediate and bottom handrail-to-post welded connections shall be ground smooth. No field welding will be permitted. The Contractor shall submit shop drawings to the Engineer for approval prior to fabrication of the bridge handrail.

All material, labor, splices, shims and the installation shall be paid for under the bid item "Handrail (Metal) (620 mm)". The handrail is to be bid on a per meter basis measured from end to end of the top rail.

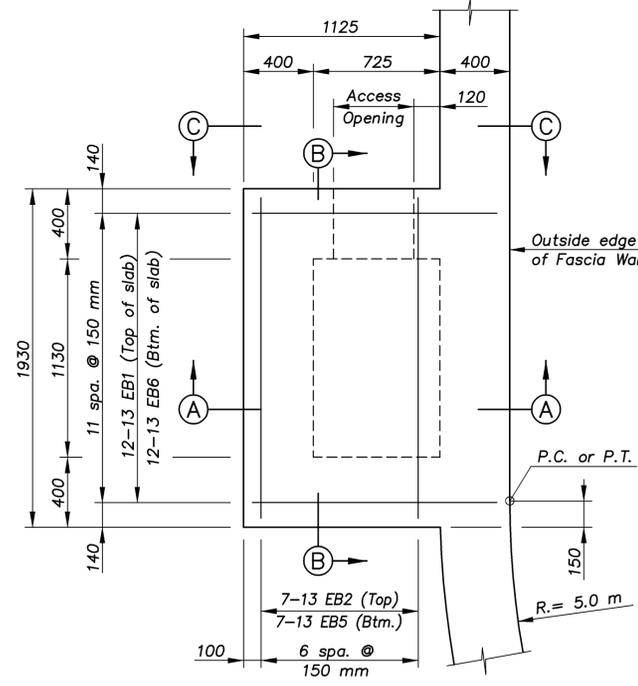
The adhesive anchors shall consist of an all thread anchor rod, nut, washer and adhesive capsule. The rod, nut and washer shall be coated in accordance with the weight of coating requirements of ASTM A153 and shall conform to ASTM A36/A36M.



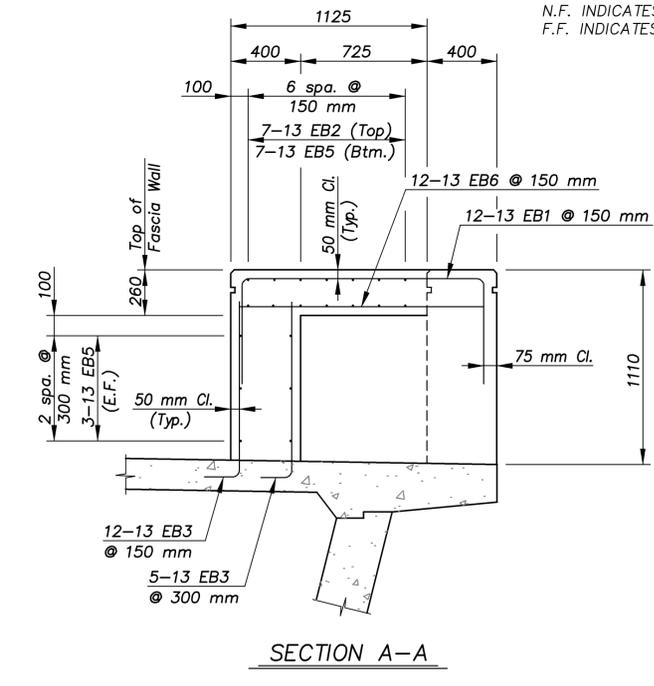
HANDRAIL BASE PLATE DETAIL



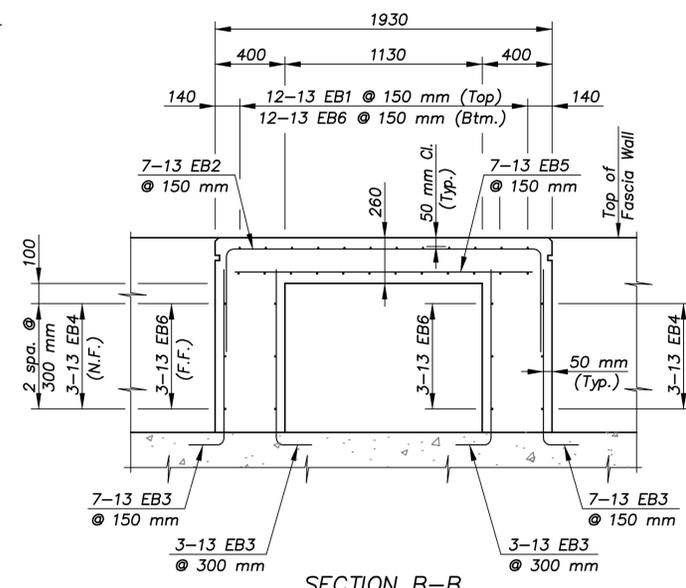
ELEVATION AT HANDRAIL POST



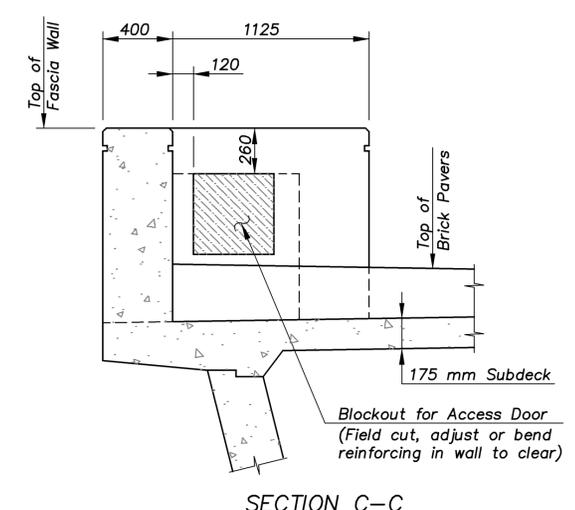
PLAN VIEW OF END BLOCK



SECTION A-A

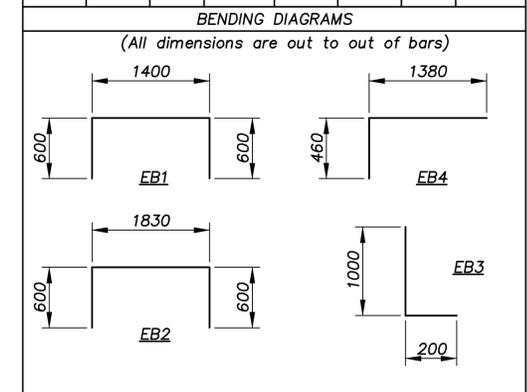


SECTION B-B



SECTION C-C

BILL OF REINFORCING STEEL							
STRAIGHT BARS				BENT BARS			
MARK	SIZE	NO.	LENGTH	MARK	SIZE	NO.	LENGTH
EB5	13	52	1830	EB1	13	48	2600
EB6	13	72	1380	EB2	13	28	3030
				EB3	13	148	1200
				EB4	13	24	1840



"Quantities shown for Information Only"

Concrete (Grade 35) (SF) (AE) (SA)	6.4 m ³
Reinforcing Steel (Grade 420) Epoxy Coated	620 kg

NOTE: All Concrete, Reinforcing Steel and Access Doors required to construct the End Blocks as shown shall be included in the bid item "Handrail (Metal) (620 mm)".

NOTE: End Block Access Doors shall have a opening size of 460 x 460 mm. Stainless Steel construction, lockable with tamper-proof hardware and weather-resistant gaskets.

1:20
ROCK/ALTERNATE

KANSAS DEPARTMENT OF TRANSPORTATION		CFS	
BR. NO. 54-87-31.12(702)	STA. 3+877.518	Cook, Flatt & Strobel ENGINEERS, P. A.	
ALTERNATE BRIDGE HANDRAIL DETAILS			
ROCK ROAD OVER KELLOGG AVENUE			
DESIGNED R.S.C.	SCALE Varies		
DETAILED T.R.G.	DATE		
Proj. No. 54-87 K-8258-01	SEDGWICK COUNTY	QUANTITIES T.R.G.	SHEET 35 OF 41