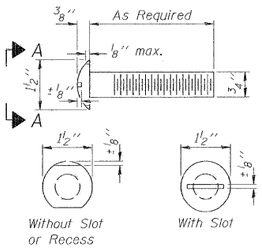
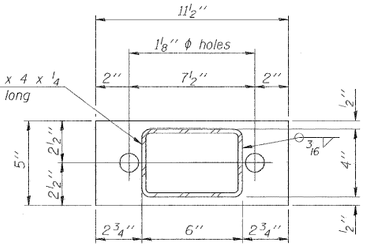
Contract #91465

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 16	*	Vermilion	12	8
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

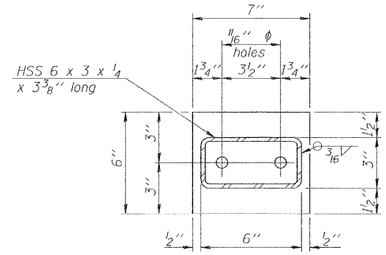
* 10-02146-00-BR



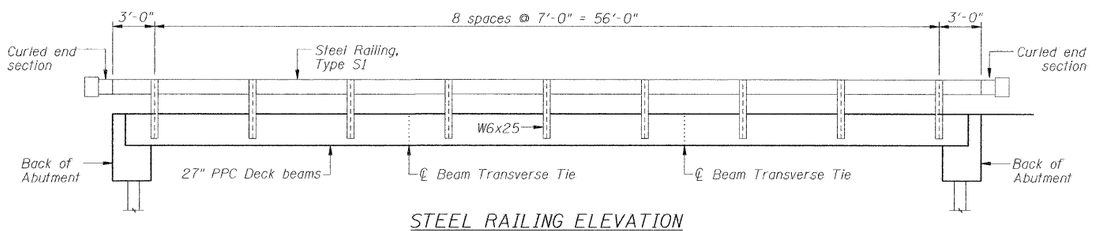
VIEW A-A
ROUND HEAD BOLT



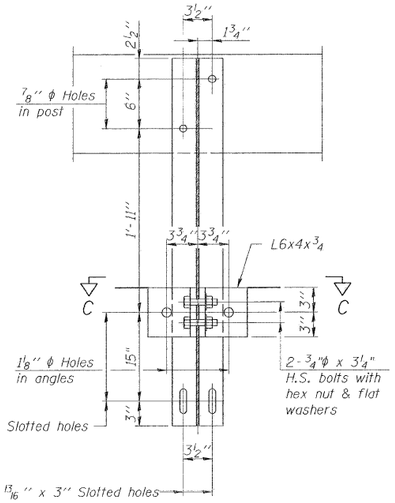
℄ 1/2" x 11 1/2" x 5"



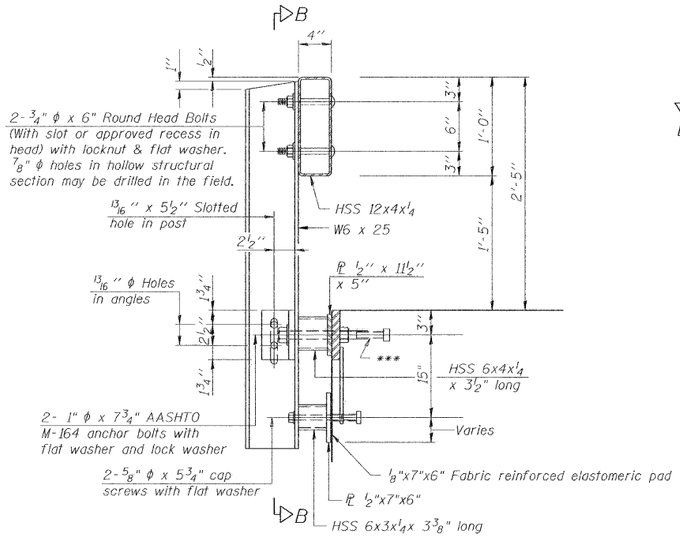
℄ 1/2" x 7" x 6"



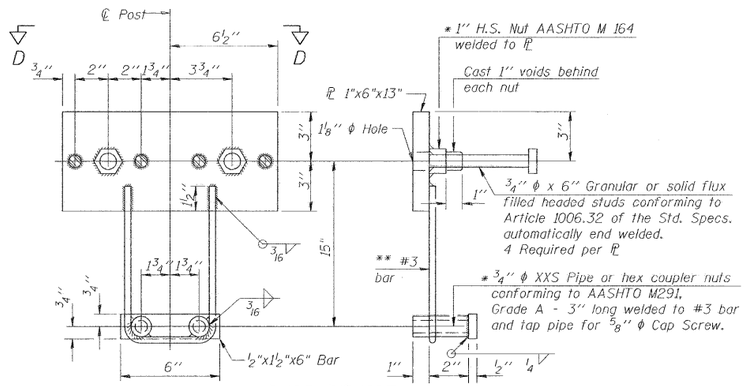
STEEL RAILING ELEVATION



SECTION B-B



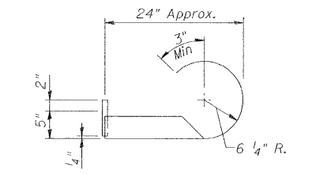
SECTION AT RAILING POST



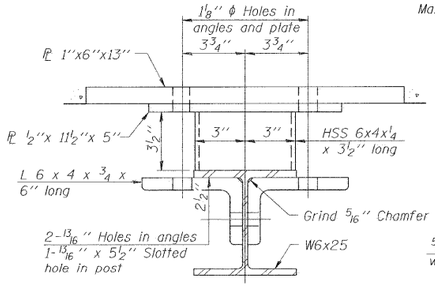
ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

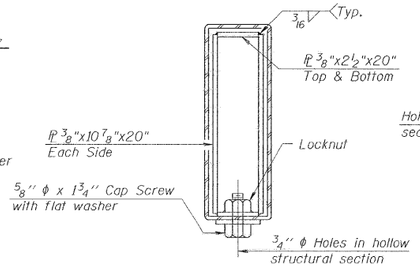
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



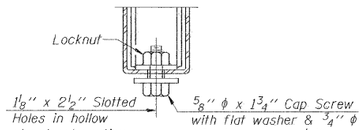
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



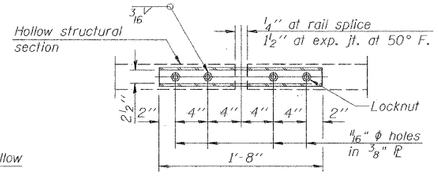
SECTION C-C



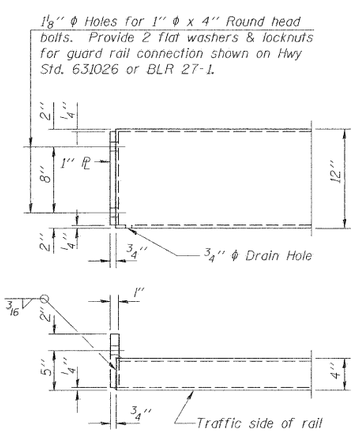
SECTIONS AT RAIL SPLICE



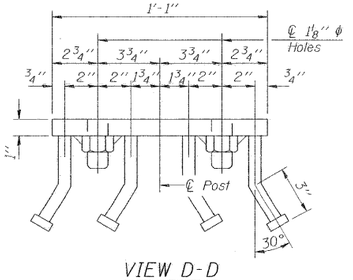
RAIL SPLICE CONNECTION
AT EXPANSION JT.



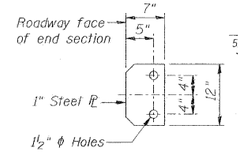
PLAN-BOTT. SPLICE ℄
TYPICAL



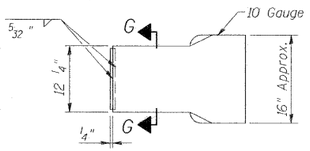
END OF RAIL DETAILS



VIEW D-D



SECTION G-G



CURLED END SECTION DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	124

R-23A 7-1-10 (10'-9" Maximum Post Spacing)

DSGN K.J. Hoffmann					
DR N.J. Liggett					
CHK J.R. Wolf					
APVD J.A.Frauenhoffer	NO.	DATE	REVISION	BY	APVD

FRAUENHOFFER & ASSOCIATES
A division of Engineering Resource Associates, Inc.
Consulting Engineers, Scientists, & Surveyors
3002 CROSSING COURT
CHAMPAIGN, IL 61822
PHONE (217) 351-6268
FAX (217) 355-1902

STEEL RAILING, TYPE S1
TR16 (170E) OVER BRANCH OF PIGEON CREEK
SEC 10-02146-00-BR
VERMILION COUNTY

SHEET 8
DWG NO. 11050-S1.dgn
DATE AUG 2011
PROJ NO. 11050

...\11050 Butler\dgn\11050S1.dgn 02/22/2012 03:03:03 AM