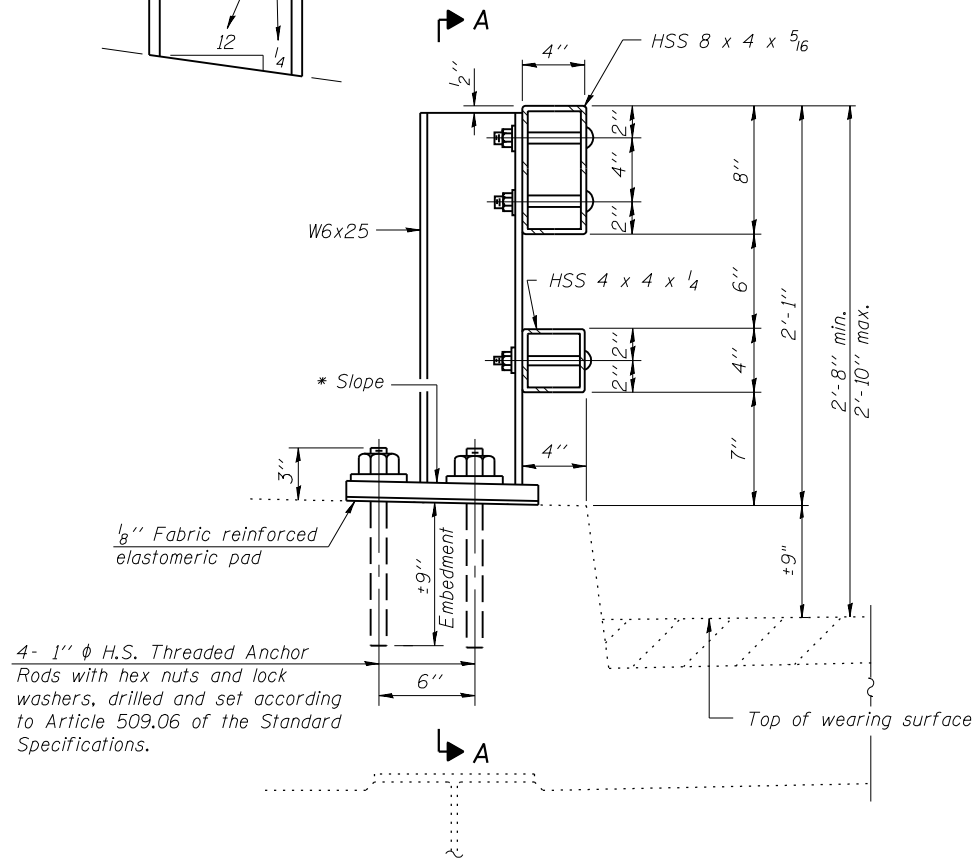
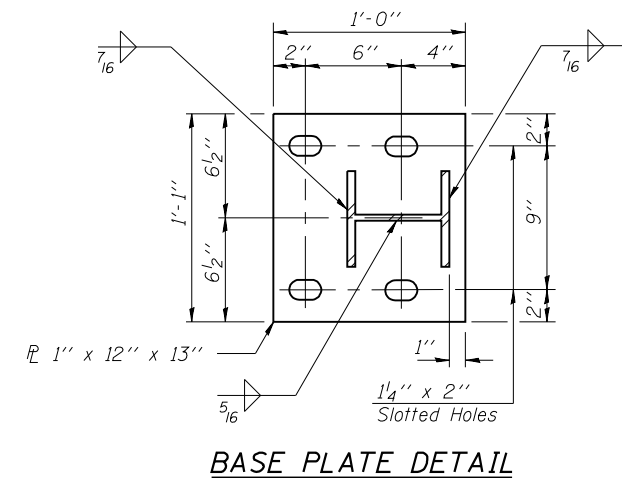


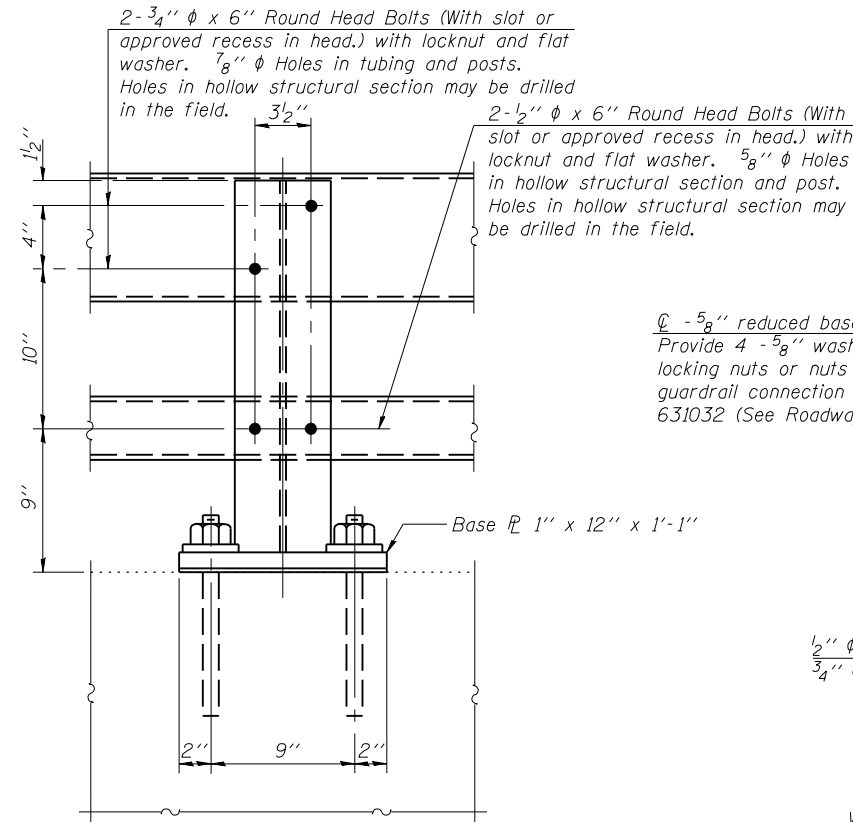
* Cut bottom end of post to curb slope.



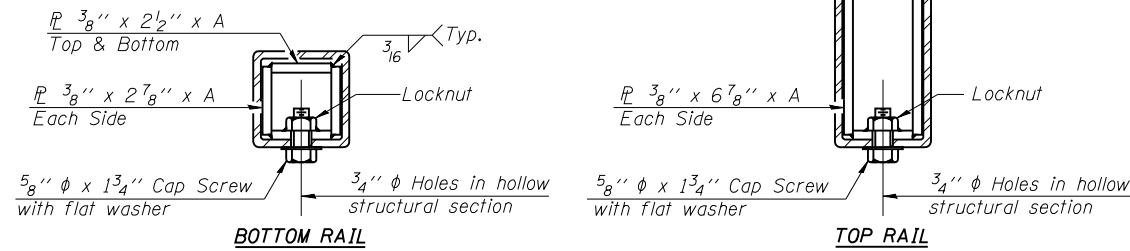
SECTION AT RAIL POST



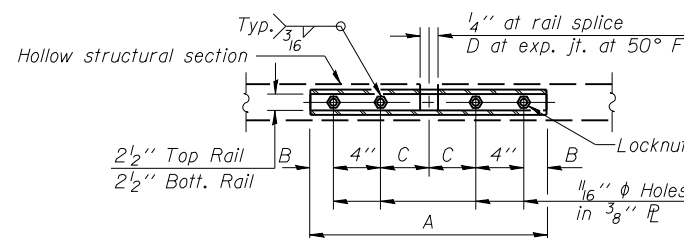
BASE PLATE DETAIL



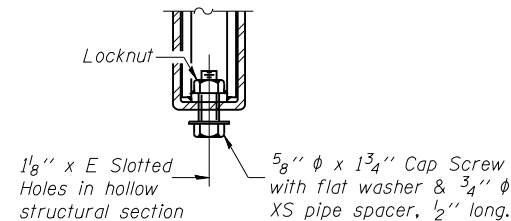
SECTION A-A



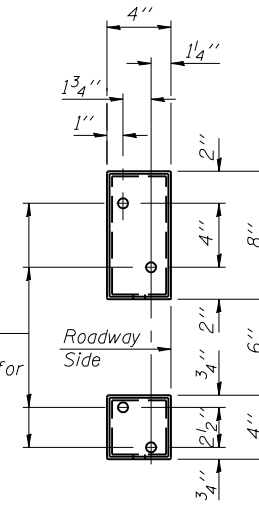
SECTIONS AT RAIL SPLICE



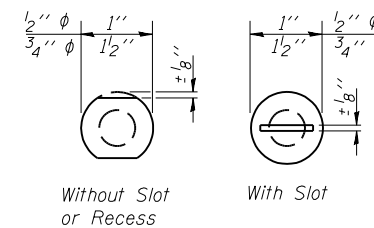
PLAN-BOTT. SPLICE R TYPICAL



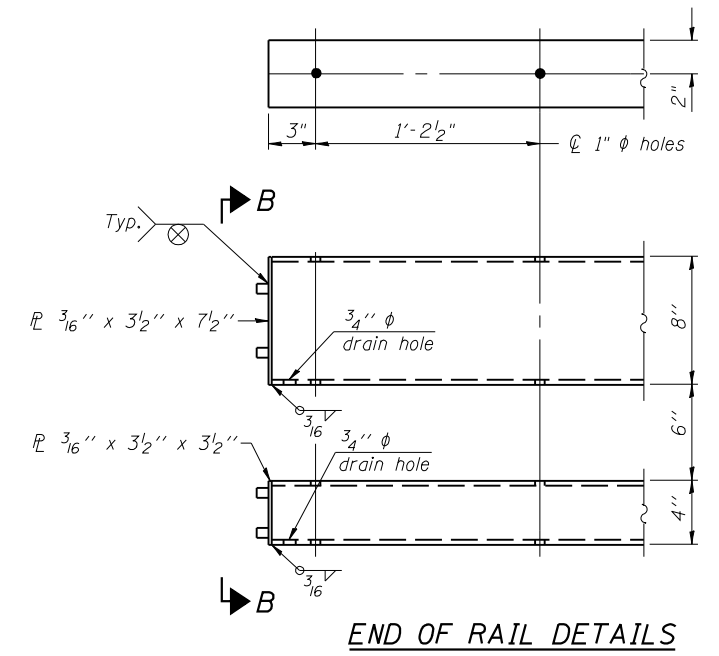
RAIL SPLICE CONNECTION AT EXPANSION JT.



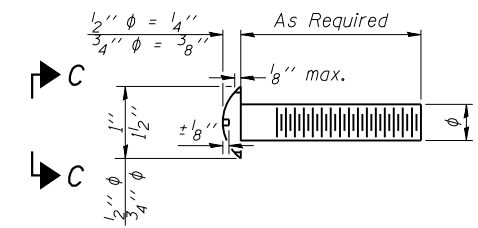
VIEW B-B



VIEW C-C



END OF RAIL DETAILS



DETAIL OF 1/2" ϕ & 3/4" ϕ ROUND HEAD BOLTS

Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	2664

R-31

7-1-10

(6'-3" Maximum Post Spacing)

EFK Moen, LLC
 Civil Engineering Design
 331 Salem Place, Suite 225
 Fairview Heights, IL 62208
 Phone 618-206-4250

USER NAME = jo	DESIGNED - CTW	REVISED -
PLOT SCALE = 0:1' = 1/4" IN.	CHECKED - CDL	REVISED -
PLOT DATE = 9/27/2011	DRAWN - DP	REVISED -
	DATE - 9/27/2011	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE 2399
 STRUCTURE NO. 079-0019

SHEET NO. 12 OF 13 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-11	RANDOLPH	72	45
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76409	

PRINT DATE: 9/27/2011 1:30:07 PM z:\11015 file idot-costs road\dm\brt\p\slashed\11\1012-Steel-Railing-Details.dgn