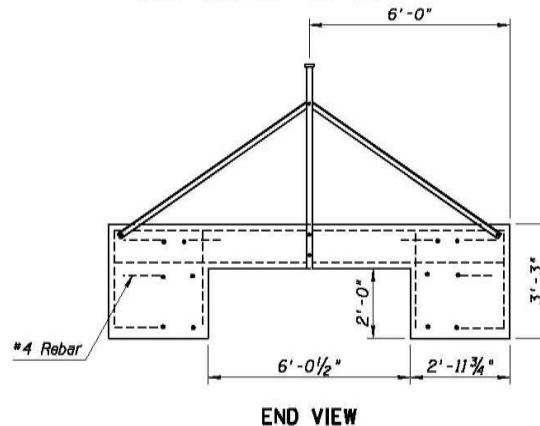
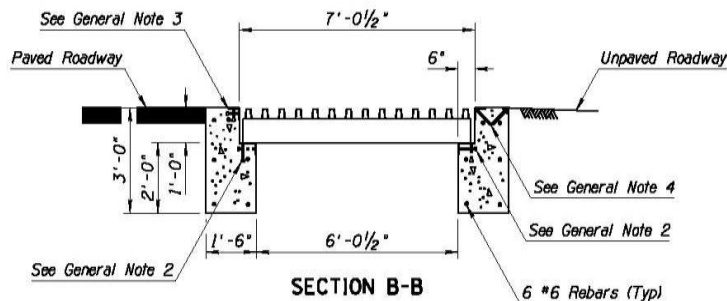
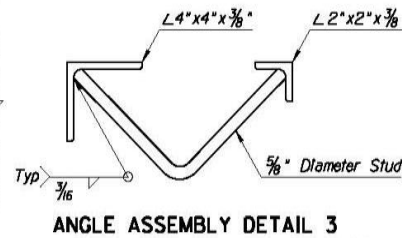
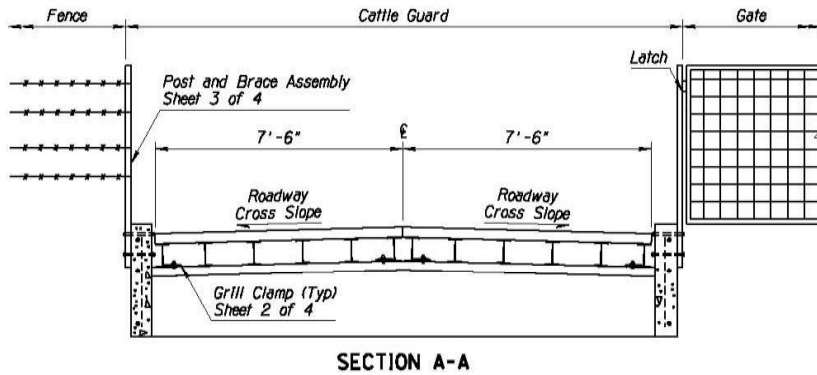
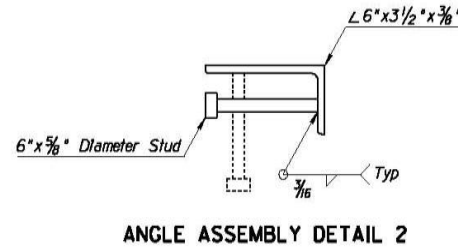
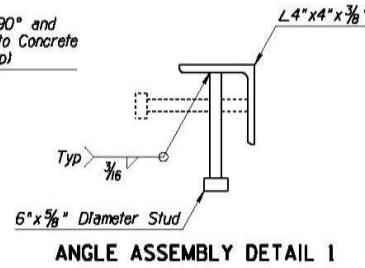
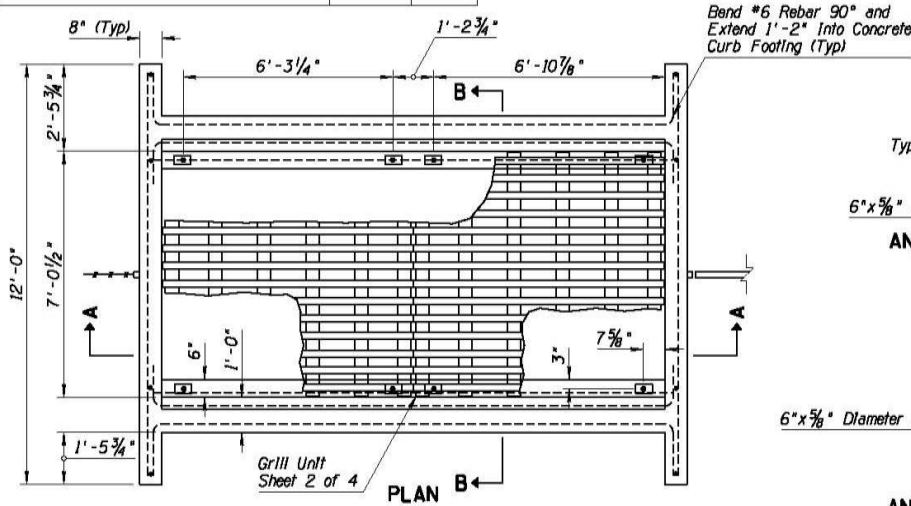


NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STD DWG	RLF	4/06



**GENERAL NOTES**

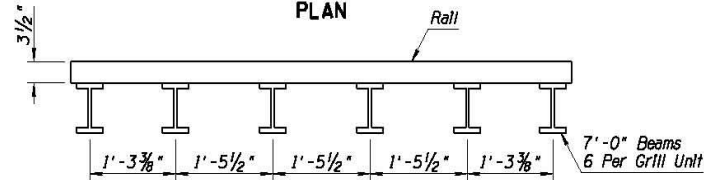
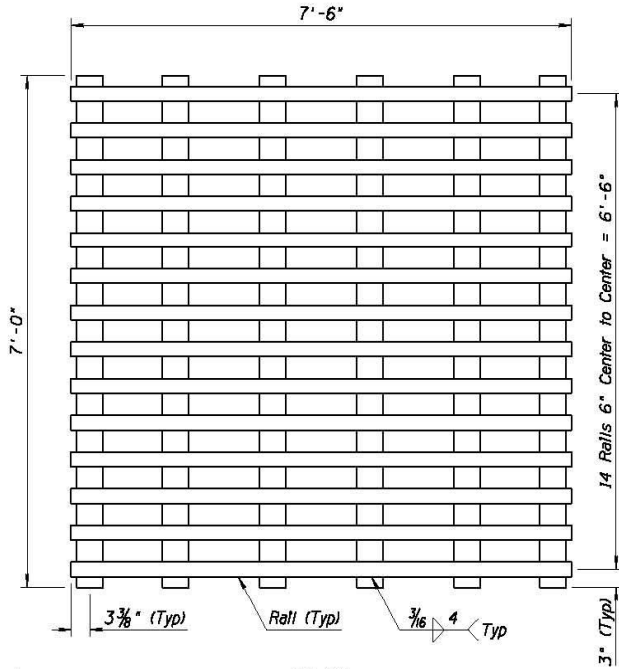
- Cattle guard shall include two (2) clamps per Sheet 4 at each gap between two (2) grill units, one at each end. Clamps shall be adjusted to provide a 1/4-inch, plus or minus 1/16-inch gap between adjacent grill units.
- Grill units shall be set on an angle iron assembly consisting of one piece of 6"x3 1/2"x 3/8" angle iron and studs with a head. The studs shall be placed on 1'-0" alternate centers. See Angle Assembly Detail 2.
- Cattle guard shall be sloped to conform to the roadway grade and cross-section, except that where an odd number of grill units is specified in a crowned roadway, the center grill unit shall have a level cross slope.
- Where the adjacent roadway is paved, an angle iron assembly shall consist of one piece of 4"x4"x 3/8" angle iron and studs with a head. The studs shall be placed on 1'-0" alternate centers. See Angle Assembly Detail 1.
- Where the adjacent roadway is unpaved, an angle iron assembly shall consist of one piece of 4"x4"x 3/8" angle iron, one 2"x2"x 3/8" angle iron, and connected with studs. The assembly shall be crowned at the centerline and constructed with a bevel cut and welded. The studs shall be bent 90° and placed on 1'-0" centers. See Angle Assembly Detail 3.
- Each angle iron and angle iron assembly shall be fabricated to form a single piece for the full length of the cattle guard.
- Quantities shown for concrete and rebar are approximations for informational purposes only.
- When a gate is to be installed, it shall be called out on the plans.
- All rebar shall have a minimum cover of 3", or as shown on the plans.
- Cattle guard beams shall be HS-20 loading unless otherwise shown on the plans.

UNIT TABLE			
Roadway Width (ft)	Grill Units Required	Concrete (Cu Yd)	Rebar (Lbs)
12	2	5.8	175
16	3	8.0	240
20	4	10.3	310
28	5	12.5	375
34	6	14.7	445
36	6	14.7	445
38	7	16.9	510
40	7	16.9	510

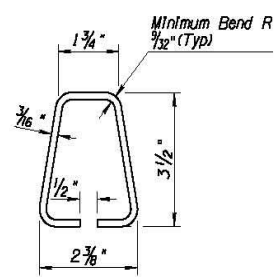
APPROVED FOR DESIGN <i>[Signature]</i>	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION <i>[Signature]</i>	ROADWAY CATTLE GUARD	DRAWING NO. C-1L10 Sheet 1 of 4

NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STD DWG	RLF	4/06
2			
3			
4			

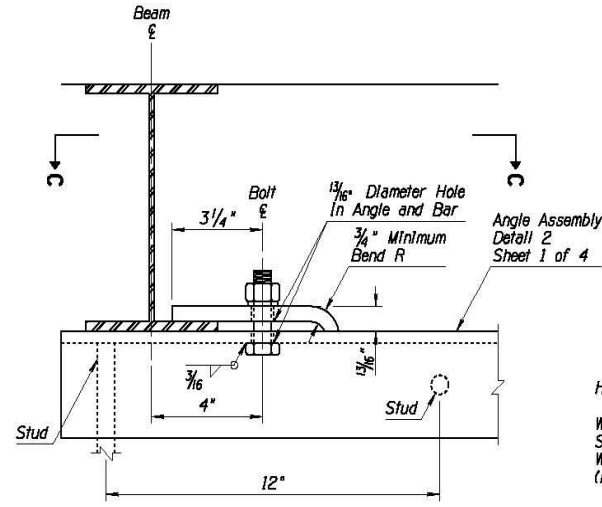
● - Indicates AASHTO, AGC & ARTBA Task Force 13 designation



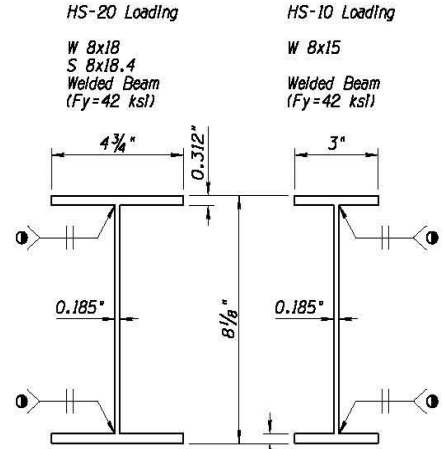
ELEVATION



RAIL GRILL UNIT

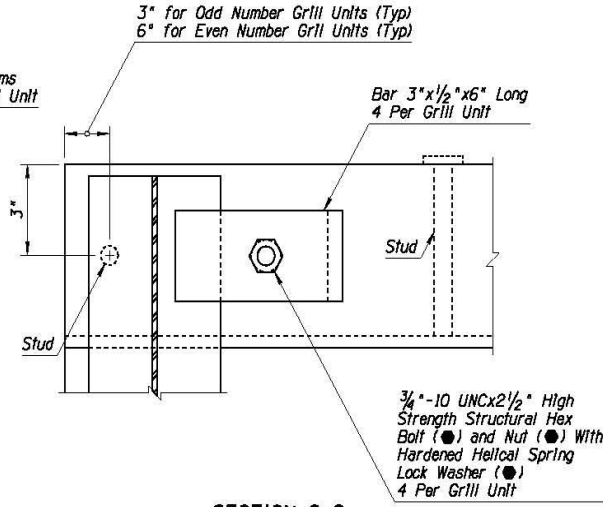


GRILL CLAMP



① F.P. flow thru high frequency electrical resistance weld

BEAMS



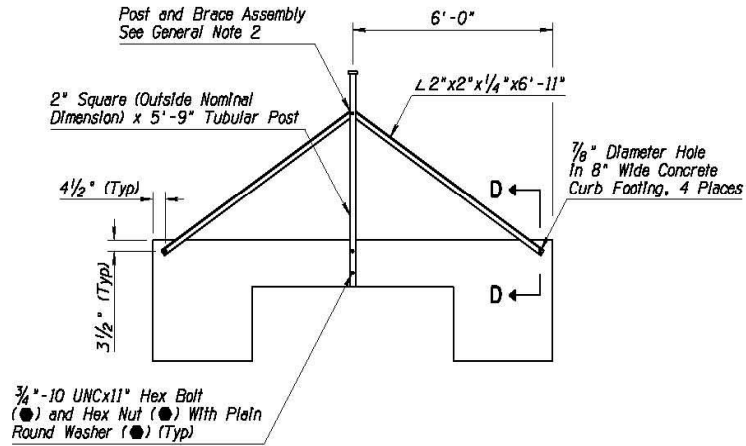
SECTION C-C

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APPROVED FOR DISTRIBUTION 	ROADWAY CATTLE GUARD	DRAWING NO. <b>C-11.10</b> Sheet 2 of 4

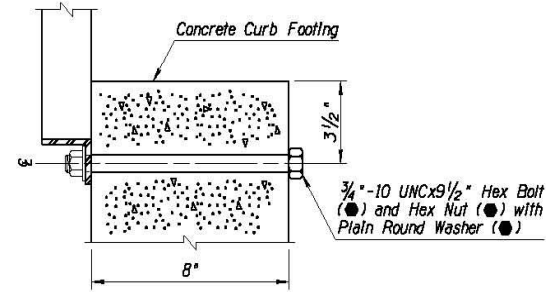
**GENERAL NOTES**

1. Material for shoulder transition shall be placed to the finished roadway elevation for the entire length of the transition. When the roadway is paved, aggregate subbase or AB shall be used. When the roadway is unpaved, a material equivalent to the existing roadway shall be used.
2. On steeper grades, the post shall be installed plumb to align with adjacent fencing. The brace assembly may be modified as necessary to support the post.
  - - Indicates AASHTO, AGC & ARTBA Task Force 13 designation

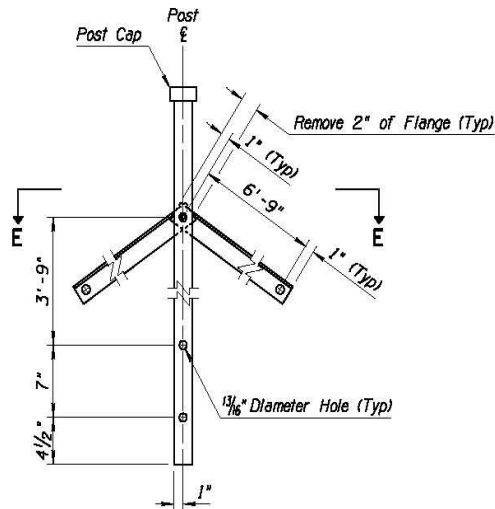
NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STD DWG	RLF	4/06
2			
3			
4			



**END VIEW**

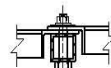


**SECTION D-D**

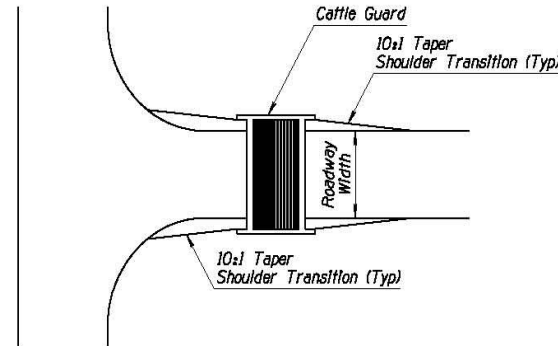


**POST AND BRACE ASSEMBLY**

3/4"-10 UNCx3 1/2" Hex Bolt (●) and Hex Nut (●) With Plain Round Washer (●)



**SECTION E-E**



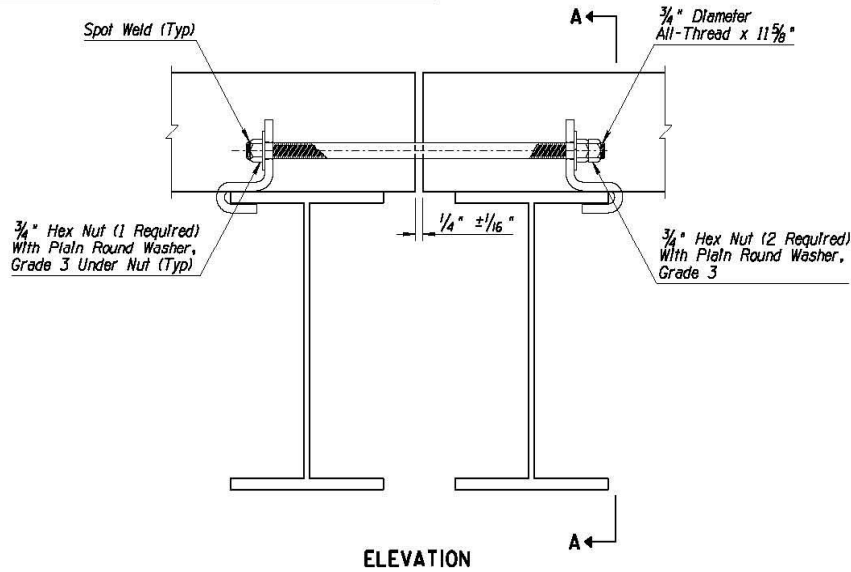
**SHOULDER TRANSITION AT CATTLE GUARDS**

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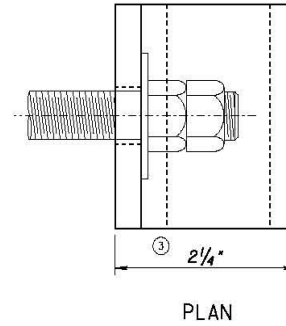
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STD DWG	RLF	4/06
2	ADDED GENERAL NOTE	RLF	5/07
3	REVISED DIMENSION	RLF	5/12
4			

② GENERAL NOTES

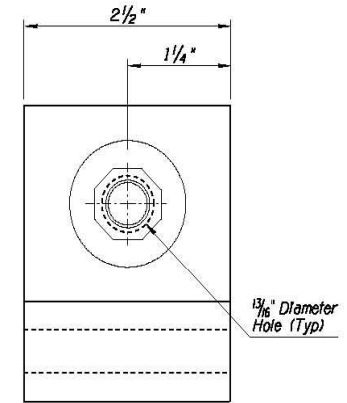
1. Apply a heavy duty, high-strength anaerobic thread-locking compound to the threads before installing the double nuts.



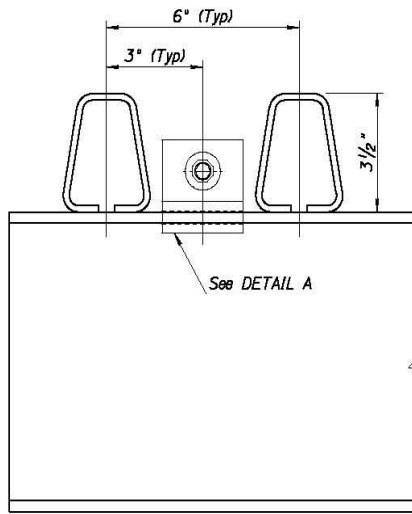
ELEVATION



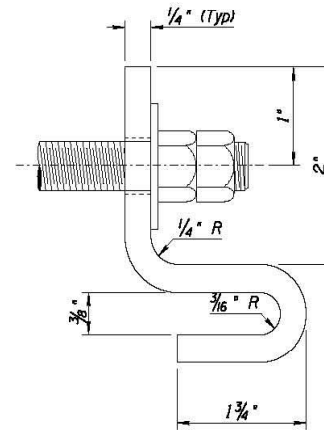
PLAN



DETAIL A



SECTION A-A



ELEVATION

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