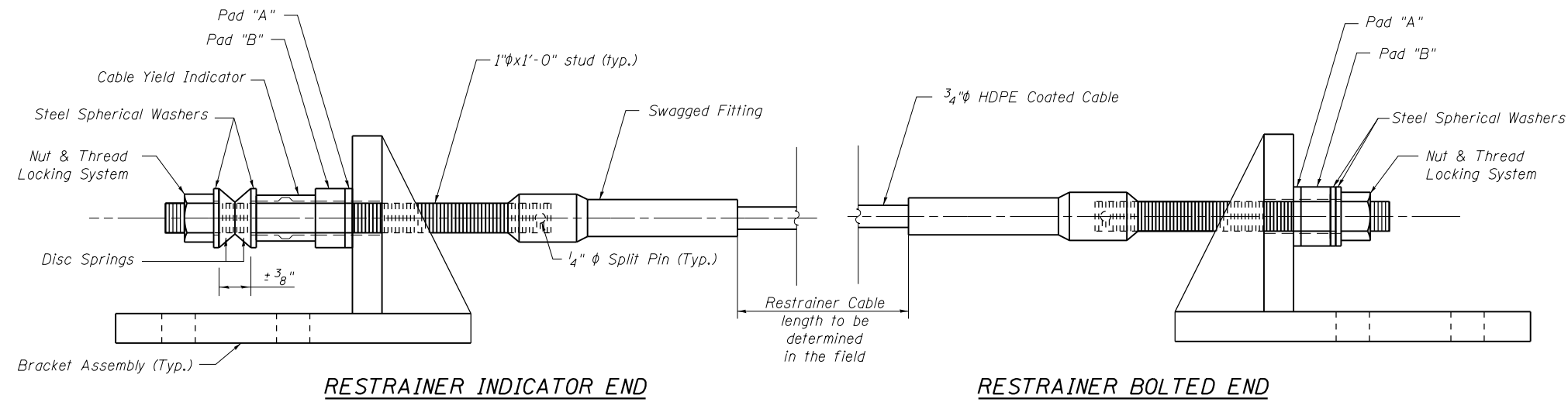
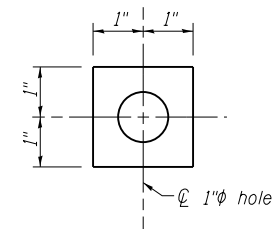


CABLE RESTRAINER UNIT INSTALLATION PROCEDURE

1. Align cable assembly angles with bumper assembly. For Bumper placement see Sheets 14 and 15 of 35.
2. Install Cable Yield Indicator, Spherical Washers, Disc Springs, Washers and Nut on the indicator end of Seismic Restrainers.
3. Place Spherical Washers and Nut on bolted end of restrainers. Place Thread Locking System on bolted end stud prior to installing nut and washers, and prior to setting the cable.
4. Tighten nut on the cable at the indicator end of restrainer. The cable should be approximately straight with no sag.
5. Place Thread Locking System on indicator end stud after tightening the cable but before backing off the nut. Back off the nut at restrainer indicator end a distance equal to maximum additional amount that the joint is expected to open, relative to existing ambient conditions. See Expansion Table on Sheet 15 of 35.
6. If the cable needs to be secured from turning while tightening, use double nut locking technique on the stud to protect the threads.
7. For Thread Locking System, see Special Provision for Seismic Restrainers.

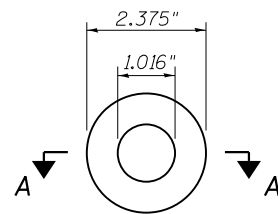


CABLE & BRACKET ASSEMBLY ELEVATION

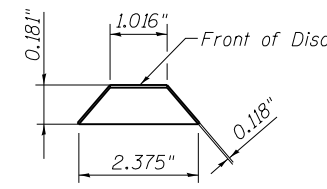


PAD DETAIL

Pad "A" = 2"x2"x1/4" Plain Elastomeric Bearing Pad (50 Durometer)
 Pad "B" = 2"x2"x1" Washer

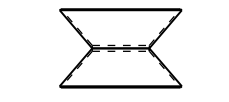


PLAN

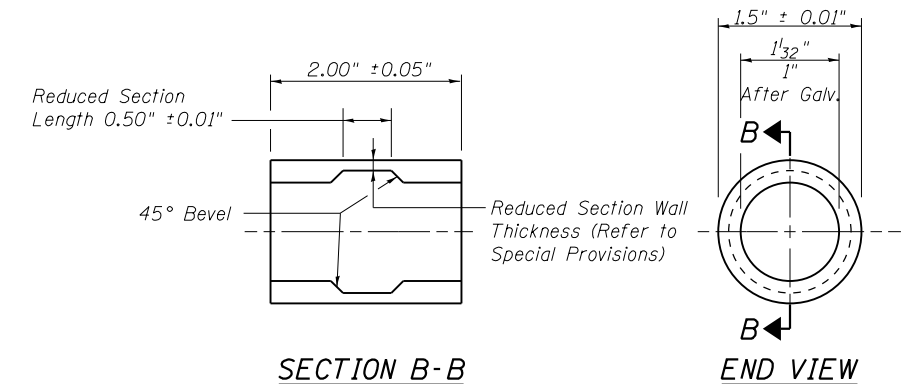


SECTION A-A

DISC SPRING



(as Installed on Studs)

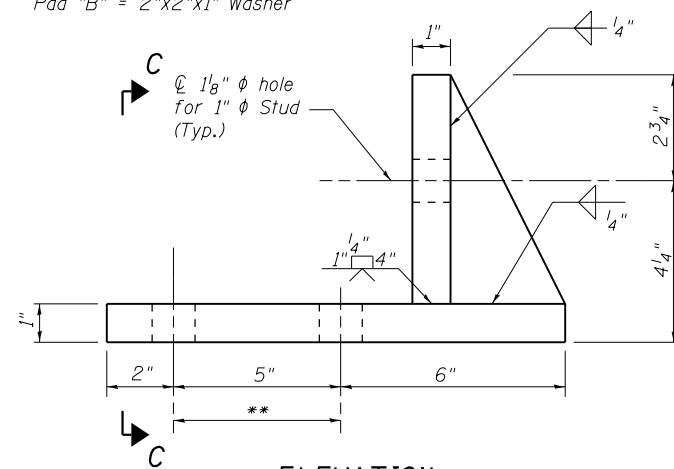


SECTION B-B

END VIEW

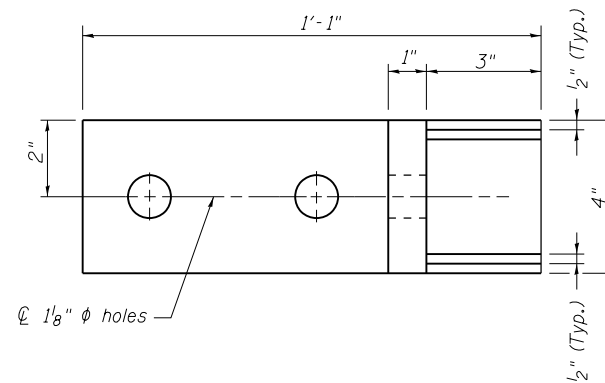
CABLE YIELD INDICATOR

(All dimensions are before galvanizing except as noted)



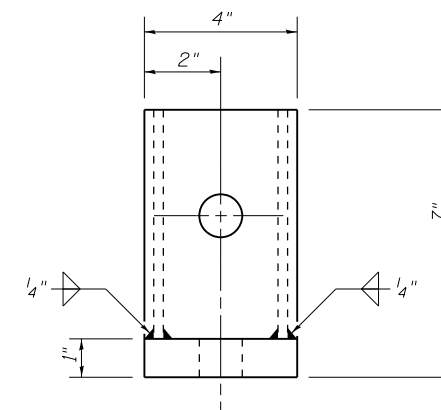
ELEVATION

** \varnothing 1/8" hole for 1" x 4 1/2" long A325 bolts with 1-1/16" washer



PLAN

BRACKET ASSEMBLY



SECTION C-C

Notes:
 Bracket Assembly shall be paid for as Furnishing and Erecting Structural Steel.
 HPPE Coated Cable swag fitting, incidentals and Yield Indicators shall be paid for as Seismic Restrainer.

| | | | | | | | | | | | |
|--|--|-------------------------|-----------|---|--|---------------------------|-------------|-----------|--------------|-----------|--|
| FILE NAME = 025009-74295-013.dgn | USER NAME = | DESIGNED - B.B. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | SEISMIC RESTRAINER & BRACKET DETAILS STRUCTURE NO. 025-0019 | F.A.I. R.T.E. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| BERNARDEN LOCHMUELLER & ASSOCIATES, INC. 3 DAK DRIVE MARYVILLE, IL 62450 PHONE (618) 281-4666 FAX (618) 281-4666 | Illinois Design Firm Number 184,001670 | CHECKED - A.C.S. | REVISED - | | | 57/70 | (25-4HB)I-3 | EFFINGHAM | 1760 | 1718 | |
| | PLOT SCALE = | DRAWN - W.J.S. | REVISED - | | | CONTRACT NO. 74295 | | | | | |
| | PLOT DATE = 2:3:59 PM 8/15/2013 | CHECKED - C.J.F. & B.B. | REVISED - | | | SHEET NO. 13 OF 35 SHEETS | | | | | |