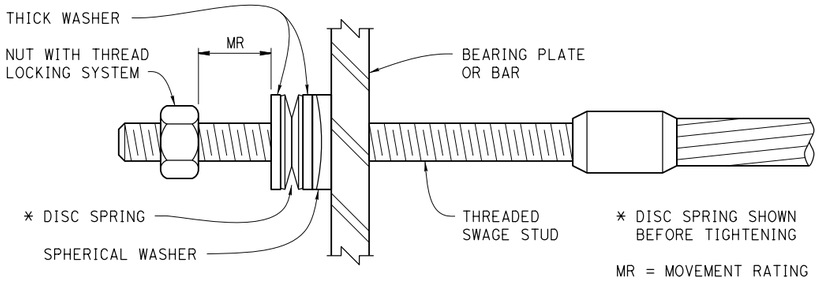
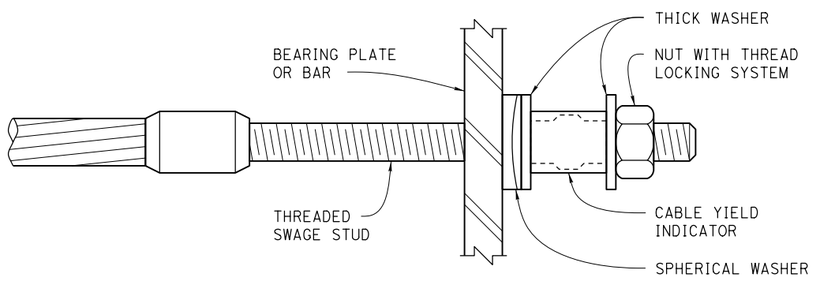


DISC SPRING HARDWARE

6" = 1'-0"



CABLE YIELD INDICATOR HARDWARE

6" = 1'-0"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

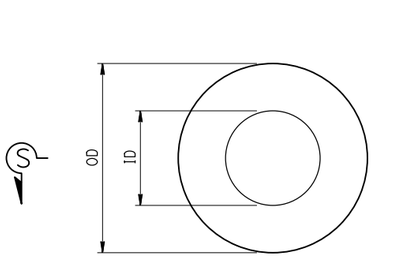
REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

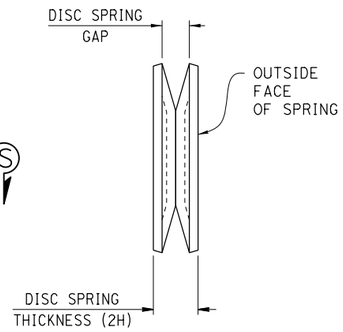
The Registered Civil Engineer for the project is responsible for the selection and proper application of the component design and any modifications shown.

Notes

1. Place the Cable Yield Indicator hardware on the Supported side of the Hinge. Place the Disc Spring hardware on the Hinge Seat side.
2. All exposed, non-painted hardware must be galvanized. Dimensions shown are before galvanizing except as noted.
3. Nuts must not be set until after the completion of prestressing for CIP prestressed bridges.
4. In corrosive environments, add a Locking Nut instead of the Thead Locking System.

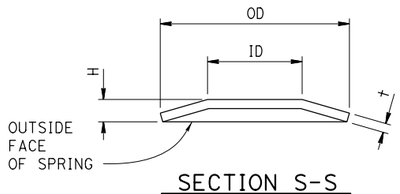


END VIEW



ASSEMBLED SPRING

Before Nut Tightening

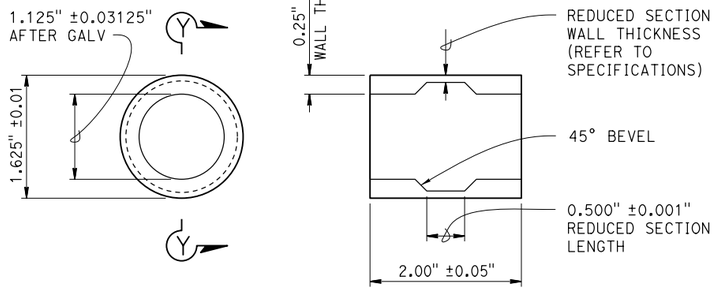


SECTION S-S

Single Disc

DISC SPRING

1" = 1"

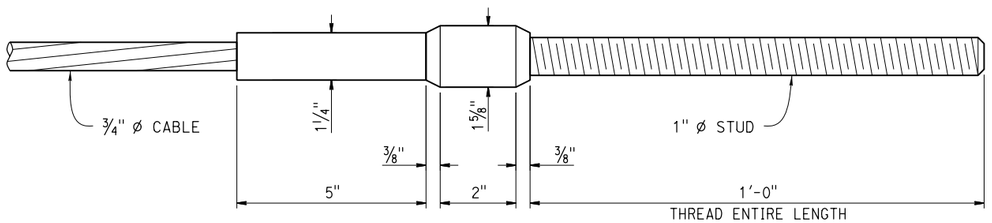


END VIEW

SECTION Y-Y

CABLE YIELD INDICATOR

1" = 1"



CABLE END SWAGE STUD DETAIL

6" = 1'-0"

RESTRAINER UNIT INSTALLATION PROCEDURE

For typical straight Restrainers, girder to opposite girder alignment:

1. Install Spherical Washers, Thick Washers, Cable Yield Indicator and Nut with Thread Locking System on the Supported side.
2. Install Spherical Washers, Thick Washers, Disc Spring and Nut on the Hinge Seat side.
3. Tighten the nuts on the Hinge Seat side of restrainer units until the Disc Springs collapse and there is no gap remaining between the discs.
4. Place thread locking system on the threaded stud and back off the nut from the Disc Spring a distance equal to the maximum additional amount that the hinge is expected to open, relative to existing ambient conditions, for the Movement Rating (MR) as shown on the Structure plans.

DISC SPRING AND WASHER DIMENSIONS

RESTRAINER LENGTH	DISC SPRING					SPHERICAL WASHER			THICK WASHER		
L (ft)	ID	OD	t	H	COLOR CODE	ID	OD	NOMINAL THICKNESS	ID	OD	t (min)
00.0 - 25.0	1.125	2.00	0.065	0.130	WHITE	1.125	2.00	0.75	1.125	2.00	0.25
25.1 - 31.9	1.125	2.00	0.084	0.136	RED	1.125	2.00	0.75	1.125	2.00	0.25
32.0 - 37.9	1.125	2.00	0.097	0.145	BLUE	1.125	2.00	0.75	1.125	2.00	0.25
37.9 < L	1.125	2.50	0.120	0.180	YELLOW	1.125	2.50	0.75	1.125	2.50	0.25

Restrainer Length (L) :
Use effective cable length, measured from the outer faces of Bearing Plates or Bar.
See Bridge detail sheets for approximate length.

Use ASTM F436, Standard Specification for Hardened Steel Washers for all OD and ID dimensions for washers and dics springs.

Dimensions are inches unless otherwise noted.

BRIDGE STANDARD DETAILS

xs7-090 (FILE NO.) | October 2015 (APPROVAL DATE)

The components of the Bridge Standard Details have been prepared under the responsible charge of the Technical Owner, a registered civil engineer in the State of California

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.

POST MILE

CABLE RESTRAINER HARDWARE DETAILS

Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

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USERNAME => s136236 TIME PLOTTED => 07:28 DATE PLOTTED => 12-JUL-2016

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT:
PROJECT NUMBER & PHASE: CONTRACT NO.:

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
4-18-14	11-18-15	7-8-16			