



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST NO.	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

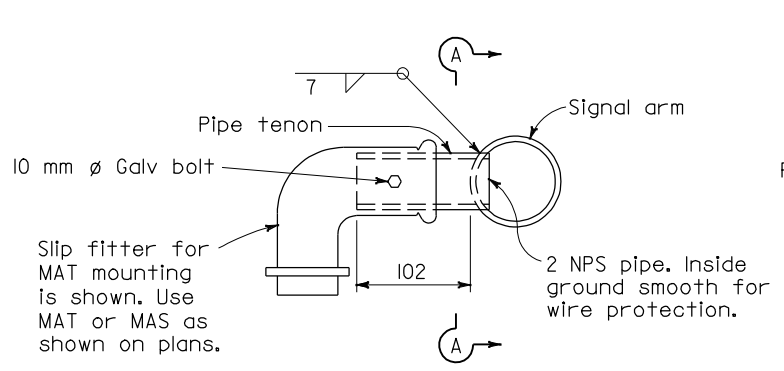
April 28, 2005  
PLANS APPROVAL DATE

Tillot Sattar  
No. C42892  
Exp. 03-31-2006  
CIVIL  
STATE OF CALIFORNIA

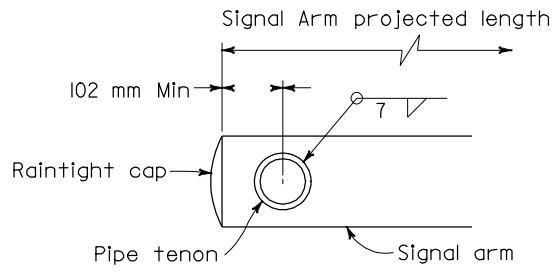
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To get to the Caltrans web site, go to: <http://www.dot.ca.gov>

To accompany plans dated \_\_\_\_\_



DETAIL S-SIDE TENON



SECTION A-A

**IDENTIFICATION NUMBER**

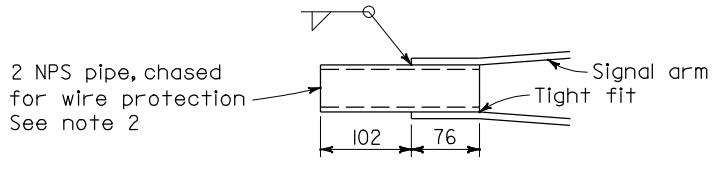
Attach a stamped metal tag with each pole's identification number to shaft above handhole, 7 mm high number minimum. A similar tag shall be attached to the top of the signal mast arm near the pole plate.

Sample Identification Number

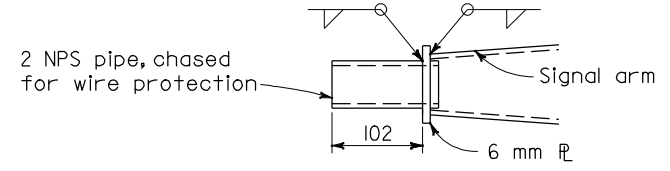
Type Load case Design wind velocity (km/h) Signal arm length maximum (m) Standard plan year Only for poles with fatigue resistant welds

19A - 3 - 161 - 9.1 - 04 - F  
Use SL for special load case

**PIPE TENONS**

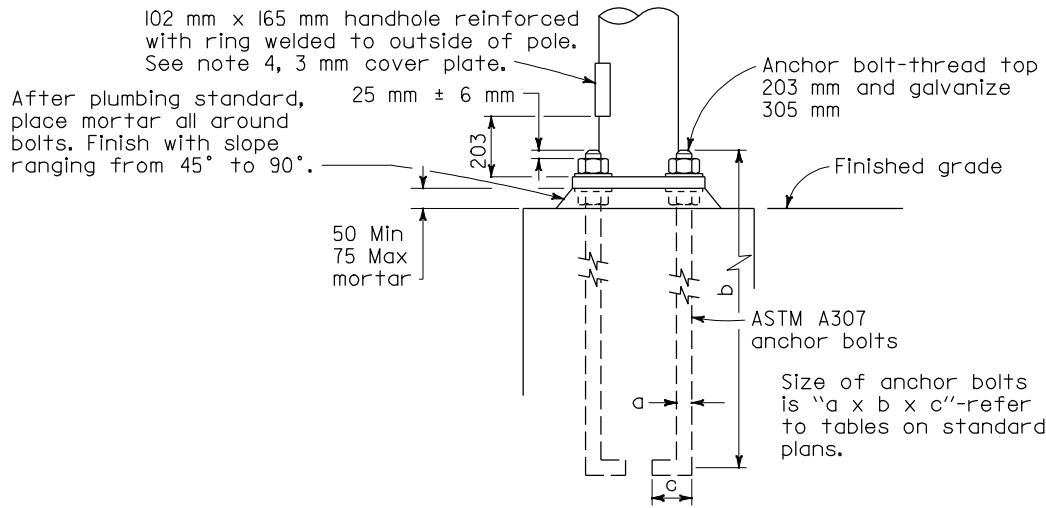


DETAIL TS-TIP TENON



DETAIL TL-TIP TENON

This detail supersedes Detail S when so designated



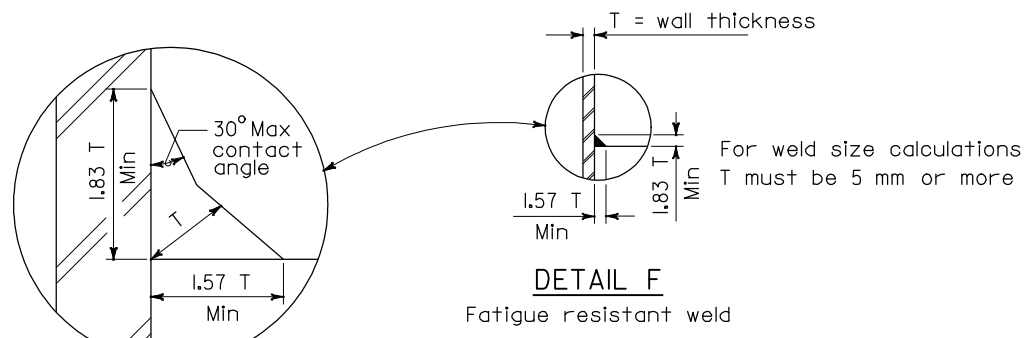
**HANDHOLE AND ANCHORAGE DETAILS**

**GENERAL NOTES**

- SPECIFICATIONS**  
DESIGN : AASHTO Standard specifications for structural supports for highway signs, luminaires and traffic signals dated 2001.
- Loading**  
WIND LOADINGS : 161 km/h
- Unit Stresses**  
STRUCTURAL STEEL :  $f_y = 330$  MPa tapered steel tube  
 $f_y = 250$  MPa unless otherwise noted
- CONSTRUCTION** : Standard Specifications and the Special Provisions

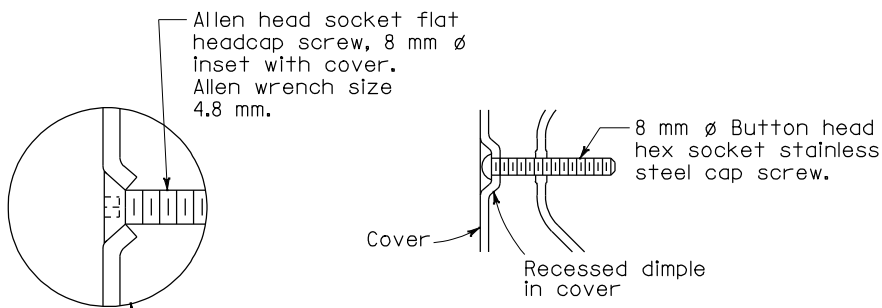
**NOTES**

- ASTM A307 anchor bolts are required for each pole. Provide a hex nut, leveling nut and 2 washers for each bolt.
- Luminaire arms shall be round, tapered steel tubes, taper of 11.45 mm/m to 11.66 mm/m with an end section 60 mm OD for mounting hardware. Extensions of 2 NPS Standard pipe and 178 mm long may be used at the option of the manufacturer. When low pressure sodium luminaires are required, the extension shall be 381 mm.
- Signal arms shall be round, tapered steel tubes, maximum taper 11.66 mm/m.
- Handhole reinforcement ring shall be 6 mm x 51 mm for 3.04 mm to 6.07 mm poles, 10 mm x 51 mm for 7.94 mm.
- Handholes for lighting standards shall be located on the downstream side of the pole unless otherwise noted on the plans.
- Detail F, fatigue resistant weld, is required at signal arm plate and pole base plate.
- Cap screws shall be tightened by the turn-of-nut method 1/3 turn to form a snug tight condition. No washer will be required.
- During pole erection, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
- When Project Plans show a lesser number of signs and signals, the Project Plans shall prevail.
- Outside diameter, wall thickness, and corresponding section properties at the base of traffic signal poles and arms as shown in the Standard Plans are minimums. Unless otherwise specified, alternative sections require approval by the Engineer.

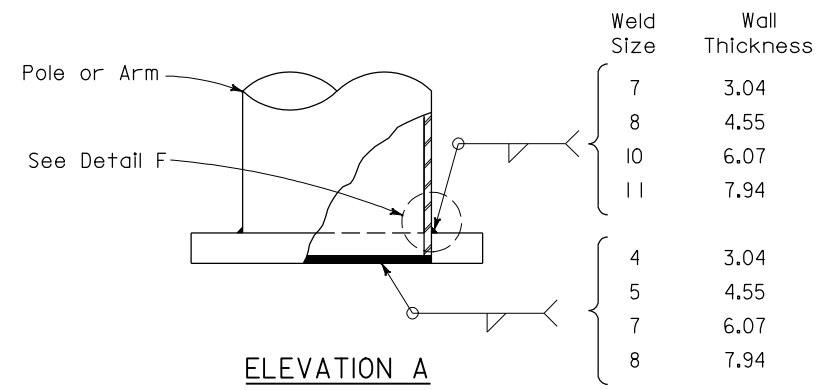


DETAIL F

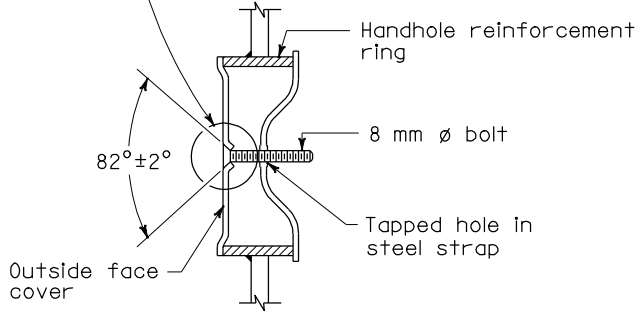
Fatigue resistant weld



ALTERNATIVE DETAIL



ELEVATION A



**TAMPER RESISTANT HANDHOLE COVER**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(SIGNAL AND LIGHTING STANDARDS  
DETAILS No. 1)**

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-7M DATED APRIL 28, 2005 SUPERSEDES RSP ES-7M DATED JANUARY 24, 2005 AND STANDARD PLAN ES-7M DATED JULY 1, 2004-PAGE 463 OF THE STANDARD PLANS BOOK DATED JULY 2004.

**REVISED STANDARD PLAN RSP ES-7M**