**OVERHEAD SIGNAL SUPPORT**

**OVERVIEW**

- **Pole Details**
  - **Pole Plate**
  - **Base Plate**
  - **Signal Head**
  - **Mechanical Damping Device**

**Construction Details**

1. **Arm Plate Hole Diameter** should be bolt diameter plus 1/4". Pole plate tapped hole should have threads with 10% of full profile height. Threads may be retapped after galvanizing.

2. **For sign mounting details**, see Standard Construction Drawings (SCDS) TC-61.23 and TC-41.41.

3. **For foundation details**, see SCD TC-81.21.

4. **The arm attachment plate** shall be welded using a full penetration weld. The pole attachment to the base plate shall be welded using a full penetration weld.

5. **For signal attachment details**, see SCD TC-81.21. All signal heads shall be installed with the center of the entire head centered on the arm. 1/4".

6. **For modification of pole to support roadway lighting**, see SCD TC-61.23.

7. **A minimum of one bolt thread** shall remain above the anchor nut.

8. **All unused couplings** shall be provided with a removable galvanized cast iron plug.

9. **For pole and base plate dimensions**, see Sheet 2.

10. **The wire entrance part** of the signal head may be oriented in any direction to keep the cable drip loop from rubbing on the signal head. The signal head shall hang level and plumb.

11. **For construction details and location of handholes**, see SCD TC-81.21.

12. **The design loads** were calculated as the equivalent single arm support. For sign attachment details, see SCD TC-85.21.

13. **The design loads** were developed without applying wind induced deflection in the vertical direction. TF factors, a damping plate shall be placed on the arm.

14. **These structures should be inspected** for excessive galloping fatigue loads. Also, the stress requirements of Note 6, Table 11-2 in the AASHTO code were not applied.

15. **Connection bolts** shall be ASTM A325 for diameters 1-3/8" or smaller. Larger bolts shall be ASTM A490. Designs 1 through 6 shall use ASTM F436 flat washers. Design 9 shall use ASTM F1552 STI washers. Design 11 shall use ASTM F437 Type 2 Grade 5. STI washers. Design 12 shall use ASTM F1552 Type 2 Grade 5. STI washers. If necessary, certain washers shall be ground or reamed to properly fit over attachment bolts. Provide proper STI washer cage to Engineer, an F437 washer shall be used directly under the head of the bolt with all STI washers. Ensure that the flat washer does not spin during bolt tightening with STI washer.

16. **Negative arm end slope** is acceptable to achieve riser requirements.

17. **An approved mechanical damping device** shall be installed as close as possible to the end of the arm. Required on arms over 39' in length. Install on arms 39' or less if directed by the plans or the Engineer. Flat plate dampers shall only be used on arms over 59' in length. Install 3" x 5" handhole for galvanizing.

18. **Ring-stiffened wrap-around horizontal plates** are permitted as an alternative shown to the horizontal plates shown.

19. **Application to all Signal Heads**

20. **Pole Details**

21. **Pole Heights**

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**Notes:**

[1]-[20] Refer to the notes and specifications provided in the standard construction drawings and plans for more detailed information on the installation and requirements.
NOTES:

A. Maximum design area is based on 90 MPH design wind speed with a pressure of 25 PSF.

B. These designs use full penetration welds at the arm and base plate connections.

(*) See Note 21.