

7-06

ENGLISH STANDARD DRAWING FOR
GROUND MOUNTED SIGN SUPPORTS

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NOTES:

1. DESIGN CONFORMS WITH THE SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS - A.A.S.H.T.O.
2. USE MATERIALS, FABRICATE AND ERECT SIGNS AND SUPPORTS THAT CONFORM TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. USE HIGH STRENGTH BOLTS, NUTS AND WASHERS THAT CONFORM TO A.S.T.M. A-325 AND THAT ARE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153.
4. USE STEEL PLATES THAT CONFORM TO A.S.T.M. A-36 AND THAT ARE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-123 PRIOR TO GALVANIZING, GRIND SMOOTH ANY METAL PROJECTING BEYOND THE PLATE FACE.
5. ASSEMBLE HINGE CONNECTIONS IN THE SHOP. SHOP TIGHTEN BOLTS BY USE OF EITHER A CALIBRATED POWER WRENCH OR A MANUAL TORQUE WRENCH. TIGHTEN EACH TO THE FOLLOWING PRESCRIBED TORQUE:

BOLT SIZE (DIA.)	TORQUE (IN.LBS.)
1/2" DIA.	1,200
5/8" DIA.	2,400
3/4" DIA.	4,260
7/8" DIA.	6,280
1" DIA.	9,480

6. BASE PLATES DETAILS ARE FOR INSTALLATIONS ON THE RIGHT SHOULDER AND IN GORE AREAS. INSTALL PLATE SLOT BEVELS OPPOSITE HAND FROM THAT SHOWN FOR SIGNS MOUNTED ON LEFT SHOULDER.
7. ASSEMBLE BASE CONNECTIONS IN THE FOLLOWING MANNER: ASSEMBLE UPPER SUPPORT TO STUB AS SHOWN IN DETAIL. ASSEMBLY IN EITHER SHOP OR FIELD. TIGHTEN BOLTS TO THE FOLLOWING PRESCRIBED TORQUE:

BOLT SIZE (DIA.)	TORQUE (IN.LBS.)
5/8" DIA.	345
3/4" DIA.	550
7/8" DIA.	650
1" DIA.	735

AFTER SUPPORT HAS BEEN ERECTED AND THE CONCRETE FOOTING HAS CURED AT LEAST 48 HOURS, EACH BOLT IS TO BE COMPLETELY LOOSENEED AND RETIGHTENED IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. DO NOT OVERTIGHTEN. BURR BOLT THREAD AT NUT WITH A CENTER PUNCH TO PREVENT NUT LOOSENING

8. USE EITHER PLAIN OR REINFORCED FOOTINGS AS INDICATED, WITH DIMENSIONS AS SHOWN IN TABLE. WHERE SOLID ROCK IS ENCOUNTERED, THE ENGINEER DIRECTS WHETHER TO PLACE THE FOOTING AT THE PRESCRIBED DEPTH OR EXTEND IT AT LEAST TWO FEET INTO THE ROCK.
9. WHERE WIDE FLANGE SUPPORTS ARE USED FOR SIGNS HAVING A WIDTH OF 4 FT. OR LESS, BEVEL THE BASE PLATES AS INDICATED FOR S-BEAM SUPPORTS. WHERE TWO DIRECTION BREAKAWAY S-BEAM SUPPORTS ARE USED, LEVEL (HORIZONTAL) THE BASE PLATES IN LIEU OF BEVELED.
10. FORM TOP 6" OF FOOTINGS. ENGINEER APPROVES THE METHOD USED.
11. THE FINAL FLAT TURN OF SPIRAL OR HOOPS NO. 3 OR LARGER PLACED 3" FROM TOP AND BOTTOM OF FOOTING MAY BE WELDED TO VERTICAL REINFORCING BARS. NO OTHER WELDING WILL BE PERMITTED.
12. WHEN THE DISTANCE FROM BOTTOM EDGE OF SIGN TO GROUND LEVEL IS LESS THAN 5'-0", ELIMINATE HINGE CONNECTION FOR SUPPORTS OTHER THAN THE ONE NEAREST THE ROADWAY (CENTER AND/OR RIGHT SUPPORTS) AND ALL SINGLE SUPPORT SIGNS.
13. DETAIL IS FOR ONE DIRECTION BREAKAWAY. WHEN PLANS REQUIRE A TWO DIRECTION BREAKAWAY, USE TWO FRICTION PLATES IN LIEU OF ONE FRICTION PLATE AND ONE HINGE PLATE.
14. SHAPE THE TOPS OF THE FOOTINGS TO CONFORM WITH FINISHED GROUND ELEVATIONS SUCH THAT WATER WILL NOT COLLECT AGAINST THE SUPPORTS.