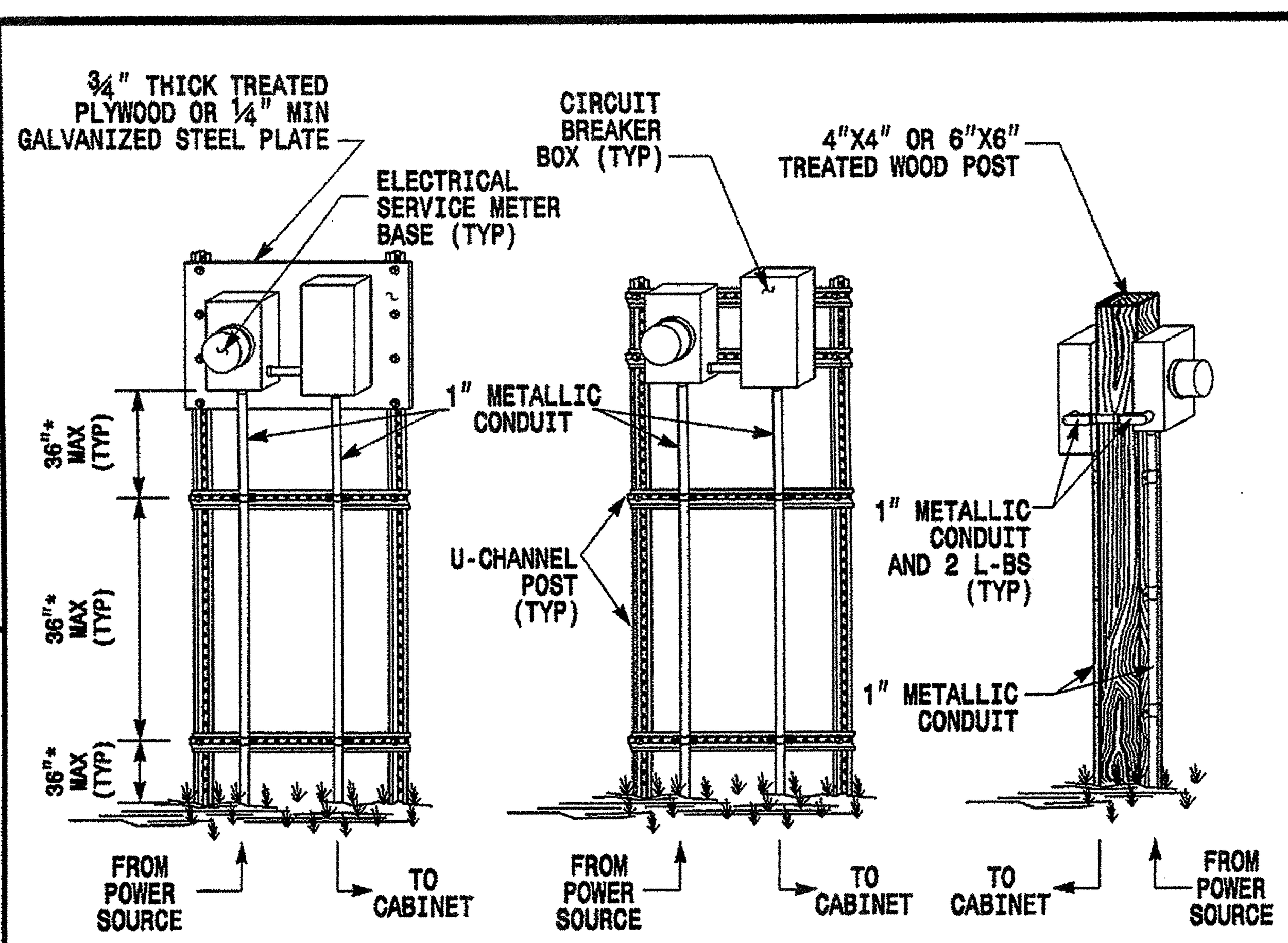
23-SEP-2003 11:29
W:#Peoples-Unit#Workgroups#03RoadwayStandardDwgs#english#plan sheets#174001 first.dgn
candrews



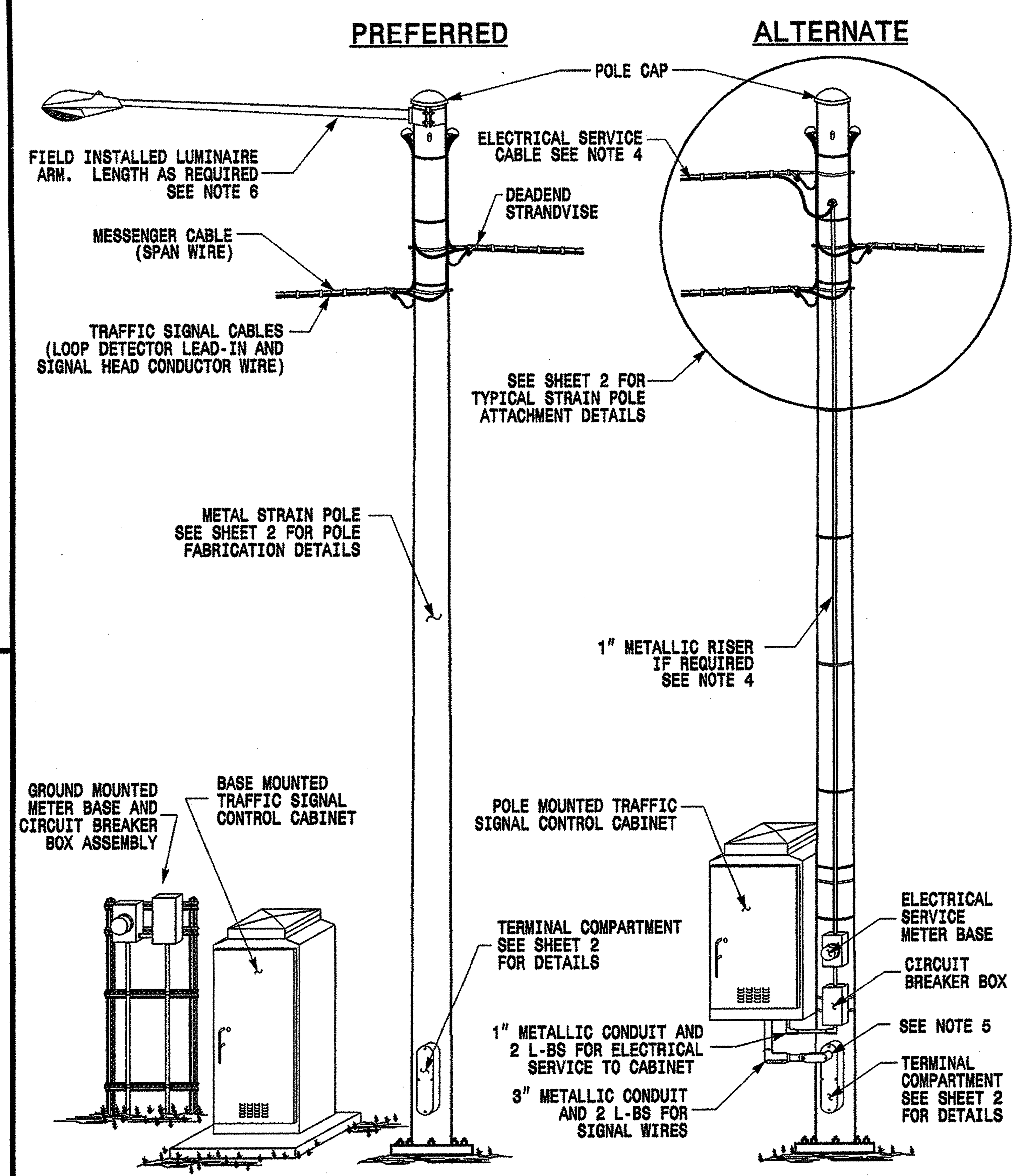
3/4" THICK TREATED PLYWOOD OR 1/4" MIN GALVANIZED STEEL PLATE
ELECTRICAL SERVICE METER BASE (TYP)
CIRCUIT BREAKER BOX (TYP)
4"X4" OR 6"X6" TREATED WOOD POST
1" METALLIC CONDUIT
U-CHANNEL POST (TYP)
1" METALLIC CONDUIT AND 2 L-BS (TYP)
1" METALLIC CONDUIT
36"* MAX (TYP)
FROM POWER SOURCE
TO CABINET

GROUND MOUNTED METER BASE OPTIONS WITH UNDERGROUND ELECTRICAL SERVICE

*MAXIMUM TOTAL HEIGHT TO METER BASE NOT TO EXCEED 5'

GENERAL NOTES

1. WHEN TRAFFIC SIGNALS ARE INSTALLED USING METAL SIGNAL SUPPORTS:
   - BASE MOUNTED CABINETS ARE THE PREFERRED CABINET OPTION.
   - ROUTE POWER SOURCE UNDERGROUND AND USE GROUND MOUNTING OPTIONS SHOWN ABOVE TO INSTALL METER BASE AND CIRCUIT BREAKER BOX IF POSSIBLE.
2. LOCATE THE METER BASE ASSEMBLY NEAR THE SIGNAL CABINET IN A MANNER THAT WILL ALLOW EASY ACCESS TO THE CIRCUIT BREAKER BOX.
3. INSTALL METER BASE ASSEMBLIES AS SHOWN ABOVE. ENSURE 1" METALLIC CONDUITS ARE PROPERLY SECURED BETWEEN THE METER BASE ASSEMBLIES AND THE GROUND TO MINIMIZE DAMAGE POTENTIAL. REFER TO ROADWAY STANDARD DRAWING 1751.02 FOR ELECTRICAL SERVICE DETAILS.
4. INSTALL ELECTRICAL SERVICE ENTRANCE CONDUCTOR AS SHOWN WHEN UNDERGROUND SOURCE IS NOT AN OPTION. METER BASE AND CIRCUIT BREAKER BOX MAY BE INSTALLED ON THE POLE WHEN POLE MOUNTED CABINETS ARE REQUIRED FOR THE INSTALLATION. SEE SHEET 2 FOR ADDITIONAL INSTALLATION DETAILS.
5. FOR POLE MOUNTED CABINETS, USE A FACTORY DRILLED HOLE IN THE TERMINAL COMPARTMENT TO PROVIDE ACCESS FOR SIGNAL WIRES ENTERING THE POLE FROM THE CABINET. FIELD DRILLED HOLES ARE ACCEPTABLE ONLY IF APPROVED BY THE ENGINEER.
6. SEE ROADWAY STANDARD DRAWING 1406.01 (LIGHT STANDARD LUMINAIRES) FOR LUMINAIRE INSTALLATIONS.



PREFERRED
ALTERNATE
POLE CAP
FIELD INSTALLED LUMINAIRE ARM. LENGTH AS REQUIRED SEE NOTE 6
ELECTRICAL SERVICE CABLE SEE NOTE 4
DEADEND STRANDVISE
MESSENGER CABLE (SPAN WIRE)
TRAFFIC SIGNAL CABLES (LOOP DETECTOR LEAD-IN AND SIGNAL HEAD CONDUCTOR WIRE)
SEE SHEET 2 FOR TYPICAL STRAIN POLE ATTACHMENT DETAILS
METAL STRAIN POLE SEE SHEET 2 FOR POLE FABRICATION DETAILS
1" METALLIC RISER IF REQUIRED SEE NOTE 4
GROUND MOUNTED METER BASE AND CIRCUIT BREAKER BOX ASSEMBLY
BASE MOUNTED TRAFFIC SIGNAL CONTROL CABINET
POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET
ELECTRICAL SERVICE METER BASE
CIRCUIT BREAKER BOX
TERMINAL COMPARTMENT SEE SHEET 2 FOR DETAILS
SEE NOTE 5
1" METALLIC CONDUIT AND 2 L-BS FOR ELECTRICAL SERVICE TO CABINET
TERMINAL COMPARTMENT SEE SHEET 2 FOR DETAILS
3" METALLIC CONDUIT AND 2 L-BS FOR SIGNAL WIRES

BASE MOUNTED TRAFFIC SIGNAL CABINET WITH GROUND MOUNTED METER BASE AND UNDERGROUND ELECTRICAL SERVICE

POLE MOUNTED TRAFFIC SIGNAL CABINET WITH POLE MOUNTED METER BASE AND OVERHEAD ELECTRICAL SERVICE

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR

METAL POLES
ELECTRICAL SERVICE AND SIGNAL CABINET MOUNTING OPTIONS

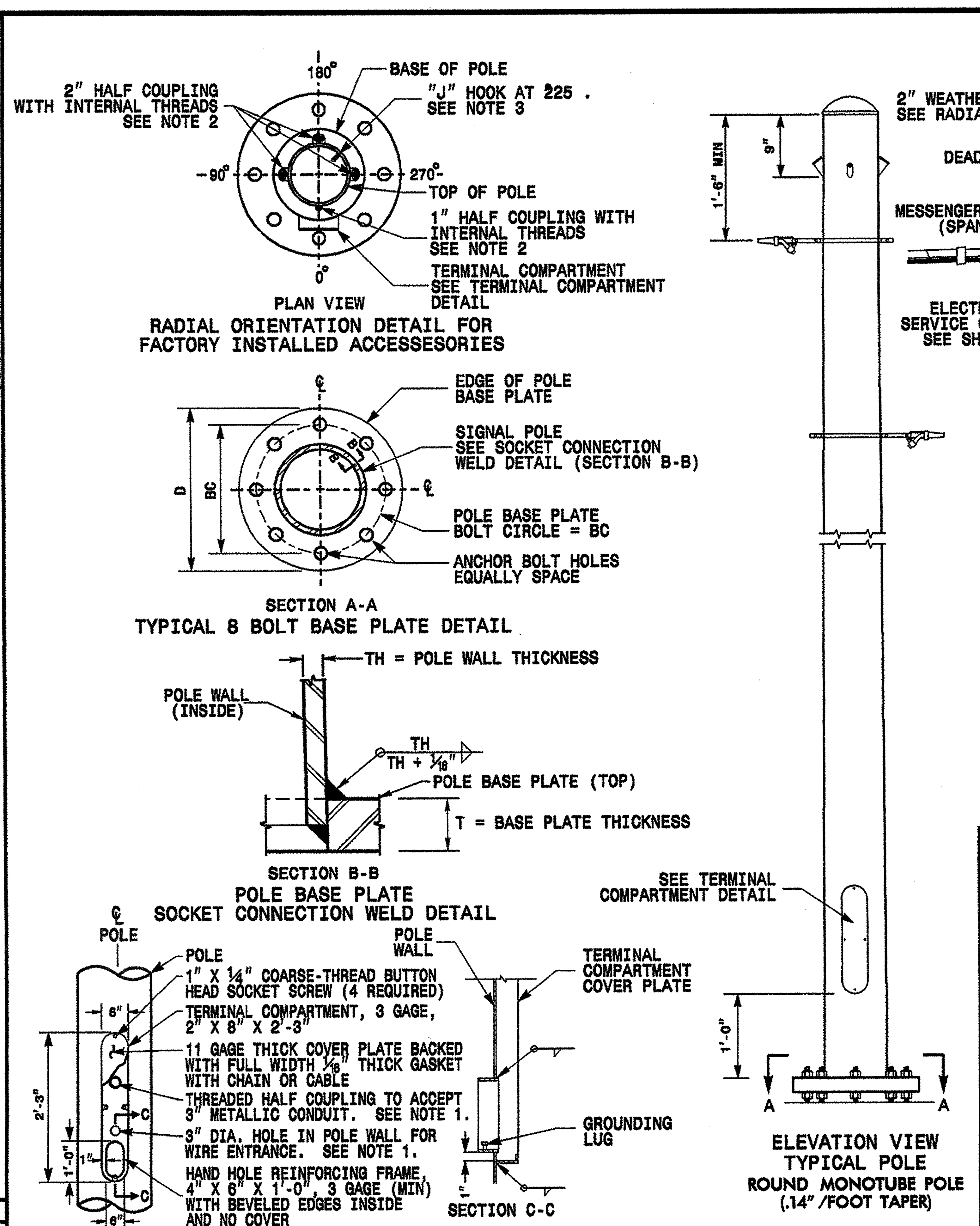
SHEET 1 OF 3
1740.01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

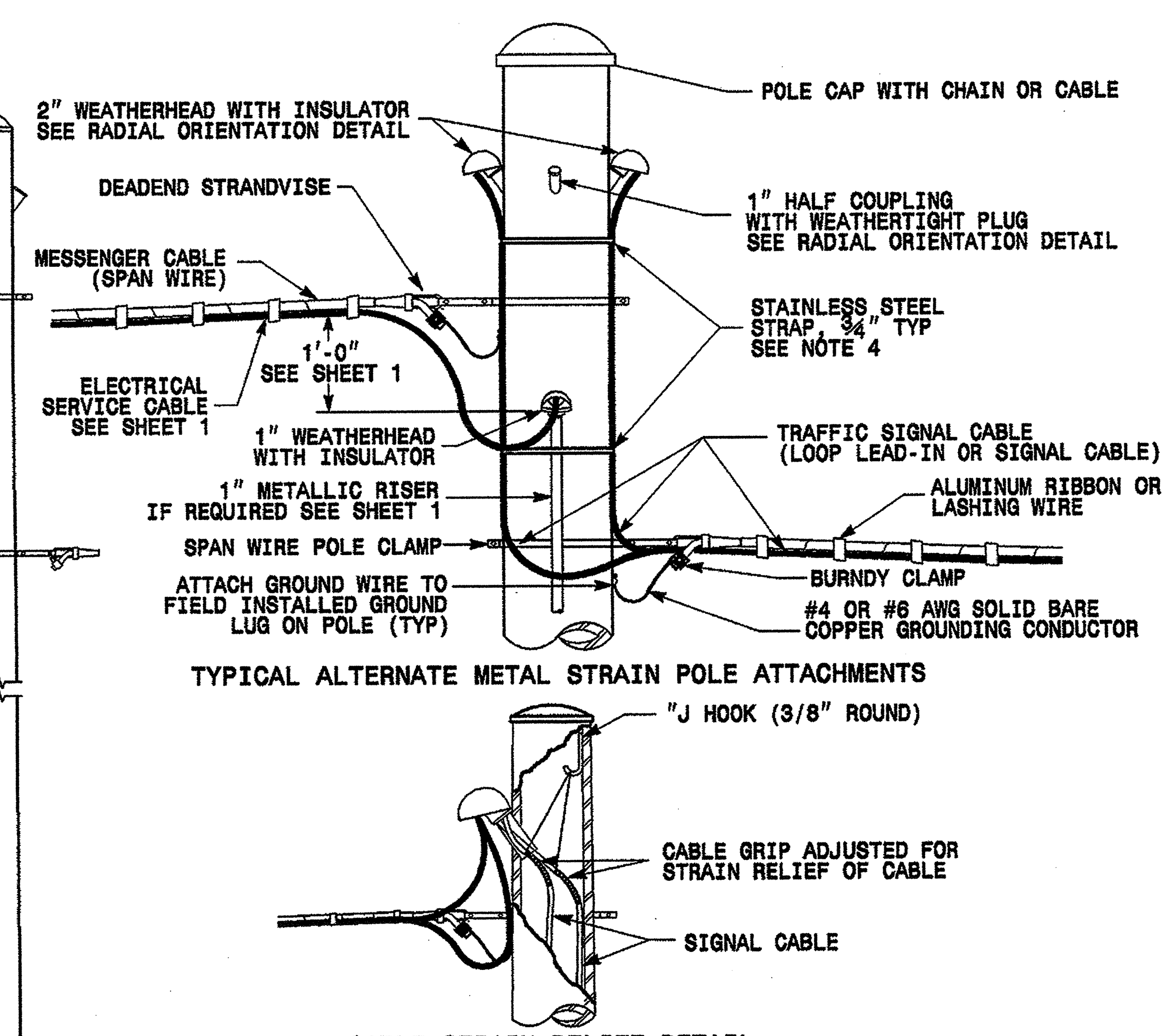
ENGLISH STANDARD DRAWING FOR

METAL POLES
ELECTRICAL SERVICE AND SIGNAL CABINET MOUNTING OPTIONS

SHEET 1 OF 3
1740.01



180°
BASE OF POLE
2" HALF COUPLING WITH INTERNAL THREADS SEE NOTE 2
"J" HOOK AT 225 . SEE NOTE 3
-90°
270°
TOP OF POLE
1" HALF COUPLING WITH INTERNAL THREADS SEE NOTE 2
TERMINAL COMPARTMENT SEE TERMINAL COMPARTMENT DETAIL
PLAN VIEW
RADIAL ORIENTATION DETAIL FOR FACTORY INSTALLED ACCESSORIES
EDGE OF POLE BASE PLATE
SIGNAL POLE SEE SOCKET CONNECTION WELD DETAIL (SECTION B-B)
POLE BASE PLATE BOLT CIRCLE = BC
ANCHOR BOLT HOLES EQUALLY SPACE
SECTION A-A
TYPICAL 8 BOLT BASE PLATE DETAIL
TH = POLE WALL THICKNESS
POLE WALL (INSIDE)
TH + 1/16"
POLE BASE PLATE (TOP)
T = BASE PLATE THICKNESS
SECTION B-B
POLE BASE PLATE SOCKET CONNECTION WELD DETAIL
POLE
1" X 1/4" COARSE-THREAD BUTTON HEAD SOCKET SCREW (4 REQUIRED)
TERMINAL COMPARTMENT, 3 GAGE, 2" X 8" X 2'-3"
11 GAGE THICK COVER PLATE BACKED WITH FULL WIDTH 1/16" THICK GASKET WITH CHAIN OR CABLE
THREADED HALF COUPLING TO ACCEPT 3" METALLIC CONDUIT. SEE NOTE 1.
3" DIA. HOLE IN POLE WALL FOR WIRE ENTRANCE. SEE NOTE 1.
HAND HOLE REINFORCING FRAME, 4" X 6" X 1'-0", 3 GAGE (MIN) WITH BEVELED EDGES INSIDE AND NO COVER
TERMINAL COMPARTMENT COVER PLATE
GROUNDING LUG
SECTION C-C
TERMINAL COMPARTMENT DETAIL
SEE TERMINAL COMPARTMENT DETAIL
1'-6" MIN
ELEVATION VIEW
TYPICAL POLE
ROUND MONOTUBE POLE (.14"/FOOT TAPER)



2" WEATHERHEAD WITH INSULATOR SEE RADIAL ORIENTATION DETAIL
POLE CAP WITH CHAIN OR CABLE
DEADEND STRANDVISE
1" HALF COUPLING WITH WEATHERTIGHT PLUG SEE RADIAL ORIENTATION DETAIL
MESSENGER CABLE (SPAN WIRE)
STAINLESS STEEL STRAP, 3/4" TYP SEE NOTE 4
ELECTRICAL SERVICE CABLE SEE SHEET 1
1'-0" SEE SHEET 1
1" WEATHERHEAD WITH INSULATOR
TRAFFIC SIGNAL CABLE (LOOP LEAD-IN OR SIGNAL CABLE)
1" METALLIC RISER IF REQUIRED SEE SHEET 1
ALUMINUM RIBBON OR LASHING WIRE
SPAN WIRE POLE CLAMP
BURNDY CLAMP
ATTACH GROUND WIRE TO FIELD INSTALLED GROUND LUG ON POLE (TYP)
#4 OR #6 AWG SOLID BARE COPPER GROUNDING CONDUCTOR
TYPICAL ALTERNATE METAL STRAIN POLE ATTACHMENTS
"J HOOK (3/8" ROUND)
CABLE GRIP ADJUSTED FOR STRAIN RELIEF OF CABLE
SIGNAL CABLE
CABLE STRAIN RELIEF DETAIL

GENERAL NOTES

1. PROVIDE 2-3" FACTORY DRILLED HOLES THROUGH THE POLE WALL FOR WIRE ENTRANCE ACCESS INSIDE THE TERMINAL COMPARTMENT. LOCATE THE HOLES IN THE CENTER OF THE TERMINAL COMPARTMENT (0 DEGREES ON THE POLES RADIAL INDEX) AT 26" AND 36" FROM BASE OF THE POLE. WELD A THREADED HALF COUPLING IN THE TOP HOLE THAT CAN RECEIVE A 3" DIA. METALLIC CONDUIT.
2. FABRICATE THE METAL POLE WITH 3-2" THREADED HALF COUPLINGS AND 1-1" THREADED HALF COUPLING INSTALLED 9" FROM THE TOP OF THE POLE TO FACILITATE WEATHERHEAD INSTALLATION FOR SIGNAL WIRE ENTRANCE TO THE POLE. WELD THE COUPLINGS TO THE POLE AT AN ANGLE OF NO LESS THAN 45 DEGREES FROM HORIZONTAL TO PROPERLY INSTALL THE WEATHERHEADS. LOCATE THE HALF COUPLINGS ON THE POLE AS SHOWN IN THE RADIAL ORIENTATION DETAIL.
3. PROVIDE A FACTORY STANDARD "J" HOOK FOR CABLE SUPPORT WELDED INSIDE THE TOP OF THE POLE AT 225 DEGREES ON THE POLES RADIAL INDEX.
4. STRAP ALL SIGNAL CABLES TO THE SIDE OF THE POLE WHEN THE DISTANCE BETWEEN THE SPANWIRE ATTACHMENT CLAMP ON THE POLE AND THE WEATHERHEADS EXCEEDS 36". USE 3/4" STAINLESS STEEL STRAPS TO SECURE WIRE TO THE POLE.
5. DO NOT INSTALL FIBER OPTIC COMMUNICATION CABLE IN OR ON ANY METAL POLES FOR THE PURPOSE OF TRANSITIONING THE RUNS FROM OVERHEAD TO UNDERGROUND. OVERHEAD ATTACHMENTS MAY BE ALLOWED USING A 3-BOLT CLAMP WITH "J" HOOK IF THE PURPOSE OF THE ATTACHMENT IS TO CONTINUE A RUN OVERHEAD. SEE SHEET 3.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

9-03

ENGLISH STANDARD DRAWING FOR

METAL POLES
FABRICATION AND ATTACHMENT DETAILS

SHEET 2 OF 3
1740.01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

9-03

ENGLISH STANDARD DRAWING FOR

METAL POLES
FABRICATION AND ATTACHMENT DETAILS

SHEET 2 OF 3
1740.01

PROJECT REFERENCE NO.	SHEET NO.
U-4010	SIG. 29

Structural Engineer	Electrical Engineer
SEAL 028094 NORTH CAROLINA PROFESSIONAL ENGINEER JEBESH C. SARKAR	SEAL 16286 NORTH CAROLINA PROFESSIONAL ENGINEER MILTON I. DEAN
D. Sarkar 9.23.03 (SIGNATURE, DATE)	Milton I Dean 9-24-03 (SIGNATURE, DATE)

Standard Drawings

Traffic Management and Signal Systems Unit
122 N. McDowell St., Raleigh, NC 27603

See Plate for Title

Original: 2002 Standards