

Project: U-2519DA

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

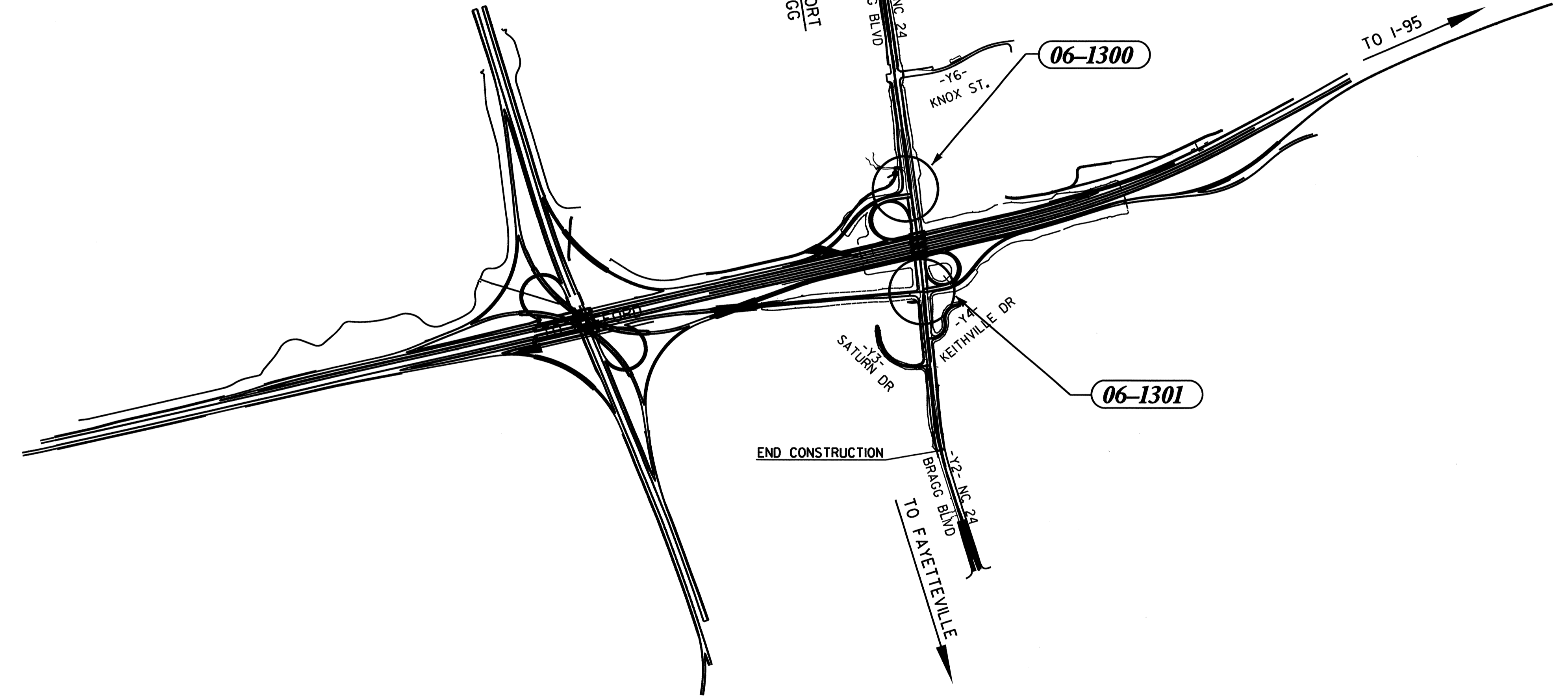
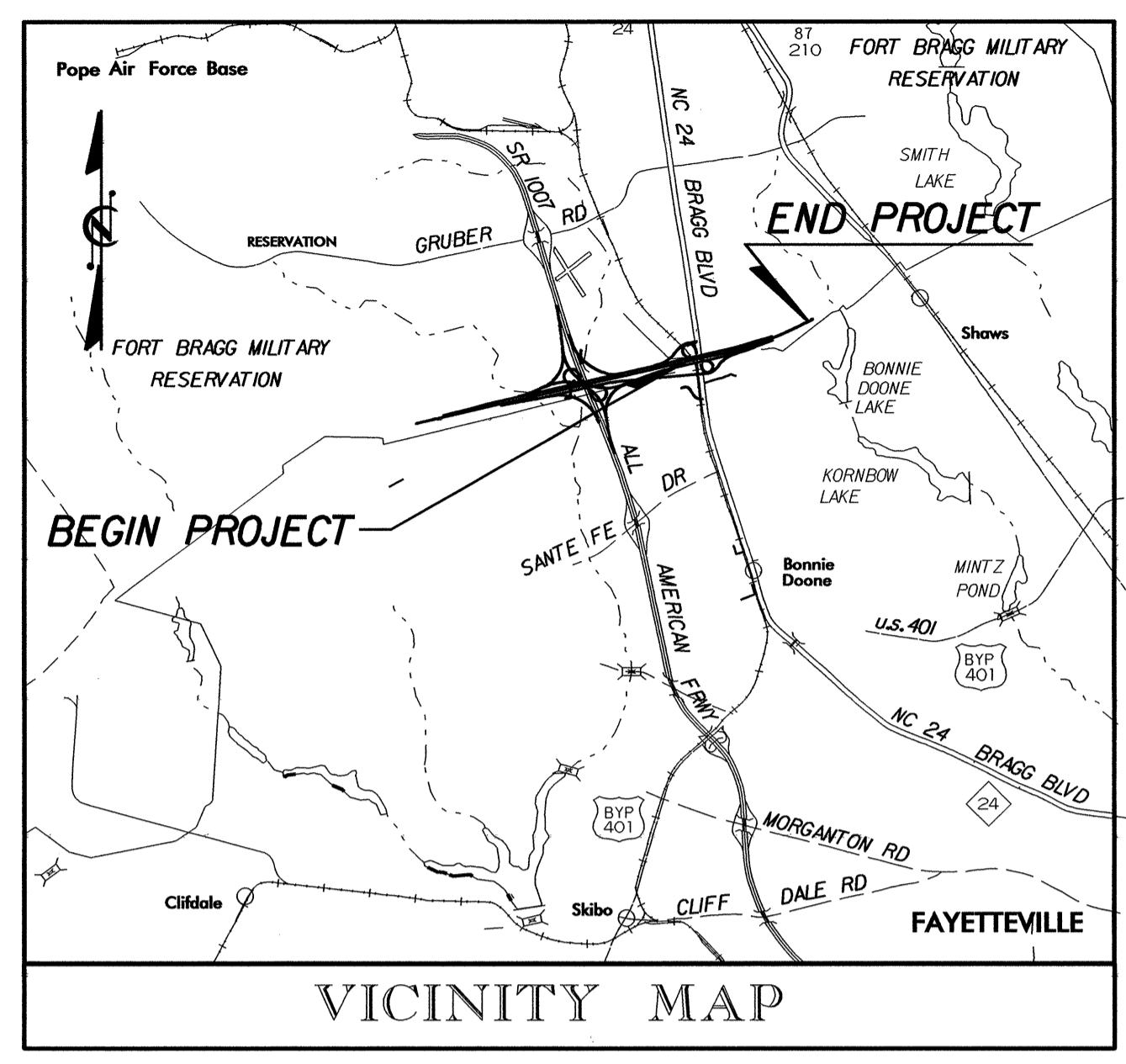


Project No. U-2519DA	Sheet No. Sig. 1
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CUMBERLAND COUNTY

**LOCATION: FAYETTEVILLE OUTER LOOP - FROM WEST OF NC 24
TO 1.3 MILES EAST OF NC 87 - NC 210**

TYPE OF WORK: TRAFFIC SIGNALS, COMMUNICATIONS CABLE ROUTING DETAILS



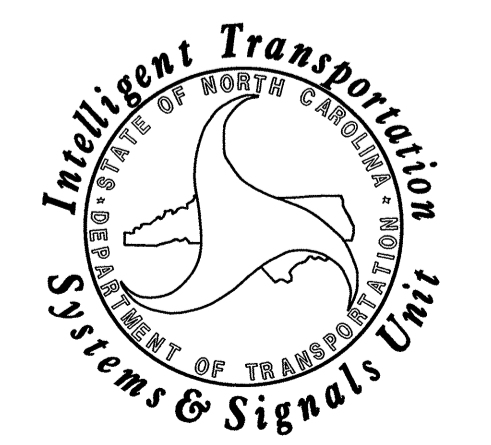
Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.

Sheet #	Reference #	Index of Plans Location/Description
Sig. 1		Title Sheet
Sig. 2-3	06-1300	NC 24 (Bragg Boulevard) at I-295 WB Ramp B
Sig. 4-5	06-1301	NC 24 (Bragg Boulevard) at I-295 EB Ramp C/Loop D
Sig. 6-11	N/A	Standard Drawings for Metal Poles
Sig. 12-15	N/A	Communication Plans
Sig. 16-18	N/A	Inductive Detection Loops Details

INTELLIGENT TRANSPORTATION AND SIGNALS UNIT

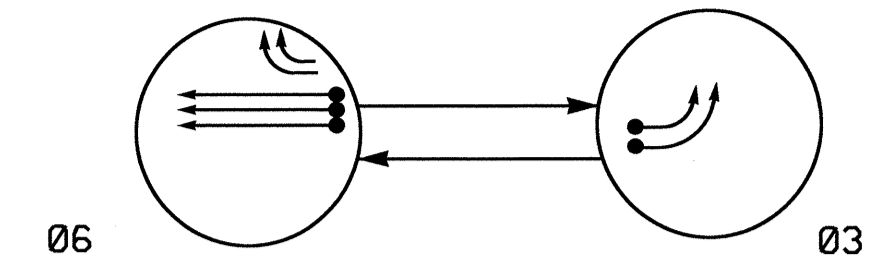
Contacts:
Jason Galloway, PE - Signals Project Engineer
George C. Brown, PE - Signal Equipment Design Engineer
Neil Avery - Signals Communications Project Engineer

Prepared In the Office of:
DIVISION OF HIGHWAYS
MOBILITY AND SAFETY DIVISION



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PHASING DIAGRAM

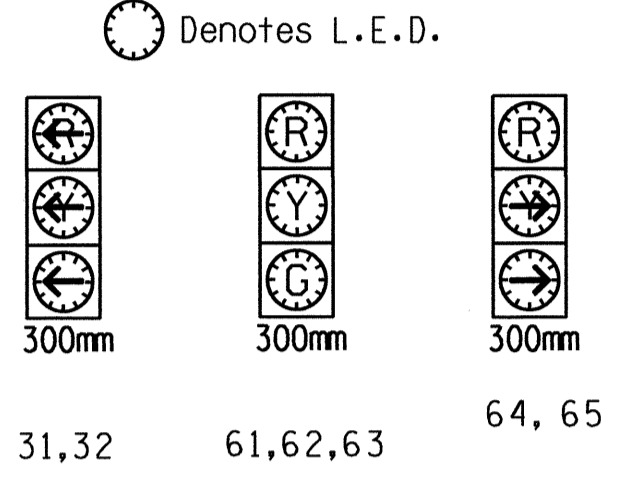


PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE		
	06	03	FLASH
31,32	R	R	
61,62,63	G	R	Y
64, 65		R	Y

SIGNAL FACE I.D.

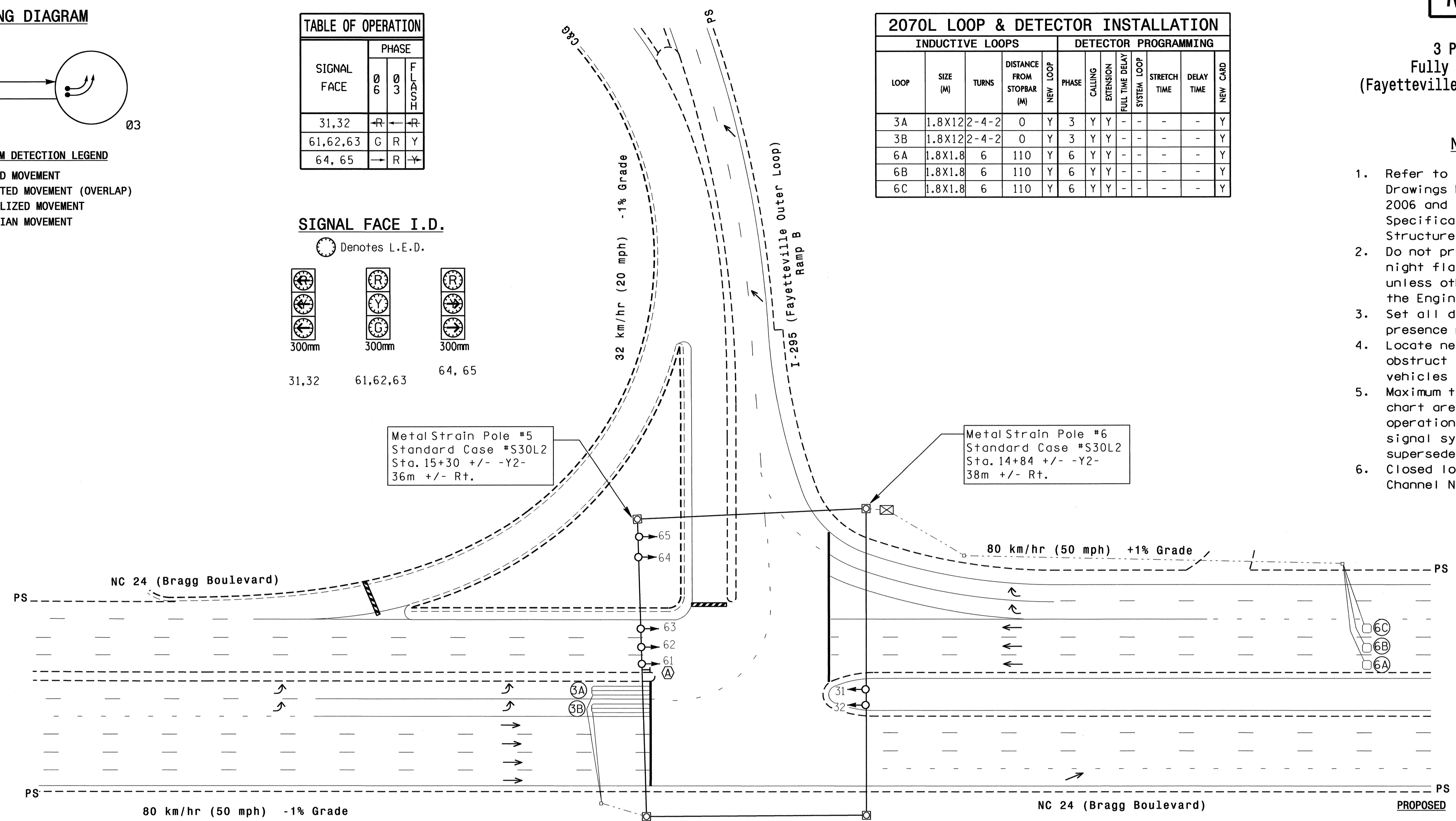


2070L LOOP & DETECTOR INSTALLATION											
INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (M)	TURNS	DISTANCE FROM STOPBAR (M)	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY SYSTEM LOOP	STRETCH TIME	DELAY TIME	NEW CARD
3A	1.8X1.2	2-4-2	0	Y	3	Y	Y	-	-	-	Y
3B	1.8X1.2	2-4-2	0	Y	3	Y	Y	-	-	-	Y
6A	1.8X1.8	6	110	Y	6	Y	Y	-	-	-	Y
6B	1.8X1.8	6	110	Y	6	Y	Y	-	-	-	Y
6C	1.8X1.8	6	110	Y	6	Y	Y	-	-	-	Y

3 Phase Fully Actuated (Fayetteville Signal System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Channel Number 24.



FEATURE	PHASE	
	3	6
Min Green 1 *	7	14
Extension 1 *	2.0	6.0
Max Green 1 *	30	90
Yellow Clearance	3.0	4.7
Red Clearance	3.2	1.3
Walk 1 *	-	-
Don't Walk 1	-	-
Seconds Per Actuation *	-	1.0
Max Variable Initial *	-	40
Time Before Reduction *	-	15
Time To Reduce *	-	30
Minimum Gap	-	3.0
Recall Mode	-	MIN RECALL
Vehicle Call Memory	-	YELLOW
Dual Entry	-	-
Simultaneous Gap	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

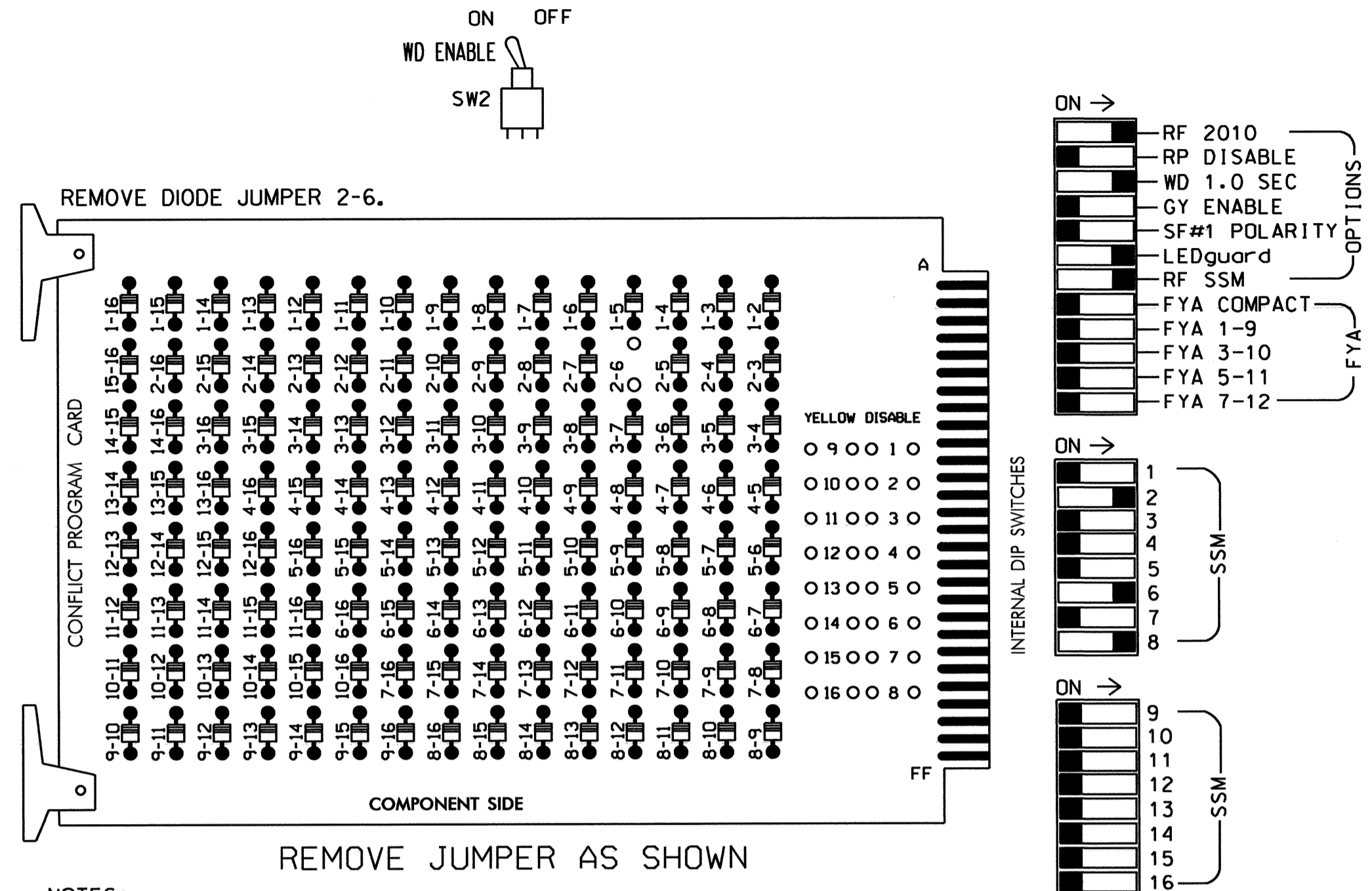
- | | | | |
|--|--|--|--|
| | PROPOSED Traffic Signal Head | | EXISTING Traffic Signal Head |
| | PROPOSED Modified Signal Head | | EXISTING Modified Signal Head |
| | PROPOSED Pedestrian Signal Head | | EXISTING Pedestrian Signal Head |
| | PROPOSED Signal Pole with Guy | | EXISTING Signal Pole with Guy |
| | PROPOSED Signal Pole with Sidewalk Guy | | EXISTING Signal Pole with Sidewalk Guy |
| | PROPOSED Inductive Loop Detector | | EXISTING Inductive Loop Detector |
| | PROPOSED Controller & Cabinet | | EXISTING Controller & Cabinet |
| | PROPOSED Junction Box | | EXISTING Junction Box |
| | PROPOSED 50mm Underground Conduit | | EXISTING 50mm Underground Conduit |
| | PROPOSED Right of Way with Marker | | EXISTING Right of Way with Marker |
| | PROPOSED Directional Arrow | | EXISTING Directional Arrow |
| | PROPOSED Pavement Marking Arrow | | EXISTING Pavement Marking Arrow |
| | PROPOSED Metal Strain Pole | | EXISTING Metal Strain Pole |
| | PROPOSED No U-Turn Sign (R3-4) | | EXISTING No U-Turn Sign (R3-4) |

New Installation

	NC 24 (Bragg Boulevard) at I-295 (Fayetteville Outer Loop) Ramp B	
	Division 06 Cumberland County Fayetteville PLAN DATE: February 2011 PREPARED BY: JPG	REVIEWED BY: PLA REVIEWED BY:
	SCALE: 1:500 REVISIONS:	DATE: 2/3/11 SIGNATURE:

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumper and set switches as shown)



NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Make sure jumpers SEL2-SEL5 are present on the monitor board.

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 1,3,4, 5,7,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash.
- The cabinet and controller are part of the Fayetteville Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....CONTRACTOR SUPPLIED 2070L
 CABINET.....CONTRACTOR SUPPLIED 332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S6,S8
 PHASES USED.....2,6,8
 OVERLAPS.....NONE

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21, 22,23	NU	NU	NU	NU	NU	61,62, 63,64	NU	NU	81,82	NU
RED		128						134				
YELLOW		129						135				
GREEN		130						136				
RED ARROW											107	
YELLOW ARROW											108	
GREEN ARROW											109	

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)

FILE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS	∅2/SYS
L	2A/S1	2C/S3	NOT USED											
U	∅6	∅6												
L	6A	6C												
U	∅6	∅6												
L	6B	6D												

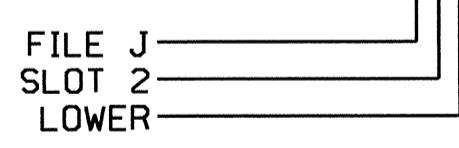
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A/S1	TB2-5,6	I2U	39	1	2	2/SYS	Y	Y			
2B/S2	TB2-7,8	I2L	43	5	12	2/SYS	Y	Y			
2C/S3	TB2-9,10	I3U	63	25	32	2/SYS	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
6C	TB3-9,10	J3U	64	26	36	6	Y	Y			
6D	TB3-11,12	J3L	77	39	46	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			

INPUT FILE POSITION LEGEND: J2L



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1301
 DESIGNED: February 2011
 SEALED: 02/03/2011
 REVISED:

Electrical Detail

Electrical and Programming Details For:

NC 24 (Bragg Boulevard) at I-295 (Fayetteville Outer Loop) Ramp C/Loop D

Division 6 Cumberland County Fayetteville

Prepared In the Offices of: *Transpacific Mobility and Safety Solutions*

750 N. Greenfield Pkwy, Garner, NC 27529

Prepared By: *C. Strickland* Reviewed By: *T. Vige*

PLAN DATE: February 2011

REVISIONS: _____ INIT. _____ DATE _____

Signature: *George C. Brown* 2/8/11

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022013 GEORGE C. BROWN

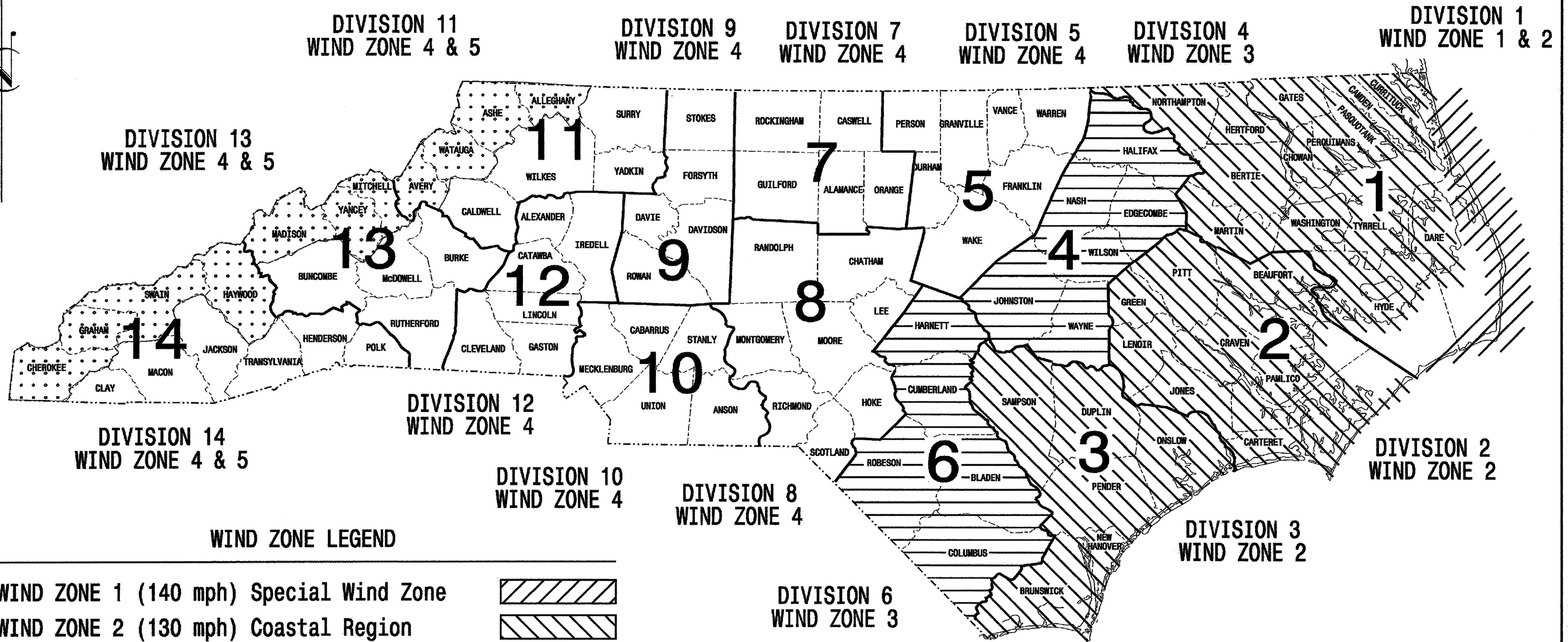
SIG. INVENTORY NO. 06-1301

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STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE	PROJECT NO.	SHEET NO.
N.C.	U-2519 DA	Sig. 6
F.A. PROJ. NO.		M 1
PROJECT ID. NO.		

STANDARD DRAWINGS FOR METAL POLES

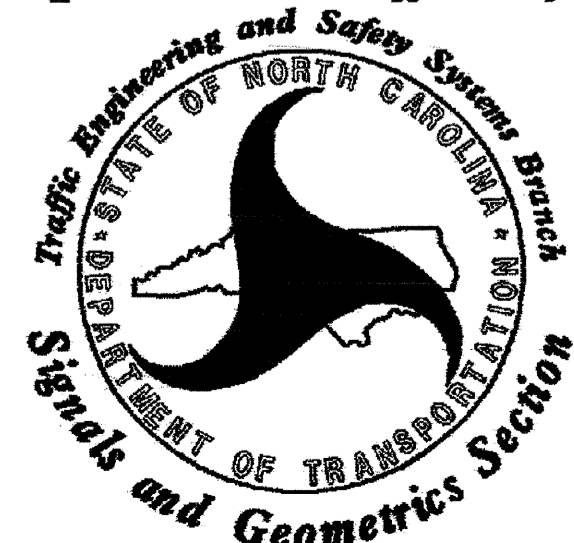


WIND ZONE LEGEND

WIND ZONE 1 (140 mph) Special Wind Zone	
WIND ZONE 2 (130 mph) Coastal Region	
WIND ZONE 3 (110 mph) Eastern Region	
WIND ZONE 4 (90 mph) Central & Mtn. Region	
WIND ZONE 5 (120 mph) Special Wind Zone	

<http://www.ncdot.org/doh/preconstruct/traffic/tmssu/ws/default.htm>

Prepared in the Offices of:



122 N. McDowell St., Raleigh, NC 27603

Designed in conformance with the 2002 Interim to the 4th Edition 2001

AASHTO

Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals

INDEX OF PLANS

DRAWING NUMBER	DESCRIPTION
M 1	Title Sheet
M 2	Fabrication Details - All Poles
M 3	Fabrication Details - Strain Poles
M 4,5	Fabrication Details - Mast Arm Poles
M 6	Construction Details - Strain Poles
M 7	Construction Details - Foundations
M 8	Standard Strain Poles

NCDOT CONTACTS:

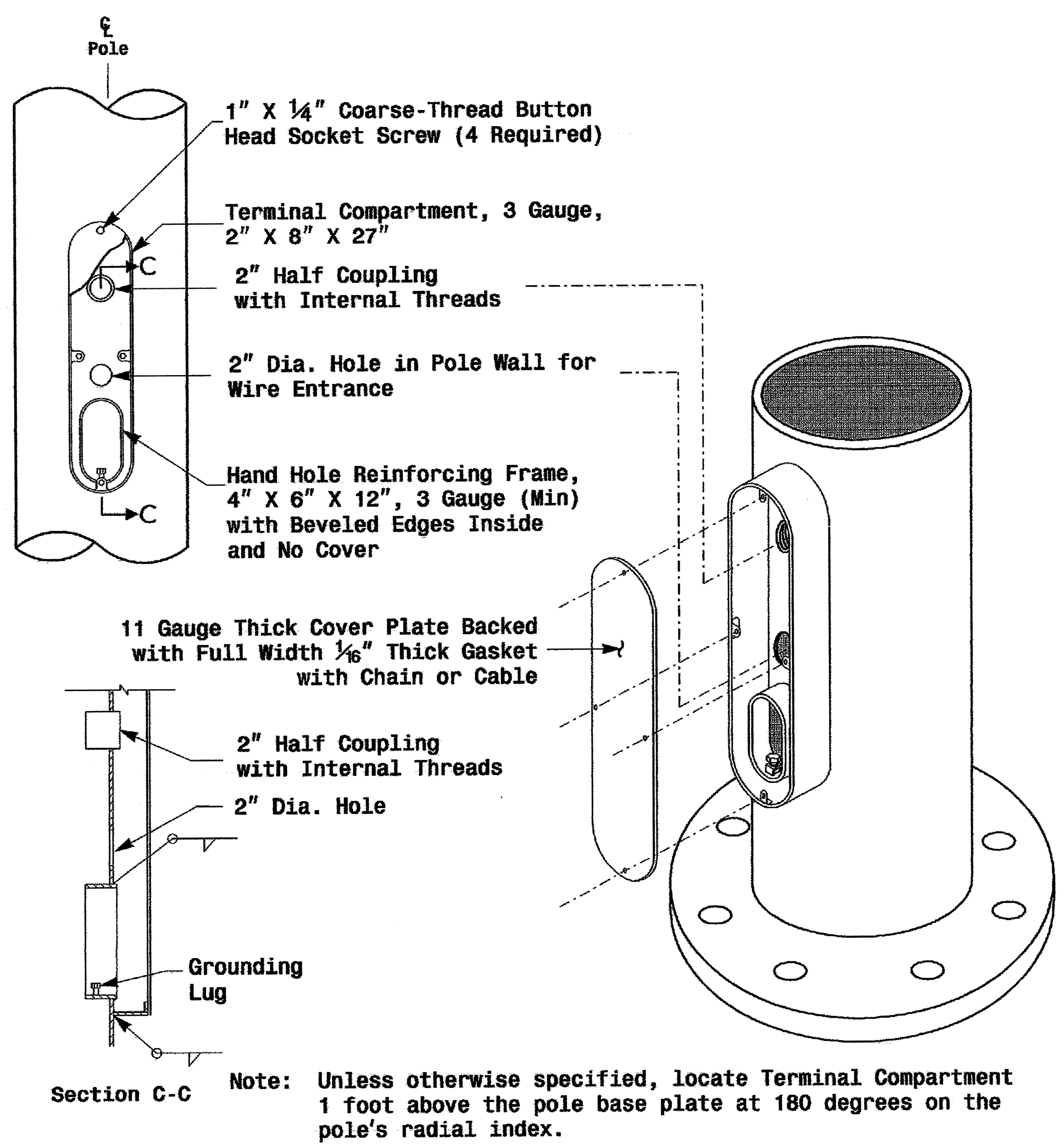
TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH

- G. A. Fuller, P.E. - State ITS and Signals Engineer
- R. E. Mullinax, P.E. - Signals and Geometrics Engineer
- P. L. Alexander, P.E. - Signals and Geometrics Special Projects Engineer
- D. C. Sarkar, P.E. - Signals and Geometrics Structural Engineer
- A. M. Esposito, P.E. - Signals and Geometrics Project Engineer
- C. F. Andrews, Jr. - Signals and Geometrics Project Engineer

SEAL



D. Sarkar 9.2.2005
SIGNATURE DATE



Terminal Compartment Detail

MFG _____ MFG. DATE: MM/YY
 SHAFT D/T/L/Y _____
 ARM-A D/T/L/Y _____
 ARM-B D/T/L/Y _____
 A.B. DIA./B.C./L/Y _____
 NCDOT STANDARD _____

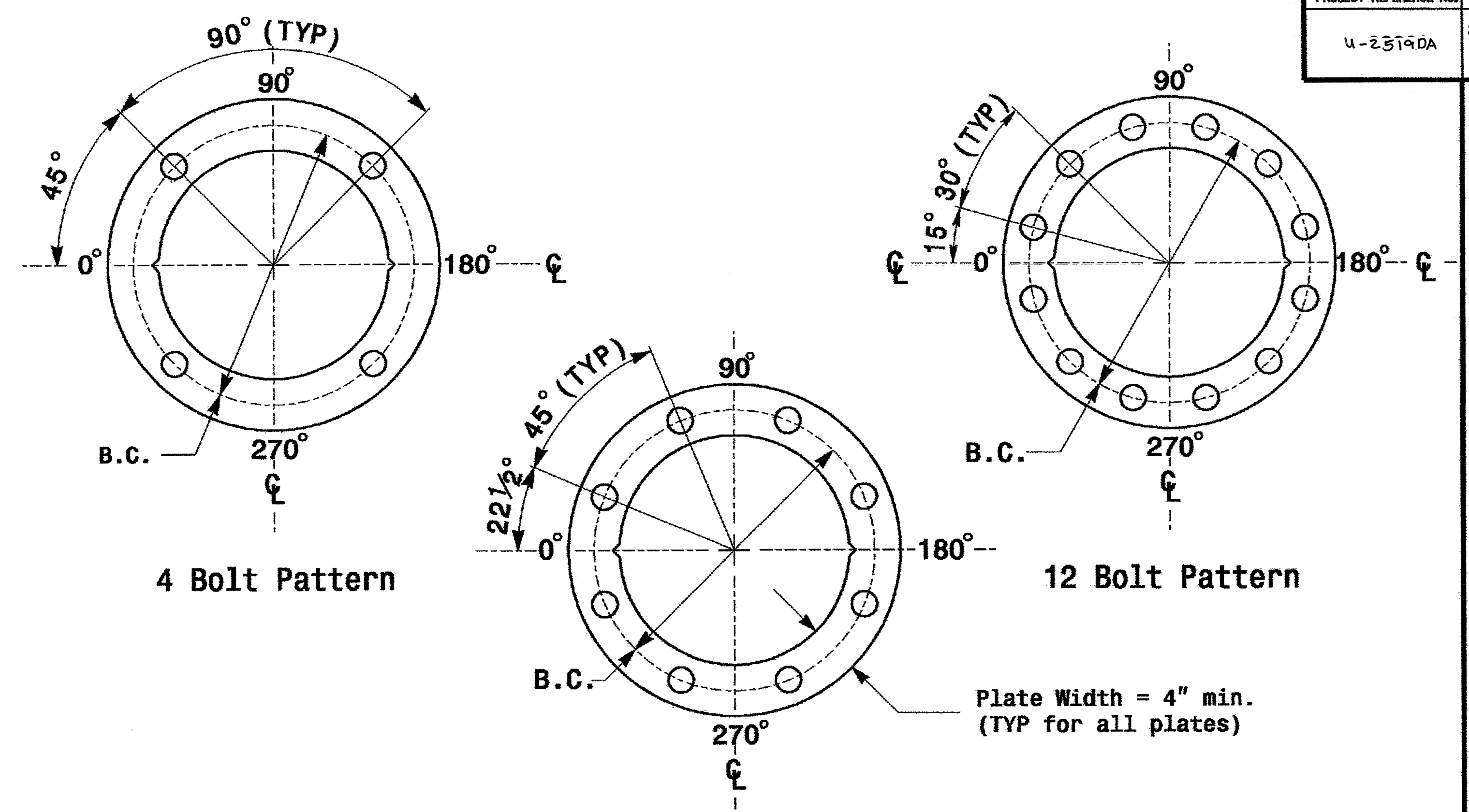
MFG _____ MFG. DATE: MM/YY
 SECTION D/T/L/Y _____
 NCDOT STANDARD _____

Arm I.D. Tag
(Provide on each section of a multi-section mast arm)

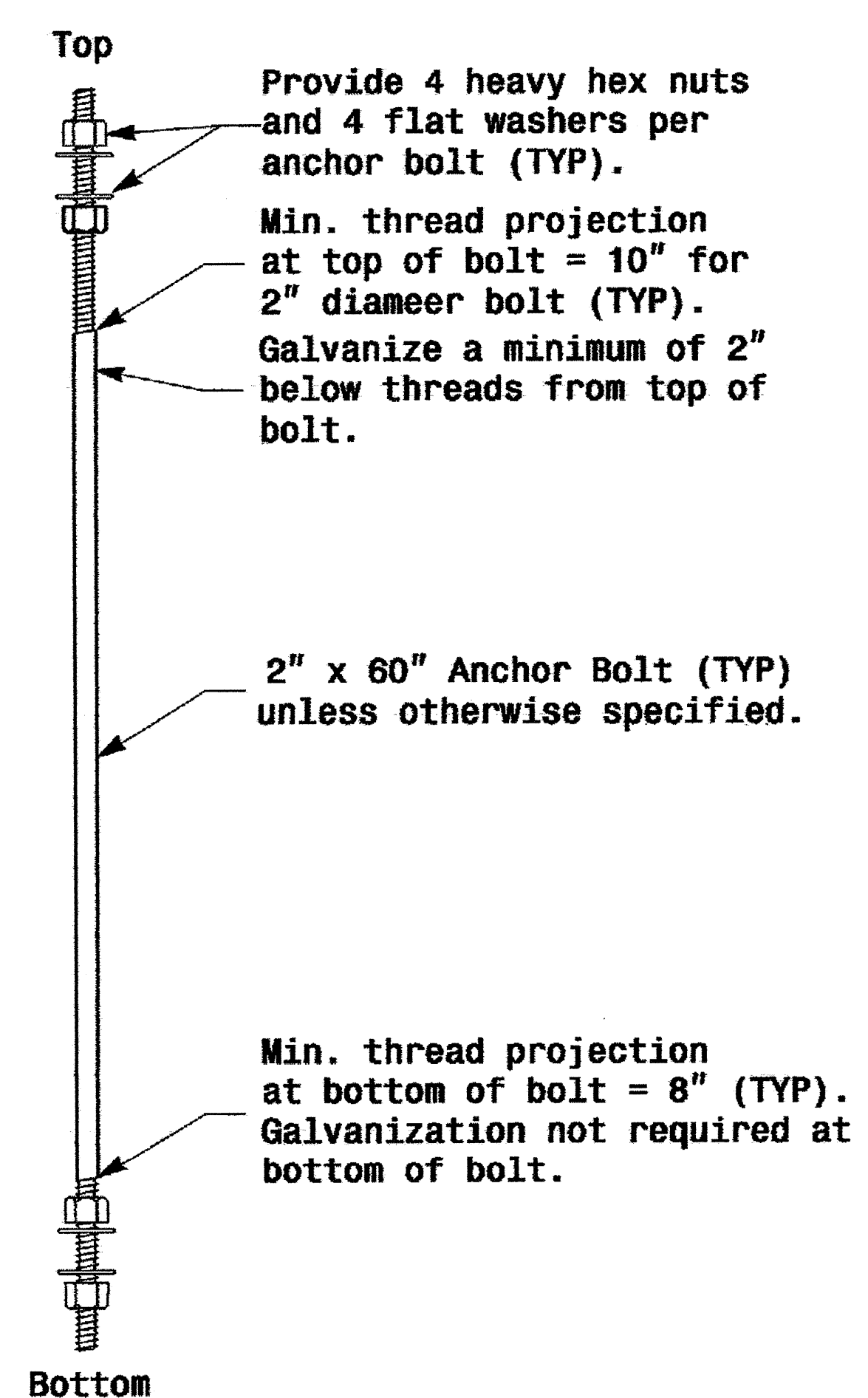
Shaft I.D. Tag
(Provide on Strain Poles and Mast Arm Poles)

- Notes:**
- 1) D= Diameter, T= Thickness, L= Length, Y= Yield Strength
 - 2) A.B. = Anchor Bolt
 - 3) B.C. = Bolt Circle of Anchor Bolts
 - 4) If Custom Design, use "NCDOT STANDARD" line for plan pole I.D.
 - 5) See drawing M4 for mounting positions of I.D. tags.

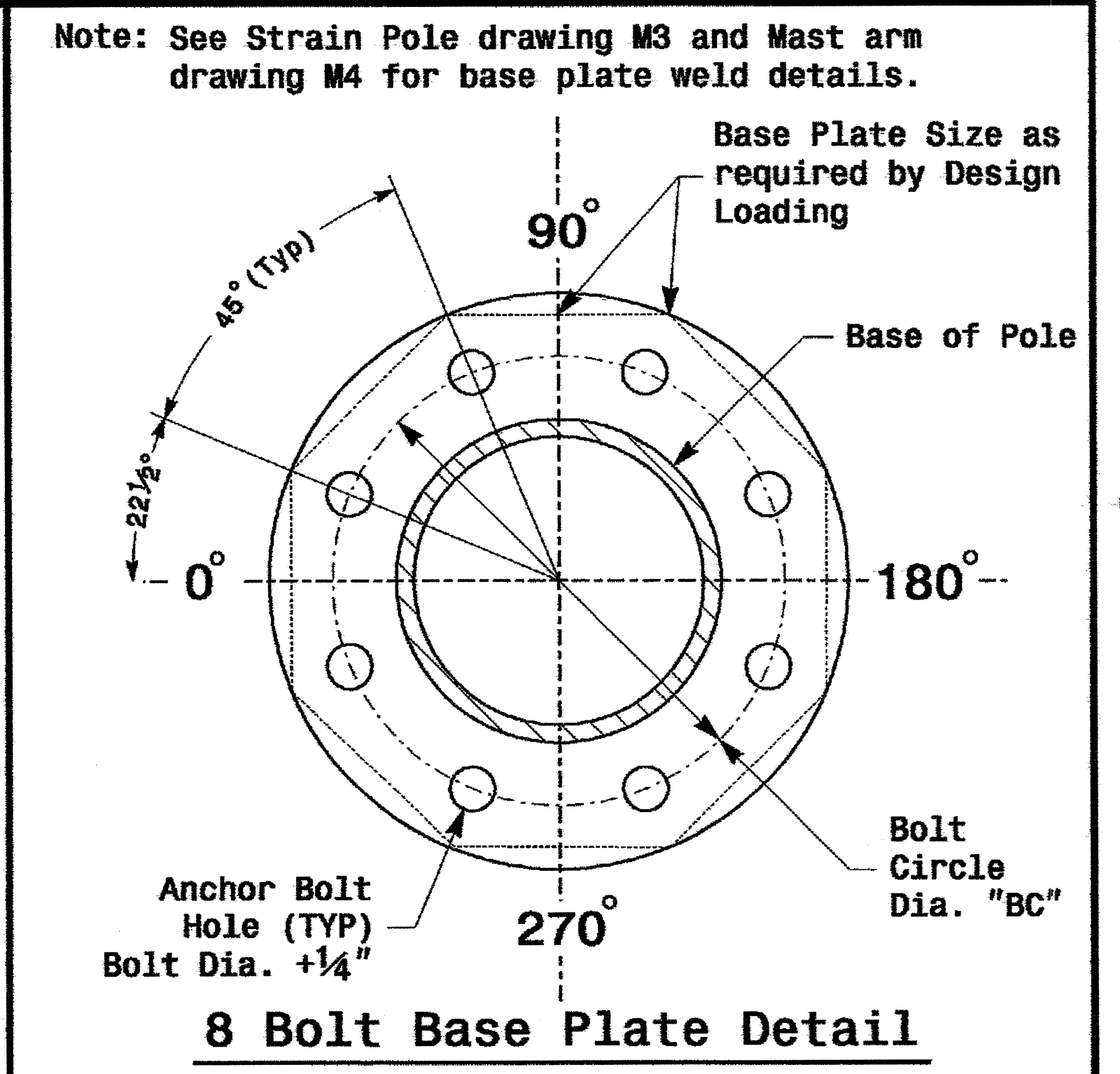
Identification Tag Details



Base Plate Template and Anchor Bolt Lock Plate Details



Anchor Bolt Detail



8 Bolt Base Plate Detail

Prepared in the Office of:

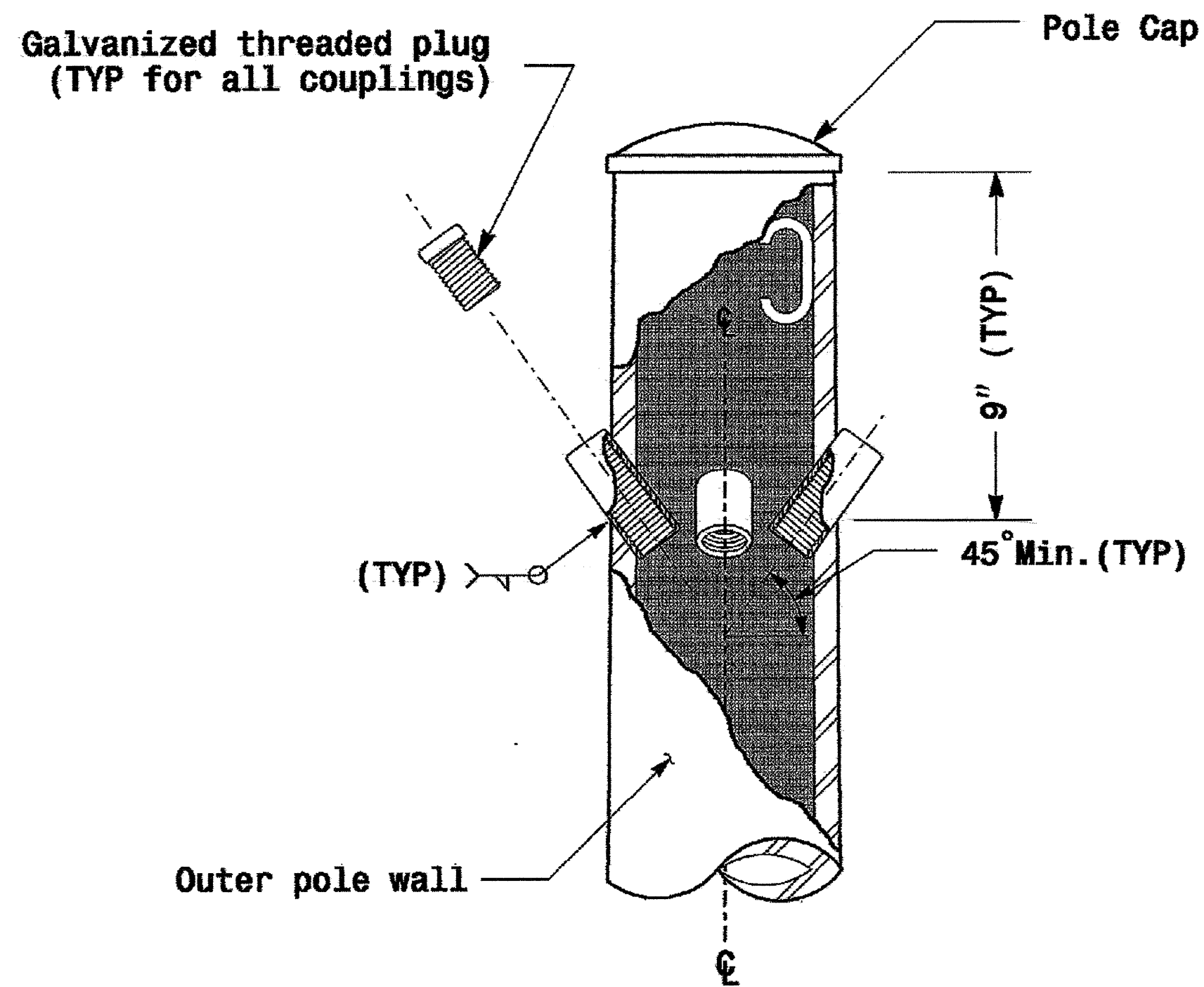
222 N. McDowell St., Raleigh, NC 27603

Typical Fabrication Details Common To All Metal Poles

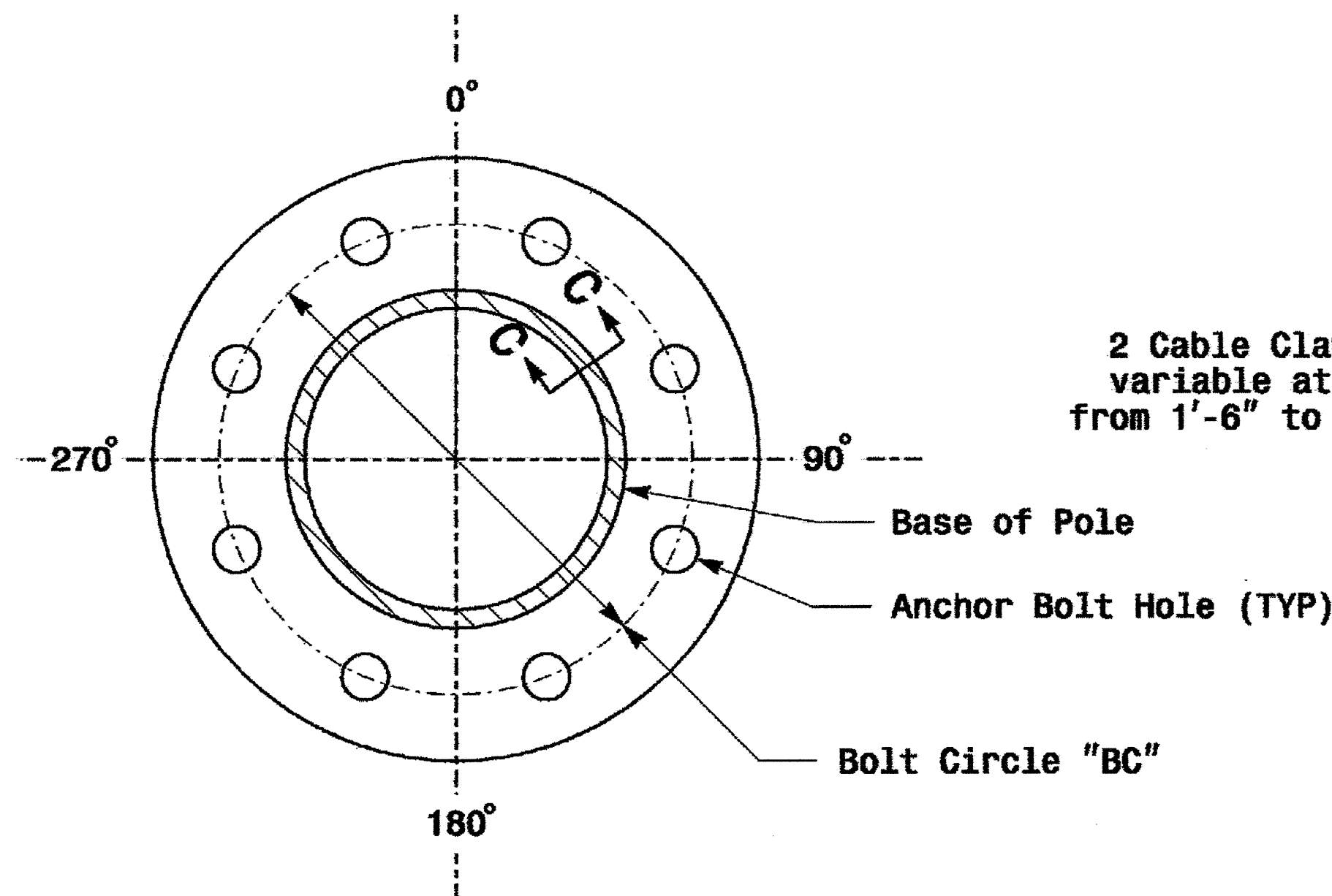
PLAN DATE: May 2005 REVIEWED BY: C.F. Andrews
 PREPARED BY: P.L. Alexander REVIEWED BY: A.W. Esposito
 REVISIONS: _____ INIT. DATE
 SCALE: 0 NA NONE
 SIGNATURE: *D. Sankar* 9.2.2005
 SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 028094 ENGINEER DINESH C. SANKAR
 SIG. INVENTORY NO. _____

Fabrication Details - All Poles

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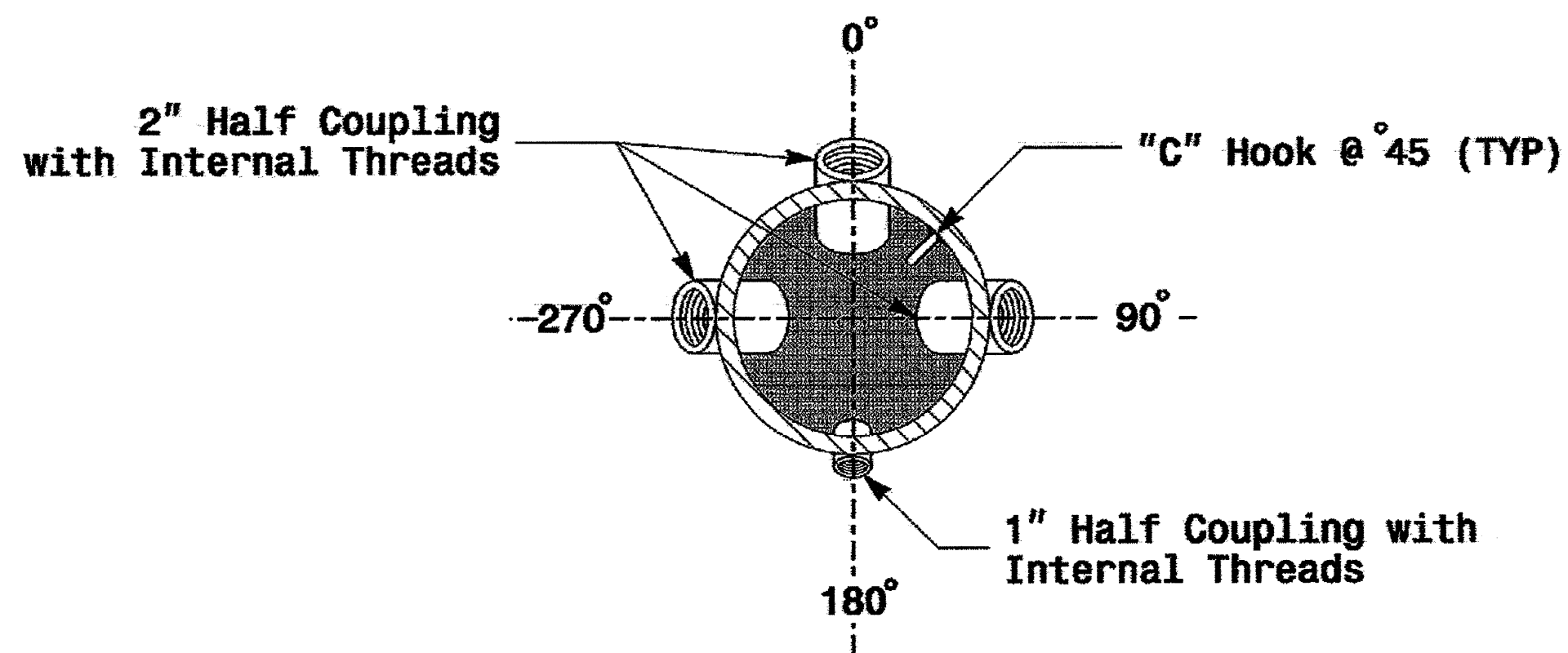
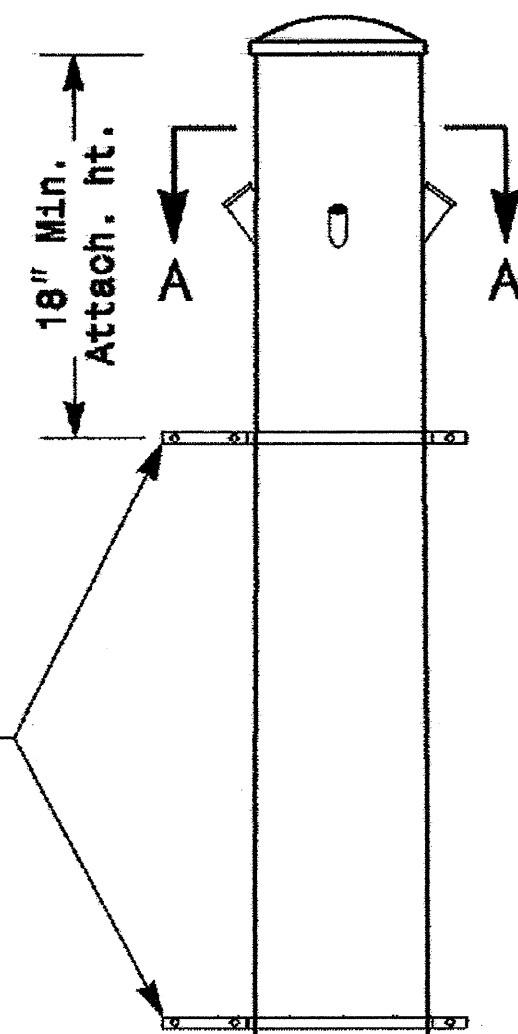


Cable Entrances at Top of Pole

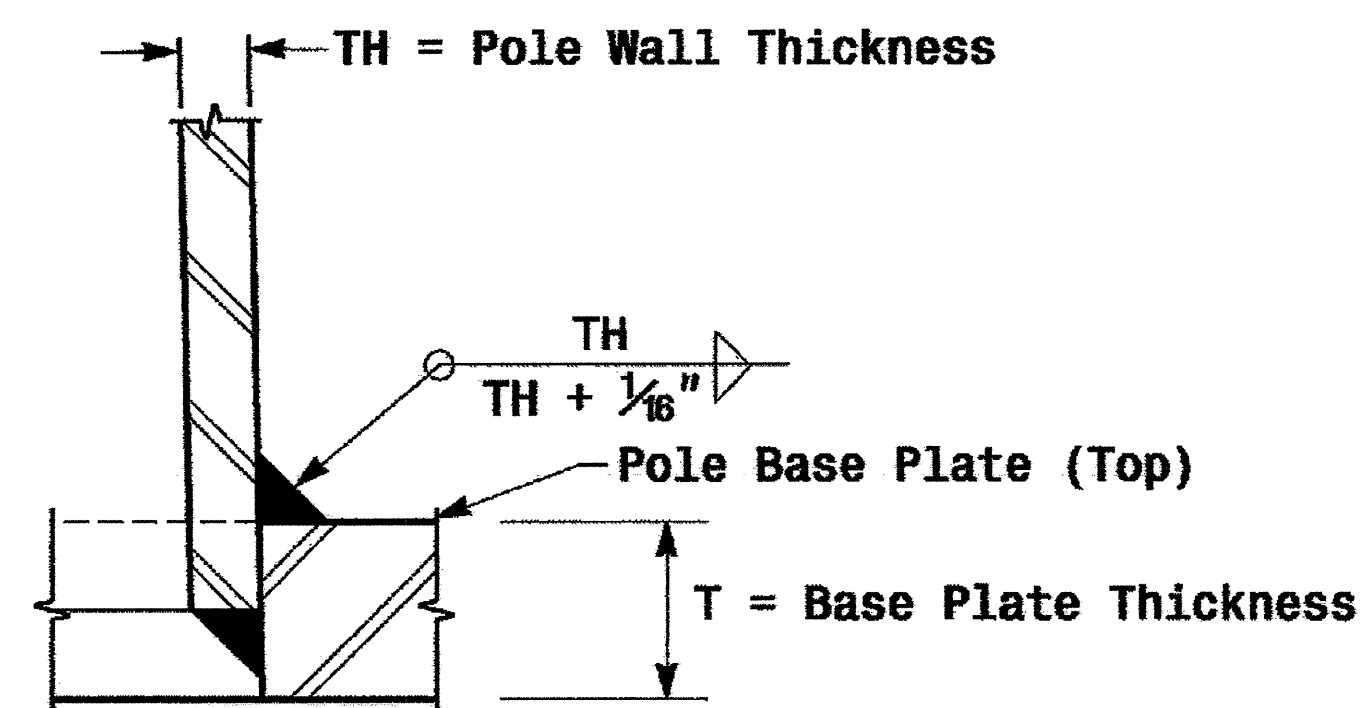


Section B-B
(See drawing M2)
Pole Base Plate

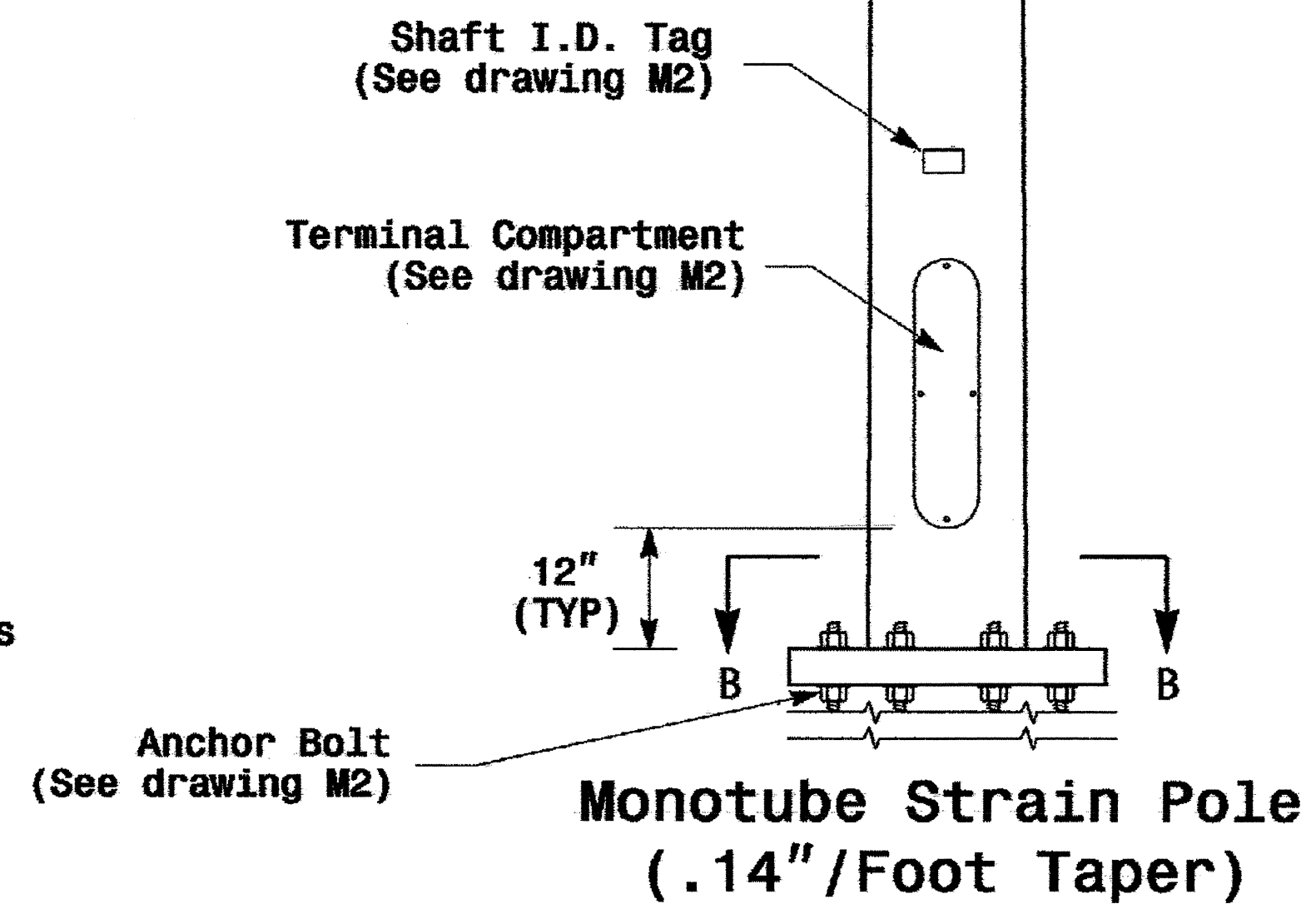
2 Cable Clamps designed for variable attachment heights from 1'-6" to 10' below the top of the pole.



Radial Orientation for Factory Installed Accessories at Top of Pole



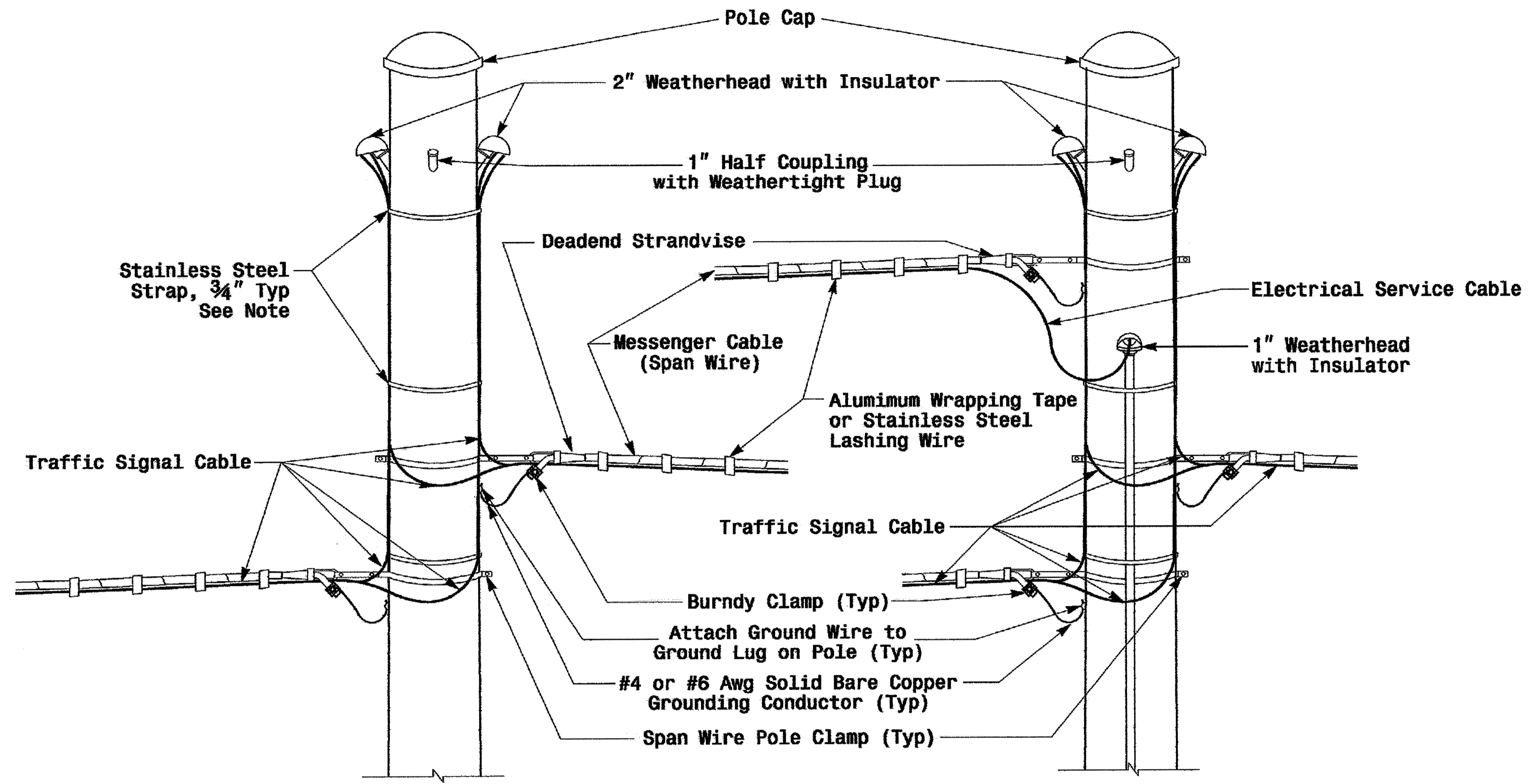
Socket Connection Weld Detail



Monotube Strain Pole
(.14"/Foot Taper)

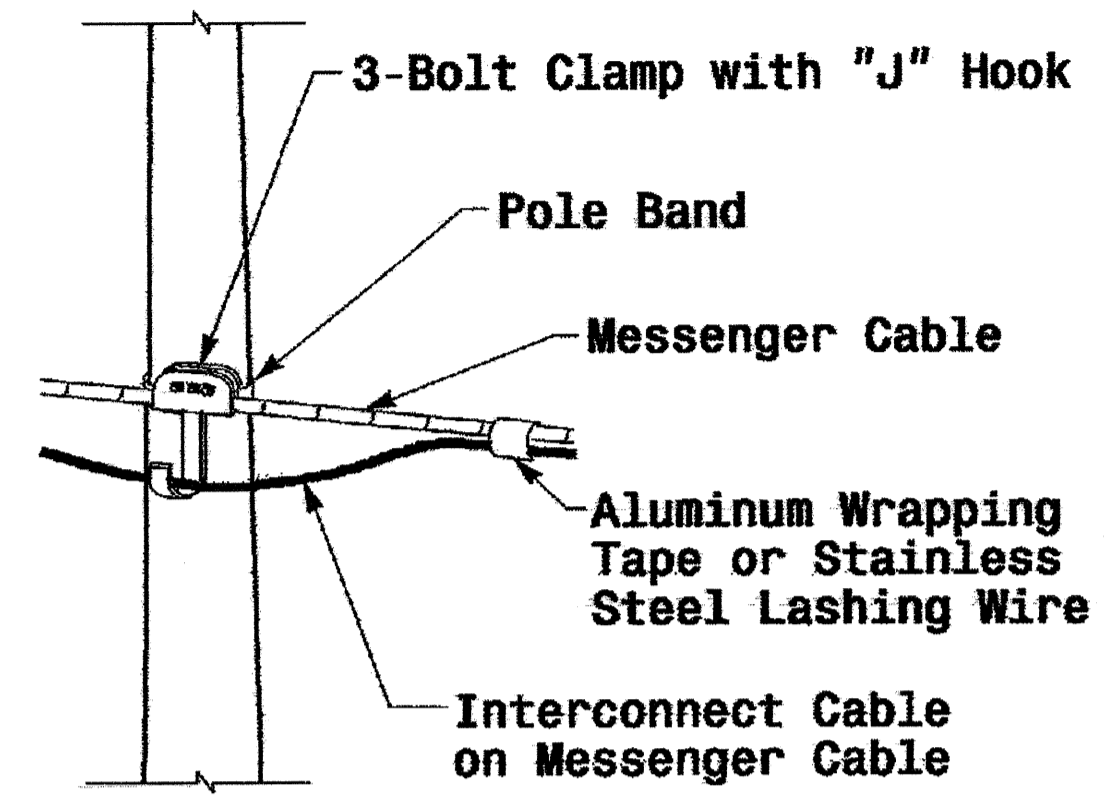
01-SEP-2005 14:07 w:\pools\ess-un1\nework\couple2004.mxd pole standard2004.rvt.dgn pol alexander

	Typical Fabrication Details For Strain Poles		
	PLAN DATE: May 2005 PREPARED BY: P.L. Alexander	REVIEWED BY: C.F. Andrews REVIEWED BY: A.M. Esposito	
SCALE: 0 NA NONE		SIGNATURE: <i>P.L. Alexander</i> DATE: 9.2.2005	SEAL: _____ SIG. INVENTORY NO. _____

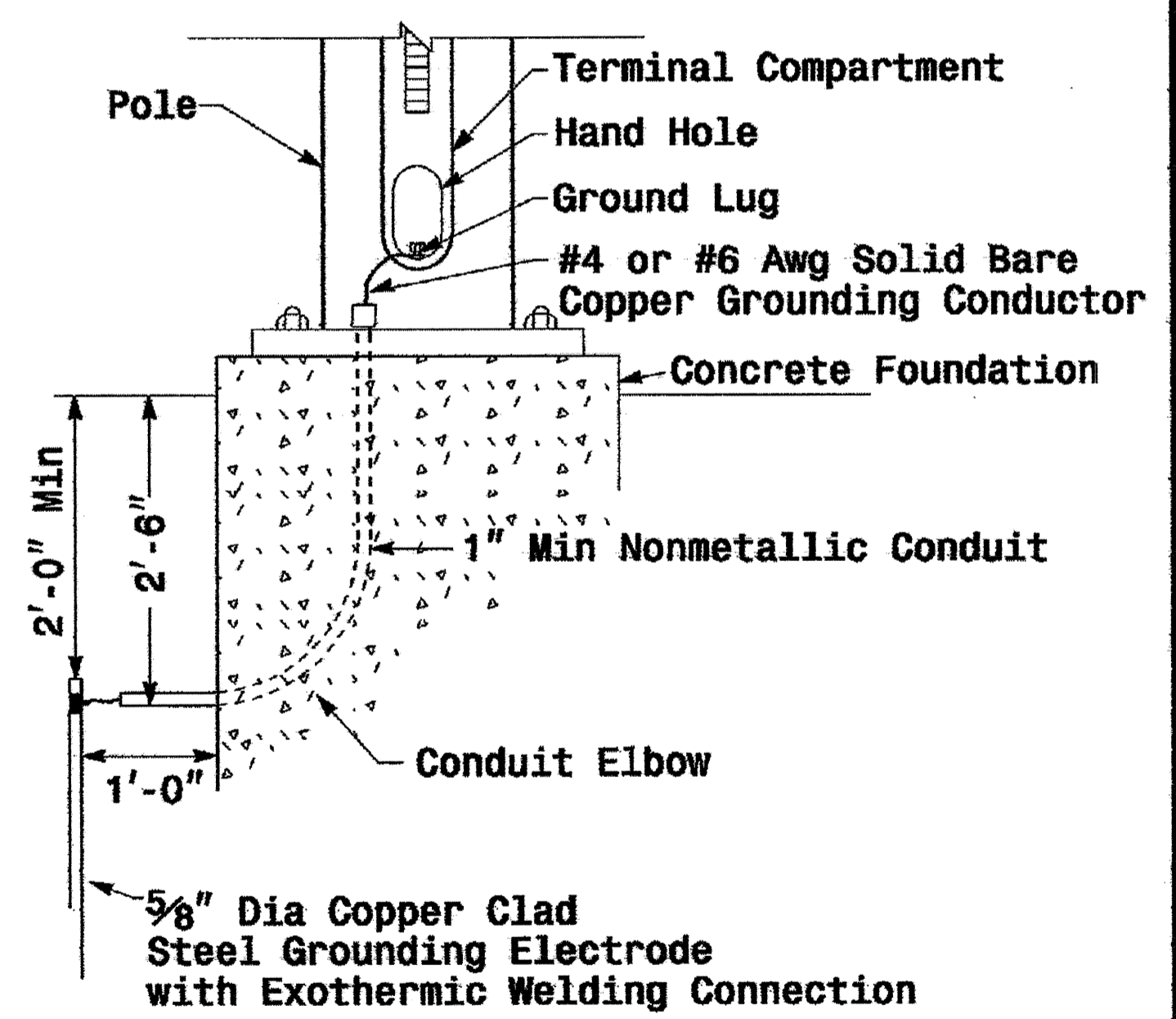


Note: Strap all signal cables to the side of the pole with 3/4" stainless steel straps when the distance between the spanwire attachment clamp and the weatherheads exceeds 36"

Strain Pole Attachments



Attachment of Cable to Intermediate Metal Pole



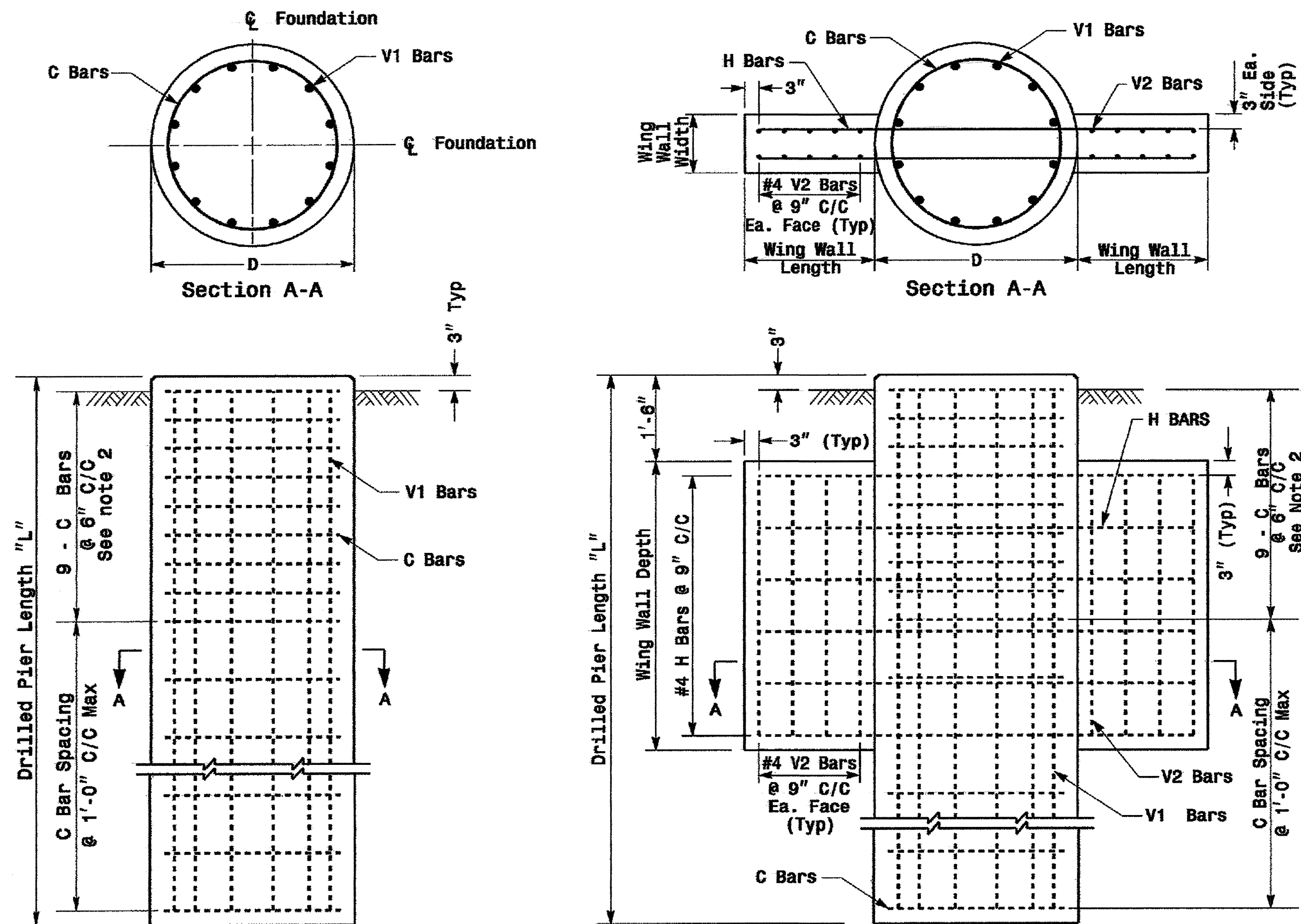
Metal Pole Grounding Detail

Construction Details - Strain Poles

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	Construction Details Strain Poles		
	PLAN DATE: May 2005 PREPARED BY: C.F. ANDREWS	REVIEWED BY: P.L. ALEXANDER REVIEWED BY: D.C. SARKAR	
SCALE: 0 NA NONE		SIGNATURE: <i>P.L. Alexander</i> 9-1-05 DATE	
		SIG. INVENTORY NO.	

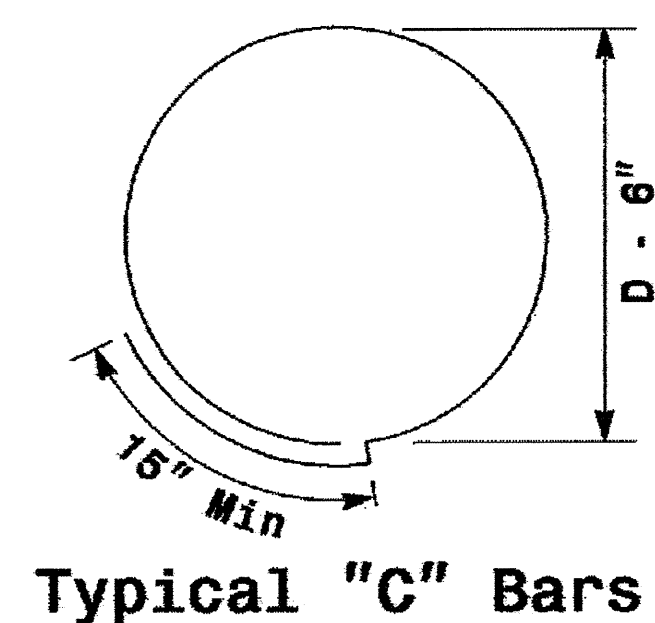
Reinforcing Steel Bars



REINFORCING STEEL TABLE FOR STANDARD DRILL PIER SHAFT (42" & 48" DIAMETER)

Shaft Dia (in.)	Conc. Volume (cu. yds.)	Bar Name	No.	Size	Type	Length
42"	.356 x L	V1	9	#8	STR.	**
		C	*	#4	CIR.	10'-9"
48"	.465 x L	V1	12	#8	STR.	**
		C	*	#4	CIR.	12'-6"

* See Note No. 1
** See Note No. 3



Typical "C" Bars

REINFORCING STEEL TABLE FOR STANDARD 42" and 48" DRILL PIER SHAFT WITH TYPE 1 AND TYPE 2 WING WALLS

Wing Wall Type	Drill Pier Shaft Dia. (in.)	Reinforcing Steel				
		Bar Name	No.	Size	Type	Length
TYPE 1	42"	V1	9	#8	STR.	**
		V2	12	#4	STR.	2'-6"
		H	8	#4	STR.	6'-0"
		C	*	#4	CIR.	10'-9"
TYPE 2	42"	V1	9	#8	STR.	**
		V2	16	#4	STR.	4'-6"
		H	12	#4	STR.	9'-0"
TYPE 2	48"	V1	12	#8	STR.	**
		V2	16	#4	STR.	4'-6"
		H	12	#4	STR.	9'-6"
		C	*	#4	CIR.	12'-6"

* See Note No. 1
** See Note No. 3

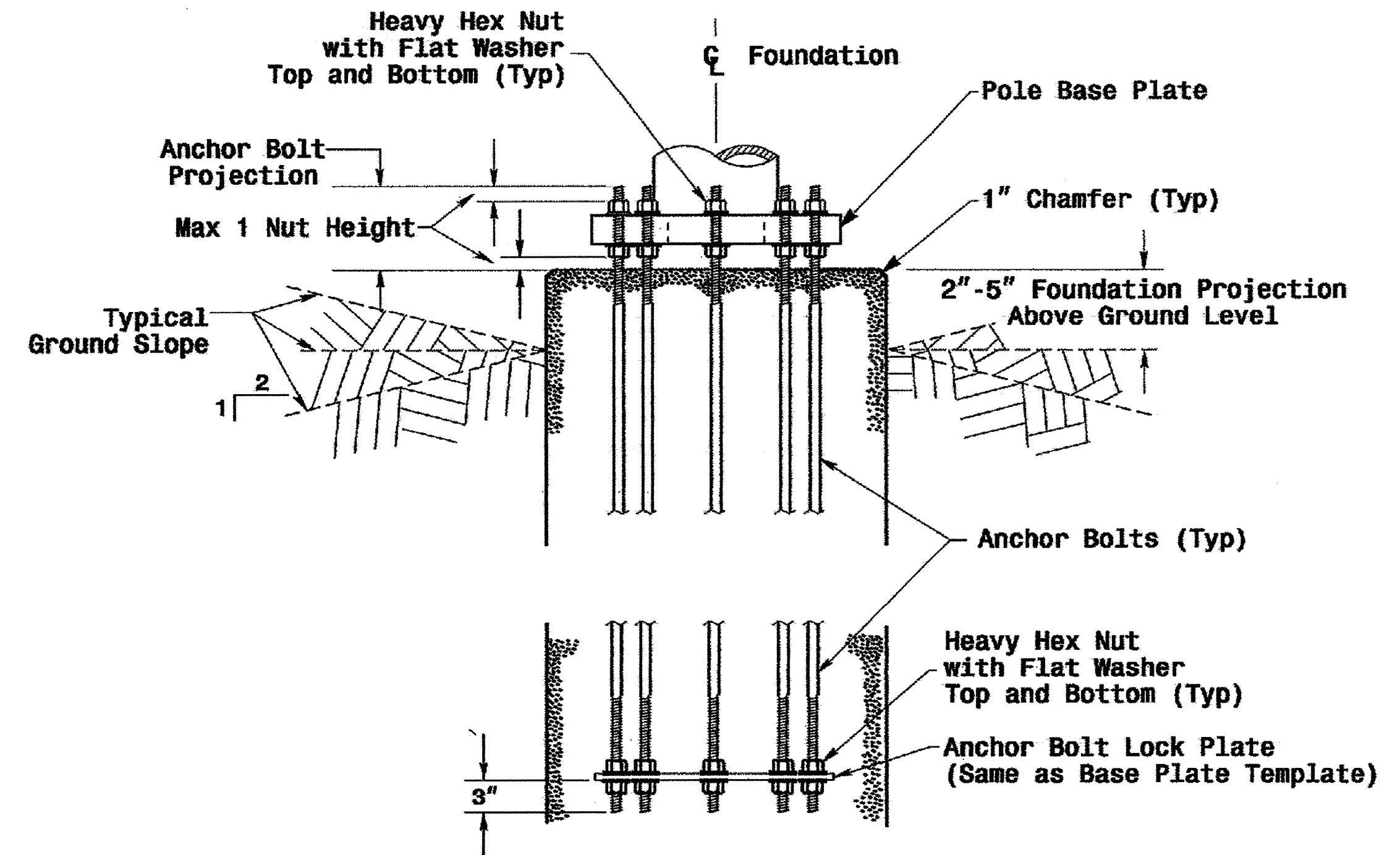
WING WALL DETAILS

Wing Wall Type	Wing Wall Length (Ft.)	Wing Wall Width (Ft.)	Wing Wall Depth (Ft.)	Concrete Volume (Cu. Yds.)
TYPE 1	1'-6"	1'-0"	3'-0"	.4
TYPE 2	3'-0"	1'-0"	5'-0"	1.2

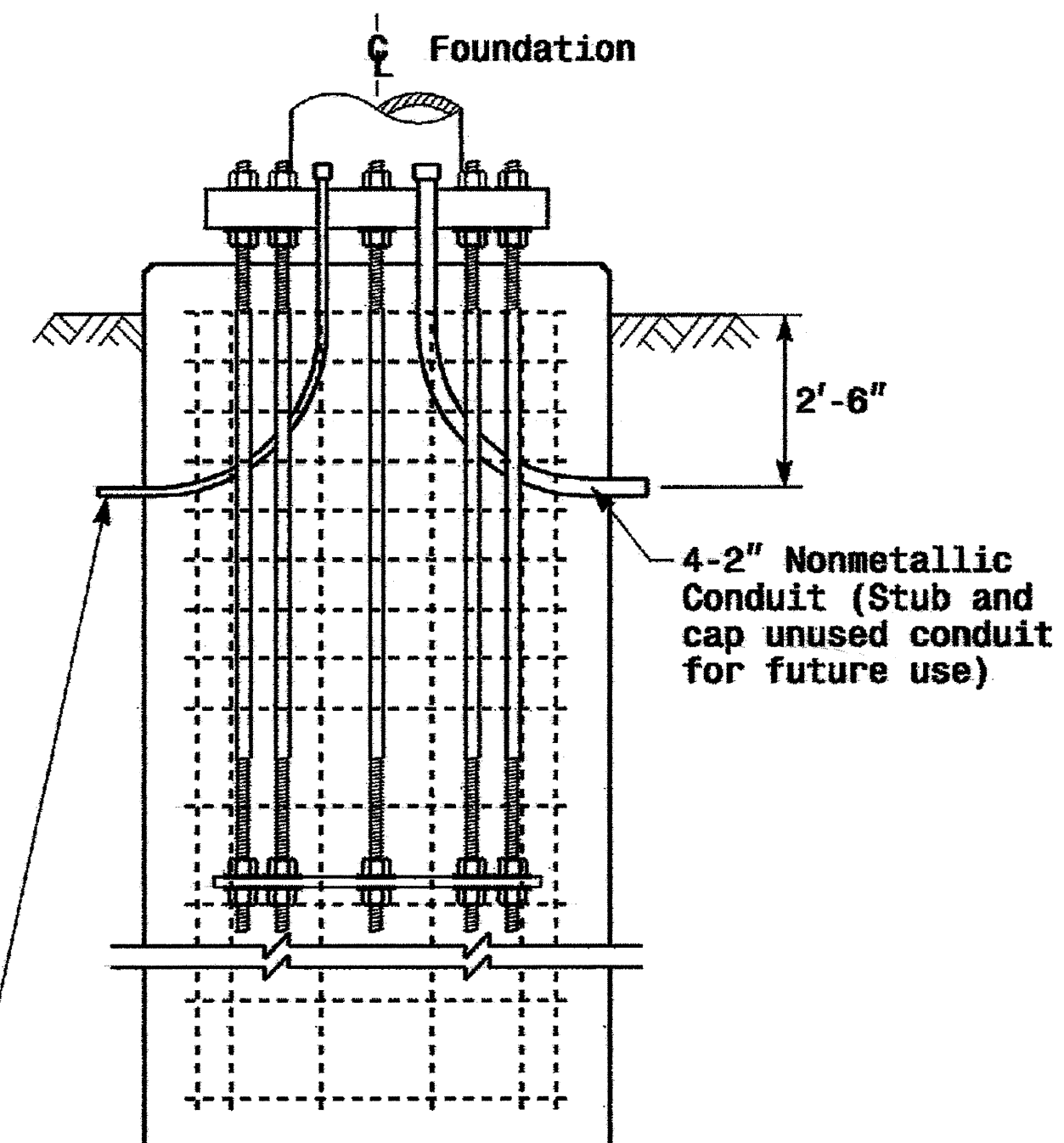
See Note No. 4

Typical Foundation Anchor Bolt Details

(Reinforcing Cage Not Shown for Clarity)



Typical Foundation Conduit Details



2-1" Nonmetallic Conduits for Electrical Service and Grounding Electrode Conductor

Notes

- The number of C-bars is based on foundation depth. For standard foundations, see sheet M 8.
- Circular tie reinforcing rings may be vertically adjusted by +/- 3" at a depth between 2'-0" and 3'-0" to facilitate the installation of electrical conduit entering in the cage.
- The length of V1-bars is based on foundation depth. For standard foundations, see sheet M 8.
- The quantities for steel and concrete shown in the Wing Wall Details Chart reflect the amount of material for 1 pair of wing walls (2 wing walls per drilled pier shaft.)

Construction Details - Foundations

Prepared in the Office of:

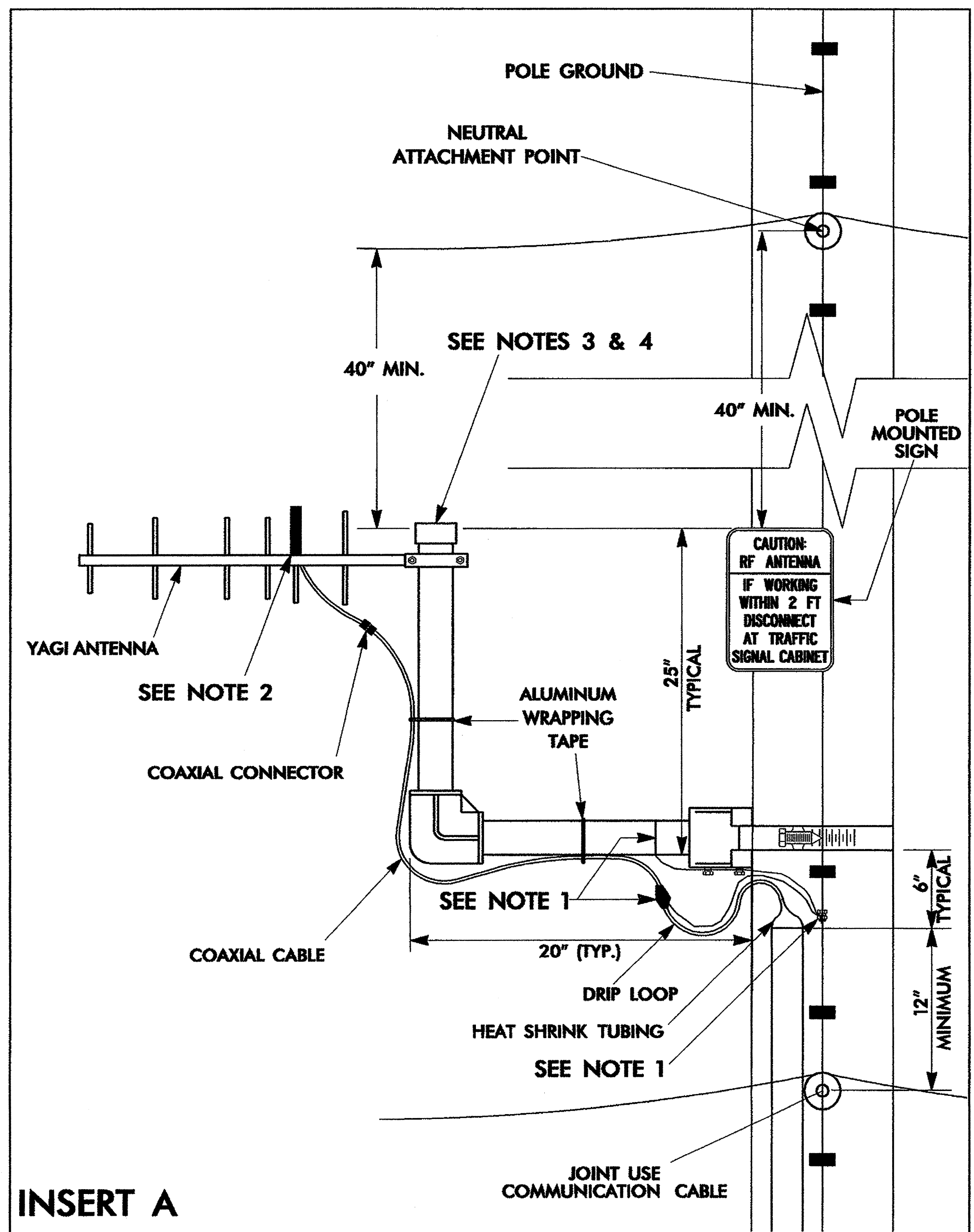
Construction Details Foundations

PLAN DATE: May 2005 REVIEWED BY: P.L. ALEXANDER
 PREPARED BY: G.F. ANDREWS REVIEWED BY: A.W. ESPOSITO

SCALE: 0 NA NONE

REVISIONS: INIT. DATE

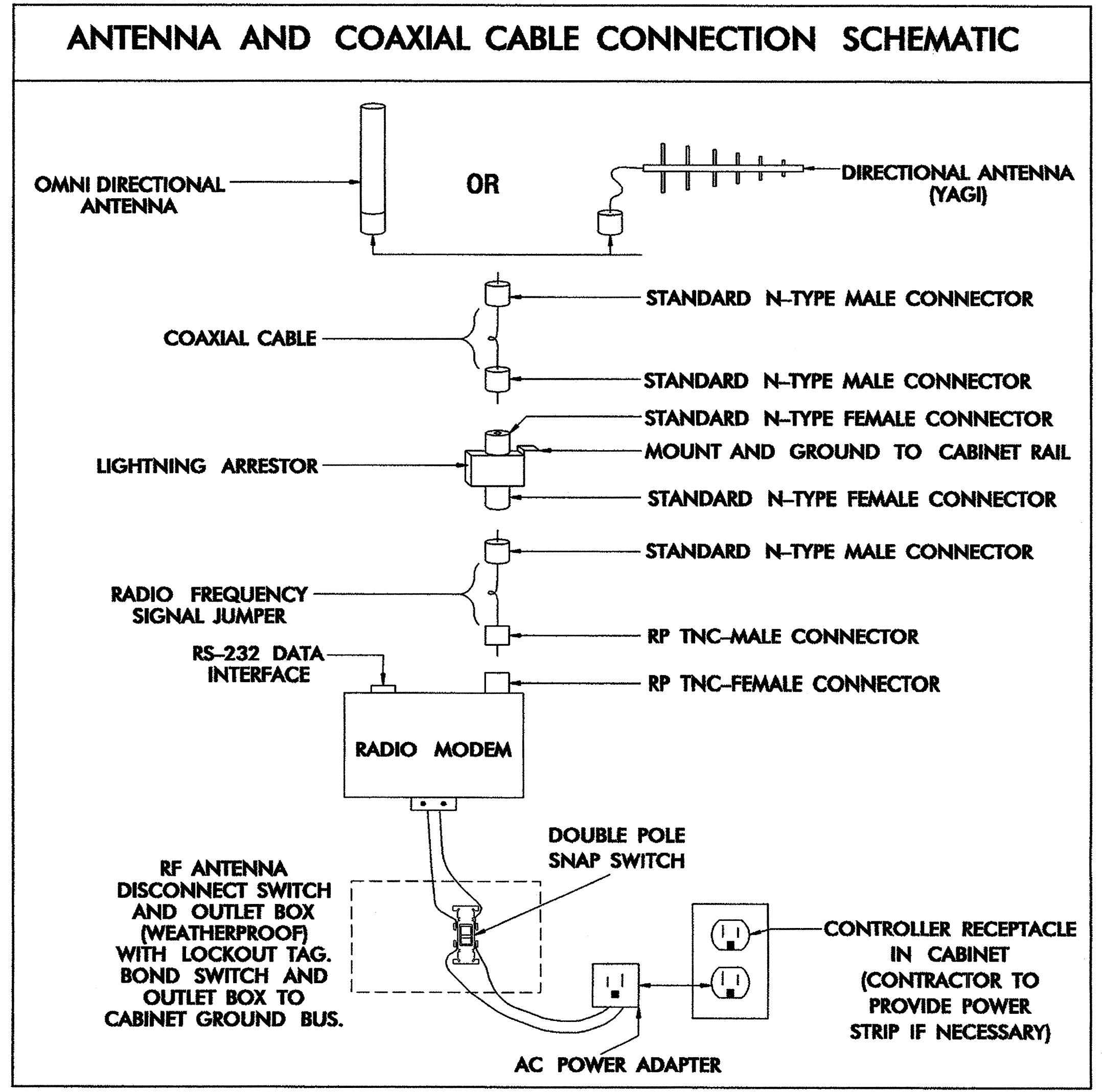
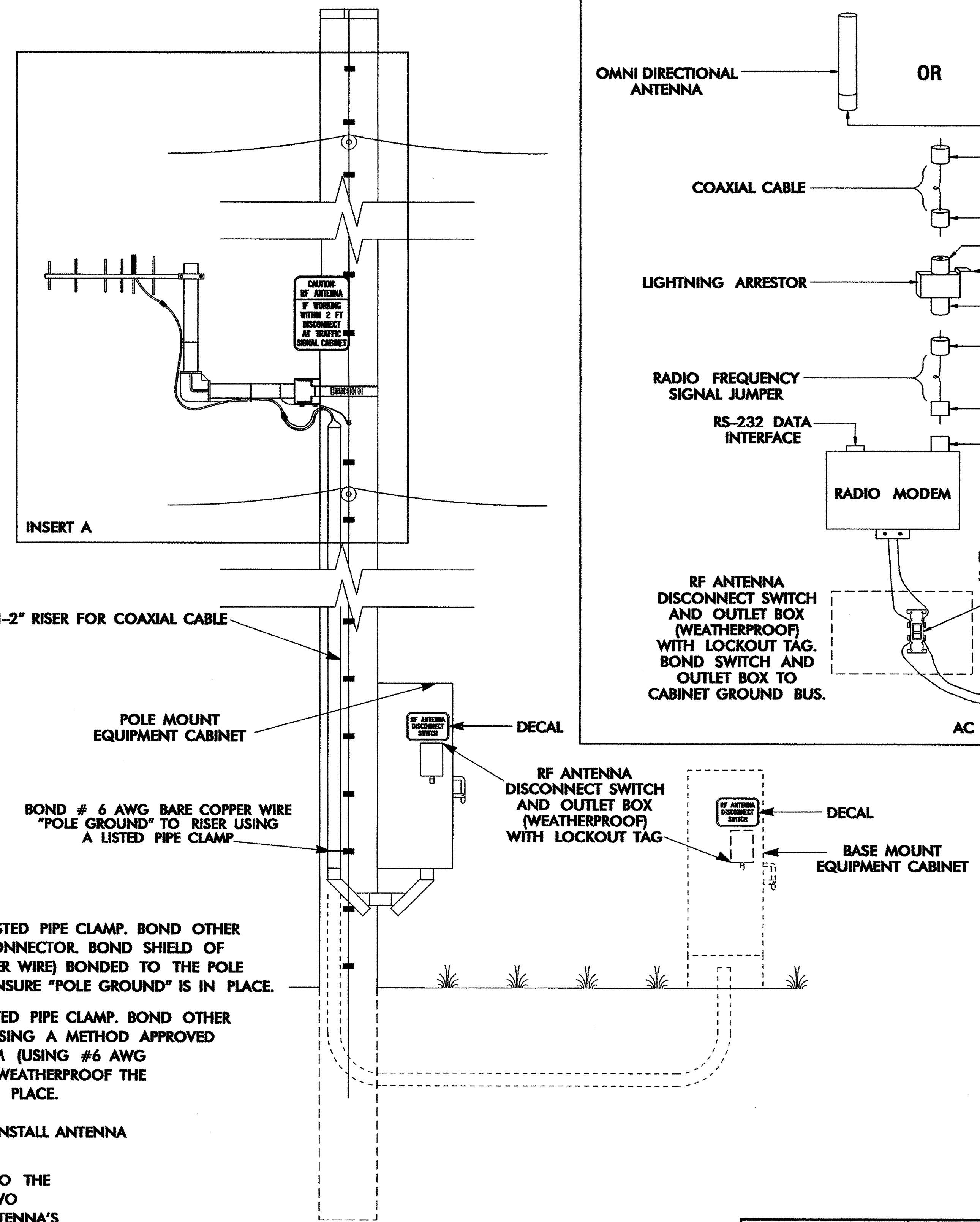
SIGNATURE: D. Sarkar 9.2.2005
 SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 028094
 SIGNATURE: DRESH C. SARKAR
 DATE: 9.2.2005
 SIG. INVENTORY NO.



NOTES

1. WOOD POLE — BOND # 6 AWG SOLID BARE COPPER WIRE TO ANTENNA SUPPORT USING LISTED PIPE CLAMP. BOND OTHER END OF # 6 AWG SOLID BARE COPPER WIRE TO THE POLE GROUND USING A SPLIT BOLT CONNECTOR. BOND SHIELD OF COAXIAL CABLE WITH AN APPROVED GROUNDING SYSTEM (USING #6 AWG STRANDED COPPER WIRE) BONDED TO THE POLE GROUND. WEATHERPROOF THE CONNECTION ONCE THE GROUNDING SYSTEM IS INSTALLED. ENSURE "POLE GROUND" IS IN PLACE.

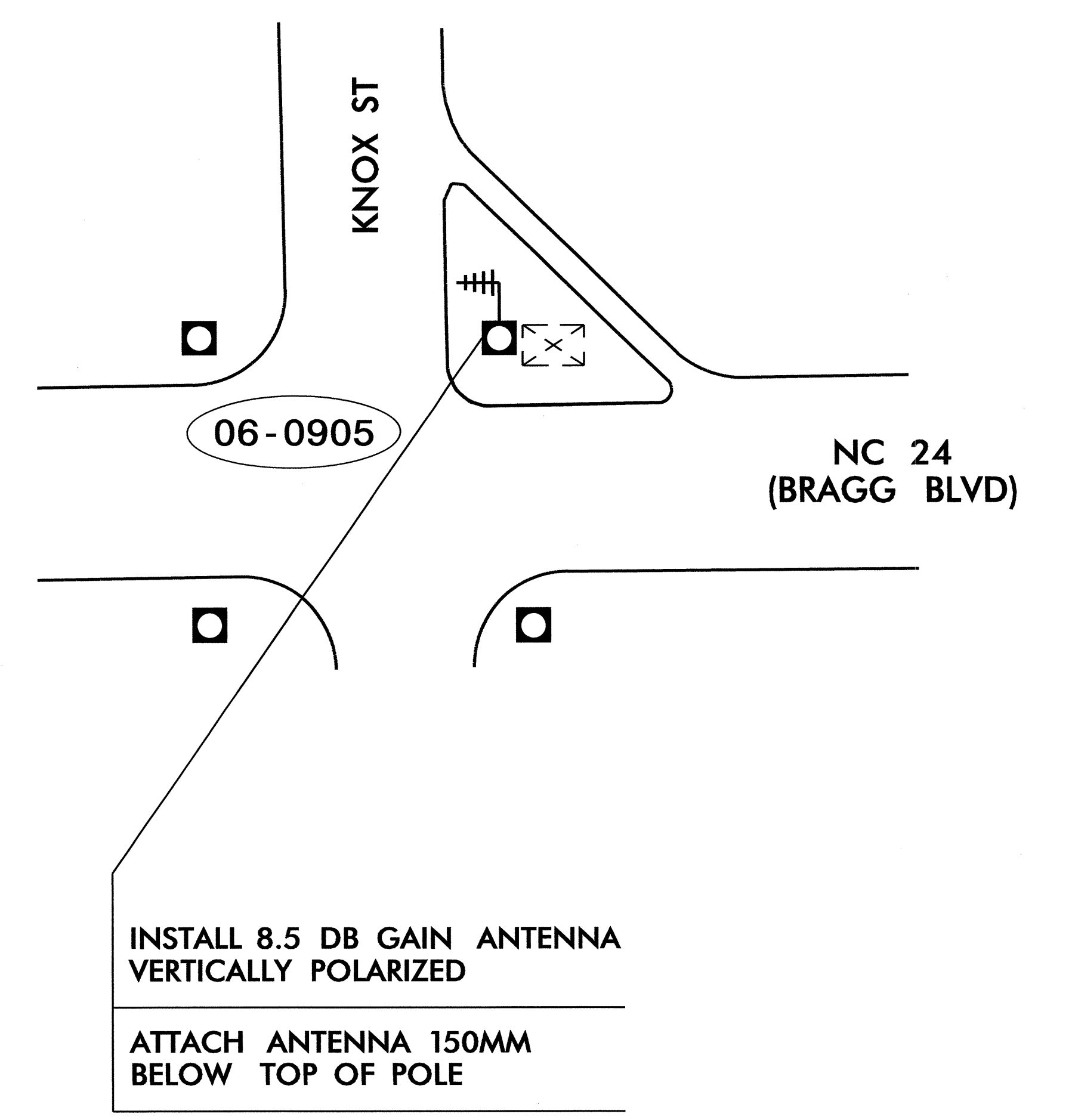
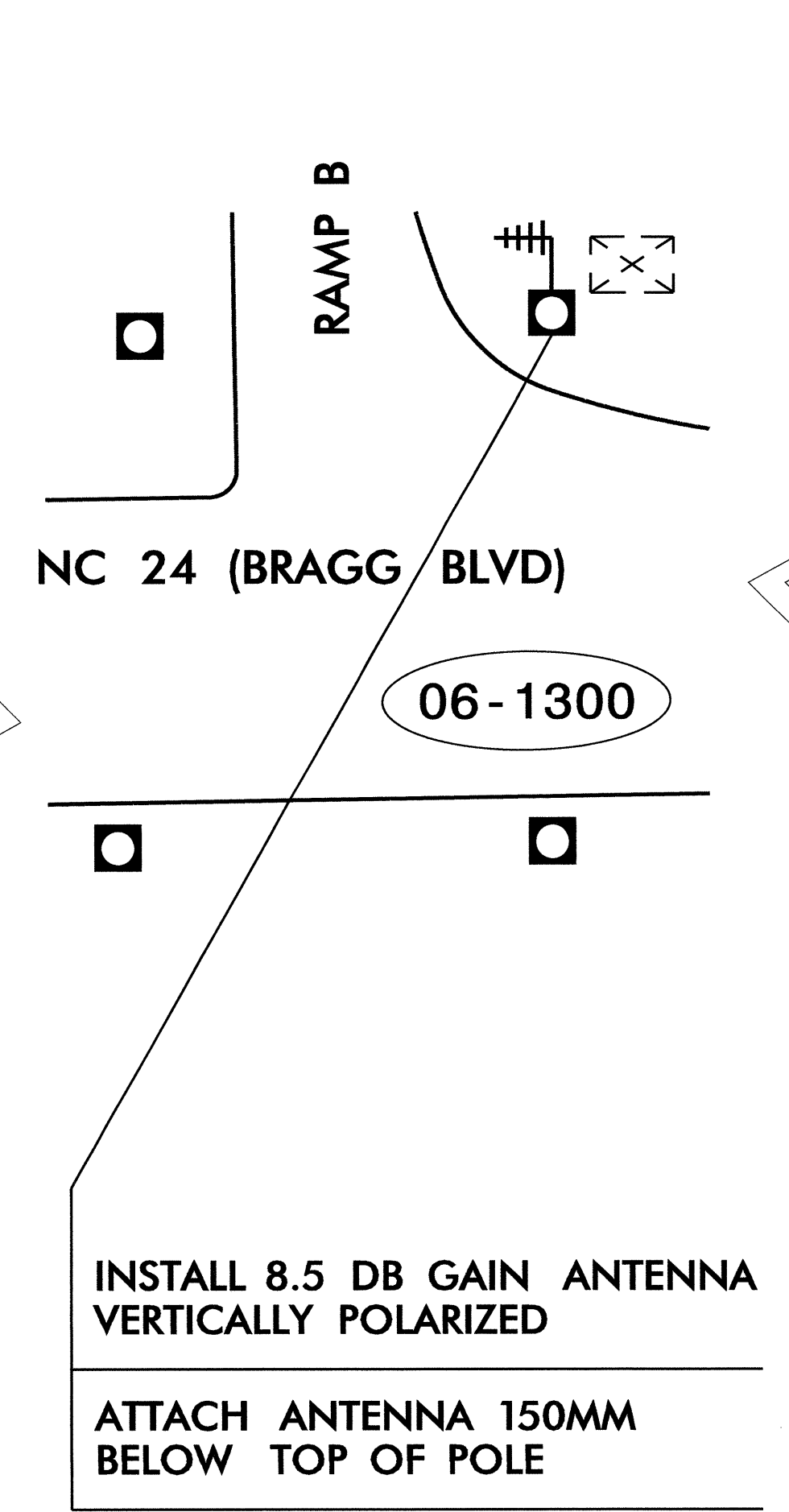
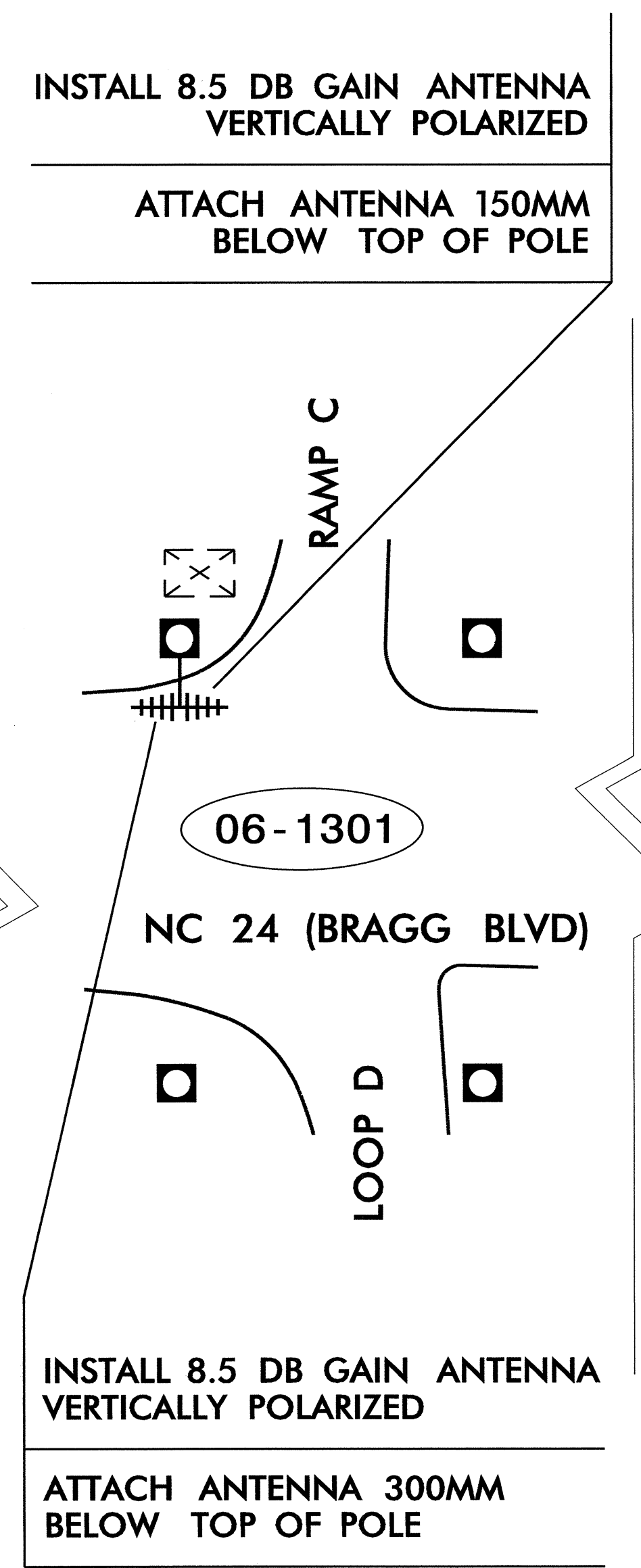
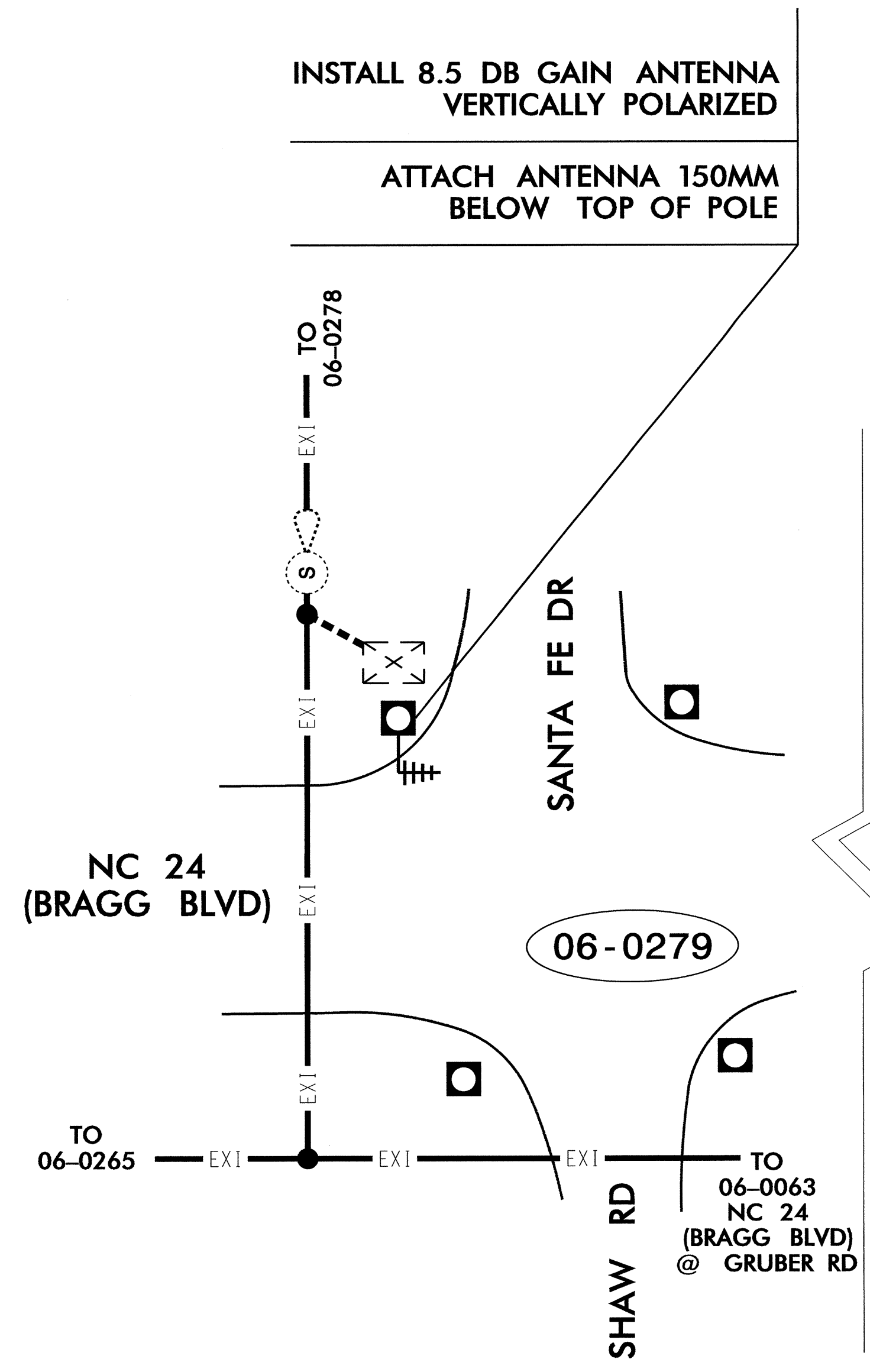
METAL POLE — BOND # 6 AWG SOLID BARE COPPER WIRE TO ANTENNA SUPPORT USING LISTED PIPE CLAMP. BOND OTHER END OF # 6 AWG SOLID BARE COPPER WIRE TO THE POLE OR EXISTING SYSTEM GROUND USING A METHOD APPROVED BY THE ENGINEER. BOND SHIELD OF COAXIAL CABLE WITH AN APPROVED GROUNDING SYSTEM (USING #6 AWG STRANDED COPPER WIRE) BONDED TO THE POLE BY A METHOD APPROVED BY THE ENGINEER. WEATHERPROOF THE CONNECTION ONCE THE GROUNDING SYSTEM IS INSTALLED. ENSURE "SYSTEM GROUND" IS IN PLACE.
2. YAGI ANTENNA SHOWN IN VERTICAL POLARIZATION POSITION FOR CLARIFICATION. TYPICALLY INSTALL ANTENNA IN HORIZONTAL POLARIZATION POSITION.
3. TO CONSERVE VERTICAL SPACING ON THE POLE (JOINT-USE OR SIGNAL POLE) WITH REGARDS TO THE SURROUNDING UTILITIES, INSTALL THE ANTENNA MOUNTING HARDWARE USING ONE OF THE TWO METHODS LISTED BELOW: (ENSURE THAT THE MOUNTING METHOD DOES NOT DEGRADE THE ANTENNA'S SIGNAL INTEGRITY)
 - A) ROTATE THE VERTICAL SUPPORT ARM 90 DEGREES SUCH THAT THE ANTENNA IS AT THE SAME HEIGHT AS THE HORIZONTAL SUPPORT ARM.
 - B) ELIMINATE THE VERTICAL SUPPORT ARM AND MOUNT THE ANTENNA TO THE HORIZONTAL SUPPORT ARM.
 - C) ANTENNA, ANTENNA SUPPORT ARM, AND SIGN TO MAINTAIN A 40" SEPARATION FROM NEUTRAL /POWER AND 12" FROM OTHER UTILITIES.
4. INSTALL AN END CAP TO SEAL THE EXPOSED END OF THE MOUNTING PIPE.



	WIRELESS RADIO ANTENNA TYPICAL DETAILS	
	PLAN DATE: JULY 2005 PREPARED BY: A. GREECH	REVIEWED BY: I. N. AVERY REVIEWED BY: A. T. FAULKNER
SCALE: 0	REVISIONS: UPDATE GROUNDING - COAXIAL CABLE SHIELD	DATE: 9/12/05 SIGNATURE: <i>[Signature]</i> DATE:

LEGEND

- ⚡⚡⚡ YAGI ANTENNA (DOUBLE) FOR REPEATOR OPERATION
- ⚡ YAGI ANTENNA (SINGLE)
- ⊙ OMNI ANTENNA
- ⊠ EXISTING CONTROLLER AND CABINET
- ⊠ EXISTING MASTER CONTROLLER AND CABINET
- ⊠(XX-XXXX) SIGNAL INVENTORY NUMBER
- ⊠ EXISTING METAL POLE W/MAST ARM
- EXISTING WOOD POLE
- EXISTING METAL POLE
- SP SIGNAL POLE
- EXISTING OVERSIZED JUNCTION BOX
- NEW OVERSIZED JUNCTION BOX



NOTES:

1. INSTALL COAXIAL CABLE
 - A. ON WOOD POLES REQUIRING A NEW RISER, INSTALL A 50MM RISER WITH WEATHERHEAD TO ROUTE THE COAXIAL CABLE TO THE ANTENNA. ON POLES WITH EXISTING RISERS WITH WEATHERHEADS, REUSE THE RISER ASSEMBLY.
 - B. ON METAL POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE MAST ARM; FIELD DRILL 13MM HOLE WITH GROMMET THROUGH BOTTOM OF MAST ARM FOR INSTALLATION OF THE COAXIAL CABLE TO THE ANTENNA.
 - C. ON METAL STRAIN POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND REPLACE THE WEATHERHEAD WITH HEAT SHRINK TUBING AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
 - D. BETWEEN THE POINT OF EXITING THE METAL POLE OR MAST ARM AND THE ANTENNA, SECURE THE COAXIAL CABLE TO THE STRUCTURE USING 19MM STAINLESS STEEL STRAPS EVERY 300MM.
2. IF EXISTING SPARE RISER IS AVAILABLE, REMOVE WEATHERHEAD AND INSTALL COAXIAL CABLES. RESEAL WITH HEAT SHRINK TUBING.
3. INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN AND AIM TOWARDS MASTER. (NOTE: RF WARNING SIGN NOT REQUIRED ON NCDOT-OWNED POLE.)
4. MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER THE NATIONAL ELECTRICAL SAFETY CODE.
5. INSTALL WIRELESS SERIAL RADIO MODEM WITH EXTERIOR DISCONNECT SWITCH LOCATED ON CABINET. (NOTE: RF ANTENNA DISCONNECT SWITCH NOT REQUIRED ON NCDOT-OWNED POLE.)
6. REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS."

Prepared in the Offices of:
 Transportation, Mobility, and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 750 N. Greenfield Pkwy., Garner, NC 27529

COMMUNICATIONS CABLE AND CONDUIT ROUTING PLANS ALONG NC 24 (BRAGG BOULEVARD)

DIVISION 06 CUMBERLAND CO. FAYETTEVILLE

PLAN DATE: FEBRUARY 2011 REVIEWED BY: I.N. AVERY

PREPARED BY: S.C. WARDLE REVIEWED BY: G.A. FULLER

750 N. Greenfield Pkwy., Garner, NC 27529

SCALE: 0

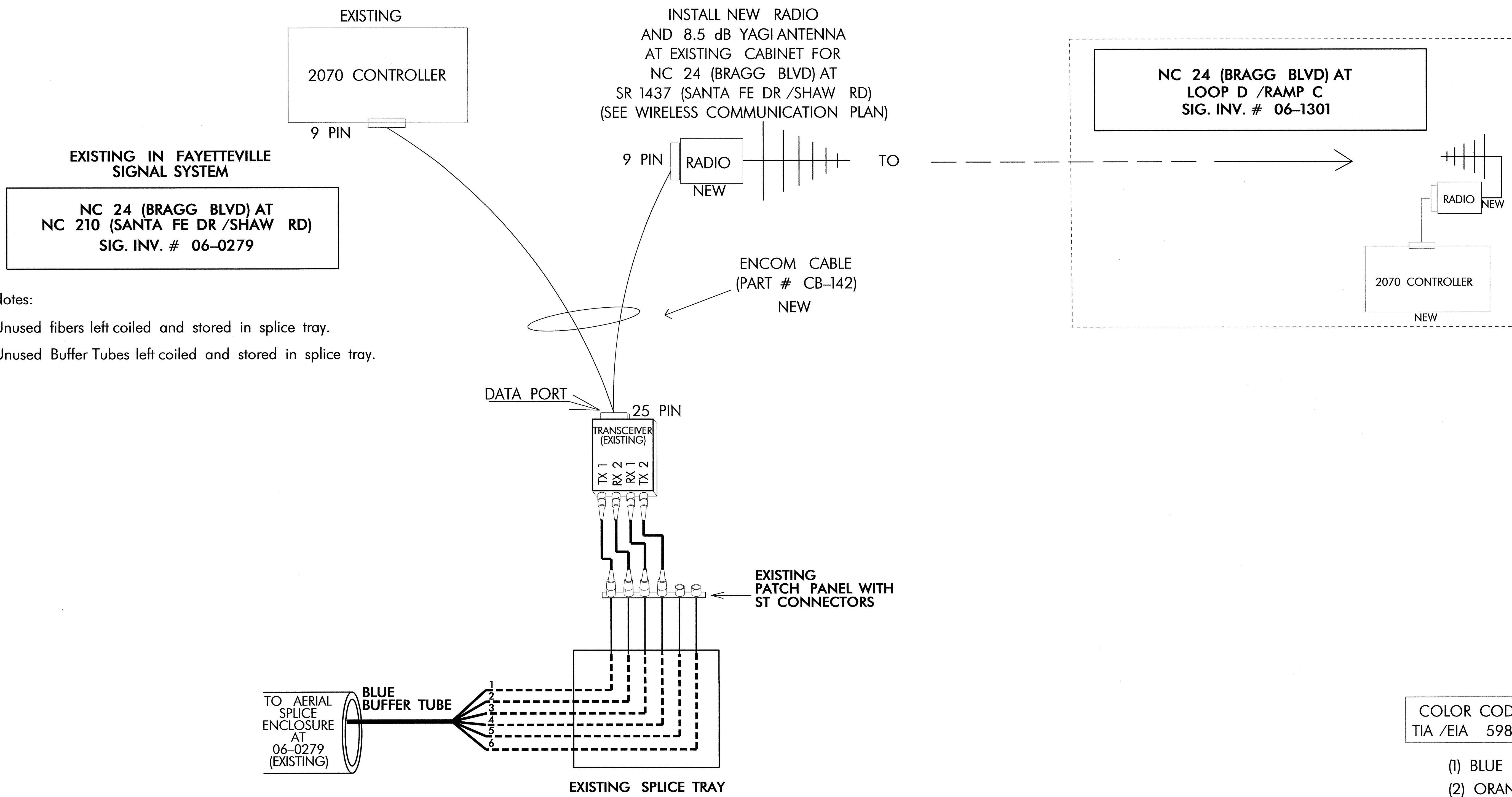
REVISIONS: _____

INIT. DATE

SEAL: PROFESSIONAL ENGINEER SEAL 023919 GREGORY A. FULLER

SIGNATURE: _____ DATE: 2/14/11

CADD File Name: _____



Notes:
 Unused fibers left coiled and stored in splice tray.
 Unused Buffer Tubes left coiled and stored in splice tray.

COLOR CODE
 TIA /EIA 598-A

- (1) BLUE
- (2) ORANGE
- (3) GREEN
- (4) BROWN
- (5) SLATE
- (6) WHITE

NOTES:
 1. FIBER CONNECTIONS SHOWN FOR INFORMATIONAL PURPOSES ONLY. DO NOT DISTURB EXISTING FIBER CONFIGURATION.

TRANSCIEVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS

	SPLICE PLAN ALONG NC 24 (BRAGG BOULEVARD)		
	DIVISION 06 CUMBERLAND CO. FAYETTEVILLE PLAN DATE: FEBRUARY 2011 REVIEWED BY: I.N. AVERY PREPARED BY: S.C. WARDLE REVIEWED BY: G.A. FULLER	REVISIONS INIT. DATE	
SCALE 0	SIGNATURE 		DATE 2-14-11

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

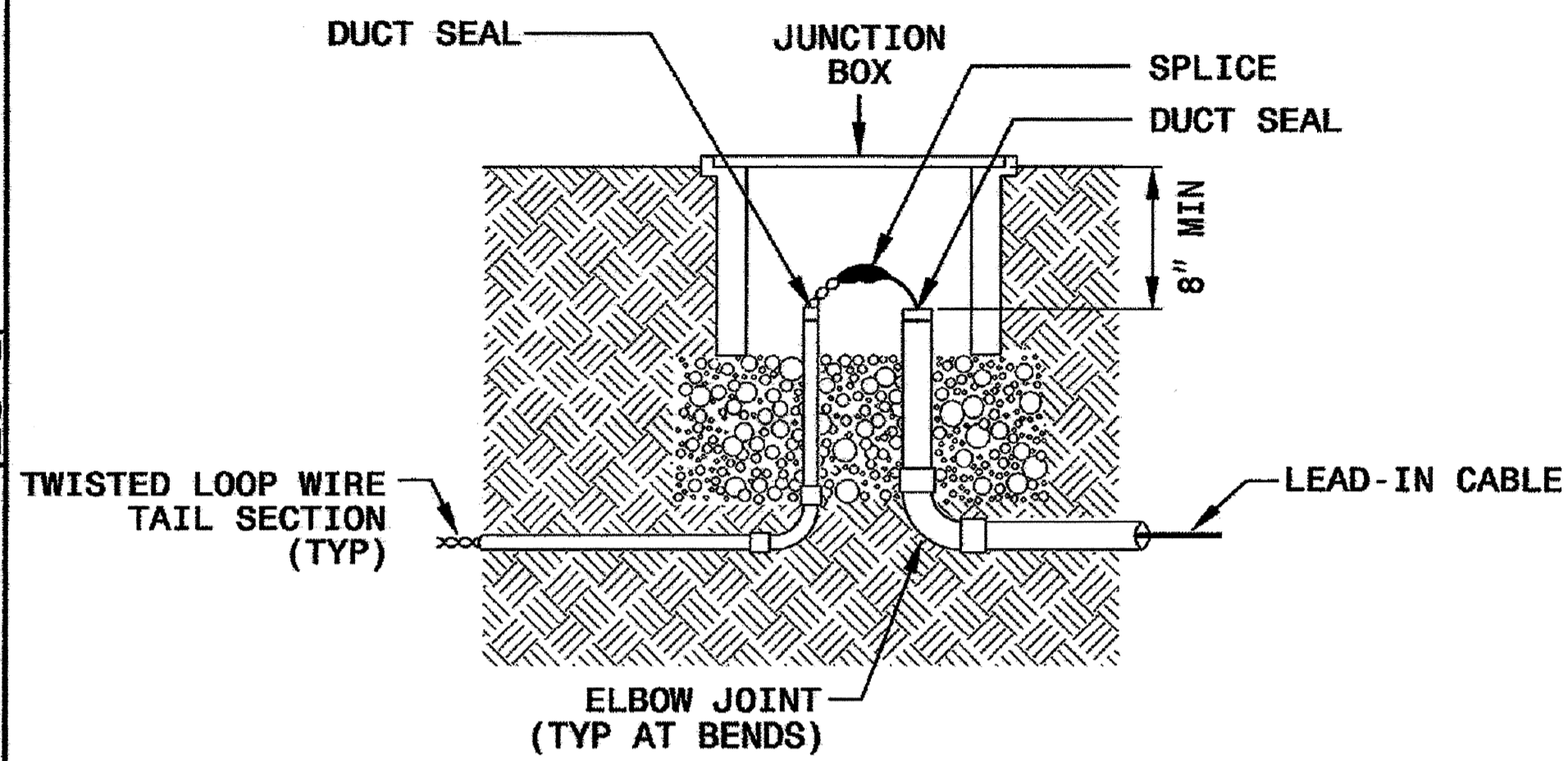
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

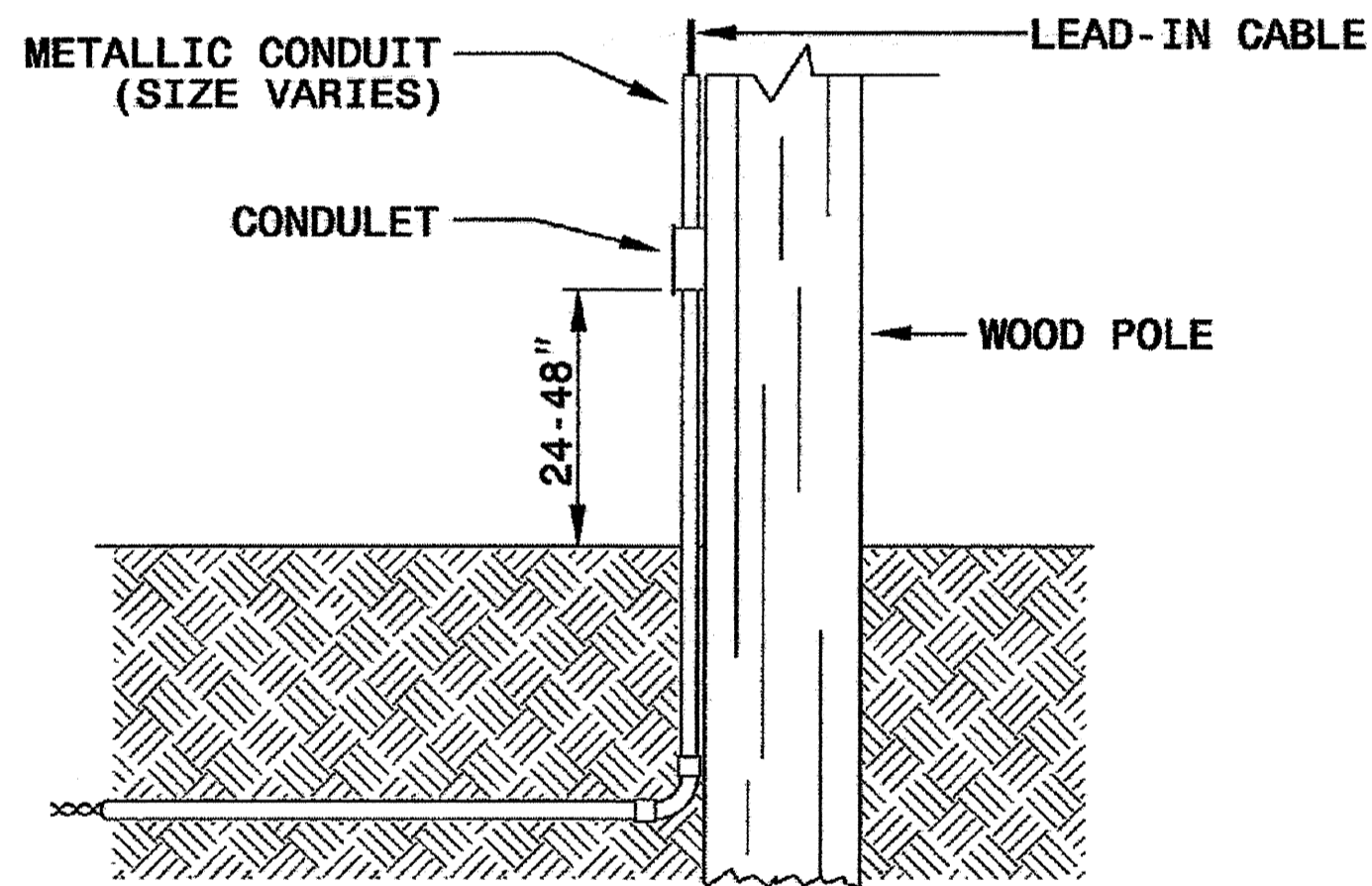
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

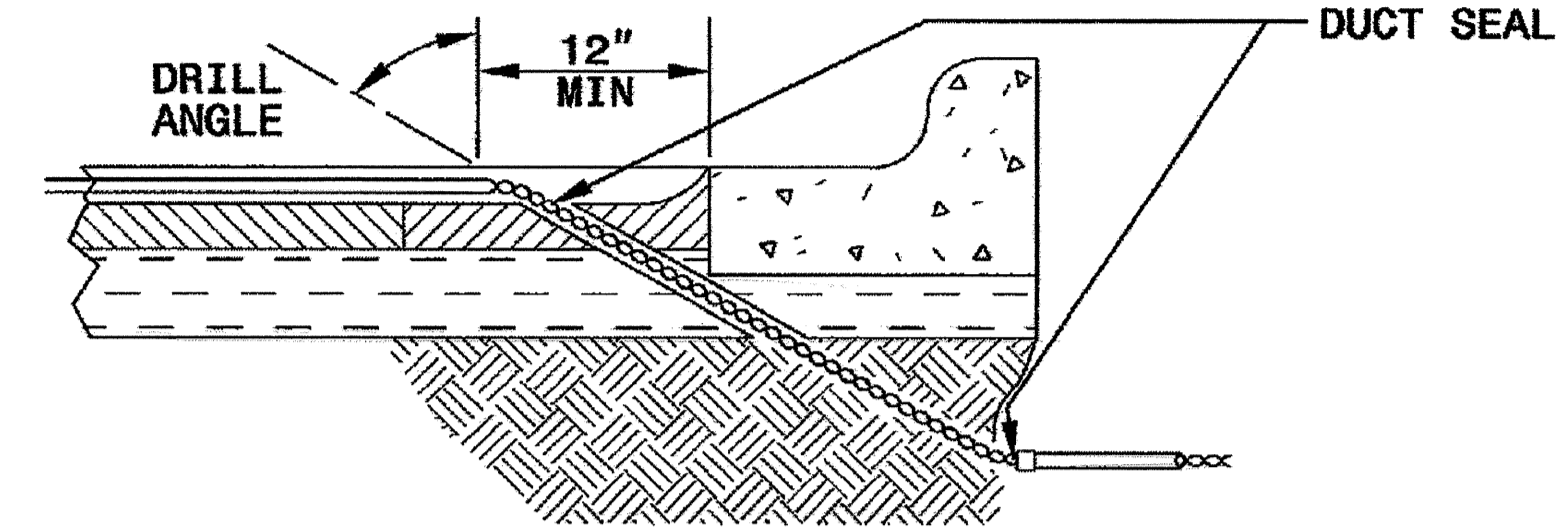


NOTE

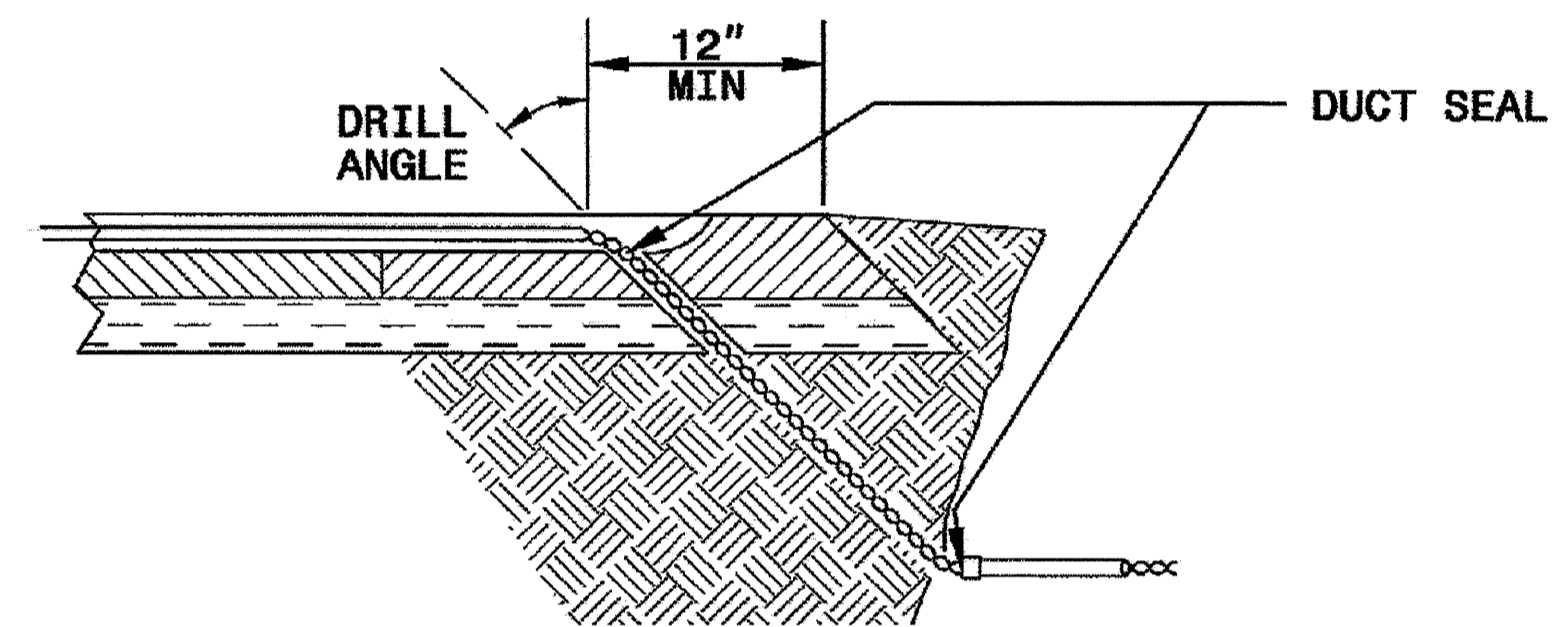
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

1. DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
2. TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
3. BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT AND AT ENTRANCE OF CONDUIT TO JUNCTION BOX.

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

5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

See Plate for Title

