



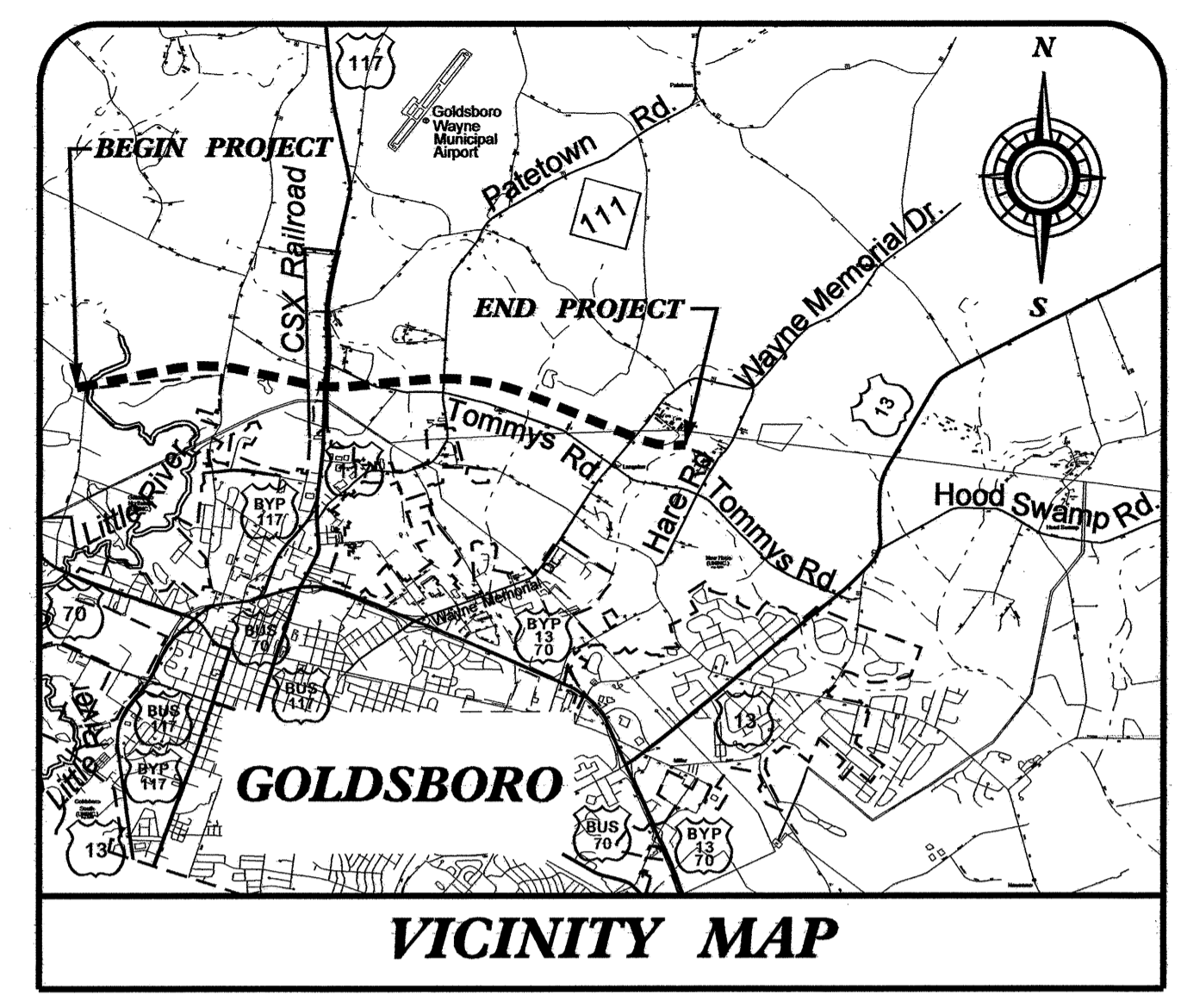
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAYNE COUNTY

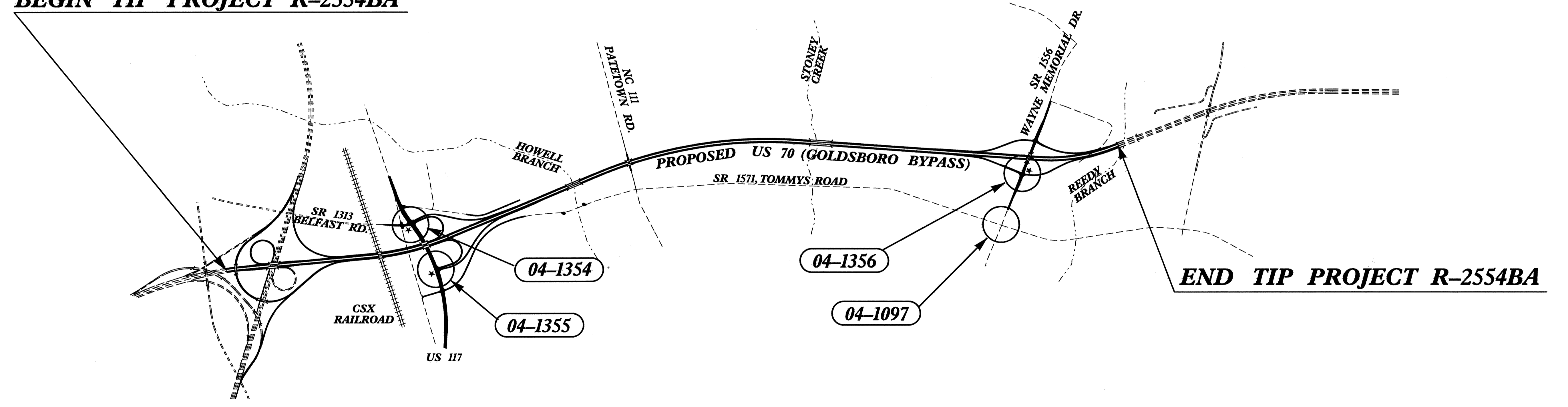
LOCATION: US 70 (GOLDSBORO BYPASS) FROM EAST OF SR 1300 (SALEM CHURCH ROAD) TO EAST OF SR 1556 (WAYNE MEMORIAL DRIVE)

**TYPE OF WORK: TRAFFIC SIGNALS & COMMUNICATIONS
CABLE AND CONDUIT PLANS**

TIP: R-2554BA



BEGIN TIP PROJECT R-2554BA



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

Sheet #	Reference #	Location/Description
Sig. 1		Title Sheet
Sig. 2-3	04-1355	US 117 at US 70 Ramp D (Goldsboro Bypass)
Sig. 4-5	04-1354	US 117 at SR 1313 (Belfast Road)/US 70 Ramp A (Goldsboro Bypass)
Sig. 6-7	04-1356	SR 1556 (Wayne Memorial Drive) at US 70 Ramp C (Goldsboro Bypass)
Sig. 8-9	04-1097	SR 1556 (Wayne Memorial Drive) at SR 1571 (Tommy's Road)
Sig. 10-15	N/A	Standard Drawings for Metal Poles
Sig. 16-21	N/A	Communications Cable and Conduit Routing Plans
Sig. 22-24	N/A	Inductive Detection Loops Details

INTELLIGENT TRANSPORTATION AND SIGNALS UNIT

Contacts:

Timothy J. Williams, PE - Signals & Geometrics Contracts Engineer
George C. Brown, PE - Signal Equipment Design Engineer
G. G. Murr, Jr., PE - Intelligent Transportation Systems Engineer

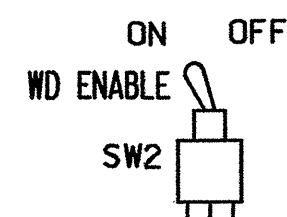
Prepared in the Office of:
DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING AND SAFETY SYSTEMS
BRANCH

750 N. Greenfield Parkway, Garner, NC 27529

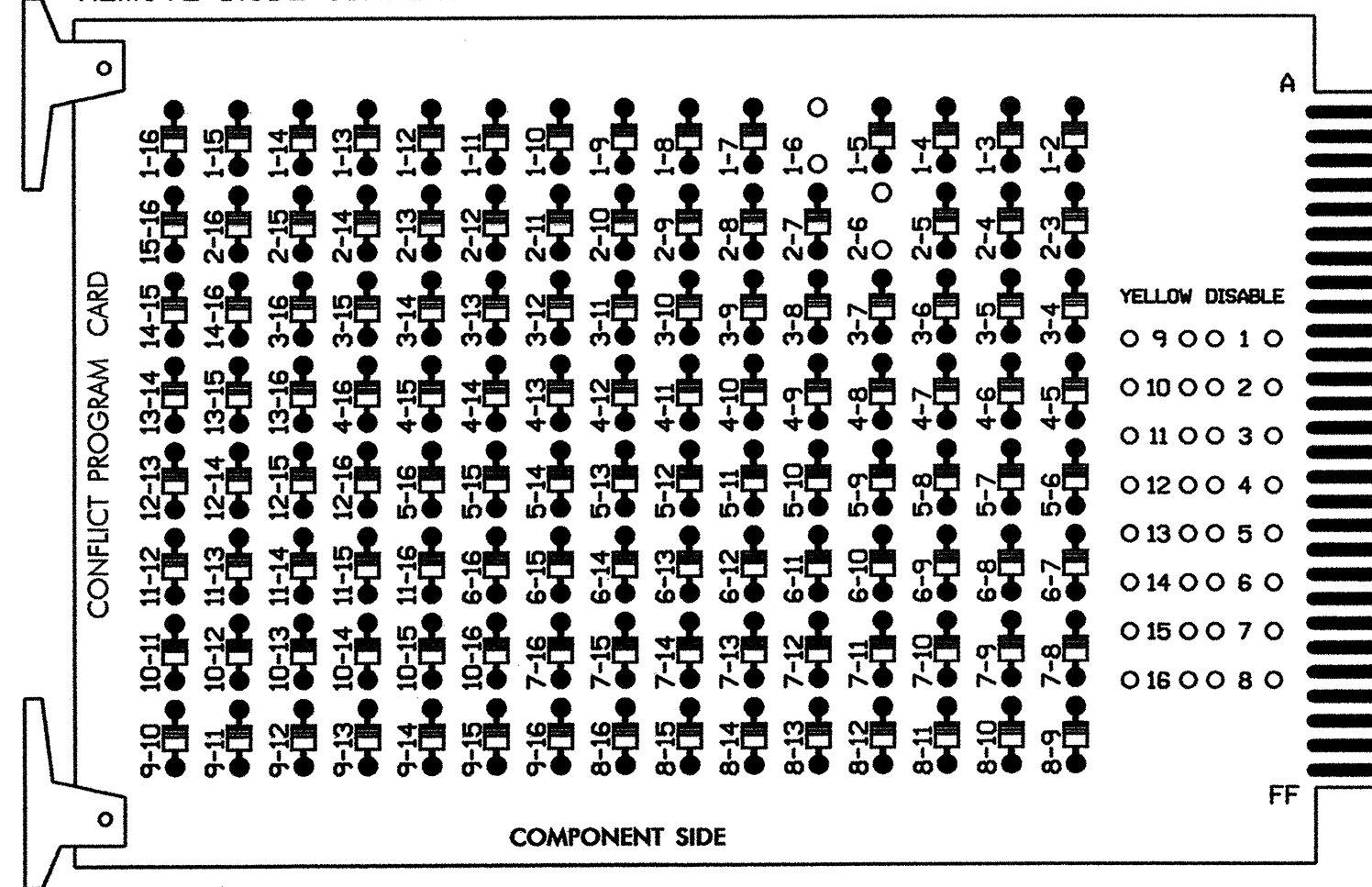
07-DEC-2007 11:50 s:\n\rs\signals\workgroups\tp_projects\r-2554ba\signals\design\titlesheet\r-2554ba_titlesheet.dgn

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



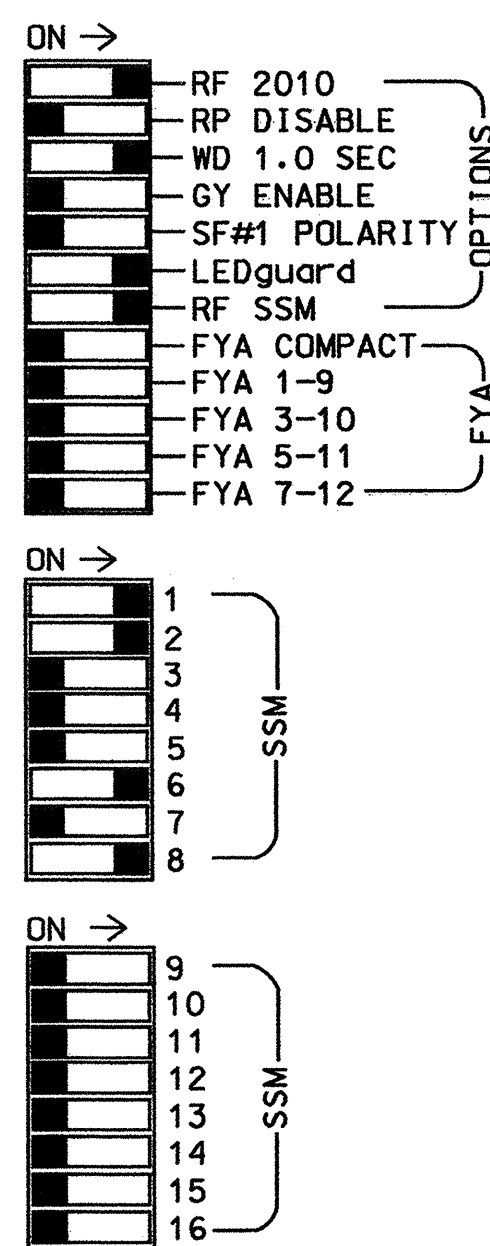
REMOVE DIODE JUMPERS 1-6 and 2-6.



REMOVE JUMPERS 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.



■ = DENOTES POSITION OF SWITCH

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 3,4,5,7,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 2 and 6, on the controller unit, for Start Up In Green.
- Enable Simultaneous Gap-Out, on the controller unit, for all phases.
- Program phases 2 and 6, on the controller unit, for Variable Initial and Gap Reduction.
- The cabinet and controller are part of the US 117 Closed Loop System.

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.	61,82	21,22	NU	NU	NU	NU	NU	61,62	NU	NU	81,82	22	NU
RED	*	128						134			107		
YELLOW		129						135			108		
GREEN		130						136			109		
RED ARROW													
YELLOW ARROW	126										108		
GREEN ARROW	127										109		
Hand icon													
Person icon													

NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

EQUIPMENT INFORMATION

CONTROLLER.....CONTRACTOR SUPPLIED 2070L
 CABINET.....CONTRACTOR SUPPLIED 332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S1,S2,S6,S8
 PHASES USED.....1,2,6,8
 OVERLAPS.....NONE

INPUT FILE POSITION LAYOUT

(front view)

FILE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	∅ 1	∅ 1	2/SYS	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	FS
I	1B	1A	2A/S1	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	DC ISOLATOR
L	NOT USED	∅ 6	2/SYS	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	ST
U	∅ 1	∅ 2	∅ 3	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	DC ISOLATOR
I	6/SYS	6A/S3	∅ 3	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	∅ 14
L	∅ 6	∅ 6/SYS	∅ 3	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	∅ 14
U	∅ 6/SYS	6B/S4	∅ 3	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	∅ 14
L	∅ 6/SYS	∅ 6/SYS	∅ 3	∅ 4	∅ 5	∅ 6	∅ 7	∅ 8	∅ 9	∅ 10	∅ 11	∅ 12	∅ 13	∅ 14

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

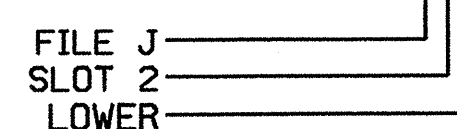
FS = FLASH SENSE
 ST = STOP TIME

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
1B	TB2-1,2	I1U	56	18	1	1	Y	Y			15
1A	TB2-5,6	I2U	39	1	2	1	Y	Y			15
	TB2-7,8	I2L	43	5	12	6	Y	Y	Y		3
2A/S1	TB2-9,10	I3U	63	25	32	2/SYS	Y	Y			
2B/S2	TB2-11,12	I3L	76	38	42	2/SYS	Y	Y			
6A/S3	TB3-5,6	J2U	40	2	6	6/SYS	Y	Y			
6B/S4	TB3-7,8	J2L	44	6	16	6/SYS	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			

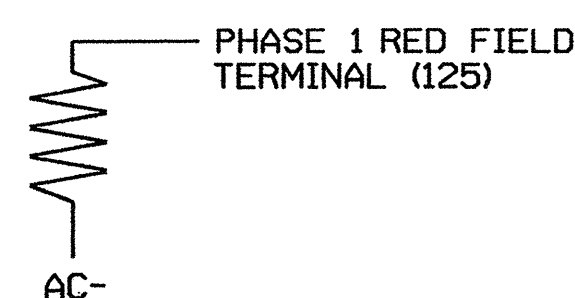
*Add jumpers from TB2-5 to TB2-7, and from TB2-6 to TB2-8.

INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



NOTE: The purpose of this resistor is to load the channel red monitor inputs in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on channels that do not use the red display in the field.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 04-1355
 DESIGNED: November 2007
 SEALED: 12-5-07
 REVISED: N/A

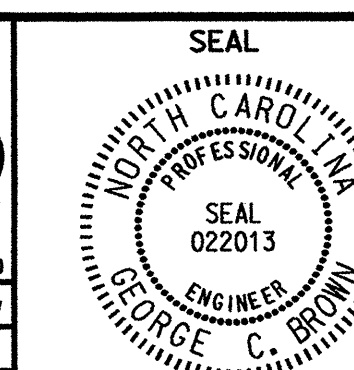
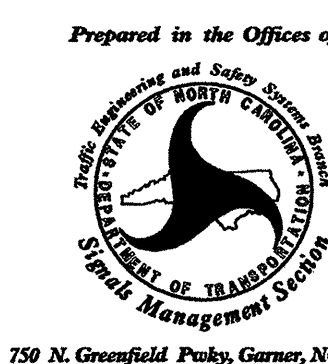
New Installation

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 117 at US 70 Ramp D (Goldsboro Bypass)

Division 04 Wayne County Goldsboro
 PLAN DATE: 12-5-07 REVIEWED BY: D.T. Joyce
 PREPARED BY: D.H. Spaulding REVIEWED BY:

REVISIONS INIT. DATE

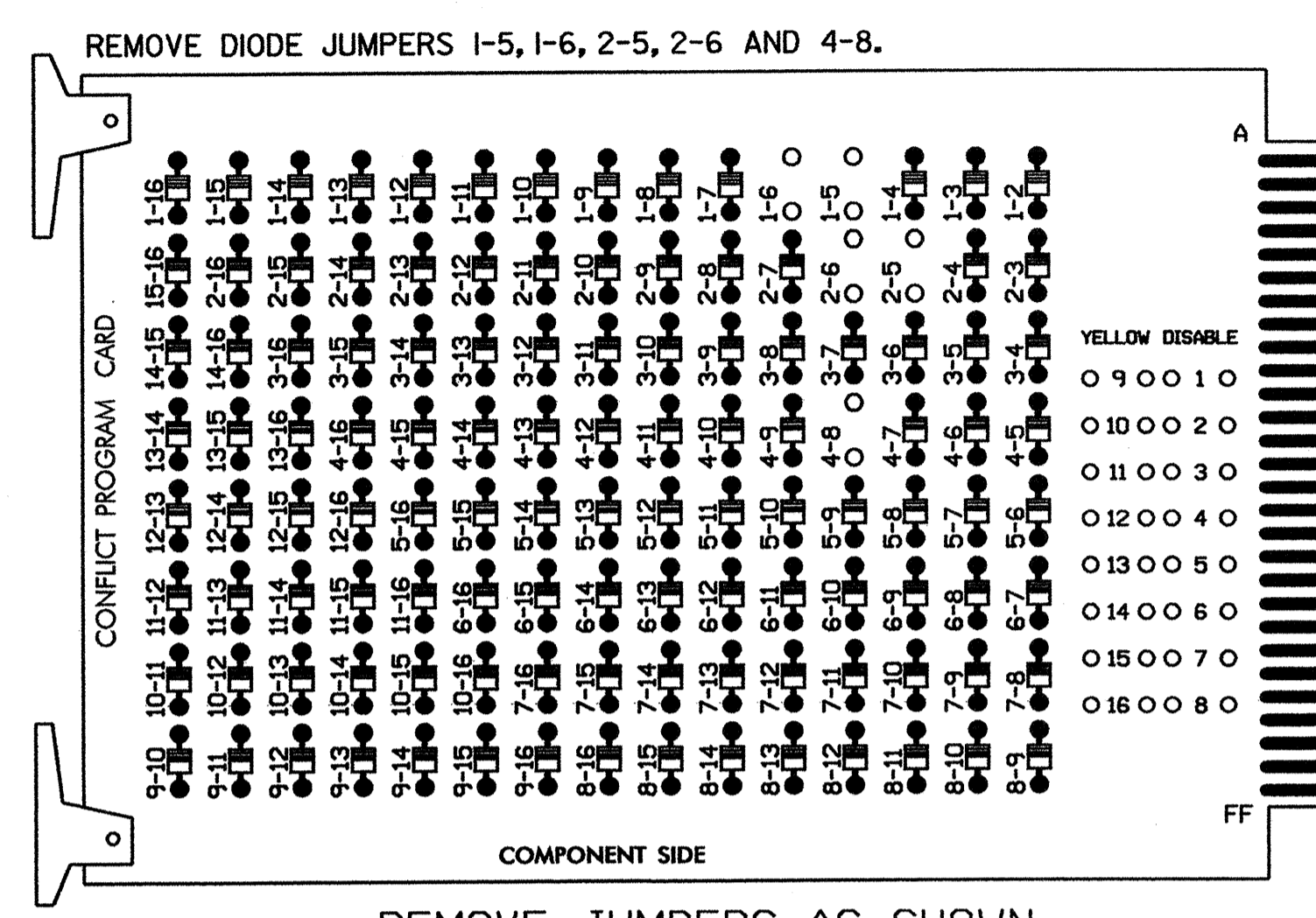
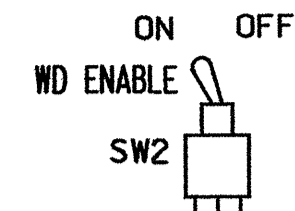


SIGNATURE DATE

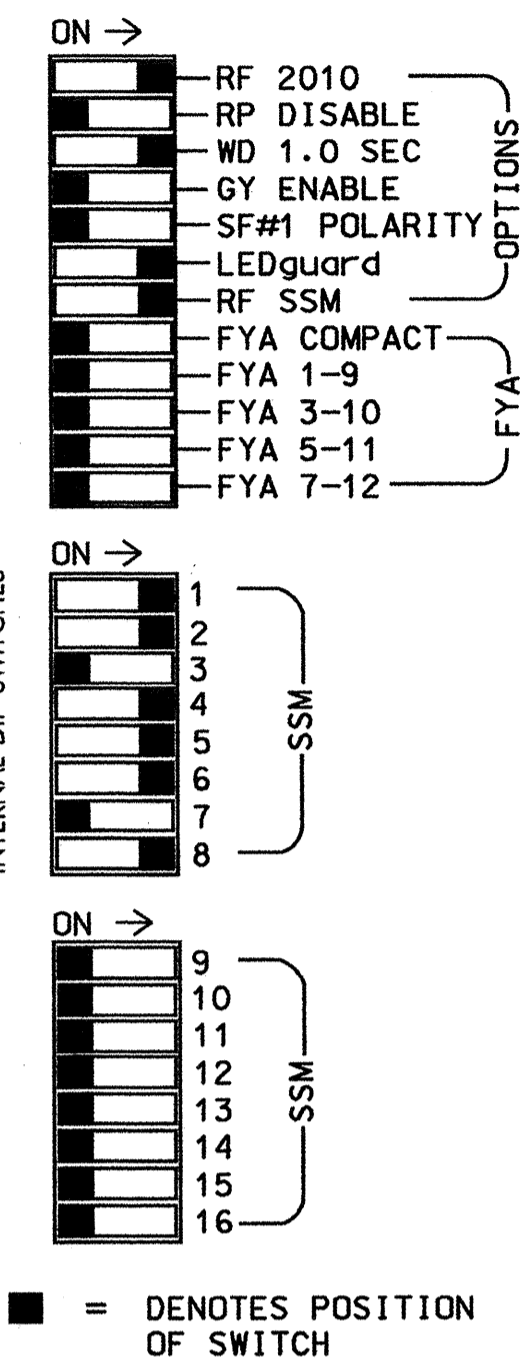
SIG. INVENTORY NO. 04-1355

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



- REMOVE DIODE JUMPERS 1-5, 1-6, 2-5, 2-6 AND 4-8.
- REMOVE JUMPERS 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 3,7,9,10, 11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 2 and 6, on the controller unit, for Start Up In Green.
- Enable Simultaneous Gap-Out, on the controller unit, for all phases.
- Program phases 4 and 8, on the controller unit, for Dual Entry.
- Program phases 2 and 6, on the controller unit, for Variable Initial and Gap Reduction.
- The cabinet and controller are part of the US 117 Closed Loop System.

EQUIPMENT INFORMATION

CONTROLLER.....CONTRACTOR SUPPLIED 2070L
 CABINET.....CONTRACTOR SUPPLIED 332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S1,S2,S4,S5,S6,S8
 PHASES USED.....1,2,4,5,6,8
 OVERLAPS.....NONE

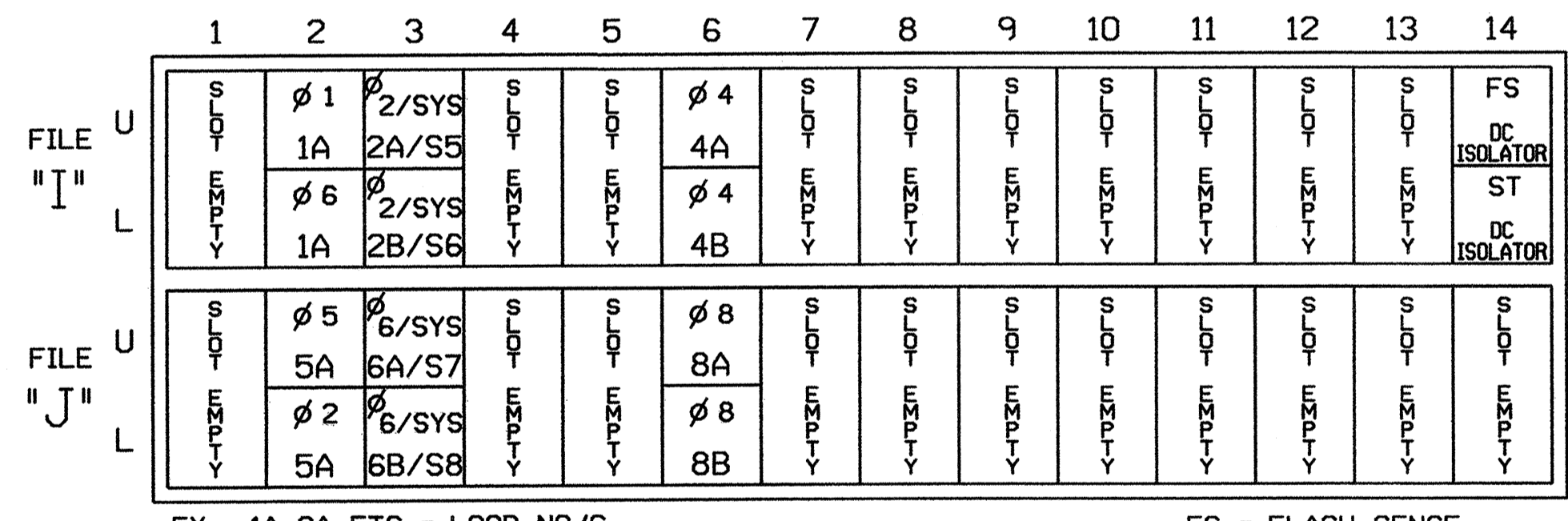
SIGNAL HEAD HOOK-UP CHART

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.	61	21,22 23	NU	NU	41,42	NU	21	61,62 63	NU	NU	81,82	NU
RED	*	128			101		*	134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW	126						132					
GREEN ARROW	127						133					
Hand icon												
Person icon												

NU = Not Used
 * Denotes install load resistor. See load resistor installation detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)

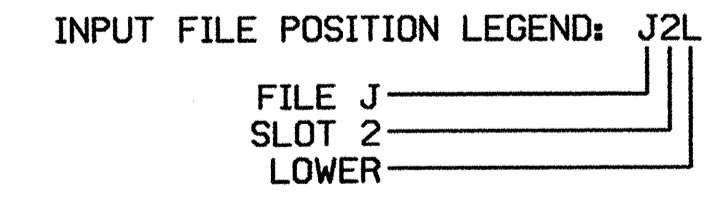


EX. : 1A, 2A, ETC. = LOOP NO.'S
 FS = FLASH SENSE
 ST = STOP TIME

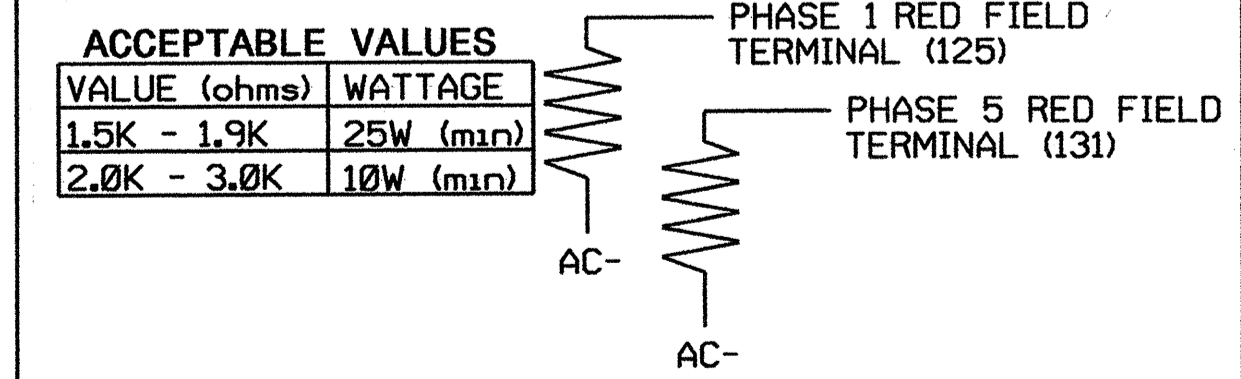
INPUT FILE CONNECTION & PROGRAMMING CHART

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
1A	TB2-5,6	I2U	39	1	2	1	Y	Y			15
	TB2-7,8	I2L	43	5	12	6	Y	Y	Y		3
2A/S5	TB2-9,10	I3U	63	25	32	2/SYS	Y	Y			
2B/S6	TB2-11,12	I3L	76	38	42	2/SYS	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			3
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			10
5A	TB3-5,6	J2U	40	2	6	5	Y	Y			15
	TB3-7,8	J2L	44	6	16	2	Y	Y	Y		3
6A/S7	TB3-9,10	J3U	64	26	36	6/SYS	Y	Y			
6B/S8	TB3-11,12	J3L	77	39	46	6/SYS	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			10

- Add jumpers from TB2-5 to TB2-7, and from TB2-6 to TB2-8.
- Add jumpers from TB3-5 to TB3-7, and from TB3-6 to TB3-8.



LOAD RESISTOR INSTALLATION DETAIL



NOTE: The purpose of these resistors is to load the channel red monitor inputs in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on channels that do not use the red display in the field.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 04-1354
 DESIGNED: November 2007.
 SEALED: 12-5-07.
 REVISED: N/A

DYNAMIC BACK-UP CONTROL PROGRAMMING

(program controller as shown below)

- From Main Menu press '2' (Phase Control), then '1' (Phase Control Functions). Scroll to the bottom of the menu and enable Dynamic/Backup Control Functions 1 and 2.
- From Phase Control Functions Menu press '2' (Dynamic/Backup Control Functions).

DYNAMIC/BACKUP CONTROL FUNCTION #01
 OVERLAPS: ABCDEFGHIJKLMNOP
 IF OVERLAPS ARE ACTIVE :
 OR PHASES: 12345678910111213141516
 IF PHASES ARE ON: X
 OMIT PHASES : X
 CALL PHASES : X

PRESS 'NEXT'

DYNAMIC/BACKUP CONTROL FUNCTION #02
 OVERLAPS: ABCDEFGHIJKLMNOP
 IF OVERLAPS ARE ACTIVE :
 OR PHASES: 12345678910111213141516
 IF PHASES ARE ON: X
 OMIT PHASES : X
 CALL PHASES : X

BACKUP PROTECTION PROGRAMMING COMPLETE

New Installation

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 117 at SR 1313 (Belfast Rd.) / US 70 Ramp A (Goldsboro Bypass)

Division 04 Wayne County Goldsboro

PLAN DATE: 12-5-07 REVIEWED BY: D.T. Joyce

PREPARED BY: D.H. Spaulding REVIEWED BY:

REVISIONS: _____ INIT. DATE

750 N. Greenfield Pkwy, Garner, NC 27529

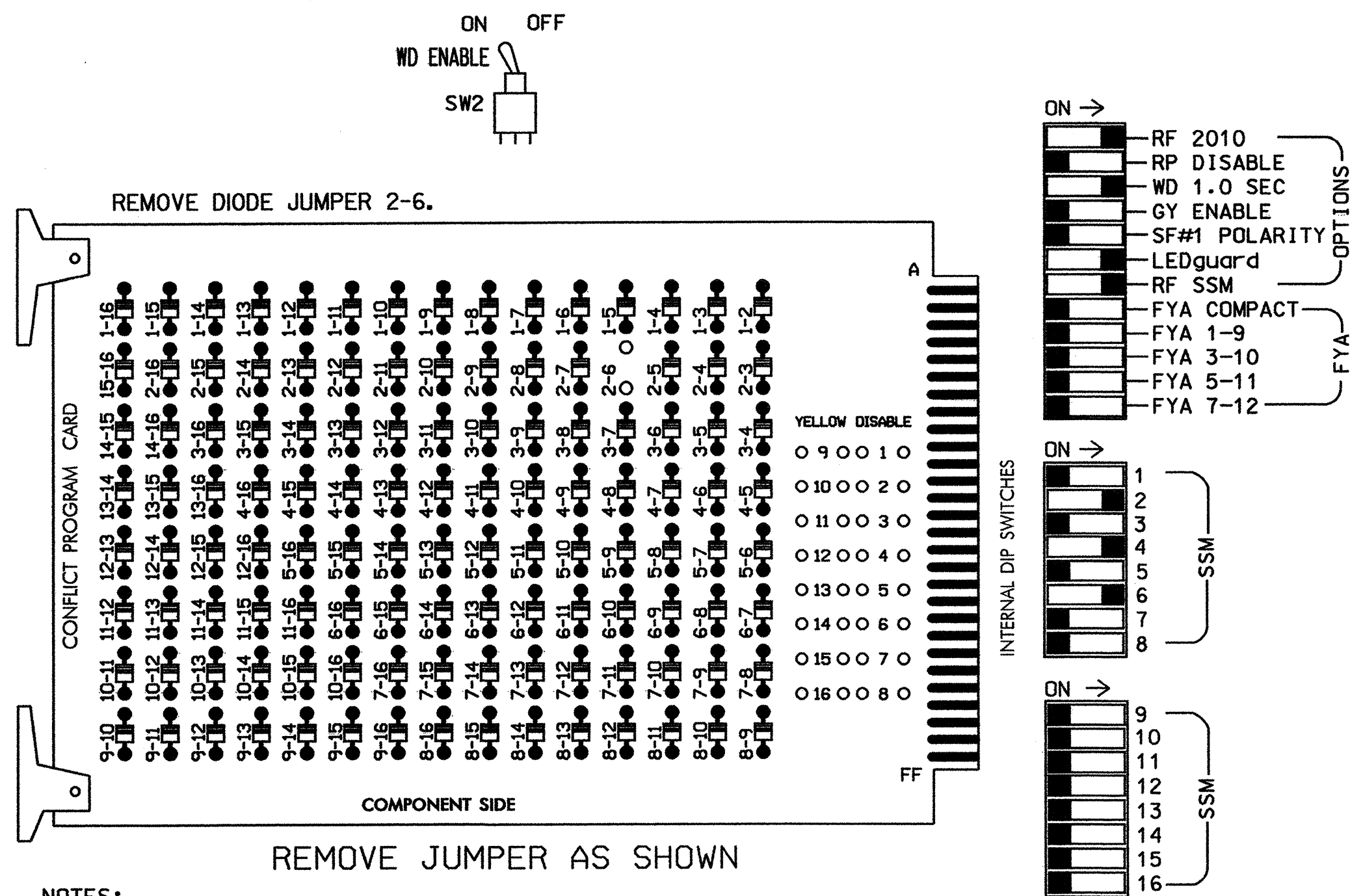
SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022013 GEORGE C. BROWN

Signature: George C. Brown 12/7/07

SIG. INVENTORY NO. 04-1354

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES:

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

■ = DENOTES POSITION OF SWITCH

NOTES

1. 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.
2. 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 1,3,5,7,8, 9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Program phases 2 and 6, on the controller unit, for Start Up In Green.
4. Enable Simultaneous Gap-Out, on the controller unit, for all phases.
5. Program phases 2 and 6, on the controller unit, for Variable Initial and Gap Reduction.
6. The cabinet and controller are part of the SR 1556 (Wayne Memorial Drive) Closed Loop System.

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	NU	NU	41,42	NU	NU	61,62	NU	NU	NU	NU
RED		128			101			134				
YELLOW		129			102			135				
GREEN		130			103			136				
RED ARROW												
YELLOW ARROW												
GREEN ARROW												
Hand icon												
Person icon												

NU = Not Used

EQUIPMENT INFORMATION

CONTROLLER.....CONTRACTOR SUPPLIED 2070L
 CABINET.....CONTRACTOR SUPPLIED 332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S4,S6
 PHASES USED.....2,4,6
 OVERLAPS.....NONE

INPUT FILE POSITION LAYOUT

(front view)

FILE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	2/SYS	2A/S3				4A								FS
L	NOT USED					4B								DC ISOLATOR
U	6/SYS	6A/S4												ST
L	NOT USED													DC ISOLATOR

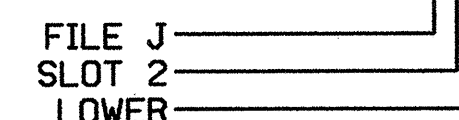
EX. : 1A, 2A, ETC. = LOOP NO.'S

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/S3	TB2-5,6	I2U	39	1	2	2/SYS	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			20
6A/S4	TB3-5,6	J2U	40	2	6	6/SYS	Y	Y			

INPUT FILE POSITION LEGEND: J2L



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 04-1356
 DESIGNED: November 2007
 SEALED: 12-5-07
 REVISED: N/A

New Installation

ELECTRICAL AND PROGRAMMING DETAILS FOR: **SR 1556 (Wayne Memorial Drive) at US 70 Ramp C (Goldsboro Bypass)**

Prepared in the Offices of: **TRAFFIC ENGINEERING AND SIGNAL SYSTEMS, INC.**
 750 N. Greenfield Parkway, Garner, NC 27529

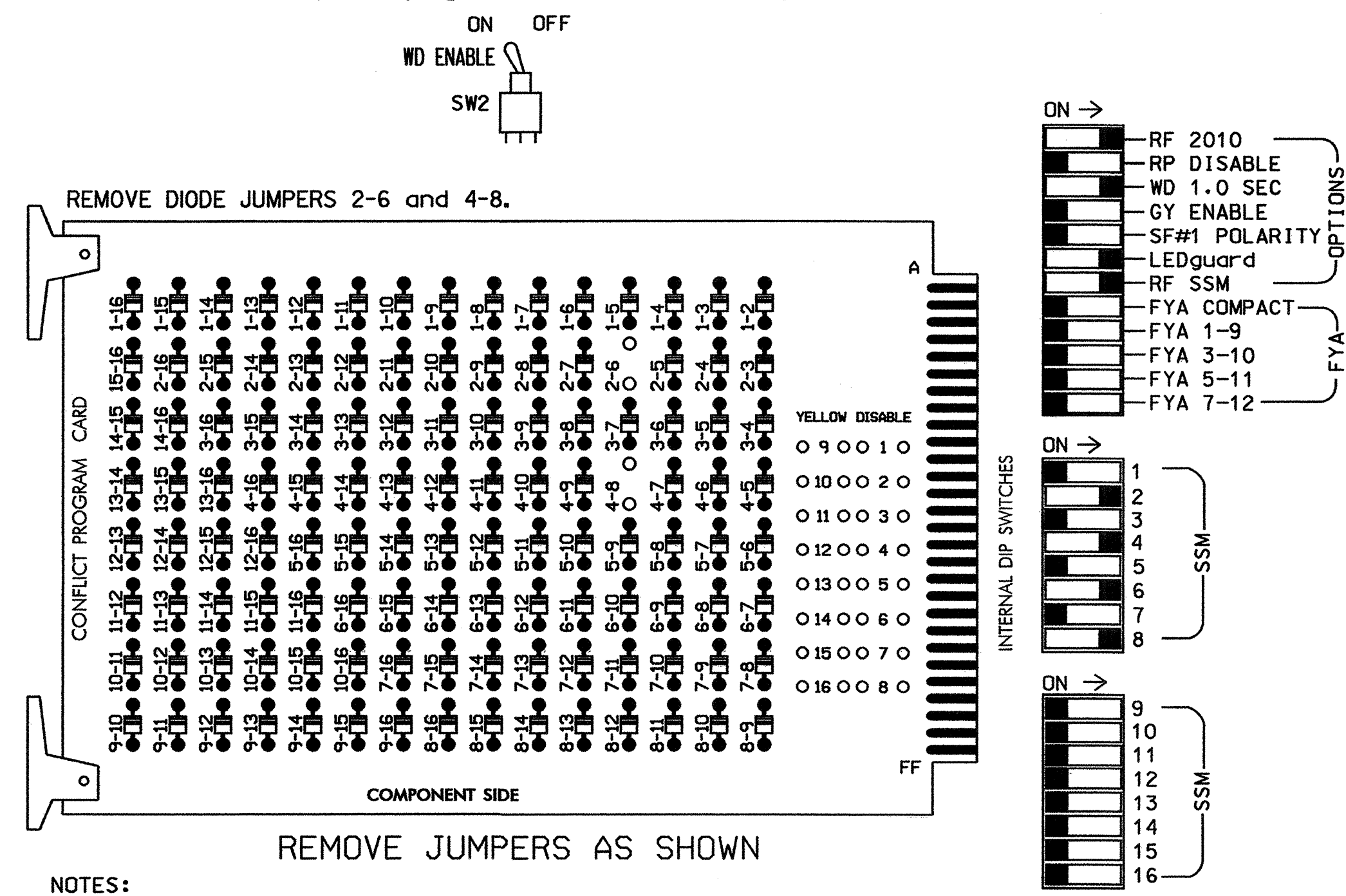
Division 04 Wayne County Goldsboro
 PLAN DATE: 12-06-07 REVIEWED BY: D.T. Joyce
 PREPARED BY: D.H. Spaulding REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL: **DR. H. CAROL NA** PROFESSIONAL ENGINEER SEAL 022013
 SIGNATURE: *George C. Brown* DATE: 12/6/07
 SIG. INVENTORY NO. 04-1356

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS 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 1,3,5,7,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 2 and 6, on the controller unit, for Start Up In Green.
- Enable Simultaneous Gap-Out, on the controller unit, for all phases.
- Program phases 4 and 8, on the controller unit, for Dual Entry.
- Program phases 2 and 6, on the controller unit, for Variable Initial and Gap Reduction.
- The cabinet and controller are part of the SR 1556 (Wayne Memorial Drive) Closed Loop 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,S4,S6,S8
 PHASES USED.....2,4,6,8
 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	2L,22	NU	NU	4L,42	NU	NU	6L,62	NU	NU	8L,82	NU
RED		128			101			134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW												
GREEN ARROW												
Hand icon												
Person icon												

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	2A/S1				4	4							FS
I		NOT USED				4A	4C							DC ISOLATOR
L						4B	NOT USED							DC ISOLATOR
U	6/SYS	6A/S2				8	8							
I		NOT USED				8A	8C							
L						8B	NOT USED							

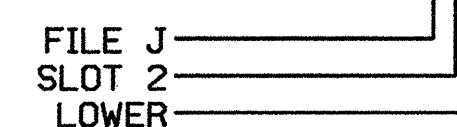
EX.: 1A, 2A, ETC. = LOOP NO.'S

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			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			3
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			10
4C	TB6-1,2	I7U	65	27	34	4		Y		3.1	
6A/S2	TB3-5,6	J2U	40	2	6	6/SYS	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			10
8C	TB7-1,2	J7U	66	28	38	8		Y		3.1	

INPUT FILE POSITION LEGEND: J2L



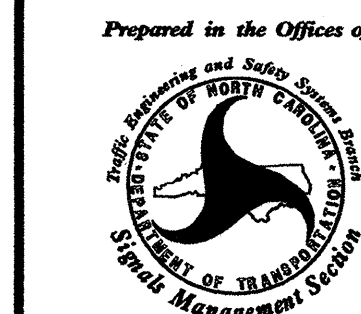
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 04-1097
 DESIGNED: November 2007
 SEALED: 12-5-07
 REVISED: N.A.

Signal Upgrade

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1556 (Wayne Memorial Drive)

at
 SR 1571 (Tommy's Road)



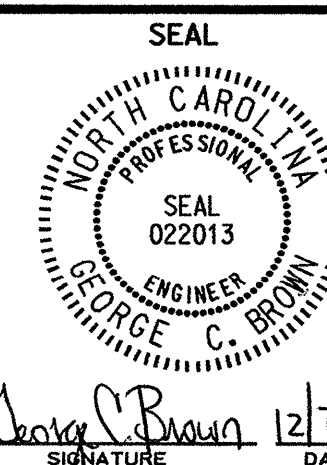
750 N. Greenfield Parkway, Garner, NC 27529

Division 04 Wayne County Goldsboro

PLAN DATE: 12-06-07 REVIEWED BY: D.T. Joyce

PREPARED BY: D.H. Spaulding REVIEWED BY:

REVISIONS INIT. DATE

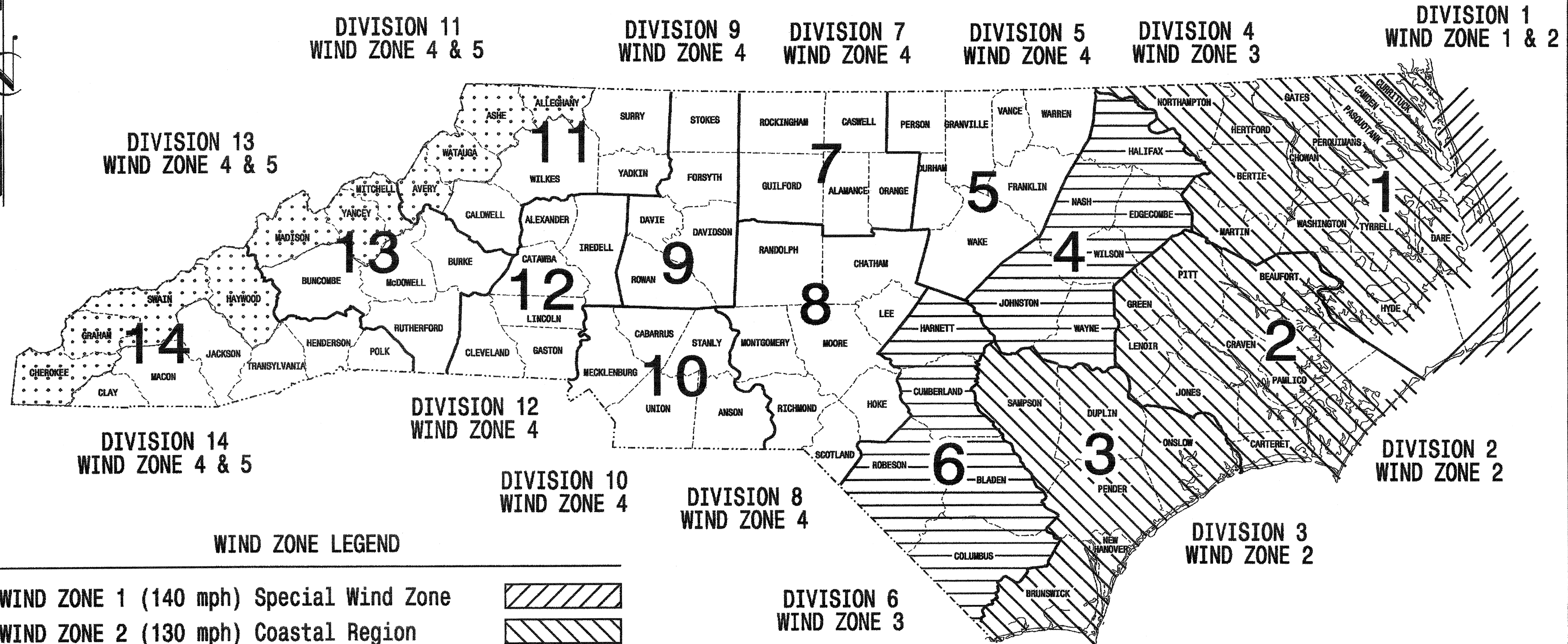


SIG. INVENTORY NO. 04-1097

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE	PROJECT NO.	SHEET NO.
N.C.	R-2554BA	Sig. 10
F. A. PROJ. NO.		M 1
PROJECT ID. NO.		

STANDARD DRAWINGS FOR METAL POLES

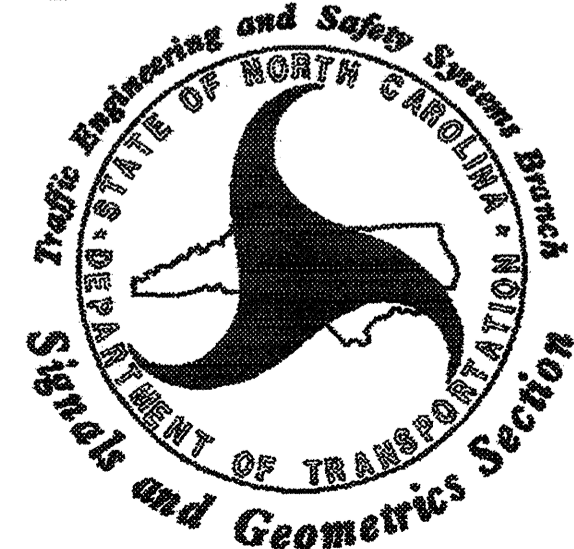


WIND ZONE LEGEND

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/tmsu/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:

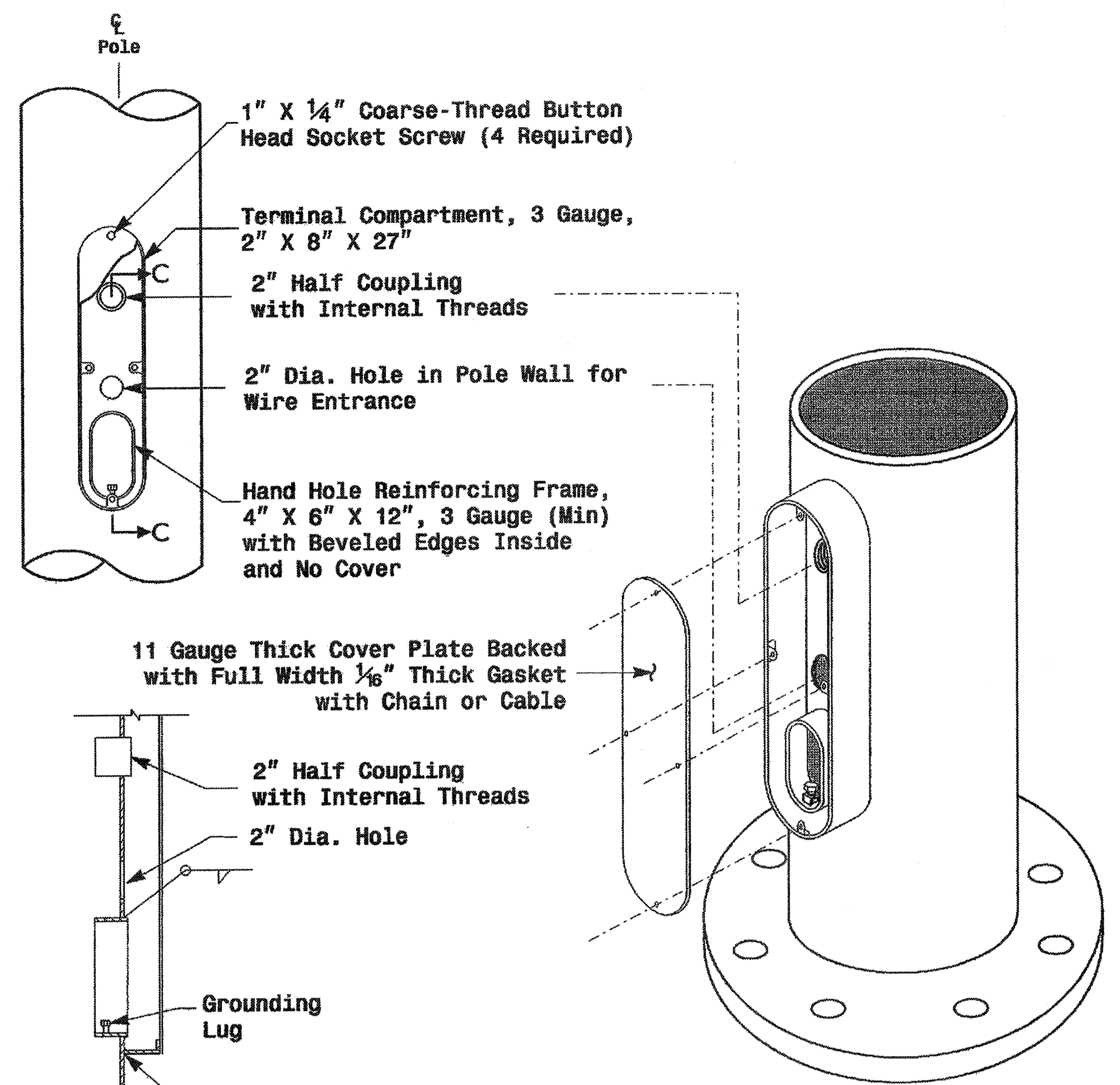
TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH

- 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

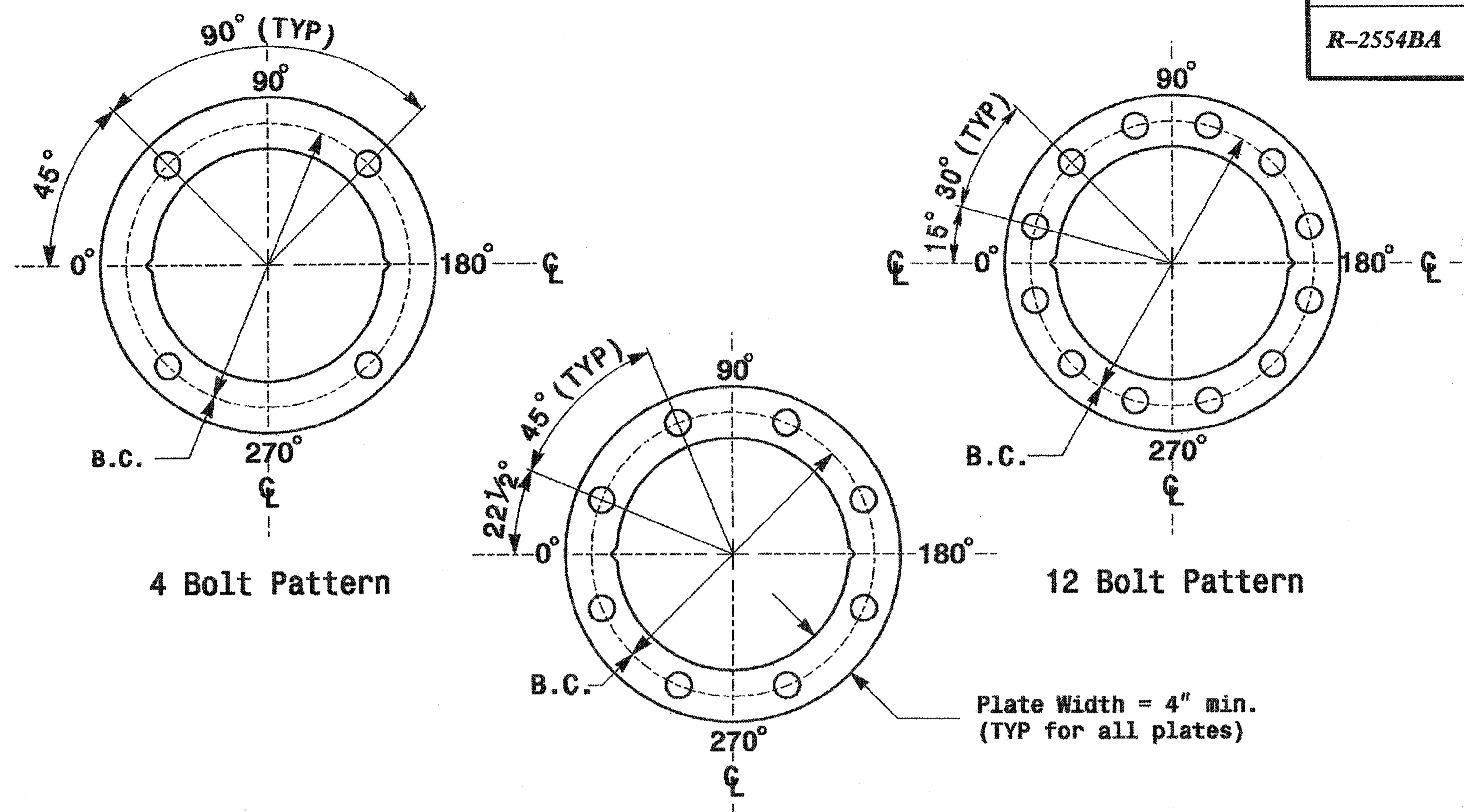


9.2.2005
DATE



Note: Unless otherwise specified, locate Terminal Compartment 1 foot above the pole base plate at 180 degrees on the pole's radial index.

Terminal Compartment Detail



Construct Templates and Plates from 1/4" min. thick Steel. Galvanizing is not required.
Base Plate Template and Anchor Bolt Lock Plate Details

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

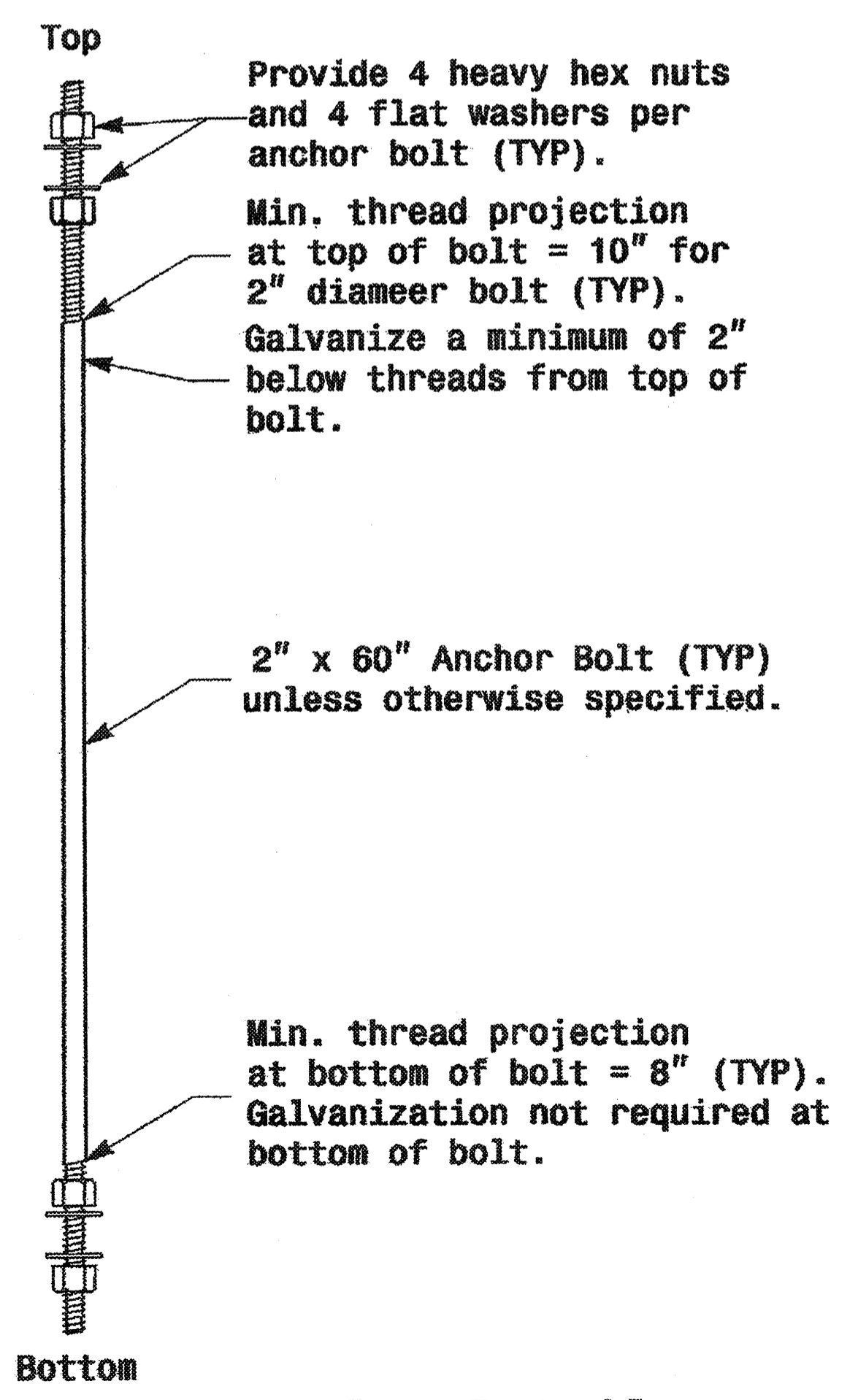
MFG	MFG. DATE: MM/YY
SHAFT D/T/L/Y	_____
ARM-A D/T/L/Y	_____
ARM-B D/T/L/Y	_____
A.B. DIA./B.C./L/Y	_____
NCDOT STANDARD	_____

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

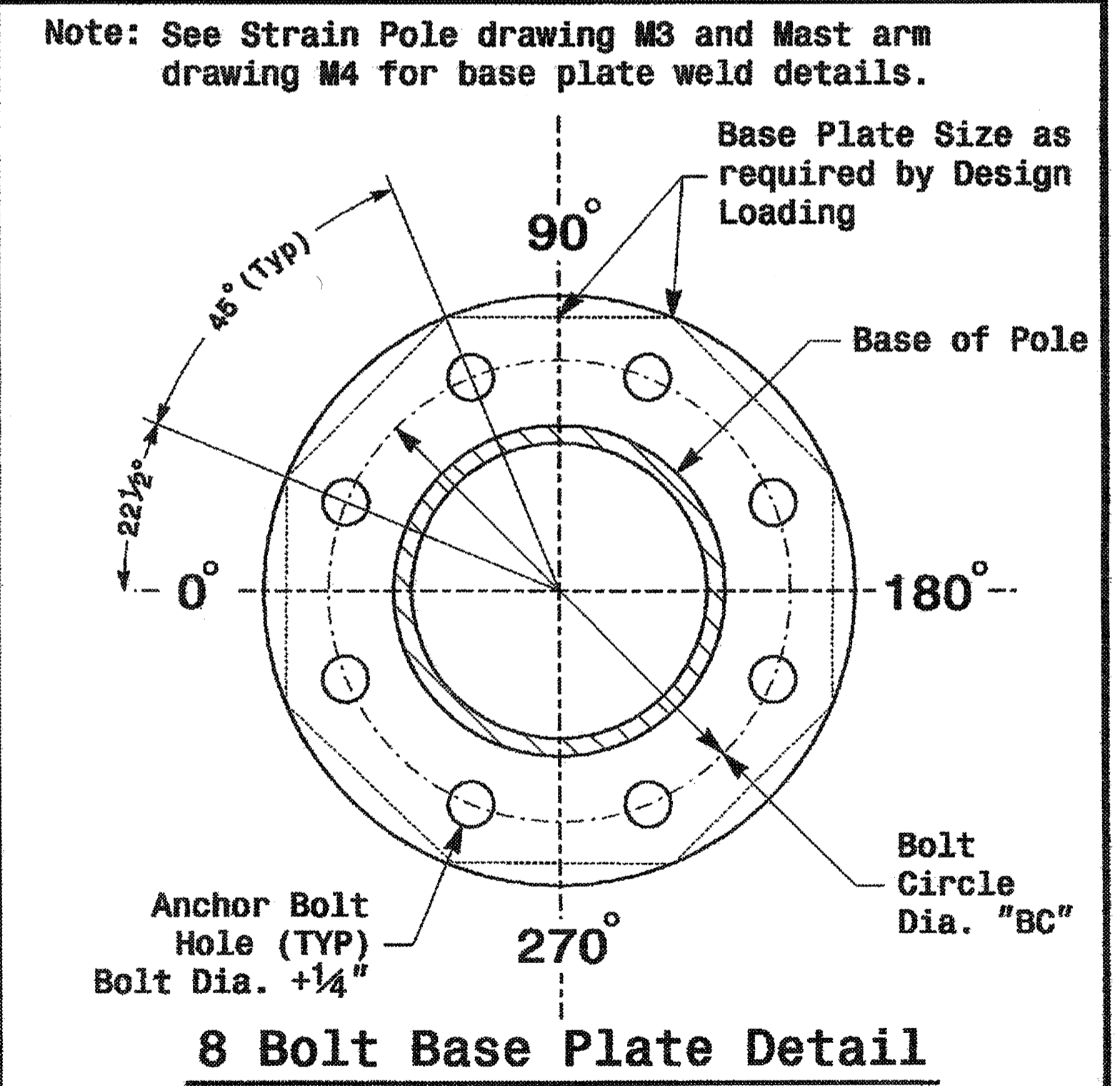
MFG	MFG. DATE: MM/YY
SECTION D/T/L/Y	_____
NCDOT STANDARD	_____

- 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



Anchor Bolt Detail



8 Bolt Base Plate Detail

Prepared in the Office of:

Typical Fabrication Details Common To All Metal Poles

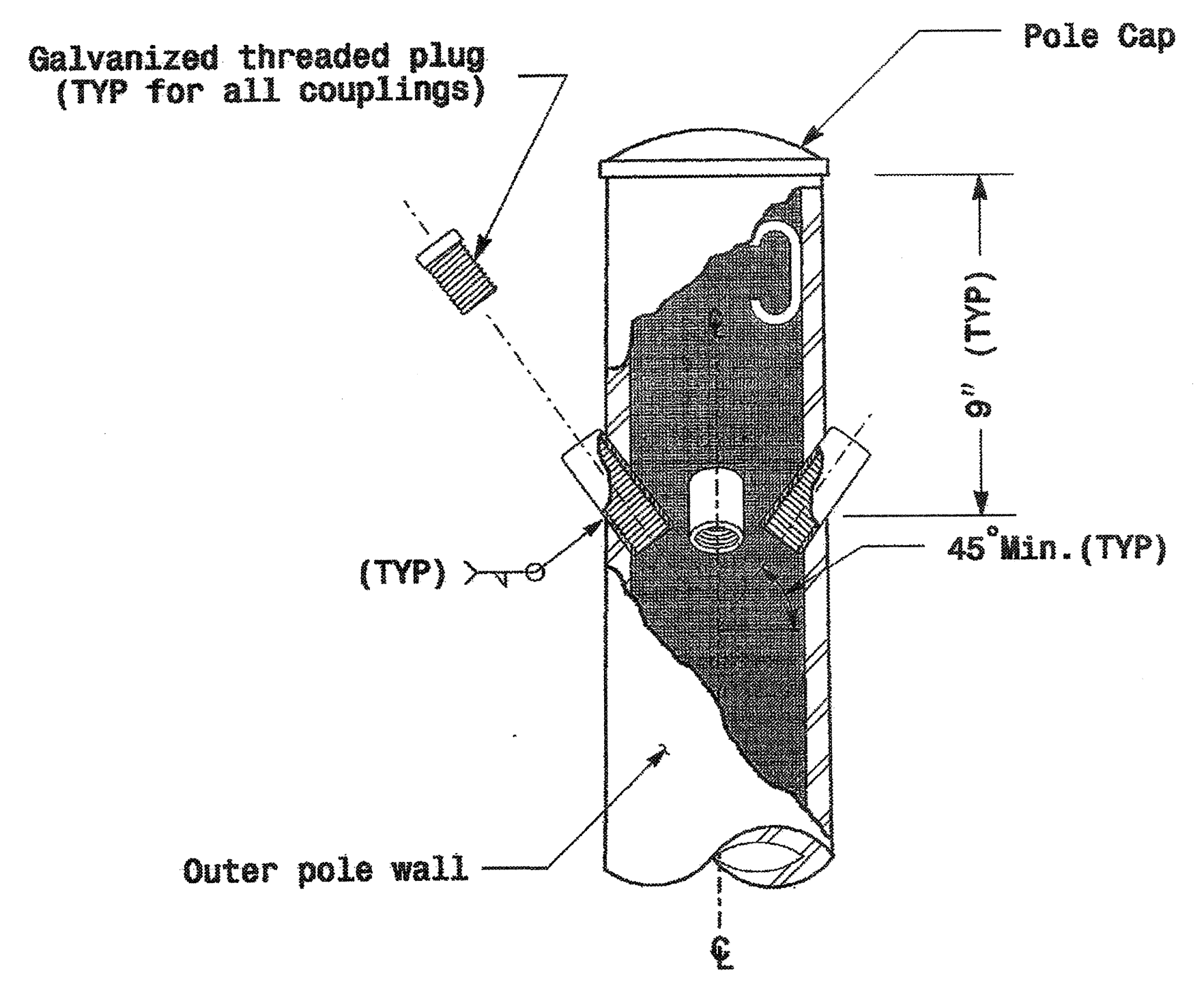
PLAN DATE: May 2005	REVIEWED BY: G.F. Andrews
PREPARED BY: P.L. Alexander	REVIEWED BY: A.M. Esposito
SCALE: NONE	REVISIONS: _____
INIT. DATE	DATE

Signature: A. Saikar, 9.2.2005

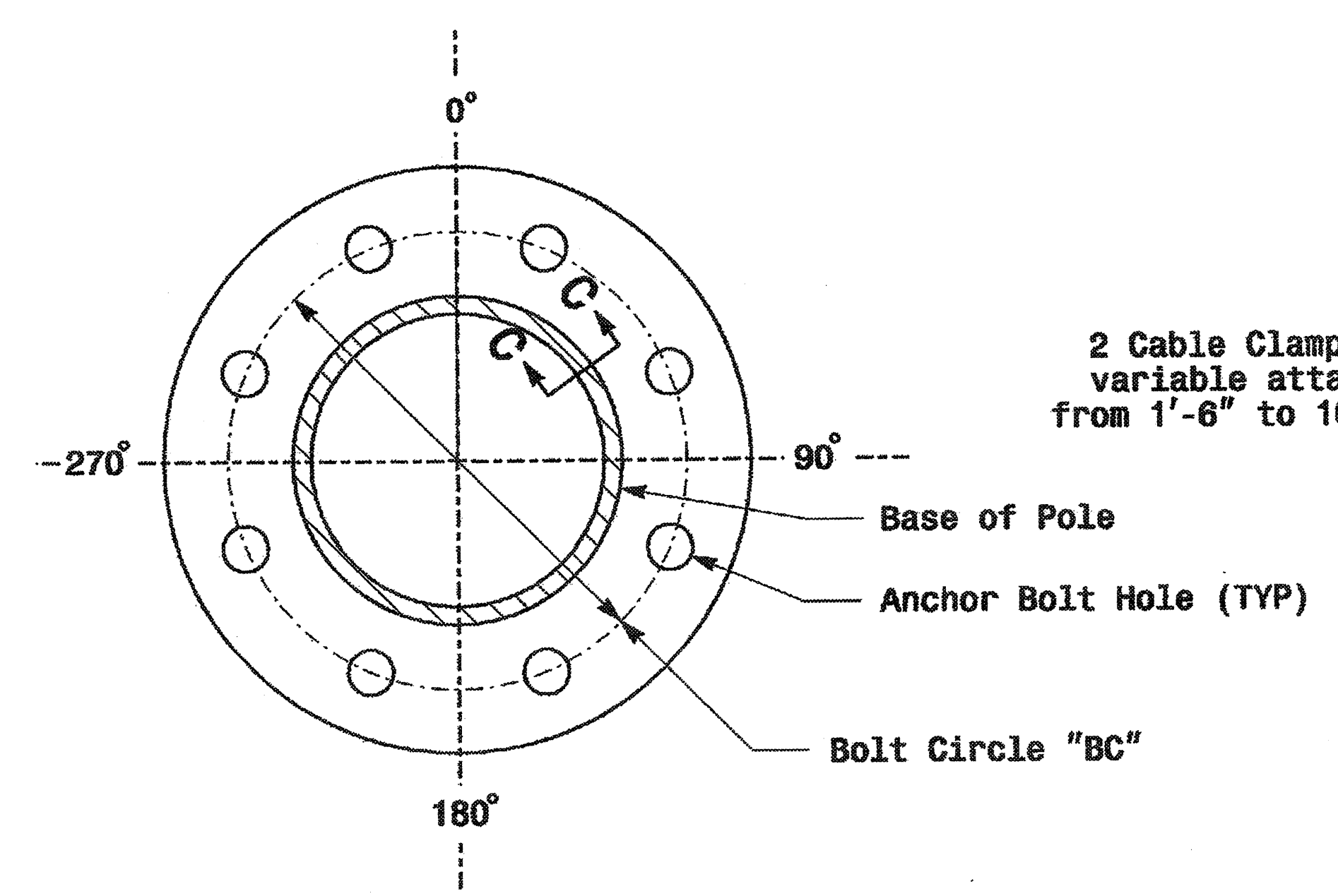
SIG. INVENTORY NO. _____

Fabrication Details - All Poles

01-SEP-2005 18:22 D:\2004_Metal Pole Standards\2004.metalpole.dgn

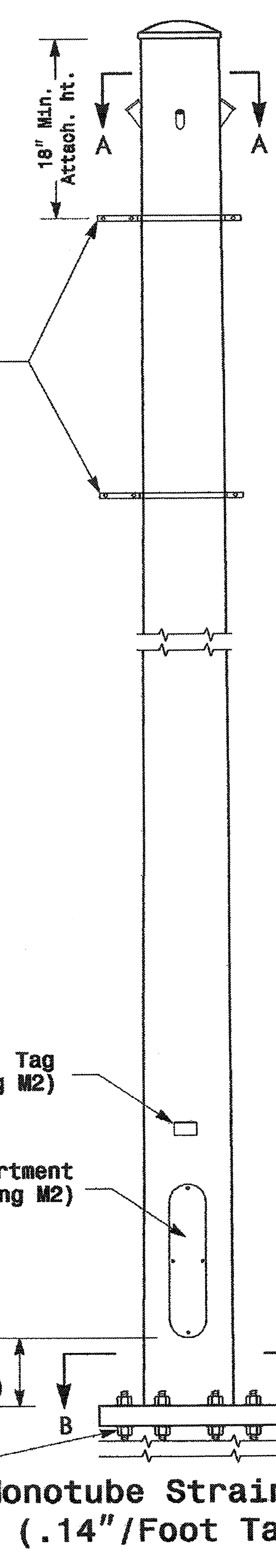


Cable Entrances at Top of Pole

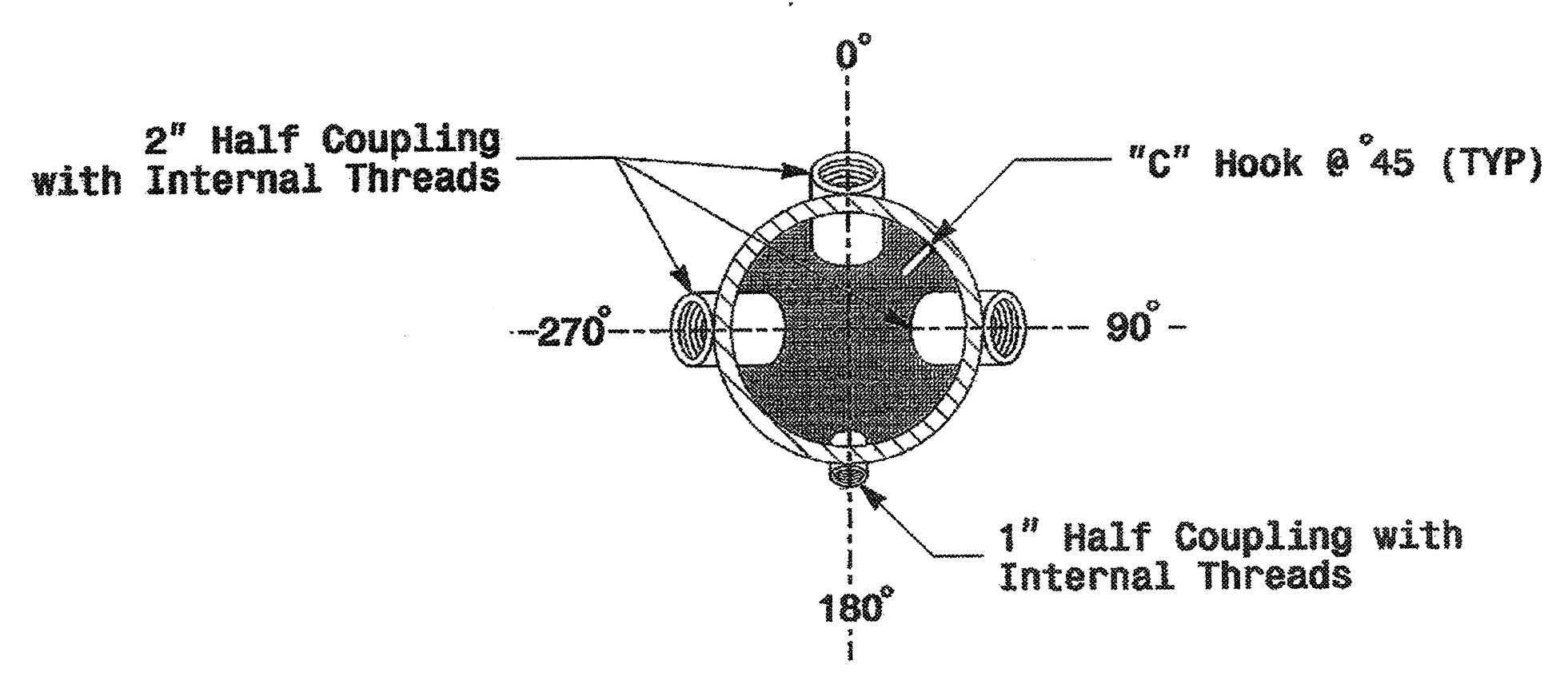


Section B-B
(See drawing M2)
Pole Base Plate

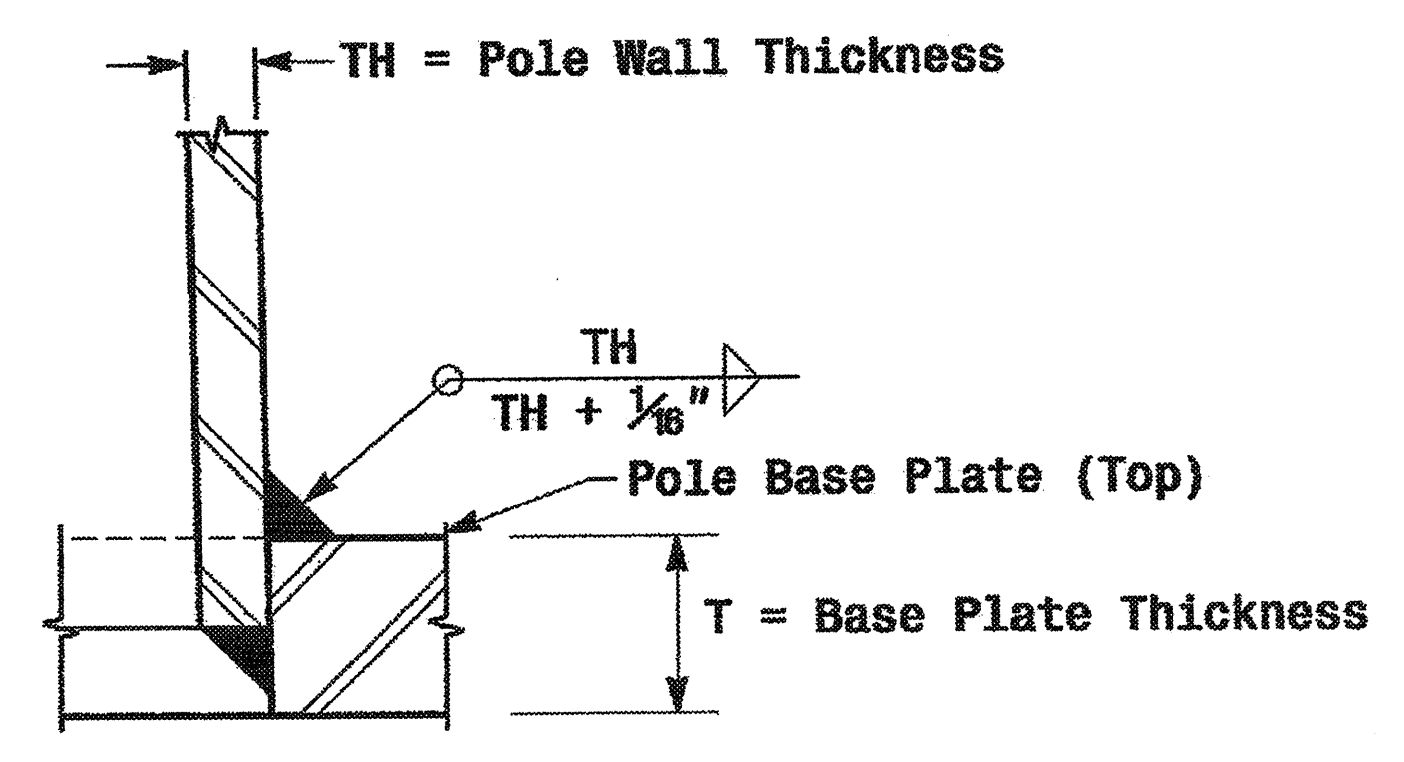
2 Cable Clamps designed for variable attachment heights from 1'-6" to 10' below the top of the pole.



Monotube Strain Pole
(.14"/Foot Taper)



Radial Orientation for Factory Installed Accessories at Top of Pole

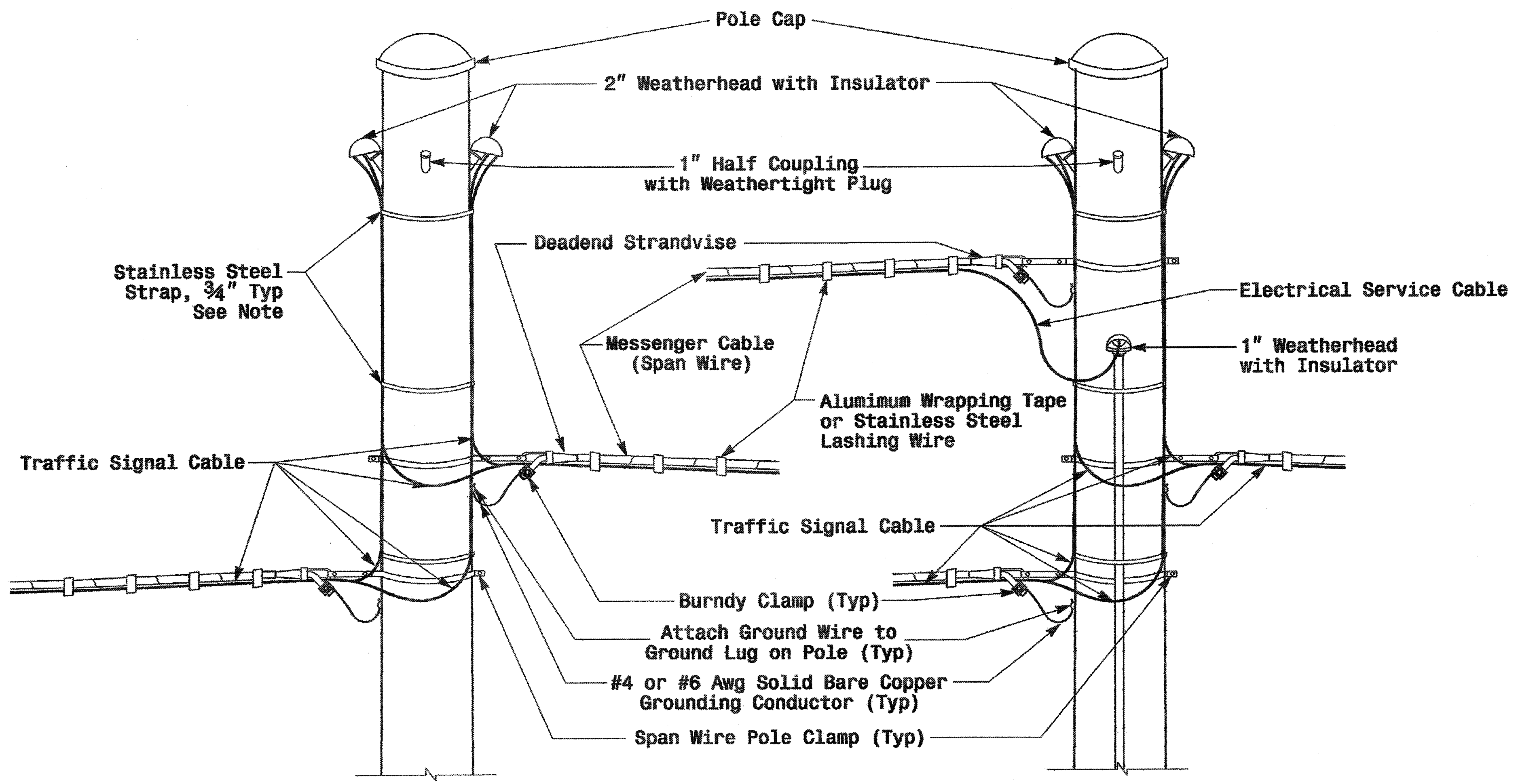


Socket Connection Weld Detail

Fabrication Details - Strain Poles

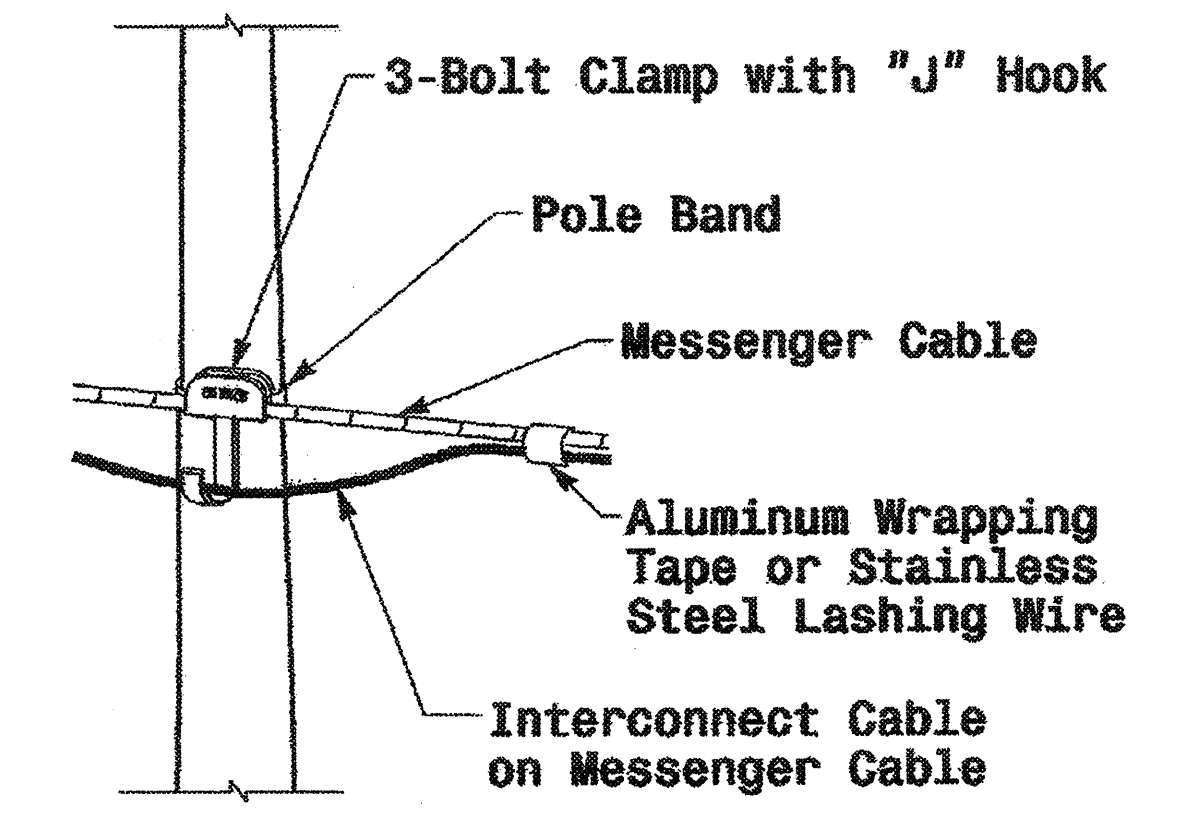
01-SEP-2005 14:07 ac:\p01\es-un11\mwr\grcupus\2004 metal pole standard\2004 as.dgn

	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: NA NONE	REVISIONS: _____ INIT.: _____ DATE: _____	SIGNATURE: <i>D. Sarker</i> 9.2.2005 DATE: _____ SIG. INVENTORY NO. _____

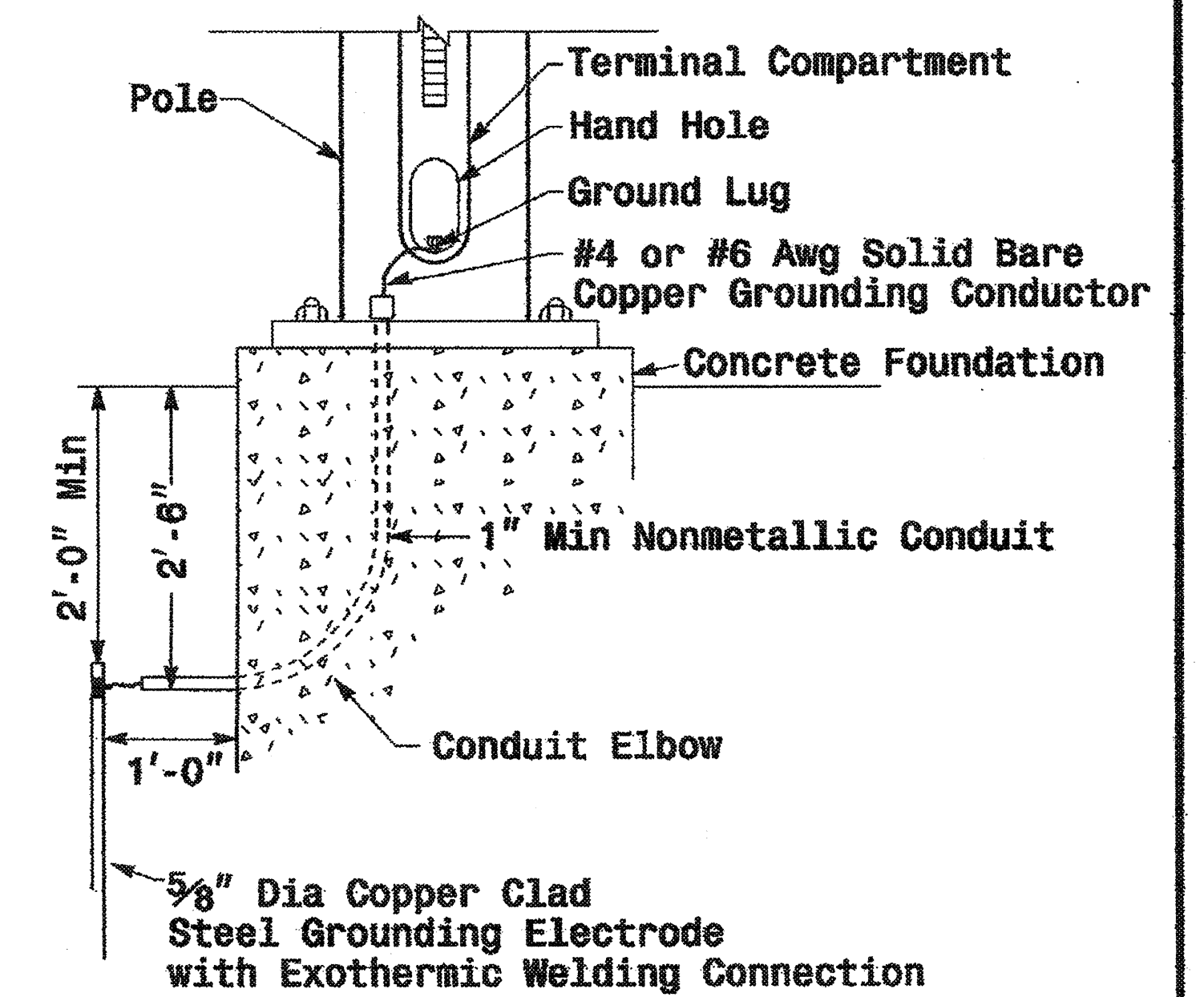


Note: Strap all signal cables to the side of the pole with 3/4" stainless steel straps when the distance between the spanwire attachment clamp and the weatherheads exceeds 36"

Strain Pole Attachments



Attachment of Cable to Intermediate Metal Pole



Metal Pole Grounding Detail

Construction Details - Strain Poles

01-SEP-2005 16:33 C:\work\un\thorncrowse\2004 metal pole standard\0404 ms.dgn pol alexander

	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>[Signature]</i> DATE: 9-1-05 SIG. INVENTORY NO.	

		STANDARD STRAIN POLES				STANDARD FOUNDATIONS 42" Diameter Drilled Pier Length (L) - Feet						
		Case No.	Pole Height (Ft.)	Base Plate BC (In.)	Moment at the Pole Base (ft-kp)	Clay				Sand		
						Medium N-Value 4-8	Stiff N-Value 9-15	Very Stiff N-Value 16-30	Hard N-Value >30	Loose N-Value 4-10	Medium N-Value 11-30	Dense N-Value >30
WIND ZONE 1	LIGHT	S26L3	26	25	280	20.5	14.0	11.5	9.5	18.0	16.0	14.0
		S30L3	30	25	310	21.0	14.5	11.5	9.5	18.5	16.5	14.5
		S35L3	35	25	350	22.5	15.0	12.0	10.0	19.5	17.5	15.5
	HEAVY	S30H3	30	29	450	25.5	16.5	13.0	11.0	21.0	18.5	16.5
		S35H3	35	29	540	26.0	17.0	13.5	11.5	22.0	19.5	17.0
WIND ZONE 2	LIGHT	S26L2	26	23	250	19.5	13.5	11.0	9.0	18.0	15.5	14.0
		S30L2	30	23	290	20.0	14.0	11.5	9.5	18.5	16.0	14.0
		S35L2	35	23	315	21.0	14.5	11.5	9.5	19.0	16.5	14.5
	HEAVY	S30H2	30	29	415	24.5	16.0	13.0	10.5	21.0	18.5	16.0
		S35H2	35	29	485	25.5	16.5	13.5	11.0	21.5	19.0	16.5
WIND ZONE 3	LIGHT	S26L2	26	23	250	18.5	13.0	10.5	9.0	17.5	15.0	13.5
		S30L2	30	23	290	19.5	13.5	11.0	9.0	18.0	15.5	14.0
		S35L2	35	23	315	20.0	14.0	11.5	9.5	18.5	16.0	14.5
	HEAVY	S30H2	30	29	415	23.0	15.5	12.5	10.0	20.5	17.5	16.0
		S35H2	35	29	485	24.0	16.0	13.0	10.5	21.0	18.0	16.5
WIND ZONE 4	LIGHT	S26L1	26	22	195	18.0	13.0	10.5	9.0	16.5	14.5	13.0
		S30L1	30	22	225	18.5	13.0	10.5	9.0	17.0	15.0	13.5
		S35L1	35	22	255	19.0	13.5	11.0	9.0	17.5	15.5	14.0
	HEAVY	S30H1	30	25	330	22.0	15.0	12.0	9.5	19.5	17.0	15.0
		S35H1	35	25	385	23.0	15.5	12.5	10.0	20.0	17.5	15.5
WIND ZONE 5	LIGHT	S26L2	26	23	250	19.0	13.5	10.5	9.0	17.5	15.5	13.5
		S30L2	30	23	290	20.0	14.0	11.0	9.5	18.0	16.0	14.0
		S35L2	35	23	315	21.0	14.5	11.5	10.0	19.0	16.5	14.5
	HEAVY	S30H2	30	29	415	23.5	15.5	12.5	10.5	21.0	18.0	16.0
		S35H2	35	29	485	25.0	16.5	13.0	11.0	21.5	18.5	16.5

Concrete Volume (cubic yards) = .356 X L

Fabrication Design Notes:

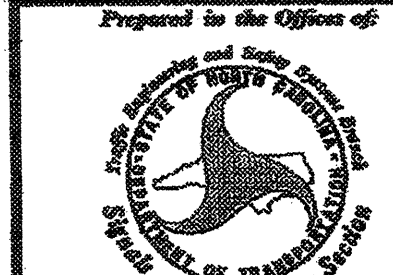

1. Values shown in "Moment at the Pole Base" column represents the minimum acceptable capacity allowable for design using a design GSR of 1.
2. Base plate thickness (T) is 2.0 inches.

Foundation Selection:

1. Perform a standard penetration test at each proposed foundation site to determine "N" value.
2. Select the appropriate wind zone from sheet M 1.
3. Select the soil type (Clay or Sand) that best describes the soil characteristics.
4. Get the appropriate pole case load number from the plans or from the Engineer.
5. Select the appropriate column in the chart based on soil type and "N" value. Select the appropriate row based on the pole load case. The foundation depth is the value where the column and the row intersect.

Standard Strain Poles

02-SEP-2005 12:42
w:\pools\es-un1\NewKrcoups2004.mxd pole etndor-0404.mxd etndor\pole.dgn
paxxander

	Standard Strain Poles and Standard Foundations		
	PLAN DATE: May 2005 PREPARED BY: P.L. Alexander	REVIEWED BY: C.F. Andrews REVIEWED BY: A.W. Esposito	
SCALE: NA None	SIGNATURE: <i>D. Sarkar</i> 9.2.2005		DATE:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

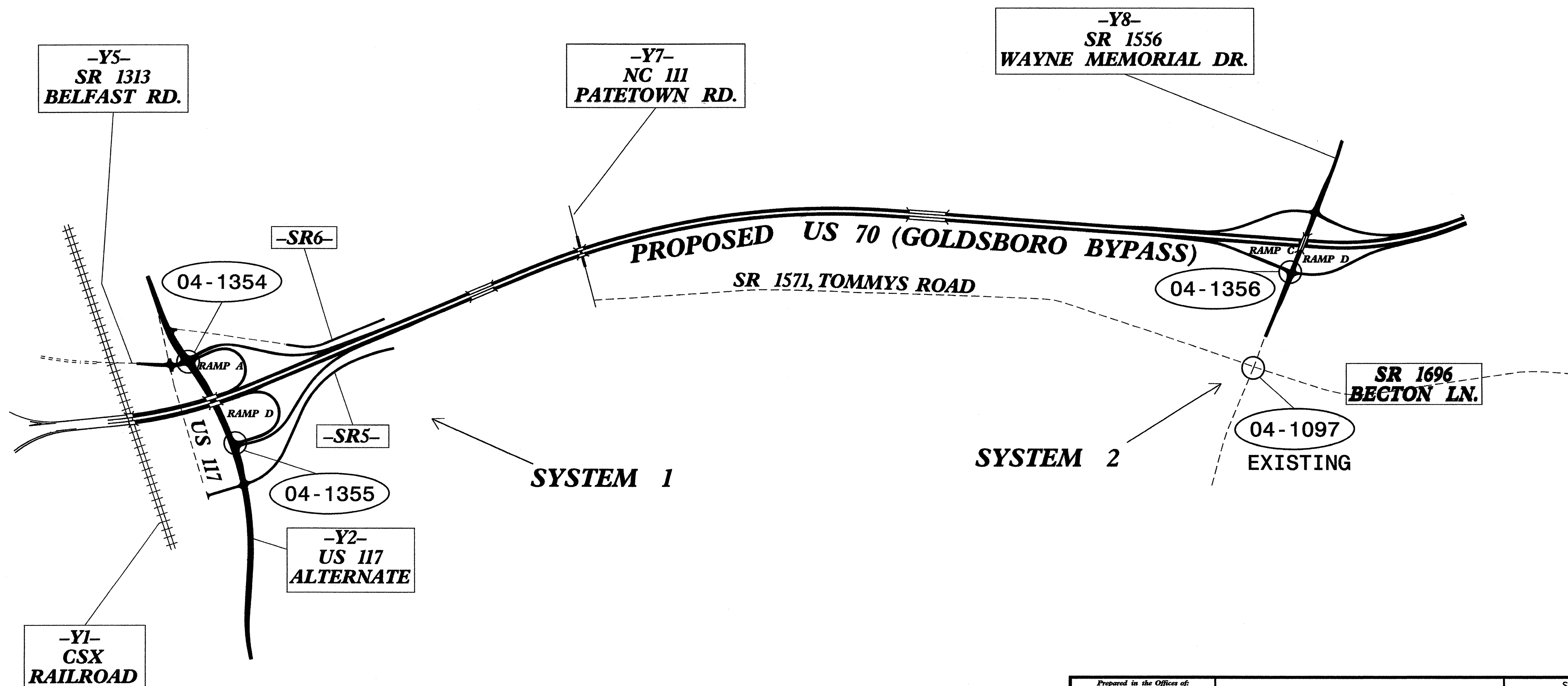
WAYNE COUNTY

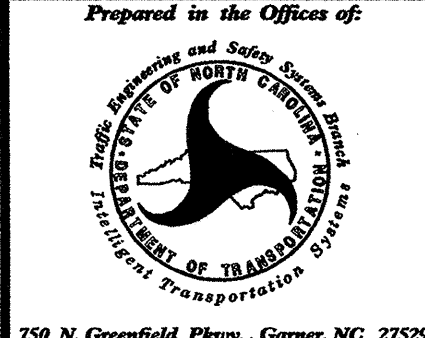
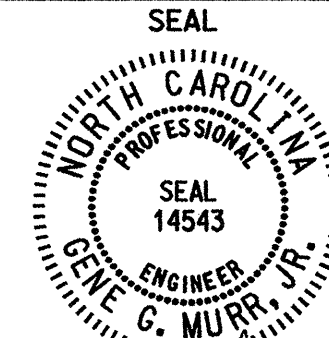

LOCATION: US 70 (GOLDSBORO BYPASS) FROM EAST OF SR 1300 (SALEM CHURCH ROAD) TO EAST OF SR 1556 (WAYNE MEMORIAL DRIVE)

TYPE OF WORK: COMMUNICATIONS CABLE AND CONDUIT ROUTING

R-2554BA

PROJECT:



 <small>Prepared in the Offices of: Traffic Engineering and Safety Section DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION</small>	COMMUNICATIONS CABLE AND CONDUIT ROUTING PLANS		 <small>SEAL NORTH CAROLINA PROFESSIONAL ENGINEER GENE G. MURR, JR. 14543</small>
	DIVISION 4 WAYNE GOLDSBORO		
<small>750 N. Greenfield Place, Garner, NC 27529</small>	PLAN DATE: DECEMBER 2007	REVIEWED BY: I. N. AVERY	REVIEWED BY: G. G. MURR, JR.
SCALE: 0	PREPARED BY: H. TOMA BERGGREN	REVIEWED BY: G. G. MURR, JR.	SIGNATURE: <i>[Signature]</i> DATE: 12-5-07
	REVISIONS:	INIT.:	DATE:
CADD FILE NAME:			

- 1 INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 2 INSTALL REA, PE - 38, (FIGURE 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 3 INSTALL REA, PE - 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 4 INSTALL SMFO CABLE
- 5 INSTALL MMFO CABLE
- 6 INSTALL FIBER OPTIC DROP CABLE
- 7 INSTALL TRACER WIRE
- 8 TRENCH
- 9 INSTALL PVC CONDUIT
- 10 INSTALL RIGID, GALVANIZED STEEL CONDUIT
- 11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
- 12 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
- 13 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
- 14 INSTALL POLYETHYLENE CONDUIT
- 15 DIRECTIONAL DRILL CONDUIT
- 16 BORE AND JACK CONDUIT
- 17 INSTALL CABLE(S) IN EXISTING CONDUIT
- 18 INSTALL CABLE(S) IN NEW CONDUIT
- 19 INSTALL CABLE(S) IN EXISTING RISER
- 20 INSTALL CABLE(S) IN NEW RISER
- 21 INSTALL CABLE(S) IN EXISTING CONDUIT STUB-OUTS
- 22 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 23 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 24 INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
- 25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
- 26 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPlice CABLE IN CABINET
- 29 INSTALL UNDERGROUND SPlice ENCLOSURE
- 30 INSTALL AERIAL SPlice ENCLOSURE
- 31 INSTALL POLE MOUNTED SPlice CABINET
- 32 INSTALL BASE MOUNTED SPlice CABINET
- 33 REMOVE EXISTING SPlice CABINET

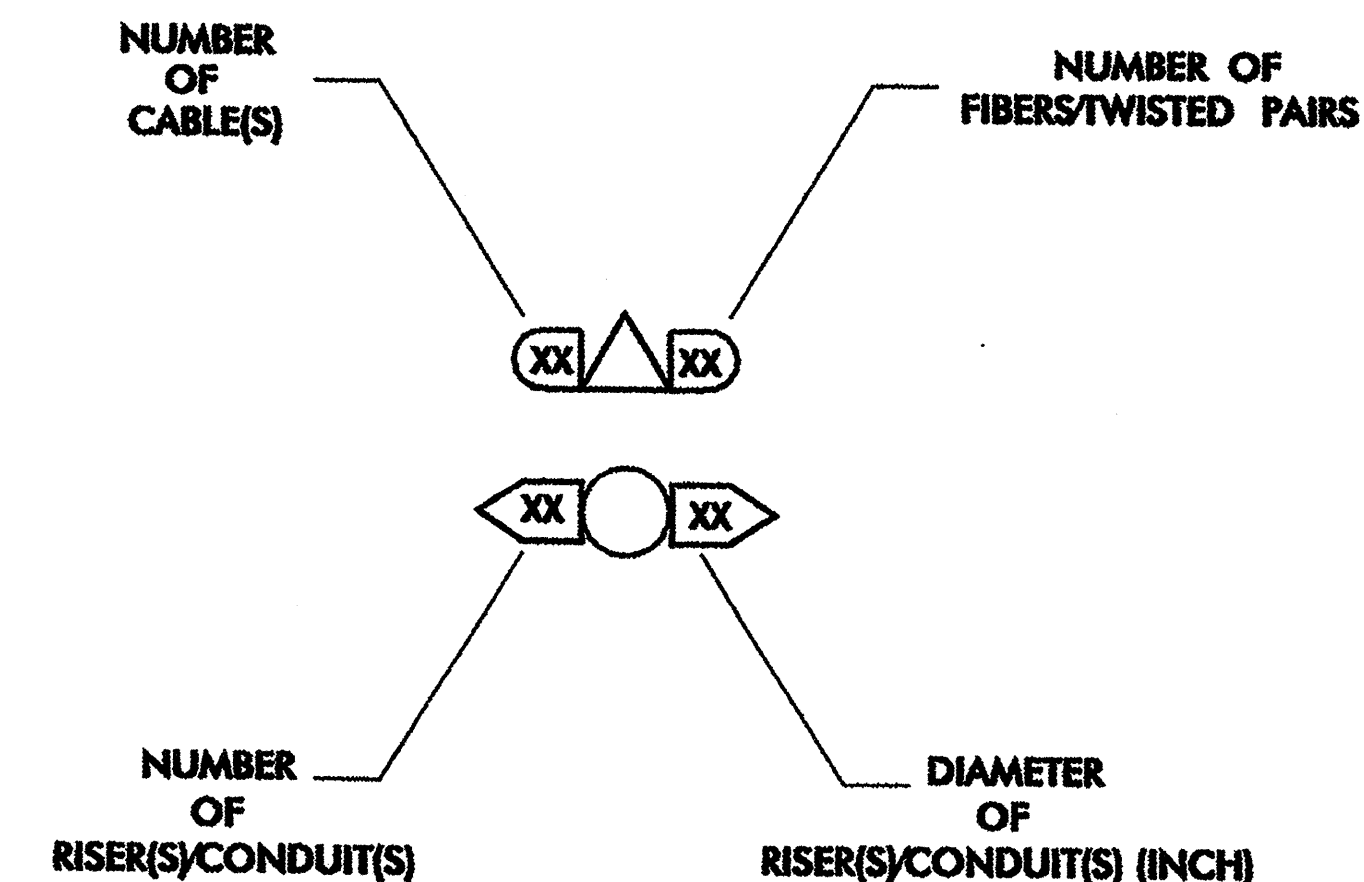
- 34 INSTALL CABINET FOUNDATION
- 35 REMOVE EXISTING CABINET FOUNDATION
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA WOOD POLE
- 38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
- 39 INSTALL JUNCTION BOX
- 40 INSTALL OVERSIZED JUNCTION BOX
- 41 REMOVE EXISTING JUNCTION BOX
- 42 INSTALL WOOD POLE
- 43 REMOVE EXISTING WOOD POLE
- 44 INSTALL AERIAL GUY ASSEMBLY
- 45 INSTALL STANDARD GUY ASSEMBLY
- 46 INSTALL SIDEWALK GUY ASSEMBLY
- 47 INSTALL MESSENGER CABLE
- 48 REMOVE EXISTING COMMUNICATIONS AND MESSENGER CABLE
- 49 REMOVE EXISTING MESSENGER CABLE
- 50 INSTALL TELEPHONE SERVICE
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52 INSTALL DELINEATOR MARKER
- 53 STORE 20 FEET OF COMMUNICATIONS CABLE
- 54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
- 55 LASH CABLE(S) TO EXISTING MESSENGER CABLE
- 56 LASH CABLE(S) TO NEW MESSENGER CABLE
- 57 MODIFY EXISTING ELECTRICAL SERVICE
- 58 INSTALL NEW ELECTRICAL SERVICE

LEGEND

- FO NEW FIBER OPTIC COMMUNICATIONS CABLE
- TWIST PR NEW TWISTED PAIR COMMUNICATIONS CABLE
- EXI EXISTING COMMUNICATIONS CABLE
- REM EXISTING COMMUNICATIONS CABLE TO BE REMOVED
- NEW AERIAL GUY ASSEMBLY
- NEW CONDUIT
- EXISTING CONDUIT
- DD NEW DIRECTIONAL DRILLED CONDUIT
- B&J NEW BORED AND JACKED CONDUIT
- NEW JUNCTION BOX
- EXISTING JUNCTION BOX
- NEW WOOD POLE
- EXISTING WOOD POLE
- AERIAL SPlice ENCLOSURE
- NEW METAL POLE
- EXISTING METAL POLE
- NEW CCTV ASSEMBLY
- NEW STANDARD GUY ASSEMBLY
- NEW SIDEWALK GUY ASSEMBLY
- NEW CABLE STORAGE RACKS (SNOW SHOES)
- EXISTING CONTROLLER AND CABINET
- EXISTING SPlice CABINET
- NEW SPlice CABINET
- SIGNAL POLE
- SP
- XX-XXXX SIGNAL INVENTORY NUMBER

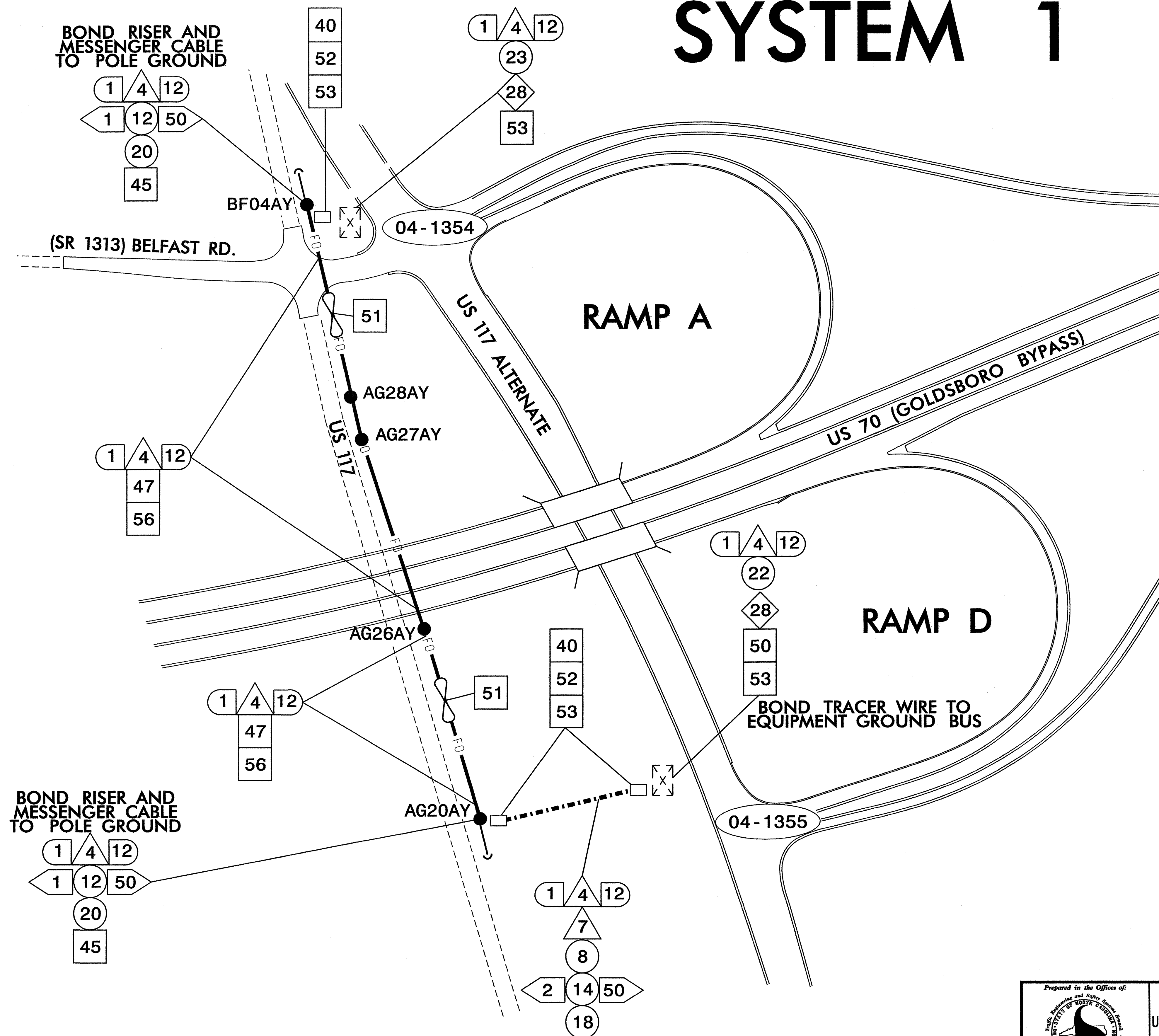
CONSTRUCTION NOTE SYMBOLOGY KEY

- XX INDICATES NUMBER OF CABLES, LOOPS, ETC.
- XX INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.
- XX INDICATES NUMBER OF RISER(S)/CONDUIT(S)
- XX INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)



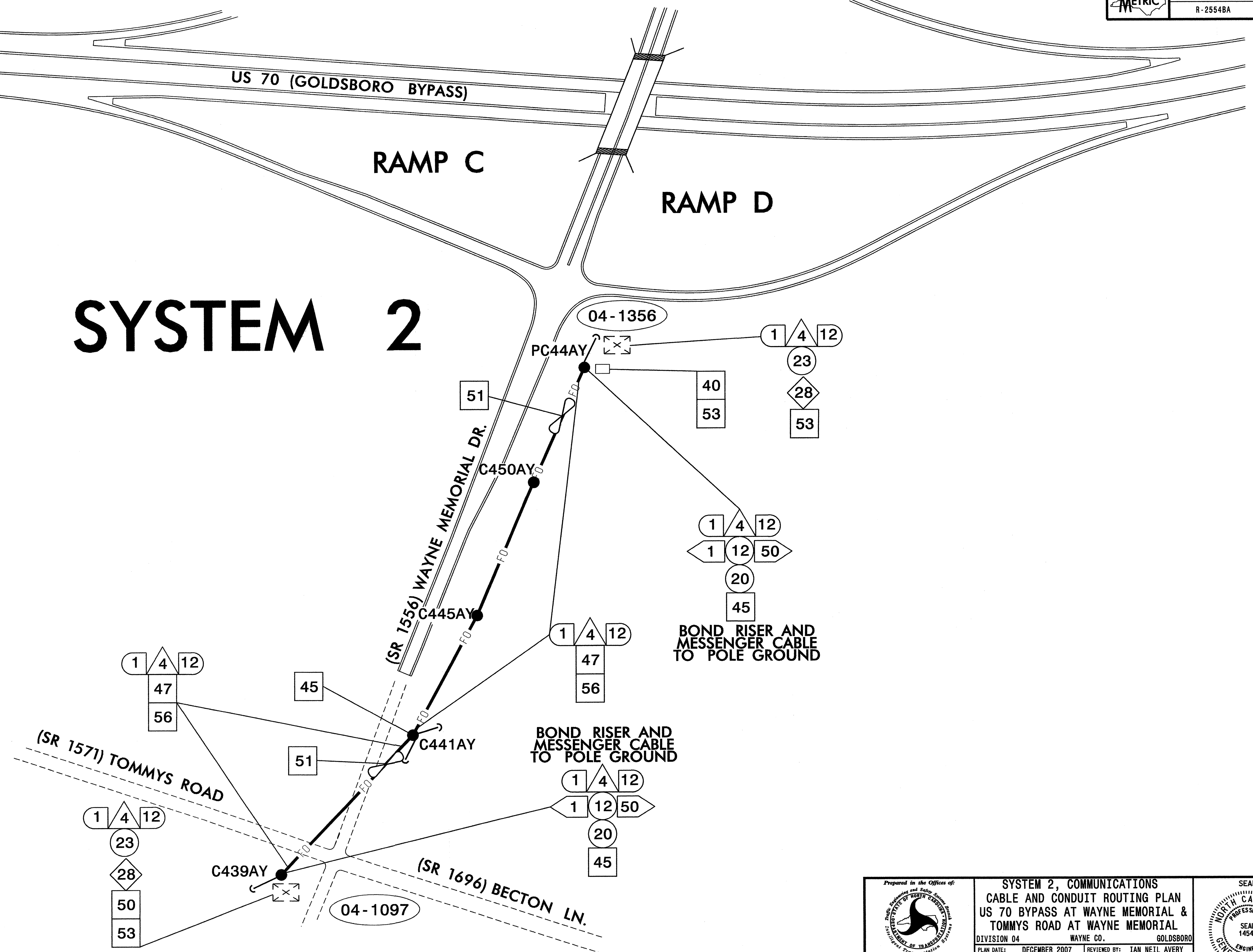
	CONSTRUCTION NOTES		SEAL
	PLAN DATE: _____ PREPARED BY: _____ SCALE: 0 _____	REVIEWED BY: _____ REVIEWED BY: G. A. FULLER REVISIONS: _____ DATE: _____	

SYSTEM 1

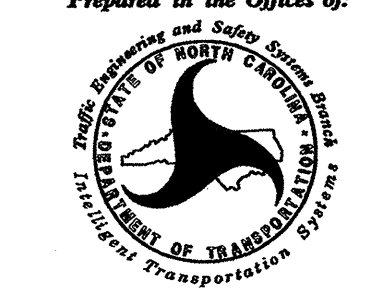
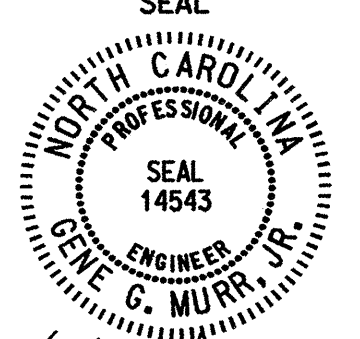


	SYSTEM 1, COMMUNICATIONS CABLE AND CONDUIT ROUTING PLAN US117 ALTERNATE AT US70(GOLDSBORO BYPASS) RAMP A AND RAMP D			
	DIVISION 04	WAYNE CO.		GOLDSBORO
	PLAN DATE: DECEMBER 2007	REVIEWED BY: IAN NEIL AVERY		
	PREPARED BY: HEIDI TOMA BERGGREN	REVIEWED BY: G. G. MURR, JR., PE		
SCALE: 0		REVISIONS: _____ INIT. DATE: _____	SIGNATURE: <i>[Signature]</i> DATE: 12-5-07	

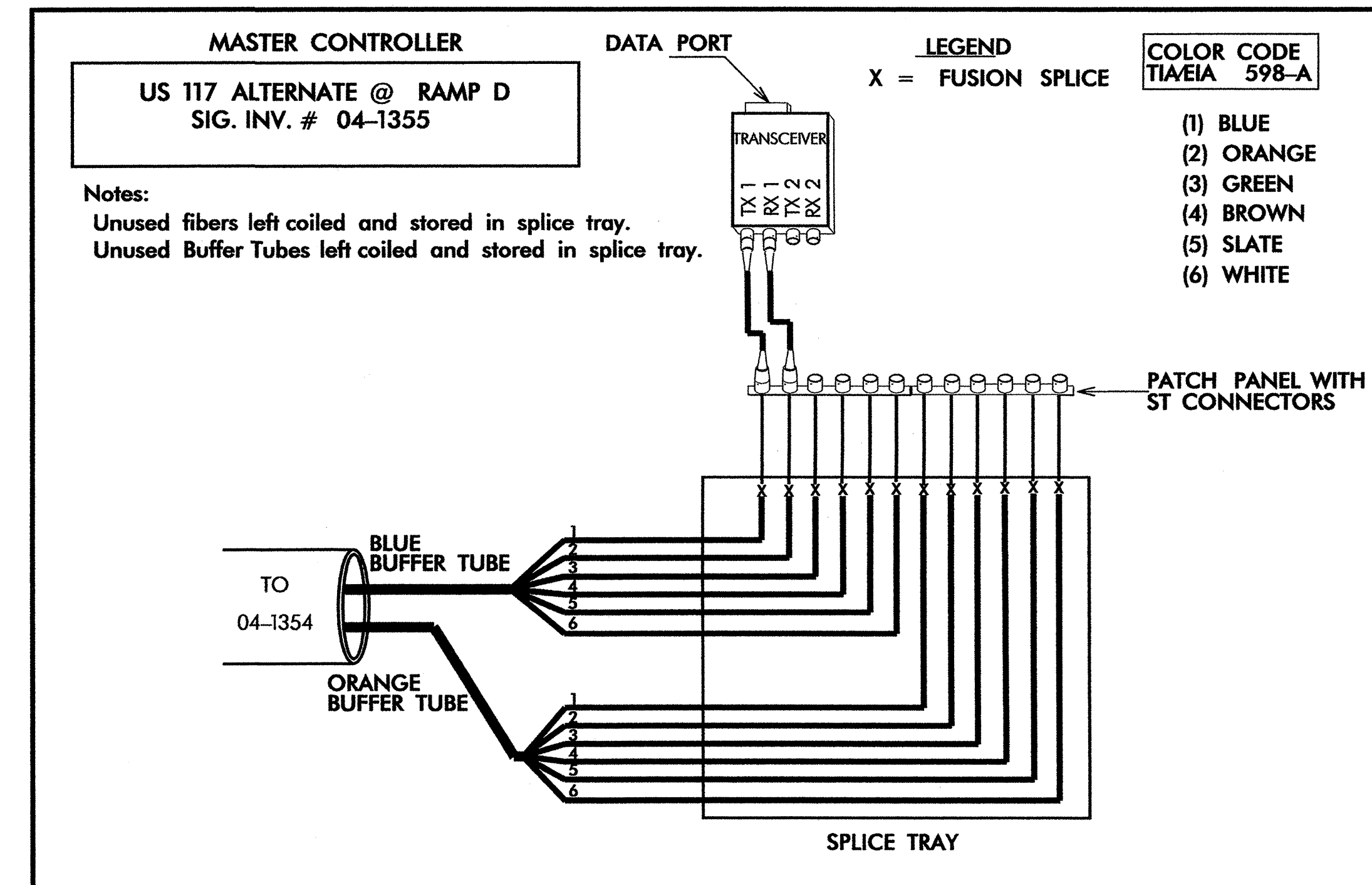
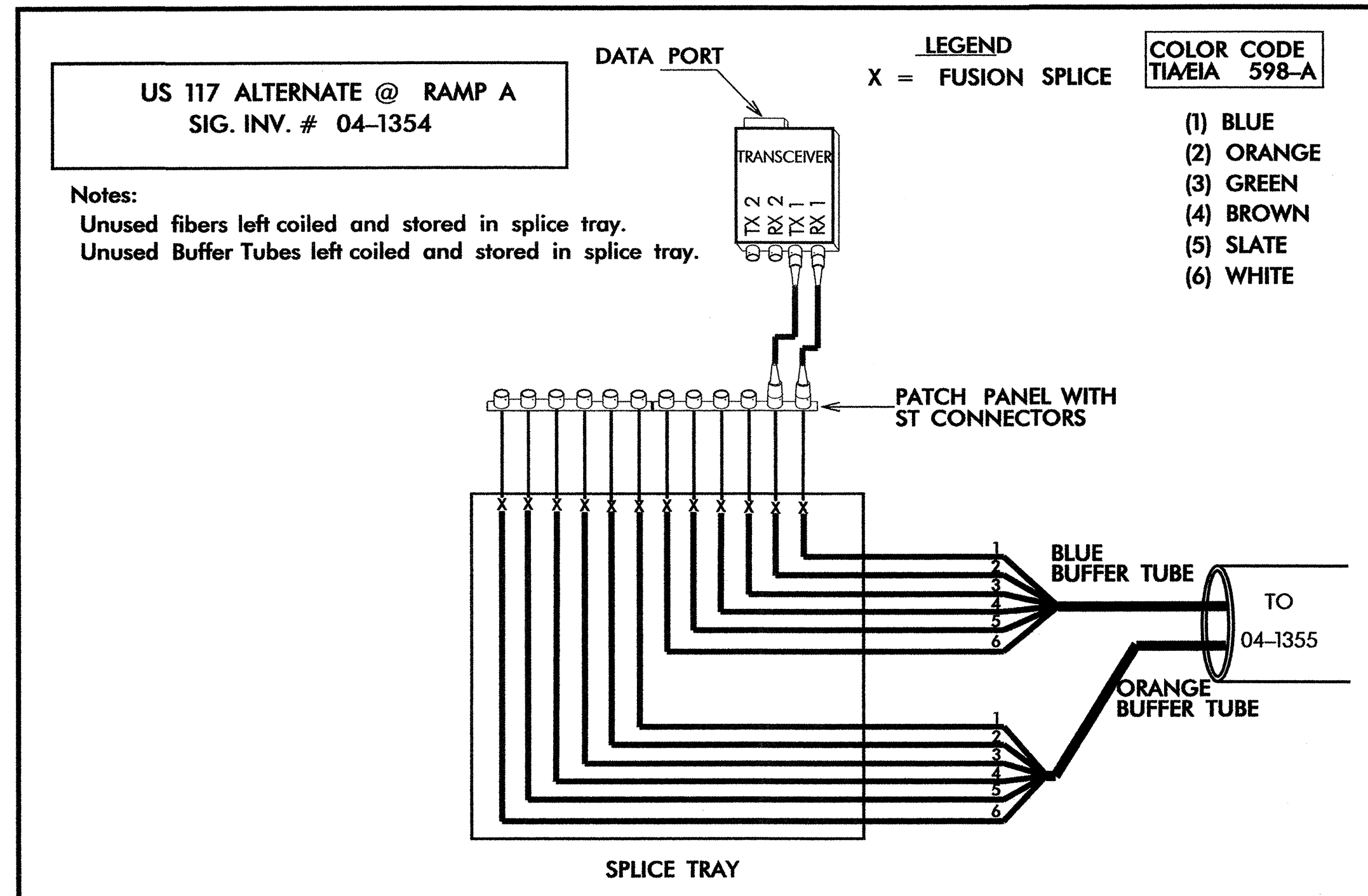
SYSTEM 2



NOTE:
 1. ALL CABLE ATTACHMENT POINTS SHALL BE 1016mm (40 INCHES) BELOW POWER.

	SYSTEM 2, COMMUNICATIONS CABLE AND CONDUIT ROUTING PLAN US 70 BYPASS AT WAYNE MEMORIAL & TOMMYS ROAD AT WAYNE MEMORIAL		
	DIVISION 04 PLAN DATE: DECEMBER 2007 PREPARED BY: HEIDI TOMA BERGGREN SCALE: 0	WAYNE CO. REVIEWED BY: IAN NEIL AVERY REVISIONS:	

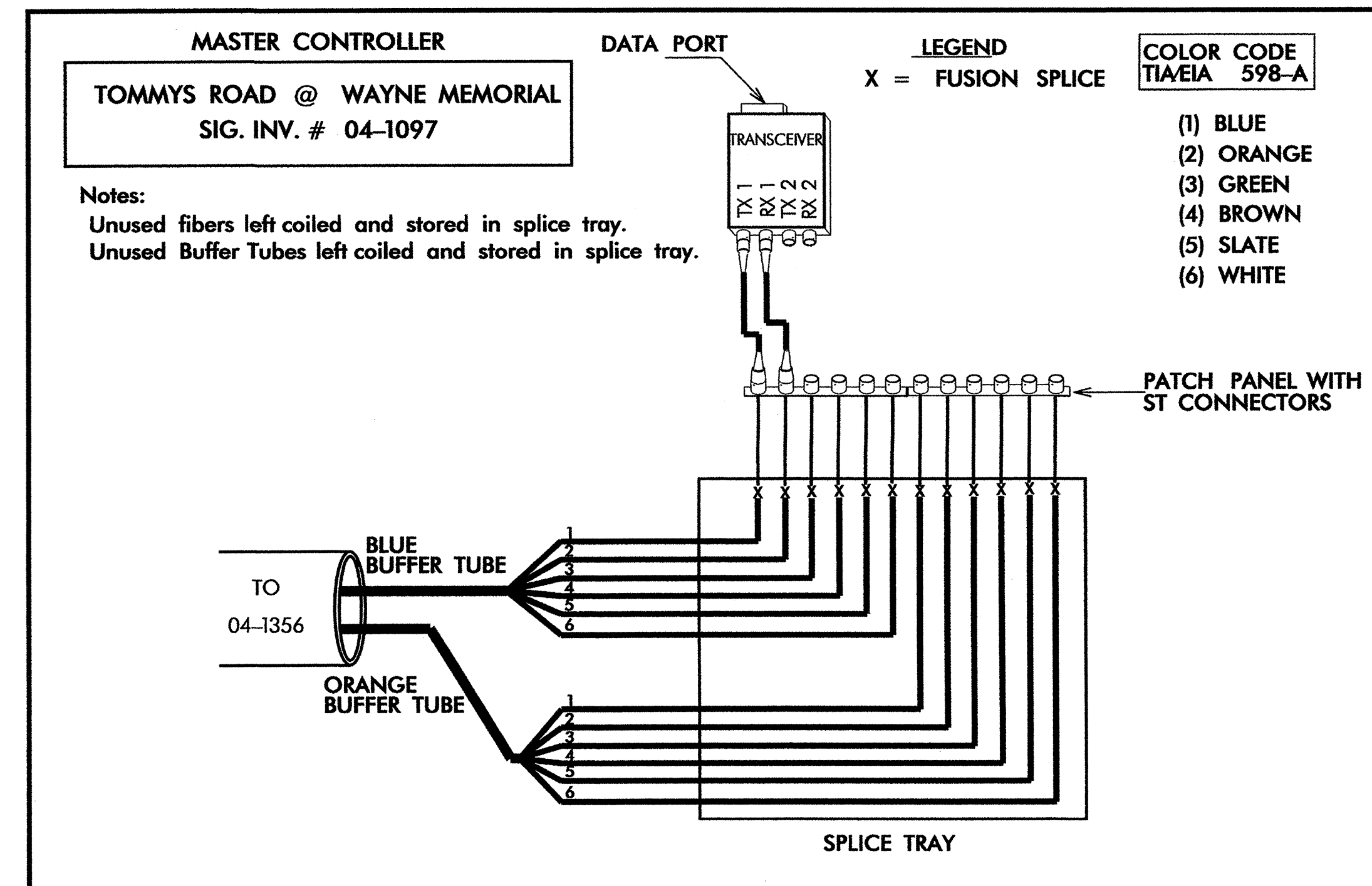
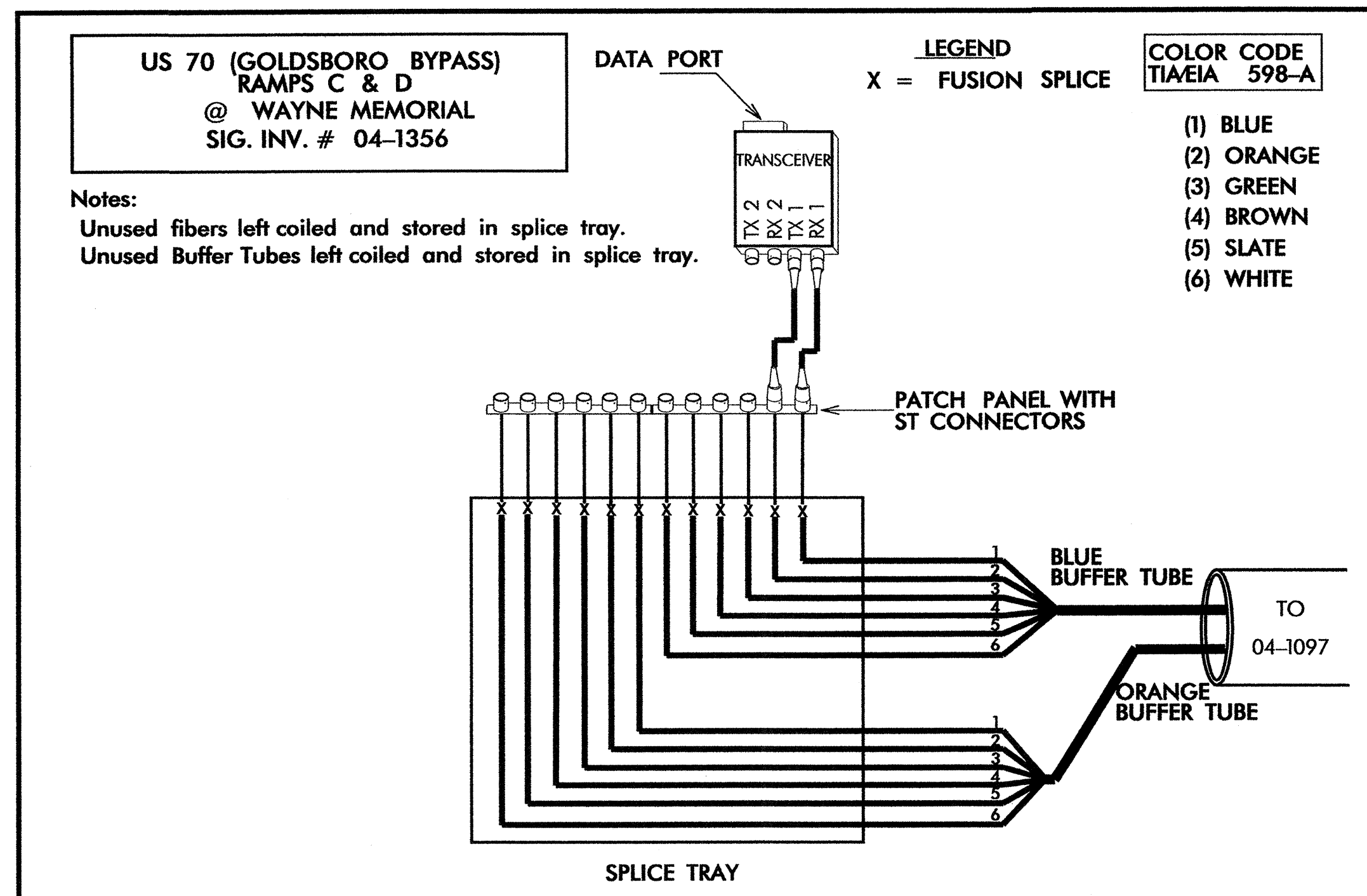
SYSTEM 1 FIBER OPTIC CABLE



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

	SYSTEM 1 SPLICE PLAN		
	US 117 ALTERNATE AT US70 (GOLDSBORO BYPASS) RAMP A AND RAMP D		
Prepared in the Offices of: Traffic Engineering and Safety Services, Inc. 750 N. Greenfield Pkwy., Garner, NC 27529	DIVISION 04 WAYNE CO. GOLDSBORO	PLAN DATE: DECEMBER 2007 REVIEWED BY: IAN NEIL AVERY	
SCALE: 0 N/A	PREPARED BY: HEIDI TOMA BERGGREN REVIEWED BY: G. G. MURR, JR., PE	REVISIONS	INIT. DATE
SIGNATURE:		DATE: 12-5-07	

SYSTEM 2 FIBER OPTIC CABLE



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

	SYSTEM 2 SPLICE PLAN US70(GOLDSBORO BYPASS) RAMP C&D AT WAYNE MEMORIAL TOMMYS ROAD AT WAYNE MEMORIAL		
	DIVISION 04 PLAN DATE: DECEMBER 2007 PREPARED BY: HEIDI TOMA BERGGREN	WAYNE CO. REVIEWED BY: IAN NEIL AVERY REVIEWED BY: G. G. MURR, JR., PE	
250 N. Greenfield Place, Garner, NC 27529 	REVISIONS INIT. DATE	SIGNATURE DATE	SEAL 14543 G. G. MURR, JR. ENGINEER DATE: 12-5-07

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DIVISION OF HIGHWAYS
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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

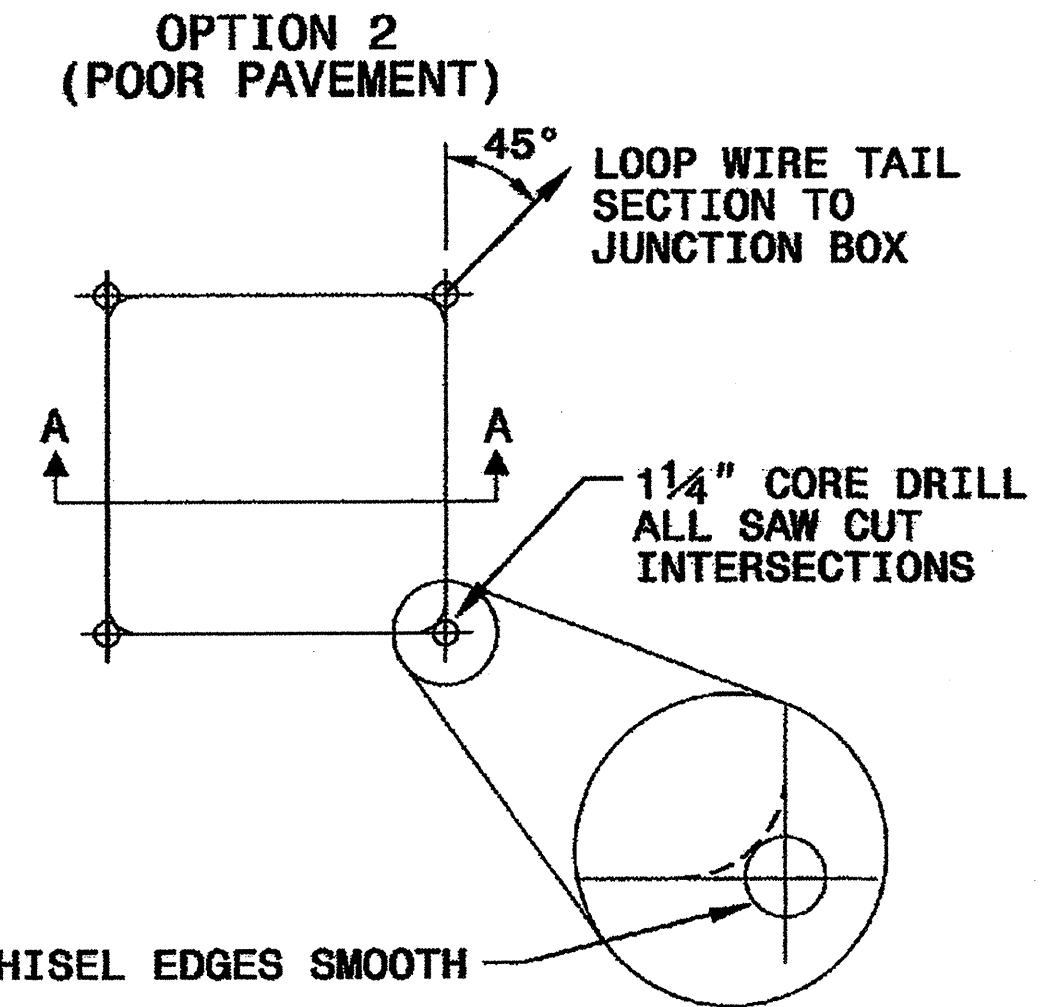
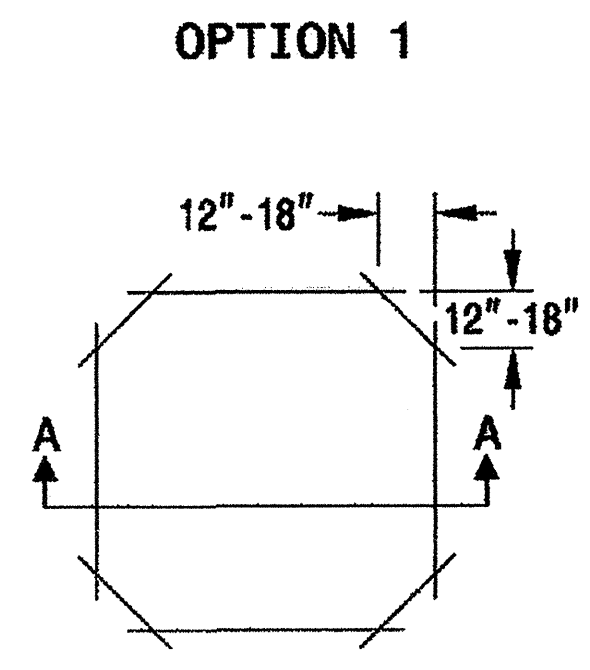
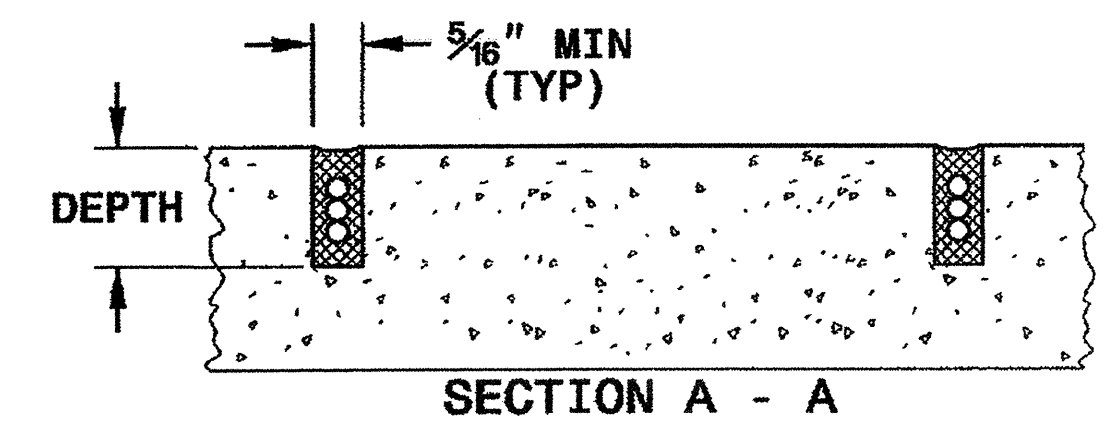
SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

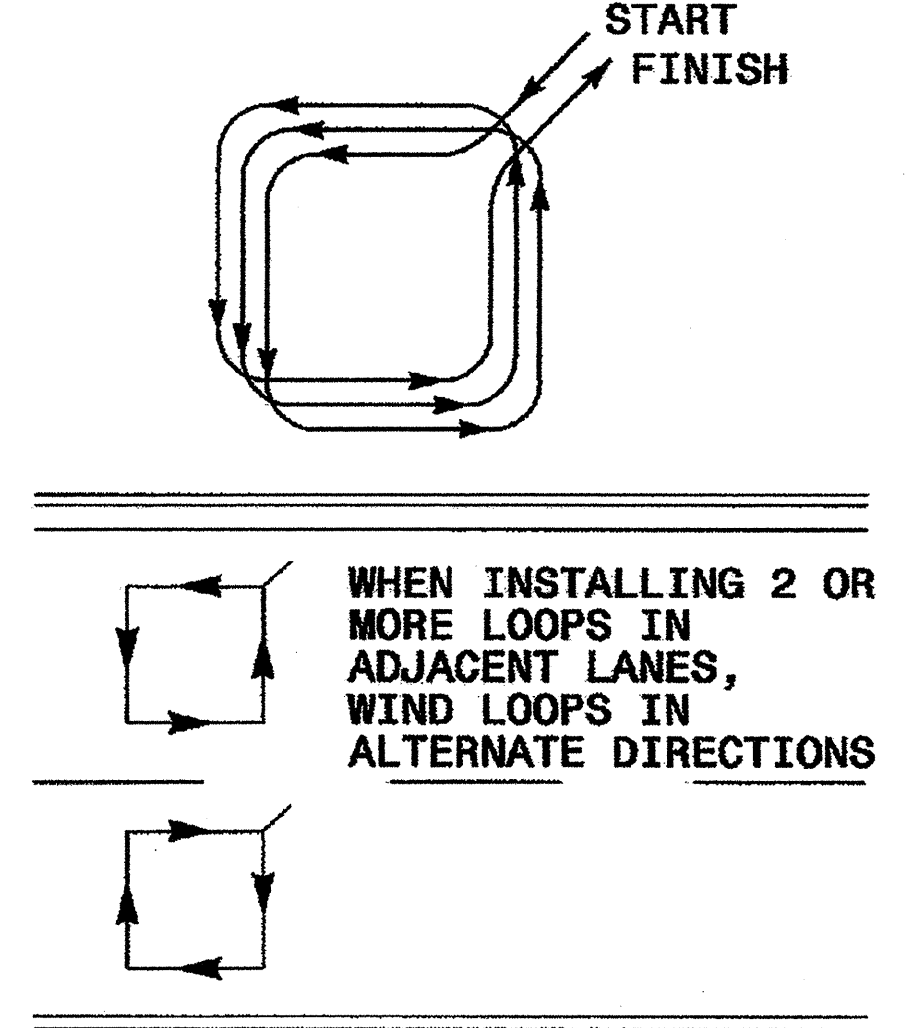
SAW CUT OPTIONS

SAW SLOT DEPTH CHART

DEPTH (IN)	NO. OF WIRE TURNS				
	2	3	4	5	6
CONCRETE	2.0	2.0	2.5	2.5	3.0
ASPHALT	2.0	2.5	3.0	3.0	3.0



LOOP WINDING METHOD

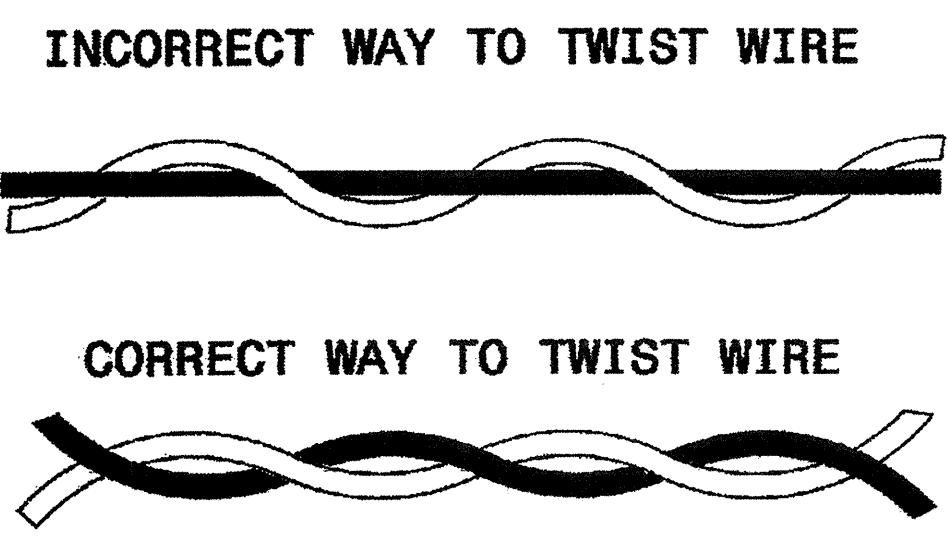


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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

LOOP WIRE TWISTING METHOD

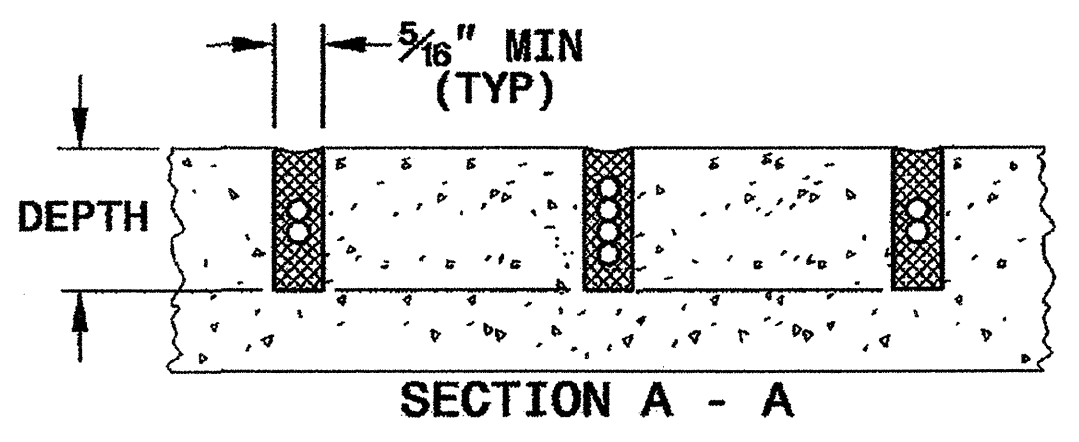
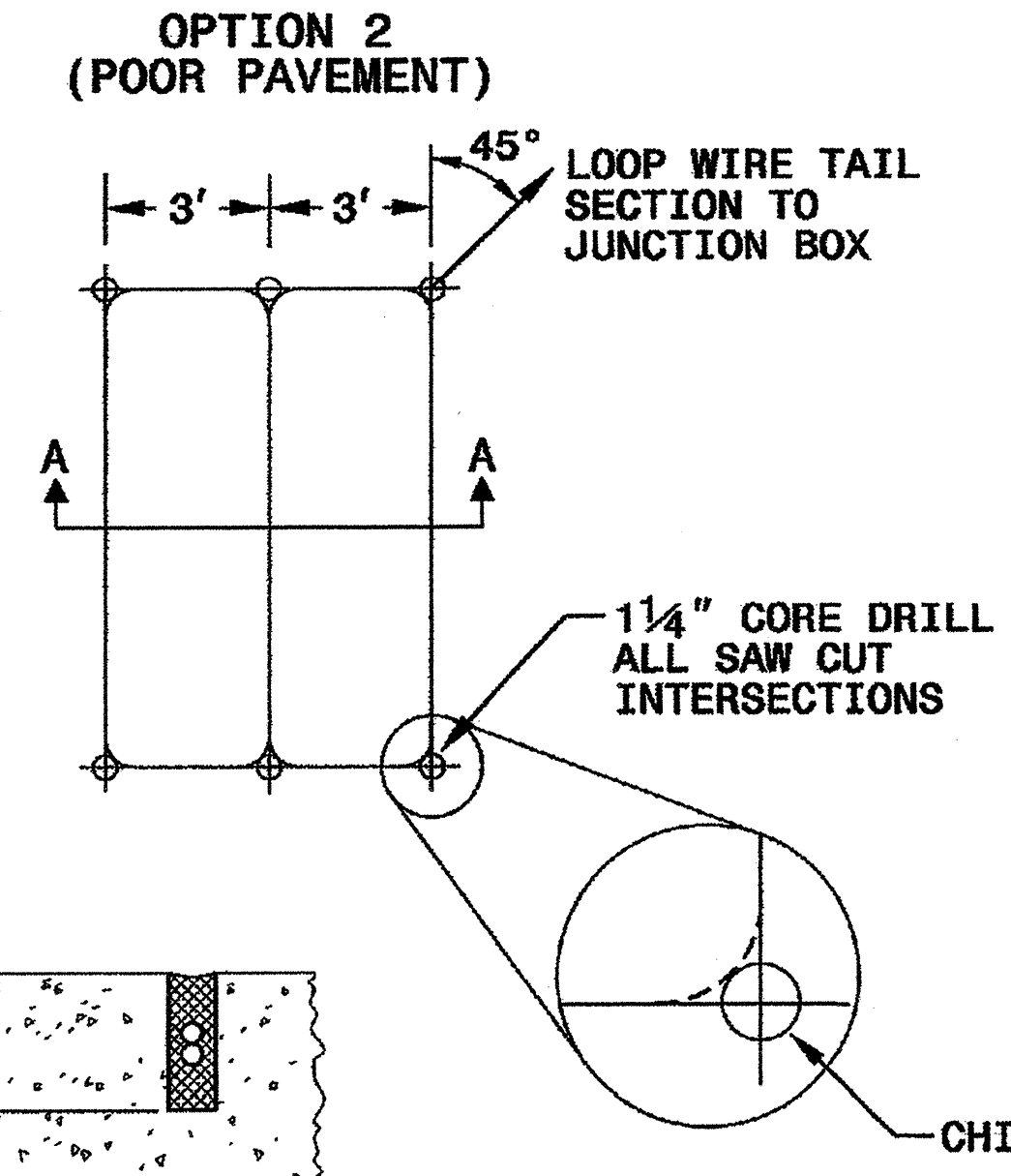
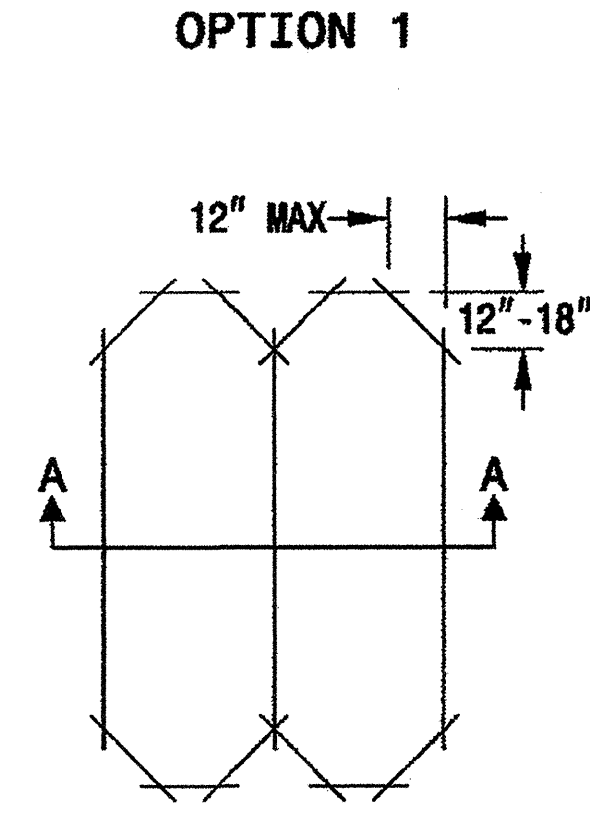


NOTES

1. OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
2. MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
3. WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
4. LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

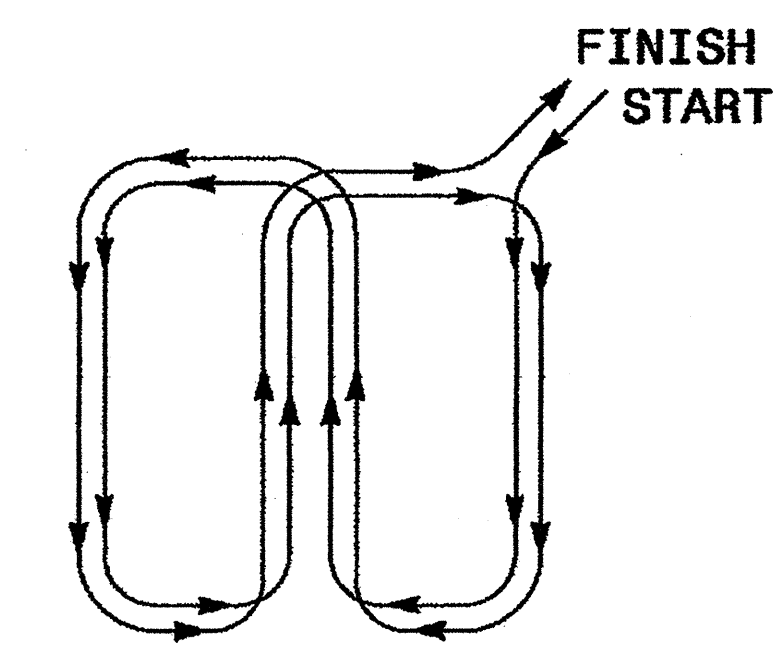
QUADRUPOLE LOOP

SAW CUT OPTIONS



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



See Plate for Title

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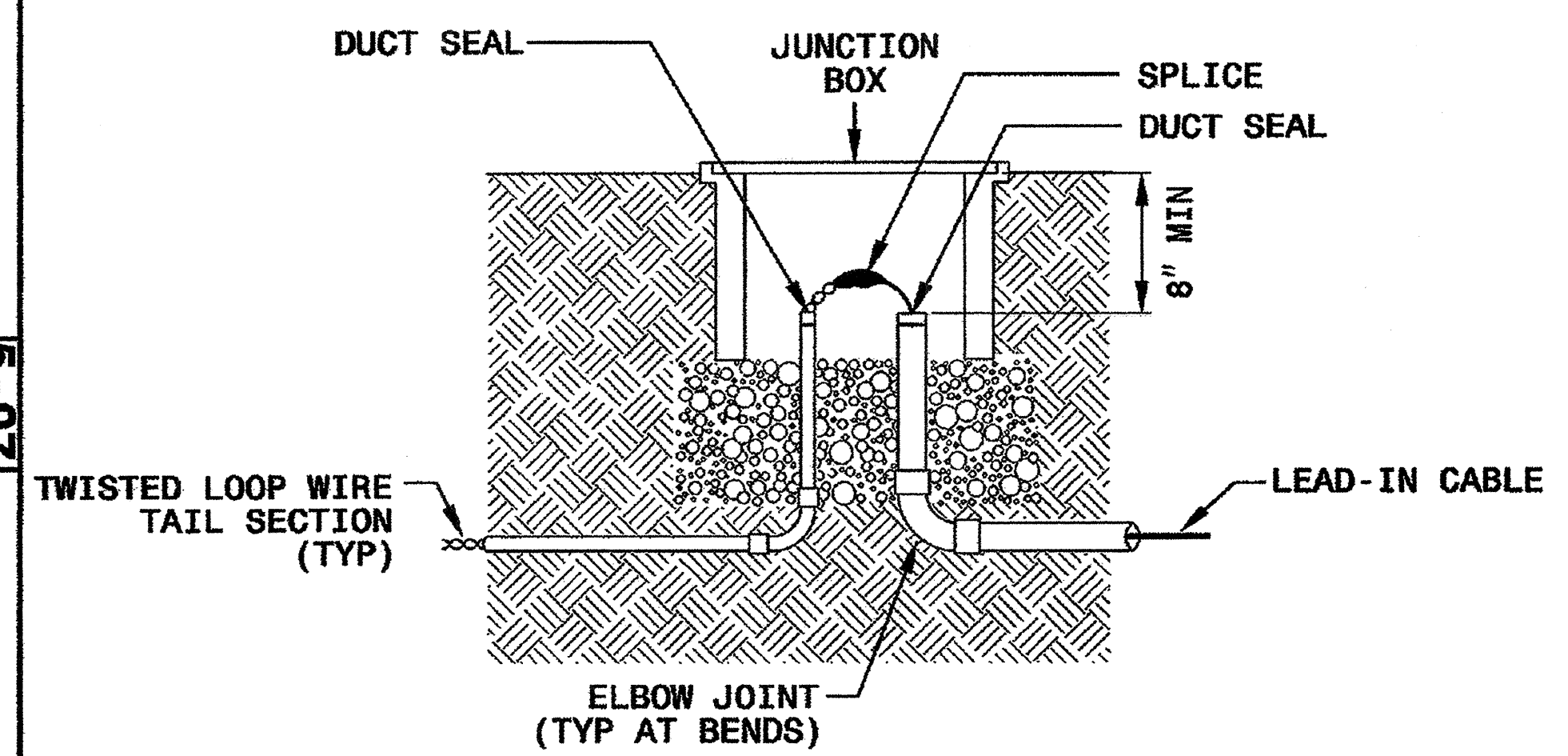
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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

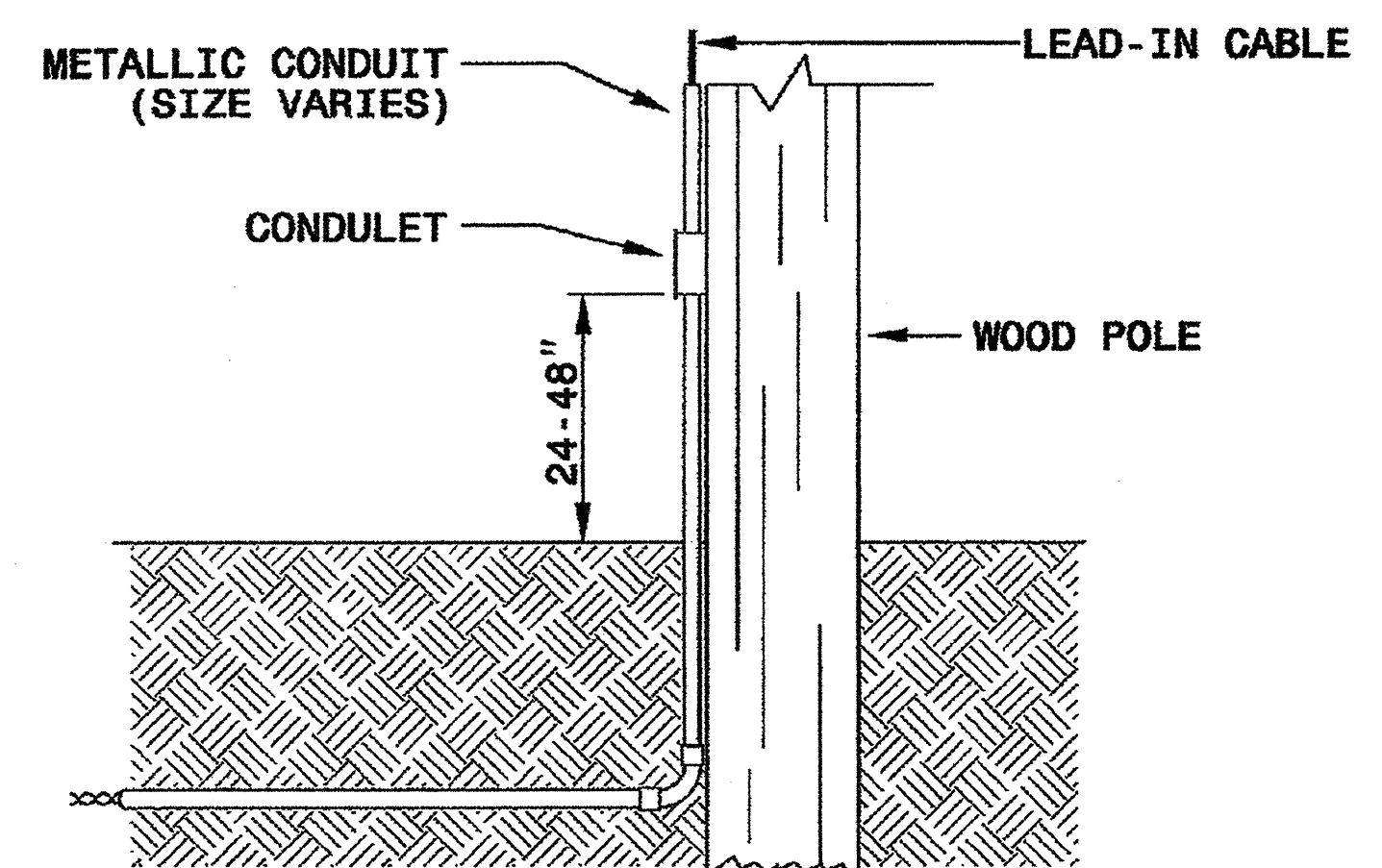
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

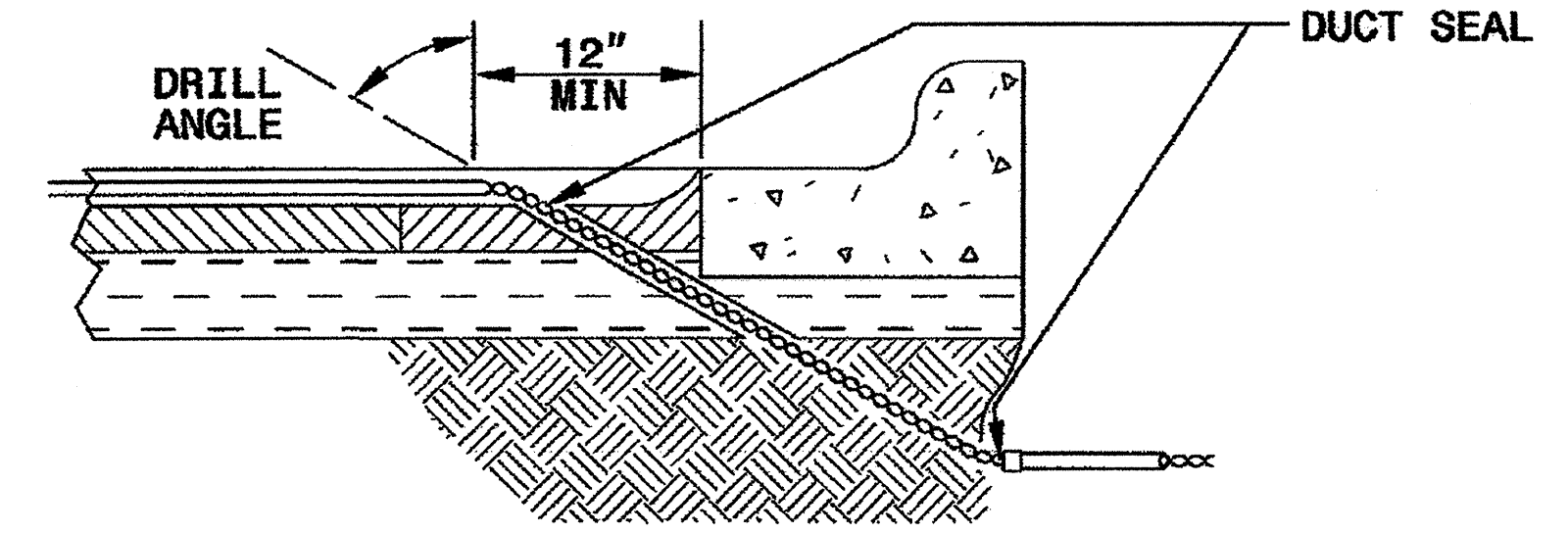


NOTE

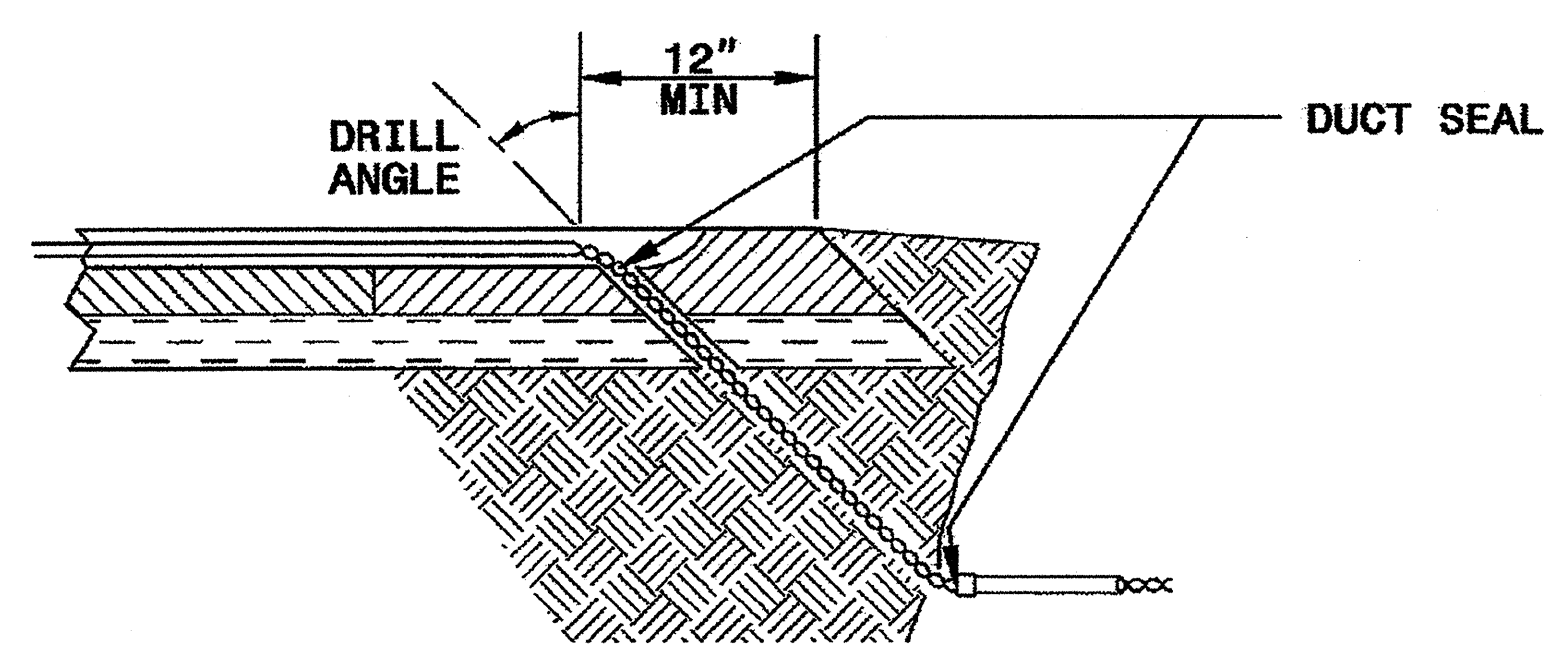
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

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

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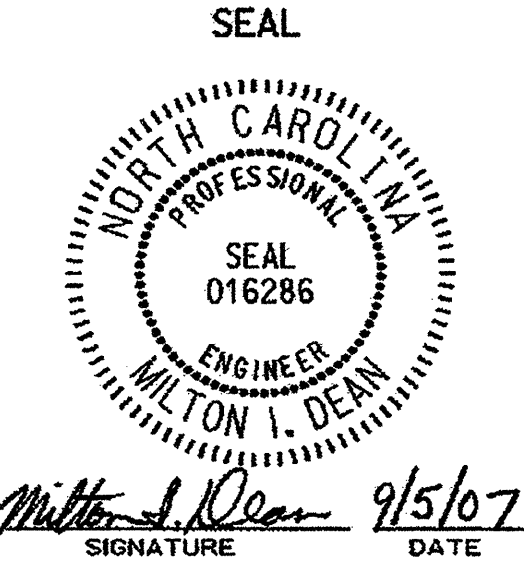
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

SHEET 2 OF 3
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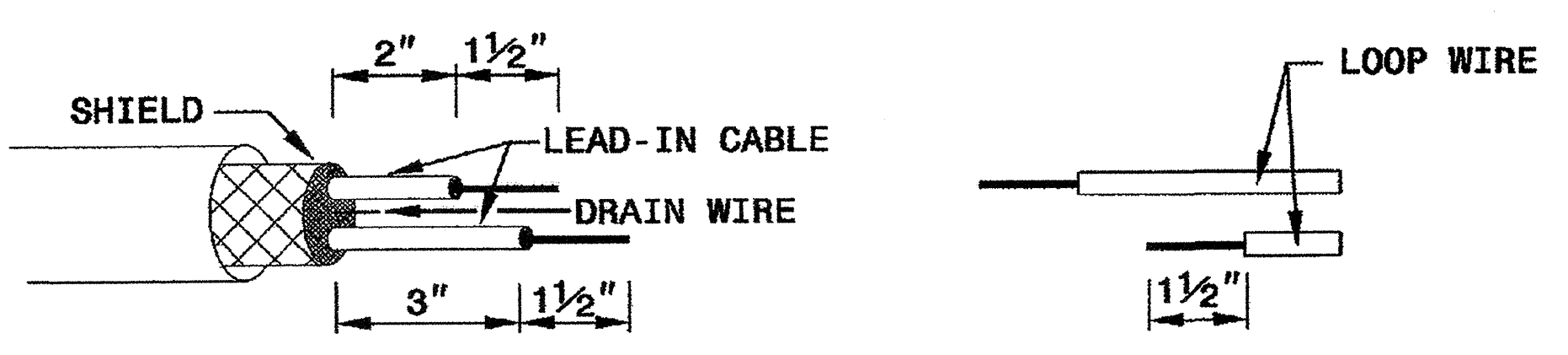
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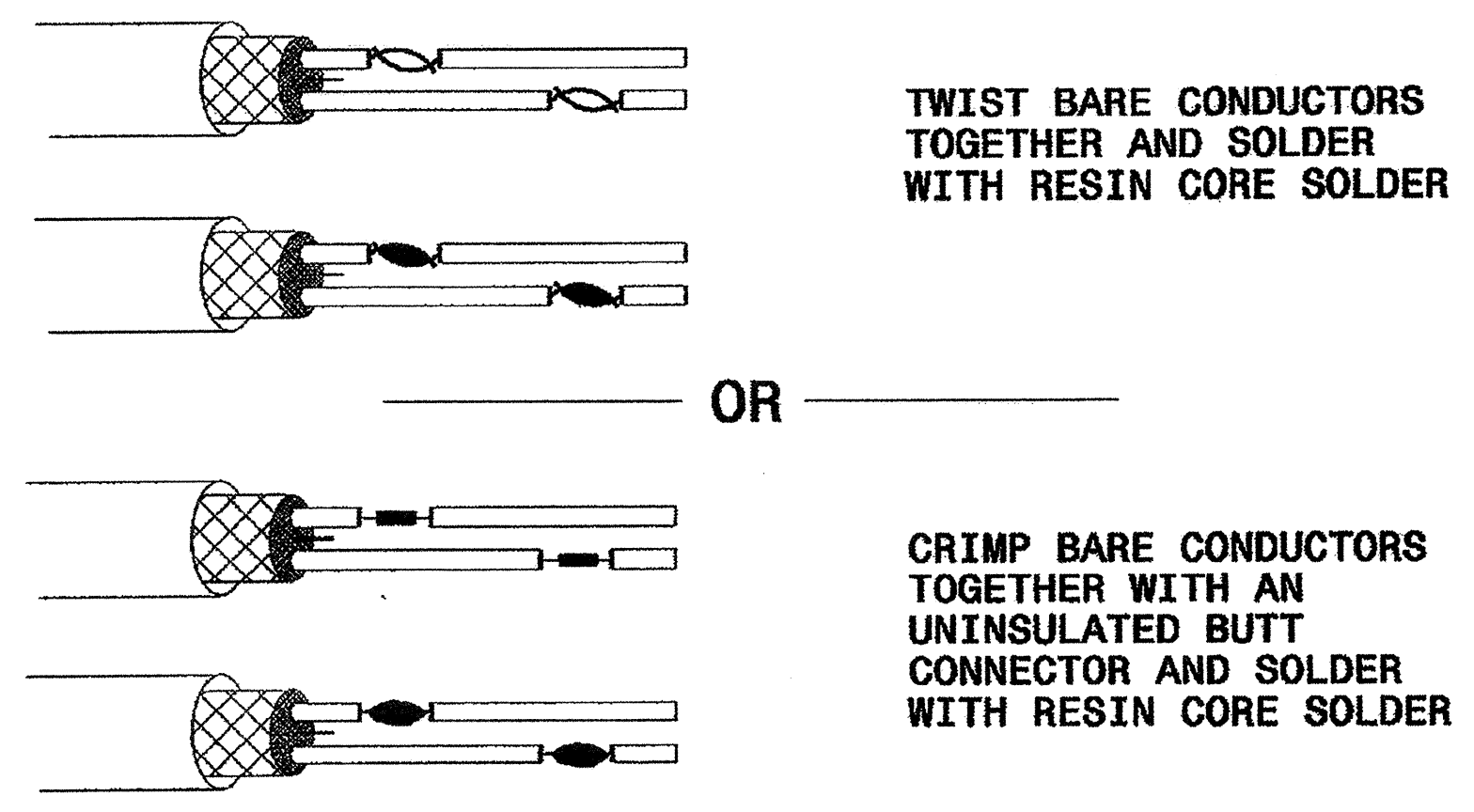
ENGLISH DETAIL DRAWING FOR
INDUCTION DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

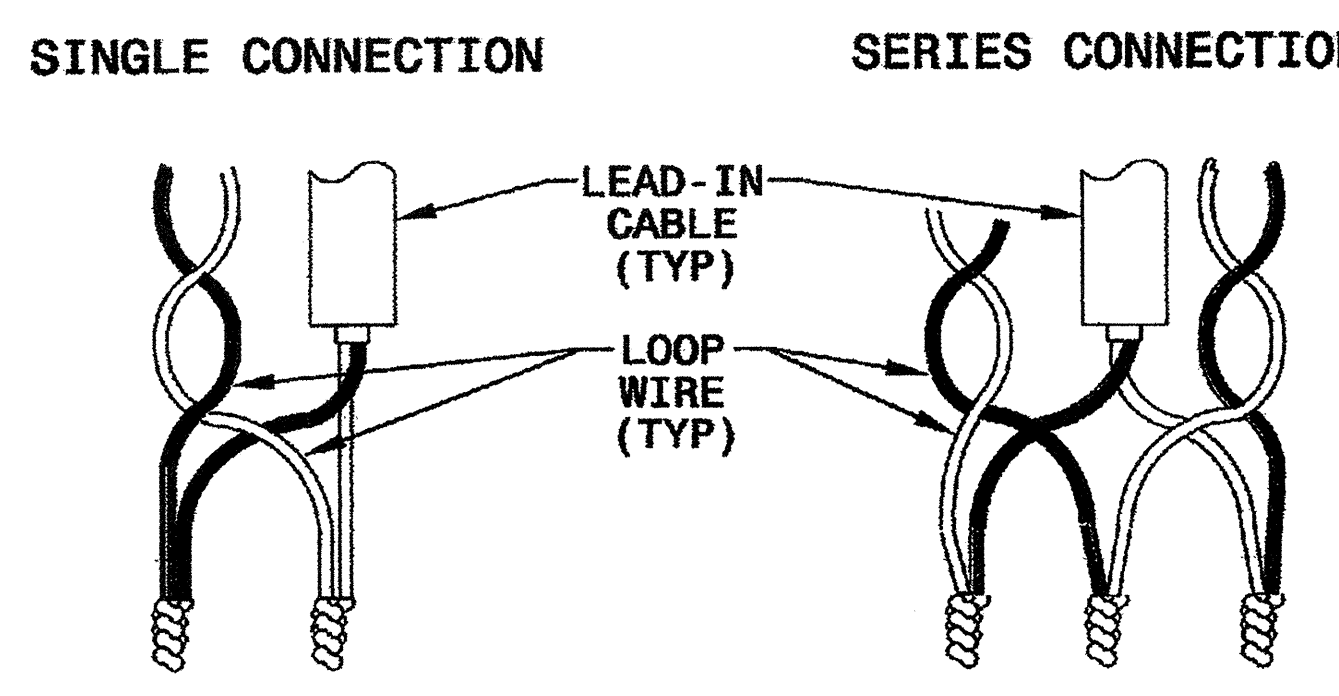


STEP 2. CONNECT AND SOLDER

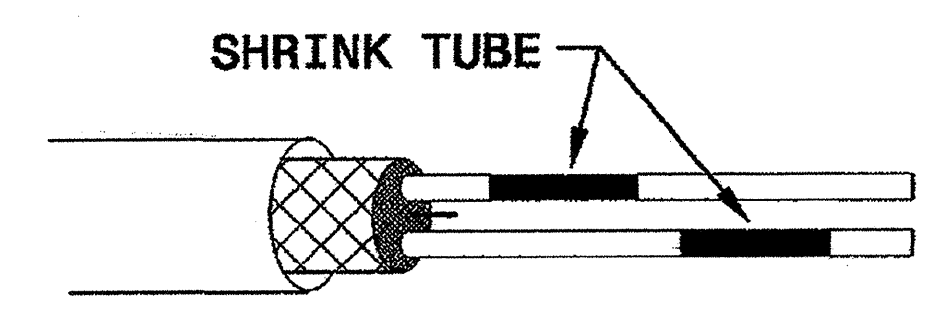


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

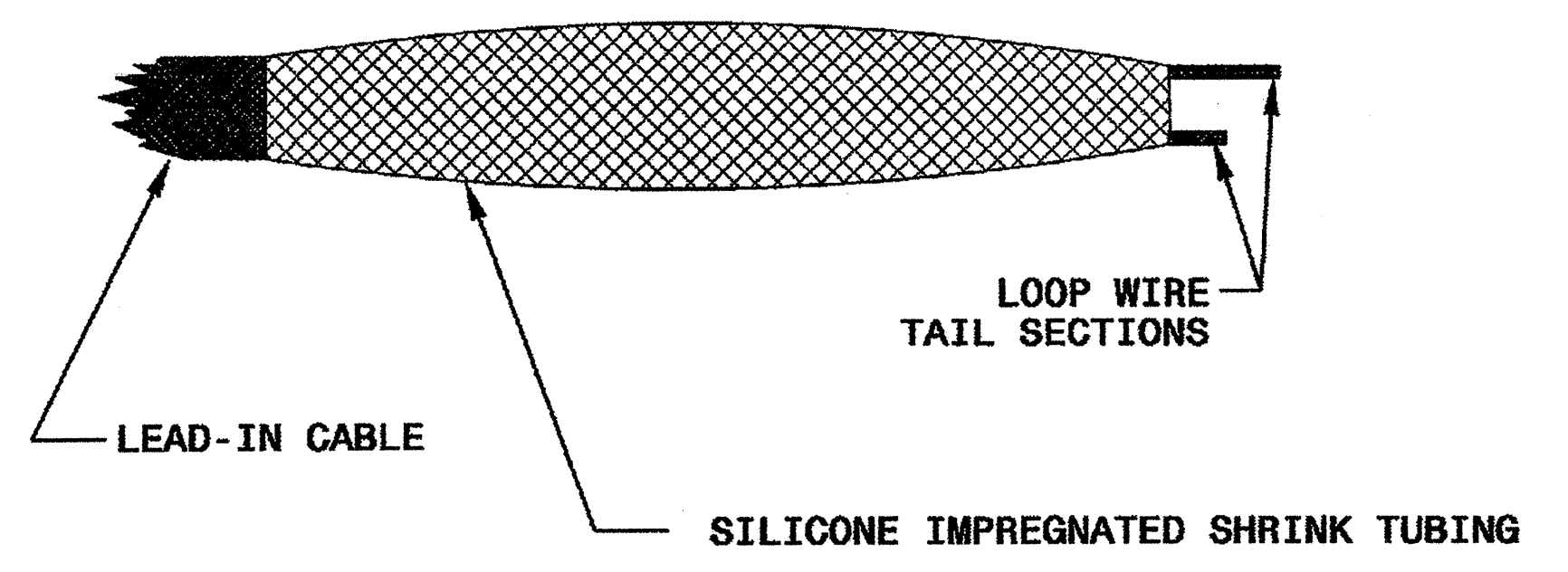
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
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