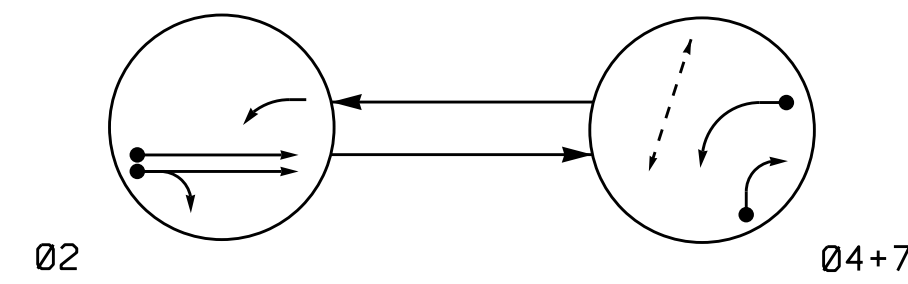


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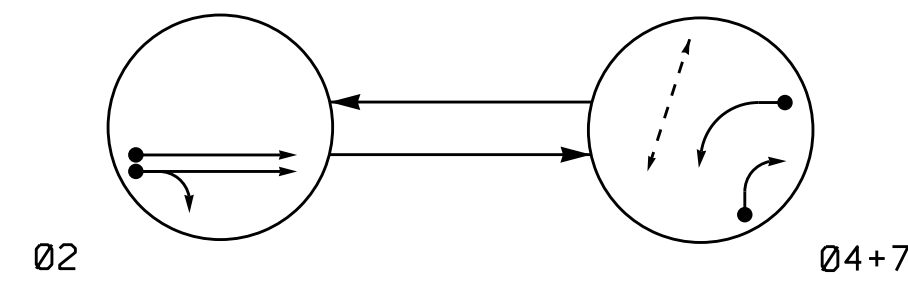
DEFAULT PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE		
	02	04+7	FLSH
21	↑	R	Y
22	G	R	Y
41, 42	R	→	R
71	↕	←	→
P41, P42	DW	W	DRK

ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE		
	02	04+7	FLSH
21	↑	R	Y
22	G	R	Y
41, 42	R	→	R
71	↕	←	→
P41, P42	DW	W	DRK

2 Phase Fully Actuated (Chapel Hill-Carrboro Signal System)

NOTES

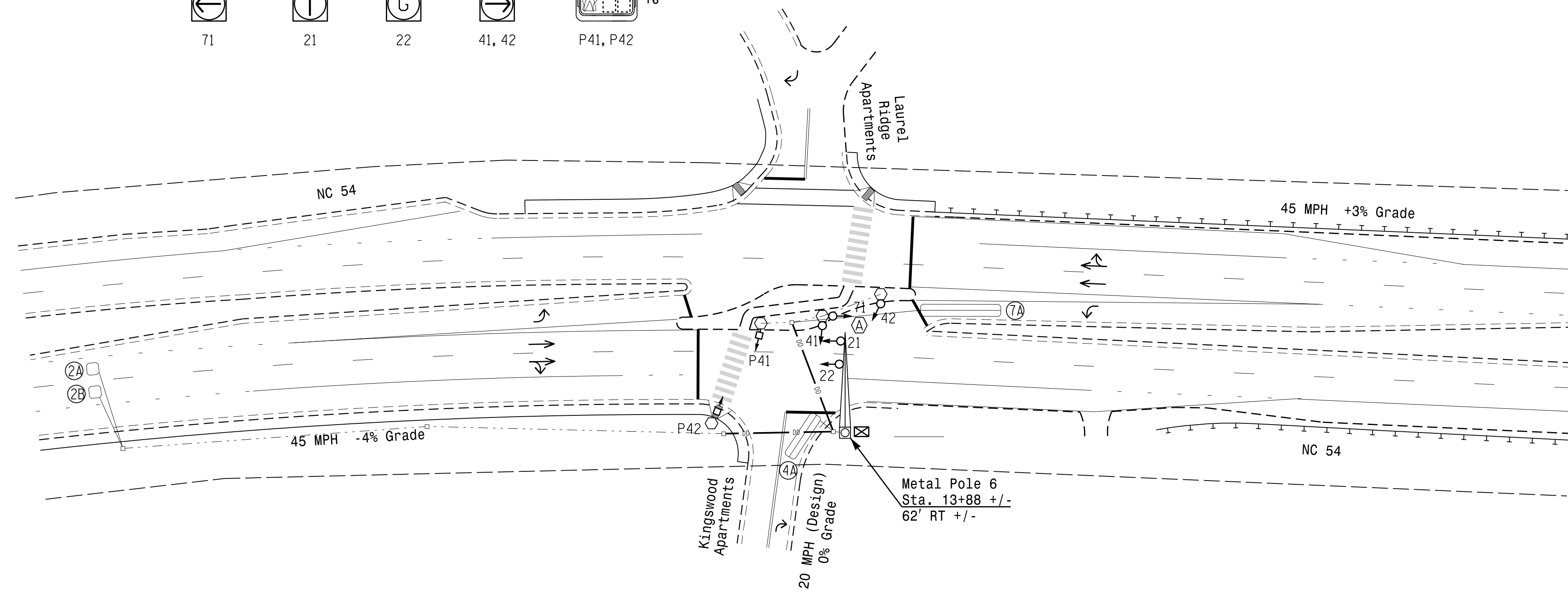
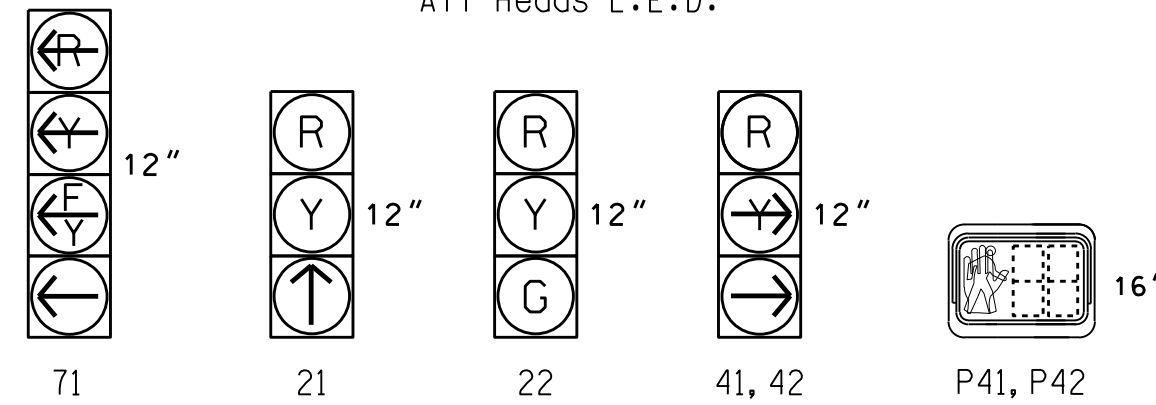
1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. The Division (City) Traffic Engineer will determine the hours of use for each phasing plan.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

PHASING DIAGRAM DETECTION LEGEND

- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- ←---→ UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 TIMING CHART

FEATURE	PHASE		
	2	4	7
Min Green 1 *	12	7	7
Extension 1 *	6.0	2.0	2.0
Max Green 1 *	75	30	20
Yellow Clearance	4.9	3.0	3.0
Red Clearance	1.8	2.8	2.8
Red Revert	2.0	2.0	2.0
Walk 1 *	-	7	-
Don't Walk 1	-	9	-
Seconds Per Actuation *	1.5	-	-
Max Variable Initial *	34	-	-
Time Before Reduction *	15	-	-
Time To Reduce *	30	-	-
Minimum Gap	3.0	-	-
Recall Mode	MIN RECALL	-	-
Vehicle Call Memory	YELLOW	-	-
Dual Entry	-	ON	ON
Simultaneous Gap	ON	ON	ON

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

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD	
					PHASE	CALLING	EXTENSION	STRETCH TIME			DELAY TIME
2A	6X6	300	5	Y	2	Y	Y	-	-	-	Y
2B	6X6	300	5	Y	2	Y	Y	-	-	-	Y
4A	6X25	0	2-4-2	Y	4	Y	Y	-	-	30	Y
7A	6X40	0	2-4-2	Y	7	Y	Y	-	-	30*	Y

* Disable Delay during Alternate Phasing Operation.

This plan supersedes the plan signed and sealed on 10/4/22.

LEGEND

- | | | | |
|--|---|--|---|
| | PROPOSED Traffic Signal Head | | EXISTING Traffic Signal Head |
| | PROPOSED Modified Signal Head | | EXISTING N/A |
| | PROPOSED Pedestrian Signal Head With Push Button & Sign | | EXISTING Pedestrian Signal Head With Push Button & Sign |
| | PROPOSED Signal Pole with Guy | | EXISTING Signal Pole with Guy |
| | PROPOSED Inductive Loop Detector | | EXISTING Inductive Loop Detector |
| | PROPOSED Controller & Cabinet | | EXISTING Controller & Cabinet |
| | PROPOSED Junction Box | | EXISTING Junction Box |
| | PROPOSED 2-in Underground Conduit | | EXISTING 2-in Underground Conduit |
| | PROPOSED Right of Way | | EXISTING Right of Way |
| | PROPOSED Directional Arrow | | EXISTING Directional Arrow |
| | PROPOSED Curb Ramp | | EXISTING Curb Ramp |
| | PROPOSED Guardrail | | EXISTING Guardrail |
| | PROPOSED Type II Signal Pedestal | | EXISTING Type II Signal Pedestal |
| | PROPOSED Metal Pole with Mastarm | | EXISTING Metal Pole with Mastarm |
| | PROPOSED Directional Drill | | EXISTING Directional Drill |
| | PROPOSED "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | | EXISTING "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) |

New Installation

Prepared in the Offices of:

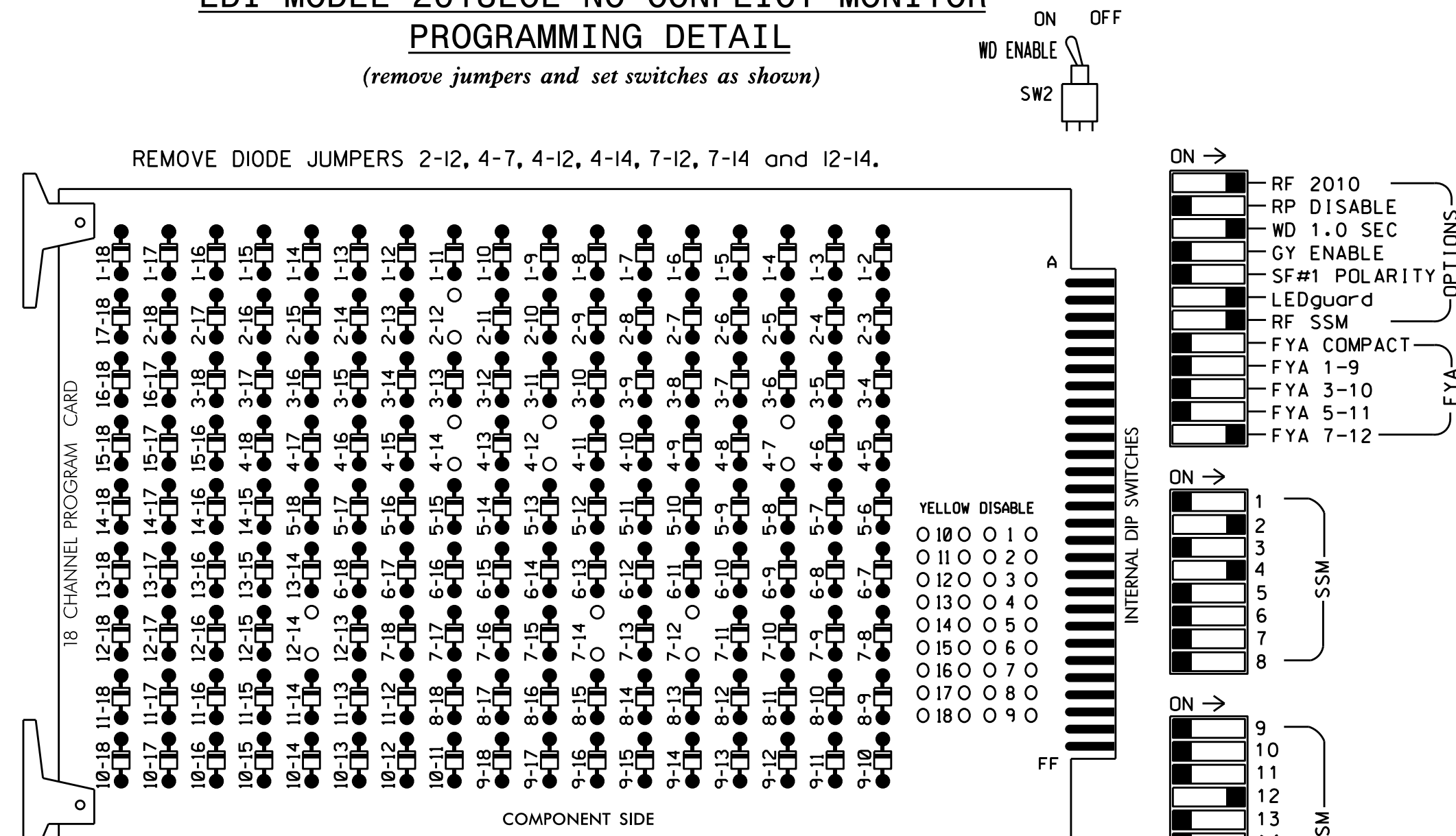
 TRANSPORTATION MOBILITY AND SAFETY ENGINEER
 STATE OF NORTH CAROLINA
 ROBERT J. LITTLE
 026486

NC 54 EB at Kingswood Apartments
 Division 7 Orange County Chapel Hill
 PLAN DATE: July 2022 REVIEWED BY:
 PREPARED BY: J.A. Lohr REVIEWED BY:

750 N. Greenfield Pkwy, Garner, NC 27529
 SCALE: 1" = 40'
 REVISIONS: INIT. DATE
 DATE: 03/27/2023
 SIG. INVENTORY NO. 07-1096

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL
(remove jumpers 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.
 - Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
 - Ensure that Red Enable is active at all times during normal operation.
 - Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

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.
- Program phases 4 and 7 for Dual Entry.
- Enable Simultaneous Gap-Out for all Phases.
- Program phase 2 for Variable Initial and Gap Reduction.
- Program phase 2 for Startup In Green.
- Program phase 4 for Startup Ped Call.
- Program phase 2 for Yellow Flash.
- The cabinet and controller are part of the Chapel Hill-Carrboro Signal System.

SIGNAL HEAD HOOK-UP CHART

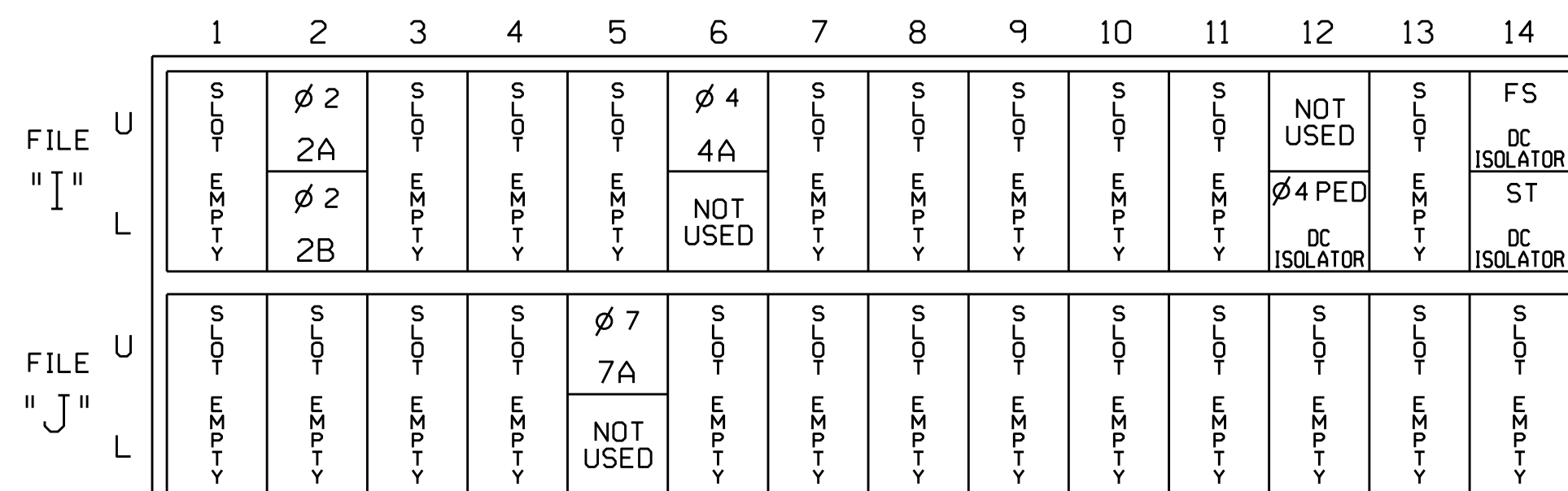
LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	21	22	NU	41,42	P41, P42	NU	NU	NU	71	NU	NU	NU	NU	NU	NU	71	NU
RED	128	128			101													
YELLOW	129	129								*								
GREEN		130																
RED ARROW																		A101
YELLOW ARROW					102													A102
FLASHING YELLOW ARROW																		A103
GREEN ARROW	130				103					124								
Hand icon						104												
Person icon						106												

NU = Not Used
* Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail this sheet.

EQUIPMENT INFORMATION

CONTROLLER.....2070
CABINET.....332 W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S2,S5,S6,S10,AUX S5
PHASES USED.....2,4,4 PED,7
OVERLAP "A".....NOT USED
OVERLAP "B".....NOT USED
OVERLAP "C".....NOT USED
OVERLAP "D".....2+7

INPUT FILE POSITION LAYOUT
(front view)



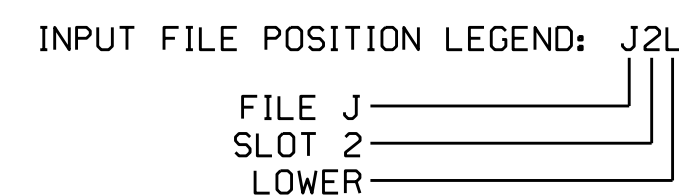
EX.: 1A, 2A, ETC. = LOOP NO.'S
FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

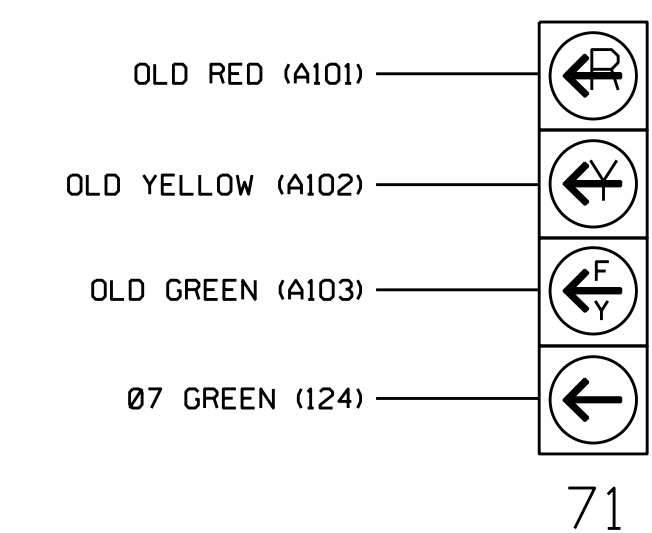
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			30
7A	TB5-5,6	J5U	57	19	7	7	Y	Y			30
				19★	57	7	Y	Y			
PED PUSH BUTTONS											
PED PUSH BUTTONS											
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOT I12.

* See Input Page Assignment programming details on sheet 3.



FYA SIGNAL WIRING DETAIL
(wire signal head as shown)



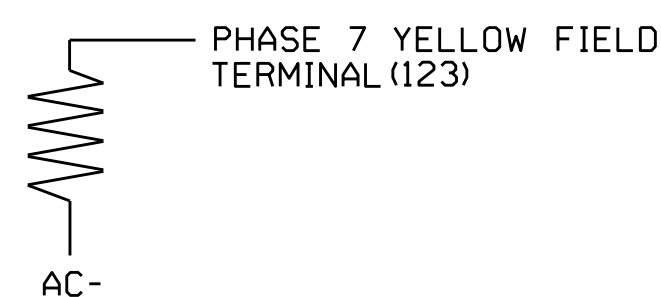
NOTE

The sequence display for signal head 71 requires special logic programming. See sheet 2 for programming instructions.

This Plan Supersedes Electrical Detail Sealed on 10/5/2022

LOAD RESISTOR INSTALLATION DETAIL
(install resistor as shown below)

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

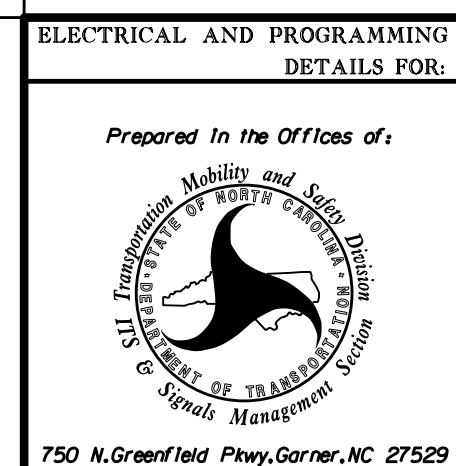


COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1096
DESIGNED: July 2022
SEALED: 3/27/2023
REVISED: N/A

Electrical Detail - Sheet 1 of 4

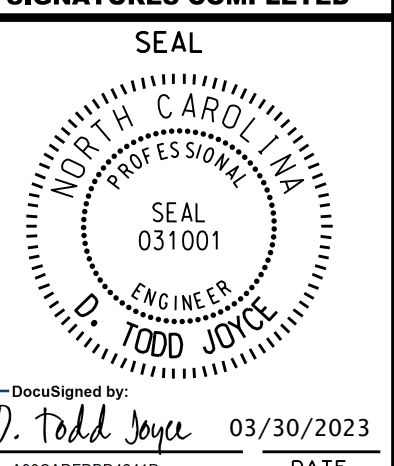


NC 54 EB at Kingswood Apartments

Division 7 Orange County Chapel Hill

PLAN DATE: March 2023	REVIEWED BY:	
PREPARED BY: Zafar Zafar	REVIEWED BY:	
REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



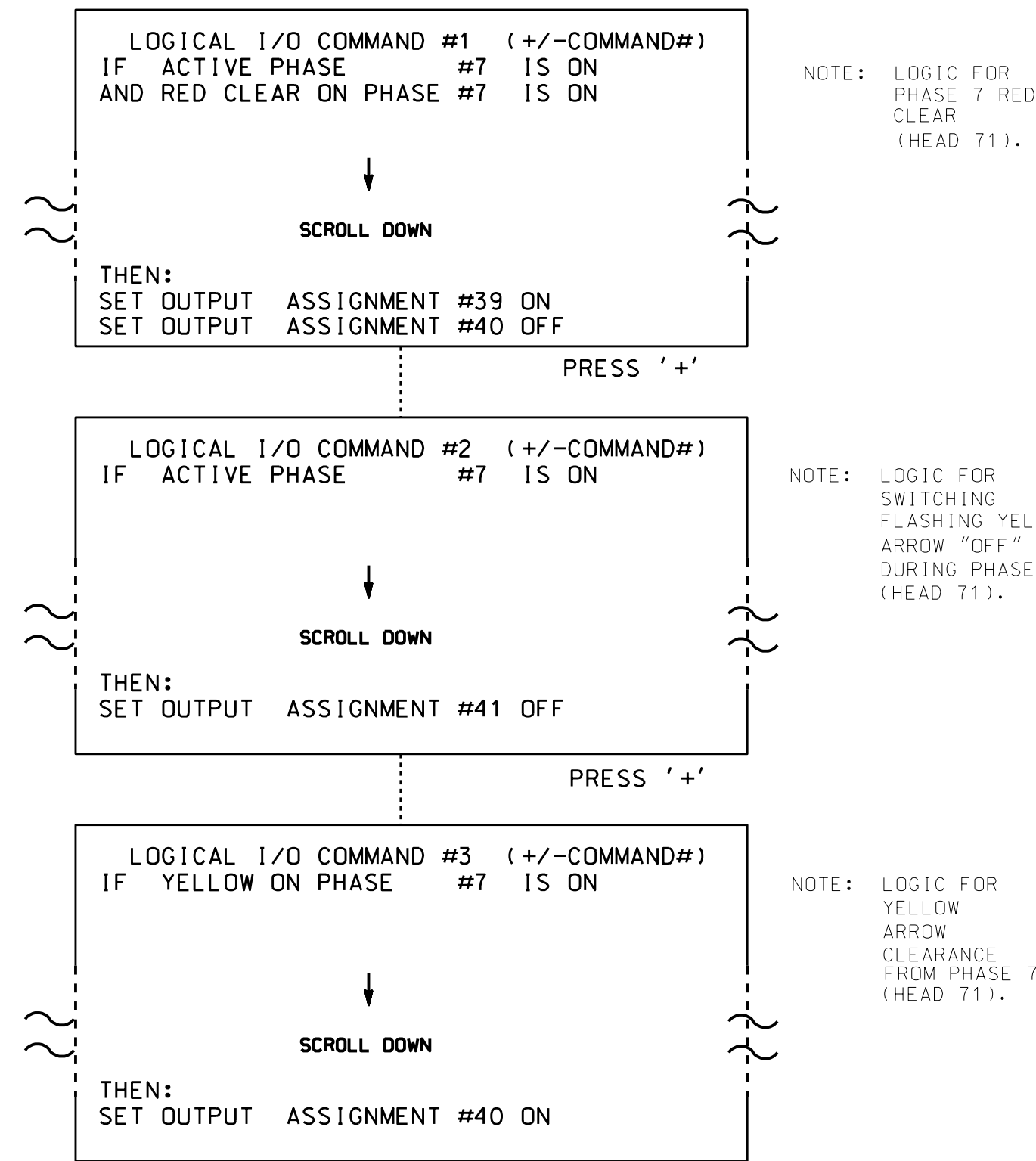
DocuSign
D. Todd Joyce 03/30/2023
DATE
SIG. INVENTORY NO. 07-1096

20-MAR-2023 11:56 S:\PROJECTS\LINKS\SIGNALS\WORKGROUPS\519\monitors\workgroups\519\plans\01\vision 7\supersede\071036-sm-le-2023.mmda.dgn

**LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE**

(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 ACT LOGIC COMMANDS 1, 2 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



NOTE: LOGIC FOR PHASE 7 RED CLEAR (HEAD 71).

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 7 (HEAD 71).

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 7 (HEAD 71).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

USE TO INTERPRET LOGIC PROCESSOR

- OUTPUT 39 = Overlap D Red
- OUTPUT 40 = Overlap D Yellow
- OUTPUT 41 = Overlap D Green

**OVERLAP PROGRAMMING DETAIL FOR
DEFAULT PHASING**

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PRESS '+' 3 TIMES

```

    PAGE 1: VEHICLE OVERLAP 'D' SETTINGS
    PHASE:      12345678910111213141516
    VEH OVL PARENTS: X X
    VEH OVL NOT VEH:
    VEH OVL NOT PED:
    VEH OVL GRN EXT:
    STARTUP COLOR: - RED - YELLOW - GREEN
    FLASH COLORS:  - RED - YELLOW X GREEN
    SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
    FLASH YELLOW IN CONTROLLER FLASH?...Y
    GREEN EXTENSION (0-255 SEC)...0
    YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
    RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
    OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

**OVERLAP PROGRAMMING DETAIL FOR
ALTERNATE PHASING**

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS). PRESS 'NEXT' TO ADVANCE TO PAGE 2.

PRESS '+' 3 TIMES

NOTICE PAGE 2

```

    PAGE 2: VEHICLE OVERLAP 'D' SETTINGS
    PHASE:      12345678910111213141516
    VEH OVL PARENTS: X
    VEH OVL NOT VEH:
    VEH OVL NOT PED:
    VEH OVL GRN EXT:
    STARTUP COLOR: - RED - YELLOW - GREEN
    FLASH COLORS:  - RED - YELLOW - GREEN
    SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
    FLASH YELLOW IN CONTROLLER FLASH?...Y
    GREEN EXTENSION (0-255 SEC)...0
    YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
    RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
    OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

OVERLAP PROGRAMMING COMPLETE

This Plan Supersedes Electrical Detail Sealed on 10/5/2022

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1096
DESIGNED: July 2022
SEALED: 3/27/2023
REVISED: N/A

Electrical Detail - Sheet 2 of 4

	<p>NC 54 EB at Kingswood Apartments</p>		
	<p>Division 7 Orange County Chapel Hill</p>	<p>PLAN DATE: March 2023 REVIEWED BY:</p>	
<p>PREPARED BY: Zarrar Zafar</p>	<p>REVISIONS</p>	<p>INIT. DATE</p>	<p>DocuSigned by: D. Todd Joyce 03/30/2023</p>
<p>750 N. Greenfield Pkwy, Corner, NC 27529</p>			<p>SIG. INVENTORY NO. 07-1096</p>

INPUT PAGE 2 ASSIGNMENT PROGRAMMING DETAIL FOR ALTERNATE PHASING - LOOP 7A
(program controller as shown below)

- NOTES: 1. THIS PROGRAMMING APPLIES FOR INPUT PAGE 2 ONLY. INPUT PAGE 1 WILL USE STANDARD DEFAULT SETTINGS. THIS PROGRAMMING IS NECESSARY FOR PROPER DETECTOR OPERATION DURING ALTERNATE PHASING OPERATION.
2. THIS PROGRAMMING REASSIGNS DETECTOR 57 TO INPUT #19 SO THAT THE DELAY ON LOOP 7A CAN BE REDUCED FROM 30 SECONDS TO 0 SECONDS.

FROM MAIN MENU PRESS '5' (INPUTS), THEN PRESS 'NEXT' TO GET TO INPUT PAGE '2'. PRESS THE '+' KEY UNTIL INPUT 19 IS REACHED.

```

PAGE: 2 C1 PIN:57 VEHICLE DETECTOR
INPUT ASSIGNMENT #.....19
DEBOUNCE TIME (0-25.5 SEC).....0.5
DELAY TIME (0-25.5 SEC).....0.0
HOLD-OVER TIME (0-25.5 SEC).....0.0
ASSIGNMENT SELECTION:
NOT ENABLED (Y/N).....
VEHICLE DETECTOR (1-64).....7
PEDESTRIAN DETECTOR (1-16).....
ALTERNATE PED DETECTOR (1-16).....
PREEMPT (1-10).....
INVERTED PREEMPT (1-10).....
STOP TIME (Y/N).....
FLASH SENSE (Y/N).....
DOOR OPEN (Y/N).....
MANUAL CONTROL ENABLE (Y/N).....
MANUAL CONTROL ADVANCE (Y/N).....
SPECIAL FUNCTION ALARM (1-8).....
TOD HOUR SYNCHRONIZATION (0-23).....
FORCE OFF RING (1-4).....
HOLD PHASES (1-16).....
PLAN (65=FLSH,66=FREE)... OFFSET#...
CHANGE PHASE SEQUENCE PAGE (1-12)...
CHANGE PHASE TIMING PAGE (1-4)...
CHANGE PHASE CONTROL PAGE (1-4)...
CHANGE OVERLAP CONTROL PAGE (1-4)...
CHANGE INPUT PAGE (1-4)...
CHANGE OUTPUT PAGE (1-4)...
OVERRIDE PHASE CONTROL FUNCTION (Y)...
    
```

ENTER '57' TO REASSIGN
THE VEHICLE DETECTOR
FOR THIS INPUT

(LOOP 7A - PHASE 7)

```

PAGE: 2 C1 PIN:57 VEHICLE DETECTOR
INPUT ASSIGNMENT #.....19
DEBOUNCE TIME (0-25.5 SEC).....0.5
DELAY TIME (0-25.5 SEC).....0.0
HOLD-OVER TIME (0-25.5 SEC).....0.0
ASSIGNMENT SELECTION:
NOT ENABLED (Y/N).....
VEHICLE DETECTOR (1-64).....57
PEDESTRIAN DETECTOR (1-16).....
ALTERNATE PED DETECTOR (1-16).....
PREEMPT (1-10).....
INVERTED PREEMPT (1-10).....
STOP TIME (Y/N).....
FLASH SENSE (Y/N).....
DOOR OPEN (Y/N).....
MANUAL CONTROL ENABLE (Y/N).....
MANUAL CONTROL ADVANCE (Y/N).....
SPECIAL FUNCTION ALARM (1-8).....
TOD HOUR SYNCHRONIZATION (0-23).....
FORCE OFF RING (1-4).....
HOLD PHASES (1-16).....
PLAN (65=FLSH,66=FREE)... OFFSET#...
CHANGE PHASE SEQUENCE PAGE (1-12)...
CHANGE PHASE TIMING PAGE (1-4)...
CHANGE PHASE CONTROL PAGE (1-4)...
CHANGE OVERLAP CONTROL PAGE (1-4)...
CHANGE INPUT PAGE (1-4)...
CHANGE OUTPUT PAGE (1-4)...
OVERRIDE PHASE CONTROL FUNCTION (Y)...
    
```

PROGRAMMING COMPLETE

SPECIAL DETECTOR PROGRAMMING DETAIL - LOOP 7A (ALT.)

(program controller as shown below)

FROM MAIN MENU PRESS '7' (DETECTORS), THEN PRESS '1' FOR VEHICLE DETECTORS. PRESS THE '-' KEY TO GET TO VEHICLE DETECTOR #57.

```

VEHICLE DETECTOR #57 SETTINGS (+,-,1-64)
SETTING: (Y/N)
ENABLE DETECTOR.....N
ENABLE LOGGING.....N
ENABLE DIAGNOSTICS.....N
SPEED TRAP.....N
CALL DETECTOR.....Y
EXTENSION DETECTOR.....Y
MODE 2 STOP BAR.....N
SWITCHING DETECTOR.....N
DUPLICATING DETECTOR.....N
ENABLE FULL TIME DELAY.....N
IF FAILED, SET MIN RECALL?.....N
IF FAILED, SET MAX1 RECALL?.....N
IF FAILED, SET MAX2 RECALL?.....N
PHASE# :12345678910111213141516
PHASES ASSIGNED :
SWITCH/DUPLICATE :
LOOP SIZE (0-255 FT).....6
SPEED TRAP DISTANCE (0-255 FT).....0
STOP BAR TIME (0-255 SEC).....0
STRETCH (0-25.5 SEC).....0.0
DELAY (0-255 SEC).....0.0
MAX CALLS/MIN (0-255).....255
MIN CALLS/DIAGNOSTIC PERIOD (0-255).....0
MAX OCCUPANCY (0-100%).....100
EXTENSION DISABLE TIME (0-255 SEC).....0
QUEUE MAX OCCUPANCY TIME (0-255).....0
QUEUE GAP RESET TIME (0-25.5).....0.0
PREEMPTION INDEX FOR QUEUE (0-10).....0
    
```

ENTER 'Y' FOR ENABLE DETECTOR

ENTER '7' FOR PHASES ASSIGNED

ENSURE DELAY IS '0'

```

VEHICLE DETECTOR #57 SETTINGS (+,-,1-64)
SETTING: (Y/N)
ENABLE DETECTOR.....Y
ENABLE LOGGING.....N
ENABLE DIAGNOSTICS.....N
SPEED TRAP.....N
CALL DETECTOR.....Y
EXTENSION DETECTOR.....Y
MODE 2 STOP BAR.....N
SWITCHING DETECTOR.....N
DUPLICATING DETECTOR.....N
ENABLE FULL TIME DELAY.....N
IF FAILED, SET MIN RECALL?.....N
IF FAILED, SET MAX1 RECALL?.....N
IF FAILED, SET MAX2 RECALL?.....N
PHASE# :12345678910111213141516
PHASES ASSIGNED : X
SWITCH/DUPLICATE :
LOOP SIZE (0-255 FT).....6
SPEED TRAP DISTANCE (0-255 FT).....0
STOP BAR TIME (0-255 SEC).....0
STRETCH (0-25.5 SEC).....0.0
DELAY (0-255 SEC).....0.0
MAX CALLS/MIN (0-255).....255
MIN CALLS/DIAGNOSTIC PERIOD (0-255).....0
MAX OCCUPANCY (0-100%).....100
EXTENSION DISABLE TIME (0-255 SEC).....0
QUEUE MAX OCCUPANCY TIME (0-255).....0
QUEUE GAP RESET TIME (0-25.5).....0.0
PREEMPTION INDEX FOR QUEUE (0-10).....0
    
```

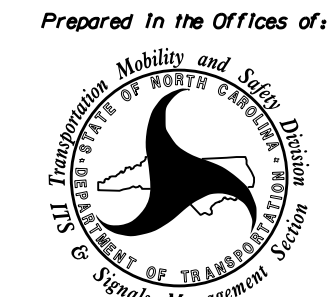
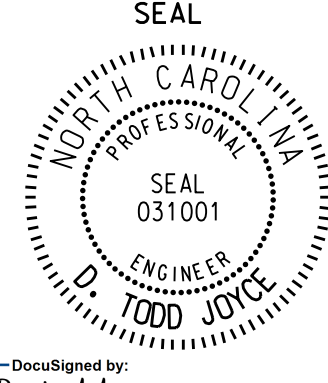
DETECTOR PROGRAMMING COMPLETE

NOTE: DETECTOR IS PROGRAMMED PER THE INPUT FILE CONNECTION AND PROGRAMMING CHART SHOWN ON SHEET 1.

This Plan Supersedes Electrical Detail Sealed on 10/5/2022

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1096
 DESIGNED: July 2022
 SEALED: 3/27/2023
 REVISED: N/A

Electrical Detail - Sheet 3 of 4

 <p>Prepared in the Offices of: Transportation, Mobility and Safety Division STATE OF NORTH CAROLINA Department of Transportation Signal Management</p>	NC 54 EB at Kingswood Apartments		SEAL  SEAL 031001 TODD JOYCE ENGINEER
	Division 7 PLAN DATE: March 2023 PREPARED BY: Zarrar Zafar	Orange County REVIEWED BY: REVIEWED BY:	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

750 N. Greenfield Pkwy, Corner, NC 27529

SIG. INVENTORY NO. 07-1096

30-MAR-2023 11:42
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 zzzafar

ALTERNATE PHASING ACTIVATION DETAIL

TO RUN ALT. PHASING DURING COORDINATION - SELECT ALL PAGE CHANGES (AS SHOWN BELOW) WITHIN COORDINATION PLAN PROGRAMMING.

TO RUN ALT. PHASING DURING FREE RUN - PROGRAM PAGE CHANGES (SHOWN BELOW) IN SEPARATE TIME OF DAY EVENTS. IF PAGE 1 IS USED, NO EVENT PROGRAMMING IS NECESSARY FOR THAT PARTICULAR PAGE.

<u>PHASING</u>	<u>INPUTS PAGE</u>	<u>OVERLAPS PAGE</u>
ACTIVE PAGES REQUIRED TO RUN <u>DEFAULT PHASING</u>	1	1
ACTIVE PAGES REQUIRED TO RUN <u>ALTERNATE PHASING</u>	2	2

NOTE: PAGES NOT SHOWN (i.e. sequence, phase control, etc.) SHOULD REMAIN AS '1', OR AS DEFINED BY TIMING ENGINEER.

IMPORTANT: IF ALT. PHASING IS USED DURING FREE RUN AND COORDINATION, DO NOT OPERATE TIME OF DAY PAGE CHANGE EVENTS CONCURRENTLY WITH COORDINATION PLAN EVENTS IN THE EVENT SCHEDULER. (EX. FREE RUN PAGE CHANGE EVENT SHOULD END BEFORE COORDINATION PLAN EVENT STARTS AND VICE-VERSA).

ALTERNATE PHASING PAGE CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN THESE OVERLAP/INPUT PAGE CHANGES ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAPS PAGE 2: Modifies overlap parent phases for head 71 to run protected turns only.

INPUTS PAGE 2: Reduces delay time for phase 7 call on loop 7A to 0 seconds.

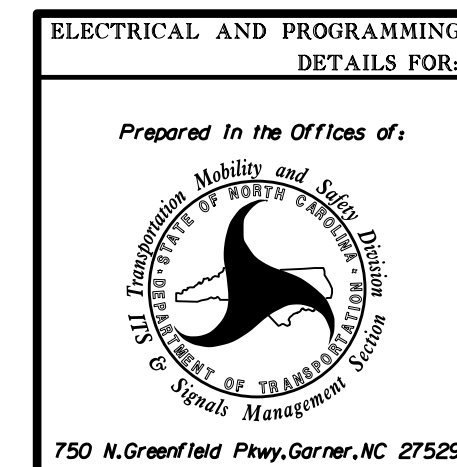
This Plan Supersedes Electrical Detail Sealed on 10/5/2022

Electrical Detail - Sheet 4 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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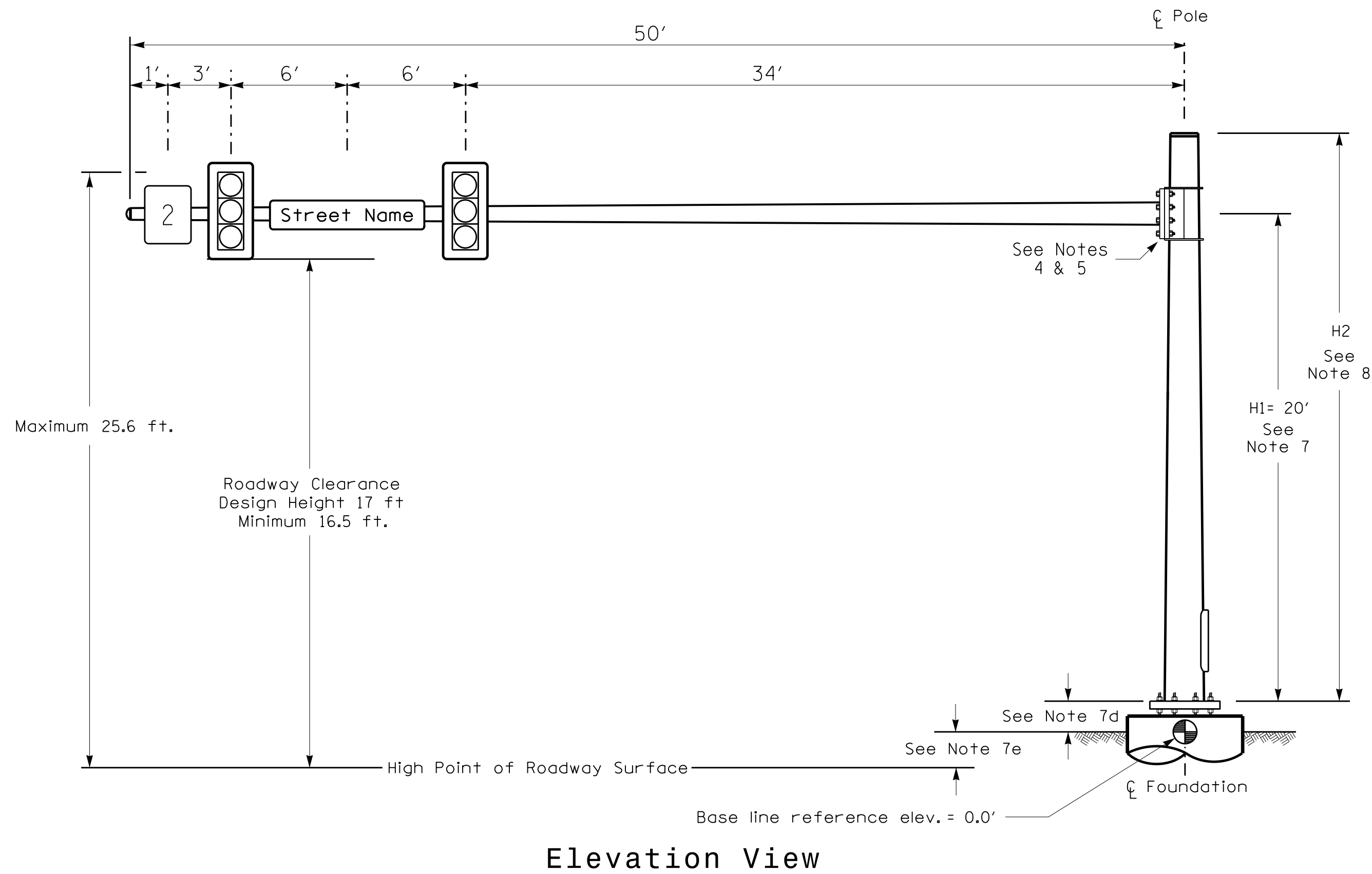
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1096
DESIGNED: July 2022
SEALED: 3/27/2023
REVISED: N/A



NC 54 EB	
at Kingswood Apartments	
Division 7	Orange County Chapel Hill
PLAN DATE: March 2023	REVIEWED BY:
PREPARED BY: Zarrar Zafar	REVIEWED BY:
REVISIONS	INIT. DATE

SEAL
Documented by: <i>Todd Joyce</i> 03/30/2023 DATE
SIG. INVENTORY NO. 07-1096

Design Loading for METAL POLE NO. 6



SPECIAL NOTE

The contractor is responsible for verifying that the mast arm attachment height (H1) will provide the "Design Height" clearance from the roadway before submitting final shop drawings for approval. Verify elevation data below which was obtained by field measurement or from available project survey data.

Elevation Data for Mast Arm Attachment (H1)

Elevation Differences for:	Pole 6	
Baseline reference point at ϕ Foundation @ ground level	0.0 ft.	
Elevation difference at High point of roadway surface	+1.1 ft.	
Elevation difference at Edge of travelway or face of curb	+0.3 ft.	

METAL POLE No. 6

PROJECT REFERENCE NO.	SHEET NO.
BL-0044	Sig 6.5

MAST ARM LOADING SCHEDULE

LOADING SYMBOL	DESCRIPTION	AREA	SIZE	WEIGHT
	RIGID MOUNTED SIGNAL HEAD 12"-3 SECTION-WITH BACKPLATE	9.3 S.F.	25.5" W X 52.5" L	60 LBS
	STREET NAME SIGN RIGID MOUNTED	16.0 S.F.	24.0" W X 96.0" L	36 LBS
	SIGN RIGID MOUNTED	7.5 S.F.	30.0" W X 36.0" L	14 LBS

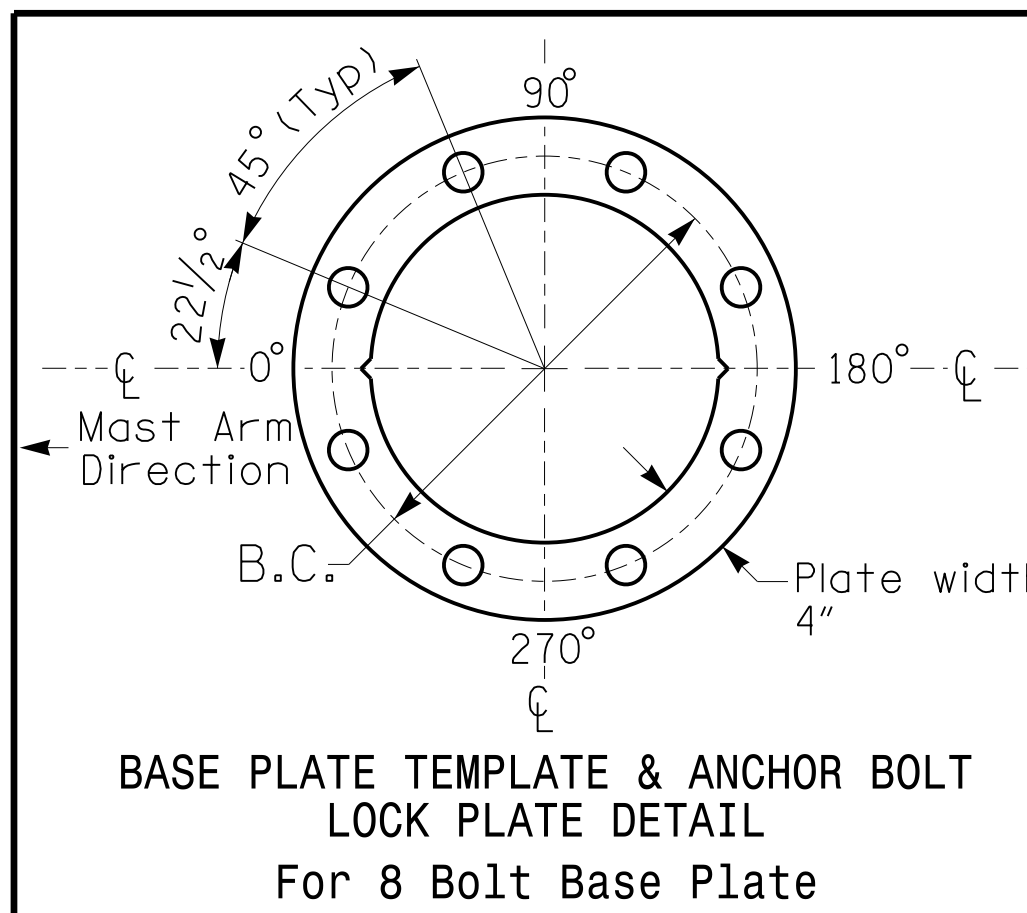
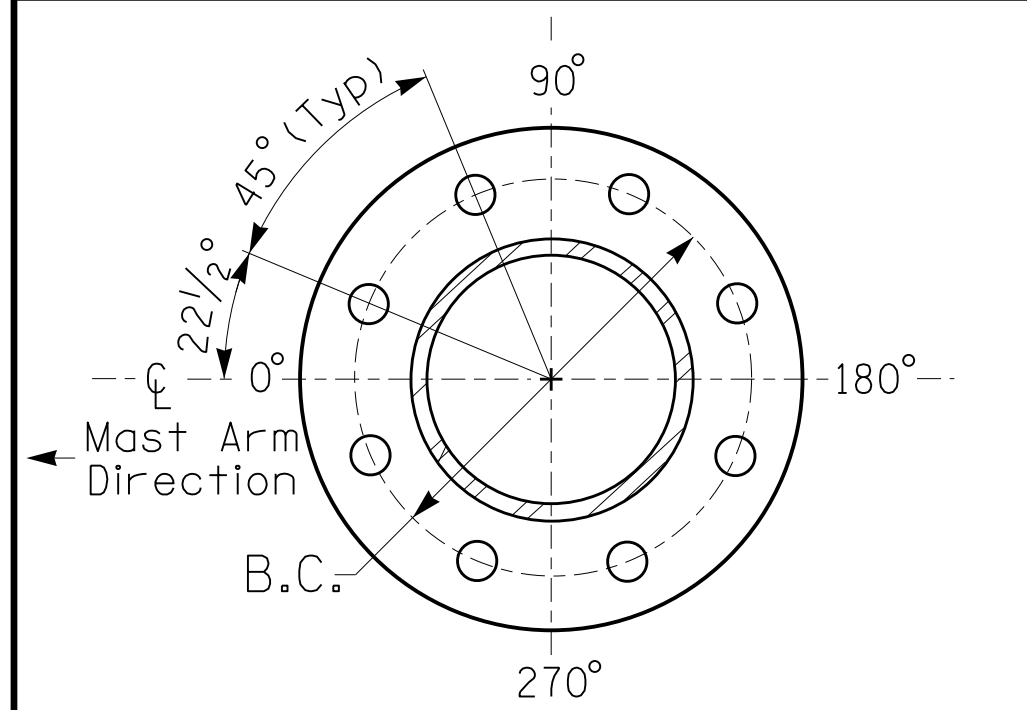
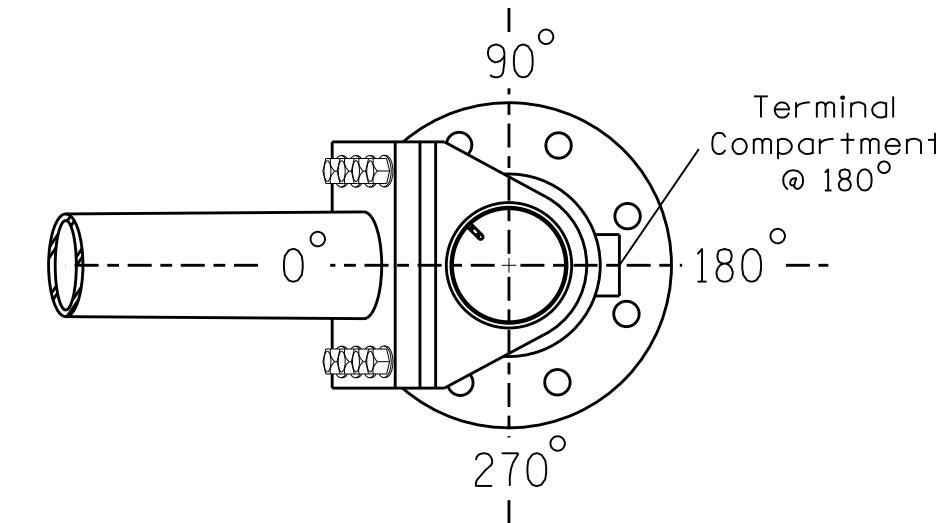
NOTES

DESIGN REFERENCE MATERIAL

- Design the traffic signal structure and foundation in accordance with:
 - The 1st Edition 2015 AASHTO LRFD "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions.
 - The 2024 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.
 - The 2024 NCDOT Roadway Standard Drawings.
 - The traffic signal project plans and special provisions.
 - The NCDOT "Metal Pole Standards" located at the following NCDOT website: <https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

DESIGN REQUIREMENTS

- Design the traffic signal structure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation.
- Design all signal supports using force ratios that do not exceed 0.9.
- The camber design for the mast arm deflection should provide an appearance of a low pitched arch where the tip or the free end of the mast arm does not deflect below horizontal when fully loaded.
- A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design requirements.
- Design base plate with 8 anchor bolt holes. Provide 2 inch x 60 inch anchor bolts.
- The mast arm attachment height (H1) shown is based on the following design assumptions:
 - Mast arm slope and deflection are not considered in determining the arm attachment height as they are assumed to offset each other.
 - Signal heads are rigidly mounted and vertically centered on the mast arm.
 - The roadway clearance height for design is as shown in the elevation views.
 - The top of the pole base plate is 0.75 feet above the ground elevation.
 - Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground level and the high point of the roadway.
- The pole manufacturer will determine the total height (H2) of each pole using the greater of the following:
 - Mast arm attachment height (H1) plus 2 feet, or
 - H1 plus 1/2 of the total height of the mast arm attachment assembly plus 1 foot.
- If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the Signal Design Section Senior Structural Engineer for assistance at (919) 814-5000.
- The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signal heads over the roadway.
- The contractor is responsible for providing soil penetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.

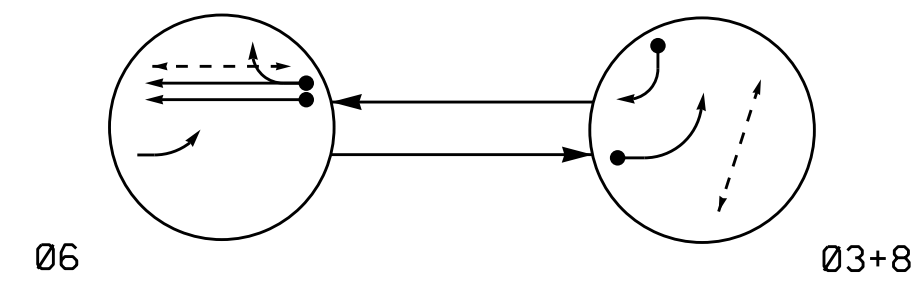


NCDOT Wind Zone 4 (120 mph)

<p>Prepared In the Offices of: TRANSPORTATION MOBILITY AND SAFETY DIVISION SIGNAL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>NC 54 EB at Kingswood Apartments</p>		<p>SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026486 ROBERT J. ZIEMBA</p>
	<p>Division 7 Orange County Chapel Hill</p> <p>PLAN DATE: July 2023 REVIEWED BY:</p> <p>PREPARED BY: J.A. Lohr REVIEWED BY:</p>	<p>REVISIONS</p> <p>INIT. DATE</p>	

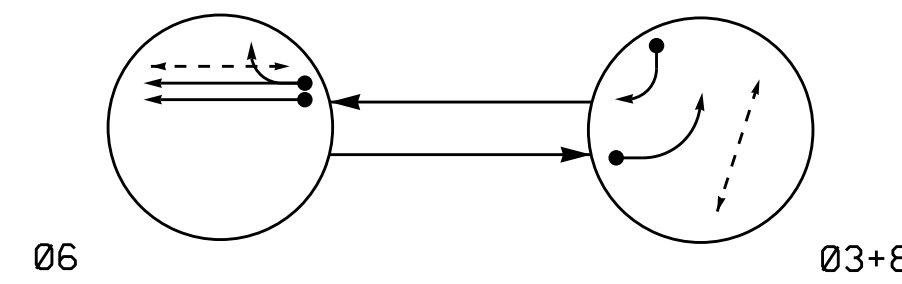
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DEFAULT PHASING DIAGRAM



SIGNAL FACE	PHASE		
	03+8	06	FLIGHT
31	←	↑	→
61	R	↑	Y
62	R	G	Y
81, 82	→	R	R
P61, P62	DW	W	DRK
P81, P82	W	DW	DRK

ALTERNATE PHASING DIAGRAM



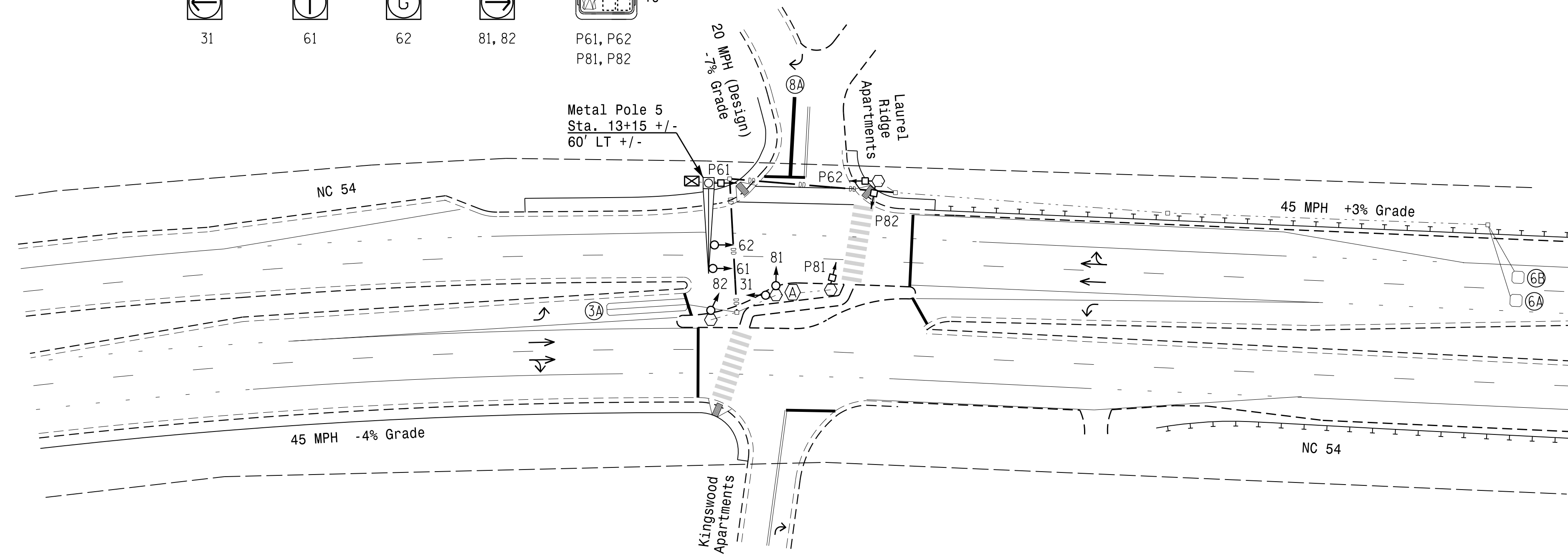
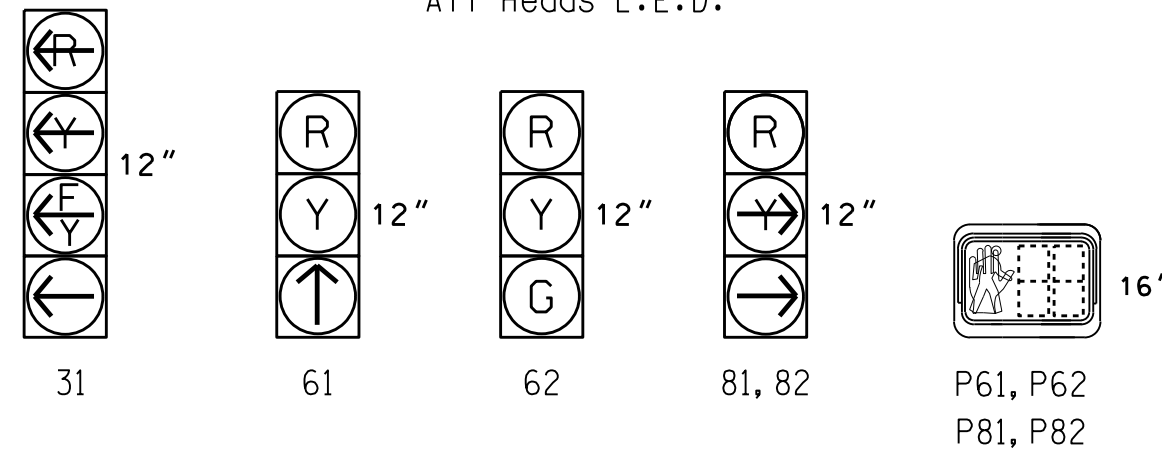
SIGNAL FACE	PHASE		
	03+8	06	FLIGHT
31	←	↑	→
61	R	↑	Y
62	R	G	Y
81, 82	→	R	R
P61, P62	DW	W	DRK
P81, P82	W	DW	DRK

PHASING DIAGRAM DETECTION LEGEND

- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- ←---→ UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.

All Heads L.E.D.



- NOTES**
- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
 - 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.
 - Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls for phase 8 peds.
 - Program pedestrian heads to countdown the flashing "Don't Walk" time only.
 - Program phase 6 to "REST IN WALK".
 - The Division (City) Traffic Engineer will determine the hours of use for each phasing plan.
 - This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
 - Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

FEATURE	PHASE		
	3	6	8
Min Green 1 *	7	12	7
Extension 1 *	2.0	6.0	2.0
Max Green 1 *	30	75	30
Yellow Clearance	3.2	4.3	3.2
Red Clearance	2.6	1.7	2.6
Red Revert	2.0	2.0	2.0
Advance Walk *	-	3	-
Walk 1 *	-	7	7
Don't Walk 1	-	12	9
Seconds Per Actuation *	-	1.5	-
Max Variable Initial *	-	34	-
Time Before Reduction *	-	15	-
Time To Reduce *	-	30	-
Minimum Gap	-	3.0	-
Recall Mode	-	PED/MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-
Dual Entry	ON	-	ON
Simultaneous Gap	ON	ON	ON

LOOP / ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD	
					PHASE	CALLING	EXTENSION	STRETCH TIME			DELAY TIME
3A	6X40	0	2-4-2	Y	3	Y	Y	-	30*	-	Y
6A	6X6	300	5	Y	6	Y	Y	-	-	-	Y
6B	6X6	300	5	Y	6	Y	Y	-	-	-	Y
8A#	6X40	0	#	Y	8	Y	Y	-	30	-	#

* Disable Delay during Alternate Phasing Operation.
Video Detection Zone.

This plan supersedes the plan signed and sealed on 10/4/22.

PROPOSED	EXISTING
○→ Traffic Signal Head	●→ N/A
●→ Modified Signal Head	○→ N/A
⊥ Sign	⊥ N/A
⊥ Pedestrian Signal Head With Push Button & Sign	⊥ N/A
○ Signal Pole with Guy	● Signal Pole with Guy
⊥ Signal Pole with Sidewalk Guy	⊥ Signal Pole with Sidewalk Guy
⊠ Inductive Loop Detector	⊠ Inductive Loop Detector
⊠ Controller & Cabinet	⊠ Junction Box
⊠ Junction Box	⊠ Junction Box
--- 2-in Underground Conduit	--- 2-in Underground Conduit
N/A Right of Way	N/A Right of Way
→ Directional Arrow	→ Directional Arrow
N/A Curb Ramp	N/A Curb Ramp
N/A Guardrail	N/A Guardrail
○ Type II Signal Pedestal	● Type II Signal Pedestal
⊠ Metal Pole with Mastarm	⊠ Metal Pole with Mastarm
--- Video Detection Zone	--- Video Detection Zone
--- Directional Drill	--- Directional Drill
⊠ "U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	⊠ "U-TURN YIELD TO RIGHT TURN" Sign (R10-16)

New Installation

Prepared in the Offices of:

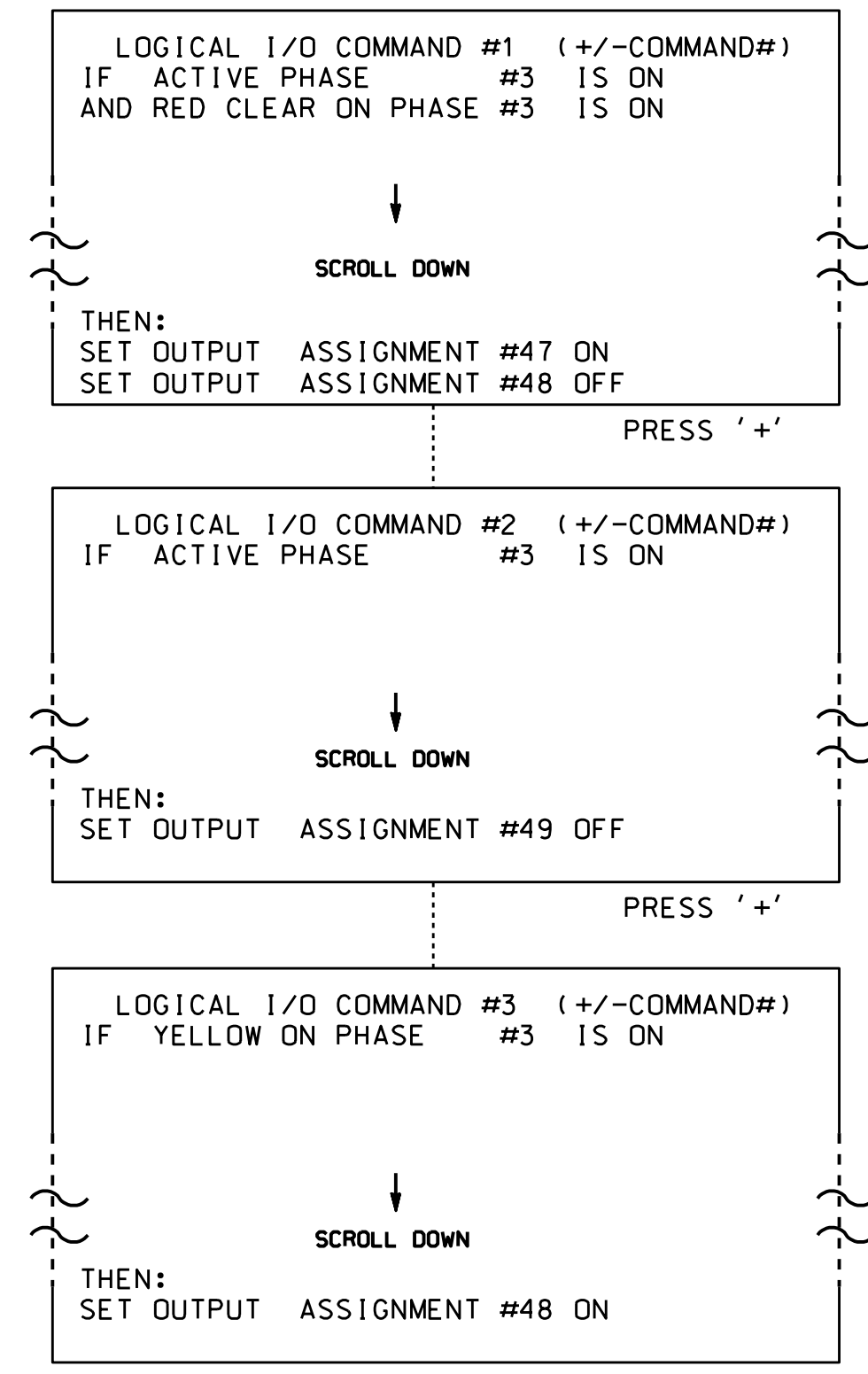
NC 54 WB at Laurel Ridge Apartments
 Division 7 Orange County Chapel Hill
 PLAN DATE: July 2022 REVIEWED BY:
 PREPARED BY: J.A. Lohr REVIEWED BY:
 REVISIONS: _____ INIT. DATE
 SCALE: 1" = 40'
 DATE: 03/27/2023
 SIG. INVENTORY NO. 07-1097

27-MAR-2023 10:02
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LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(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 ACT LOGIC COMMANDS 1, 2 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



NOTE: LOGIC FOR PHASE 3 RED CLEAR (HEAD 31).

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW OFF DURING PHASE 3 (HEAD 31).

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 3 (HEAD 31).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE	
USE TO INTERPRET LOGIC PROCESSOR	
OUTPUT 47 =	Overlap B Red
OUTPUT 48 =	Overlap B Yellow
OUTPUT 49 =	Overlap B Green

OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PRESS '+'

```

PAGE 1: VEHICLE OVERLAP 'B' SETTINGS
PHASE: 112345678910111213141516
VEH OVL PARENTS: X X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
    
```

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS). PRESS 'NEXT' TO ADVANCE TO PAGE 2.

PRESS '+'

NOTICE PAGE 2

```

PAGE 2: VEHICLE OVERLAP 'B' SETTINGS
PHASE: 112345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW - GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
    
```

OVERLAP PROGRAMMING COMPLETE

This Plan Supersedes Electrical Detail Sealed on 10/5/2022

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1097
DESIGNED: July 2022
SEALED: 3/27/2023
REVISED: N/A

Electrical Detail - Sheet 2 of 4

	<p>NC 54 WB at Laurel Ridge Apartments</p>								
	<p>Division 7 Orange County Chapel Hill</p>	<p>PLAN DATE: March 2023 REVIEWED BY:</p>		<p>SEAL 031001 ENGINEER TODD JOYCE</p>					
<p>PREPARED BY: Zarrar Zafar</p>	<p>REVIEWED BY:</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	INIT.	DATE				<p>DocuSigned by: D. Todd Joyce 03/30/2023</p>
NO.	INIT.	DATE							

750 N. Greenfield Pkwy, Garner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIG. INVENTORY NO. 07-1097

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INPUT PAGE 2 ASSIGNMENT PROGRAMMING DETAIL FOR ALTERNATE PHASING - LOOP 3A

(program controller as shown below)

- NOTES: 1. THIS PROGRAMMING APPLIES FOR INPUT PAGE 2 ONLY. INPUT PAGE 1 WILL USE STANDARD DEFAULT SETTINGS. THIS PROGRAMMING IS NECESSARY FOR PROPER DETECTOR OPERATION DURING ALTERNATE PHASING OPERATION.
2. THIS PROGRAMMING REASSIGNS DETECTOR 53 TO INPUT #20 SO THAT THE DELAY ON LOOP 3A CAN BE REDUCED FROM 30 SECONDS TO 0 SECONDS.

FROM MAIN MENU PRESS '5' (INPUTS), THEN PRESS 'NEXT' TO GET TO INPUT PAGE '2'. PRESS THE '+' KEY UNTIL INPUT 20 IS REACHED.

```
PAGE: 2 C1 PIN:58 VEHICLE DETECTOR
INPUT ASSIGNMENT #.....20
DEBOUNCE TIME (0-25.5 SEC).....0.5
DELAY TIME (0-25.5 SEC).....0.0
HOLD-OVER TIME (0-25.5 SEC).....0.0
ASSIGNMENT SELECTION:
NOT ENABLED (Y/N).....
VEHICLE DETECTOR (1-64).....3
PEDESTRIAN DETECTOR (1-16).....
ALTERNATE PED DETECTOR (1-16).....
PREEMPT (1-10).....
INVERTED PREEMPT (1-10).....
STOP TIME (Y/N).....
FLASH SENSE (Y/N).....
DOOR OPEN (Y/N).....
MANUAL CONTROL ENABLE (Y/N).....
MANUAL CONTROL ADVANCE (Y/N).....
SPECIAL FUNCTION ALARM (1-8).....
TOD HOUR SYNCHRONIZATION (0-23).....
FORCE OFF RING (1-4).....
HOLD PHASES (1-16).....
PLAN (65=FLSH,66=FREE)... OFFSET#...
CHANGE PHASE SEQUENCE PAGE (1-12)...
CHANGE PHASE TIMING PAGE (1-4).....
CHANGE PHASE CONTROL PAGE (1-4).....
CHANGE OVERLAP CONTROL PAGE (1-4)....
CHANGE INPUT PAGE (1-4).....
CHANGE OUTPUT PAGE (1-4).....
OVERRIDE PHASE CONTROL FUNCTION (Y)...
```

ENTER '53' TO REASSIGN THE VEHICLE DETECTOR FOR THIS INPUT

(LOOP 3A - PHASE 3)

```
PAGE: 2 C1 PIN:58 VEHICLE DETECTOR
INPUT ASSIGNMENT #.....20
DEBOUNCE TIME (0-25.5 SEC).....0.5
DELAY TIME (0-25.5 SEC).....0.0
HOLD-OVER TIME (0-25.5 SEC).....0.0
ASSIGNMENT SELECTION:
NOT ENABLED (Y/N).....
VEHICLE DETECTOR (1-64).....53
PEDESTRIAN DETECTOR (1-16).....
ALTERNATE PED DETECTOR (1-16).....
PREEMPT (1-10).....
INVERTED PREEMPT (1-10).....
STOP TIME (Y/N).....
FLASH SENSE (Y/N).....
DOOR OPEN (Y/N).....
MANUAL CONTROL ENABLE (Y/N).....
MANUAL CONTROL ADVANCE (Y/N).....
SPECIAL FUNCTION ALARM (1-8).....
TOD HOUR SYNCHRONIZATION (0-23).....
FORCE OFF RING (1-4).....
HOLD PHASES (1-16).....
PLAN (65=FLSH,66=FREE)... OFFSET#...
CHANGE PHASE SEQUENCE PAGE (1-12)...
CHANGE PHASE TIMING PAGE (1-4).....
CHANGE PHASE CONTROL PAGE (1-4).....
CHANGE OVERLAP CONTROL PAGE (1-4)....
CHANGE INPUT PAGE (1-4).....
CHANGE OUTPUT PAGE (1-4).....
OVERRIDE PHASE CONTROL FUNCTION (Y)...
```

PROGRAMMING COMPLETE

SPECIAL DETECTOR PROGRAMMING DETAIL - LOOP 3A (ALT.)

(program controller as shown below)

FROM MAIN MENU PRESS '7' (DETECTORS), THEN PRESS '1' FOR VEHICLE DETECTORS. PRESS THE '-' KEY TO GET TO VEHICLE DETECTOR #53.

```
VEHICLE DETECTOR #53 SETTINGS (+,-,1-64)
SETTING: (Y/N)
ENABLE DETECTOR.....N
ENABLE LOGGING.....N
ENABLE DIAGNOSTICS.....N
SPEED TRAP.....N
CALL DETECTOR.....Y
EXTENSION DETECTOR.....Y
MODE 2 STOP BAR.....N
SWITCHING DETECTOR.....N
DUPLICATING DETECTOR.....N
ENABLE FULL TIME DELAY.....N
IF FAILED, SET MIN RECALL?.....N
IF FAILED, SET MAX1 RECALL?.....N
IF FAILED, SET MAX2 RECALL?.....N
PHASE# :12345678910111213141516
PHASES ASSIGNED :
SWITCH/DUPLICATE:
LOOP SIZE (0-255 FT).....6
SPEED TRAP DISTANCE (0-255 FT).....0
STOP BAR TIME (0-255 SEC).....0
STRETCH (0-25.5 SEC).....0.0
DELAY (0-255 SEC).....0.0
MAX CALLS/MIN (0-255).....255
MIN CALLS/DIAGNOSTIC PERIOD (0-255).....0
MAX OCCUPANCY (0-100%).....100
EXTENSION DISABLE TIME (0-255 SEC).....0
QUEUE MAX OCCUPANCY TIME (0-255).....0
QUEUE GAP RESET TIME (0-25.5).....0.0
PREEMPTION INDEX FOR QUEUE (0-10).....0
```

ENTER 'Y' FOR ENABLE DETECTOR

ENTER '3' FOR PHASES ASSIGNED

ENSURE DELAY IS '0'

```
VEHICLE DETECTOR #53 SETTINGS (+,-,1-64)
SETTING: (Y/N)
ENABLE DETECTOR.....Y
ENABLE LOGGING.....N
ENABLE DIAGNOSTICS.....N
SPEED TRAP.....N
CALL DETECTOR.....Y
EXTENSION DETECTOR.....Y
MODE 2 STOP BAR.....N
SWITCHING DETECTOR.....N
DUPLICATING DETECTOR.....N
ENABLE FULL TIME DELAY.....N
IF FAILED, SET MIN RECALL?.....N
IF FAILED, SET MAX1 RECALL?.....N
IF FAILED, SET MAX2 RECALL?.....N
PHASE# :12345678910111213141516
PHASES ASSIGNED : X
SWITCH/DUPLICATE:
LOOP SIZE (0-255 FT).....6
SPEED TRAP DISTANCE (0-255 FT).....0
STOP BAR TIME (0-255 SEC).....0
STRETCH (0-25.5 SEC).....0.0
DELAY (0-255 SEC).....0.0
MAX CALLS/MIN (0-255).....255
MIN CALLS/DIAGNOSTIC PERIOD (0-255).....0
MAX OCCUPANCY (0-100%).....100
EXTENSION DISABLE TIME (0-255 SEC).....0
QUEUE MAX OCCUPANCY TIME (0-255).....0
QUEUE GAP RESET TIME (0-25.5).....0.0
PREEMPTION INDEX FOR QUEUE (0-10).....0
```

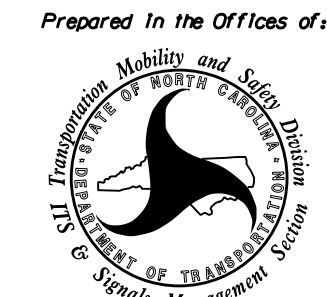
DETECTOR PROGRAMMING COMPLETE

This Plan Supersedes Electrical Detail Sealed on 10/5/2022

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1097
DESIGNED: July 2022
SEALED: 3/27/2023
REVISED: N/A

NOTE: DETECTOR IS PROGRAMMED PER THE INPUT FILE CONNECTION AND PROGRAMMING CHART SHOWN ON SHEET 1.

Electrical Detail - Sheet 3 of 4

 <p>Prepared in the Offices of: Transportation, Mobility and Safety Division STATE OF NORTH CAROLINA Department of Transportation Signal Management</p>	<p>NC 54 WB at Laurel Ridge Apartments</p>		<p>SEAL STATE OF NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031001 TODD JOYCE</p>			
	<p>Division 7 Orange County Chapel Hill</p> <p>PLAN DATE: March 2023 REVIEWED BY:</p> <p>PREPARED BY: Zarrar Zafar REVIEWED BY:</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>		INIT.	DATE	
INIT.	DATE					

750 N. Greenfield Pkwy, Garner, NC 27529

30-MAR-2023 11:44
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 zzzfzf

ALTERNATE PHASING ACTIVATION DETAIL

TO RUN ALT. PHASING DURING COORDINATION - SELECT ALL PAGE CHANGES (AS SHOWN BELOW) WITHIN COORDINATION PLAN PROGRAMMING.

TO RUN ALT. PHASING DURING FREE RUN - PROGRAM PAGE CHANGES (SHOWN BELOW) IN SEPARATE TIME OF DAY EVENTS. IF PAGE 1 IS USED, NO EVENT PROGRAMMING IS NECESSARY FOR THAT PARTICULAR PAGE.

<u>PHASING</u>	<u>INPUTS PAGE</u>	<u>OVERLAPS PAGE</u>
ACTIVE PAGES REQUIRED TO RUN <u>DEFAULT PHASING</u>	1	1
ACTIVE PAGES REQUIRED TO RUN <u>ALTERNATE PHASING</u>	2	2

NOTE: PAGES NOT SHOWN (i.e. sequence, phase control, etc.) SHOULD REMAIN AS '1', OR AS DEFINED BY TIMING ENGINEER.

IMPORTANT: IF ALT. PHASING IS USED DURING FREE RUN AND COORDINATION, DO NOT OPERATE TIME OF DAY PAGE CHANGE EVENTS CONCURRENTLY WITH COORDINATION PLAN EVENTS IN THE EVENT SCHEDULER. (EX. FREE RUN PAGE CHANGE EVENT SHOULD END BEFORE COORDINATION PLAN EVENT STARTS AND VICE-VERSA).

ALTERNATE PHASING PAGE CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN THESE OVERLAP/INPUT PAGE CHANGES ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAPS PAGE 2: Modifies overlap parent phases for head 31 to run protected turns only.

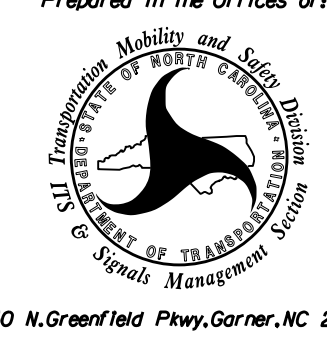
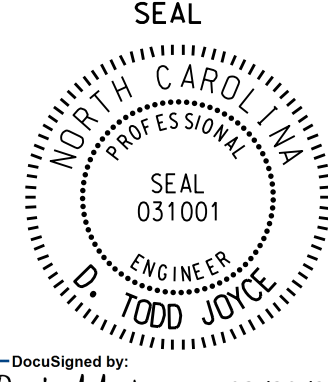
INPUTS PAGE 2: Reduces delay time for phase 3 call on loop 3A to 0 seconds.

This Plan Supersedes Electrical Detail Sealed on 10/5/2022

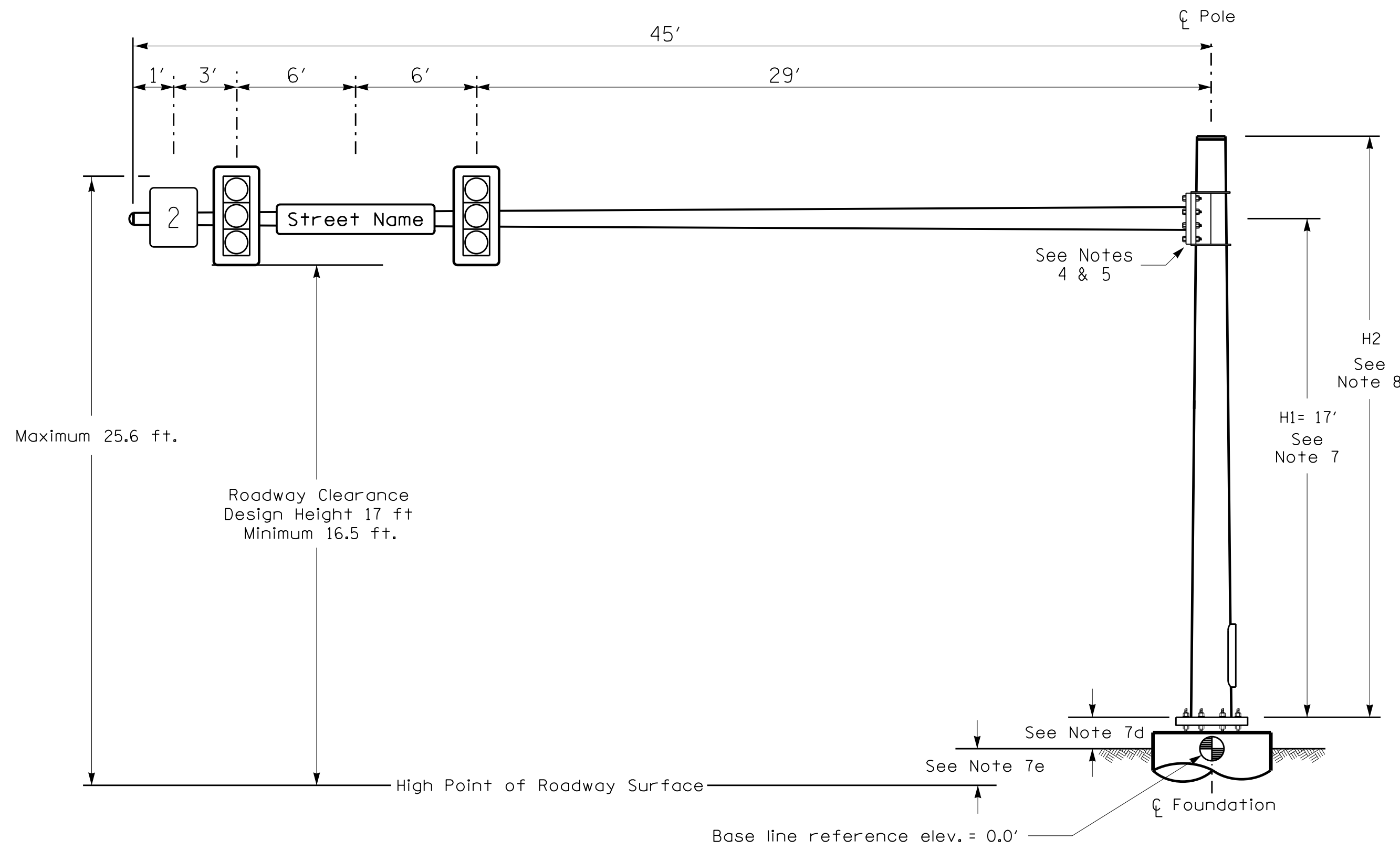
THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-1097
DESIGNED: July 2022
SEALED: 3/27/2023
REVISED: N/A

Electrical Detail - Sheet 4 of 4

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

 <p style="font-size: x-small;">750 N. Greenfield Pkwy, Coroner, NC 27529</p>	<p>NC 54 WB at Laurel Ridge Apartments</p> <p>Division 7 Orange County Chapel Hill</p> <p>PLAN DATE: March 2023 REVIEWED BY:</p> <p>PREPARED BY: Zarrar Zafar REVIEWED BY:</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS	INIT.	DATE										<p>SEAL</p>  <p>DocuSigned by: D. Todd Joyce 03/30/2023</p> <p style="font-size: x-small;">4800ADEFB042410 DATE</p> <p style="font-size: x-small;">SIG. INVENTORY NO. 07-1097</p>
REVISIONS	INIT.	DATE												

Design Loading for METAL POLE NO. 5



Elevation View

SPECIAL NOTE

The contractor is responsible for verifying that the mast arm attachment height (H1) will provide the "Design Height" clearance from the roadway before submitting final shop drawings for approval. Verify elevation data below which was obtained by field measurement or from available project survey data.

Elevation Data for Mast Arm Attachment (H1)

Elevation Differences for:	Pole 5
Baseline reference point at ϕ Foundation @ ground level	0.0 ft.
Elevation difference at High point of roadway surface	-0.5 ft.
Elevation difference at Edge of travelway or face of curb	-0.5 ft.

METAL POLE No. 5

PROJECT REFERENCE NO.	SHEET NO.
BL-0044	Sig 7.5

MAST ARM LOADING SCHEDULE

LOADING SYMBOL	DESCRIPTION	AREA	SIZE	WEIGHT
	RIGID MOUNTED SIGNAL HEAD 12"-3 SECTION-WITH BACKPLATE	9.3 S.F.	25.5" W X 52.5" L	60 LBS
	STREET NAME SIGN RIGID MOUNTED	16.0 S.F.	24.0" W X 96.0" L	36 LBS
	SIGN RIGID MOUNTED	7.5 S.F.	30.0" W X 36.0" L	14 LBS

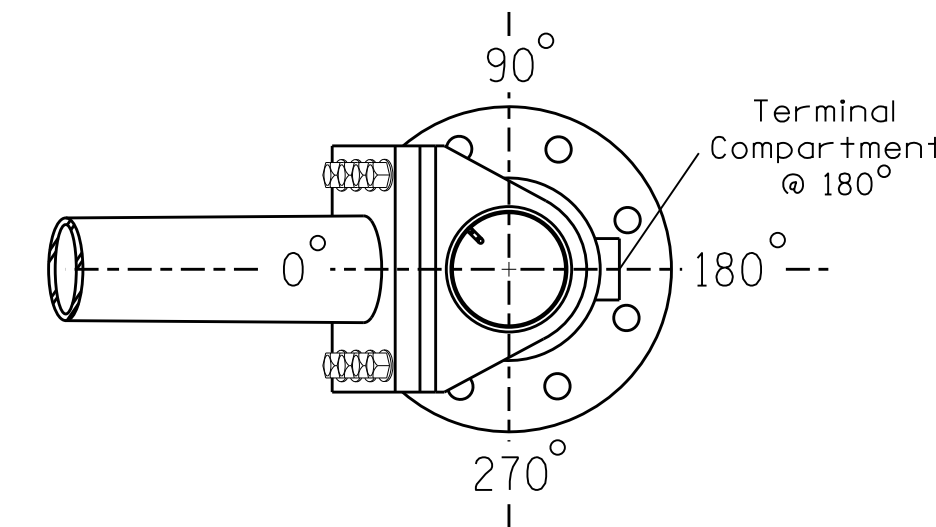
NOTES

DESIGN REFERENCE MATERIAL

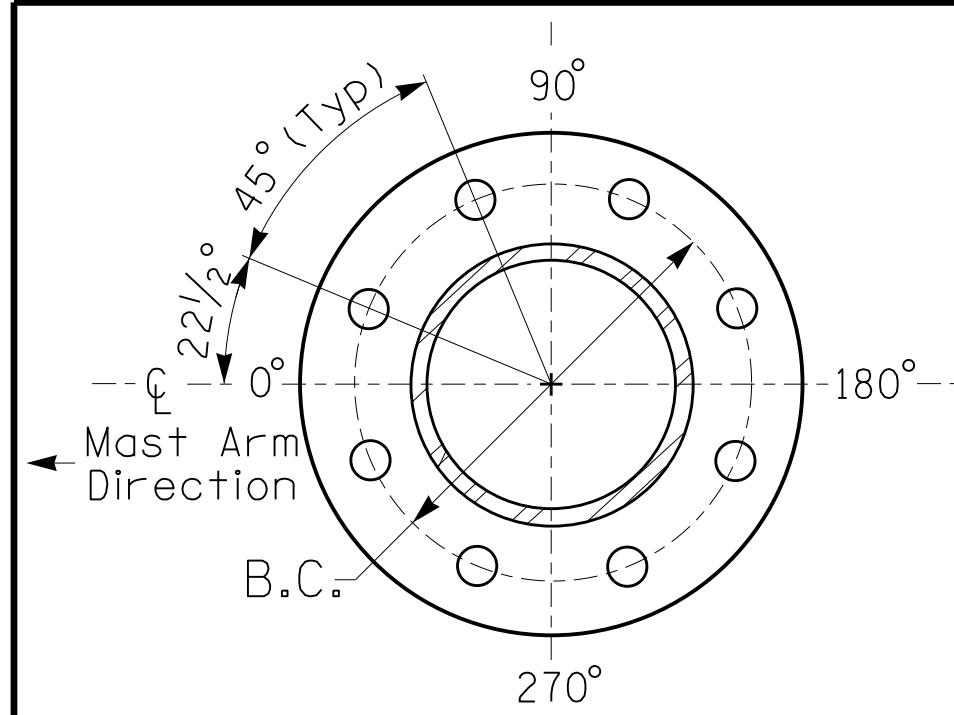
- Design the traffic signal structure and foundation in accordance with:
 - The 1st Edition 2015 AASHTO LRFD "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions.
 - The 2024 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.
 - The 2024 NCDOT Roadway Standard Drawings.
 - The traffic signal project plans and special provisions.
 - The NCDOT "Metal Pole Standards" located at the following NCDOT website: <https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

DESIGN REQUIREMENTS

- Design the traffic signal structure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation.
- Design all signal supports using force ratios that do not exceed 0.9.
- The camber design for the mast arm deflection should provide an appearance of a low pitched arch where the tip or the free end of the mast arm does not deflect below horizontal when fully loaded.
- A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design requirements.
- Design base plate with 8 anchor bolt holes. Provide 2 inch x 60 inch anchor bolts.
- The mast arm attachment height (H1) shown is based on the following design assumptions:
 - Mast arm slope and deflection are not considered in determining the arm attachment height as they are assumed to offset each other.
 - Signal heads are rigidly mounted and vertically centered on the mast arm.
 - The roadway clearance height for design is as shown in the elevation views.
 - The top of the pole base plate is 0.75 feet above the ground elevation.
 - Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground level and the high point of the roadway.
- The pole manufacturer will determine the total height (H2) of each pole using the greater of the following:
 - Mast arm attachment height (H1) plus 2 feet, or
 - H1 plus 1/2 of the total height of the mast arm attachment assembly plus 1 foot.
- If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the Signal Design Section Senior Structural Engineer for assistance at (919) 814-5000.
- The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signal heads over the roadway.
- The contractor is responsible for providing soil penetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.

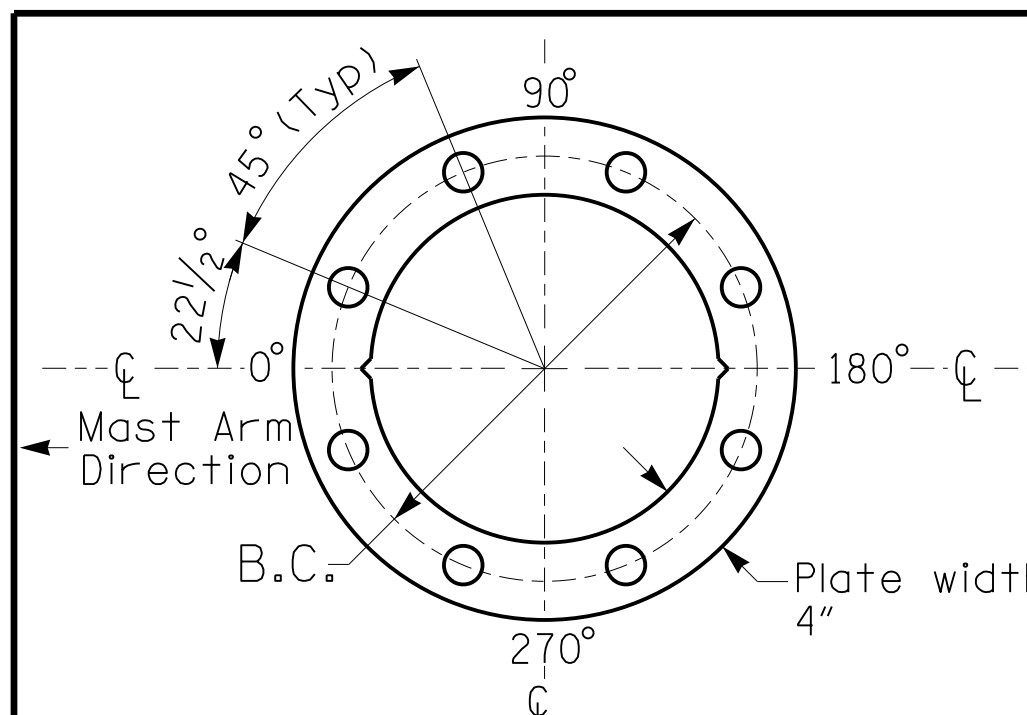


POLE RADIAL ORIENTATION



8 BOLT BASE PLATE DETAIL

See Note 6



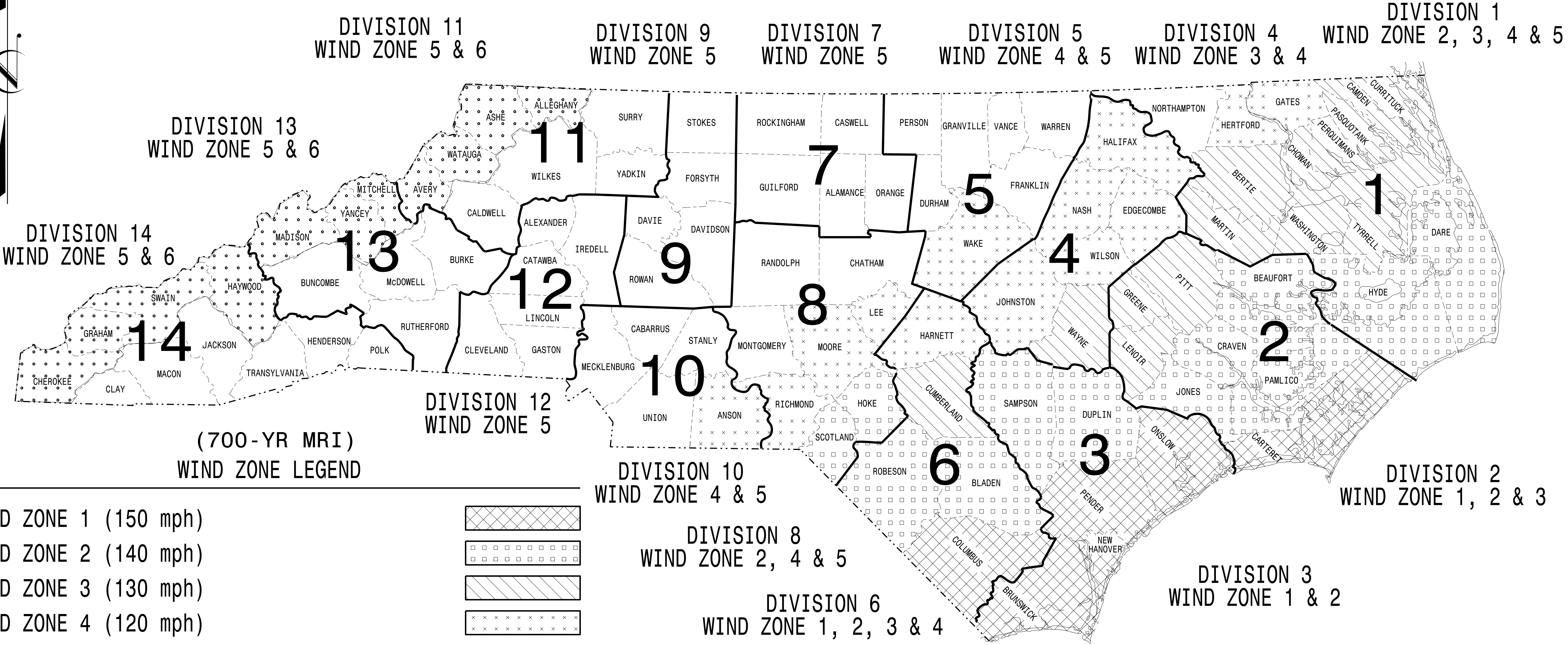
BASE PLATE TEMPLATE & ANCHOR BOLT LOCK PLATE DETAIL
For 8 Bolt Base Plate

NCDOT Wind Zone 4 (120 mph)

<p>Prepared In the Offices of: TRANSPORTATION MOBILITY AND SAFETY DIVISION SIGNAL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>NC 54 WB at Laurel Ridge Apartments</p>		<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>
	<p>Division 7 Orange County Chapel Hill</p> <p>PLAN DATE: July 2023 REVIEWED BY:</p> <p>PREPARED BY: J.A. Lohr REVIEWED BY:</p>	<p>REVISIONS</p> <p>INIT. DATE</p>	
<p>SCALE: N/A</p>	<p>SIG. INVENTORY NO. 07-1097</p>		

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)



(700-YR MRI)
WIND ZONE LEGEND

WIND ZONE 1 (150 mph)	
WIND ZONE 2 (140 mph)	
WIND ZONE 3 (130 mph)	
WIND ZONE 4 (120 mph)	
WIND ZONE 5 (110 mph)	
WIND ZONE 6 (135 mph) Special Wind Zone	

<https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

NC DOT METAL POLE STANDARDS

03-001-2023 1P-07
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Kdurigon

Prepared In the Offices of:

750 N. Greenfield Pkwy.
Garner, NC 27529

Designed in conformance
with the latest
2020 Interim to the
1st Edition 2015

**AASHTO
LRFD**

Standard Specifications for
Highway Signs, Luminaires,
and Traffic Signals

DRAWING NUMBER	INDEX OF PLANS DESCRIPTION
Sig. M 1A	Statewide Wind Zone Map (700-yr MRI)
Sig. M 1B	Statewide Wind Zone Map (10-yr MRI)
Sig. M 2	Typical Fabrication Details-All Metal Poles
Sig. M 3	Typical Fabrication Details-Strain Poles
Sig. M 4	Typical Fabrication Details-Mast Arm Poles
Sig. M 5	Typical Fabrication Details-Mast Arm Connection
Sig. M 6	Typical Fabrication Details-Strain Pole Attachments
Sig. M 7	Construction Details-Foundations
Sig. M 8	Standard Strain Pole Foundation-All Soil Conditions
Sig. M 9	Typical Fabrication Details-CCTV Camera Poles

**MOBILITY AND SAFETY DIVISION -
TRANSPORTATION SYSTEMS MANAGEMENT
AND OPERATIONS UNIT**

D.Y. ISHAK - STATE SIGNALS ENGINEER

K. DURIGON, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER

B. WALKER, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER

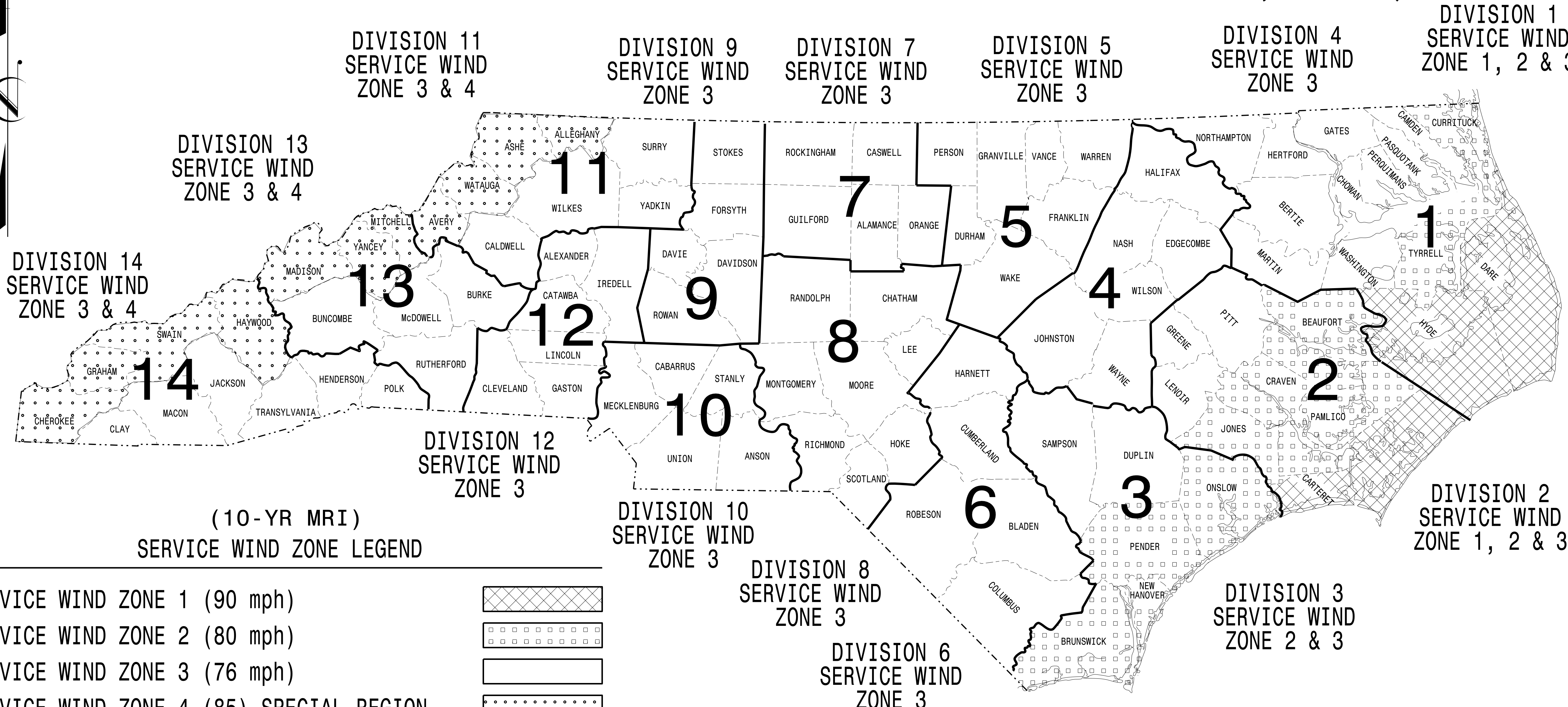
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Kevin Durigon
SIGNATURE
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09/21/2023
DATE

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)



(10-YR MRI)
SERVICE WIND ZONE LEGEND

SERVICE WIND ZONE 1 (90 mph)	
SERVICE WIND ZONE 2 (80 mph)	
SERVICE WIND ZONE 3 (76 mph)	
SERVICE WIND ZONE 4 (85) SPECIAL REGION	

<https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

NC DOT METAL POLE STANDARDS

03-OCT-2023 10:21 S:\IT\AS\14\15\Signal\Standards\Drawings\2024_Metal_Pole_Standards\10-yr_MRI1.dgn

Prepared in the Offices of:

750 N. Greenfield Pkwy.
Garner, NC 27529

Designed in conformance with the latest 2020 Interim to the 1st Edition 2015

AASHTO LRFD

Standard Specifications for Highway Signs, Luminaires, and Traffic Signals

DRAWING NUMBER	INDEX OF PLANS DESCRIPTION
Sig. M 1A	Statewide Wind Zone Map (700-yr MRI)
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Sig. M 2	Typical Fabrication Details-All Metal Poles
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Sig. M 4	Typical Fabrication Details-Mast Arm Poles
Sig. M 5	Typical Fabrication Details-Mast Arm Connection
Sig. M 6	Typical Fabrication Details-Strain Pole Attachments
Sig. M 7	Construction Details-Foundations
Sig. M 8	Standard Strain Pole Foundation-All Soil Conditions
Sig. M 9	Typical Fabrication Details-CCTV Camera Poles

NCDOT CONTACTS:

**MOBILITY AND SAFETY DIVISION -
TRANSPORTATION SYSTEMS MANAGEMENT
AND OPERATIONS UNIT**

D.Y. ISHAK - STATE SIGNALS ENGINEER

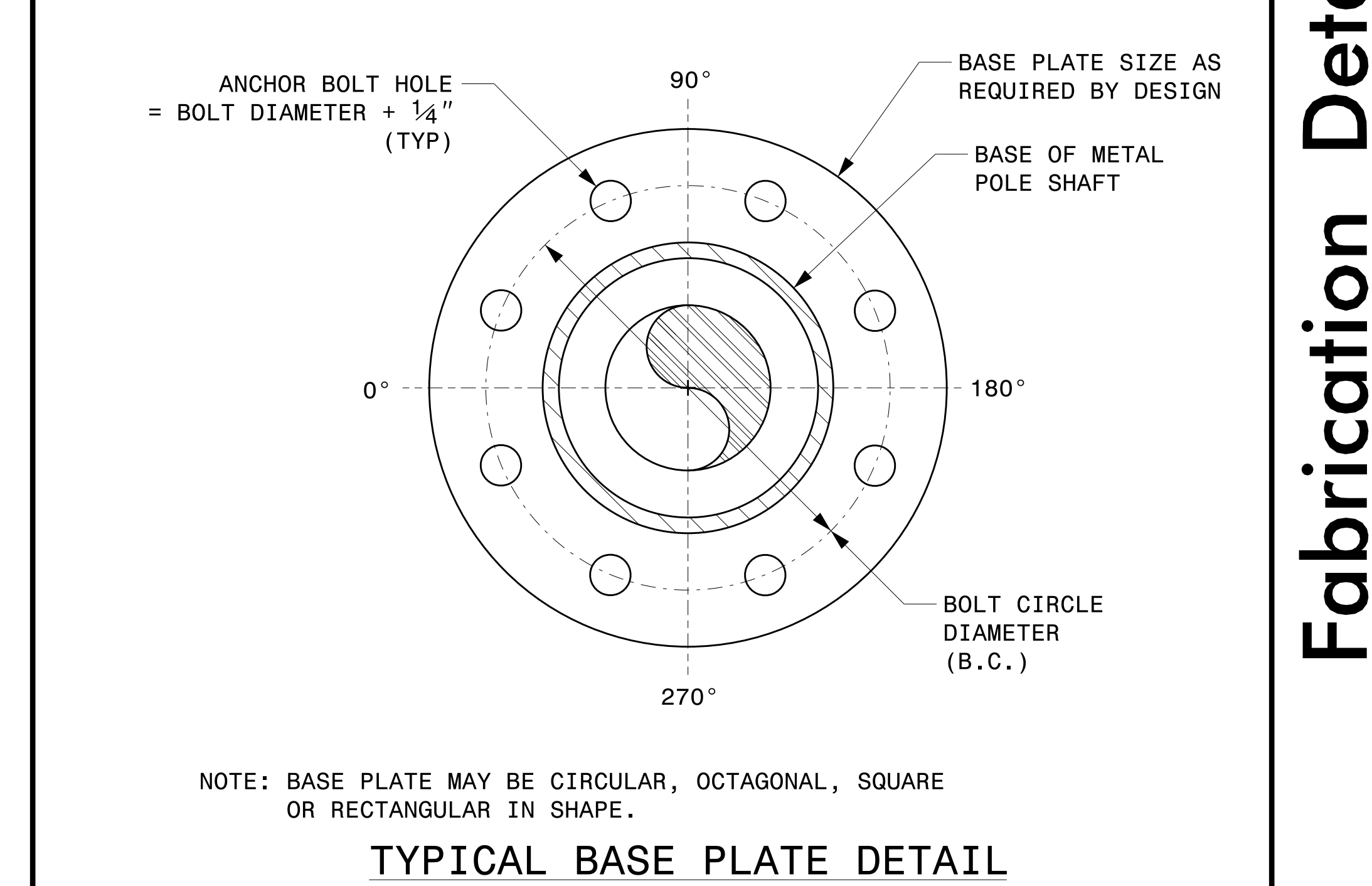
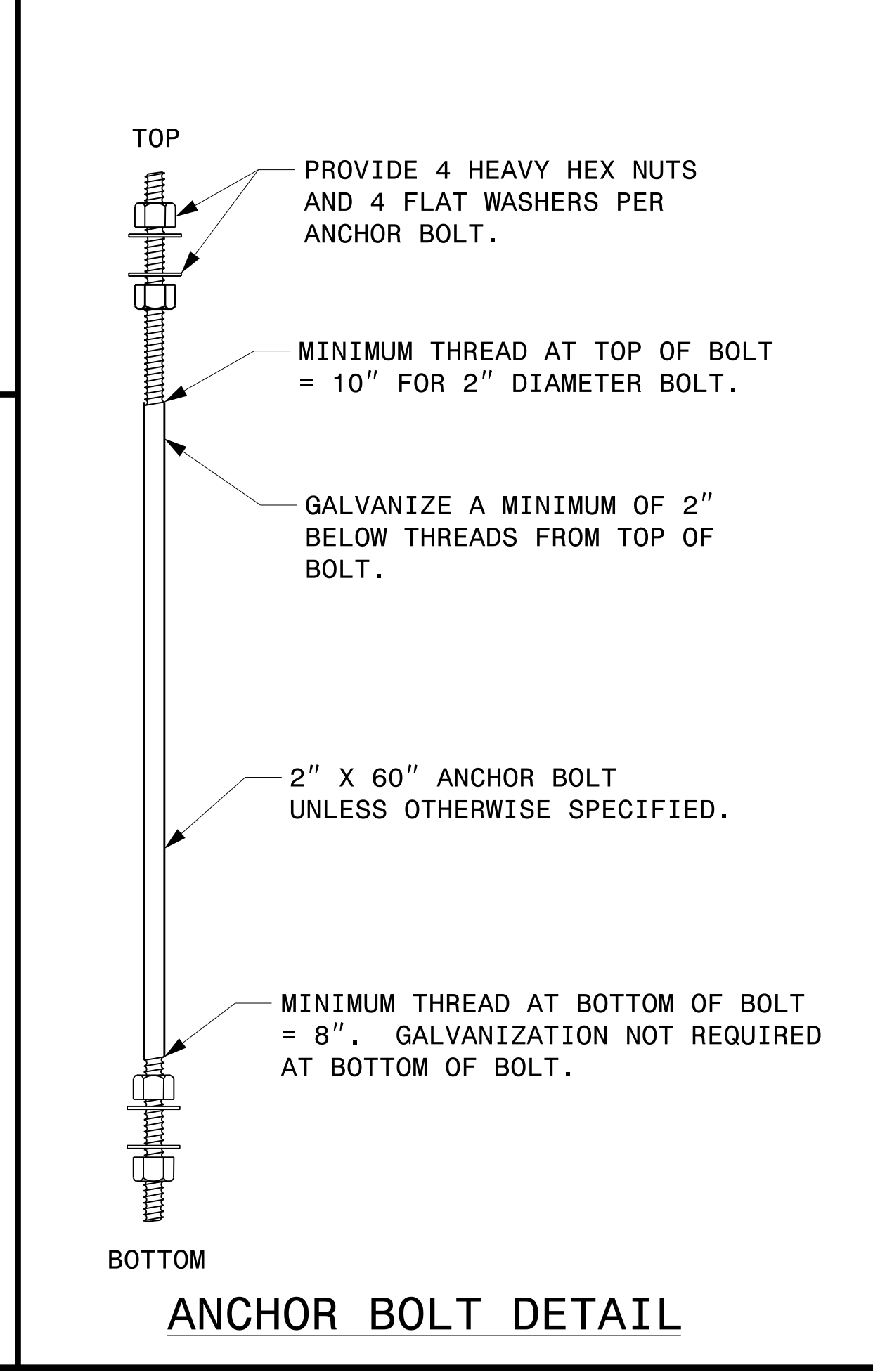
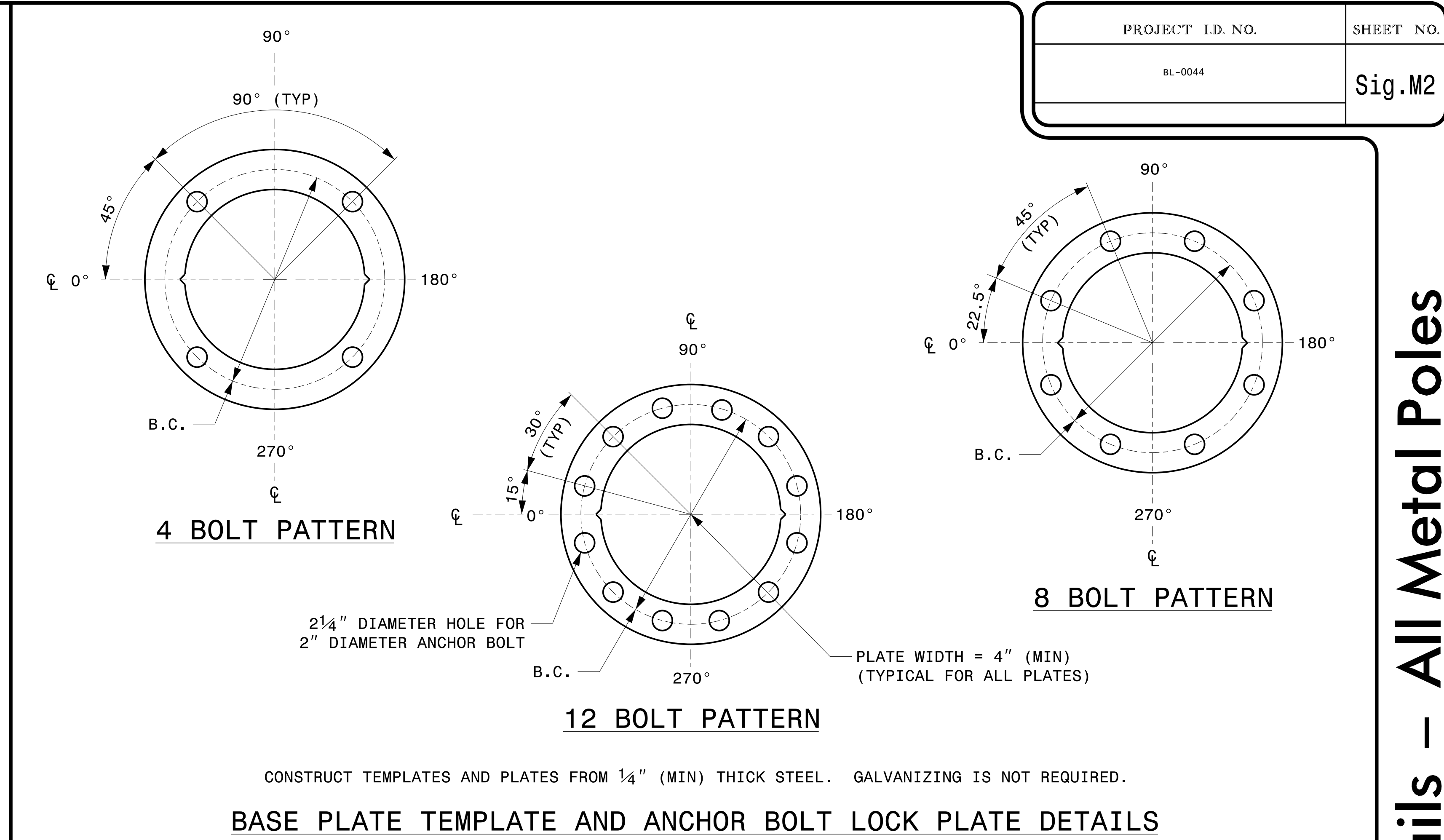
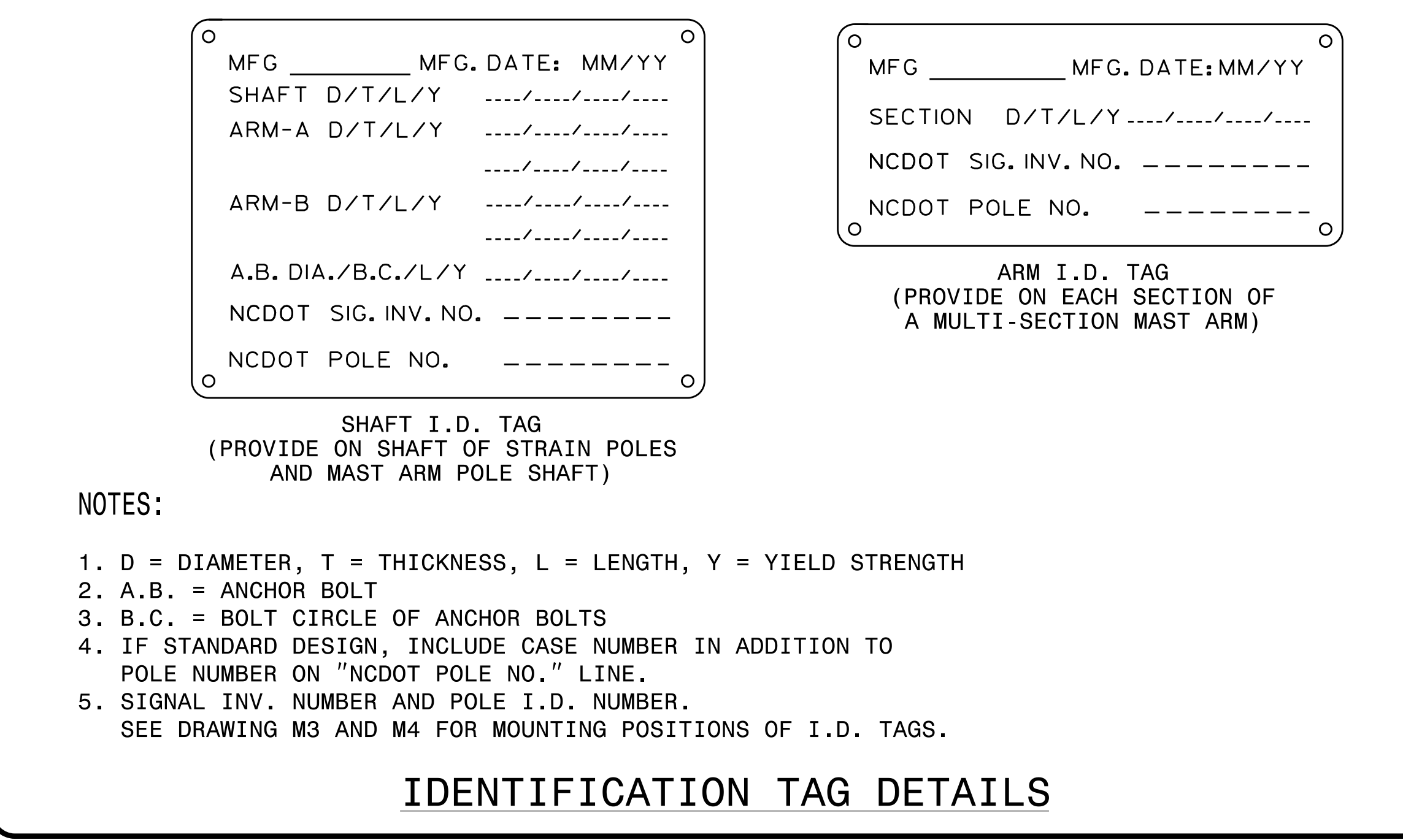
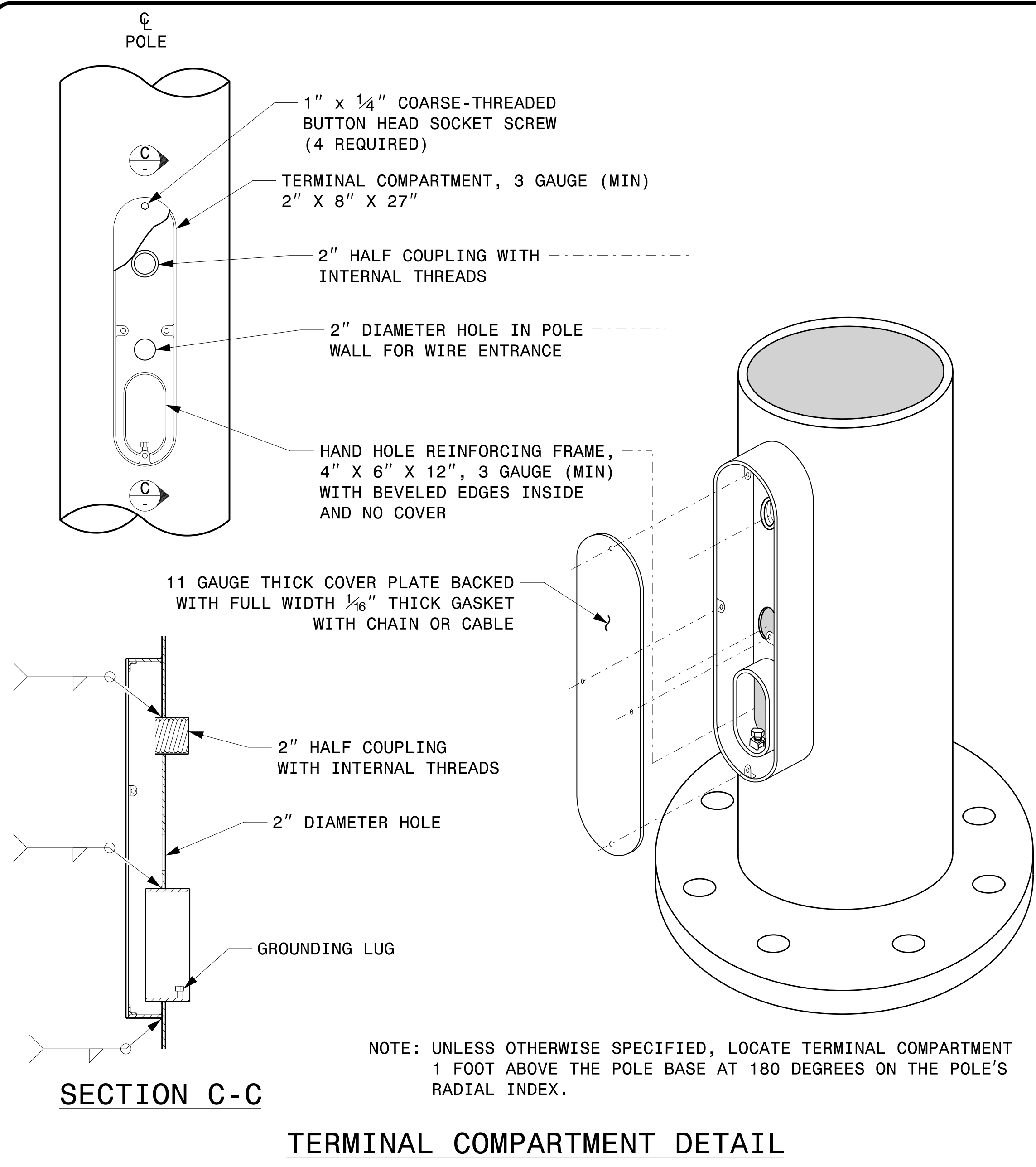
K. DURIGON, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER

B. WALKER, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER

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Kevin Durigon
SIGNATURE
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09/21/2023
DATE



	Typical Fabrication Details For All Metal Poles		SEAL
	Prepared in the Offices of: 750 N. Greenfield Pkwy, Garner, NC 27529	PLAN DATE: SEPTEMBER 2023 DESIGNED BY: C.F. ANDREWS PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR	

DocuSigned by:
Kevin Durigon
4P23DC79B3784DA

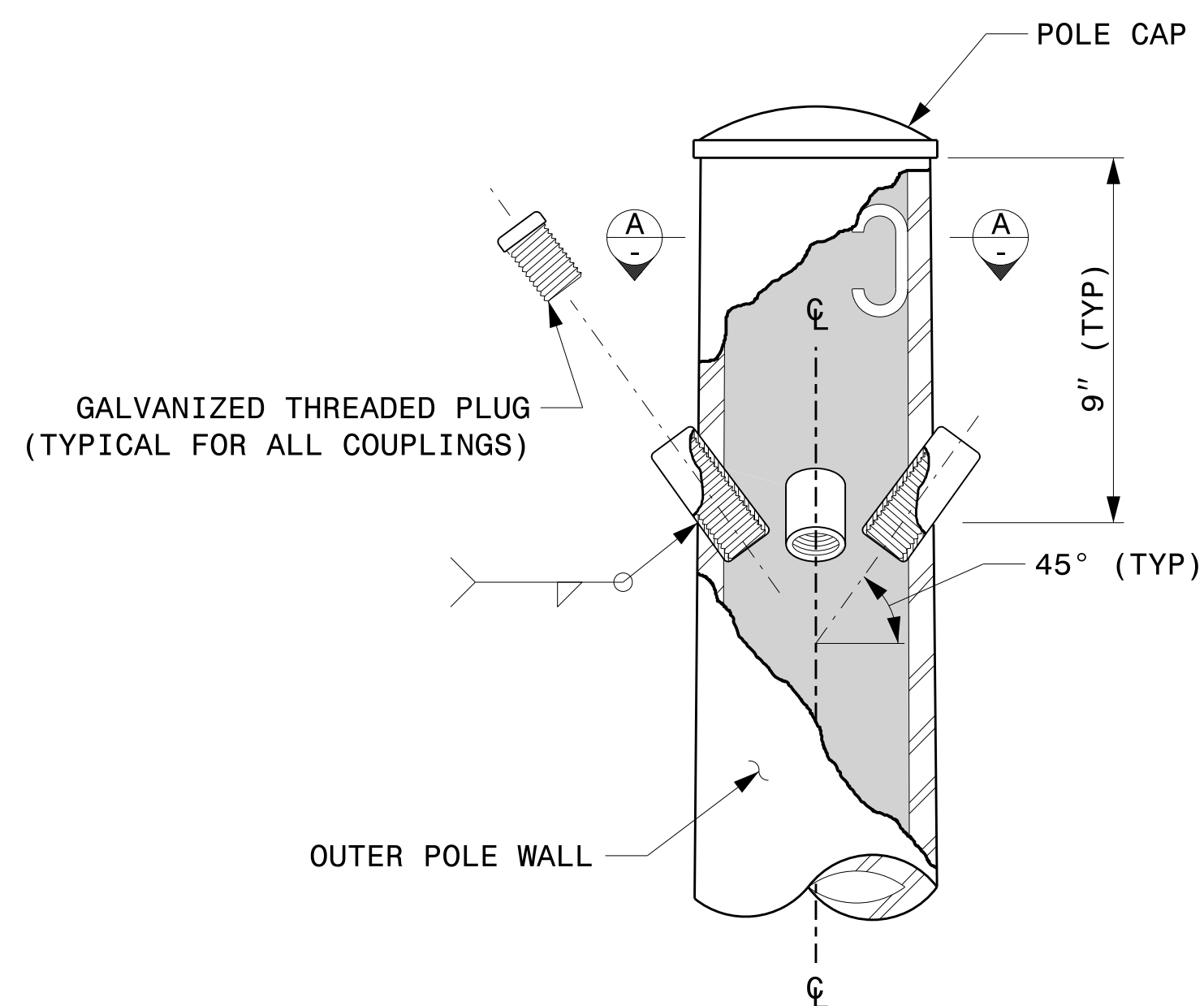
09/21/2023
DATE

Fabrication Details – All Metal Poles

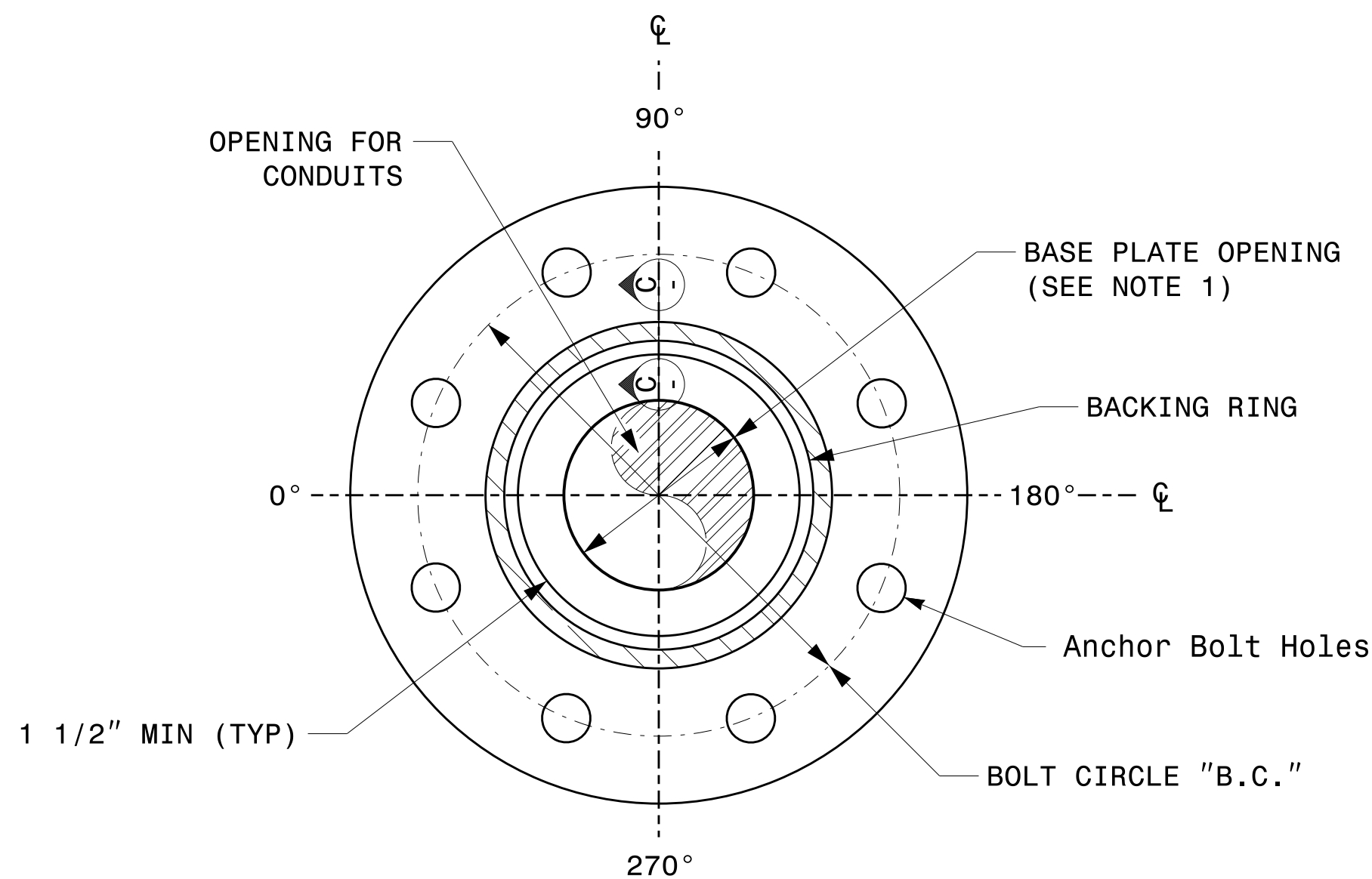
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Kedar Figon

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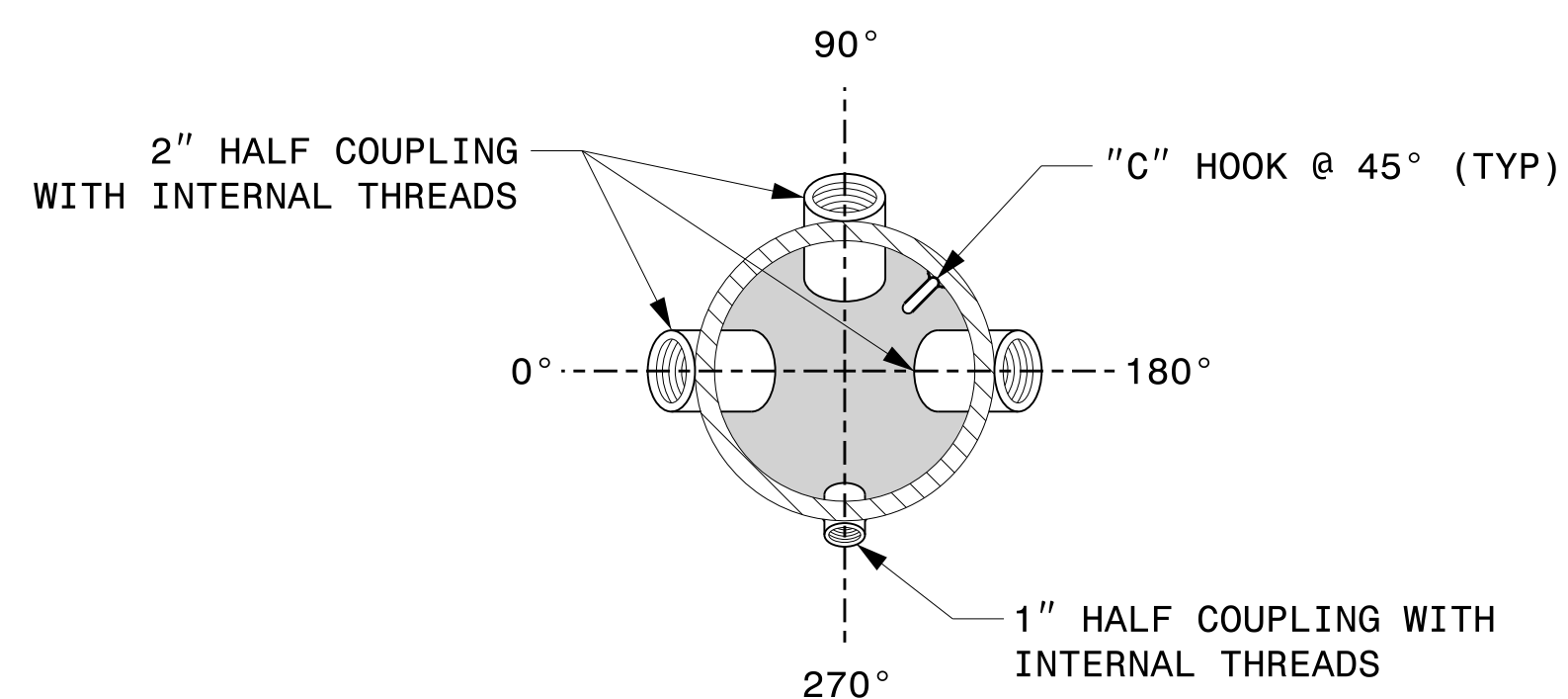
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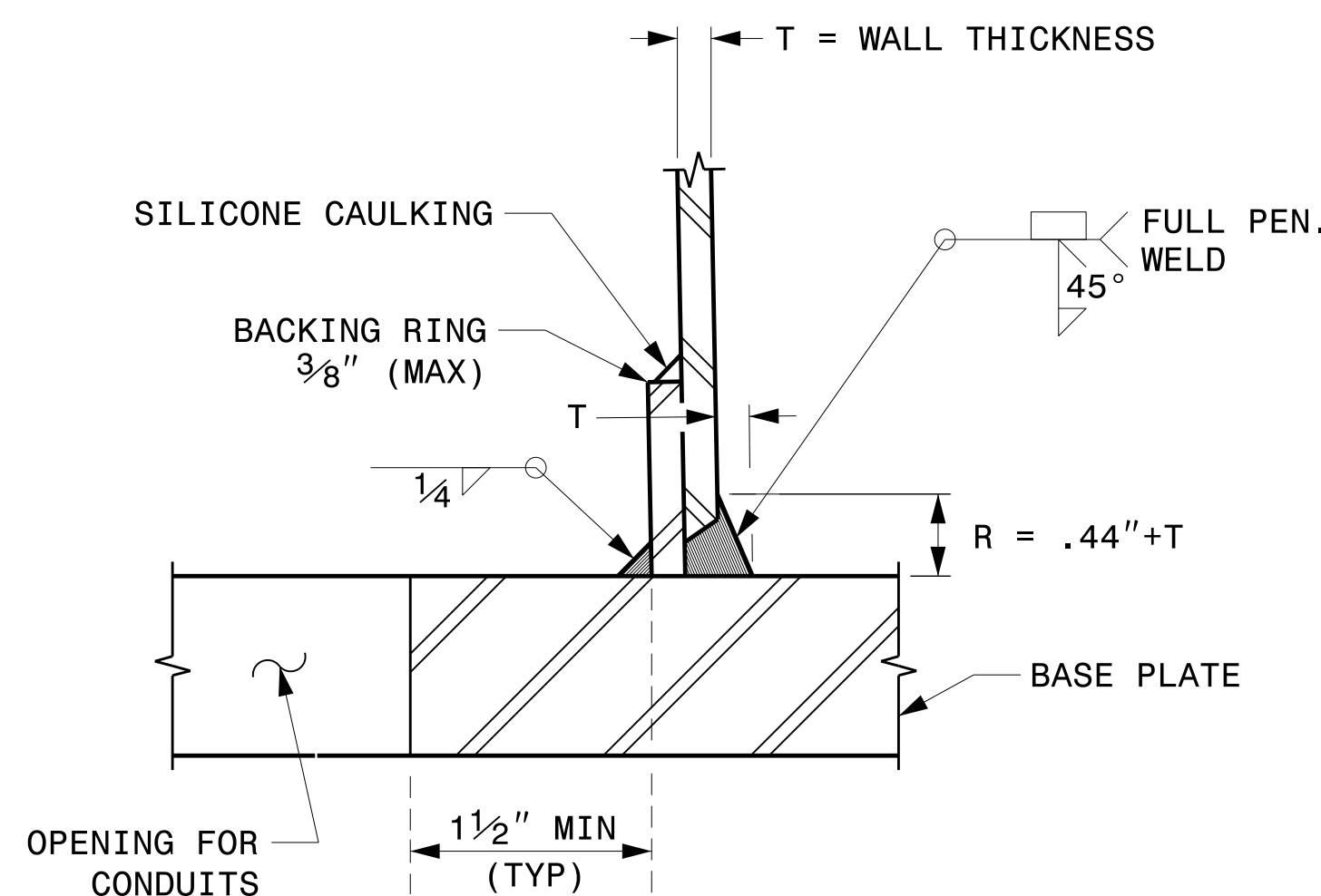
CABLE ENTRANCES AT TOP OF POLE



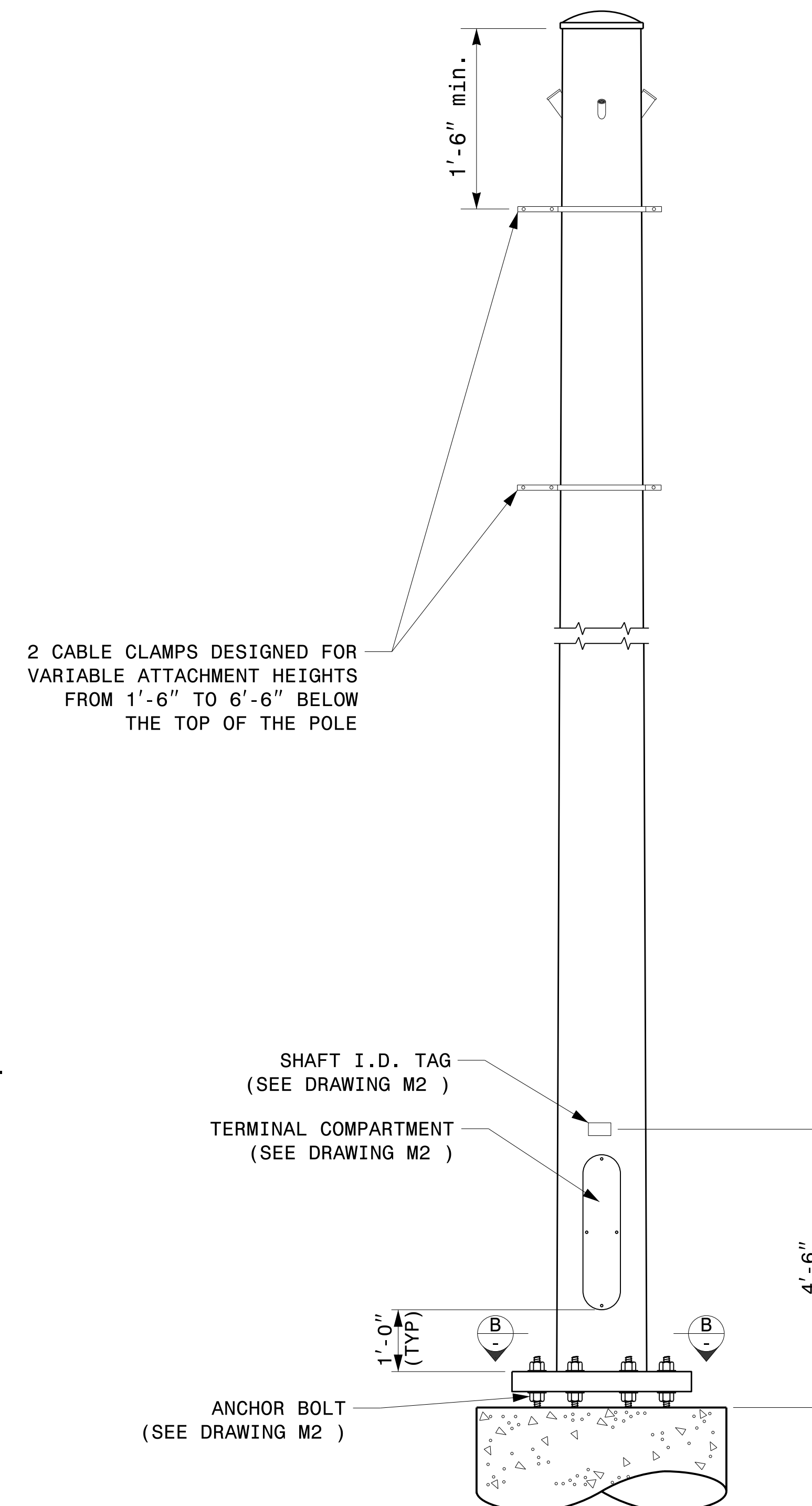
SECTION B-B
POLE BASE PLATE DETAILS
(8 AND 12 BOLT PATTERN)



SECTION A-A
RADIAL ORIENTATION OF FACTORY INSTALLED
ACCESSORIES AT TOP OF POLE



SECTION C-C
(POLE ATTACHMENT TO BASE PLATE)
FULL-PENETRATION
GROOVE WELD DETAIL



2 CABLE CLAMPS DESIGNED FOR
VARIABLE ATTACHMENT HEIGHTS
FROM 1'-6" TO 6'-6" BELOW
THE TOP OF THE POLE

MONOTUBE STRAIN POLE

08-dt-2023 10:37
S:\ISSUES\15 Signal\Signal Design Section\Structures\Drawings\2024 Merlot Pole Std Drawings for LRF\0204_Sig_M3 Str. Fabrication Details-Strain Poles.dgn
Kedar Tagon

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

Typical Fabrication Details For Strain Poles	
PLAN DATE: SEPTEMBER 2023	DESIGNED BY: K.C. DURIGON
PREPARED BY: K.C. DURIGON	REVIEWED BY: D.C. SARKAR
REVISIONS	INIT. DATE

SEAL

DocuSigned by:
Kevin Durigon
SIGNATURE

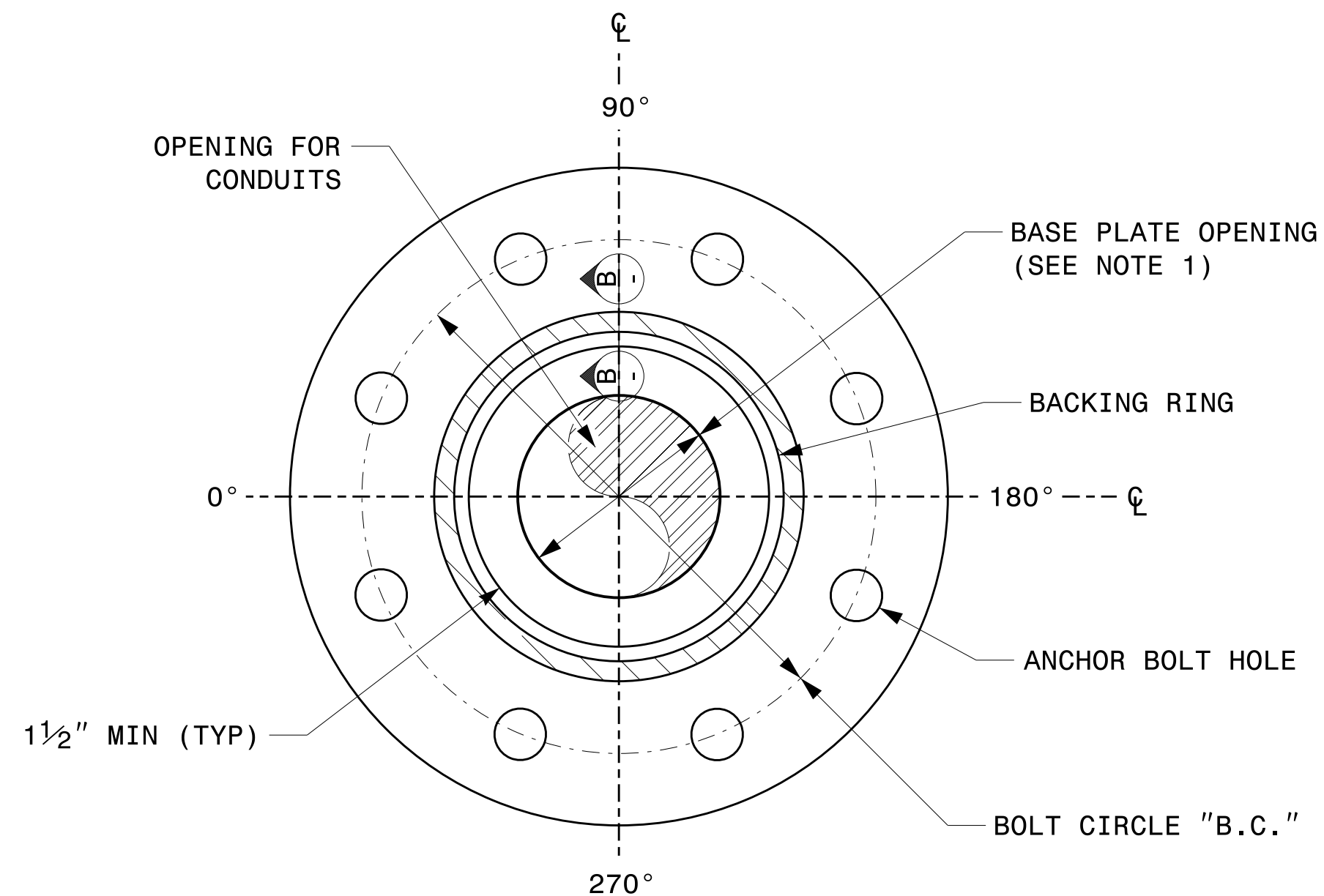
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DATE

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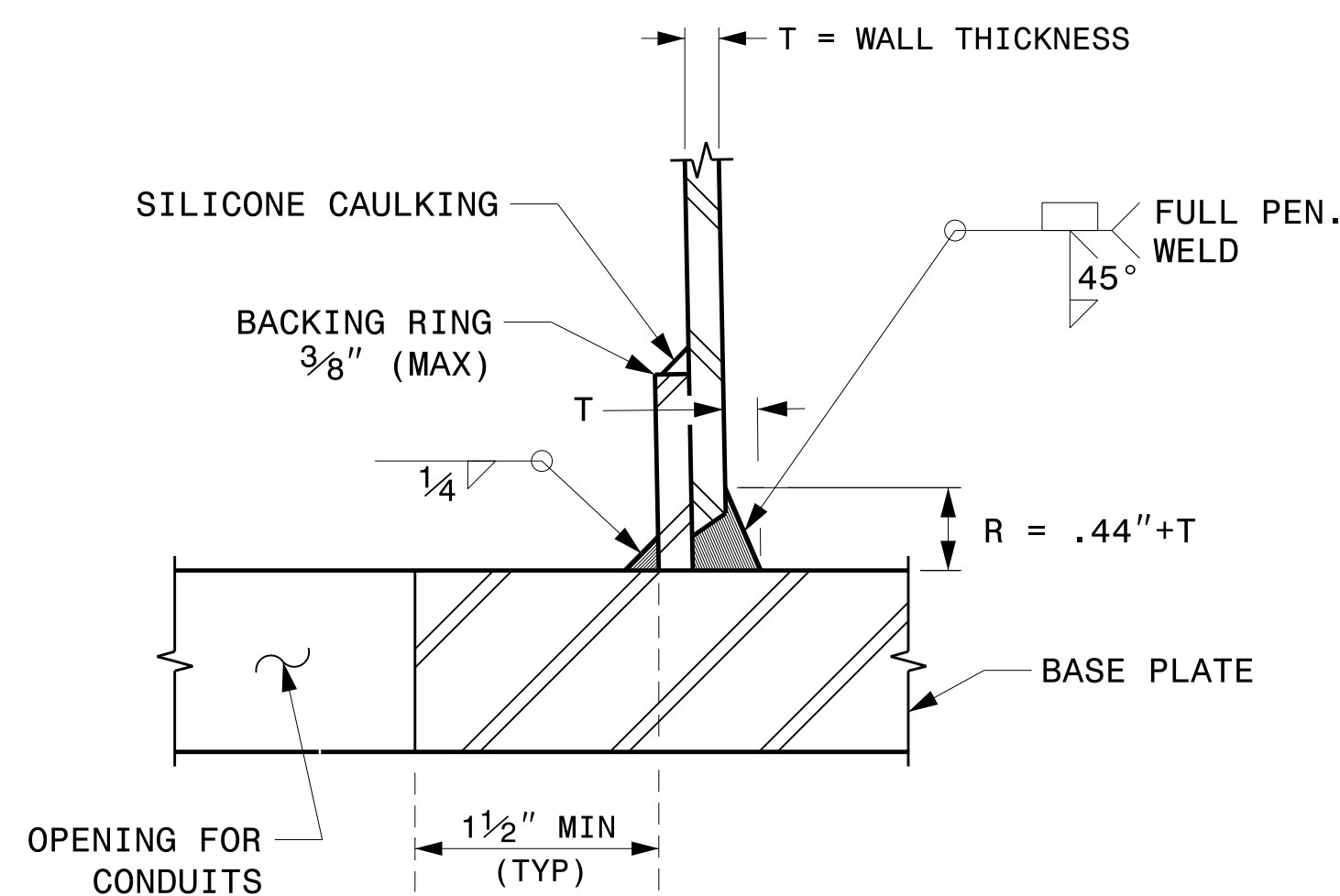
Fabrication Details – Strain Poles

NOTE:

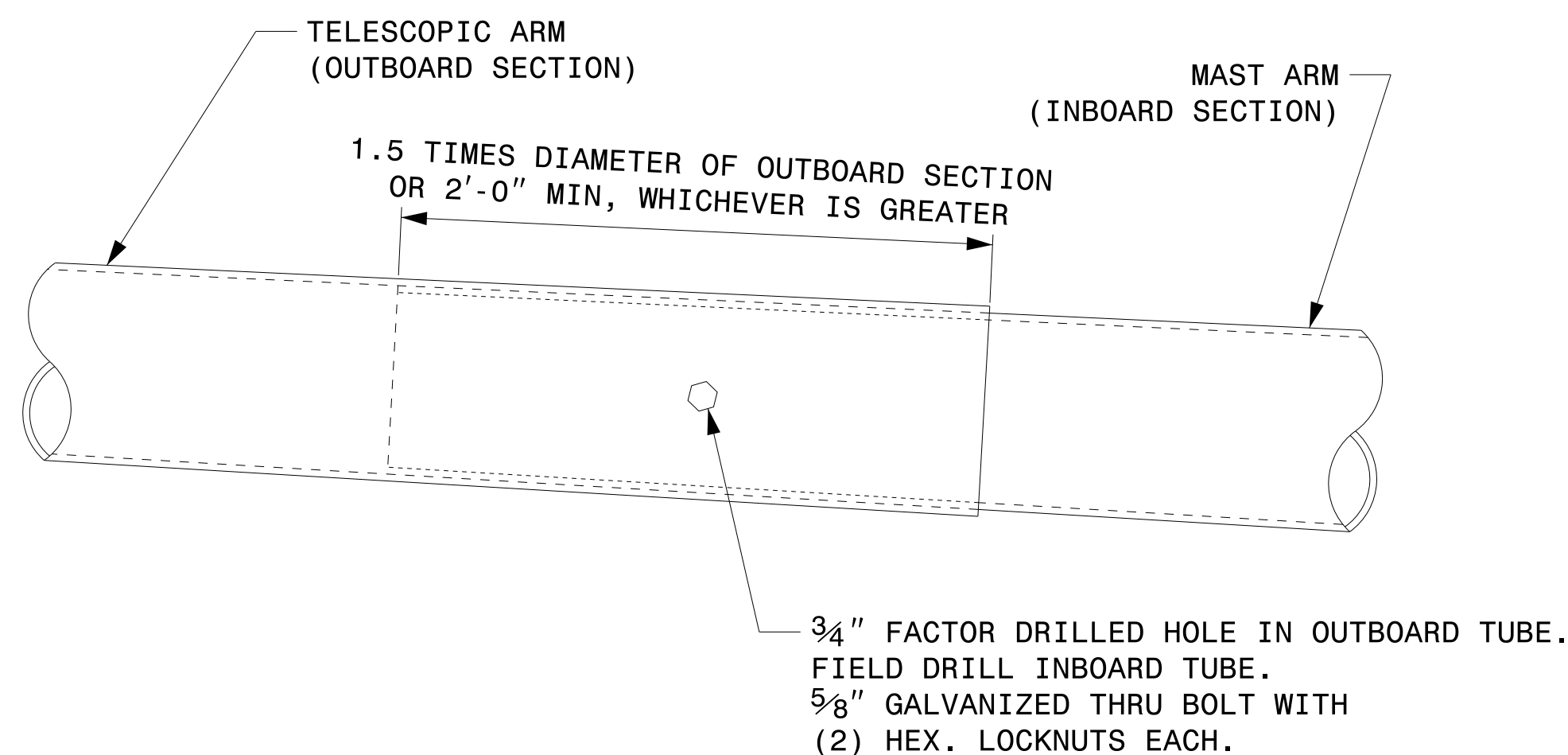
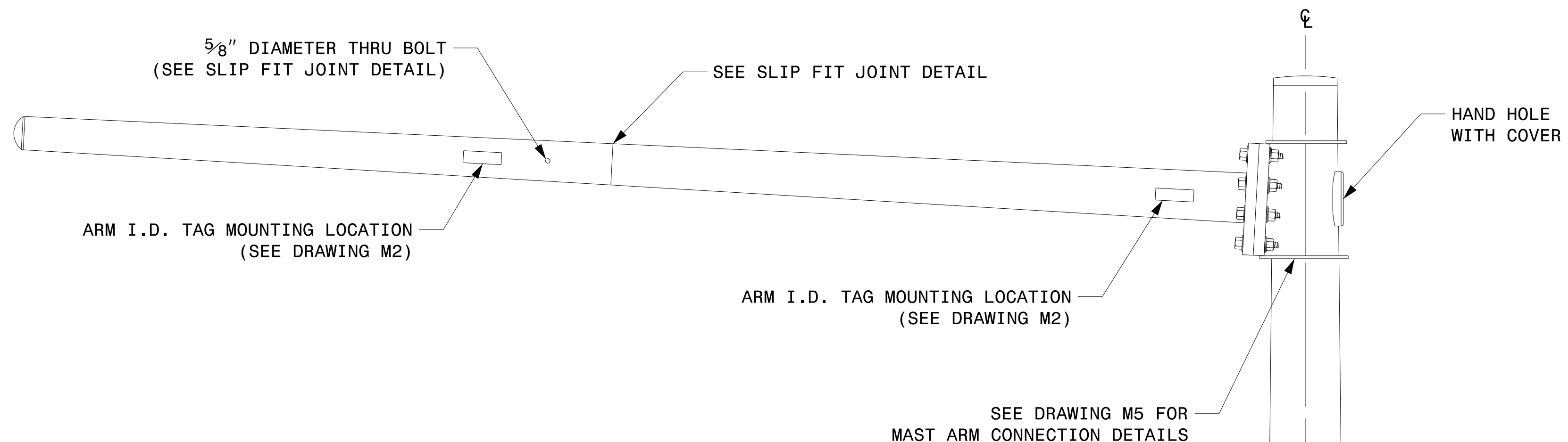
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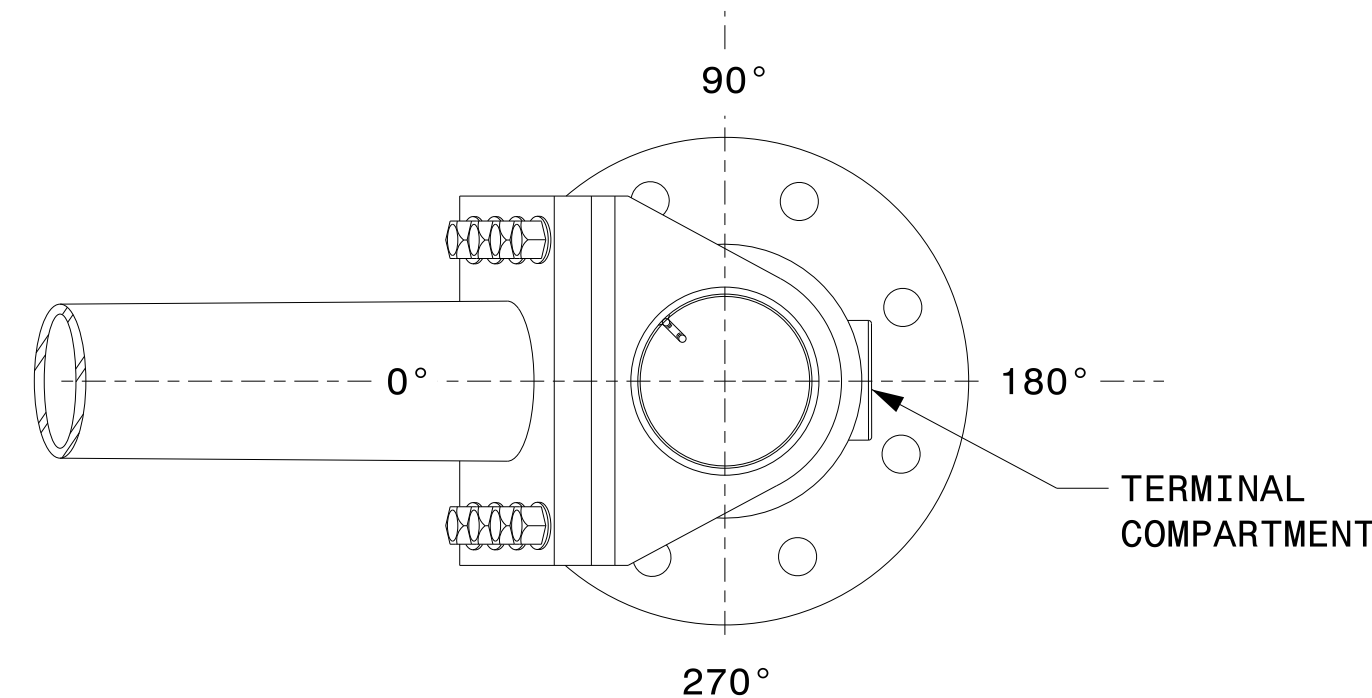
SECTION A-A
POLE BASE PLATE DETAILS



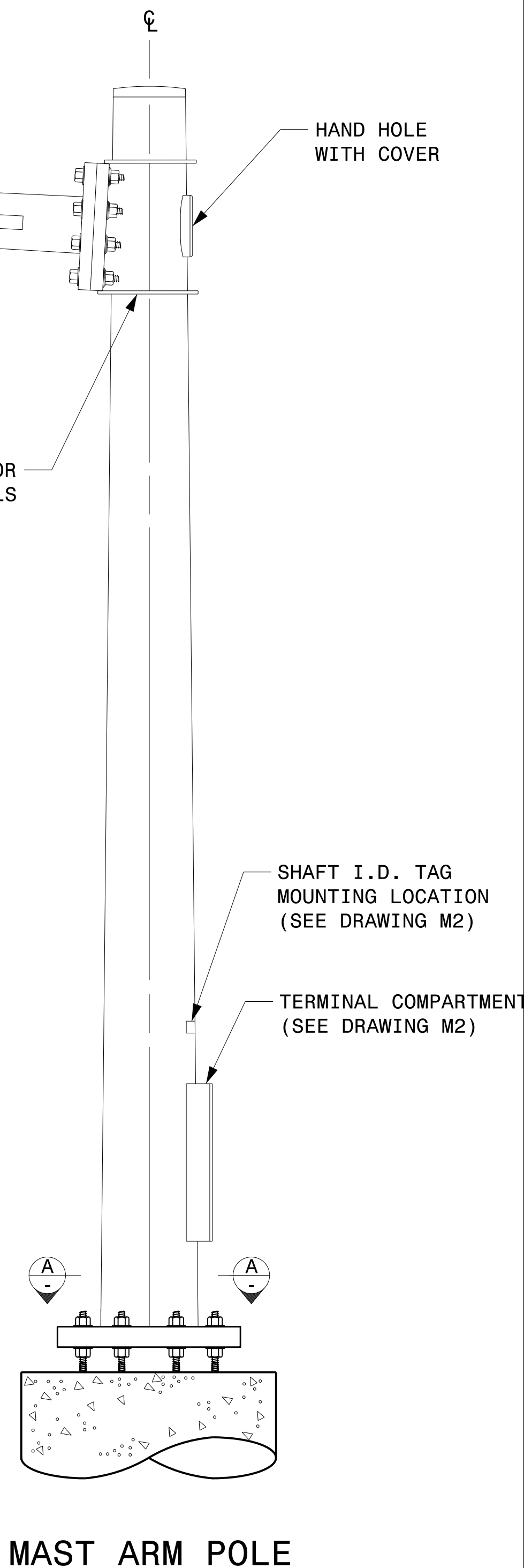
SECTION B-B
(POLE ATTACHMENT TO BASE PLATE)
FULL-PENETRATION
GROOVE WELD DETAIL



SLIP FIT JOINT DETAIL FOR MAST ARM



MAST ARM RADIAL ORIENTATION



MAST ARM POLE

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: NA
NONE

Typical Fabrication Details For Mast Arm Poles			
PLAN DATE:	SEPTEMBER 2023	DESIGNED BY:	K.C. DURIGON
PREPARED BY:	K.C. DURIGON	REVIEWED BY:	D.C. SARKAR
REVISIONS	INIT.	DATE	

SEAL

DocuSigned by:
Kevin Durigon
SIGNATURE

09/21/2023
DATE

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Kedar Tagon

Fabrication Details – Mast Arm Poles

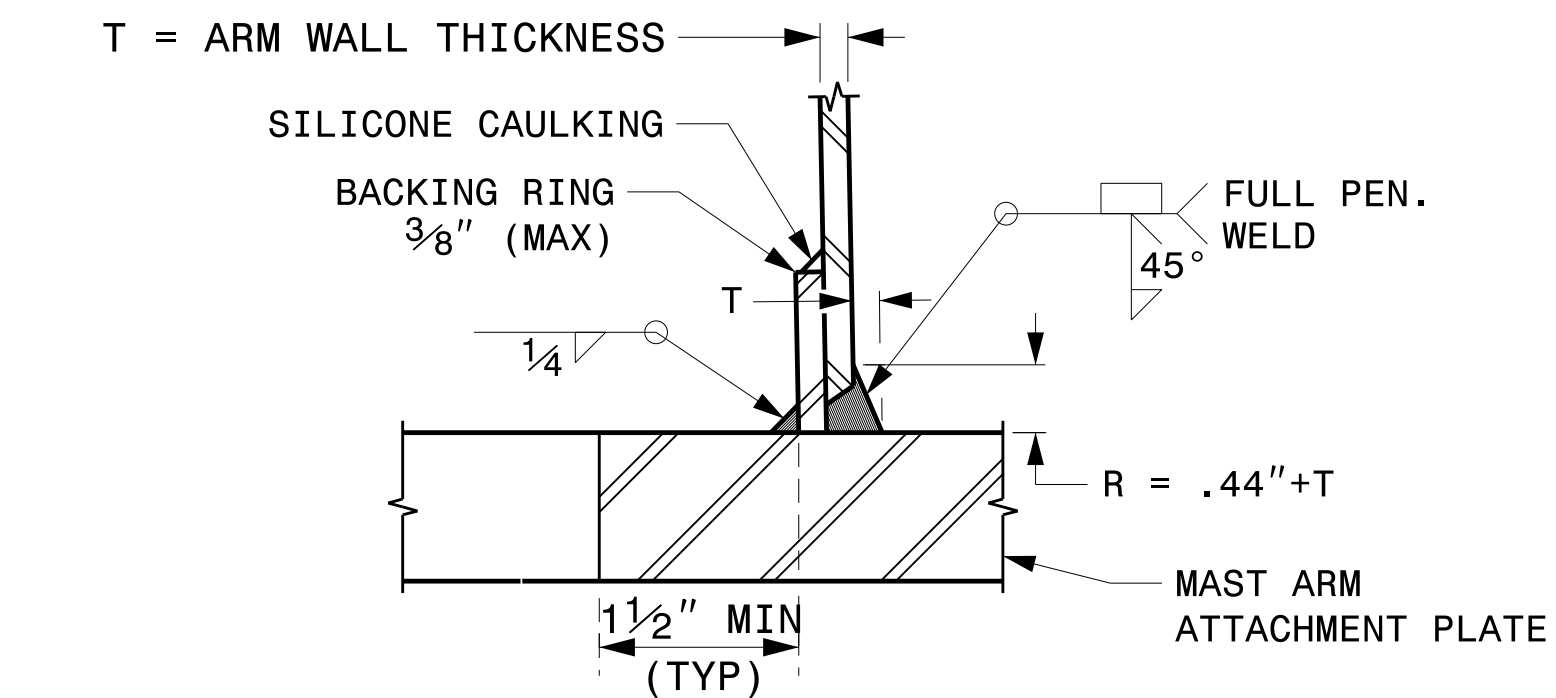
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PROJECT I.D. NO.

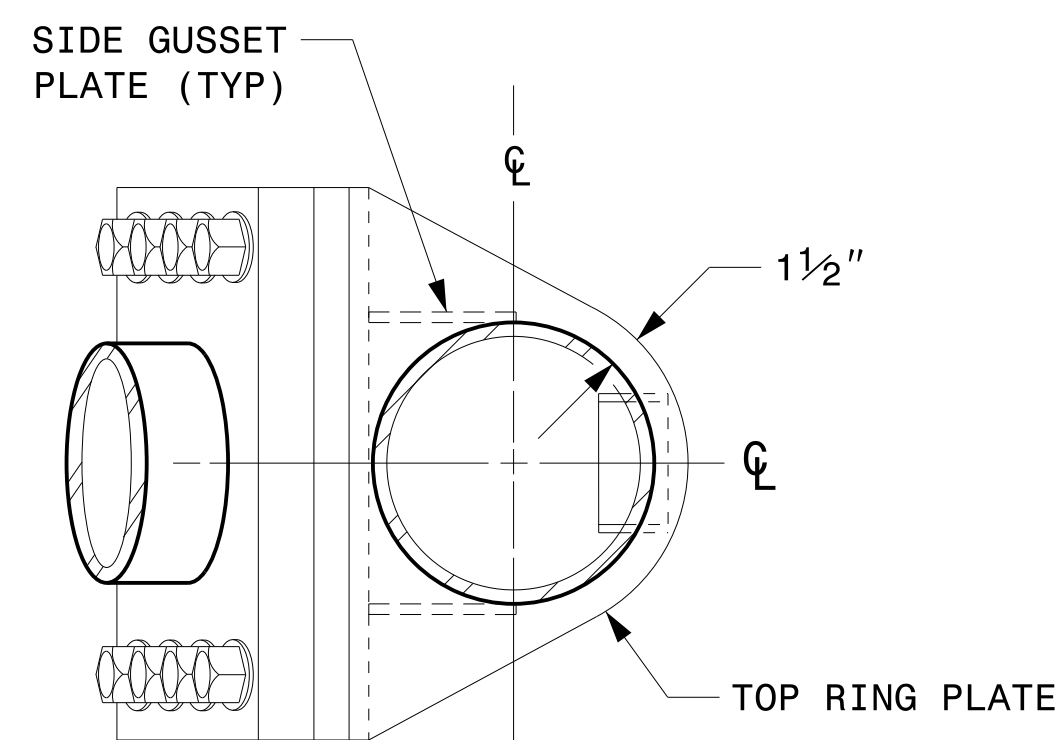
SHEET NO.

BL-0044

Sig.M5



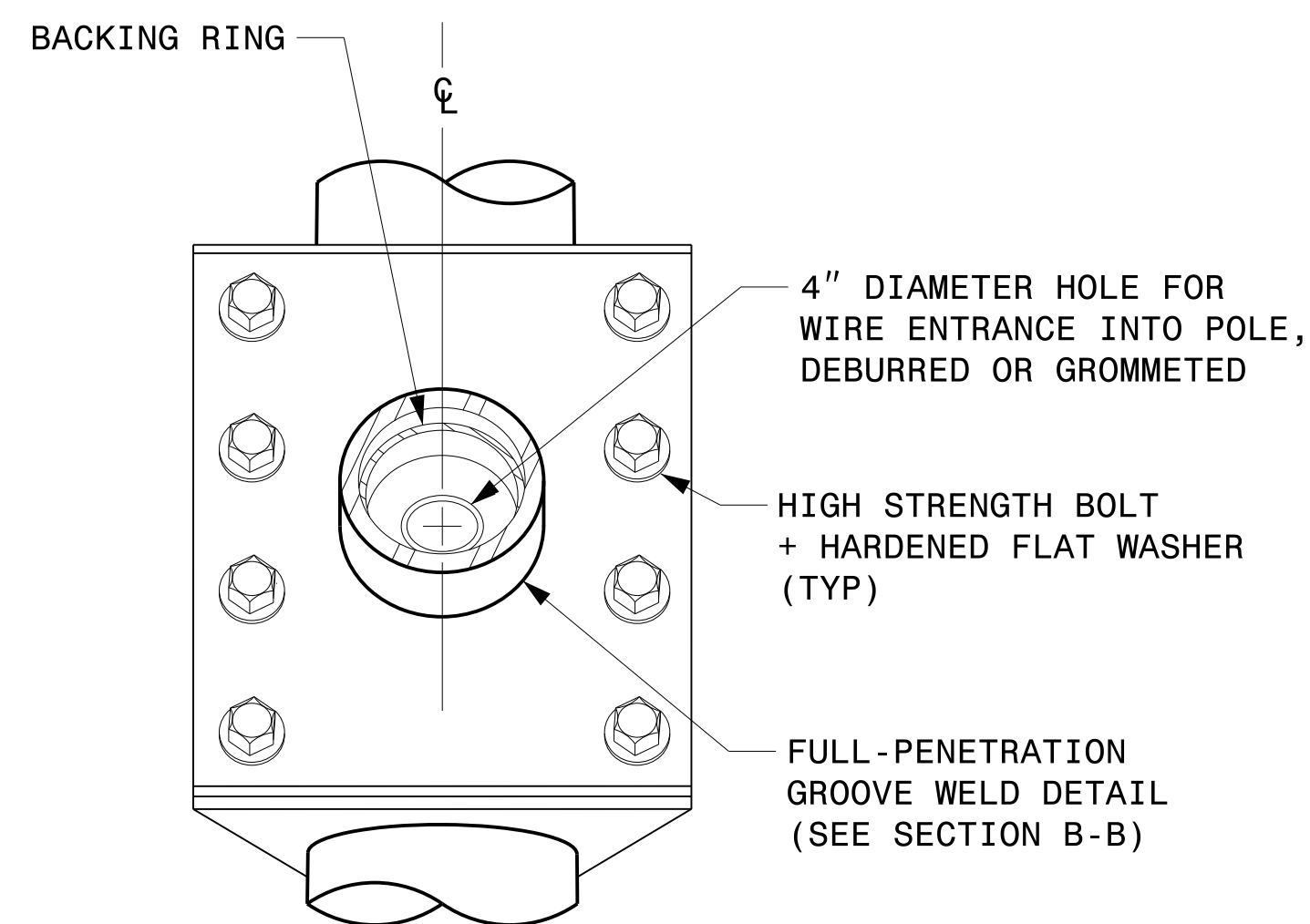
**SECTION B-B
FULL-PENETRATION GROOVE WELD DETAIL**



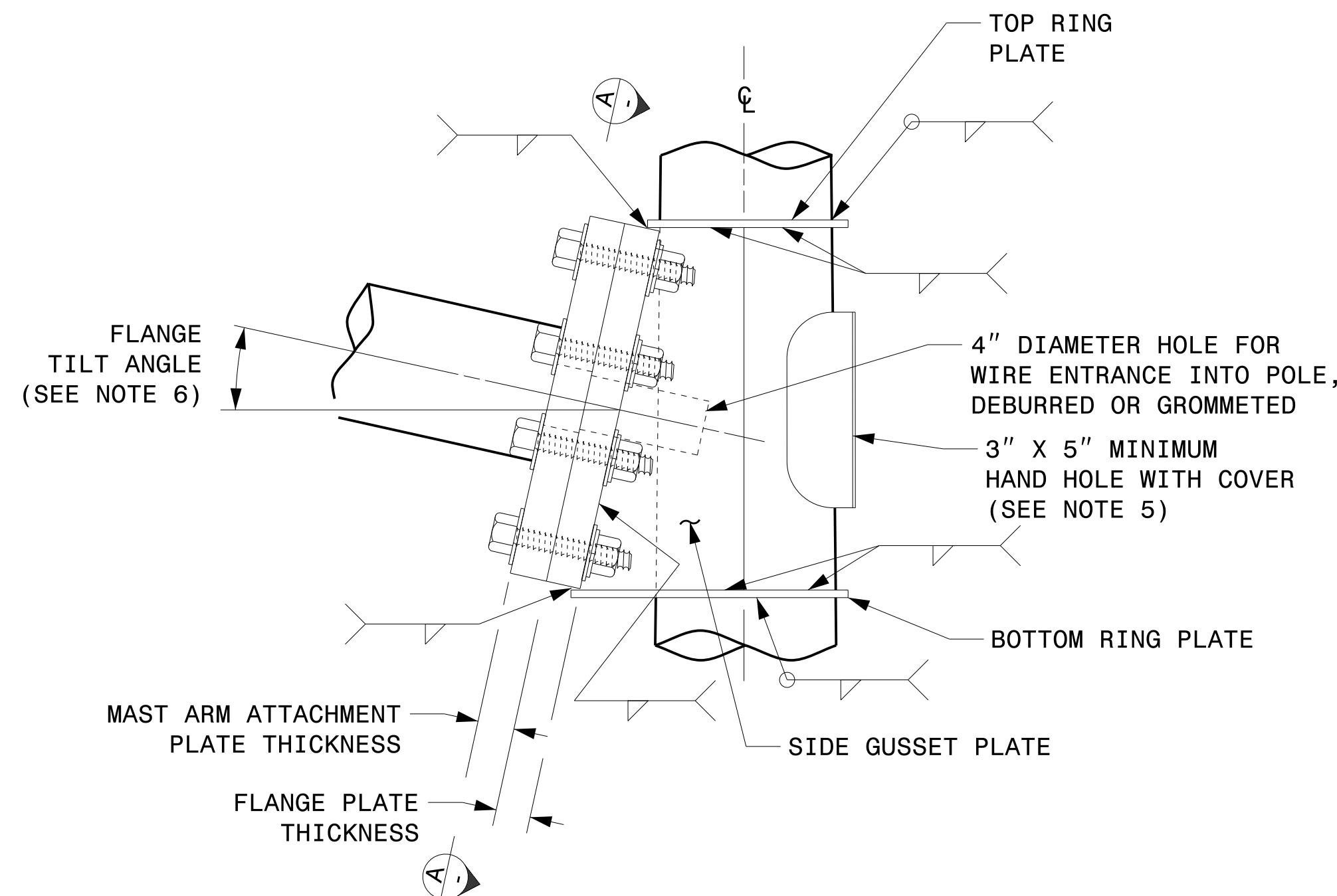
PLAN VIEW

NOTES:

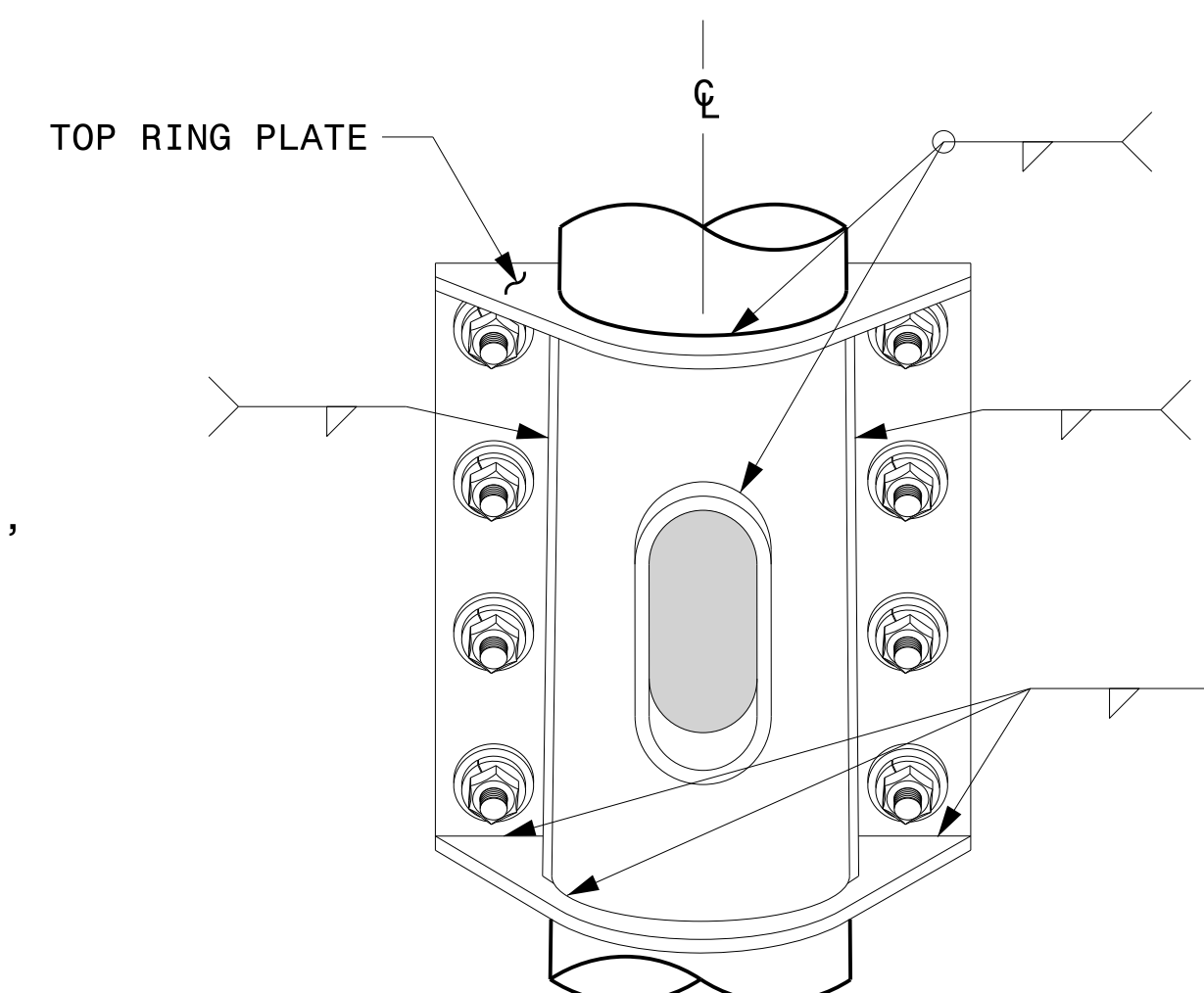
1. PROVIDE A PERMANENT MEANS OF IDENTIFICATION ABOVE THE MAST ARM TO INDICATE PROPER ATTACHMENT ORIENTATION OF THE MAST ARM.
2. DESIGNER WILL DETERMINE THE SIZE OF ALL STRUCTURAL COMPONENTS, PLATES, FASTENERS, AND WELDS SHOWN UNLESS THEY ARE ALREADY SPECIFIED.
3. FABRICATOR IS RESPONSIBLE FOR PROVIDING APPROPRIATE HOLES AT DRAINAGE POINTS TO DRAIN GALVANIZING MATERIALS.
4. FOR MINIMUM EDGE DISTANCE AND NOMINAL BOLT HOLE SIZE, FOLLOW THE LATEST AISC STEEL CONSTRUCTION MANUAL.
5. PROVIDE UPPER HANDHOLE AS NECESSARY WHEN SHAFT EXTENSIONS ARE REQUIRED FOR LUMINAIRE ARMS OR CAMERA. FOR POLES WITHOUT LUMINAIRES/CAMERA, WIRING CAN BE DONE THROUGH THE TOP OF POLE.
6. ALLOWABLE RANGE OF FLANGE TILT ANGLE WILL VARY FROM 0° TO AS REQUIRED.



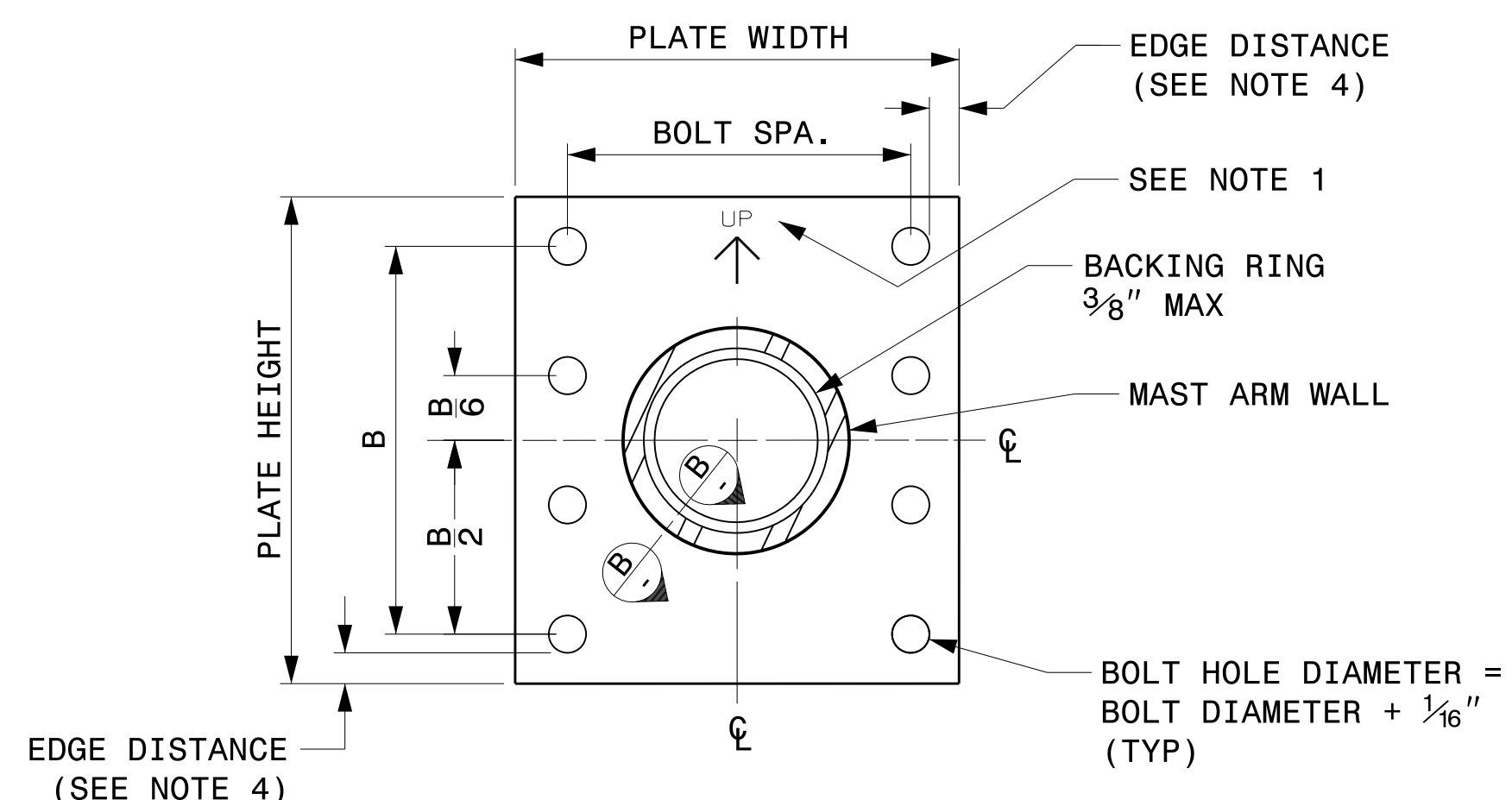
FRONT ELEVATION VIEW



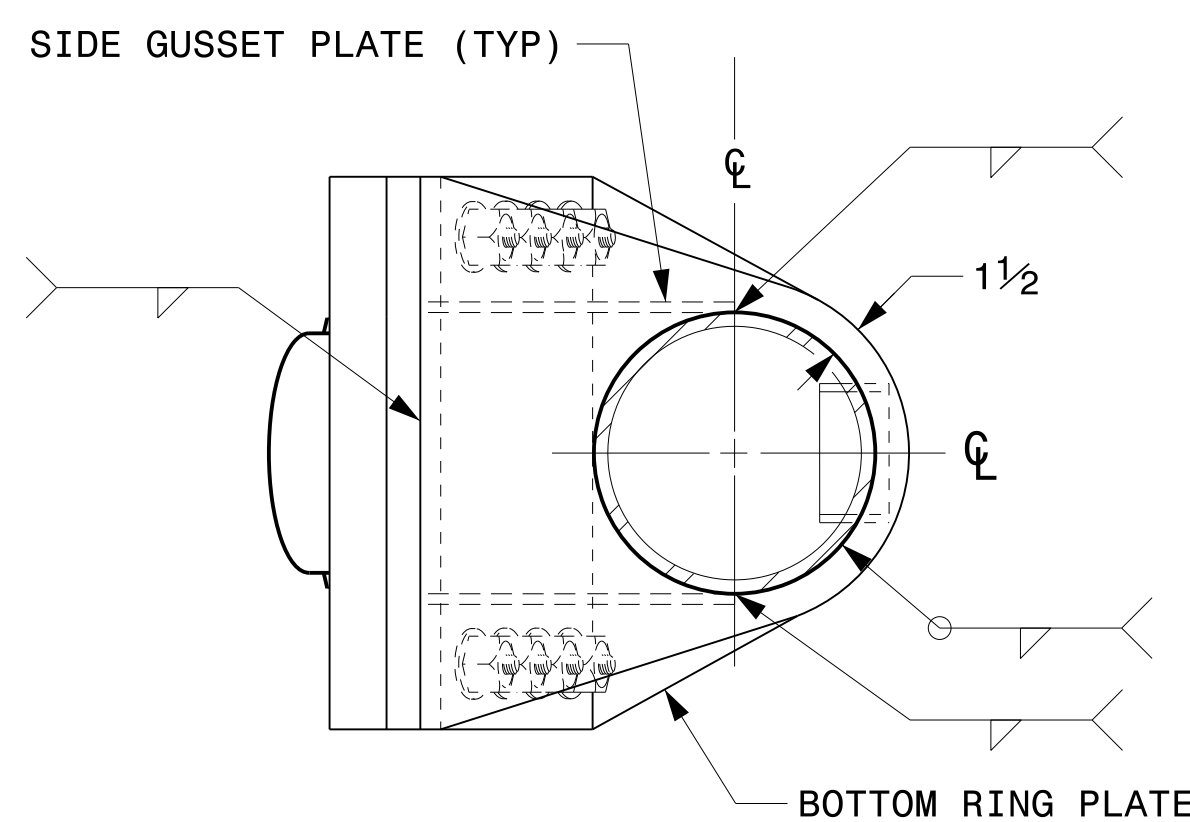
SIDE ELEVATION VIEW



BACK ELEVATION VIEW



**SECTION A-A
MAST ARM ATTACHMENT PLATE**



BOTTOM VIEW

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: NA
NONE

Typical Fabrication Details For Mast Arm Connection To Pole	
PLAN DATE: SEPTEMBER 2023	DESIGNED BY: C.F. ANDREWS
PREPARED BY: K.C. DURIGON	REVIEWED BY: D.C. SARKAR
REVISIONS	INIT. DATE

SEAL

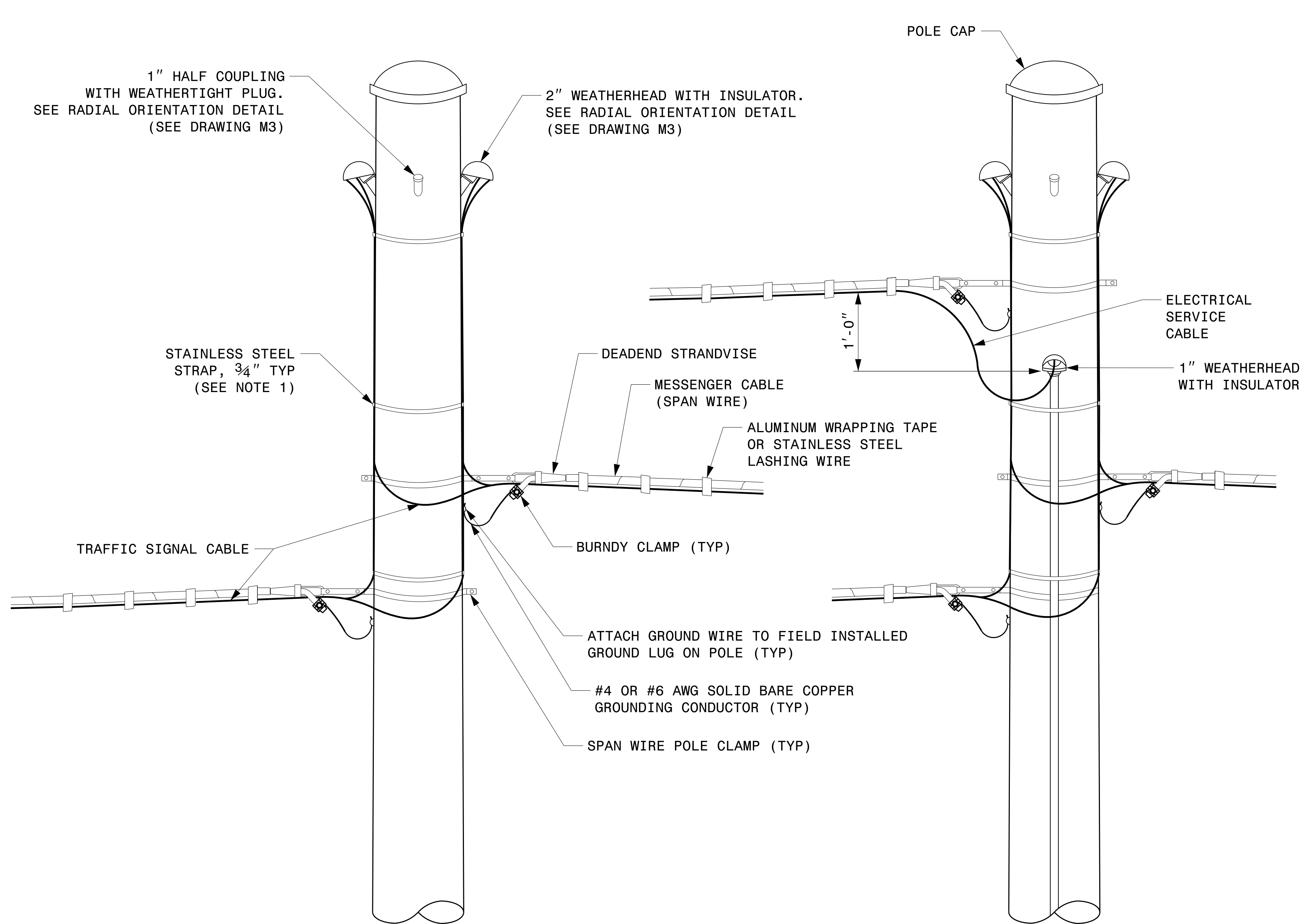
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09/21/2023
DATE

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Kedar Tagon

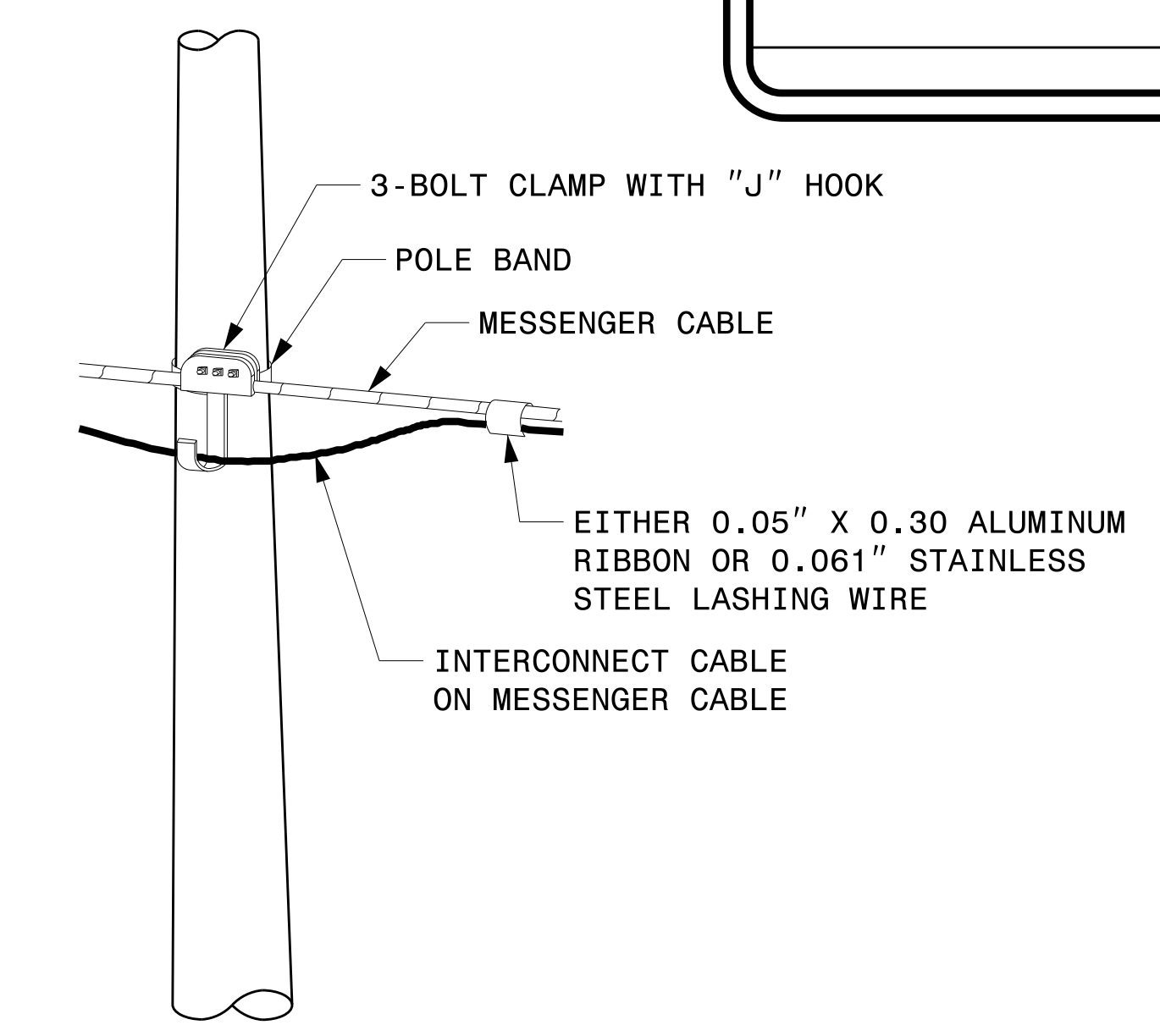
Fabrication Details – Mast Arm Connection



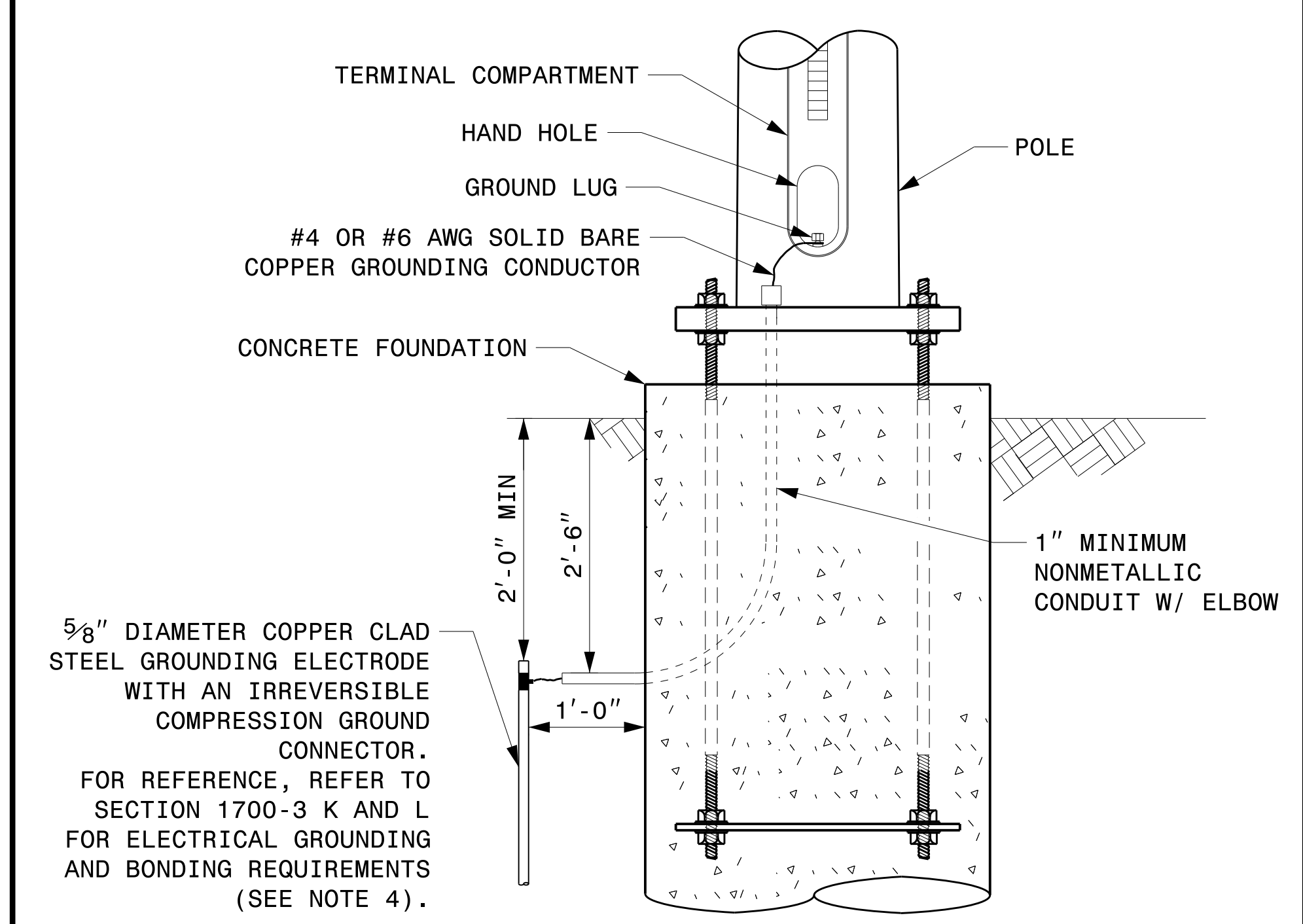
STRAIN POLE ATTACHMENTS

NOTES:

1. STRAP ALL SIGNAL CABLES TO THE SIDE OF THE POLE WITH 3/4" STAINLESS STEEL STRAPS WHEN THE DISTANCE BETWEEN SPAN WIRE ATTACHMENT CLAMP AND WEATHERHEADS EXCEEDS 3'-0".
2. PROVIDE MINIMUM TWO SPAN WIRE POLE CLAMPS PER POLE.
3. IT IS PROHIBITED TO ATTACH TWO SPAN WIRES AT ONE POLE CLAMP.
4. FOR GENERAL REQUIREMENTS, REFER TO NCDOT STANDARD SPECIFICATIONS FOR ROADWAY AND STRUCTURES, JANUARY 2024.



ATTACHMENT OF CABLE TO INTERMEDIATE METAL POLE



METAL POLE GROUNDING DETAIL FOR STRAIN POLE AND MAST ARM

08-dpt-2023-10-41
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Kedar Tigon

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: 0 NA NONE

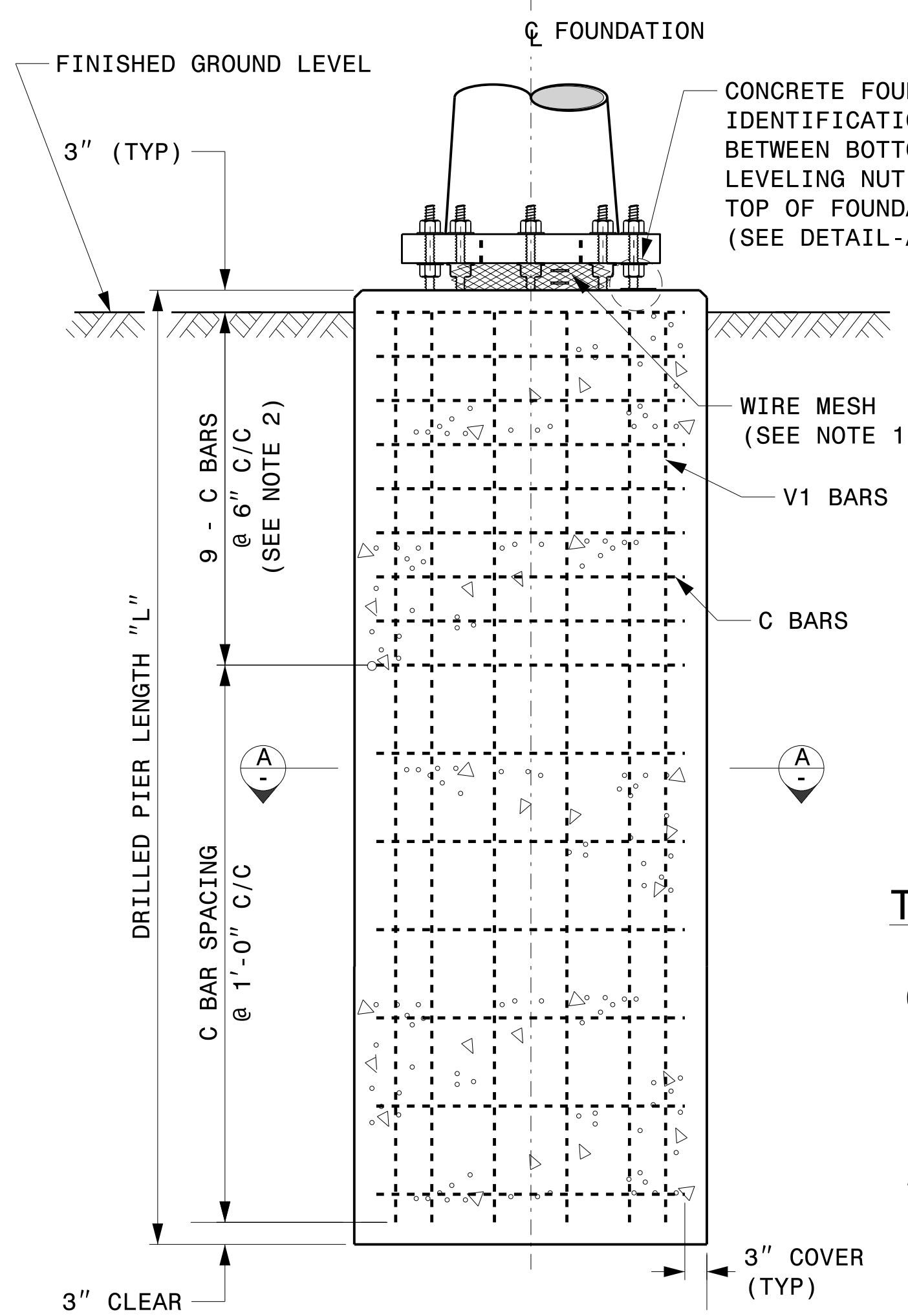
Typical Fabrication Details For Strain Pole Attachments	
PLAN DATE: SEPTEMBER 2023	DESIGNED BY: C.F. ANDREWS
PREPARED BY: K.C. DURIGON	REVIEWED BY: D.C. SARKAR
REVISIONS	INIT. DATE

SEAL

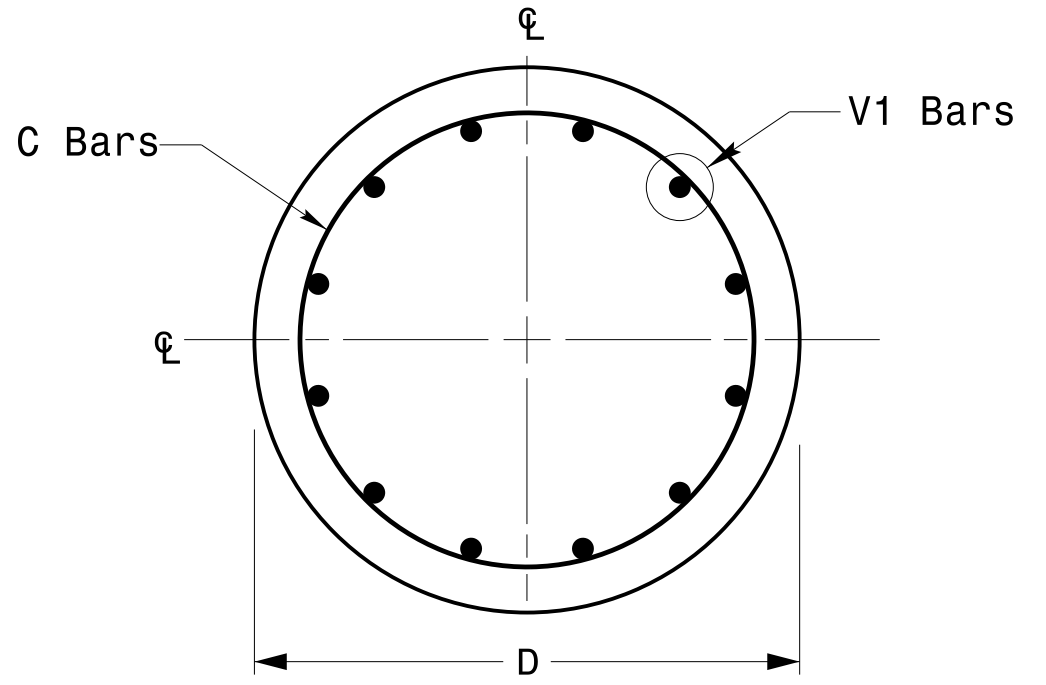
DocuSigned by: **Kevin Durigon** 4B23DC79B3784DA

09/21/2023 DATE

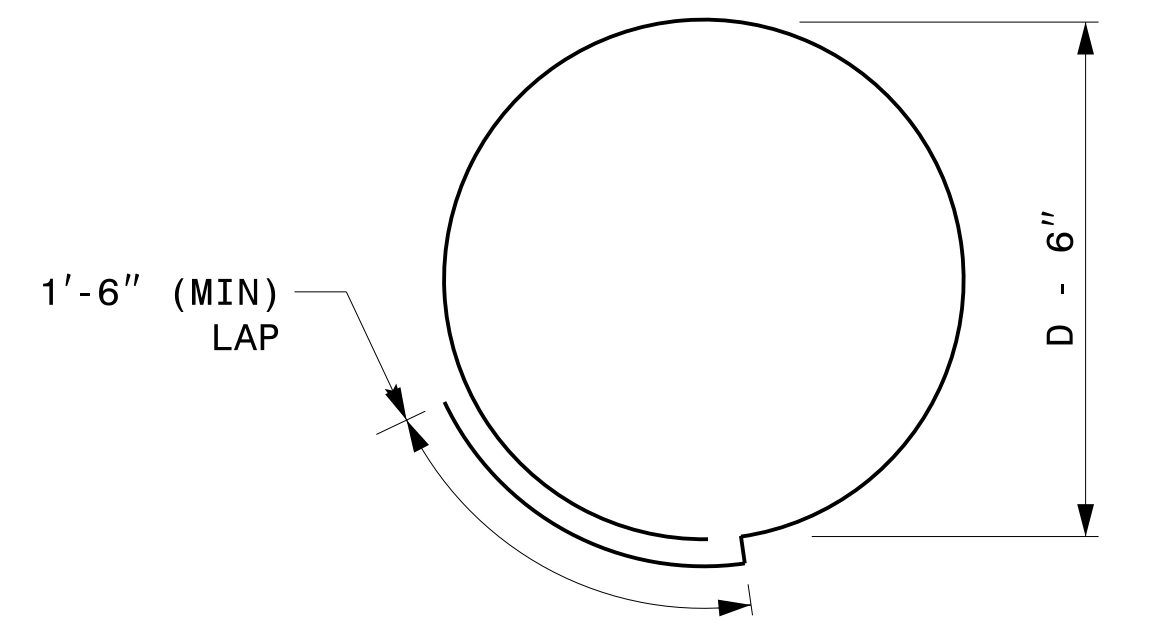
Fabrication Details – Strain Pole Attachments



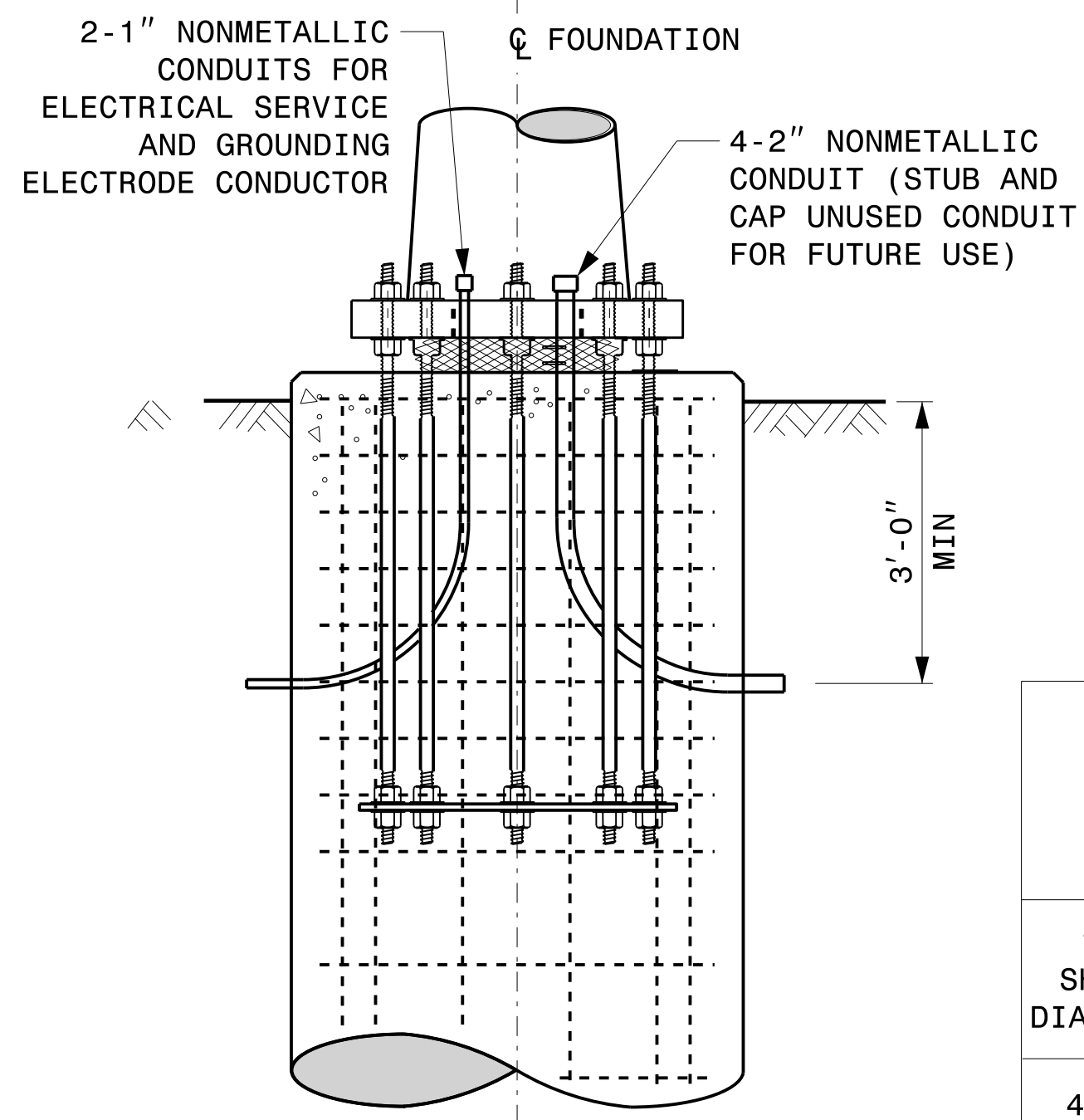
CONCRETE SHAFT ELEVATION



SECTION A-A



TYPICAL "C" BAR DETAIL



TYPICAL FOUNDATION CONDUIT DETAILS

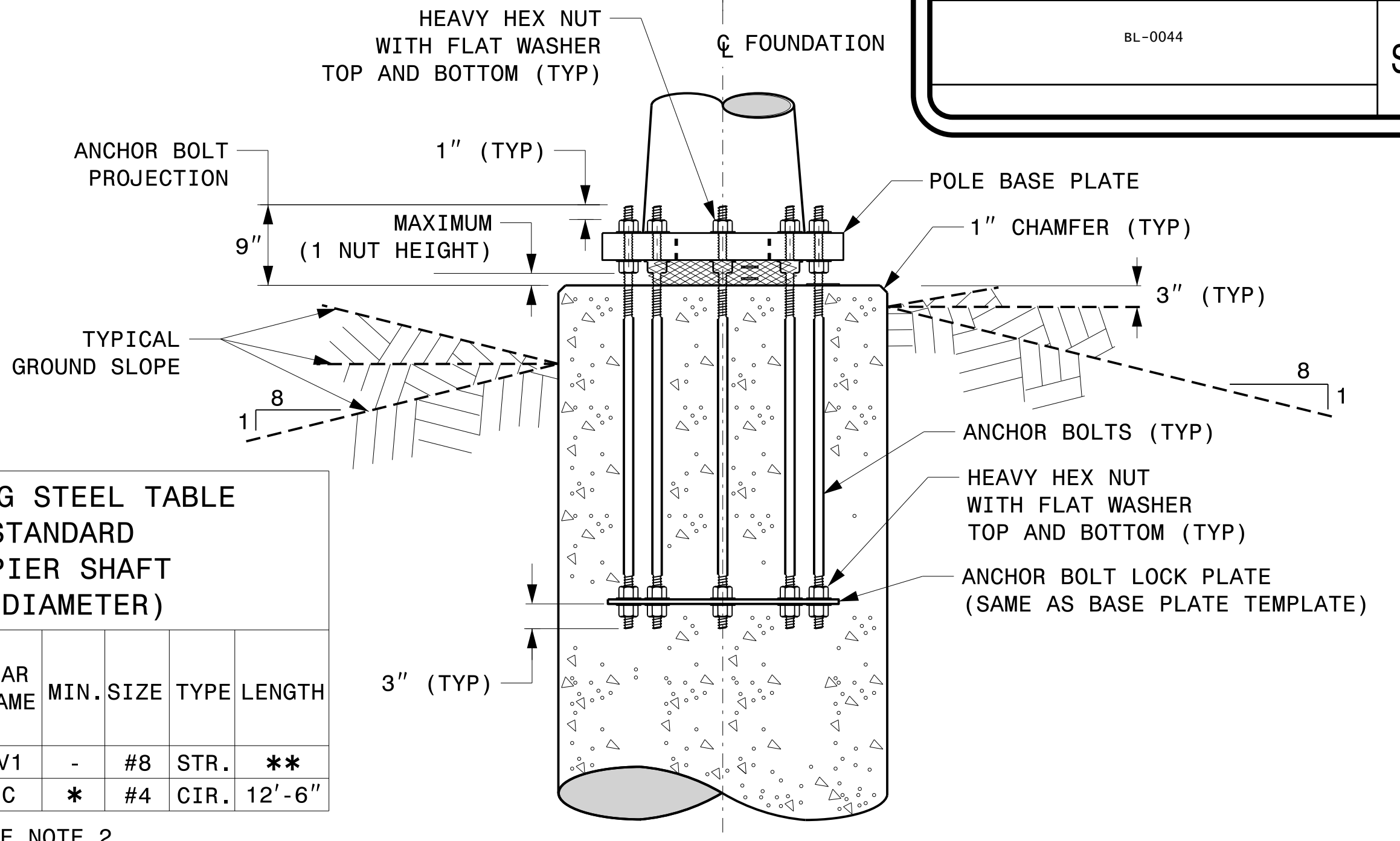
GENERAL NOTES:

- IF ACTUAL SUBSURFACE CONDITIONS DIFFER SIGNIFICANTLY FROM BORING DATA, CONTACT THE ENGINEER BEFORE EXCAVATING OR PLACING CONCRETE.
- 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.
- FOR STANDARD FOUNDATIONS, SEE SHEET SIG. M8 FOR DETAILS. VERTICAL REINFORCING BARS (V1) MAY BE HORIZONTALLY ADJUSTED BY +/- 3" TO FACILITATE THE INSTALLATION OF ELECTRICAL CONDUIT ENTERING INTO THE CAGE.
- PROVIDE 2" TO 5" FOUNDATION PROJECTION ABOVE GROUND LEVEL, DEPENDING ON THE GROUND SLOPE.
- UNLESS OTHERWISE SHOWN, FOUNDATION DESIGNS ARE BASED ON NON-SLOPING LEVEL GROUND SURFACES WITH SLOPE RATIOS OF 8:1 (H:V) OR FLATTER. IF ACTUAL GROUND LINE SLOPES ARE STEEPER, CONTACT THE ENGINEER BEFORE EXCAVATING OR PLACING CONCRETE.
- CONSTRUCT FOUNDATIONS IN ACCORDANCE WITH NCDOT STANDARD PROVISIONS SP09 R005- FOUNDATIONS AND ANCHOR ROD ASSEMBLIES FOR METAL POLES. ALL APPLICABLE 2024 NCDOT STANDARD SPECIFICATIONS ARE REFERENCED IN THIS PROVISION. REFER TO THE NCDOT RESOURCES/SPECIFICATIONS PAGE LOCATED ON THE CONNECT NCDOT WEBSITE.
[https://connect.ncdot.gov/resources/Specifications and Special Provisions.aspx](https://connect.ncdot.gov/resources/Specifications%20and%20Special%20Provisions.aspx)
- USE AIR ENTRAINED AA CONCRETE MIX WITH A COMPRESSION STRENGTH OF $f'c=4500$ psi (MIN) AFTER 28 DAYS.
- USE ASTM A615 GRADE 60 DEFORMED BARS FOR ALL REINFORCING STEEL. MAINTAIN AT LEAST 3" COVER ON ALL REINFORCEMENT.
- LOCATE IDENTIFICATION TAG ON TOP OF THE FOUNDATION, DIRECTLY ABOVE THE CONDUIT'S ENTRY POINT.
- PROVIDE TWO LAYERS OF 4 MESH GALVANIZED WELDED 23 GAUGE (0.025) 6" WIDE AROUND PIPES UNDER THE BASE PLATE AND SECURE IT WITH TIES IF NECESSARY.
- PREFERRED LOCATION FOR THE I.D. TAG IS AS SHOWN IN DETAIL-A: DIRECTLY ABOVE THE CONDUIT ENTERING THE FOUNDATION.

REINFORCING STEEL TABLE FOR STANDARD DRILL PIER SHAFT (4'-0" DIAMETER)

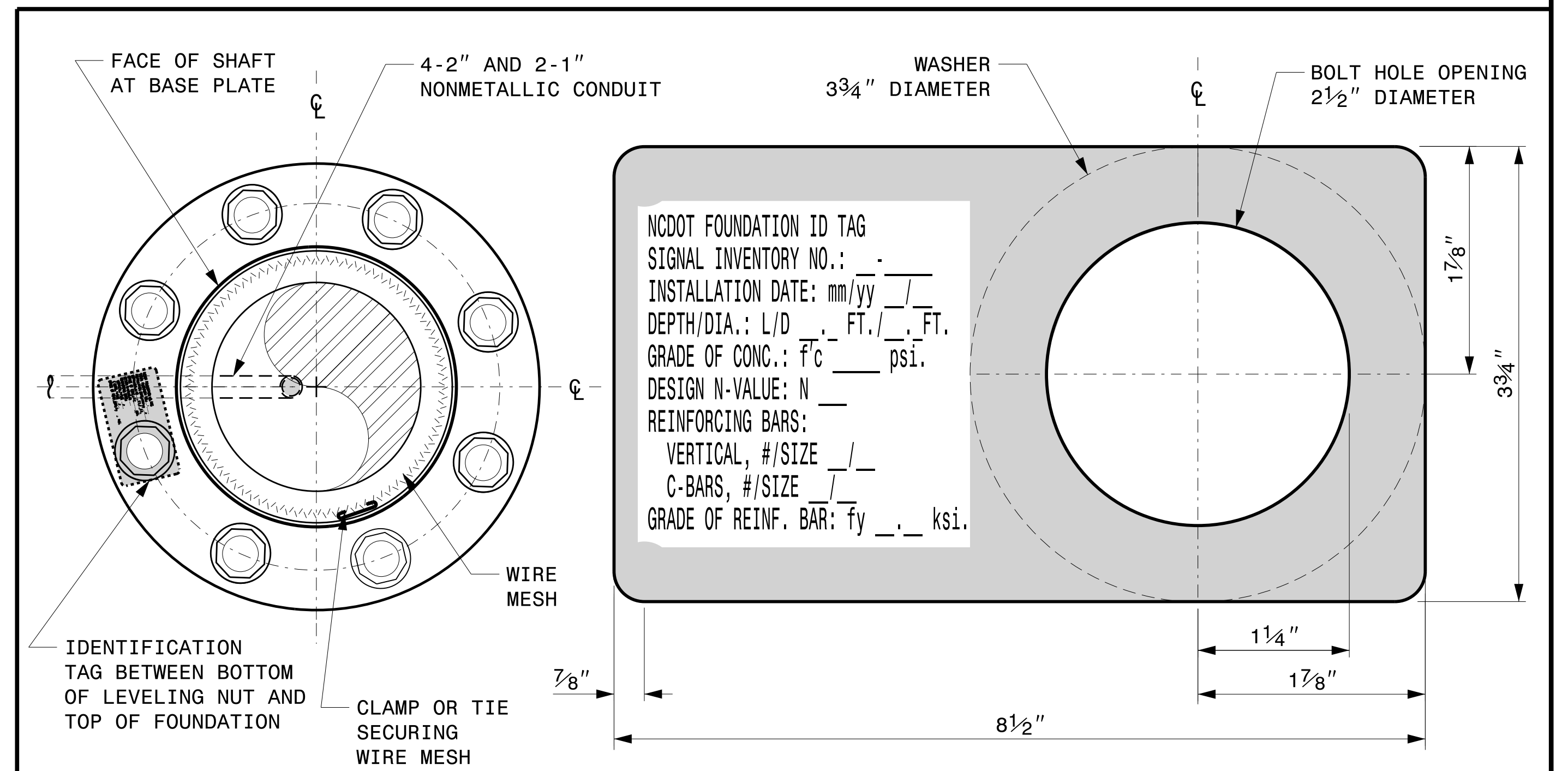
"D" SHAFT DIAMETER	CONCRETE VOLUME (CU. YDS)	BAR NAME	MIN. SIZE	TYPE	LENGTH
4'-0"	.465 X L	V1	#8	STR.	**
		C	#4	CIR.	12'-6"

* SEE NOTE 2
** SEE NOTE 3



TYPICAL FOUNDATION ANCHOR BOLT DETAILS

(REINFORCING CAGE NOT SHOWN FOR CLARITY)



CONCRETE FOUNDATION IDENTIFICATION TAG DETAILS

D = DIAMETER
L = LENGTH / DEPTH
mm = MONTH
yy = YEAR

DETAIL-A

	<p>Construction Details For Foundations</p>		
	<p>PLAN DATE: SEPTEMBER 2023 DESIGNED BY: K.C. DURIGON</p>	<p>PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR</p>	
<p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>SCALE: NA</p>	<p>REVISIONS: INIT. DATE</p>	<p>09/21/2023 DATE</p>

03-dt-2023-10-4f
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 Kedar Tigon

Construction Details - Foundations

SOIL CONDITION

PROJECT I.D. NO.

SHEET NO.

BL-0044

Sig.M8

STANDARD STRAIN POLES						STANDARD FOUNDATIONS 48" Diameter Drilled Pier Length (L) – Feet							Reinforcement			
Case No.	Pole Height (Ft.)	Base Plate BC (In.)	Reactions at the Pole Base			Clay				Sand			Longitudinal		Stirrups	
			Axial (kip)	Shear (kip)	Moment (ft-kip)	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	Bar Size (#)	Quantity (ea.)	Bar Size (#)	Spacing (in.)
S26L1	26	22	2	9	210	19.5	12.5	9	6.5	15.5	14.5	13	8	12	4	12
S26L2	26	23	2	10	240	19.5	12	9	6.5	15.5	14.5	13	8	12	4	12
S26L3	26	25	2	11	260	20.5	12	10	8	16	15	13	8	12	4	12
S30L1	30	22	2	9	230	19	11	9	7	15.5	14	12.5	8	12	4	12
S30L2	30	23	2	10	270	20	12	10	8	16	14.5	13	8	12	4	12
S30L3	30	25	2	11	290	21	12	10	8	17	15	13.5	8	12	4	12
S30H1	30	25	3	13	355	23	13	11	9	18	16.5	14.5	8	12	4	12
S30H2	30	29	3	15	405	25	14	11	9	19	17.5	15.5	8	14	4	12
S30H3	30	29	3	16	430	26	15	12	9	20	18	16	8	14	4	6
S35L1	35	22	3	8	260	19.5	12	10	8	15.5	14.5	13	8	12	4	12
S35L2	35	23	3	10	300	21	12	10	8	16.5	15	13.5	8	12	4	12
S35L3	35	25	3	10	320	21.5	13	10	8	17	15.5	14	8	12	4	12
S35H1	35	25	3	12	390	23.5	14	11	9	18	17	15	8	14	4	12
S35H2	35	29	4	14	460	26	15	12	9	20	18	16	8	14	4	6
S35H3	35	29	4	16	495	28.5	15	13.5	10	21.5	19	17	8	14	4	6

GENERAL NOTES:

1. VALUES SHOWN IN THE "REACTIONS AT THE POLE BASE" COLUMN REPRESENT THE MINIMUM ACCEPTABLE CAPACITY ALLOWED FOR DESIGN USING A COMBINED FORCE RATIO (CFR) OF 1.00.
2. USE CHAIRS AND SPACERS TO MAINTAIN PROPER CLEARANCE.
3. FOR FOUNDATION, ALWAYS USE AIR-ENTRAINED CONCRETE MIX.

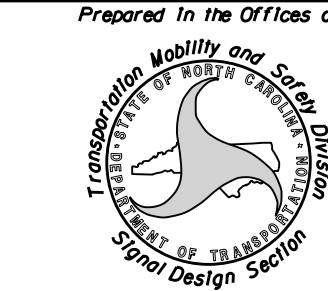
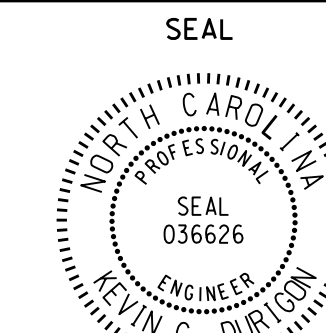

FOUNDATION SELECTION:

1. PERFORM A STANDARD PENETRATION TEST AT EACH PROPOSED FOUNDATION SITE TO DETERMINE "N" VALUE.
2. SELECT THE APPROPRIATE WIND ZONE FROM M1 DRAWING.
3. SELECT THE SOIL TYPE (CLAY OR SAND) THAT BEST DESCRIBES THE SOIL CHARACTERISTICS.
4. GET THE APPROPRIATE STANDARD POLE CASE NUMBER FROM THE PLANS OR FROM THE ENGINEER.
5. SELECT THE APPROPRIATE COLUMN UNDER "STANDARD FOUNDATIONS" BASED ON SOIL TYPE AND "N" VALUE. SELECT THE APPROPRIATE ROW BASED ON THE POLE LOAD CASE.
6. THE FOUNDATION DEPTH IS THE VALUE SHOWN IN THE "STANDARD FOUNDATIONS" CATEGORY WHERE THE COLUMN AND THE ROW INTERSECT.
7. USE CONSTRUCTION PROCEDURES AND DESIGN METHODS PRESCRIBED BY FHWA-NHI-10-016 MANUAL FOR DRILLED SHAFTS.

48" DIAMETER FOUNDATION CONCRETE VOLUME (CUBIC YARDS) = (0.465) x DRILLED PIER LENGTH

09-21-2023 10:46 S:\ISSUES\Signal Design Section\Structures\Drawings\2024 Merol Pole Str. Drawings for LRF\0204_Sig.M8 Str. Strain Pole Found.-Saturated Soil Condition.dgn Kedar Tigon

Standard Strain Pole Foundation – All Soil Conditions

 Prepared in the Offices of: 750 N. Greenfield Pkwy, Garner, NC 27529	Standard Strain Pole Foundation for All Soil Conditions	SEAL 						
SCALE 0 NA NONE	PLAN DATE: SEPTEMBER 2023 DESIGNED BY: K.C. DURIGON PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR	DocuSigned by:  4B23DC79B3784DA						
	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	DESCRIPTION				INIT. DATE _____
NO.	DATE	DESCRIPTION						
		09/21/2023 DATE						

- 1 INSTALL COAX CABLE
- 2 INSTALL ETHERNET CABLE
- 3 EXISTING ETHERNET (OR COAX) CABLE
- 4 INSTALL SMFO CABLE
- 5 EXISTING SMFO 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 INSTALL NEW ETHERNET EDGE SWITCH
- 27 INSTALL NEW FIBER OPTIC TRANSCEIVER
- 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPlice CABLE IN CABINET
- 29 INSTALL UNDERGROUND SPlice ENCLOSURE
- 30 INSTALL AERIAL SPlice ENCLOSURE
- 31 MODIFY EXISTING INTERCONNECT CENTER /SPlice ENCLOSURE
- 32 INSTALL POLE MOUNTED SPlice CABINET
- 33 INSTALL BASE MOUNTED SPlice CABINET

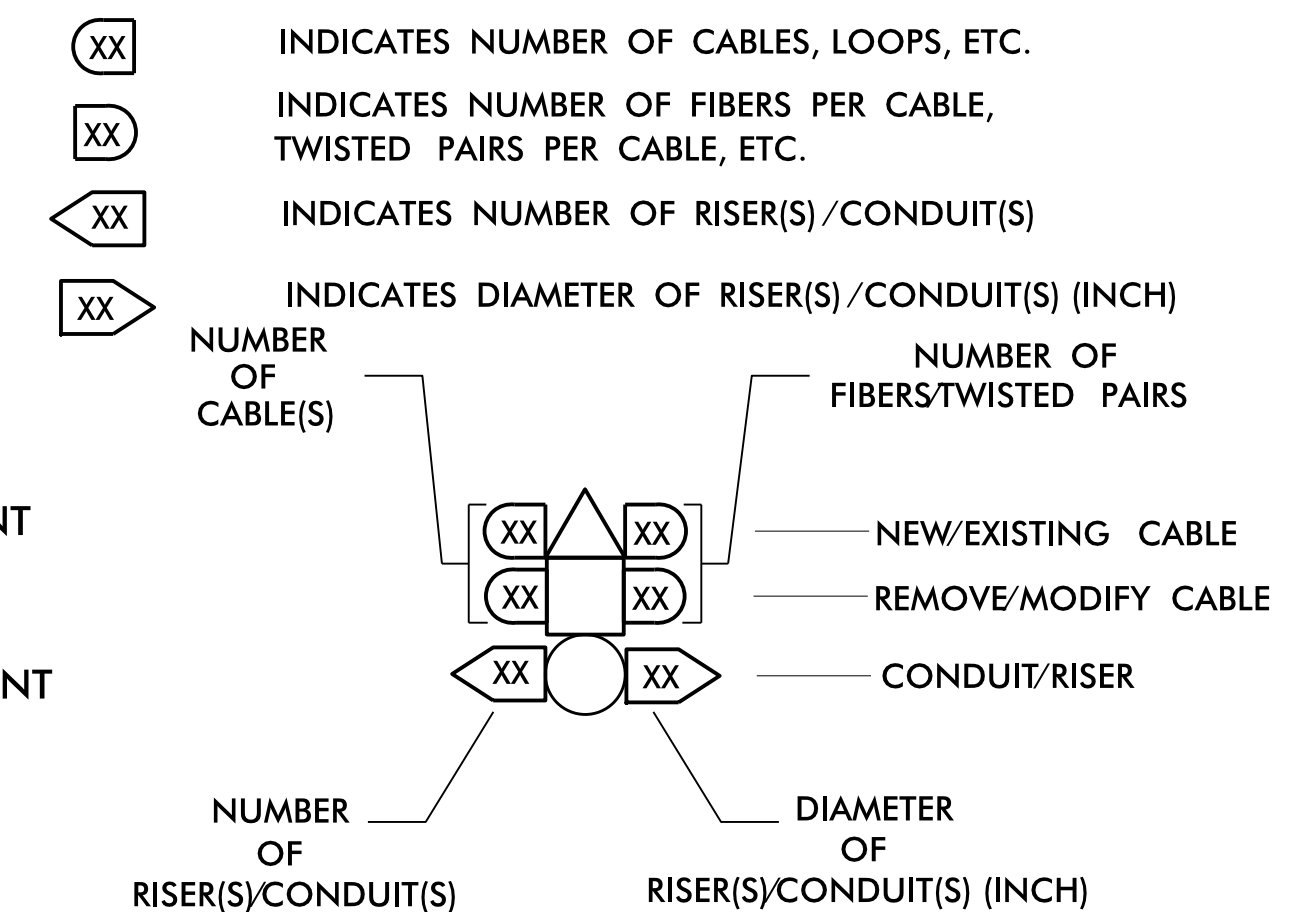
- 34 INSTALL CABINET FOUNDATION
- 35 INSTALL CCTV CAMERA POLE MOUNTED CABINET
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA WOOD POLE
- 38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
- 39 INSTALL JUNCTION BOX
- 40A INSTALL OVERSIZED JUNCTION BOX
- 40B INSTALL SPECIAL OVERSIZED JUNCTION BOX (36" x 24" x 24")
- 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
- 48A REMOVE EXISTING COMMUNICATIONS AND MESSENGER CABLE
- 48B REMOVE EXISTING COMMUNICATIONS CABLE
- 49 BACK PULL EXISTING COMMUNICATIONS CABLE
- 50 INSTALL CELL MODEM AND ANTENNA
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52A INSTALL DELINEATOR MARKER
- 52B INSTALL JUNCTION BOX MARKER
- 53A STORE 20 FEET OF COMMUNICATIONS CABLE
- 53B STORE 50 FEET OF EACH COMMUNICATIONS CABLE
- 54 LASH CABLE(S) TO EXISTING 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
- 59 INSTALL NEW EQUIPMENT CABINET DISCONNECT
- 60 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS
- 61 BOND RISER AND MESSENGER CABLE TO POLE GROUND
- 62 BOND RISER TO POLE GROUND
- 63 BOND MESSENGER CABLE TO POLE GROUND
- 64 INSTALL HEAT SHRINK TUBING RETROFIT KIT
- 65 INSTALL MOLDABLE DUCT SEAL
- 67 SLACK SPAN

LEGEND

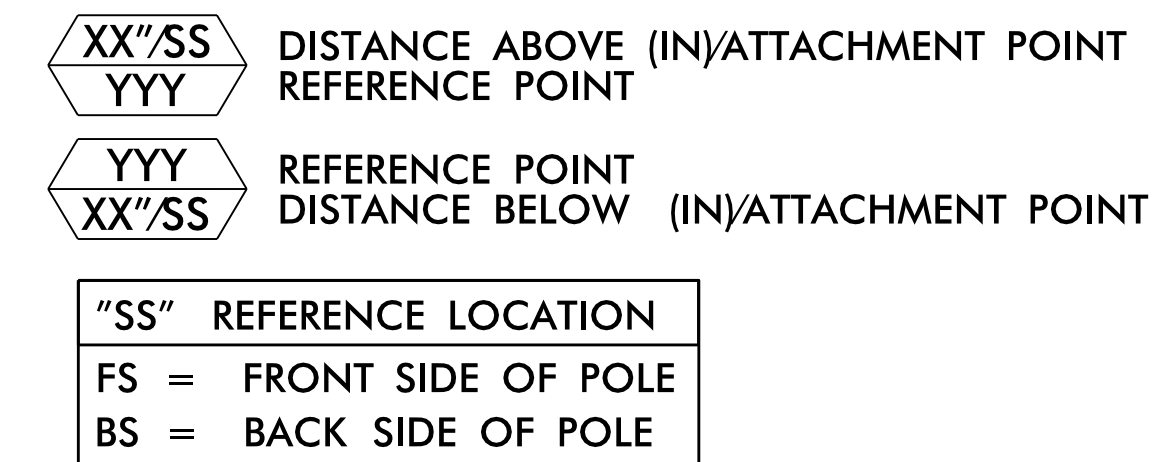
	NEW FIBER OPTIC COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE TO BE REMOVED
	NEW AERIAL GUY ASSEMBLY
	NEW CONDUIT
	EXISTING CONDUIT
	NEW DIRECTIONAL DRILLED CONDUIT

NEW		EXISTING
	OVERSIZED JUNCTION BOX	
	WOOD POLE	
	AERIAL SPlice ENCLOSURE	
	UNDERGROUND SPlice ENCLOSURE	
	METAL POLE	
	CCTV ASSEMBLY	
	STANDARD GUY ASSEMBLY	
	SIDEWALK GUY ASSEMBLY	
	CABLE STORAGE RACKS (SNOW SHOES)	
	SIGNAL/EQUIPMENT CABINET	
	SPLICE CABINET	
	FLAT PANEL ANTENNA (SINGLE)	
	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION	
	YAGI ANTENNA (SINGLE)	
	OMNI ANTENNA	
	SIGNAL POLE	
	SIGNAL INVENTORY NUMBER	

CONSTRUCTION NOTE SYMBOLOGY KEY

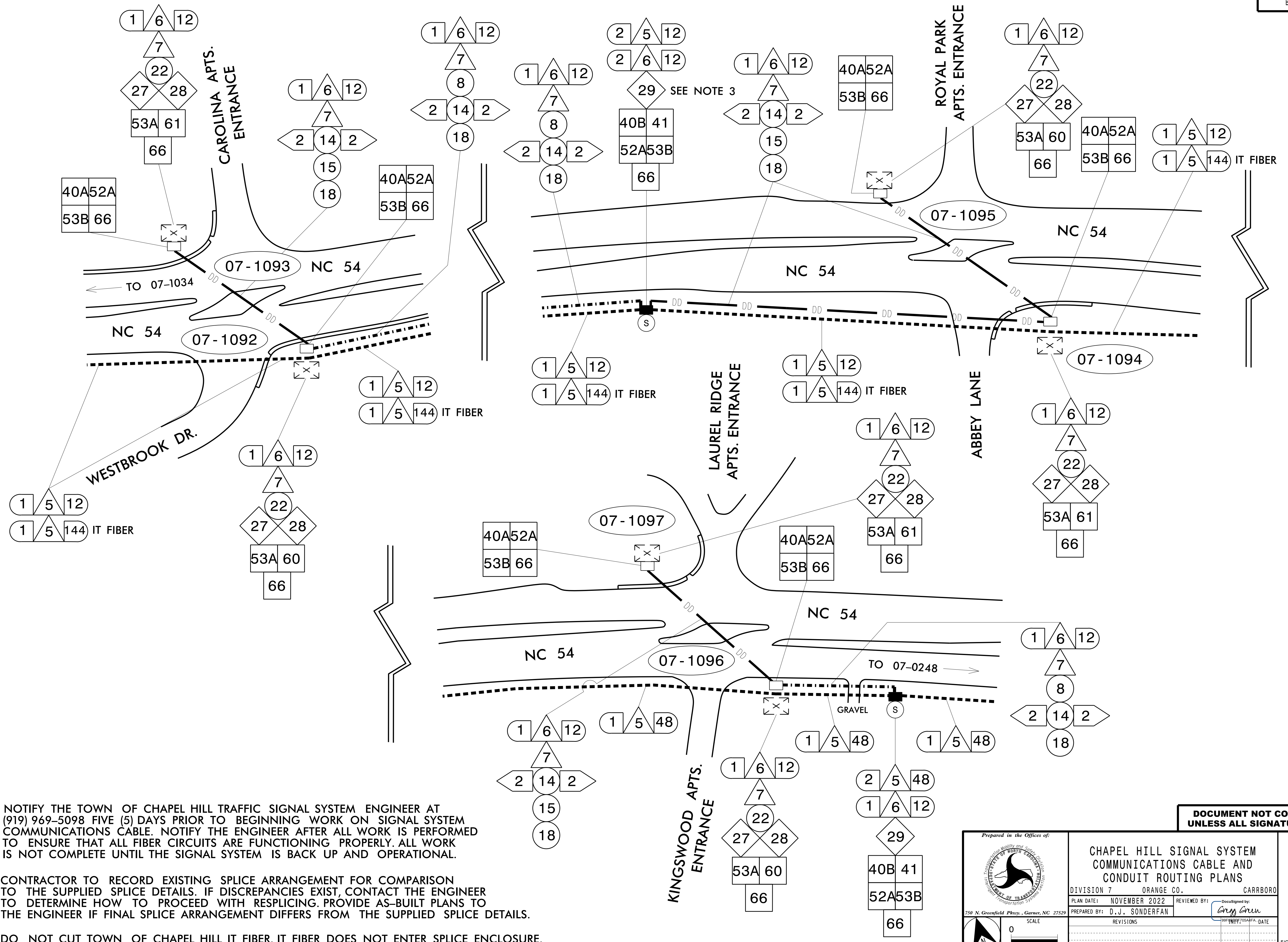


ATTACHMENT POINT:



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	CONSTRUCTION NOTES		
	DIVISION 7 ORANGE CO. CARRBORO PLAN DATE: NOVEMBER 2022 REVIEWED BY: <i>Greg Green</i> PREPARED BY: D.J. SONDERFAN REVISIONS: _____ DATE: _____	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ALEX D. STEINER No. 046152 DATE: 11/15/2022	



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

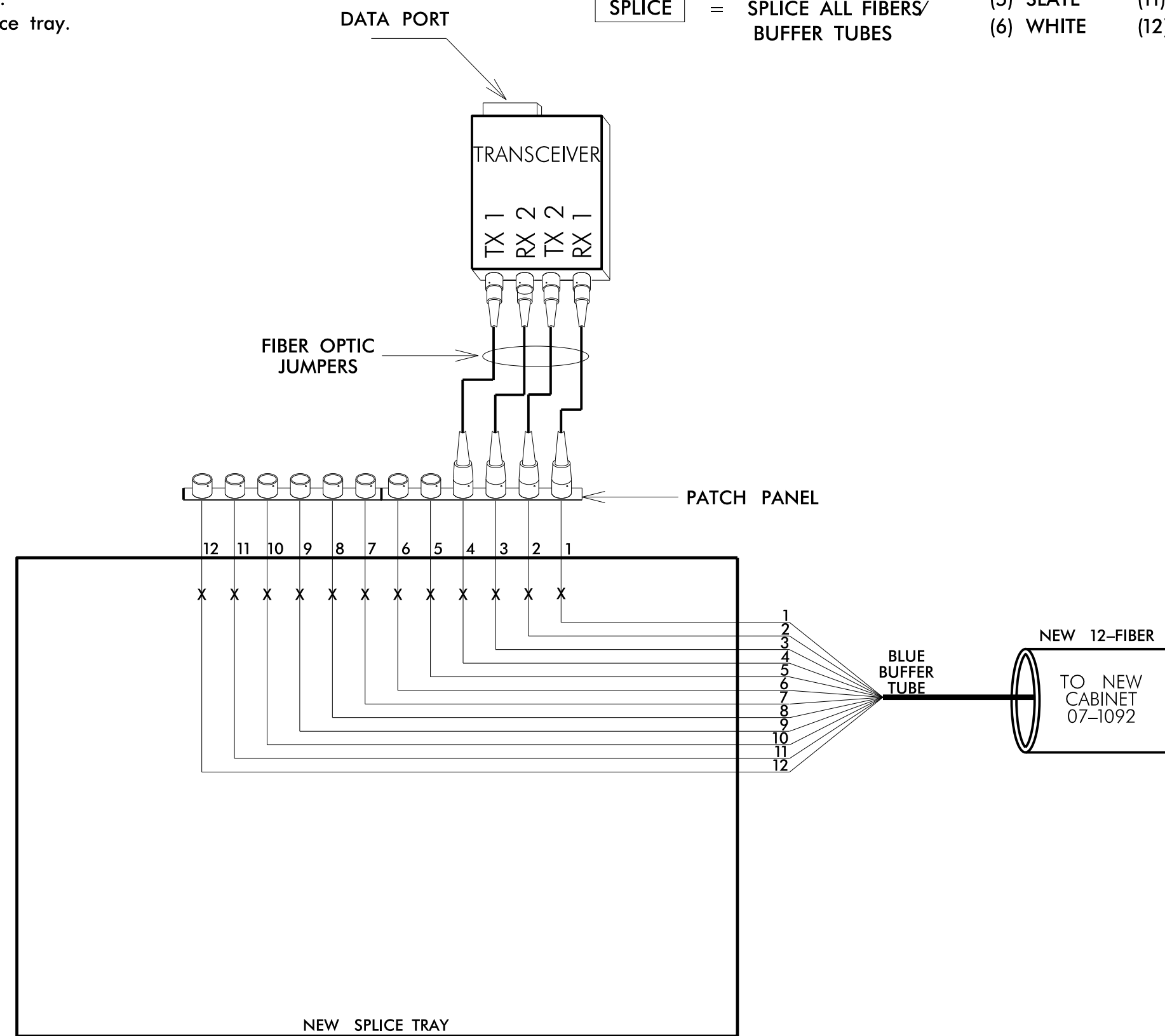
<p>Prepared in the Offices of: STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION</p>	<p>CHAPEL HILL SIGNAL SYSTEM COMMUNICATIONS CABLE AND CONDUIT ROUTING PLANS</p>		
	<p>DIVISION 7 ORANGE CO. CARRBORO</p> <p>PLAN DATE: NOVEMBER 2022 REVIEWED BY: <i>Greg Green</i></p> <p>PREPARED BY: D.J. SONDERFAN DATE: 11/17/2022</p>	<p>SCALE: 0</p>	

NEW INTERCONNECT CENTER
 NC 54 (FORDHAM BLVD) AT
 CAROLINA APTS. ENTRANCE
 SIG. INV. # 07-1093

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

LEGEND
 X = FUSION SPLICE
 E = EXISTING SPLICE
 C = CAP IN TRAY
 EXPRESS = EXPRESS ALL FIBERS/
 BUFFER TUBES
 SPLICE = SPLICE ALL FIBERS/
 BUFFER TUBES

COLOR CODE
 TIA/EIA 598-A
 (1) BLUE (7) RED
 (2) ORANGE (8) BLACK
 (3) GREEN (9) YELLOW
 (4) BROWN (10) VIOLET
 (5) SLATE (11) ROSE
 (6) WHITE (12) AQUA

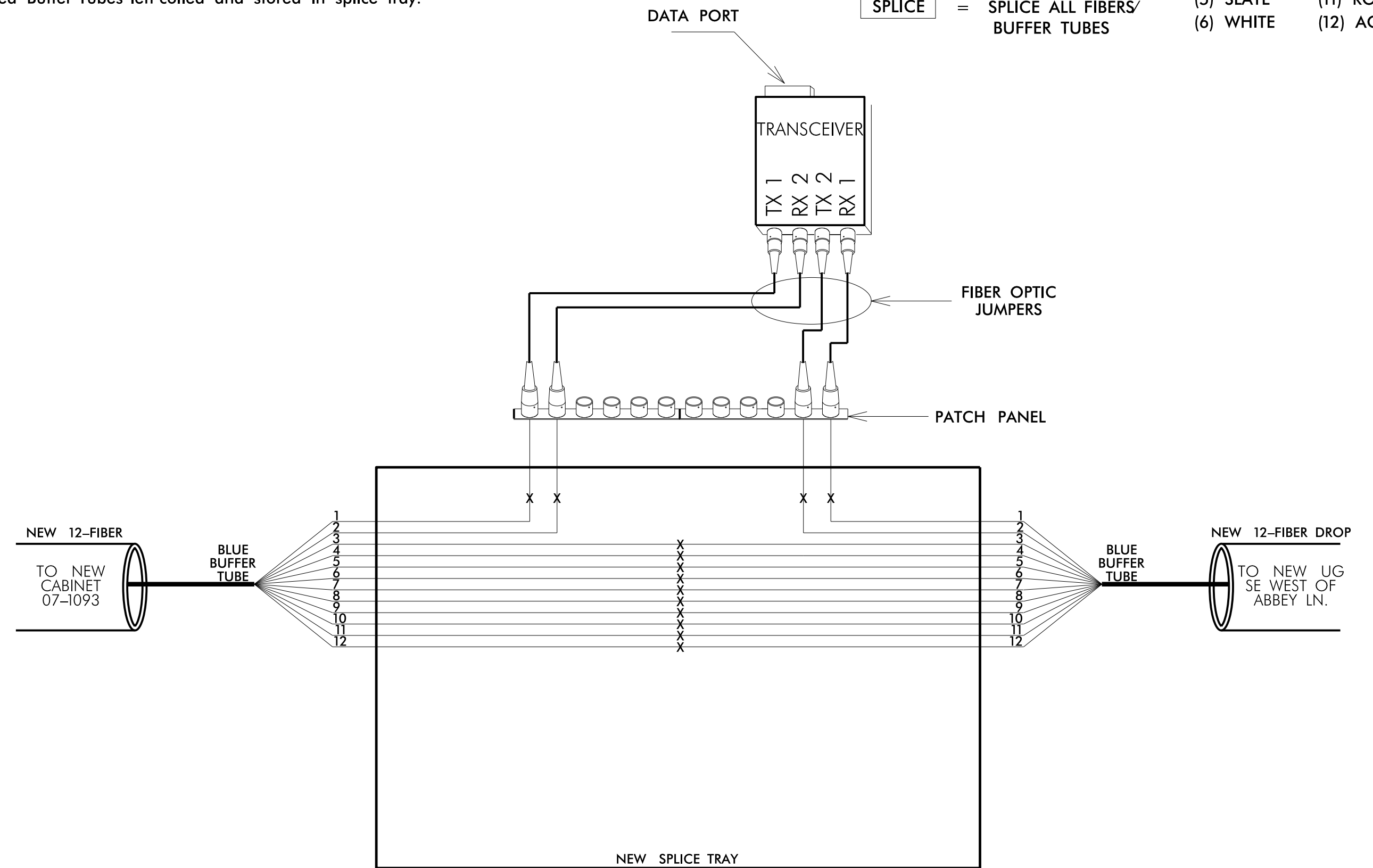


NEW INTERCONNECT CENTER
 NC 54 (FORDHAM RD.) AT
 WESTBROOK DR.
 SIG. INV. # 07-1092

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

LEGEND
 X = FUSION SPLICE
 E = EXISTING SPLICE
 C = CAP IN TRAY
 EXPRESS = EXPRESS ALL FIBERS/
 BUFFER TUBES
 SPLICE = SPLICE ALL FIBERS/
 BUFFER TUBES

COLOR CODE
 TIA/EIA 598-A
 (1) BLUE (7) RED
 (2) ORANGE (8) BLACK
 (3) GREEN (9) YELLOW
 (4) BROWN (10) VIOLET
 (5) SLATE (11) ROSE
 (6) WHITE (12) AQUA



1. NOTIFY THE TOWN OF CHAPEL HILL TRAFFIC SIGNAL SYSTEM ENGINEER AT (919) 969-5098 FIVE (5) DAYS PRIOR TO BEGINNING WORK ON SIGNAL SYSTEM COMMUNICATIONS CABLE. NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
2. CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
3. TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
4. INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING:
 REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
 1) SPLICE LOCATION
 2) DATE
 3) COMPANY NAME
 4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

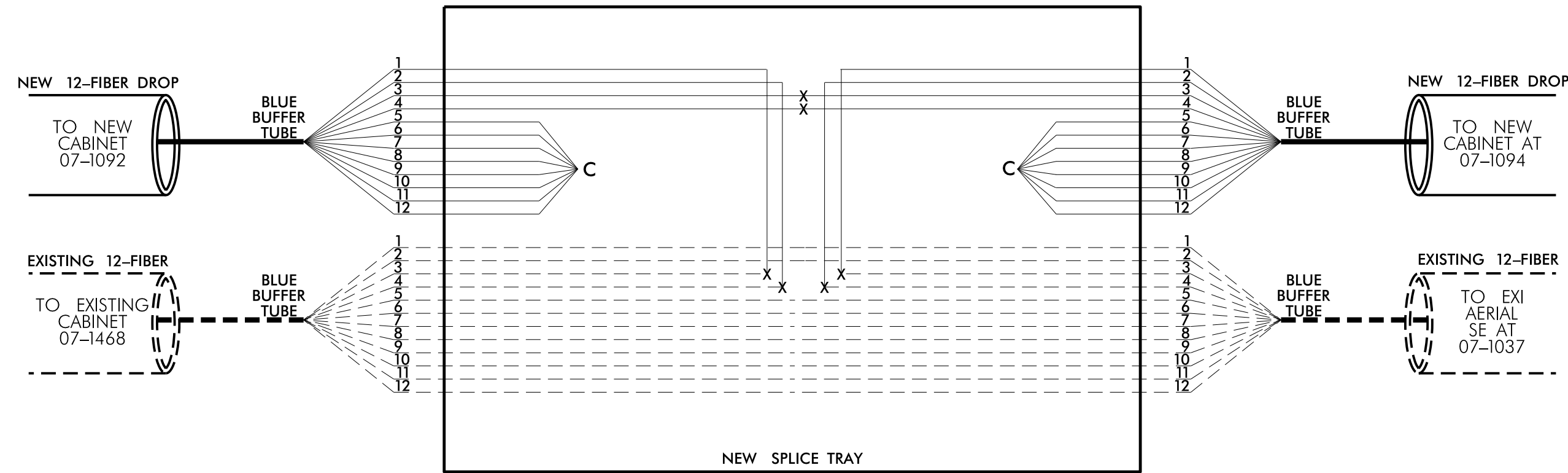
**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

<p>Prepared in the Offices of: STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION</p>	SPLICE DETAIL		
	DIVISION 7 ORANGE CO. CARRBORO PLAN DATE: NOVEMBER 2022 PREPARED BY: D.J. SONDERFAN	REVIEWED BY: <i>Greg Crum</i> DATE: _____ REVISIONS: _____	

NEW UNDERGROUND SPLICE ENCLOSURE WEST OF ABBEY LN. SIG. INV. # 07-1094

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

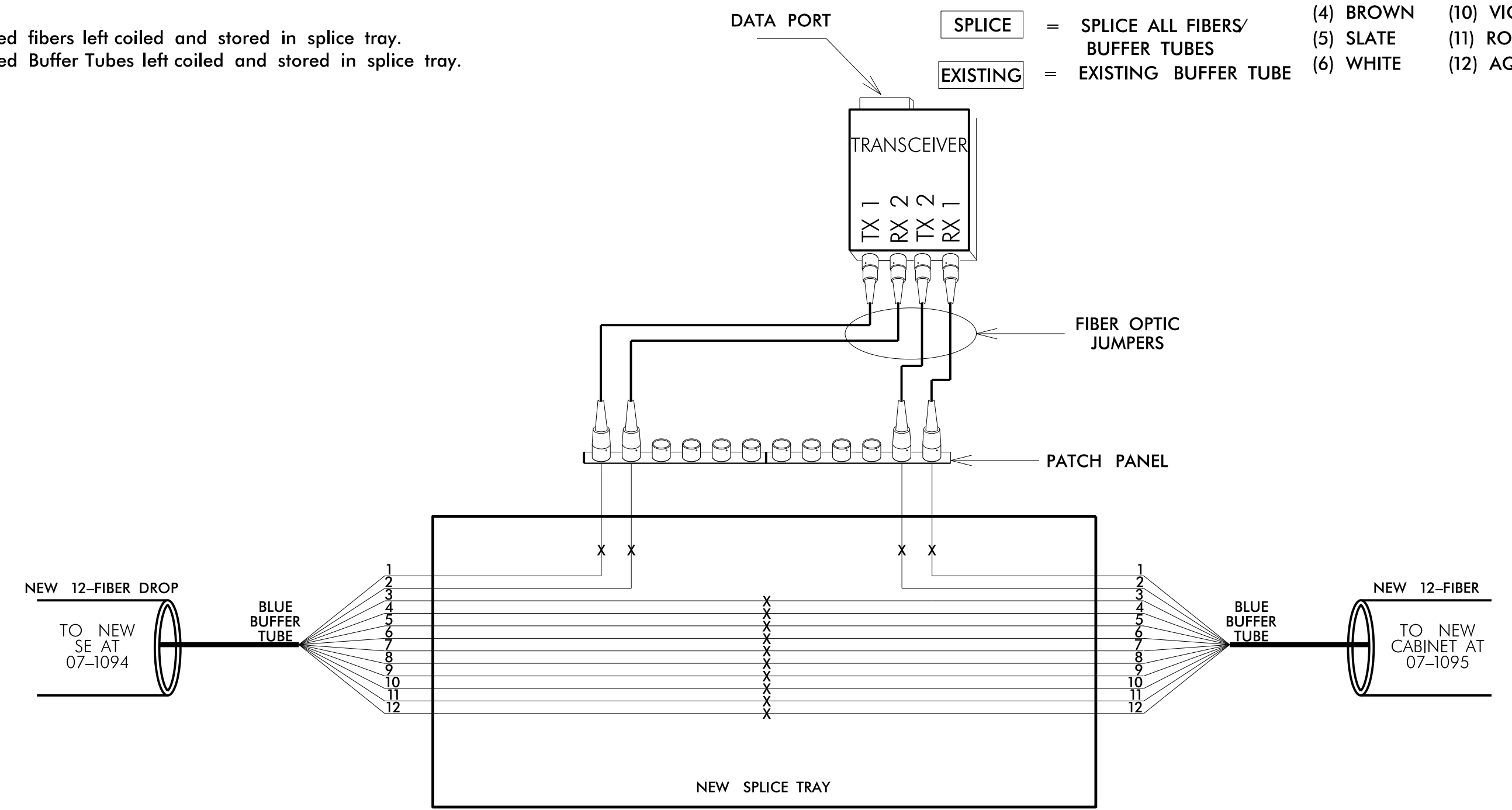
LEGEND		COLOR CODE TIA/EIA 598-A	
X	= FUSION SPLICE	(1) BLUE	(7) RED
C	= CAP IN TRAY	(2) ORANGE	(8) BLACK
EXPRESS	= EXPRESS ALL FIBERS/ BUFFER TUBES	(3) GREEN	(9) YELLOW
SPLICE	= SPLICE ALL FIBERS/ BUFFER TUBES	(4) BROWN	(10) VIOLET
EXISTING	= EXISTING BUFFER TUBE	(5) SLATE	(11) ROSE
		(6) WHITE	(12) AQUA



NEW INTERCONNECT CENTER NC 54 (FORDHAM DR.) AT ROYAL PARK APTS ENTRANCE SIG. INV. # 07-1094

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

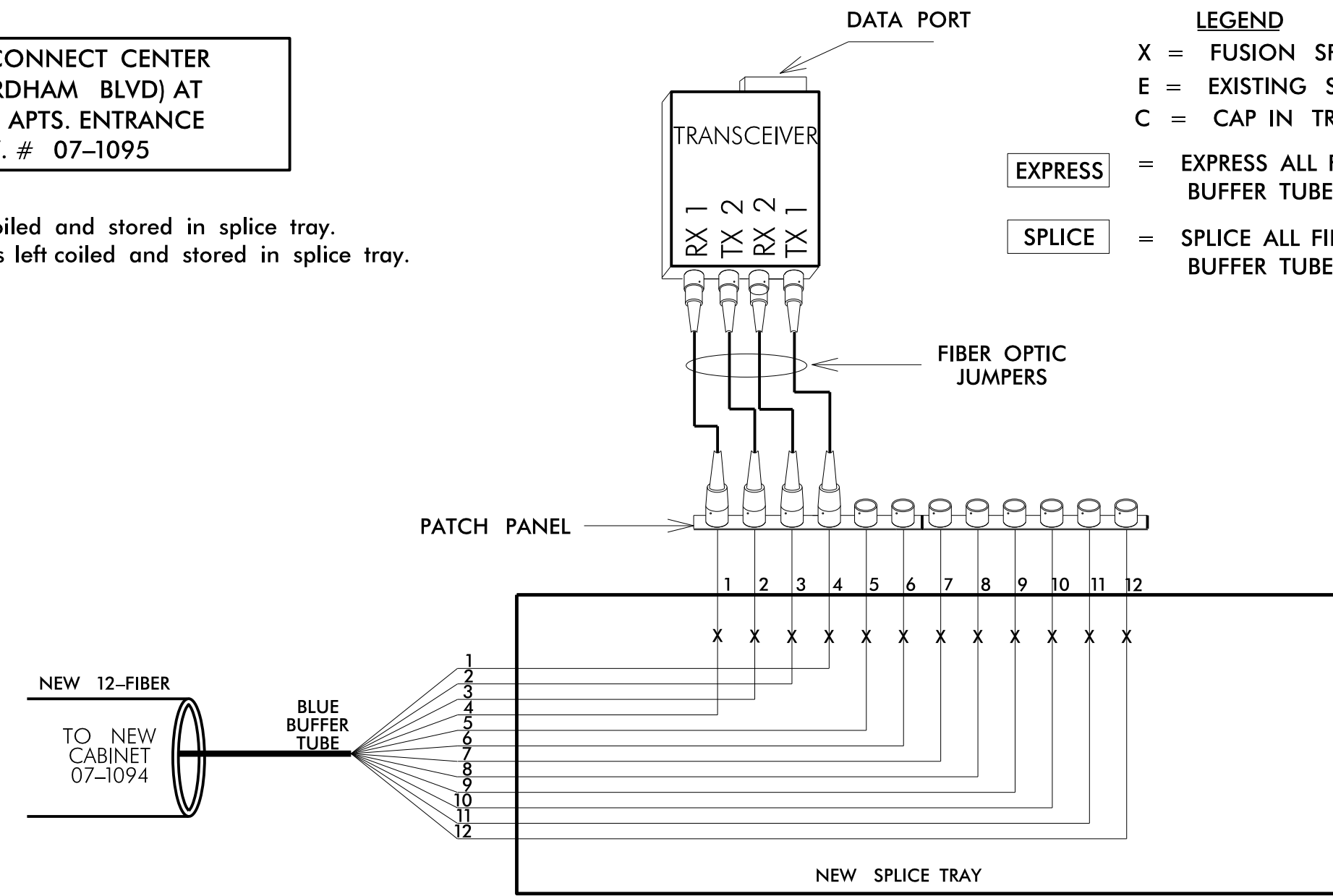
LEGEND		COLOR CODE TIA/EIA 598-A	
X	= FUSION SPLICE	(1) BLUE	(7) RED
C	= CAP IN TRAY	(2) ORANGE	(8) BLACK
EXPRESS	= EXPRESS ALL FIBERS/ BUFFER TUBES	(3) GREEN	(9) YELLOW
SPLICE	= SPLICE ALL FIBERS/ BUFFER TUBES	(4) BROWN	(10) VIOLET
EXISTING	= EXISTING BUFFER TUBE	(5) SLATE	(11) ROSE
		(6) WHITE	(12) AQUA



NEW INTERCONNECT CENTER NC 54 (FORDHAM BLVD) AT ROYAL PARK APTS. ENTRANCE SIG. INV. # 07-1095

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

LEGEND		COLOR CODE TIA/EIA 598-A	
X	= FUSION SPLICE	(1) BLUE	(7) RED
E	= EXISTING SPLICE	(2) ORANGE	(8) BLACK
C	= CAP IN TRAY	(3) GREEN	(9) YELLOW
EXPRESS	= EXPRESS ALL FIBERS/ BUFFER TUBES	(4) BROWN	(10) VIOLET
SPLICE	= SPLICE ALL FIBERS/ BUFFER TUBES	(5) SLATE	(11) ROSE
		(6) WHITE	(12) AQUA



1. NOTIFY THE TOWN OF CHAPEL HILL TRAFFIC SIGNAL SYSTEM ENGINEER AT (919) 969-5098 FIVE (5) DAYS PRIOR TO BEGINNING WORK ON SIGNAL SYSTEM COMMUNICATIONS CABLE. NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
2. CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
3. TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
4. INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING:
REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"

- 1) SPLICE LOCATION
- 2) DATE
- 3) COMPANY NAME
- 4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

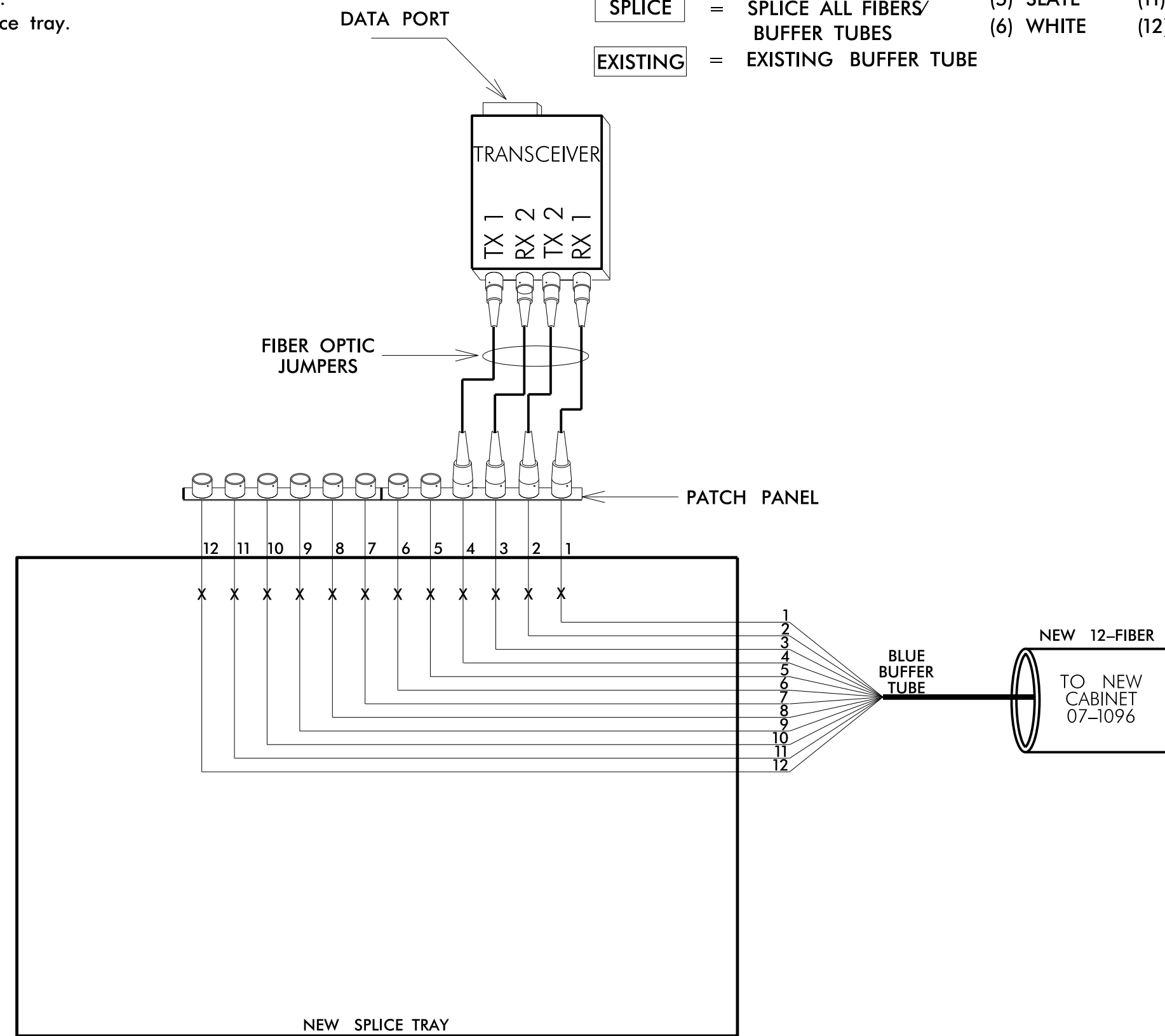
<p>250 N. Greenfield Pkwy., Garner, NC 27529</p>	SPLICE DETAIL		
	DIVISION 7 ORANGE CO. CARRBORO PLAN DATE: NOVEMBER 2022 REVIEWED BY: <i>Greg Grun</i> PREPARED BY: D.J. SONDERFAN SCALE: 0	REVISIONS:	

NEW INTERCONNECT CENTER
NC 54 (FORDHAM BLVD) AT
LAUREL RIDGE APTS. ENTRANCE
SIG. INV. # 07-1097

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

LEGEND
X = FUSION SPLICE
E = EXISTING SPLICE
C = CAP IN TRAY
EXPRESS = EXPRESS ALL FIBERS/
BUFFER TUBES
SPLICE = SPLICE ALL FIBERS/
BUFFER TUBES
EXISTING = EXISTING BUFFER TUBE

COLOR CODE
TIA/EIA 598-A
(1) BLUE (7) RED
(2) ORANGE (8) BLACK
(3) GREEN (9) YELLOW
(4) BROWN (10) VIOLET
(5) SLATE (11) ROSE
(6) WHITE (12) AQUA

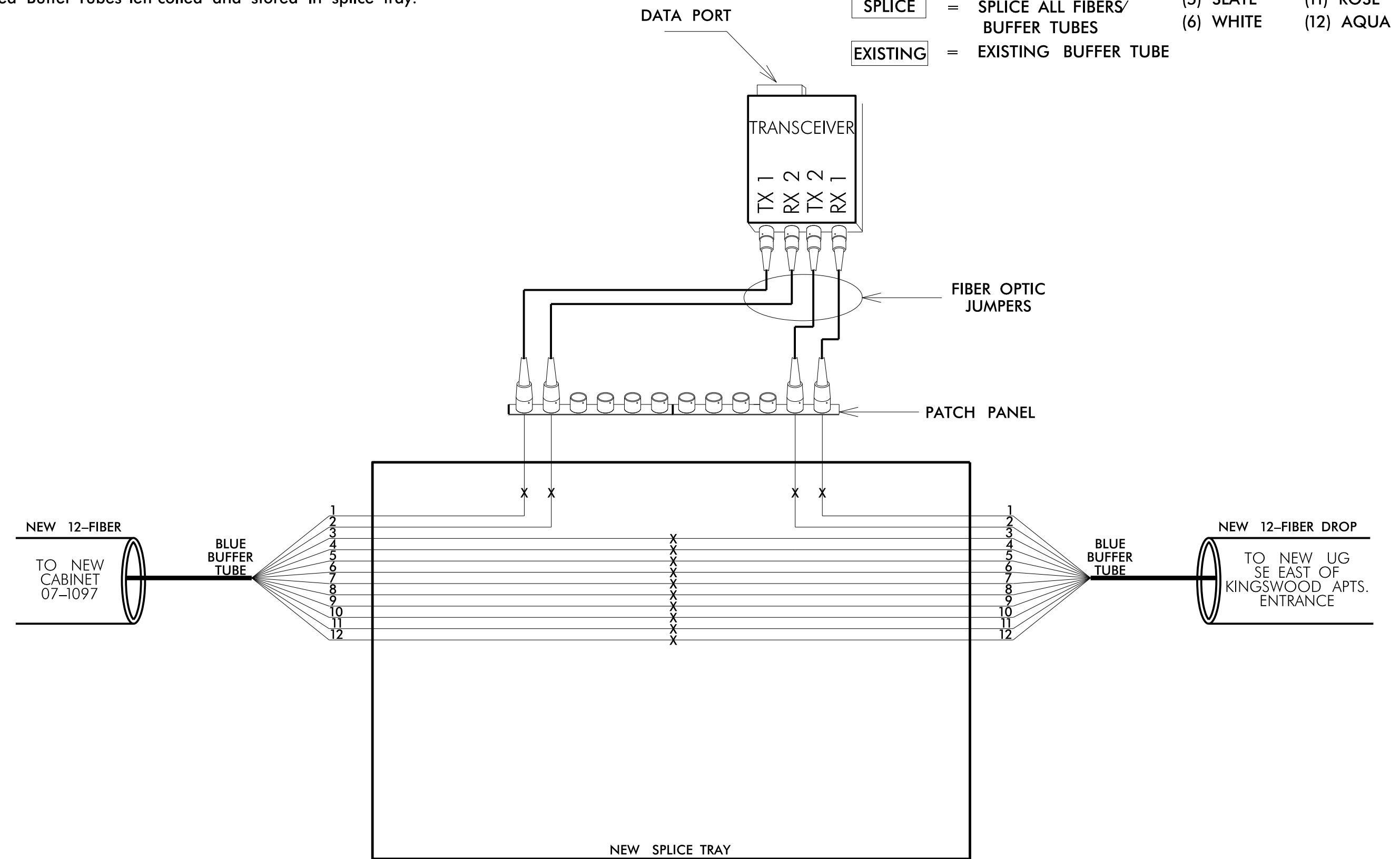


NEW INTERCONNECT CENTER
NC 54 (FORDHAM RD.) AT
KINGSWOOD APTS ENTRANCE.
SIG. INV. # 07-1096

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

LEGEND
X = FUSION SPLICE
E = EXISTING SPLICE
C = CAP IN TRAY
EXPRESS = EXPRESS ALL FIBERS/
BUFFER TUBES
SPLICE = SPLICE ALL FIBERS/
BUFFER TUBES
EXISTING = EXISTING BUFFER TUBE

COLOR CODE
TIA/EIA 598-A
(1) BLUE (7) RED
(2) ORANGE (8) BLACK
(3) GREEN (9) YELLOW
(4) BROWN (10) VIOLET
(5) SLATE (11) ROSE
(6) WHITE (12) AQUA

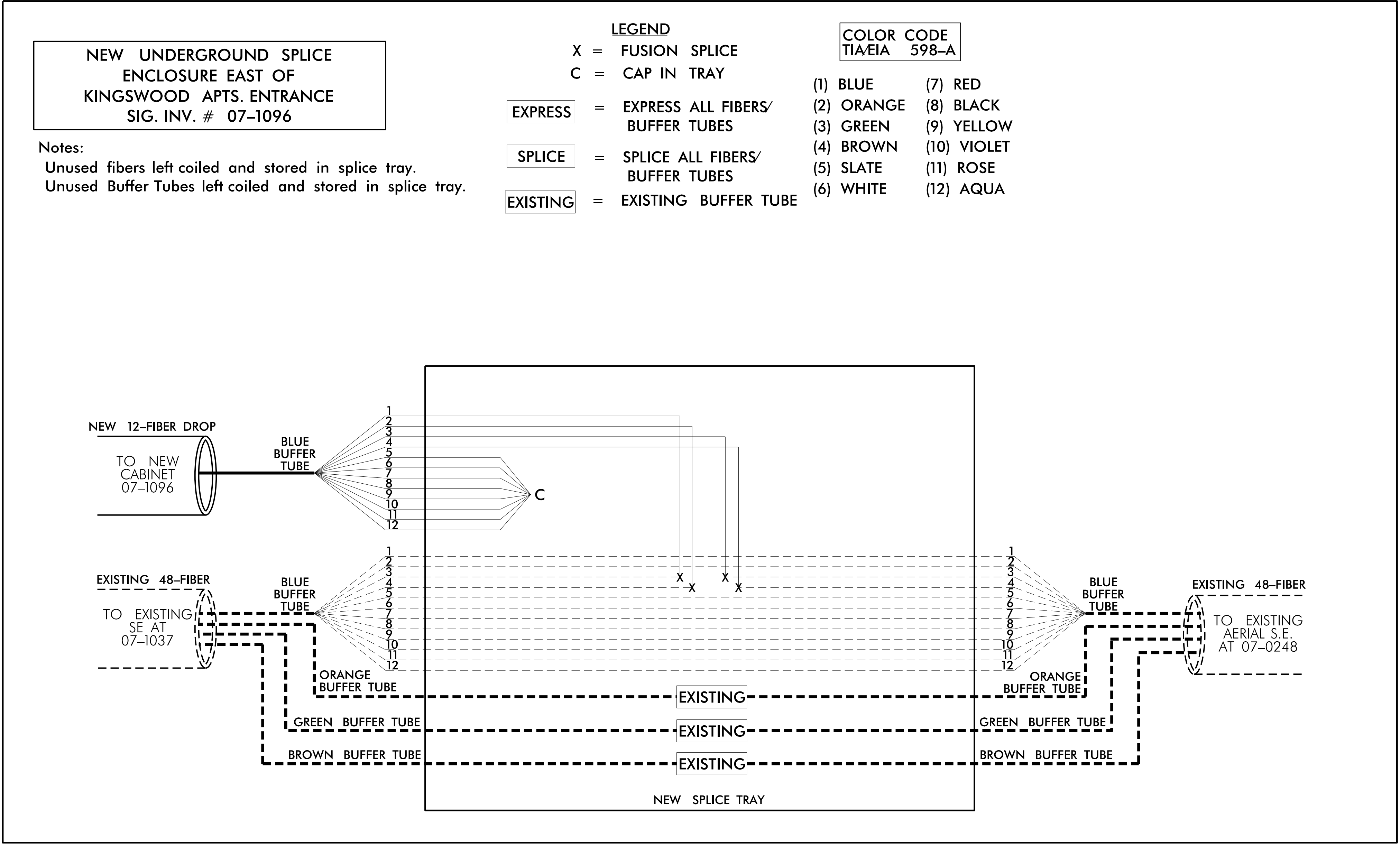


1. NOTIFY THE TOWN OF CHAPEL HILL TRAFFIC SIGNAL SYSTEM ENGINEER AT (919) 969-5098 FIVE (5) DAYS PRIOR TO BEGINNING WORK ON SIGNAL SYSTEM COMMUNICATIONS CABLE. NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
2. CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
3. TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
4. INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING:
REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
1) SPLICE LOCATION
2) DATE
3) COMPANY NAME
4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

<p>Prepared in the Offices of:</p> <p>250 N. Greenfield Plaza, Garner, NC 27529</p>	<p>SPLICE DETAIL</p>		<p>SEAL</p>
	<p>DIVISION 7 ORANGE CO. CARRBORO</p> <p>PLAN DATE: NOVEMBER 2022 REVIEWED BY: <i>Greg Orin</i></p> <p>PREPARED BY: D.J. SONDERFAN DATE: _____</p>	<p>REVISIONS</p>	



1. NOTIFY THE TOWN OF CHAPEL HILL TRAFFIC SIGNAL SYSTEM ENGINEER AT (919) 969-5098 FIVE (5) DAYS PRIOR TO BEGINNING WORK ON SIGNAL SYSTEM COMMUNICATIONS CABLE. NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

<p><small>Prepared in the Offices of:</small></p> <p><small>250 N. Greenfield Place, Garner, NC 27529</small></p>	<p>SPLICE DETAIL</p> <p>DIVISION 7 ORANGE CO. CHAPEL HILL</p> <p>PLAN DATE: NOVEMBER 2022 REVIEWED BY: <i>Greg Gruen</i></p> <p>PREPARED BY: D.J. SONDERFAN</p> <p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	INIT.	DATE							<p>SEAL</p> <p>DATE: <i>Alex D. Stewart</i> NOVEMBER 24, 2022</p>
NO.	INIT.	DATE									