

# PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

## NOTES

- 1 AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC EQUIRMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "C".
- 2 INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
- 3 LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
- 4 LOCATE PROPOSED CONTROL SYSTEM IN AN AREA ACCESSIBLE FOR MAINTENANCE VEHICLES AND OUTSIDE OF CLEAR ZONE AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE.
- 5 TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.
- 6 TYPE PC30 JUNCTION BOXES ARE 30" L X 17" W X 18" H.
- 7 TYPE PC36 JUNCTION BOXES ARE 36" L X 24" W X 18" H.
- 8 JUNCTION BOX LOCATIONS SHOWN FOR CLARITY AT THESE LOCATIONS. USE TABLE B FOR PROPOSED INSTALLED LOCATIONS.

## SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' HIGH MOUNT STANDARDS AND SINGLE ARM LIGHT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

## DESIGN CRITERIA

- 2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE
- 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING
- FATIGUE CATEGORY II SHALL BE USED IN DESIGN
- DESIGN HIGH MOUNT SUPPORT FOR BASIC WIND SPEED SHOWN IN AASHTO
- DESIGN HIGH MOUNT STANDARD FOUNDATION FOR BASIC WIND SPEED OF 110 MPH. ANY CONTRACTOR-DESIGNED SITE SPECIFIC FOUNDATION DESIGN SHALL BE DESIGNED FOR THE SAME WIND SPEED
- 2008 NATIONAL ELECTRICAL CODE
- 2002 AASHTO ROADSIDE DESIGN GUIDE

## ROADWAY STANDARDS

THE FOLLOWING ROADWAY ENGLISH STANDARDS AS APPEAR IN "NCDOT ROADWAY STANDARD DRAWINGS", ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	TITLE
1401.01	HIGH MOUNT STANDARD
1402.01	HIGH MOUNT FOUNDATION
1403.01	HIGH MOUNT LUMINAIRES
1404.01	LIGHT STANDARDS
1405.01	STANDARD FOUNDATION
1406.01	LIGHT STANDARD LUMINAIRES
1407.01	ELECTRIC SERVICE POLE AND LATERAL
1408.01	LIGHT CONTROL SYSTEM
(USE ATTACHED DETAIL SHEET 1408D01 IN LIEU OF STANDARD DRAWING 1408.01 SHEET 2)	
1409.01	ELECTRICAL DUCT
1410.01	FEEDER CIRCUITS
1411.01	ELECTRICAL JUNCTION BOXES

ALL WORK SHALL BE IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JULY 2006.

## LEGEND

- PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED LIGHT STANDARD TYPE MTLT 45' WITH 15' SINGLE ARM. INCLUDES STANARD FOUNDATION TYPE R1 OR R2 & 250W HPS FLAT GLASS ROADWAY LUMINAIRE. IES DISTRIBUTION: MEDIUM, CUTOFF, TYPE III
- PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET
- PROPOSED SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 2" CONDUIT
- PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE C, THIS SHEET

PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM
8	2 #8 Ø 1 #10G 1.5" P	2 - 8 WG FEEDER CIRCUIT IN 1.5" CONDUIT
*8	2 #8 Ø 1 #10G	2 - 8 WG FEEDER CIRCUIT
6	2 #6 Ø 1 #8G 1.5" P	2 - 6 WG FEEDER CIRCUIT IN 1.5" CONDUIT
*6	2 #6 Ø 1 #10G	2 - 6 WG FEEDER CIRCUIT
4	2 #4 Ø 1 #6G 1.5" P	2 - 4 WG FEEDER CIRCUIT IN 1.5" CONDUIT
*4	2 #4 Ø 1 #6G	2 - 4 WG FEEDER CIRCUIT
2	2 #2 Ø 1 #4G 1.5" P	2 - 2 WG FEEDER CIRCUIT IN 1.5" CONDUIT
*2	2 #2 Ø 1 #4G	2 - 2 WG FEEDER CIRCUIT

NUMBER	LOCATION	TYPE	SHEET	
JB1	-Y15RPB- 20+22 45' LT	PC36	E2	
JB2	-Y15RPB- 20+22 20' RT	PC30	E2	
JB3	-Y15RPB- 17+40 25' LT	PC18	E2	
JB4	-Y15RPB- 14+40 25' LT	PC18	E2	
JB5	-Y15RPB- 14+40 20' RT	PC18	E2	
JB6	-Y15RPB- 11+00 25' LT	PC18	E2	
JB7	-L- 156+30 70' RT	PC36	E2	
JB8	-L- 156+30	PC18	E2	
JB9	-Y15- 42+25 65' LT	PC30	E2	
JB10	-Y15- 42+25 65' RT	PC30	E2	
JB11	-L- 160+90 92' RT	PC30	E2	
JB12	-L- 160+90	PC18	E2	
JB13	-Y15RPA- 18+70 35' LT	PC18	E2	
JB14	-Y15RPA- 18+70 28' RT	PC18	E2	
JB15	-L- 164+82 100' RT	PC18	E2	
JB16	-L- 164+82 100' LT	PC18	E2	
JB17	-L- 160+90 90' LT	PC18	E2	
JB18	-Y15- 40+00 65' LT	PC18	E2	
JB19	-Y15- 36+32 95' LT	PC18	E2	
JB20	-Y15- 33+05 115' LT	PC18	E2	
JB21	-Y15RPD- 16+56 18' LT	PC18	E2	
JB22	-Y15RPD- 13+56 18' LT	PC18	E2	
JB23	-L- 153+00 100' RT	PC18	E2	
JB24	-L- 153+00 80' LT	PC18	E2	
JB25	-Y15RPC- 17+70 25' RT	PC18	E2	
JB26	-Y15RPC- 14+40 25' RT	PC18	E2	
JB27	-Y15RPC- 11+40 25' RT	PC18	E2	
JB28	-Y15RPA- 16+00 25' RT	PC18	E2	
JB29	-Y15RPA- 13+20 25' RT	PC18	E2	
JB30	-Y15RPA- 10+40 25' RT	PC18	E2	
TOTALS		24	4	2

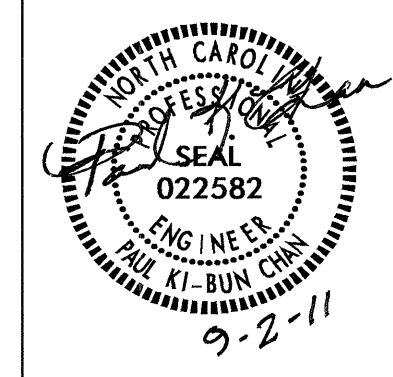
LOCATION	RACEWAY	SHEET	TYPE					
			JACKED (JA) FEET			BURIED (BD) FEET		
			SIZE 3"	SIZE 4"	SIZE 6"	SIZE 2"	SIZE 3"	SIZE 4"
-Y15RPB- 20+22	JB1 - JB2	E2				70		
-Y15RPB- 20+22		E2		50				
-Y15RPB- 14+70		E2	60					
-L- 156+30		E2	70					
-Y15- 41+60	JB9 - JB10	E2				150		
-Y15- 41+60		E2		130				
-L- 160+90	JB11 - JB12	E2				110		
-L- 160+90		E2		90				
-L- 160+90		E2	110					
-Y15RPA- PCC 18+30		E2	80					
-L- 163+90		E2	200					
-Y15RPD- 16+56		E2	90					
-L- 153+05		E2	200					
-L- 166+45 75' RT		E2	50					
TOTALS			860	270		330		

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
		HM	HIGH MAST

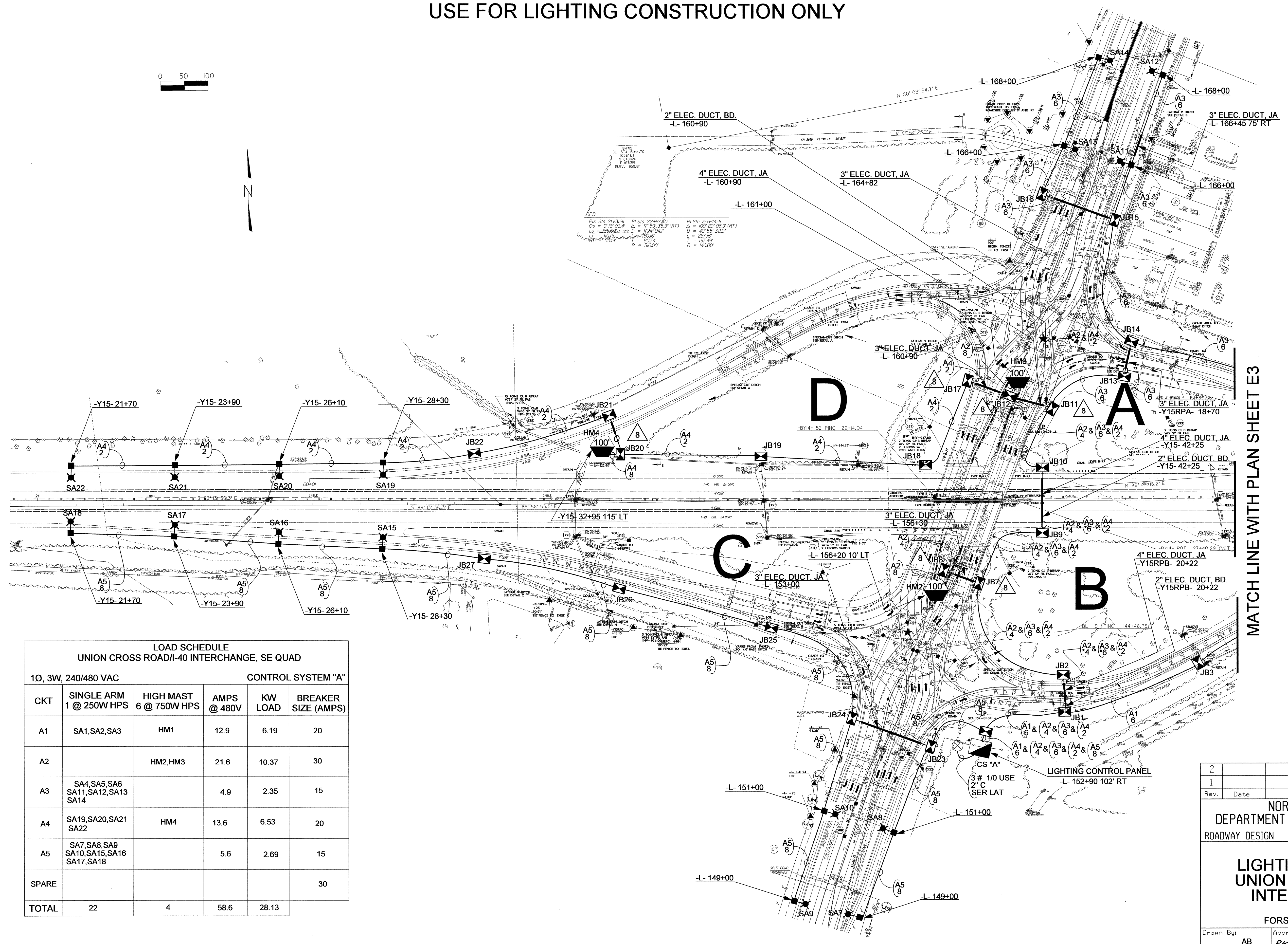
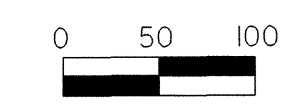
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# USE FOR LIGHTING CONSTRUCTION ONLY

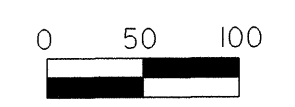
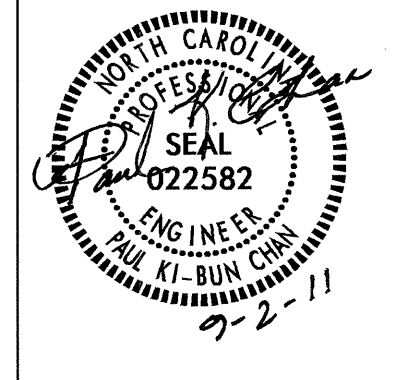


MATCH LINE WITH PLAN SHEET E3

LOAD SCHEDULE UNION CROSS ROAD/I-40 INTERCHANGE, SE QUAD					
1Ø, 3W, 240/480 VAC			CONTROL SYSTEM "A"		
CKT	SINGLE ARM 1 @ 250W HPS	HIGH MAST 6 @ 750W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	SA1,SA2,SA3	HM1	12.9	6.19	20
A2		HM2,HM3	21.6	10.37	30
A3	SA4,SA5,SA6 SA11,SA12,SA13 SA14		4.9	2.35	15
A4	SA19,SA20,SA21 SA22	HM4	13.6	6.53	20
A5	SA7,SA8,SA9 SA10,SA15,SA16 SA17,SA18		5.6	2.69	15
SPARE					30
<b>TOTAL</b>	<b>22</b>	<b>4</b>	<b>58.6</b>	<b>28.13</b>	

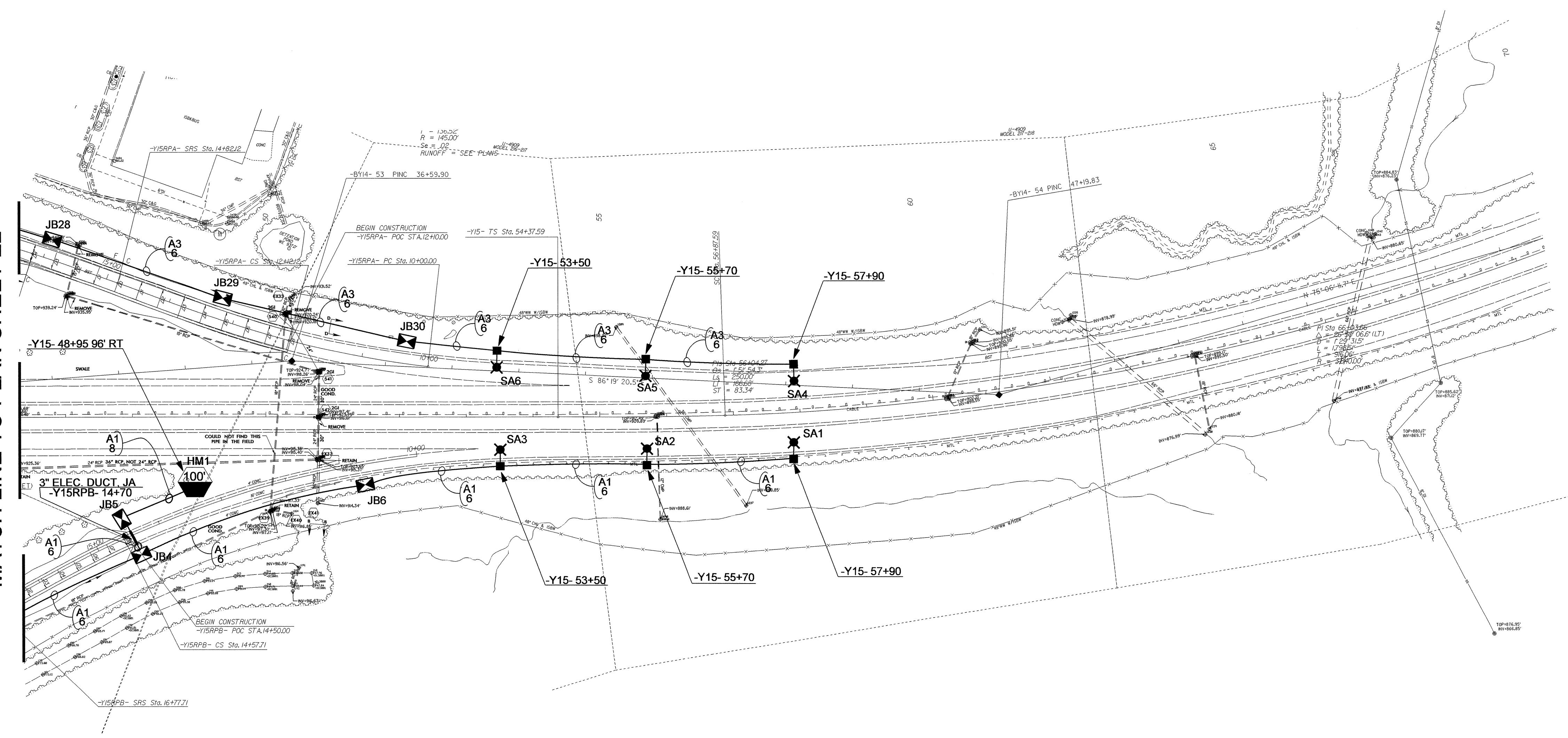
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Rev.	Date	Description	Approved
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<b>LIGHTING LAYOUT                  UNION CROSS/I-40                  INTERCHANGE</b>			
FORSYTH COUNTY			
Drawn By:	Approved By:	Dwg No.:	
AB	PAC	9-2-11	

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USE FOR LIGHTING CONSTRUCTION ONLY

MATCH LINE TO PLAN SHEET E2

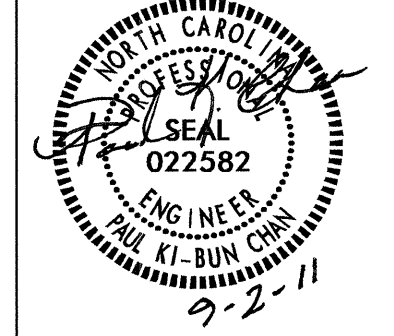


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Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION			
<b>LIGHTING LAYOUT                  UNION CROSS/ I-40                  INTERCHANGE</b>			
FORSYTH COUNTY			
Drawn By:	Approved By:	Dwg No.:	
AB	PKC 9-2-11		

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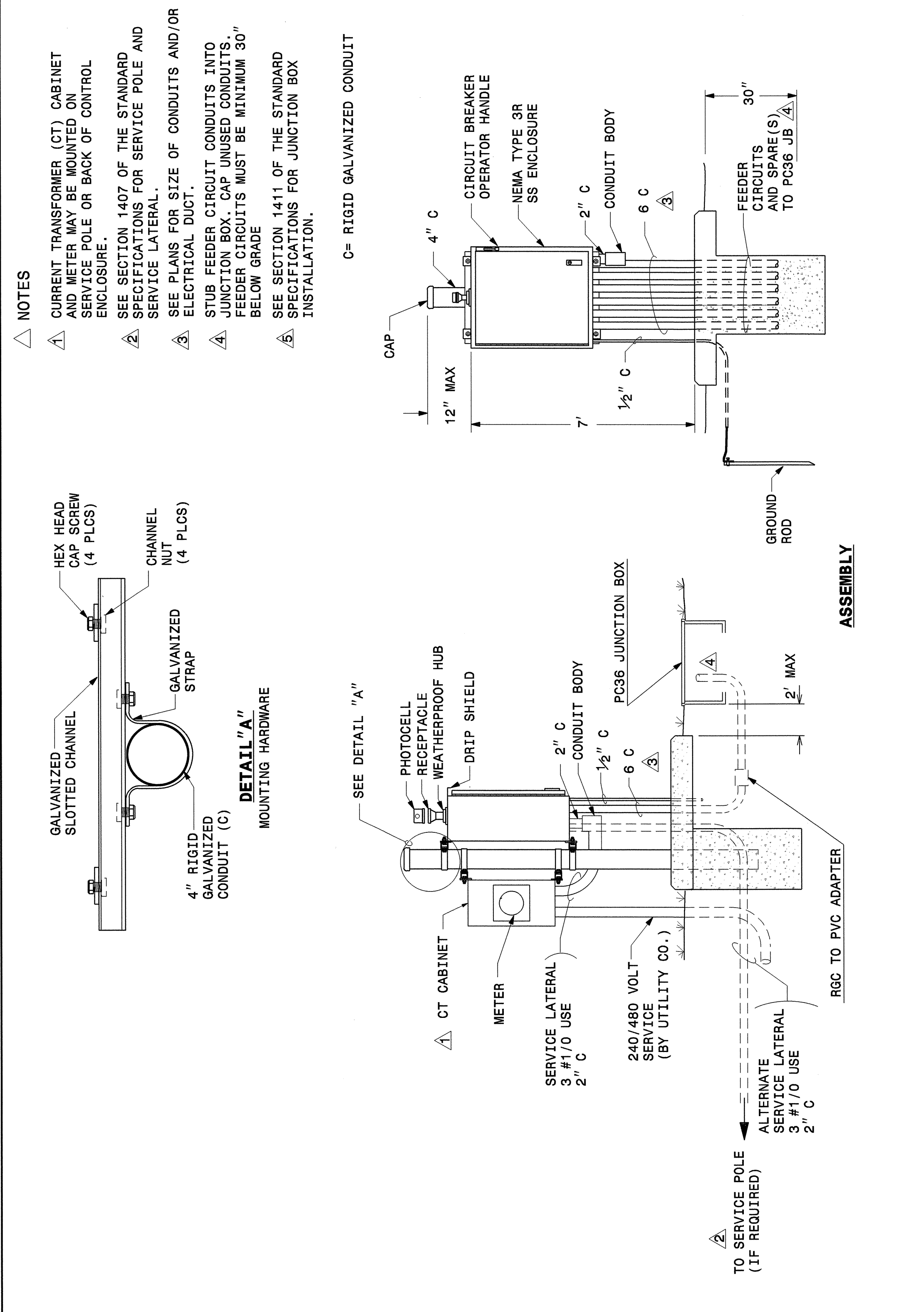
USE FOR LIGHTING CONSTRUCTION ONLY

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

ENGLISH STANDARD DRAWING FOR  
**LIGHT CONTROL SYSTEM**  
ASSEMBLY

7-06

SHEET 2 OF 3  
**1408D01**



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

ENGLISH STANDARD DRAWING FOR  
**LIGHT CONTROL SYSTEM**  
ASSEMBLY

7-06

SHEET 2 OF 3  
**1408D01**

Rev.	Date	Description	Approved
2			
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NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

**LIGHT CONTROL SYSTEM  
SPECIAL DETAILS**

Drawn By: AB Approved By: PKC 9-2-11 Dwg No.: