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02/03/98

PROJECT REFERENCE NO.	SHEET NO.
I-5506	E1

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NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUN CHAN

DocuSigned by: Paul Chan 11/17/2017

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

△ NOTES

1. AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "B"
2. INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 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 2011 AASHTO ROADSIDE DESIGN GUIDE.
5. INSTALL RIGID GALVANIZED CONDUIT (RGC) ABOVE GROUND, AND POLYVINYL CHLORIDE (PVC) SCHEDULE 40 CONDUIT UNDERGROUND, EXCEPT AS MODIFIED ON THESE PLANSHEETS OR IN APPLICABLE SECTIONS OF THE ROADWAY STANDARD DRAWINGS FOR THIS PROJECT.
6. ALL JUNCTION BOXES SHALL BE 18" HIGH, UNLESS OTHERWISE NOTED.
7. CONTRACTOR SHALL RECORD THE GPS COORDINATES OF EACH JUNCTION BOX IN THE JUNCTION BOX SUMMARY, TABLE C. PROVIDE A COPY OF THE JUNCTION BOX SUMMARY WITH THESE COORDINATES TO THE LIGHTING ENGINEER DURING PROJECT INSPECTION.
8. INSTALL SINGLE ARM LIGHT STANDARD OUTSIDE OF THE EASEMENT OF THE OVERHEAD PRIMARY POWER LINE.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' HIGH MOUNT STANDARDS, 70' HIGH MOUNT STANDARDS AND SINGLE ARM LIGHT STANDARDS WITH LIGHT EMITTING DIODE LUMINAIRES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

0.8 AVERAGE FOOTCANDLE ON TRAVEL LANES

4:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES

2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE

2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 5TH EDITION 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 OF 100 MPH

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

2014 NATIONAL ELECTRICAL CODE

2011 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 JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	TITLE
1401.01	HIGH MOUNT STANDARD
1404.01	LIGHT STANDARDS
1405.01	STANDARD FOUNDATION
1407.01	ELECTRIC SERVICE POLE AND LATERAL
1408.01	LIGHT CONTROL SYSTEM (USE ATTACHED DETAIL SHEETS E5 & E6 IN LIEU OF STANDARD DRAWING 1408.01, SHEETS 1 & 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 JANUARY 2018.

LEGEND

100' — PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION, JUNCTION BOX (HMXXJB) & (6) HM LED LUMINAIRES. 550W MAX, 44,250 MIN. MAINTAINED DELIVERED LUMENS, TYPE V MAXIMUM BUG RATING 5-0-5. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING

70' — PROPOSED 70' HIGH MAST STANDARD W/ HM FOUNDATION, JUNCTION BOX (HMXXJB) & (6) HM LED LUMINAIRES 550W MAX, 44,250 MIN. MAINTAINED DELIVERED LUMENS, TYPE V MAXIMUM BUG RATING 5-0-5. USE 80' FOUNDATION DIMENSIONS AND QUANTITIES AS SHOWN IN STANDARD DRAWING 1402.01. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING.

PROPOSED LIGHT STANDARD TYPE MTLT 30' WITH 10' SINGLE ARM. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2, 285W MAX LED ROADWAY LUMINAIRE AND JUNCTION BOX (SAXXJB). IES DISTRIBUTION: TYPE II OR III AS REQUIRED. MAXIMUM BUG RATING 3-0-3. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING

PROPOSED LIGHT STANDARD TYPE MTLT 45' WITH 15' SINGLE ARM. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2, 285W MAX LED ROADWAY LUMINAIRE AND JUNCTION BOX (SAXXJB). IES DISTRIBUTION: TYPE II OR IIIAS REQUIRED. MAXIMUM BUG RATING 3-0-3. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING

PROPOSED CONTROL SYSTEM WITH JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2

JB1 — PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE C, SHEET E1A FOR JUNCTION BOX SIZING

△1 — REFERENCE TO CORRESPONDING NOTE AS NUMBERED

2", 3" OR 4" ELEC. DUCT JA & BD — PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE B, THIS SHEET

3#1/0 USE 2" — PROPOSED SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 2" CONDUIT

A1 6 — PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET

TABLE "A"
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

PLAN SYMBOL	DESCRIPTION		CONTRACT ITEM
8	2 #8 Ø 1 #10G 1.5" P	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 8 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*8	2 #8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR	2 - 8 W/G FEEDER CIRCUIT
6	2 #6 Ø 1 #8G 1.5" P	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 6 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*6	2 #6 Ø 1 #10G	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR	2 - 6 W/G FEEDER CIRCUIT
4	2 #4 Ø 1 #6G 1.5" P	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 4 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*4	2 #4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR	2 - 4 W/G FEEDER CIRCUIT
2	2 #2 Ø 1 #4G 1.5" P	2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 2 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*2	2 #2 Ø 1 #4G	2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR	2 - 2 W/G FEEDER CIRCUIT

TABLE "B"
ELECTRICAL DUCT SUMMARY
(ESTIMATED LENGTH IN FEET)

			TYPE					
			JACKED (JA) FEET			BURIED (BD) FEET		
LOCATION	RACEWAY △1	SHEET	SIZE 2"	SIZE 3"	SIZE 4"	SIZE 2"	SIZE 3"	SIZE 4"
28+66 -PRC-		E3		180				
104+2 -Y-		E3		224				
16+70 -RPB-		E2		92				
42+78 -L-		E3			110			
42+78 -L-	JB8 - CSAJB	E3				130		
26+20 -RPD-		E2			60			
26+20 -RPD-	JB9 - JB11	E3				80		
17+65 -RPD-		E4		82				
24+50 -RPC-		E3		80				
110+61 -Y-		E3			175			
110+61 -Y-	SA34JB - SA35JB	E3				195		
17+44 -RPA-		E3		100				
25+60 -RPA-		E3		100				
54+90 -L-		E3		120				
25+00 -RPB-		E3		120				
TOTALS				1128	345	405		

ABBREVIATIONS

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
IG	IN GROUND	HM	HIGH MAST
LED	LIGHT EMITTING DIODE	LSJB	LIGHT STANDARD JUNCTION BOX
HMJB	HIGH MAST JUNCTION BOX	CSJB	CONTROL SYSTEM JUNCTION BOX

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PROJECT REFERENCE NO.	SHEET NO.
I-5506	E1A

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SEE SHEET "E1" FOR LEGEND & △ NOTES

TABLE "C"
JUNCTION BOX SUMMARY
CONTROL SYSTEM "A"

LABEL	TYPE	SIZE 18"X12"	SIZE 30"X17"	SIZE 36"X24"	LOCATION	SHEET	GPS LOCATION LATITUDE	GPS LOCATION LONGITUDE
SA1JB	LSJB	X			5' FROM LIGHT STANDARD SA1	E2		
SA2JB	LSJB	X			5' FROM LIGHT STANDARD SA2	E2		
SA3JB	LSJB	X			5' FROM LIGHT STANDARD SA3	E2		
SA4JB	LSJB	X			5' FROM LIGHT STANDARD SA4	E3		
SA5JB	LSJB	X			5' FROM LIGHT STANDARD SA5	E3		
SA6JB	LSJB		X		5' FROM LIGHT STANDARD SA6	E3		
SA7JB	LSJB		X		5' FROM LIGHT STANDARD SA7	E3		
SA8JB	LSJB	X			5' FROM LIGHT STANDARD SA8	E4		
SA9JB	LSJB	X			5' FROM LIGHT STANDARD SA9	E4		
SA10JB	LSJB	X			5' FROM LIGHT STANDARD SA10	E4		
SA11JB	LSJB	X			5' FROM LIGHT STANDARD SA11	E2		
SA12JB	LSJB	X			5' FROM LIGHT STANDARD SA12	E2		
SA13JB	LSJB	X			5' FROM LIGHT STANDARD SA13	E2		
SA14JB	LSJB	X			5' FROM LIGHT STANDARD SA14	E4		
SA15JB	LSJB	X			5' FROM LIGHT STANDARD SA15	E4		
SA16JB	LSJB	X			5' FROM LIGHT STANDARD SA16	E4		
SA17JB	LSJB	X			5' FROM LIGHT STANDARD SA17	E3		
SA18JB	LSJB	X			5' FROM LIGHT STANDARD SA18	E3		
SA19JB	LSJB	X			5' FROM LIGHT STANDARD SA19	E3		
SA20JB	LSJB	X			5' FROM LIGHT STANDARD SA20	E3		
SA21JB	LSJB		X		5' FROM LIGHT STANDARD SA21	E3		
SA22JB	LSJB	X			5' FROM LIGHT STANDARD SA22	E3		
SA23JB	LSJB		X		5' FROM LIGHT STANDARD SA23	E3		
SA24JB	LSJB	X			5' FROM LIGHT STANDARD SA24	E3		
SA25JB	LSJB	X			5' FROM LIGHT STANDARD SA25	E3		
SA26JB	LSJB	X			5' FROM LIGHT STANDARD SA26	E3		
SA27JB	LSJB	X			5' FROM LIGHT STANDARD SA27	E3		
SA28JB	LSJB	X			5' FROM LIGHT STANDARD SA28	E3		
SA29JB	LSJB	X			5' FROM LIGHT STANDARD SA29	E3		
SA30JB	LSJB	X			5' FROM LIGHT STANDARD SA30	E3		
SA31JB	LSJB	X			5' FROM LIGHT STANDARD SA31	E3		
SA32JB	LSJB	X			5' FROM LIGHT STANDARD SA32	E3		
SA33JB	LSJB	X			5' FROM LIGHT STANDARD SA33	E3		
SA34JB	LSJB	X			5' FROM LIGHT STANDARD SA34	E3		
SA35JB	LSJB	X			5' FROM LIGHT STANDARD SA35	E3		
SA36JB	LSJB	X			5' FROM LIGHT STANDARD SA36	E3		
SA37JB	LSJB	X			5' FROM LIGHT STANDARD SA37	E3		
SA38JB	LSJB	X			5' FROM LIGHT STANDARD SA38	E3		
SA39JB	LSJB	X			5' FROM LIGHT STANDARD SA39	E3		
SA40JB	LSJB	X			5' FROM LIGHT STANDARD SA40	E3		
SA41JB	LSJB	X			5' FROM LIGHT STANDARD SA41	E3		
SA42JB	LSJB	X			5' FROM LIGHT STANDARD SA42	E3		

CONTINUED

CONTINUED

LABEL	TYPE	SIZE 18"X12"	SIZE 30"X17"	SIZE 36"X24"	LOCATION	SHEET	GPS LOCATION LATITUDE	GPS LOCATION LONGITUDE
CSAJB	CSJB			X	2' FROM CS"A"	E3		
JB1	IGJB	X			STA. 28+66 -RPC- 29' RT	E3		
JB2	IGJB	X			STA. 24+50 -RPC- 38' RT	E3		
JB3	IGJB	X			STA. 15+65 -RPC- 26' RT	E2		
JB4	IGJB	X			STA. 24+50 -RPC- 38' LT	E3		
JB5	IGJB	X			STA. 104+2 -Y- 84' RT	E3		
JB6	IGJB	X			STA. 101+75 -Y- 155' LT	E3		
JB7	IGJB	X			STA. 16+30 -RPB- 28' LT	E2		
JB8	IGJB		X		STA. 42+78 -L- 36' LT	E3		
JB9	IGJB		X		STA. 26+20 -RPD- 35' LT	E3		
JB10	IGJB	X			STA. 17+65 -RPD- 29' LT	E4		
JB11	IGJB		X		STA. 26+20 -RPD- 30' RT	E3		
JB12	IGJB	X			STA. 17+44 -RPA- 40' RT	E3		
JB13	IGJB	X			STA. 13+44 -RPA- 31' RT	E4		
JB14	IGJB	X			STA. 113+00 -Y- 95' LT	E3		
JB15	IGJB	X			STA. 24+00 -RPA- 43' RT	E3		
JB16	IGJB	X			STA. 59+48 -L- 70' RT	E3		
HM1JB	HMJB	X			10' FROM HIGH MAST 1	E2		
HM2JB	HMJB	X			10' FROM HIGH MAST 2	E4		
HM3JB	HMJB	X			10' FROM HIGH MAST 3	E3		
HM4JB	HMJB	X			10' FROM HIGH MAST 4	E3		
HM5JB	HMJB	X			10' FROM HIGH MAST 5	E3		
	TOTALS	57	7	1				

TABLE "D"
SINGLE ARM STANDARD SUMMARY
CONTROL SYSTEM "A"

LABEL	LOCATION	LABEL	LOCATION	LABEL	LOCATION
SA1	90+71 -Y- 75' RT	SA18	42+06 -L- 56' RT	SA35	110+56 -Y- 105' LT
SA2	93+6 -Y- 75' RT	SA19	44+30 -L- 65' RT	SA36	52+32 -L- 65' RT
SA3	12+66 -RPC- 27' RT	SA20	108+32 -Y- 112' RT	SA37	54+14 -L- 65' RT
SA4	19+06 -RPC- 30' RT	SA21	108+32 -Y- 115' LT	SA38	55+96 -L- 59' RT
SA5	21+20 -RPC- 30' RT	SA22	52+66 -L- 58' LT	SA39	57+78 -L- 72' RT
SA6	25+32 -RPD- 27' LT	SA23	54+48 -L- 69' LT	SA40	59+60 -L- 72' RT
SA7	23+85 -RPD- 27' LT	SA24	19+10 -LPB- 33' RT	SA41	25+50 -RPA- 61' RT
SA8	13+82 -RPD- 30' LT	SA25	57+78 -L- 72' LT	SA42	23+66 -RPA- 43' RT
SA9	128+22 -Y- 83' RT	SA26	59+60 -L- 65' LT	SA43	21+86 -RPA- 43' RT
SA10	92+6 -Y- 86' LT	SA27	61+38 -L- 62' LT		
SA11	90+71 -Y- 85' LT	SA28	63+26 -L- 55' LT		
SA12	93+06 -Y- 90' LT	SA29	65+8 -L- 65' LT		
SA13	13+28 -RPB- 30' LT	SA30	25+62 -RPB- 44' LT		
SA14	123+52 -Y- 75' LT	SA31	23+88 -RPB- 44' LT		
SA15	125+87 -Y- 75' LT	SA32	22+22 -RPB- 40' LT		
SA16	128+22 -Y- 75' LT	SA33	20+42 -RPB- 33' LT		
SA17	39+66 -L- 48' RT	SA34	110+56 -Y- 105' RT		

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PROJECT REFERENCE NO.	SHEET NO.
I-5506	E2

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022582 PAUL KI-BUN CHAN

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SEE SHEET "E1" FOR LEGEND & △ NOTES

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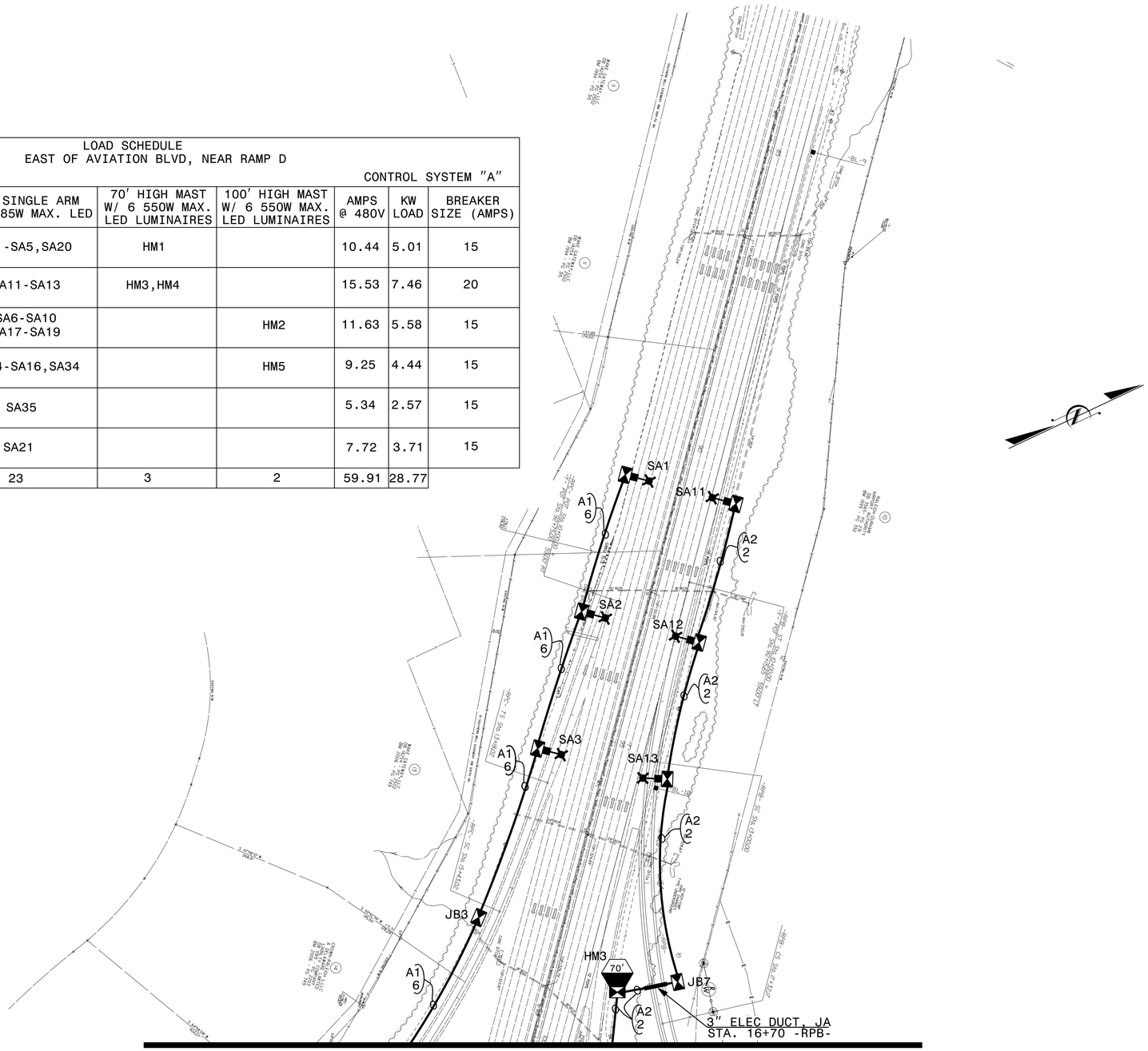
LOAD SCHEDULE
EAST OF AVIATION BLVD, NEAR RAMP D

1Ø, 3W, 240/480 VAC — CONTROL SYSTEM "A"

CIRCUIT ID	30' SINGLE ARM 1 @ 285W MAX. LED	45' SINGLE ARM 1 @ 285W MAX. LED	70' HIGH MAST W/ 6 550W MAX. LED LUMINAIRES	100' HIGH MAST W/ 6 550W MAX. LED LUMINAIRES	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1		SA1-SA5,SA20	HM1		10.44	5.01	15
A2		SA11-SA13	HM3,HM4		15.53	7.46	20
A3		SA6-SA10 SA17-SA19		HM2	11.63	5.58	15
A4		SA14-SA16,SA34		HM5	9.25	4.44	15
A5	SA36-SA43	SA35			5.34	2.57	15
A6	SA22-SA33	SA21			7.72	3.71	15
TOTAL	20	23	3	2	59.91	28.77	



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

LIGHTING LAYOUT

I-40/AVIATION BLVD. INTERCHANGE

WAKE COUNTY

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PROJECT REFERENCE NO.	SHEET NO.
I-5506	E3

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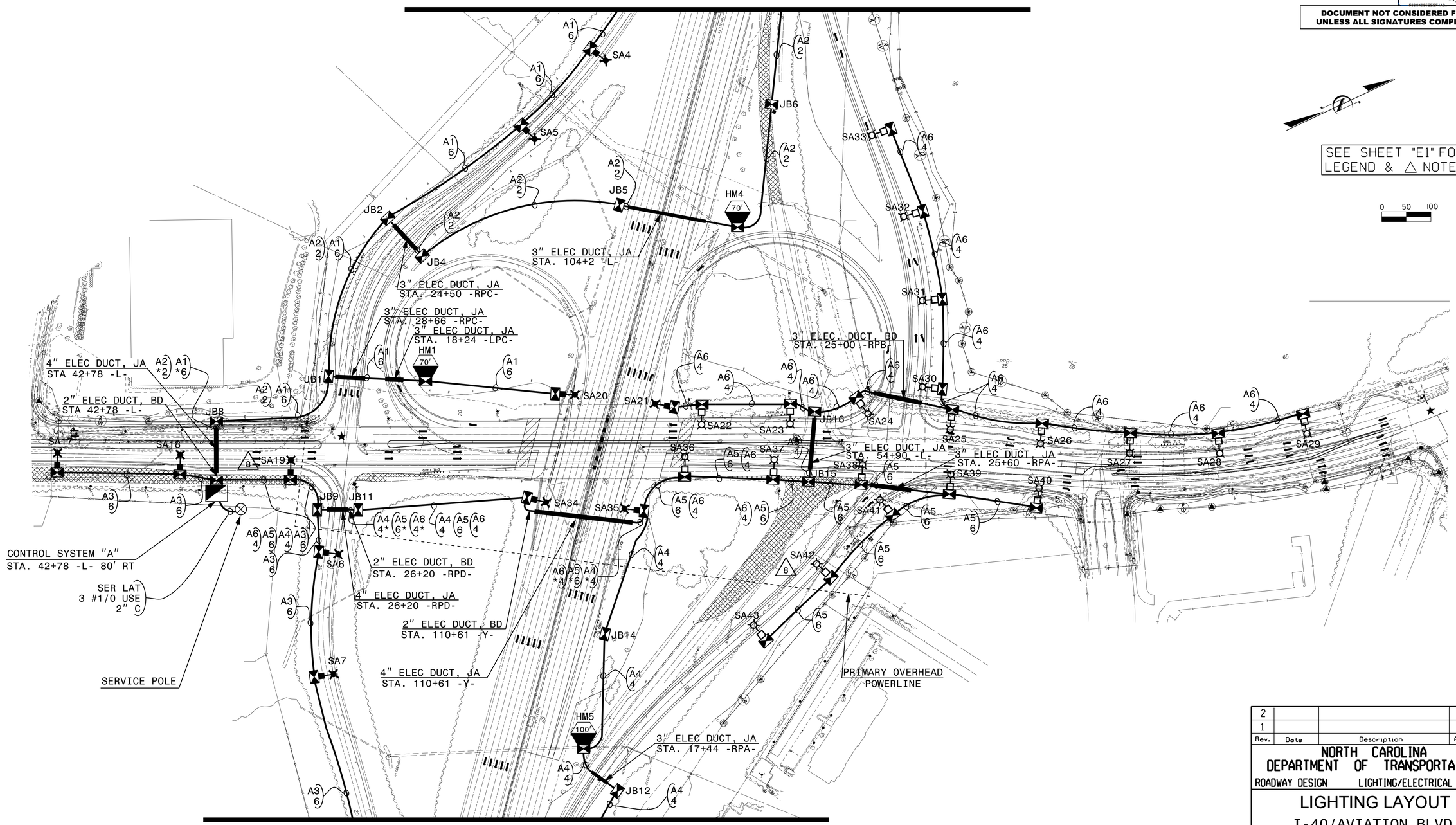

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

LIGHTING LAYOUT

I-40/AVIATION BLVD. INTERCHANGE

WAKE COUNTY

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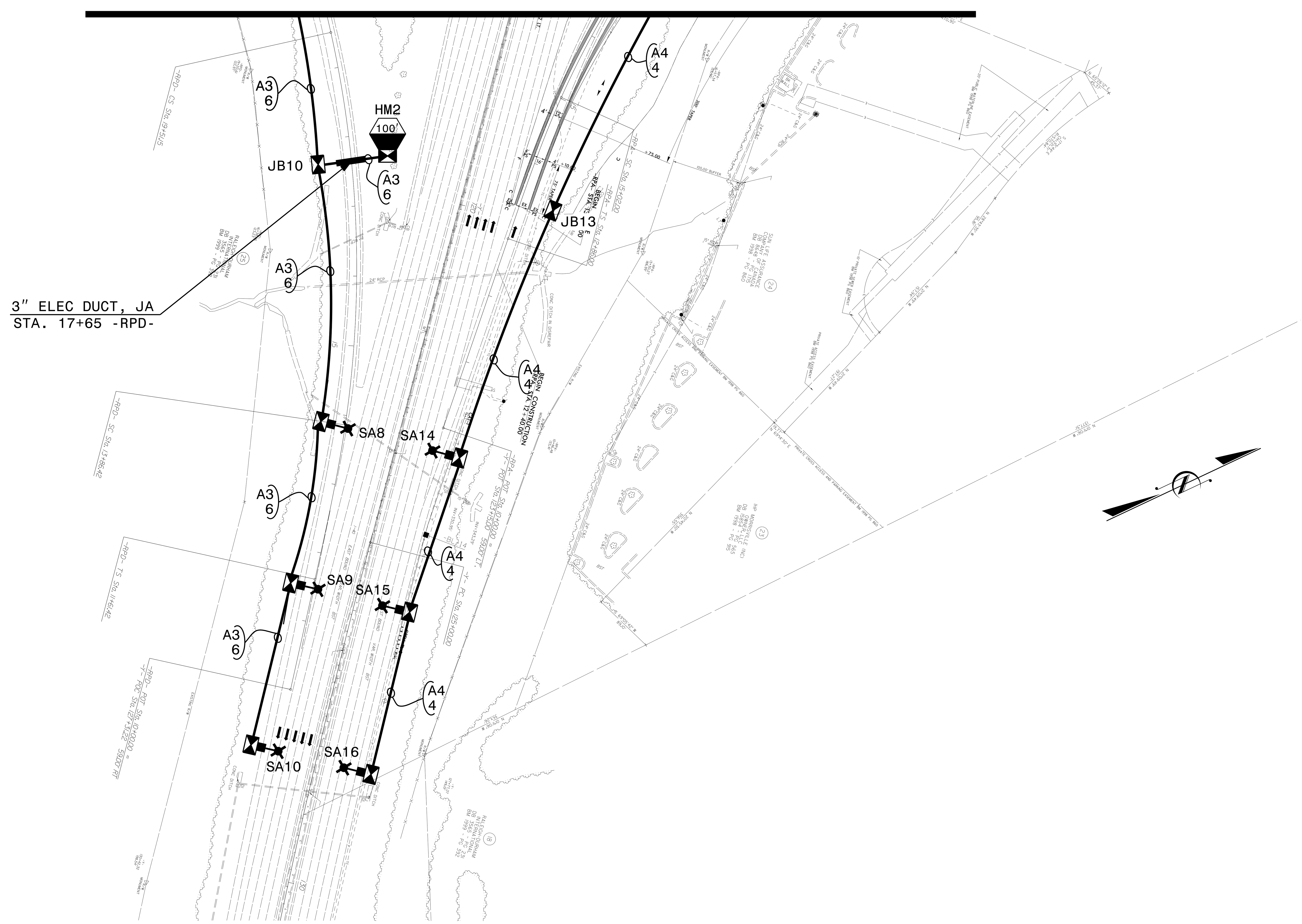
MATCHLINE WITH SHEET E3



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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

LIGHTING LAYOUT

I-40/AVIATION BLVD.
INTERCHANGE

WAKE COUNTY

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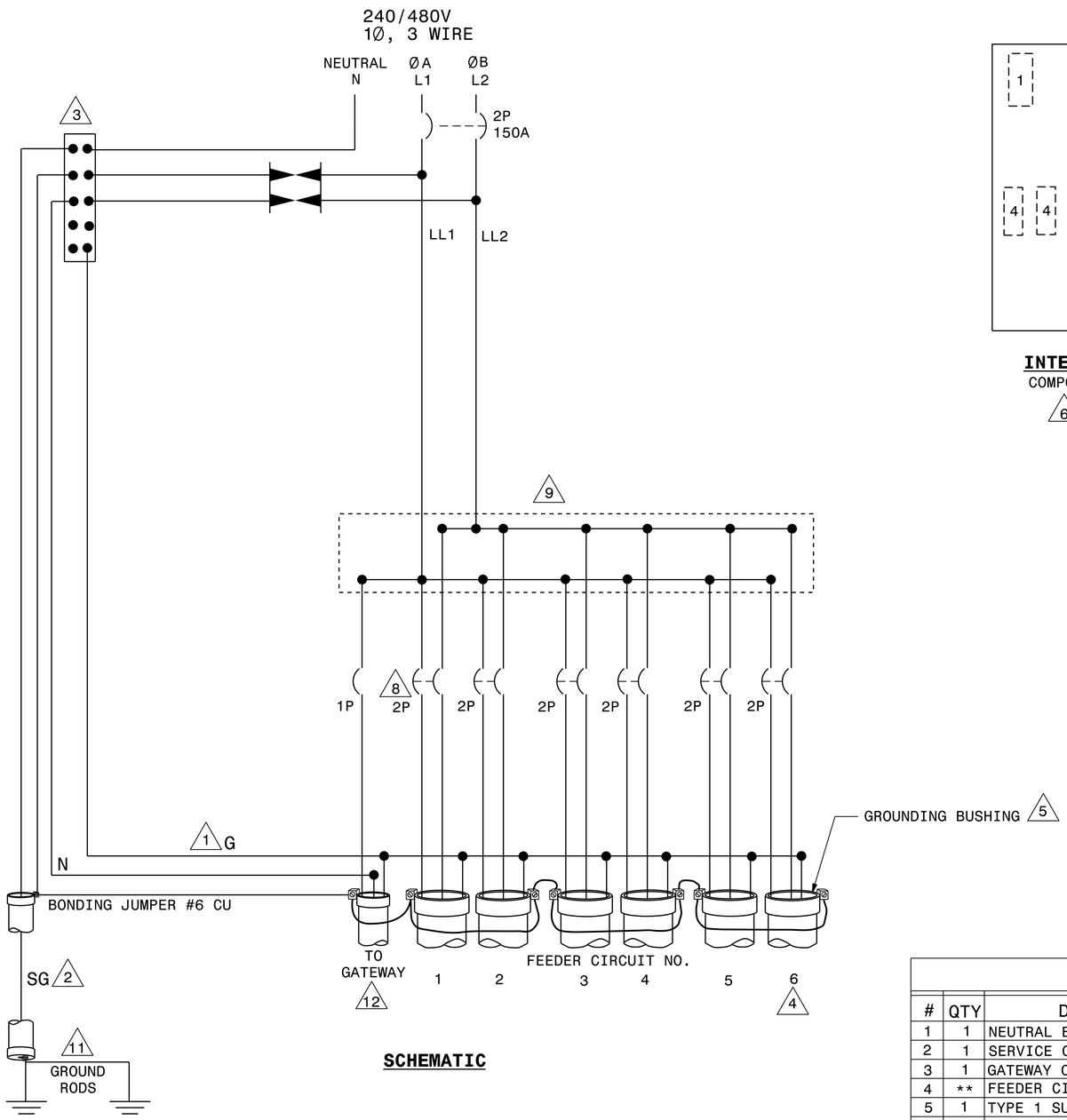

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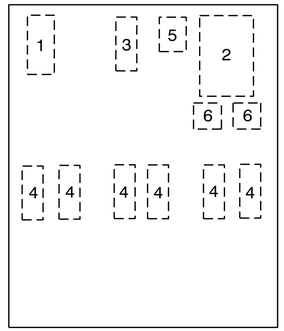

INTERIOR PANEL
COMPONENT LAYOUT
6 7 10

NOTES

1. EQUIPMENT GROUNDS (G) SHALL BE SIZED ACCORDING TO CIRCUIT DESCRIPTION. SEE PLANS.
2. SYSTEM GROUND (SG) SHALL BE CONTINUOUS FROM THE NEUTRAL BAR TO THE GROUNDING ELECTRODE (GROUND ROD).
3. THE NEUTRAL BAR SHALL BE BONDED TO THE PANEL.
4. INSTALL 6 FEEDER CIRCUIT CONDUITS AS SHOWN. UNUSED CONDUIT SHALL BE CAPPED IN THE CONTROL SYSTEM JUNCTION BOX.
5. INSTALL A GROUNDING BUSHING ON EACH METAL CONDUIT. CONNECT BONDING JUMPER AS REQUIRED BY NEC.
6. SEE STANDARD DRAWING 1408.01 SHEET 3 OF 3 FOR ENCLOSURE.
7. THE CONTROL SYSTEM MUST BE LABELED "SUITABLE FOR USE AS SERVICE EQUIPMENT." REFER TO STANDARD SPECIFICATION 1408-2 FOR OTHER REQUIREMENTS.
8. SEE PLANS FOR LIGHTING CIRCUIT BREAKER SIZES.
9. PROVIDE MULTI-TAP LOAD LUGS OR POWER DISTRIBUTION BLOCKS.
10. PROVIDE MANUFACTURER SUPPLIED MOUNTING BRACKETS OR SCREW STUDS PERMANENTLY ATTACHED TO THE BACK PANEL, FOR MOUNTING COMPONENTS.
11. PROVIDE AND INSTALL A CONDUIT CHOKE ON THE UNDERGROUND END OF THE ¾" RGS SYSTEM GROUND CONDUIT.
12. INSTALL #12 THWN CONDUCTOR FROM ENCLOSURE TO GATEWAY.

COMPONENT LIST

#	QTY	DESCRIPTION	SPECIFICATIONS
1	1	NEUTRAL BAR	
2	1	SERVICE CIRCUIT BREAKER	2P, 480V, 150A
3	1	GATEWAY CIRCUIT BREAKER	1P, 240V, 15A
4	**	FEEDER CIRCUIT BREAKERS	2P, 480V, 50A MAX
5	1	TYPE 1 SURGE PROTECTION DEVICE	20,000A RATED
6	2	POWER DISTRIBUTION LUGS OR BLOCKS	
		MOUNTING BRACKETS OR SCREW STUDS	

**PROVIDE THE NUMBER OF BREAKERS SHOWN IN THE LOAD SCHEDULE ON THE PLANS.

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

CONTROL SYSTEM DETAILS

CONTROL SYSTEM SCHEMATIC

WAKE COUNTY

Drawn By:	Approved By:	Dwg No.:
RGH		

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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
I-5506	E6

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

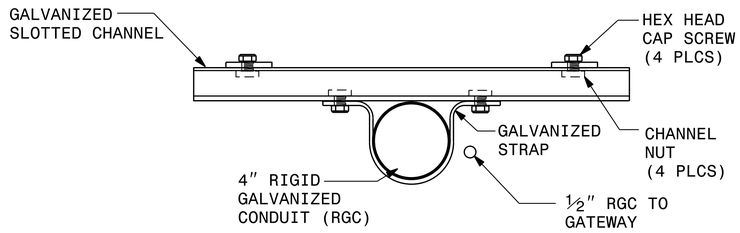
NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUN CHAN

DocuSigned by: Paul Chan 11/17/2017

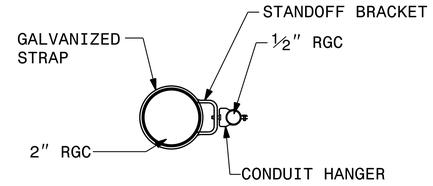
USE FOR LIGHTING CONSTRUCTION ONLY

NOTES

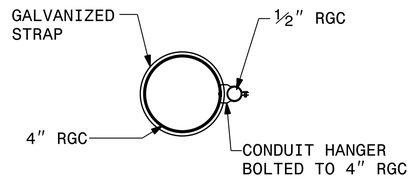
1. CURRENT TRANSFORMER (CT) CABINET AND METER MAY BE MOUNTED ON SERVICE POLE OR BACK OF CONTROL ENCLOSURE.
2. SEE SECTION 1407 OF THE STANDARD SPECIFICATIONS FOR SERVICE POLE AND SERVICE LATERAL.
3. SEE PLANS FOR SIZE OF CONDUITS AND/OR ELECTRICAL DUCT.
4. STUB FEEDER CIRCUIT CONDUITS INTO JUNCTION BOX. CAP UNUSED CONDUITS. FEEDER CIRCUITS MUST BE MINIMUM 30" BELOW GRADE
5. SEE SECTION 1411 OF THE STANDARD SPECIFICATIONS FOR JUNCTION BOX INSTALLATION.
6. ALL ABOVE GROUND CIRCUITRY TO BE INSTALLED IN RIGID GALVANIZED CONDUIT. UNDERGROUND FEEDER CIRCUITS TO BE INSTALLED IN SCH 40 PVC CONDUIT.
7. TOP OF GROUND ROD(S) SHALL BE NO MORE THAN FOUR INCHES BELOW GRADE TO ALLOW FOR EASE OF INSPECTION BY DEPARTMENT OF INSURANCE, OFFICE OF STATE FIRE MARSHAL PERSONNEL.
8. INSTALL A CONDUIT GROUND CHOKE AND BOND THE EQUIPMENT GROUNDING CONDUCTOR TO THE END OF THE ¾" CONDUIT UNDERGROUND PER NEC ARTICLE 250.64E.
9. GROUNDING ELECTRODE CONDUCTOR ¾" CONDUIT SHALL NOT TERMINATE BELOW THE CONCRETE FOUNDATION PAD.
10. GATEWAY AND ANTENNA TO BE PROVIDED BY NCDOT AND INSTALLED BY CONTRACTOR. CONTRACTOR TO PROVIDE AND INSTALL ½" RGC AND APPURTENANCES.
11. STRAP GATEWAY TO 2" RGC USING STEEL BANDS PREINSTALLED ON GATEWAY ENCLOSURE.



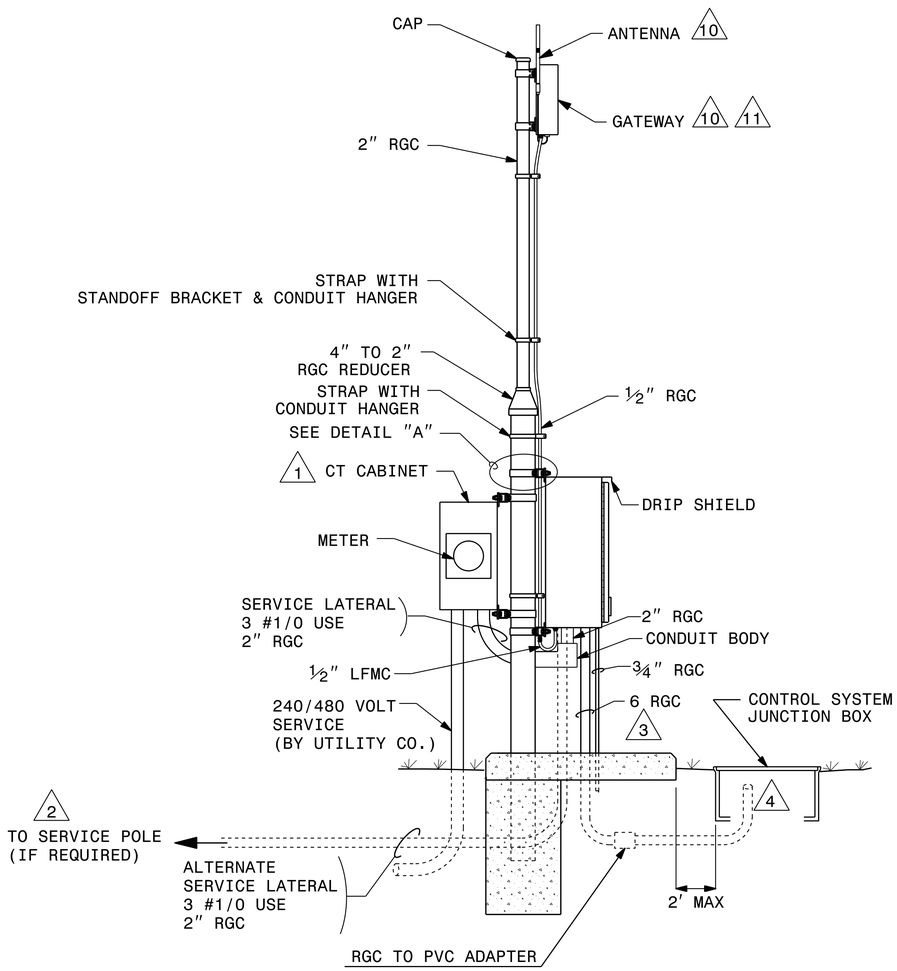
DETAIL"A"
MOUNTING HARDWARE

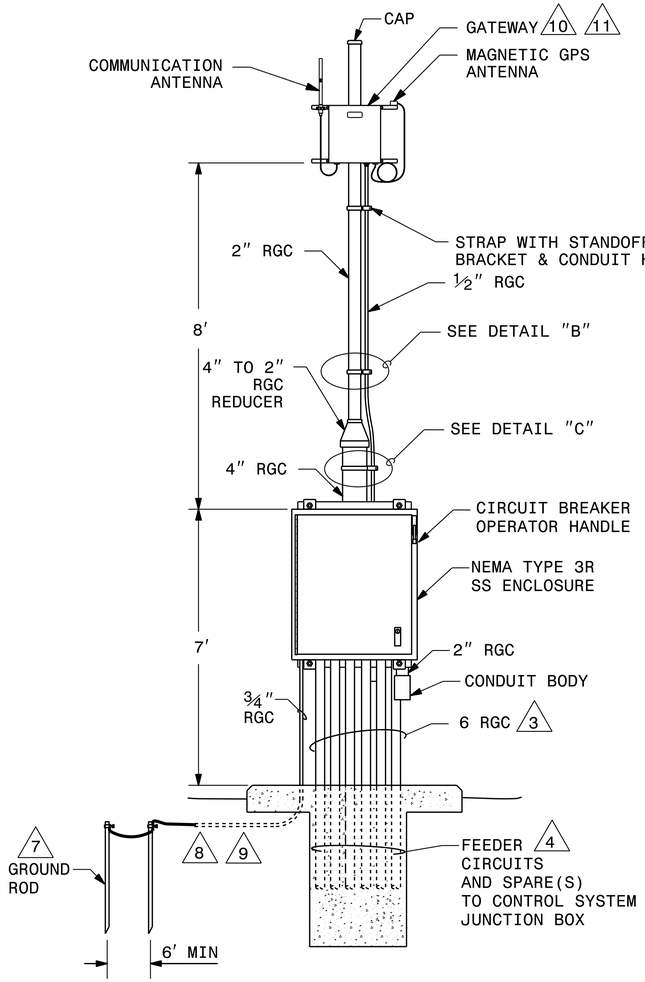


DETAIL"B"
STRAP WITH STANDOFF BRACKET & CONDUIT HANGER



DETAIL"C"
STRAP WITH CONDUIT HANGER





ASSEMBLY

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN — LIGHTING/ELECTRICAL SECTION

CONTROL SYSTEM DETAILS

1408D01, SHEET 2
CONTROL SYSTEM ASSEMBLY

WAKE COUNTY

Drawn By:	Approved By:	Dwg No.:
RGH		

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