

PLANS AND DETAILS FOR PROPOSED LIGHTING / ELECTRICAL CONSTRUCTION

NOTES

- 1 PLACE LIGHT STANDARDS 12' FROM EDGE OF TRAVEL LANE, 10' BEHIND CURB, OR 3' BEHIND SIDEWALK, WHICHEVER IS MAXIMUM.
- 2 INSTALL JUNCTION BOXES MIN. 3' FROM BACK OF CURB OR EDGE OF SIDEWALK.
- 3 USE SCALED DIMENSIONS FOR STANDARDS NOT LOCATED WITH STATION NUMBERS.
- 4 AT THESE LOCATIONS PROVIDE 2" ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY. SEE TABLE C THIS SHEET.
- 5 INSTALL CONTROL SYSTEM BOX IN THE REST AREA BUILDING'S ELECTRICAL ROOM AS PER BUILDING PLANS.
- 6 STUB CIRCUIT OUT IN JUNCTION BOX. CONNECT TO ENTRY SIGN LIGHTS TO BE PROVIDED BY OTHERS.
- 7 STUB CIRCUIT OUT IN JUNCTION BOX. CONNECT TO FLAG LIGHTS TO BE PROVIDED BY OTHERS.

ROADWAY STANDARDS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS", ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD DRAW	DESCRIPTION
1405.01	STANDARD FOUNDATION
1409.01	ELECTRICAL DUCT
1410.01	FEEDER CIRCUIT
1411.01	ELECTRICAL JUNCTION BOXES

PERFORM ALL WORK IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES DATED JANUARY 2012, AND PROJECT SPECIAL PROVISIONS TITLED "REST AREA LIGHTING."

SCOPE OF WORK

PROVIDE REST AREA LIGHTING BY INSTALLING POST TOP STANDARDS WITH MAX. 70 WATT LED LUMINAIRES, ROADWAY DAVIT STYLE LIGHT STANDARDS WITH MAX. 150 WATT LED LUMINAIRES WITH FOUNDATIONS, UNDERGROUND CIRCUITRY IN CONDUIT, JUNCTION BOXES AND CONTROL SYSTEMS.

DESIGN CRITERIA

- 2005 AASHTO "ROADWAY LIGHTING DESIGN GUIDE"
- 2011 NATIONAL ELECTRICAL CODE
- 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.
- 2011 AASHTO ROADSIDE DESIGN GUIDE

LEGEND

- PROPOSED LIGHT STANDARD
TYPE DAVIT 35' MH 6' ARM
90 MPH WIND SPEED
WITH TYPE RDW 150W MAX LED LUMINAIRE
IES DISTRIBUTION: MEDIUM, CUTOFF,
TYPE III
- JB1 PROPOSED ELECTRICAL JUNCTION BOX (JB)
--TYPE PC18--
MIN SIZE: 18"L X 11"W X 18"H
--TYPE PG36--
MIN SIZE: 30"L X 17"W X 18"H
--TYPE PG36--
MIN SIZE: 36"L X 24"W X 18"H
SEE TABLE B, THIS SHEET.
- PROPOSED FEEDER CIRCUIT
CONTROL SYSTEM (A), CIRCUIT (1),
PLAN SYMBOL (2).
SEE TABLE A, THIS SHEET.
- REFERENCE TO CORRESPONDING Δ NOTE
AS NUMBERED
- PROPOSED POST TOP STANDARD 15' MH,
100 MPH WIND SPEED WITH TYPE PT 70W
(MAX.) LED LUMINAIRE IES DISTRIBUTION:
CUTOFF TYPE V.
- PROPOSED ELECTRICAL DUCT
SIZE 3"
TYPE JACKED (JA) OR BURIED (BD).
SEE TABLE C, THIS SHEET.

NUMBER	LOCATION	SHEET
SA1	STA. 24+00 -L- LT	E2
SA2	STA. 20+20 -Y- RT	E2
SA3	STA. 19+20 -Y- RT	E2
SA4	STA. 17+76 -Y- RT	E2
SA5	STA. 16+10 -Y- RT	E2
SA6	STA. 14+24 -Y- RT	E2
SA7	STA. 12+78 -Y- RT	E2
SA8	STA. 11+74 -Y- RT	E2
SA9	STA. 10+72 -Y- RT	E2
SA10	STA. 33+00 -L- LT	E2
SA11	STA. 18+64 -Y- LT	E2
SA12	STA. 16+90 -Y- LT	E2
SA13	STA. 15+72 -Y1- RT	E2
SA14	STA. 13+68 -Y- LT	E2
SA15	STA. 15+72 -Y1- RT	E2
SA16	STA. 14+20 -Y1- RT	E2
SA17	STA. 12+66 -Y1- RT	E2
SA18	STA. 14+74 -Y1- LT	E2
SA19	STA. 13+38 -Y1- LT	E2

PLAN SYMBOL	DESCRIPTION		CONTRACT ITEM
8	2#8 \emptyset 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 \emptyset 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR	2 - 8 W/G FEEDER CIRCUIT

LOCATION	RACEWAY Δ	SHEET	TYPE		
			BURIED (BD) FEET		
			SIZE 2"	SIZE 3"	SIZE 4"
STA. 12+22 -Y-		E2	50		
STA. 12+22 -Y-	JB4-JB5	E2			30
STA. 19+38 -Y-		E2		25	
STA. 16+40 -Y1-		E2		35	
TOTALS			50	60	30

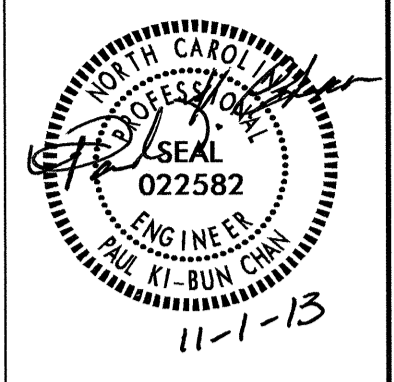
NUMBER	LOCATION	TYPE		SHEET
JB1	NEAR BUILDING CLOSE TO CS-A		PC36	E2
JB2	STA. 19+38 -Y- LT		PC30	E2
JB3	STA. 19+38 -Y- RT		PC18	E2
JB4	STA. 20+15 -Y1- LT		PC18	E2
JB5	STA. 12+40 -Y- LT		PC18	E2
JB6	STA. 12+20 -Y- RT		PC18	E2
JB7	STA. 18+70 -Y- LT		PC18	E2
JB8	STA. 14+30 -Y1- RT		PC18	E2
JB9	STA. 12+46 -Y1- RT		PC18	E2
TOTALS		7	1	1

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

COMPUTED BY: AB DATE: 11/01/2013
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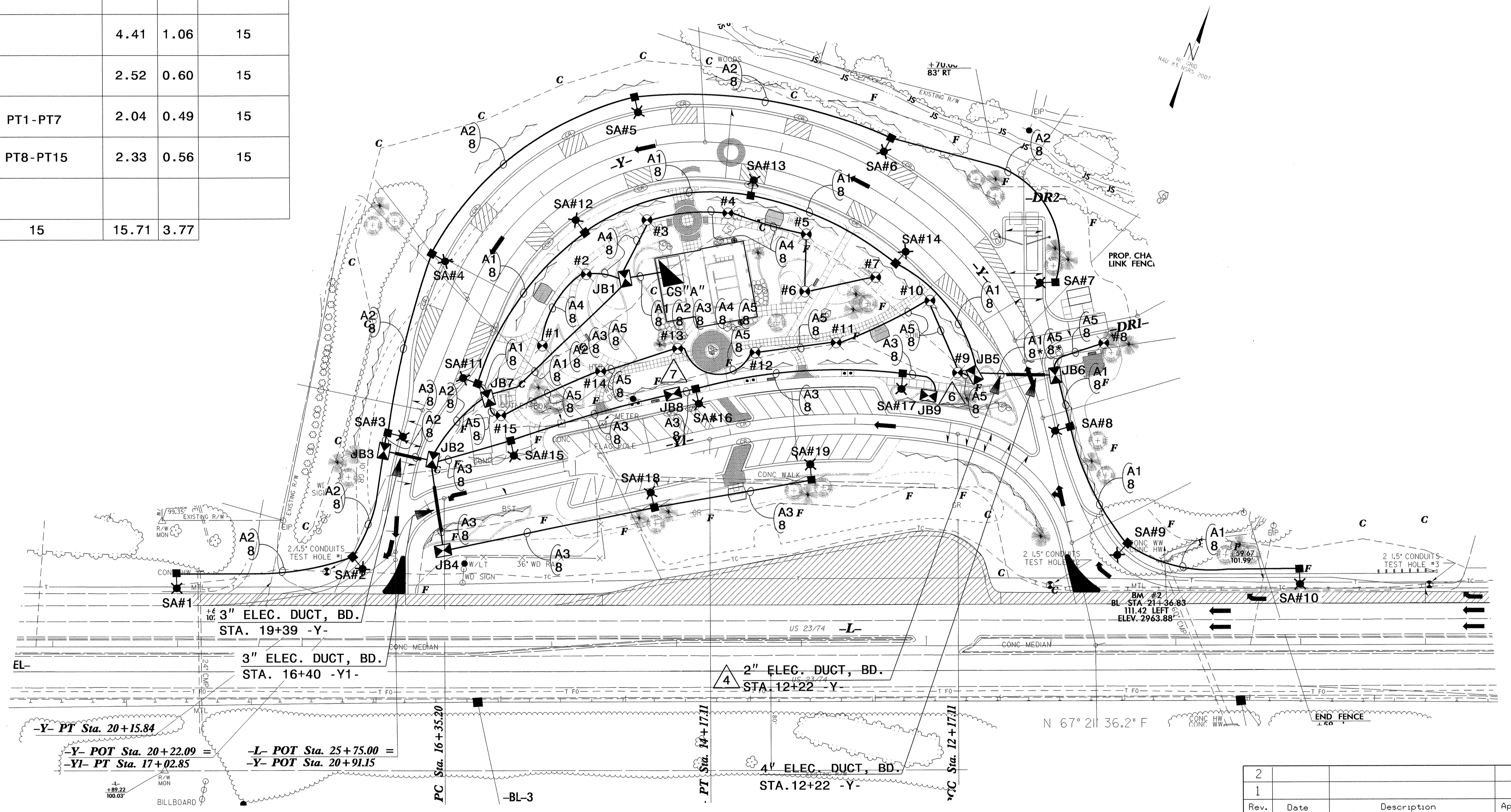
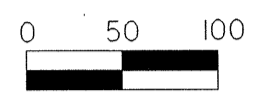
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USE FOR LIGHTING CONSTRUCTION ONLY

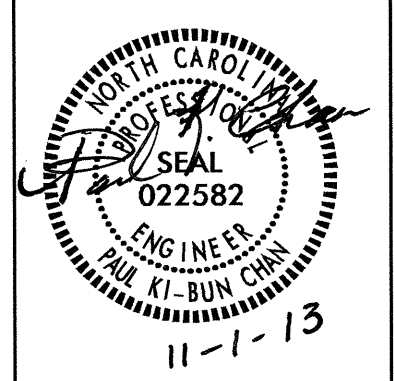
LOAD SCHEDULE REST AREA BUILDING					
10, 3W, 120/240 VAC			CONTROL SYSTEM "A"		
CIRCUIT ID	SINGLE ARM 1 @ 150W MAX LED	POST TOP 1 @ 70W MAX LED	AMPS @ 240V	KW LOAD	BREAKER SIZE (AMPS)
A1	SA8-SA14		4.41	1.06	15
A2	SA1-SA7		4.41	1.06	15
A3	SA15-SA19		2.52	0.60	15
A4		PT1-PT7	2.04	0.49	15
A5		PT8-PT15	2.33	0.56	15
SPARE					
TOTAL	19	15	15.71	3.77	



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Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION LIGHTING LAYOUT US 23/74 SOUTHBOUND REST AREA HAYWOOD COUNTY			
Drawn By:	AB	Approved By:	PKC
		Dwg No.:	

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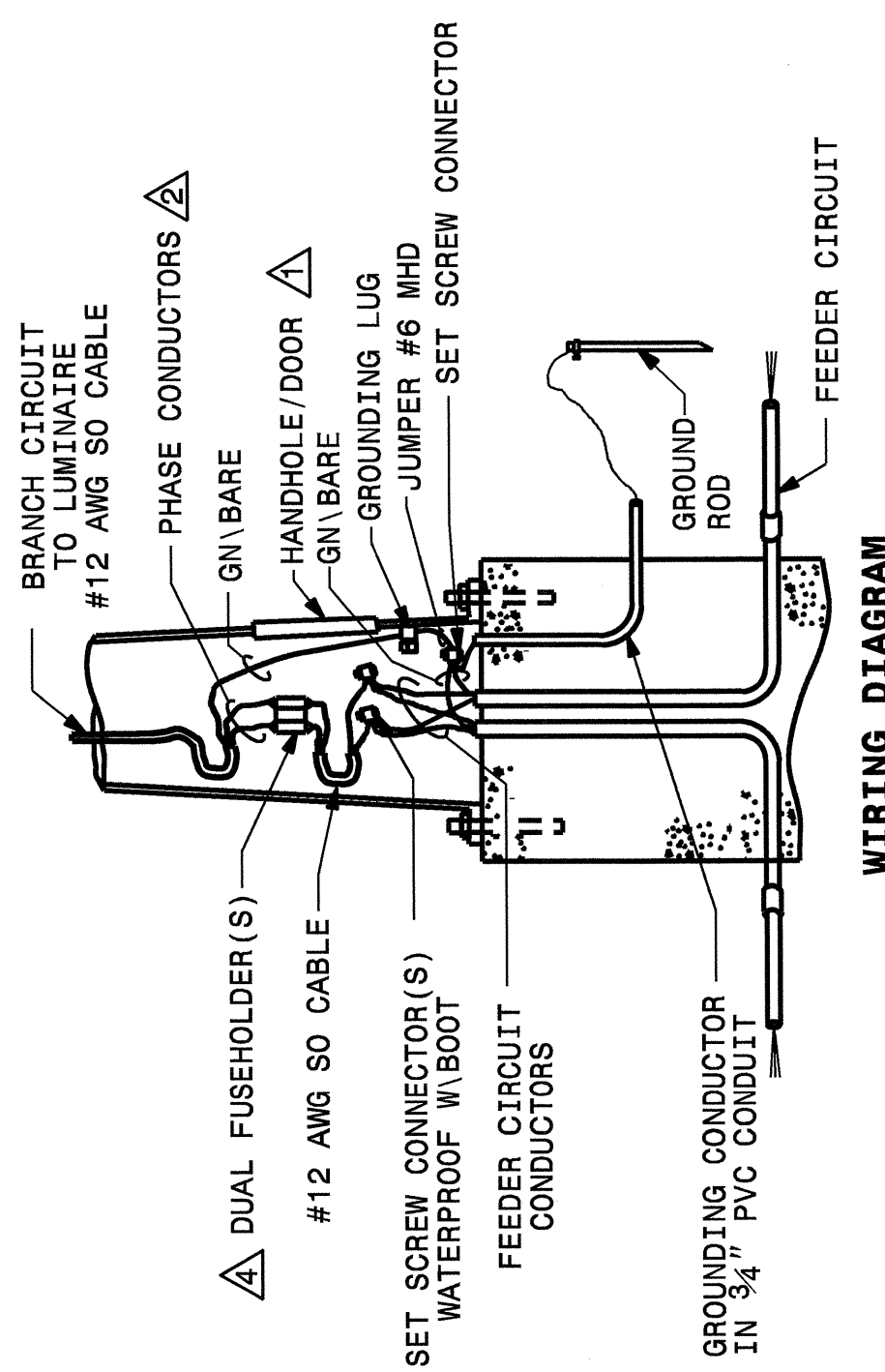
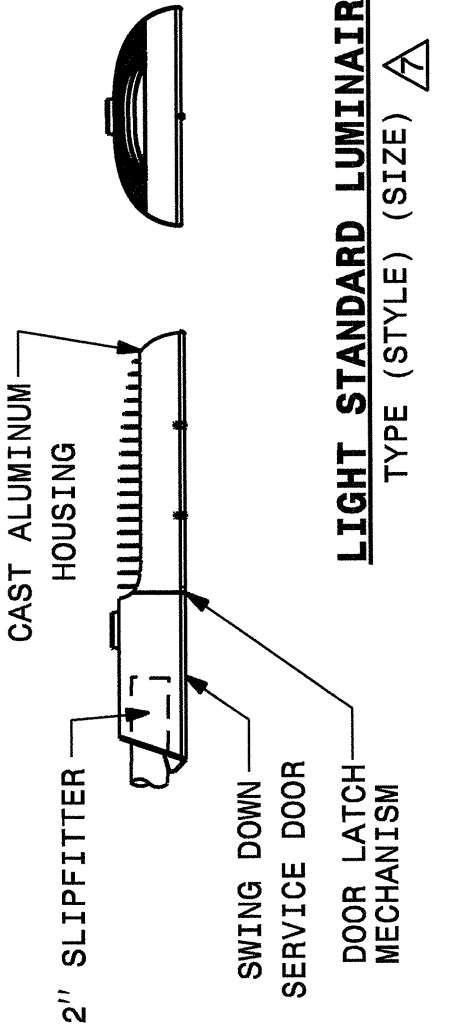
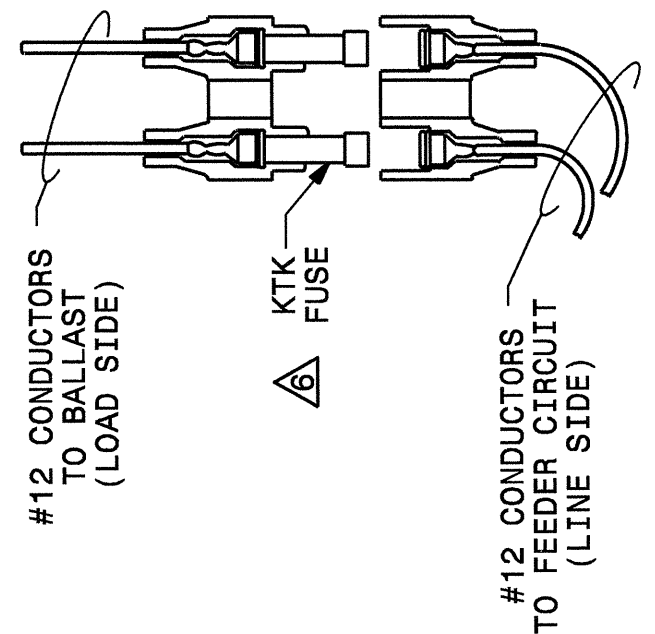
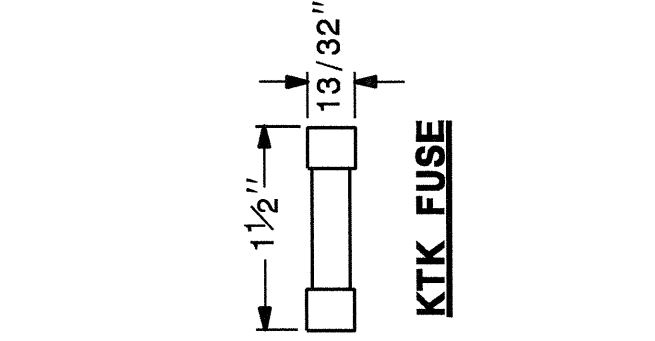
ENGLISH STANDARD DRAWING FOR LIGHT STANDARD LUMINAIRES

SHEET 1 OF 1 1406D01

LUMINAIRE CHARACTERISTICS

SPEC TYPE	COLOR TEMP	MAX. DRIVE CURRENT (mA)	L70 RATING (HRS.)	INITIAL LUMENS	WARRANTY
150W (MAX) LED FIXTURE	4000K-5000K	600	70,000	9,900	5 YEAR

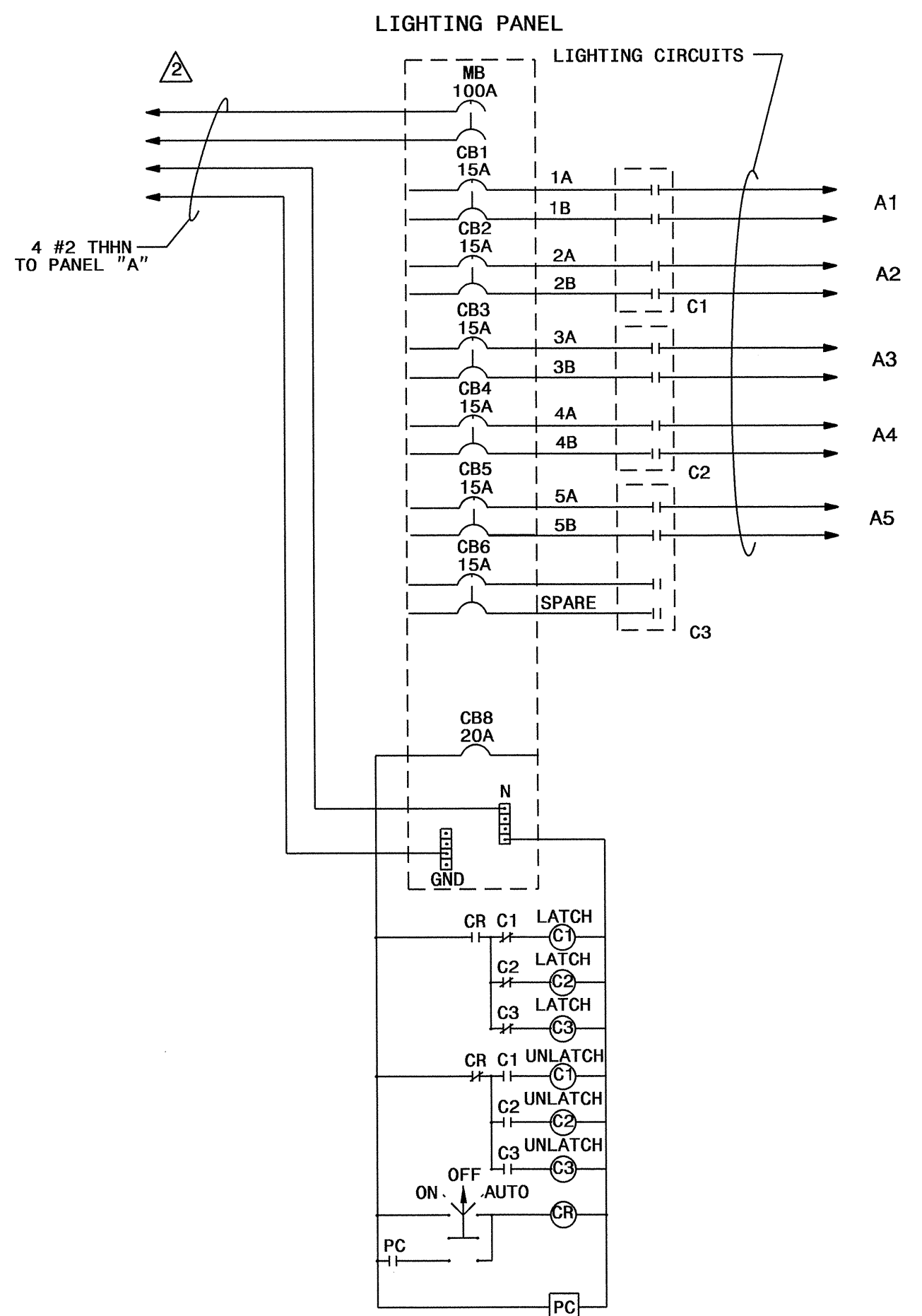
- NOTES**
- 1. PROVIDE ACCESS TO FUSEHOLDERS FROM HANDHOLE OR TRANSFORMER BASE.
 - 2. SEE STANDARD SPECIFICATIONS SECTION 1400-4F FOR WIRING METHODS. USE TAPE OR HEAT SHRINK TO COLOR CONDUCTORS TO MATCH PHASE COLOR (RED/BLACK/BLUE).
 - 3. MAKE SPLICES IN ACCORDANCE WITH SECTION 1400-4(F) OF THE STANDARD SPECIFICATIONS.
 - 4. BREAKAWAY FUSEHOLDERS REQUIRED AT ALL BREAKAWAY LIGHT STANDARDS.
 - 5. SEE LIGHTING LAYOUT PLANS FOR NUMBER AND SIZE OF FEEDER CIRCUITS REQUIRED AT EACH LIGHT STANDARD.
 - 6. SEE STANDARD SPECIFICATIONS SECTION 1400-2E FOR FUSEHOLDERS.
 - 7. INSERT STYLE AND SIZE FROM PAY ITEM DESCRIPTION TO DETERMINE PROPOSED LUMINAIRES.



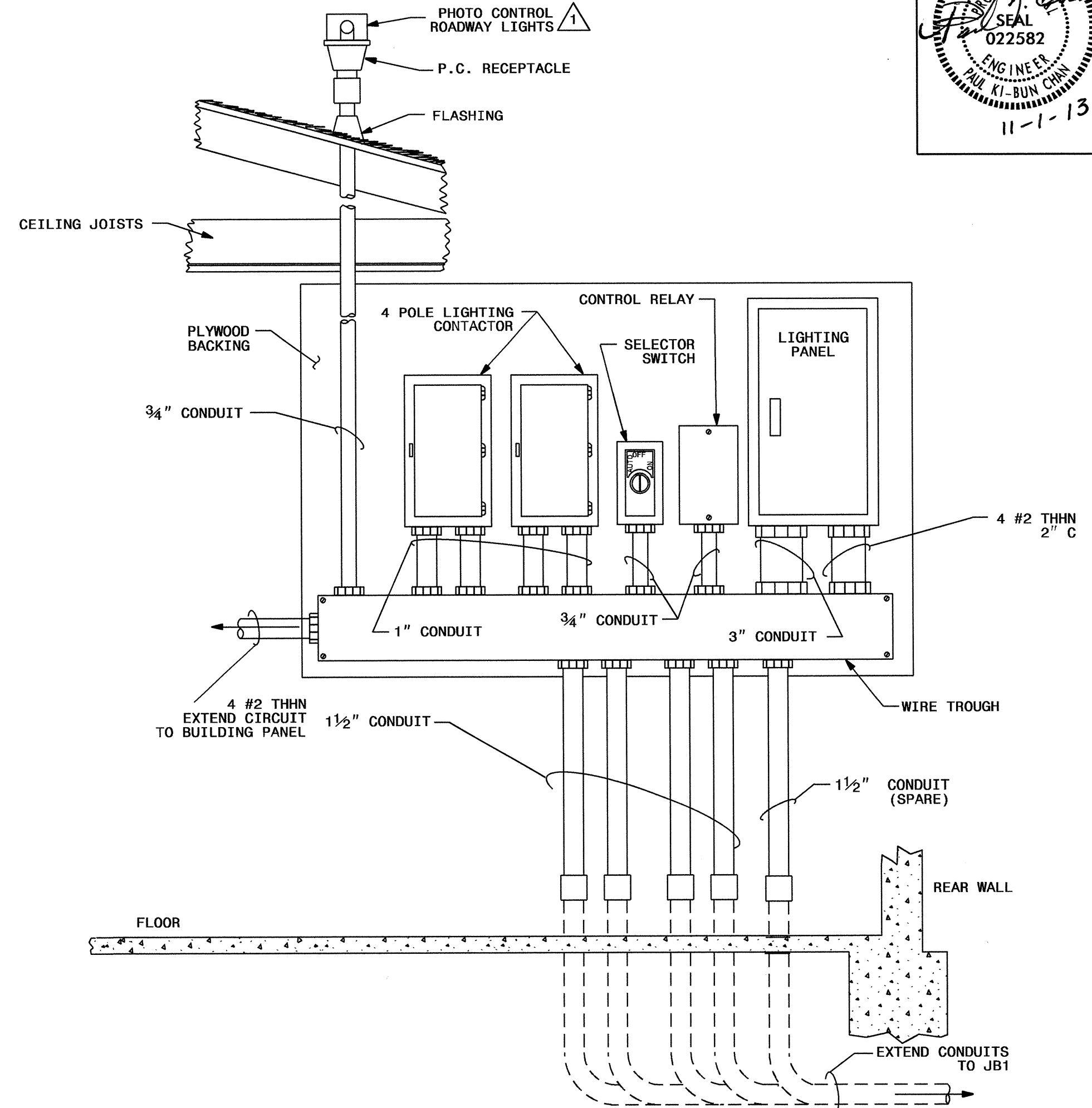
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR LIGHT STANDARD LUMINAIRES

SHEET 1 OF 1 1406D01



LIGHTING CONTROL SCHEMATIC
EQUIPMENT GROUNDING CONDUCTORS NOT SHOWN



LIGHT CONTROL EQUIPMENT TYPE RA 120/240V 100A
TYPICAL EQUIPMENT LAYOUT

REST AREA SCHEMATIC AND EQUIPMENT LAYOUT

- NOTES**
- 1. LOCATE PHOTO CELL IN AN UNSHADED AREA ON THE ROOF.
 - 2. INSTALL ONE 100 AMP, 2 POLE BREAKER FOR LIGHTING PANEL SERVICE ADDED TO PANEL "A" UNDER OTHER CONTRACT PAY ITEM.
 - 3. EXTEND CIRCUIT TO PANEL "A". CONNECTION TO PANEL "A" BY OTHERS.

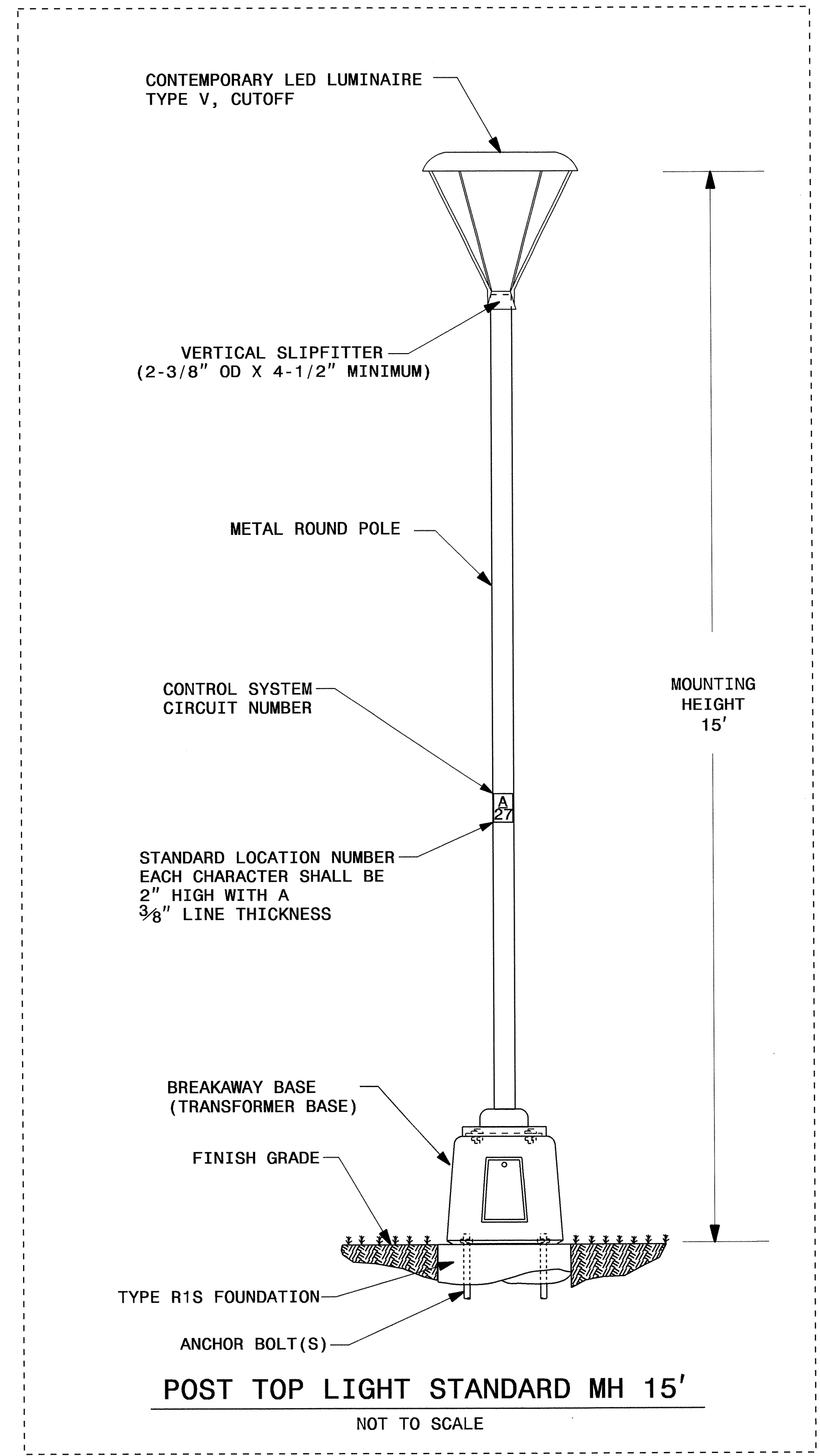
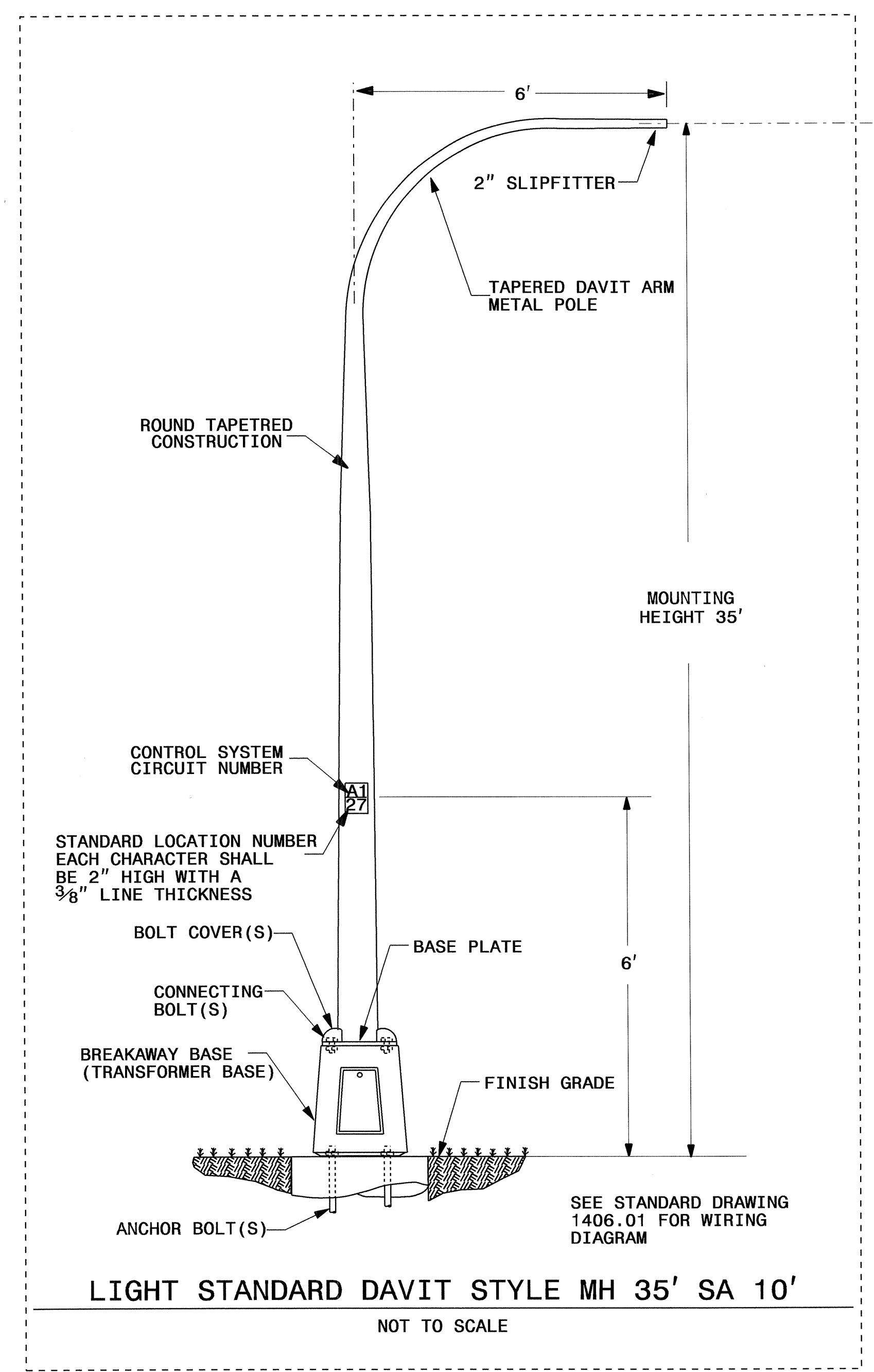
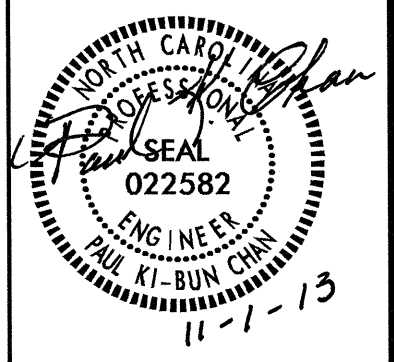
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DESIGN SERVICES LIGHTING/ELECTRICAL SECTION
ROADWAY LUMINAIRES AND CONTROL SYSTEM DETAILS
 US 23/74 SOUTHBOUND REST AREA
 HAYWOOD COUNTY

Drawn By: AB Checked by: PKC Approved By:

02/03/98

USE FOR LIGHTING CONSTRUCTION ONLY



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Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
LIGHT STANDARDS DETAILS US 23/74 SOUTHBOUND REST AREA HAYWOOD COUNTY			
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