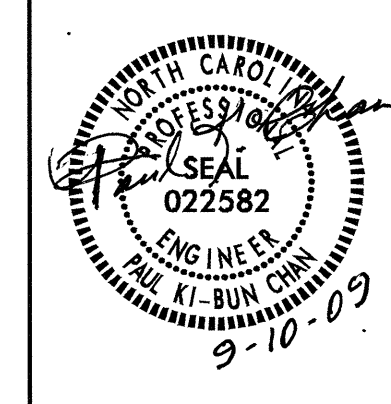


PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION



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. INSTALL 2" ELECTRICAL DUCT UNDER BRIDGE SLOPE PROTECTION.
- 6. INSTALL JB13 AND INTERCEPT EXISTING CONDUITS AND CIRCUITRY. SEE SPECIAL PROVISIONS.
- 7. TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.
- 8. TYPE PC30 JUNCTION BOXES ARE 30" L X 17" W X 18" H.
- 9. TYPE PC36 JUNCTION BOXES ARE 36" L X 24" W X 18" H.
- 10. USE SCALED DIMENSIONS FOR HIGH MAST LOCATIONS, CONTROL SYSTEM LOCATIONS, AND DUCT LOCATIONS NOT LOCATED WITH STATION NUMBERS.
- 11. CONTACT DIVISION TRAFFIC ENGINEER FOR FIBER OPTIC CABLE LOCATION IN THIS AREA.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 80' AND 120' HIGH MOUNT STANDARDS, AND UNDERPASS LIGHTING WITH HIGH PRESSURE SODIUM LUMINAIRES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES AT THE I-40/PAGE ROAD INTERCHANGE.

RELOCATE CONTROL SYSTEM AT RAMP2B OF THE I-40/I-540 INTERCHANGE..

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 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.

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
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
1412.01	UNDERPASS LIGHTING

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

LEGEND

- 8. PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 400W HPS, MEDIUM, CUTOFF, TYPE V
- 8. PROPOSED 120' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULES.
- JB1 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
- EXISTING CIRCUIT

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

NO.	LOCATION	TYPE	SHEET
JB1	AT HM1	PC18	E2
JB2	BETWEEN HM1 & HM2	PC18	E2
JB3	AT HM2	PC18	E2
JB4	AT LOOP LP1B	PC18	E2
JB5	AT LOOP LP1B	PC18	E2
JB6	AT HM3	PC30	E2
JB7	AT HM4	PC30	E2
JB8	AT BRIDGE WINGWALL WBL	PC30	E2
JB9	AT BRIDGE WINGWALL EBL	PC18	E2
JB10	AT ON RAMP LOOP EBL	PC18	E2
JB11	AT ON RAMP LOOP EBL	PC18	E2
JB12	AT HM6	PC18	E2
JB13	AT I-40/I-540 INTERCHANGE	PC36	E3
TOTALS		9	3

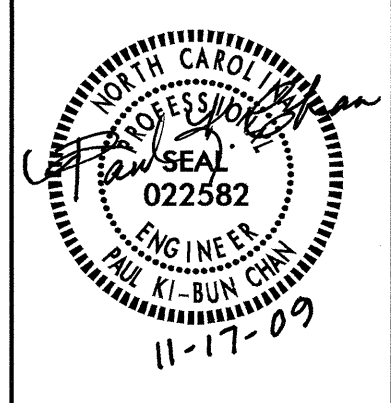
LOCATION	RACEWAY	SHEET	TYPE						
			BURIED (BD)		JACKED (JA)				
			2"	3"	4"	2"	3"	4"	6"
AT LOOP LP1B	JB4 - JB5	E2	50'						
AT LOOP LP1B		E2						40'	
I-40 BRIDGE OVER PAGE ROAD	JB8 - JB9	E2				200'			
AT ON RAMP LOOP EBL		E2						40'	
AT I-40/I-540 INTERCHANGE	CS"A" - JB13	E3		150'					
AT I-40/I-540 INTERCHANGE		E3							50'
TOTALS			50'	150'		200'	40'	40'	50'

ABBREVIATIONS

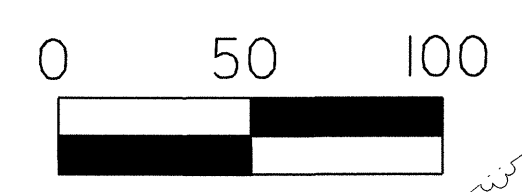
BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
		HM	HIGH MAST

COMPUTED BY: PKC DATE: 9-10-09
 CHECKED BY: *J. A. Smith* DATE: 9-10-09

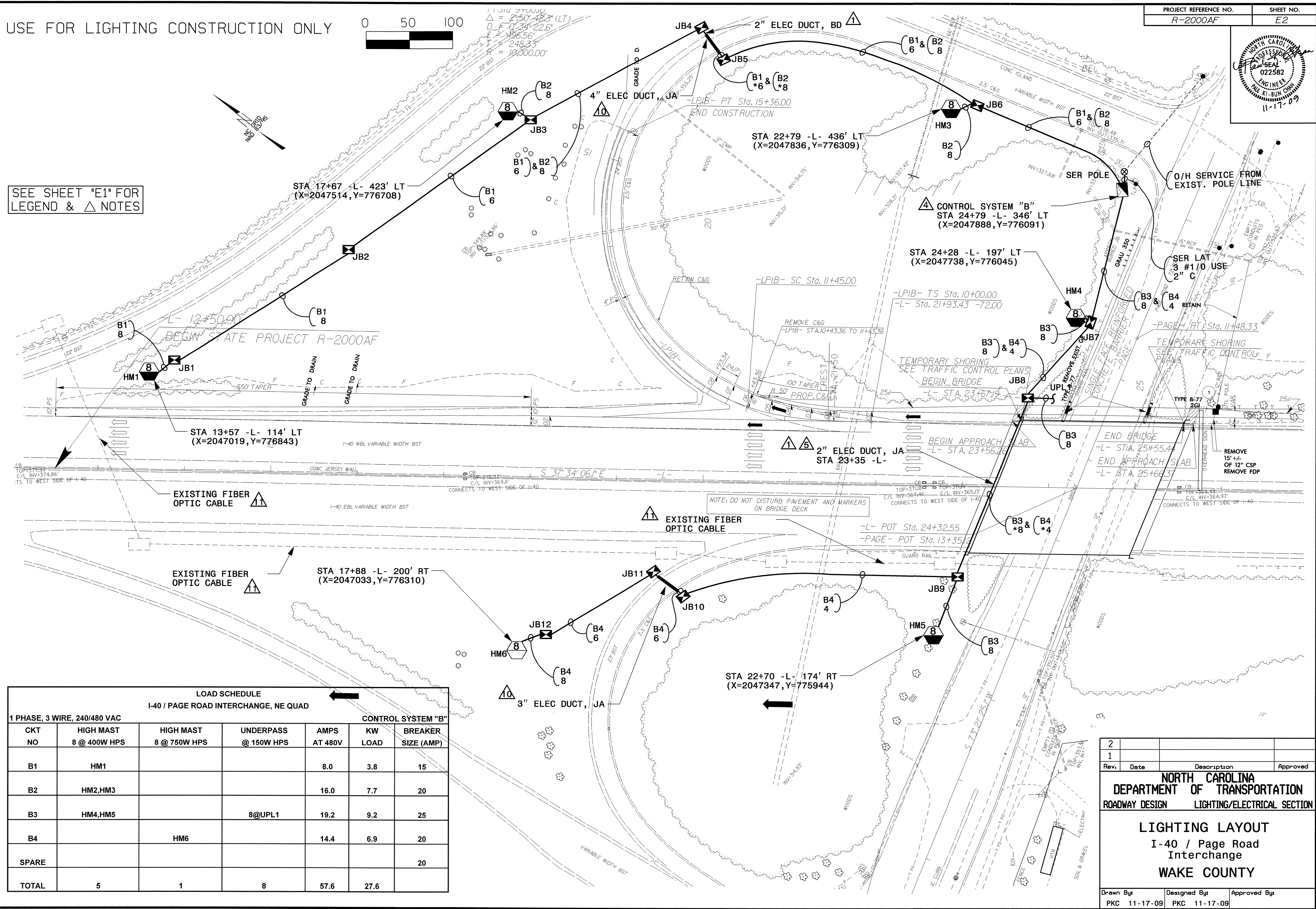
10-SEP-2009 08:19
 r:\lighting\electrical\lighting design\2000af_1e_psh_e1.dgn
 \$\$\$SERVERNAME\$\$\$



USE FOR LIGHTING CONSTRUCTION ONLY



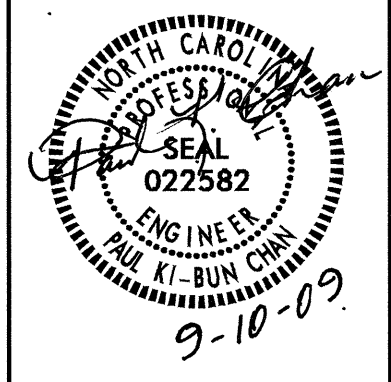
SEE SHEET "E1" FOR LEGEND & △ NOTES



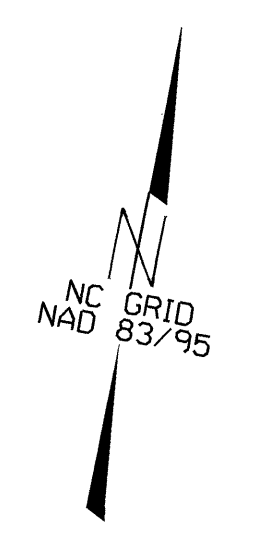
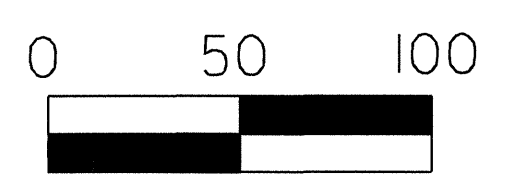
LOAD SCHEDULE						
I-40 / PAGE ROAD INTERCHANGE, NE QUAD						
1 PHASE, 3 WIRE, 240/480 VAC			CONTROL SYSTEM "B"			
CKT NO	HIGH MAST 8 @ 400W HPS	HIGH MAST 8 @ 750W HPS	UNDERPASS @ 150W HPS	AMPS AT 480V	KW LOAD	BREAKER SIZE (AMP)
B1	HM1			8.0	3.8	15
B2	HM2, HM3			16.0	7.7	20
B3	HM4, HM5		8@UPL1	19.2	9.2	25
B4		HM6		14.4	6.9	20
SPARE						20
TOTAL	5	1	8	57.6	27.6	

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION			
LIGHTING LAYOUT I-40 / Page Road Interchange WAKE COUNTY			
Drawn By	Designed By	Approved By	
PKC 11-17-09	PKC 11-17-09		

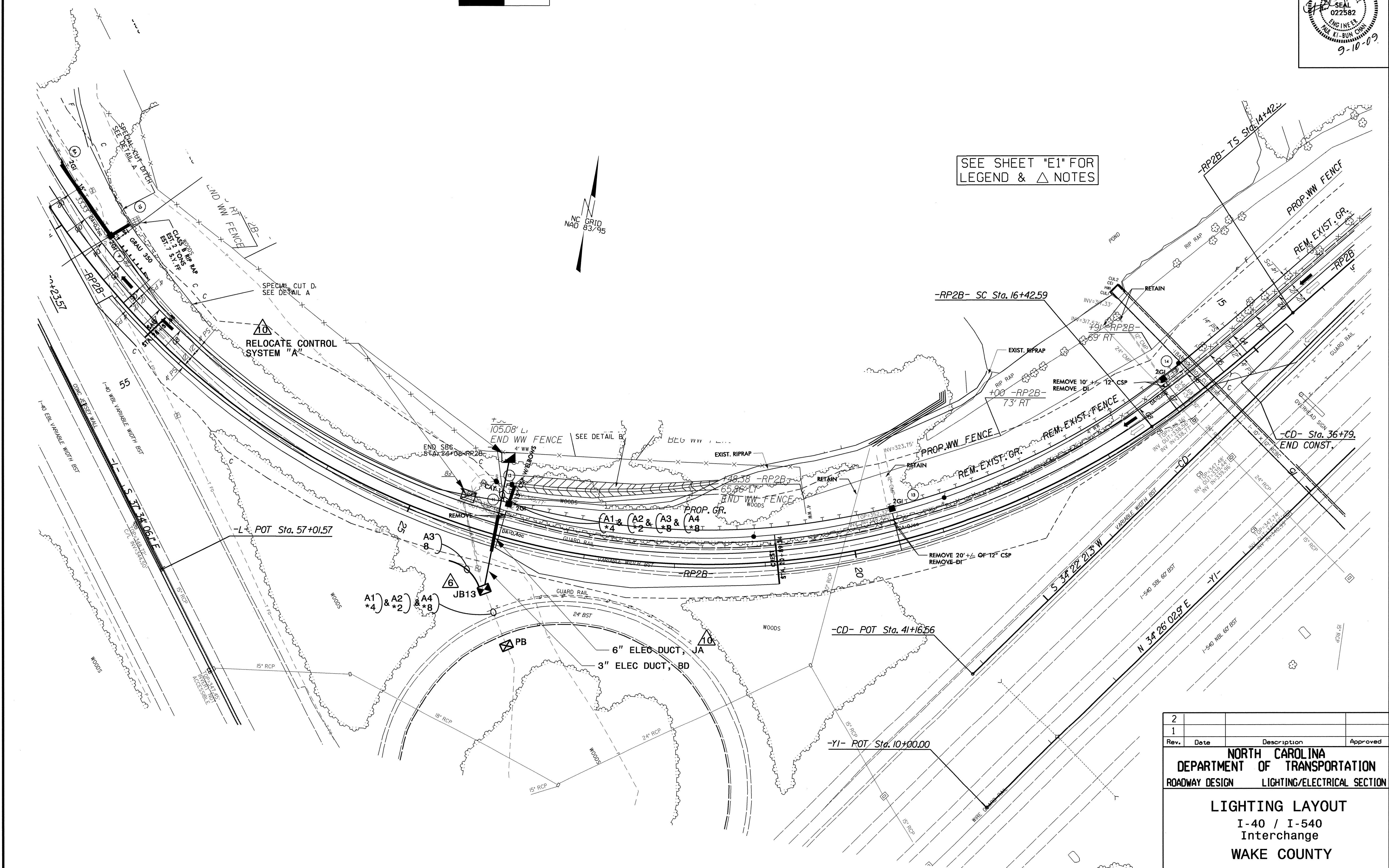
17-NOV-2009 10:31
 r:\lighting\electrical\lighting design\r-2000af_1e_psh_e2.dgn
 \$\$\$USERNAME\$\$\$



USE FOR LIGHTING CONSTRUCTION ONLY

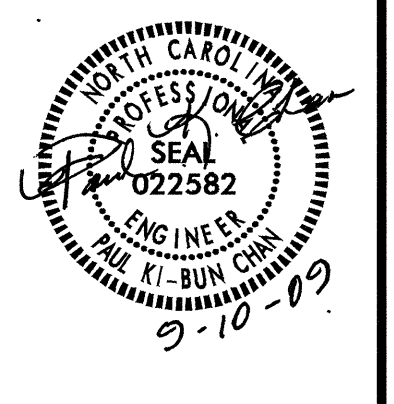


SEE SHEET "E1" FOR
LEGEND & △ NOTES



2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION			
LIGHTING LAYOUT I-40 / I-540 Interchange WAKE COUNTY			
Drawn By PKC 9-10-09	Designed By PKC 9-10-09	Approved By <i>[Signature]</i>	

10-SEP-2009 09:44
 I:\Projects\Lighting\Lighting design\2000af_e1_e3.dgn
 \$\$\$USERNAME\$\$\$



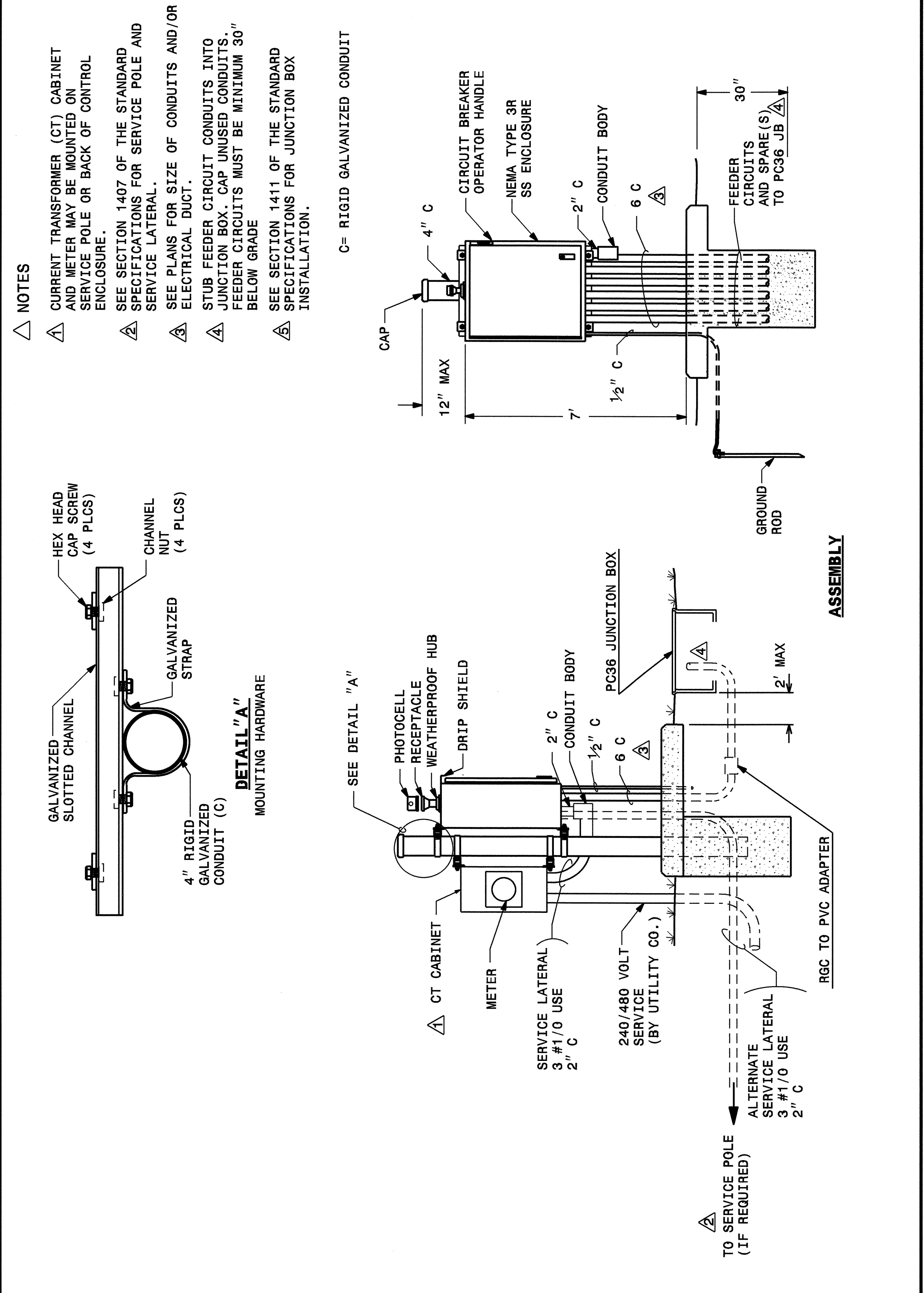
USE FOR LIGHTING CONSTRUCTION ONLY

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

7-06

ENGLISH STANDARD DRAWING FOR
LIGHT CONTROL SYSTEM
 ASSEMBLY

SHEET 2 OF 3
1408D01



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

7-06

ENGLISH STANDARD DRAWING FOR
LIGHT CONTROL SYSTEM
 ASSEMBLY

SHEET 2 OF 3
1408D01

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION			
LIGHT CONTROL SYSTEM SPECIAL DETAILS			
Drawn By	Designed By	Approved By	
PKC 9-10-09	PKC 9-10-09		