

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 ALL CIRCUITRY SHALL BE RUN BEHIND GUARDRAIL.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, UNDERPASS LIGHTING, 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 OF 90MPH.
 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
 2011 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 JANUARY 2012 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
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 JANUARY 2012.

LEGEND

- PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED UNDERPASS LUMINAIRE, TYPE PM, 100W HPS, LOW BAY WITH SAFETY CHAIN
- PROPOSED UNDERPASS BREAKER PANEL
- 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 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

NUMBER	LOCATION	TYPE	SHEET
JB1	2+52 -SPDY4- 32' LT	PC30	E2
JB2	36+16 -Y4- 102' LT	PC30	E2
JB3	16+84 -RPDY4- 25' LT	PC30	E2
JB4	16+84 -RPDY4- 34' RT	PC30	E2
JB5	18+66 -RPAY4- 34' LT	PC18	E2
JB6	18+66 -RPAY4- 30' RT	PC18	E2
JB7	28+20 -Y4- 65' RT	PC18	E2
TOTALS		3	4

LOCATION	RACEWAY	SHEET	TYPE					
			JACKED (JA) FEET			BURIED (BD) FEET		
			SIZE 2"	SIZE 3"	SIZE 4"	SIZE 2"	SIZE 3"	SIZE 4"
2+52 -SPDY4-		E2						30
2+52 -SPDY4-	JB1 - JB2	E2				80		
16+84 -RPDY4-		E2						40
16+84 -RPDY4-	JB3 - JB4	E2				60		
18+66 -RPAY4-		E2					50	
28+20 -Y4-		E2	120					
35+00 -Y4-		E2						20
35+00 -Y4-	CS"A" - JB1	E2				290		
TOTALS			120			430	50	90

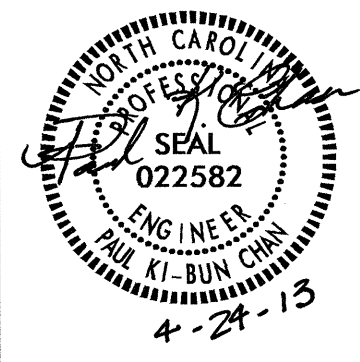
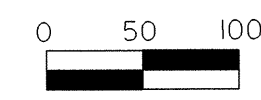
BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	CKT	CIRCUIT
MH	MOUNTING HEIGHT	N	NEUTRAL
Ø	PHASE	G	GROUND
SER LAT	SERVICE LATERAL	HM	HIGH MAST
PM	PENDANT MOUNT	UPL	UNDERPASS LIGHT

COMPUTED BY: AB DATE: 4-24-13
 CHECKED BY: PKC DATE: 4-24-13

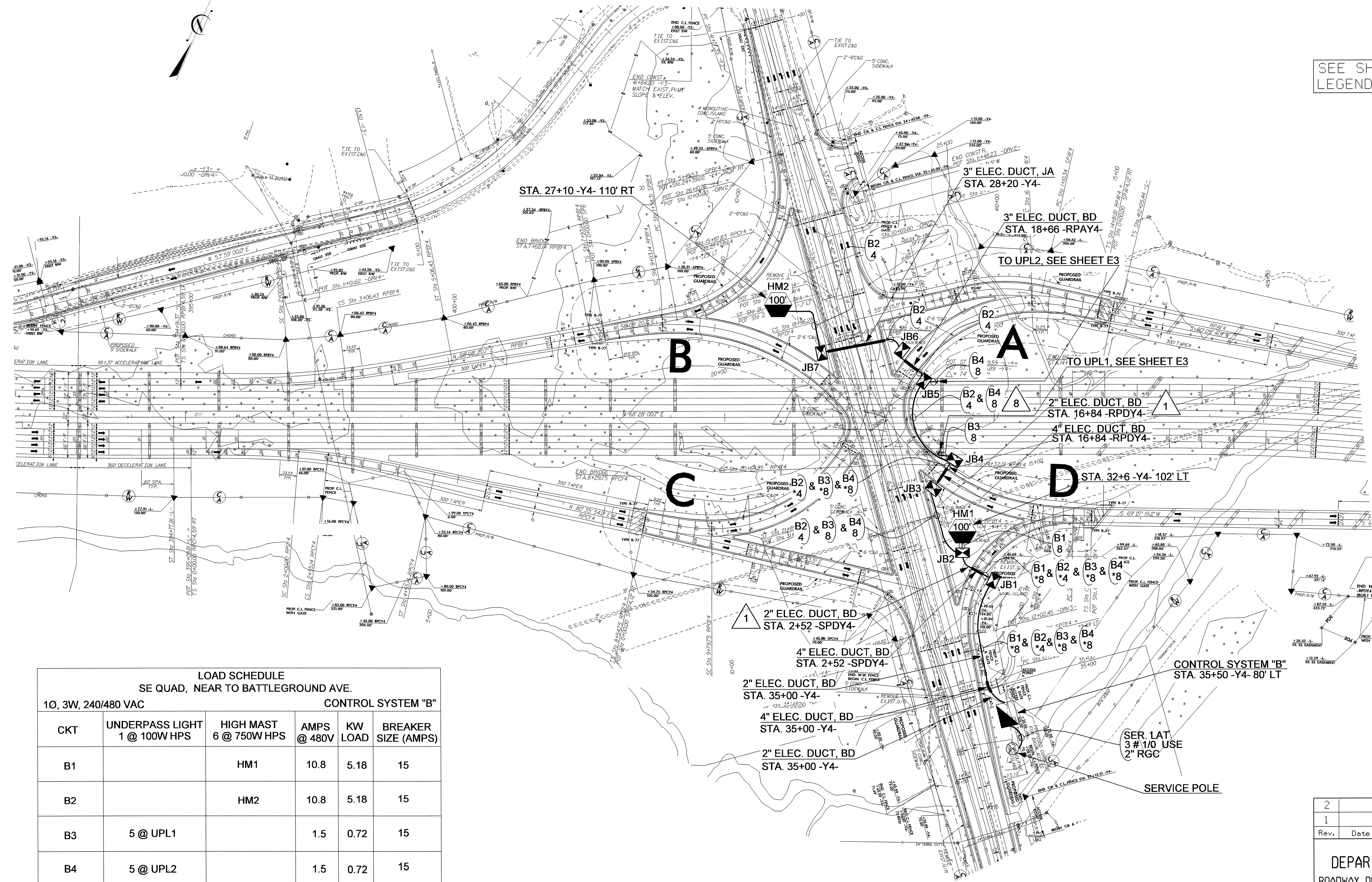
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02/03/98

USE FOR LIGHTING CONSTRUCTION ONLY



SEE SHEET "E1" FOR LEGEND & △ NOTES

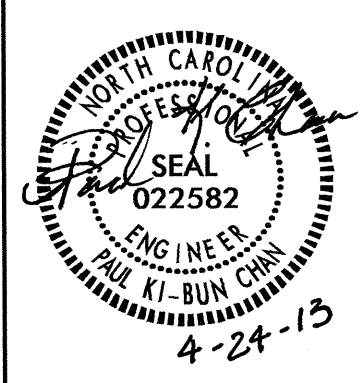


LOAD SCHEDULE
SE QUAD, NEAR TO BATTLEGROUND AVE.
10, 3W, 240/480 VAC CONTROL SYSTEM "B"

CKT	UNDERPASS LIGHT 1 @ 100W HPS	HIGH MAST 6 @ 750W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
B1		HM1	10.8	5.18	15
B2		HM2	10.8	5.18	15
B3	5 @ UPL1		1.5	0.72	15
B4	5 @ UPL2		1.5	0.72	15
SPARE					15
TOTAL	10	2	24.6	11.8	

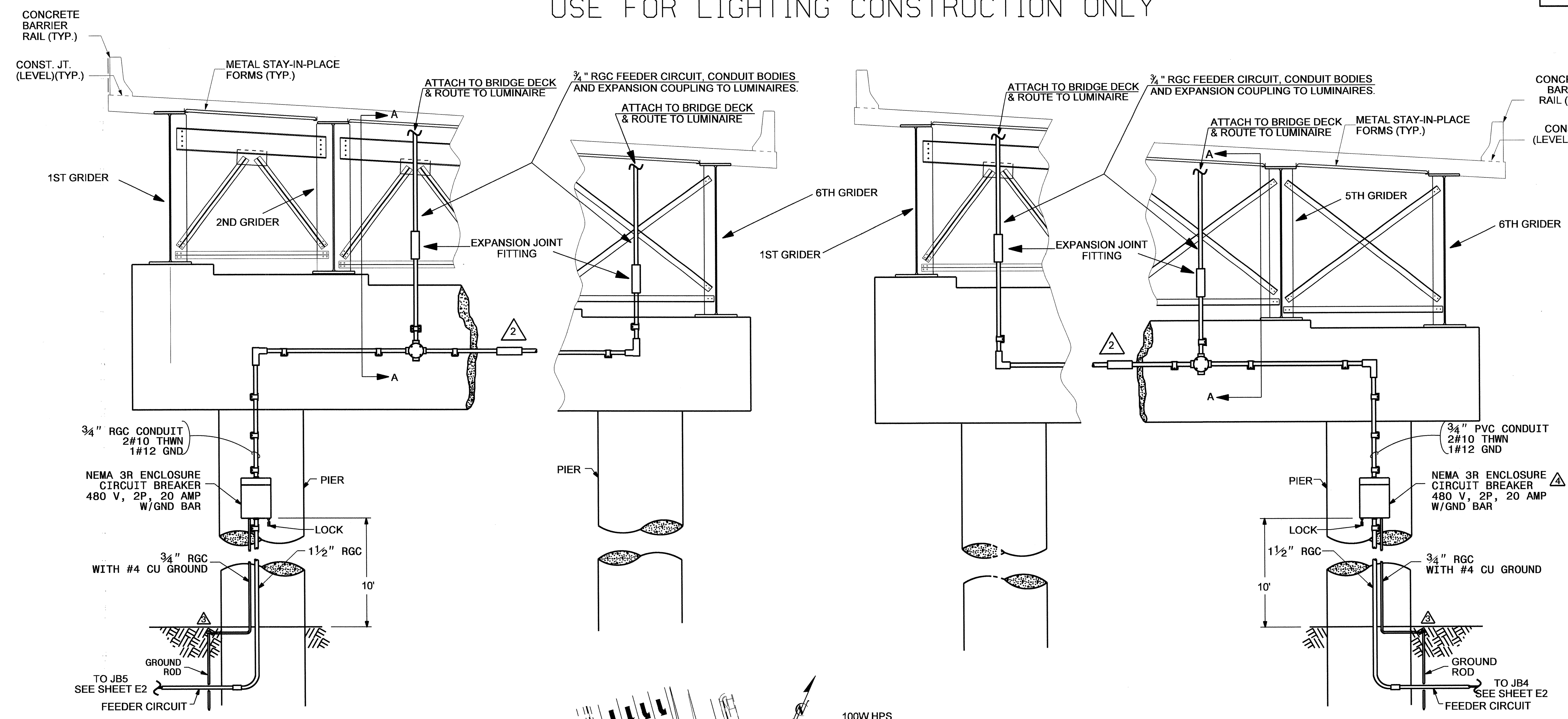
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1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION LIGHTING LAYOUT GREENSBORO-WESTERN LOOP/ US 220 (BATTLEGROUND AVE) INTERCHANGE GUILFORD COUNTY			
Drawn By:	AB	Approved By:	PKC
Dwg No.:			

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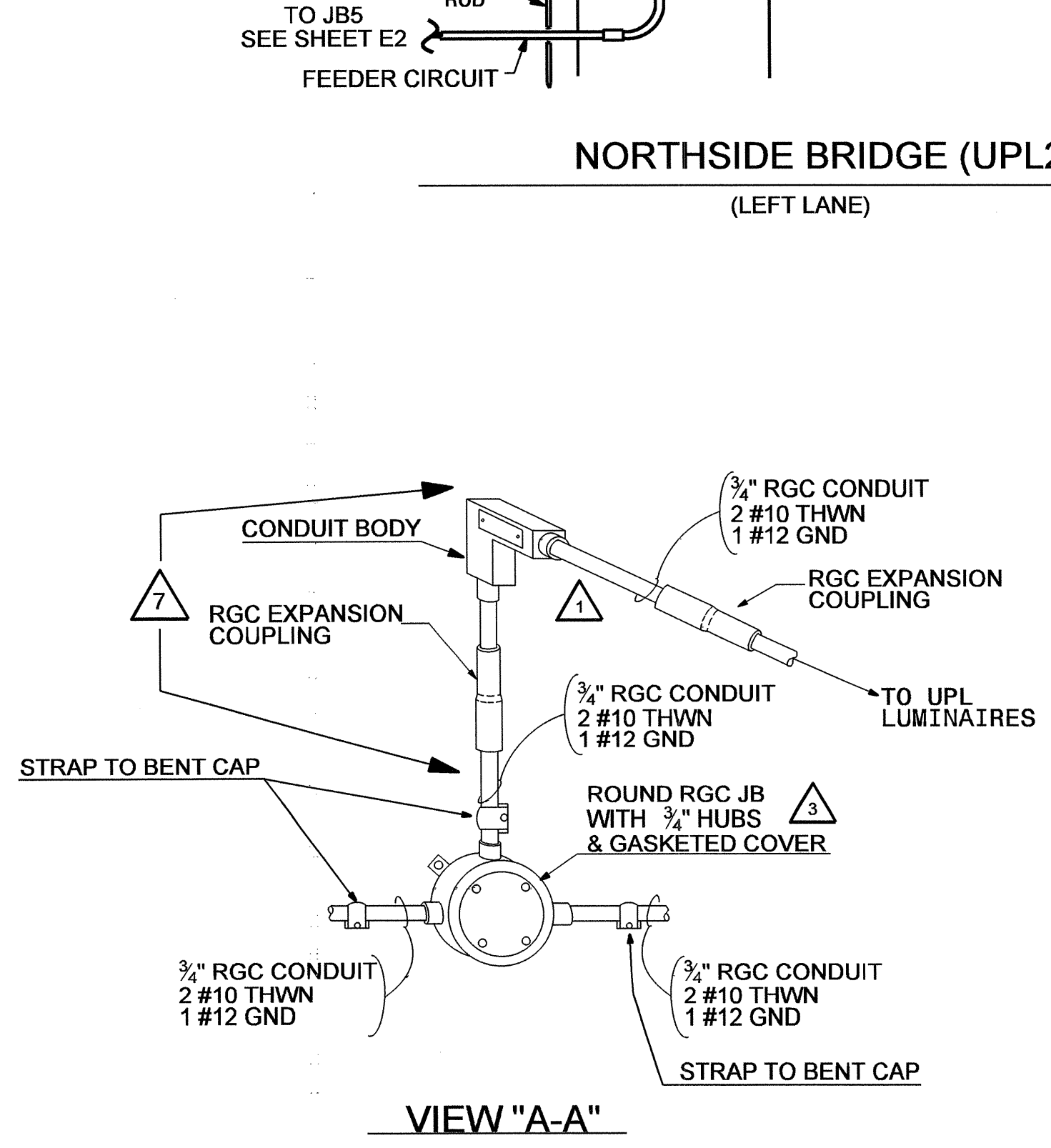
USE FOR LIGHTING CONSTRUCTION ONLY

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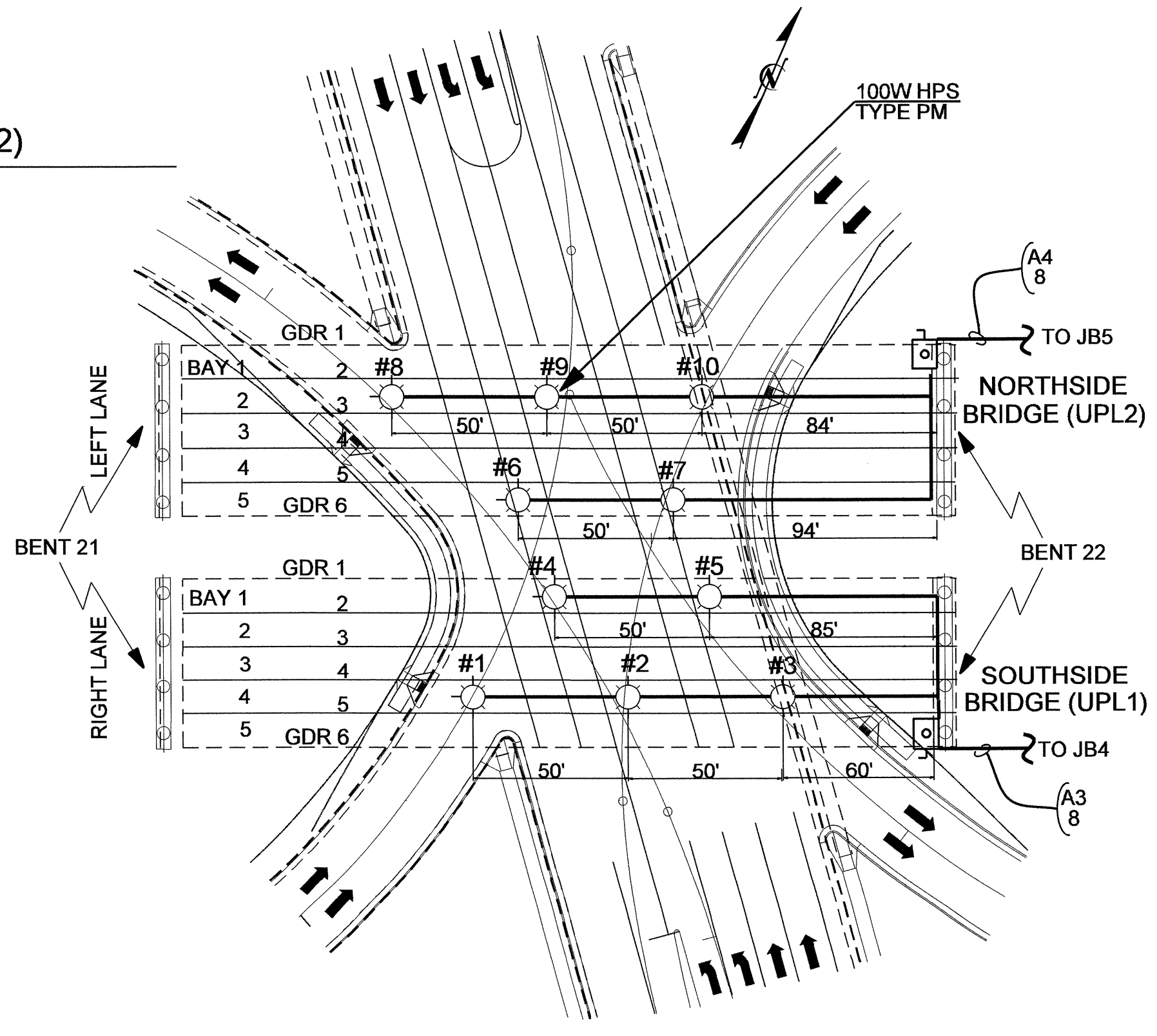


NORTHSIDE BRIDGE (UPL2)
(LEFT LANE)

SOUTHSIDE BRIDGE (UPL1)
(RIGHT LANE)



VIEW "A-A"



UNDERPASS LIGHTING LAYOUT

- NOTES
- 1 SEE STANDARD DRAWING SECTION 1412.01 FOR OTHER INSTALLATION DETAILS. RGC CONDUIT & FITTINGS SHALL BE USED IN LIEU OF PVC CONDUIT & FITTINGS.
 - 2 PROVIDE EXPANSION FITTINGS AT BRIDGE EXPANSION JOINTS, AND IN EACH SECTION OF CONDUIT THAT IS GREATER THAN 20' LONG BETWEEN TERMINALS AT JUNCTION BOXES ON BENT CAP AND UNDER BRIDGE DECK.
 - 3 PLUG ANY UNUSED PORTS IN JUNCTION BOX.
 - 4 INSTALL INSULATED GROUNDING BUSHING FOR INCOMING FEEDER CIRCUIT IN RGC. BOND PER NEC.
 - 5 FIELD BEND OR USE CONDUIT BODIES AS REQUIRED.
 - 6 CENTER LIGHTS BETWEEN GRIDERS
 - 7 CONDUIT SECTION BETWEEN BENT CAP AND BOTTOM OF BRIDGE DECK IS FREE HANGING

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

UNDERPASS LIGHTING DETAILS
GREENSBORO WESTERN UBRAN LOOP/WEST BATTLEGROUND AVE

GUILFORD COUNTY

Drawn By: AB Approved By: PKC Dwg No.:

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