

USE FOR LIGHTING CONSTRUCTION ONLY

SCOPE OF WORK

MODIFY ROADWAY LIGHTING SYSTEM DUE TO ROADWAY RECONFIGURATION. REMOVE EXISTING 80' HM AND INSTALL NEW 120' HM WITH NEW CIRCUITRY AS SHOWN IN THE PLAN.

ROADWAY STANDARDS

STD NO.	TITLE
1401.01	HIGH MOUNT STANDARD
1402.01	HIGH MOUNT FOUNDATION
1403.01	HIGH MOUNT LUMINAIRES
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 2024 AND PROECT SPECIAL PROVISIONS.

LEGEND

- PROPOSED 120' HIGH MAST STANDARD W/ HM FOUNDATION, JUNCTION BOX & 8 HM LED LUMINAIRES. 560W MAX, 54,000 MIN. MAINTAINED DELIVERED LUMENS, TYPE V. MAXIMUM BUG RATING 5-0-5.
  - EXISTING 80' HIGH MAST STANDARD, REMOVE AS NOTED.
  - EXISTING ELECTRICAL JUNCTION BOX. REMOVE AS NOTED.
  - NEW ELECTRICAL CIRCUIT IN EXISTING CONDUIT. CONTROL SYSTEM (B), CIRCUIT NUMBER (2) PLAN SYMBOL (\*2). SEE TABLE A THIS SHEET.
  - EXISTING CONDUIT IN EXISTING DUCT.
  - PROPOSED ELECTRICAL JUNCTION BOX, SIZE 18"LX12"Wx18"H LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
  - PROPOSED FEEDER CIRCUIT. CONTROL SYSTEM (B), CIRCUIT NUMBER (2) PLAN SYMBOL (2). SEE TABLE A, THIS SHEET.
  - PROPOSED ELECTRICAL DUCT SIZE 3" BY BORING TYPE (TL) OR (BD). SEE TABLE B FOR LOCATION.
- ABN ABANDON  
REM REMOVE

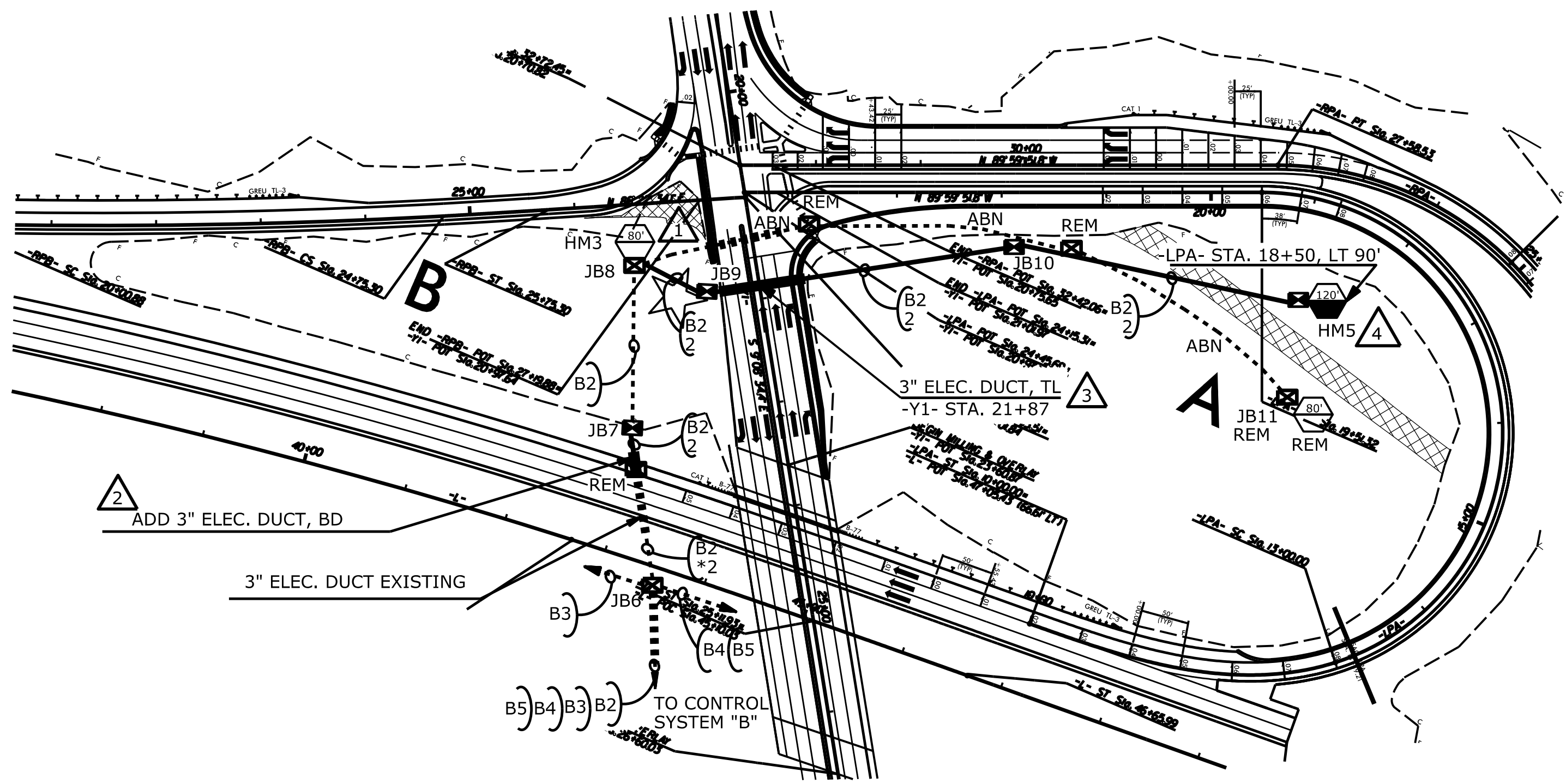
NOTES

- CONNECT NEW CIRCUIT AT THIS POINT TO THE EXISTING CIRCUIT.
- EXTEND 3" DUCT OUTSIDE THE PAVED SHOULDER,
- INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
- REMOVE THE EXISTING LIGHTGRID NODES AND INSTALL ON THE NEW LUMINAIRES ON 120' HM.

DESIGN CRITERIA

- 0.8 AVERAGE FOOTCANDLE ON TRAVEL LANES
- 4:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES
- 2018 AASHTO ROADWAY LIGHTING DESIGN GUIDE
- 2013 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 6TH EDITION AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING (HANDHOLE SHAFT DIAMETER REQUIREMENT AND HANDHOLE PLACEMENT REQUIREMENT WAIVED)
- FATIGUE CATEGORY II SHALL BE USED IN DESIGN
- DESIGN HIGH MOUNT SUPPORT FOR BASIC WIND SPEED OF 90 MPH
- DESIGN HIGH MOUNT STANDARD FOUNDATION FOR BASIC WIND SPEED OF 90 MPH. ANY CONTRACTOR-DESIGNED SITE SPECIFIC FOUNDATION DESIGN SHALL BE DESIGNED FOR THE SAME WIND SPEED
- 2020 NATIONAL ELECTRICAL CODE
- 2011 AASHTO ROADSIDE DESIGN GUIDE

CIRCUIT ID	80' HIGH MAST W/ 8 320W MAX. LED LUMINAIRES	120' HIGH MAST W/ 8 560W MAX. LED LUMINAIRES	AMPS @ 480V	KW LOAD	EXISTING BREAKER SIZE (AMPS)
B1		HM4	9.3	4.5	20
B2	HM3 & HM5		10.7	5.0	20
B3	HM1 & HM2		10.7	5.0	20
B4	HM6 & HM7		10.7	5.0	20
B5	HM8		5.3	2.5	20
SPARE					20
TOTAL	7	1	46.7	22.0	



CIRCUIT ID	80' HIGH MAST W/ 8 320W MAX. LED LUMINAIRES	120' HIGH MAST W/ 8 560W MAX. LED LUMINAIRES	AMPS @ 480V	KW LOAD
B1		HM4	9.3	4.5
B2	HM3	HM5	14.6	7.0
B3	HM1 & HM2		10.7	5.0
B4	HM6 & HM7		10.7	5.0
B5	HM8		5.3	2.5
SPARE				
TOTAL	6	2	50.6	24

ABBREVIATIONS

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
TL	TRENCHLESS	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
IGJB	IN GROUND JUNCTION BOX	HM	HIGH MAST
LED	LIGHT EMITTING DIODE	LSJB	LIGHT STANDARD JUNCTION BOX
HMJB	HIGH MAST JUNCTION BOX	CSJB	CONTROL SYSTEM JUNCTION BOX

LOCATION	RACEWAY	SHEET	TYPE				
			TRENCHLESS (TL) FEET		BURIED (BD) FEET		
			SIZE 2"	SIZE 3"	SIZE 4"	SIZE 2"	SIZE 4"
-Y1- STA. 21+87		E-1		100			
EXTENSION TO JB7 FROM REM JB7		E-1				30	
TOTALS				100		30	

SHEET	LABEL	LOCATION AND OFFSET	TYPE, PAY ITEM & SIZE				GPS LOCATION LAT/LONG (TO BE COMPLETED BY CONTRACTOR)
			IN GROUND		HIGH MAST		
			IG18 18"x12"	IG36 36"x24"	HM18 18"x12"	HM36 36"x24"	
E-1	JB9	-Y1- STA. 21+87, 55' RT	1				
E-1	JB10	-LPA- STA. 21+88, 54' LT	1				
E-1	JB7	20' N. OF REM JB7 IN LINE WITH 3" DUCT	1				
E-1	JBHM5	WITHIN 10' OF HM5			1		
TOTALS			3		1		

QTY	DESCRIPTION	CONDUCTOR	CONDUIT
2	#2 Ø #4G 1.5" P	2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR	2 - 2 W/G FEEDER CIRCUIT IN 1.5" CONDUIT 1.5" PVC CONDUIT
*2	#2 Ø #4G	2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR	2 - 2 W/G FEEDER CIRCUIT

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION <b>LIGHTING LAYOUT</b> I-40/LENOIR RHYNE BLVD INTERCHANGE LIGHTING RELOCATION CATAWBA COUNTY			
Drawn By:	Approved By:		Dwg No.:
SAM	RGH		

\$\$\$\$\$SYTIME\$\$\$\$\$N\$\$\$\$\$USERNAME\$\$\$\$\$