

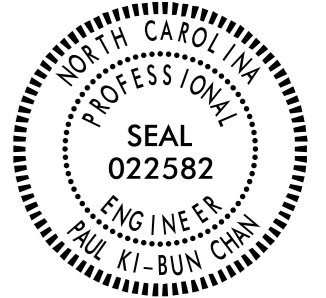
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PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

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Designed by: Paul Chan 8/7/2018

NOTES

- 1 REMOVE AND DISPOSE OF EXISTING JUNCTION BOX. REMOVAL AND DISPOSAL OF JUNCTION BOXES IS INCIDENTAL TO THE PROJECT.
- 2 REMOVE EXISTING FEEDER CIRCUIT CONDUCTOR. ABANDON EXISTING FEEDER CIRCUIT CONDUIT IN PLACE. SEE ARTICLE 1400-10 OF THE STANDARD SPECIFICATIONS. REMOVAL OF FEEDER CIRCUIT CONDUCTOR IS INCIDENTAL TO THE PROJECT.
- 3 PROVIDE ALL MATERIAL AND APPURTENANCES REQUIRED TO EXTEND EXISTING FEEDER CIRCUIT CONDUIT TO NEW JUNCTION BOX.
- 4 CIRCUITRY IS ROUTED AS SHOWN TO ALLOW OPEN CUT TRENCH WHILE AVOIDING EXISTING CONCRETE DITCH.
- 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 NO CHANGES THIS SHEET. SHOWN FOR REFERENCE ONLY.

SCOPE OF WORK

REMOVE AND REPLACE EXISTING CIRCUITY AND JUNCTION BOXES IN CONFLICT WITH CONSTRUCTION.

DESIGN CRITERIA

2017 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
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

- EXISTING 120' HIGH MAST STANDARD.
- EXISTING CONTROL SYSTEM.
- EXISTING ELECTRICAL JUNCTION BOX. SEE PLANS FOR ANY REQUIRED CHANGES.
- PROPOSED ELECTRICAL JUNCTION BOX SEE PLANS & TABLE C, THIS SHEET.
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED.
- PROPOSED FEEDER CIRCUIT CONTROL SYSTEM (A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET.
- EXISTING FEEDER CIRCUIT. NO CHANGES REQUIRED.
- EXISTING FEEDER CIRCUIT. REMOVE CONDUCTOR AND ABANDON CONDUIT.
- EXISTING ELECTRICAL DUCT

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
*8	2 #8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR
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
*4	2 #4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR

TABLE "C"
JUNCTION BOX SUMMARY (NEW JUNCTION BOXES)

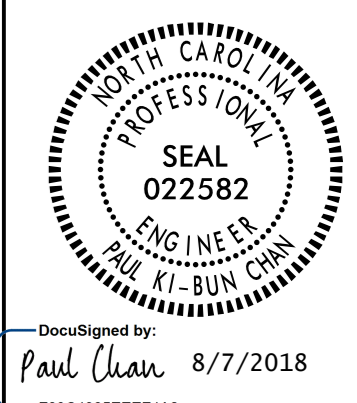
SHEET	LABEL	LOCATION AND OFFSET	CONTROL SYSTEM "A"										GPS LOCATION		
			IGJB			LSJB			HMJB			CSJB		BRJB	SWJB
			SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE			
			18"X12"	30"X17"	36"X24"	18"X12"	30"X17"	36"X24"	18"X12"	30"X17"	36"X24"	36"X24"	18"X12"	18"X12"	
E2	JB6-N	-Y1RPD- STA. 20+20, 35' LT	X												
E2	JB7-N	-Y1RPD- STA. 17+87, 71' LT	X												
E2	JB8-N	-Y1RPD- STA. 15+44, 65' LT	X												
		CSA TOTALS	3												

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
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

COMPUTED BY: RGH DATE: 8/7/18
CHECKED BY: PC DATE: 8/7/2018

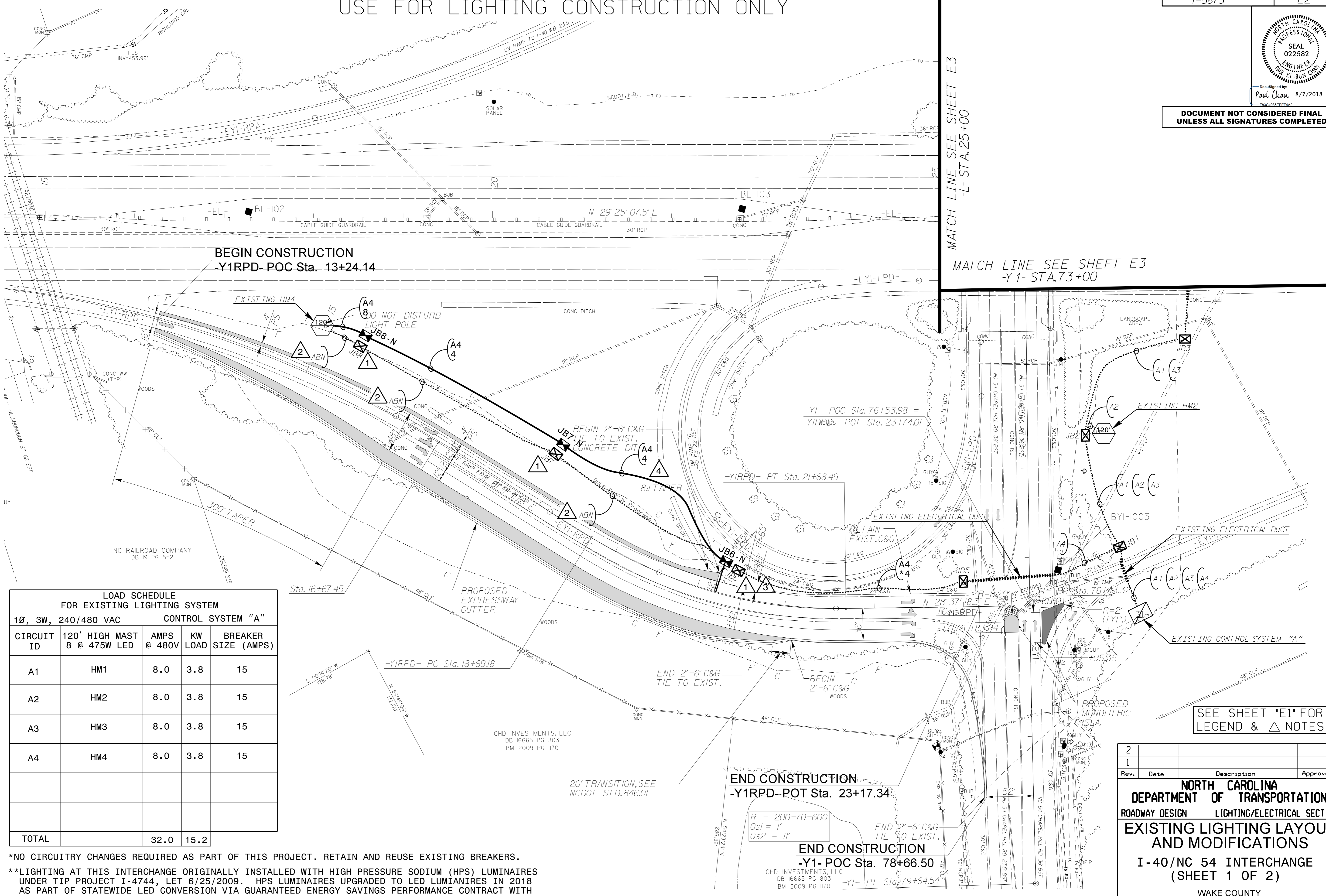
USE FOR LIGHTING CONSTRUCTION ONLY



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MATCH LINE SEE SHEET E3 -L- STA.25+00

MATCH LINE SEE SHEET E3 -Y1- STA.73+00



LOAD SCHEDULE FOR EXISTING LIGHTING SYSTEM

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

CIRCUIT ID	120' HIGH MAST @ 475W LED	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	HM1	8.0	3.8	15
A2	HM2	8.0	3.8	15
A3	HM3	8.0	3.8	15
A4	HM4	8.0	3.8	15
TOTAL		32.0	15.2	

*NO CIRCUITRY CHANGES REQUIRED AS PART OF THIS PROJECT. RETAIN AND REUSE EXISTING BREAKERS.
 **LIGHTING AT THIS INTERCHANGE ORIGINALLY INSTALLED WITH HIGH PRESSURE SODIUM (HPS) LUMINAIRES UNDER TIP PROJECT I-4744, LET 6/25/2009. HPS LUMINAIRES UPGRADED TO LED LUMINAIRES IN 2018 AS PART OF STATEWIDE LED CONVERSION VIA GUARANTEED ENERGY SAVINGS PERFORMANCE CONTRACT WITH BRADY/TRANE SERVICES.

SEE SHEET "E1" FOR LEGEND & △ NOTES

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION
EXISTING LIGHTING LAYOUT AND MODIFICATIONS
 I-40/NC 54 INTERCHANGE
 (SHEET 1 OF 2)
 WAKE COUNTY

Drawn By: RGH Approved By: [Signature] Dwg No.:

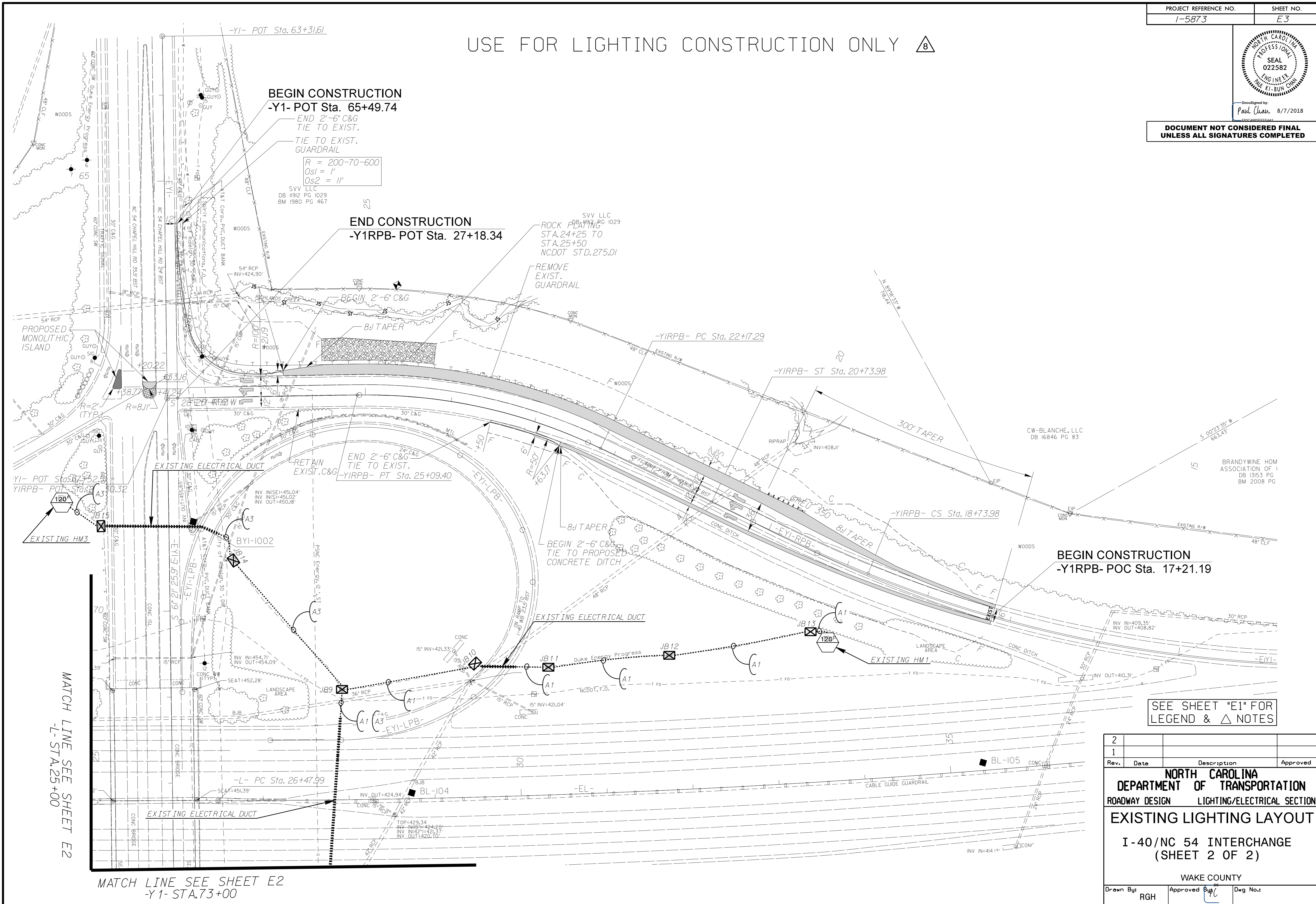
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Designed by: Paul Chan 8/7/2018

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USE FOR LIGHTING CONSTRUCTION ONLY \triangle



SEE SHEET "E1" FOR LEGEND & \triangle NOTES

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION
EXISTING LIGHTING LAYOUT
I-40/NC 54 INTERCHANGE (SHEET 2 OF 2)
WAKE COUNTY

Drawn By: RGH Approved By: [Signature] Dwg No.:

07-AUG-2018 14:44 R:\Lighting\I-40\Lighting Design\1-5873\le.dsn_PSH.E3.dgn rghal AT RD578044

MATCH LINE SEE SHEET E2 -L- STA. 25+00

MATCH LINE SEE SHEET E2 -Y1- STA. 73+00