02/03/98

PROJECT REFERENCE NO.	SHEET NO.
WBS # 44487	E1

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER AUK YI-BUN CHAN

DocuSigned by: Paul Chan 7/15/2015
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△ NOTES

1. INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
2. LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
3. LOCATE PROPOSED CONTROL SYSTEM IN AN AREA ACCESSIBLE FOR MAINTENANCE VEHICLES AND OUTSIDE OF CLEAR ZONE AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE.
4. INSTALL RIGID GALVANIZED CONDUIT (RGC) ABOVE GROUND, AND POLYVINYL CHLORIDE (PVC) SCHEDULE 40 CONDUIT UNDERGROUND, EXCEPT AS MODIFIED ON THESE PLAN SHEETS OR IN APPLICABLE SECTIONS OF THE ROADWAY STANDARD DRAWINGS FOR THIS PROJECT.
5. TYPE PC18 JUNCTION BOXES ARE 18″ L X 12″ W X 18″ H.

SCOPE OF WORK

PLACE UNDERPASS LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING UNDERPASS LIGHTING WITH WALL MOUNTED LIGHT EMITTING DIODE LUMINAIRES, SURFACE MOUNTED CONDUIT SYSTEM,UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

1.0 AVERAGE FOOTCANDLE ON TRAVEL LANES

4:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES

2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE

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

2014 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 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	TITLE
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 UNDERPASS LUMINAIRE, TYPE WM, 50W MAX., 2400 DELIVERED LUMENS MINIMUM LED
- PROPOSED CONTROL SYSTEM BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2.
- JB1 — PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- 1 — REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- A1 / 6 — PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET
- 3#1/0 USE 2″ — PROPOSED SERVICE POLE AND LATERAL 30′ CLASS 4 3#1/0 USE CONDUCTORS 2″ CONDUIT
- 2″, 3″ OR 4″ ELEC. DUCT JA & BD — PROPOSED ELECTRICAL DUCT SIZE 2″, 3″ OR 4″ TYPE (JA) OR (BD) LOCATION: SEE TABLE C, THIS SHEET
- PROPOSED UNDERPASS BREAKER PANEL

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	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

TABLE "B"
JUNCTION BOX SUMMARY

NUMBER	LOCATION	TYPE		SHEET
JB1	OLD CONCORD ROAD, LT	PC18		E2
JB2	OLD CONCORD ROAD, RT	PC18		E2
TOTALS		2		

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: AB DATE:

CHECKED BY: PKC DATE:

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