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PROJ. REFERENCE NO.	SHEET NO.
U-5105	LIGHT-1

PLANS AND DETAILS FOR PROPOSED LIGHTING/ELECTRICAL CONSTRUCTION

NOTES

1. TYPE PC18 JUNCTION BOXES ARE 18″ L X 12″ W X 18″ D.
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.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 40 FT. LIGHT STANDARDS WITH LED LUMINAIRES ON 10-15 FT. ARMS, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

2008 IES DESIGN GUIDE FOR ROUNDABOUT LIGHTING

2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE

2013 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING

DESIGN LIGHT STANDARDS FOR BASIC WINDSPEED OF 70 MPH SHOWN IN AASHTO.

FATIGUE CATEGORY II SHALL BE USED IN DESIGN

2017 NATIONAL ELECTRIC CODE

2011 AASHTO ROADSIDE DESIGN GUIDE

ROADWAY STANDARDS

THE FOLLOWING ROADWAY 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
1404.01	LIGHT STANDARDS
1405.01	STANDARD FOUNDATION
1406.01	LIGHT STANDARD 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

ALL WORK SHALL BE IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JANUARY 2018.

LEGEND

PROPOSED LIGHT STANDARD TYPE MTLT 40 FT WITH SINGLE ARM (ARM LENGTH SHOWN). INCLUDES STANDARD FOUNDATION TYPE R1 (UNLESS OTHERWISE NOTED) & 13,000-14,000 LUMENS LED ROADWAY LUMINAIRE. IES DISTRIBUTION: MEDIUM, TYPE II

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
8
PROPOSED FEEDER CIRCUIT CONTROL SYSTEM (A), CIRCUIT (1) PLAN SYMBOL (8) SEE TABLE A, THIS SHEET

3#1/0 USE
2″
PROPOSED SERVICE POLE AND LATERAL 30 FT. 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

TABLE ″A″
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

PLAN SYMBOL	DESCRIPTION		CONTRACT ITEM
8	2-#8 AWG 1-#10 AWG 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

TABLE ″B″
JUNCTION BOX SUMMARY

NUMBER	LOCATION	TYPE		SHEET
JB1	19+18 -L-, 30′ LT	PC18		E2
JB2	19+61 -Y1-, 25′ LT	PC18		E2
JB3	11+43 -Y2-, 26′ RT	PC18		E2
JB4	22+45 -L-, 30′ RT	PC18		E2
JB5	22+41 -L-, 25′ LT	PC18		E2
		5		

TABLE ″C″
ELECTRICAL DUCT SUMMARY
(ESTIMATED LENGTH IN FEET)

		TYPE					
		JACKED (JA) FEET			BURIED (BD) FEET		
LOCATION	SHEET	SIZE 2″	SIZE 3″	SIZE 4″	SIZE 2″	SIZE 3″	SIZE 4″
19+18 -L-, 30′ LT	E2					50	
19+61 -Y1-, 25′ LT	E2					45	
11+43 -Y2-, 26′ RT	E2					42	
22+45 -L-, 30′ RT	E2					40	
TOTALS						177	

TABLE ″D″
CONVENTIONAL LED LUMINAIRES

MANUFACTURER	PART NUMBER
GENERAL ELECTRIC	ERLH-14-B140-XX-XXXX-XX
AMERICAN ELECTRIC LIGHTING	ATBM-E-XXXXX-R2-XXXX

ABBREVIATIONS

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

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

LIGHTING PLAN

2/21/2018
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User:tgraves