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02/03/98

PROJECT REFERENCE NO.	SHEET NO.
I-5000	E1

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NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUN CHAN

DocuSigned by: Paul Chan 11/1/2016 F83C4985EEEF4A2...

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

△ NOTES

1. AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIRMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "C"
2. INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 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 2011 AASHTO ROADSIDE DESIGN GUIDE.
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. TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H. UNLESS OTHERWISE NOTED ON THE PLANS, ALL JUNCTION BOXES ARE TO BE TYPE PC18
7. TYPE PC36 JUNCTION BOXES ARE 36" L X 24" W X 18" H.
8. JACK 2" ELECTRICAL DUCT BETWEEN SINGLE ARM STANDARDS SA3 TO SA4 AND SA5 TO SA6 UNDER THE PAVED SHOULDER.
9. PLACE SINGLE ARM STANDARD ACCORDING TO DETAIL DRAWING 1404D01 (SHEET 1 OF 3) PLANSHEET E5 AND, WHERE REQUIRED, PLACE JUNCTION BOX WITHIN 2' OF SINGLE ARM STANDARD.
10. ADDITIONAL JUNCTION BOXES ARE REQUIRED AS PART OF GENERIC LIGHTING PAY ITEMS AS SHOWN IN HIGH MAST STANDARD FOUNDATION, LIGHT CONTROL SYSTEM, AND STANDARD FOUNDATION. THESE JUNCTION BOXES ARE TO BE PAID FOR AS PART OF THE RESPECTIVE LIGHTING PAY ITEMS. SEE LIGHTING DETAIL SHEET E6 INCLUDED IN THESE PLANS.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 120',100' AND 80' HIGH MOUNT STANDARDS WITH LIGHT EMITTING DIODE LUMINAIRES, UNDERGROUND CIRCUITRY, UNDERPASS LIGHTING, LIGHTING FOR PEDESTRIAN CULVERTS, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

0.8 AVERAGE FOOTCANDLE ON TRAVEL LANES

4:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES

2005 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

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

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
1401.01	HIGH MOUNT STANDARD (USE ATTACHED DETAIL SHEET 1401D01 IN LIEU OF STANDARD DRAWING 1401.01, SHEET 1)
1402.01	HIGH MOUNT FOUNDATION (USE ATTACHED DETAIL SHEET 1402D01 IN LIEU OF STANDARD DRAWING 1402.01, SHEET 1)
1403.01	HIGH MOUNT LUMINAIRES (USE ATTACHED DETAIL SHEET 1403D01 IN LIEU OF STANDARD DRAWING 1403.01, SHEET 1)
1404.01	LIGHT STANDARDS (USE ATTACHED DETAIL SHEET 1404D01 IN LIEU OF STANDARD DRAWING 1404.01, SHEET 1)
1405.01	STANDARD FOUNDATION
1406.01	LIGHT STANDARDS LUMINAIRES (USE ATTACHED DETAIL SHEET 1406D01 IN LIEU OF STANDARD DRAWING 1406.01, SHEET 1)
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

- 80' — PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LED LUMINAIRES. 320W MAX, 23,300 MIN. MAINTAINED LUMENS, TYPE V MAXIMUM BUG RATING 5-0-5.
- 100' — PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LED LUMINAIRES. 550W MAX, 44,250 MIN. MAINTAINED LUMENS, TYPE V MAXIMUM BUG RATING 5-0-5.
- 120' — PROPOSED 120' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 550W MAX, 44,250 MIN. MAINTAINED LUMENS, TYPE V MAXIMUM BUG RATING 5-0-5.
- PROPOSED LIGHT STANDARD TYPE MTLT 45' WITH 15' SINGLE ARM. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2 & 285W MAX LED ROADWAY LUMINAIRE. IES DISTRIBUTION: TYPE II OR III AS REQUIRED. MAXIMUM BUG RATING 3-0-3.
- PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- JB1 — PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- PROPOSED UNDERPASS LUMINAIRE, TYPE WM, 75W LED
- PROPOSED UNDERPASS BREAKER PANEL
- 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

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
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

TABLE "B"
JUNCTION BOX SUMMARY

NUMBER	LOCATION	TYPE		SHEET
JB1	STA. 40+28 -Y1- 65' LT		PC36	E2
JB2	STA. 37+20 -Y1- 48' LT		PC36	E2
JB3	STA.37+20 -Y1- 84' RT		PC36	E2
10 JB4	STA. 37+92 -Y1-160' RT (HM1)	PC18		E2
JB5	STA. 36+30 -L- 85' RT	PC18		E2
JB6	STA. 36+30 -L- 75' LT	PC18		E2
10 JB7	STA. 11+25 -LPB- 60' RT (HM2)	PC18		E2
JB8	STA. 36+85 -L- 75' LT	PC18		E2
10 JB9	STA. 32+66 -L- 95' LT (HM3)	PC18		E2
JB10	ACROSS RAMP FROM JB9	PC18		E2
JB11	STA. 29+50 -L- 95' LT	PC18		E2
JB12	STA. 33+95 -Y1- 50' LT	PC18		E2
10 JB13	STA. 25+24 -RPD- 32' RT (HM5)	PC18		E2
JB14	STA. 35+32 -Y1- 66' LT	PC18		E2
10 JB15	STA. 36+42 -Y1- 100' LT (HM4)	PC18		E2
JB16	STA. 19+10 -RPD- 42' LT	PC18		E2
JB17	STA. 16+46 -RPD- 36' LT	PC18		E2
10 JB18	STA. 16+46 -RPD- 68' RT (HM6)	PC18		E2
JB19	STA. 13+72 -RPD- 32' RT	PC18		E2
JB20	STA. 52+72 -L- 72' LT	PC18		E2
TOTALS		11*	3	

* DOES NOT INCLUDE JUNCTION BOXES LOCATED AT HIGH MAST. SEE NOTE 10.

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

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

LOCATION	RACEWAY 1	SHEET	TYPE: JACKED (JA) FEET SIZE 2"	JACKED (JA) FEET SIZE 3"	JACKED (JA) FEET SIZE 4"	BURIED (BD) FEET SIZE 2"	BURIED (BD) FEET SIZE 3"	BURIED (BD) FEET SIZE 4"
STA. 37+20 -Y1-	JB2 - JB3	E2				130		
STA. 37+20 -Y1-		E2			100			
STA. 35+20 -L-	JB5 - JB6	E2				150		
STA. 35+20 -L-		E2			130			
UNDER DR. MLK JR WAY		E2	280					
UNDER DR. MLK JR WAY		E2	280					
STA. 11+60 -LPB-		E2		85				
NEAR HM1		E2		30				
STA. 25+24 -RPD-		E2					100	
STA. 16+96 -TRAIL		E2					40	
STA. 16+46 -RPD-		E2					50	
STA. 52+72 -L-		E2		140				
TOTALS			560	255	230	280	190	

COMPUTED BY: AB DATE:

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USE FOR LIGHTING CONSTRUCTION ONLY

PROJECT REFERENCE NO.	SHEET NO.
I-5000	E2

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUN CHAN

DocuSigned by: Paul Chan 11/1/2016

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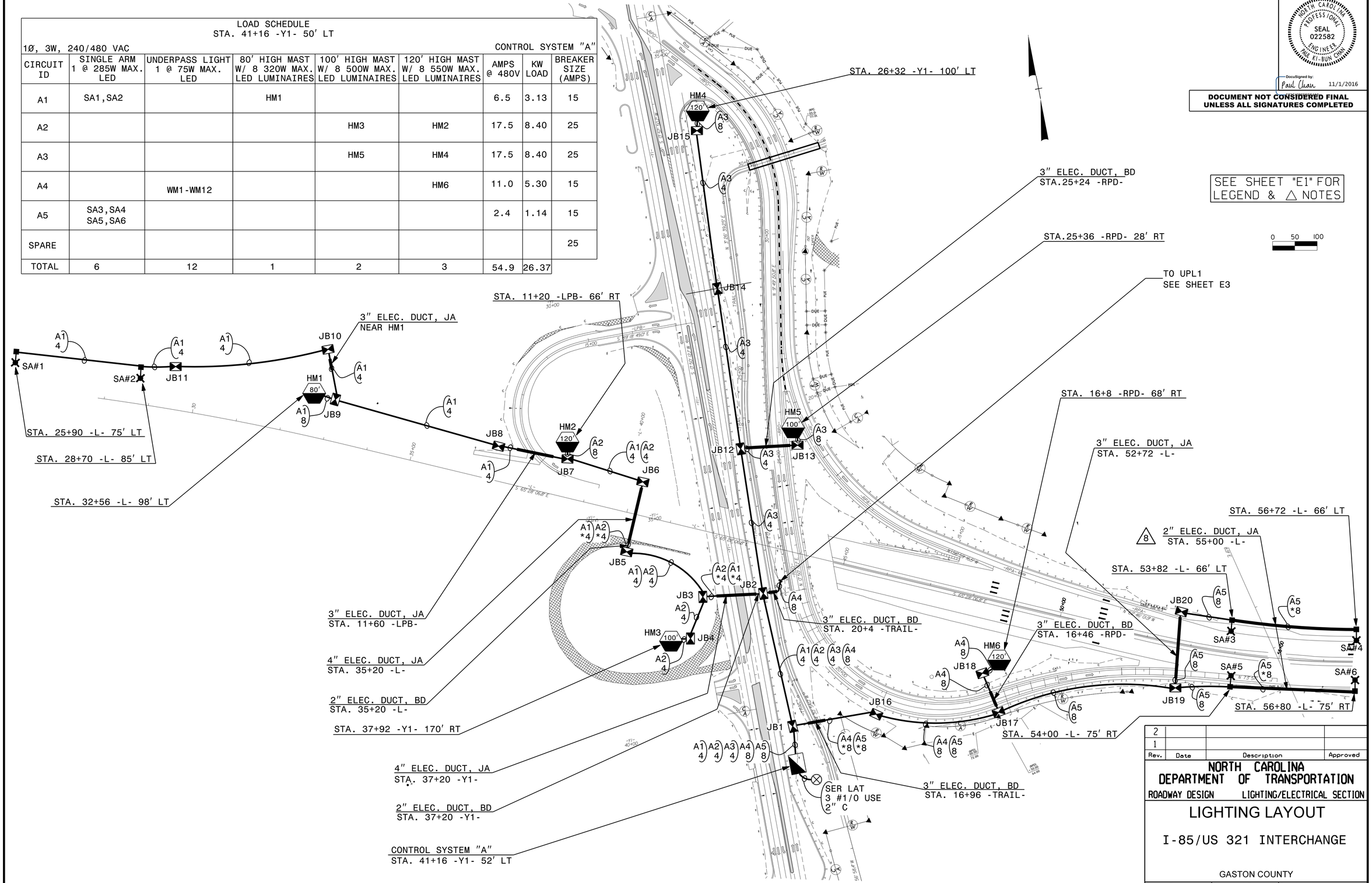
LOAD SCHEDULE
STA. 41+16 -Y1- 50' LT

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

CIRCUIT ID	SINGLE ARM 1 @ 285W MAX. LED	UNDERPASS LIGHT 1 @ 75W MAX. LED	80' HIGH MAST W/ 8 320W MAX. LED LUMINAIRES	100' HIGH MAST W/ 8 500W MAX. LED LUMINAIRES	120' HIGH MAST W/ 8 550W MAX. LED LUMINAIRES	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	SA1,SA2		HM1			6.5	3.13	15
A2				HM3	HM2	17.5	8.40	25
A3				HM5	HM4	17.5	8.40	25
A4		WM1-WM12			HM6	11.0	5.30	15
A5	SA3,SA4 SA5,SA6					2.4	1.14	15
SPARE								25
TOTAL	6	12	1	2	3	54.9	26.37	



Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN — LIGHTING/ELECTRICAL SECTION

LIGHTING LAYOUT

I-85/US 321 INTERCHANGE

GASTON COUNTY

Drawn By:	Approved By:	Dwg No.:
AB		

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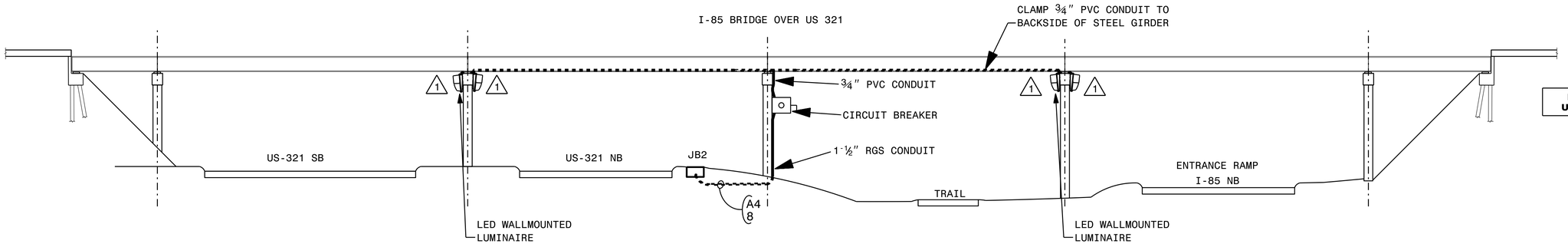
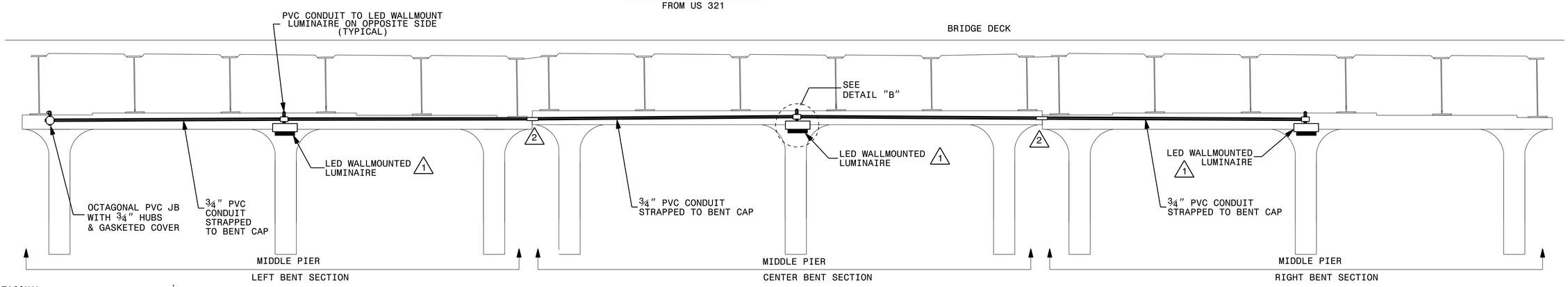
PROJECT REFERENCE NO.	SHEET NO.
I-5000	E3

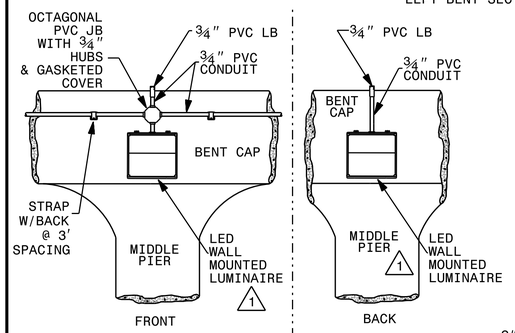
USE FOR LIGHTING CONSTRUCTION ONLY



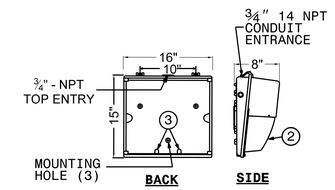
NORTH FACING VIEW
FROM US 321



TYPICAL VIEW
UNDER BRIDGE ON US 321 NB FACING WEST



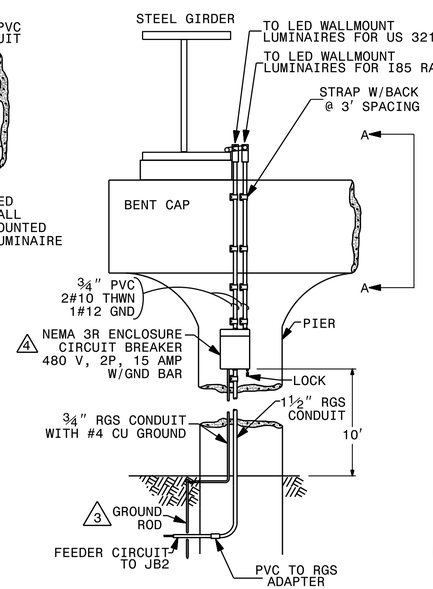
DETAIL "B"



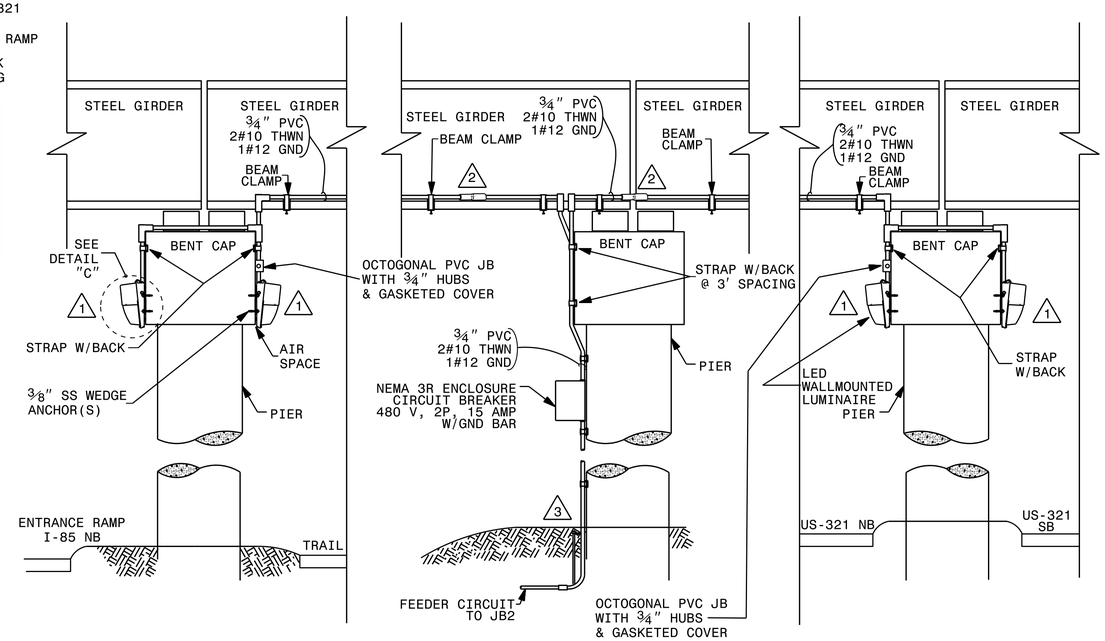
DETAIL "C"

COMPONENTS

1. DIE CAST ALUMINUM HOUSING, DOOR & HINGE
2. PRISMATIC REFRACTOR
3. TWO SCREW LATCH



TYPE WM LUMINAIRE AND CIRCUITRY
VIEW FROM TRAIL FACING WEST



VIEW A-A

NOTES

1. MOUNT WALL MOUNTED LUMINAIRE NEAR THE TOP OF THE BENT CAP OVER THE MIDDLE PIER OF EACH BENT SECTIONS UNDER THE BRIDGE.
2. PROVIDE EXPANSION FITTINGS IN EACH SECTION OF CONDUIT BETWEEN WALLMOUNT LUMINAIRES AND ON STEEL GIRDER BETWEEN JUNCTION BOXES ON BENT CAP.
3. EXTEND AWAY FROM PIER SO THAT GROUND ROD WILL MISS FOOTING.
4. INSTALL INSULATED GROUNDING BUSHING FOR INCOMING FEEDER CIRCUIT IN RGC.
5. USE STANDARD NEC COLORS FOR PHASE AND NEUTRAL CONDUCTORS

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN — LIGHTING/ELECTRICAL SECTION

UNDERPASS LIGHTING LAYOUT

I-85/US 321 INTERCHANGE

GASTON COUNTY

Drawn By:	Approved By:	Dwg No.:
AB		

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02/03/98

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

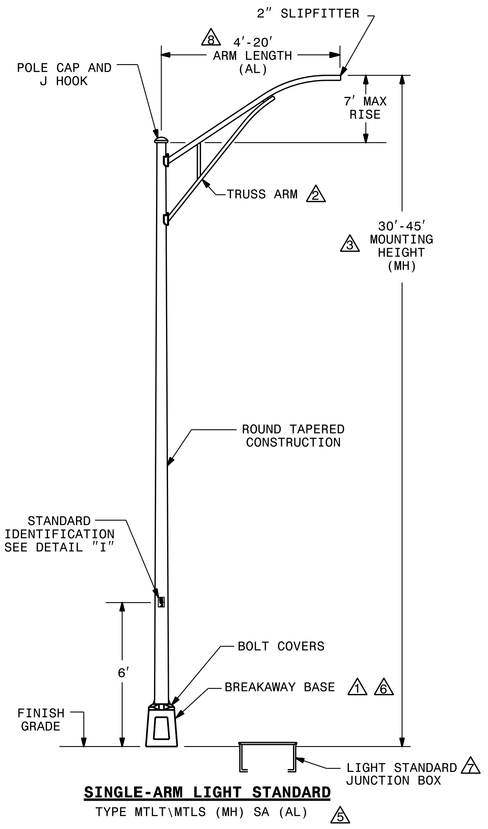
ENGLISH STANDARD DRAWING FOR

LIGHT STANDARDS

SINGLE-ARM

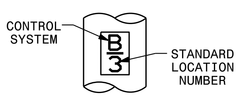
SHEET 1 OF 3

1404D01



SINGLE-ARM LIGHT STANDARD

TYPE MTLT\MTLS (MH) SA (AL) 8

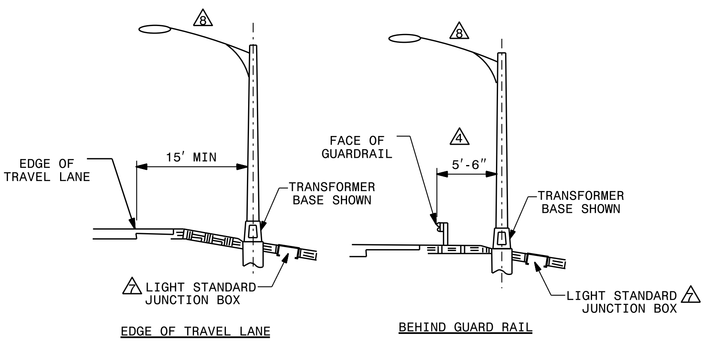


DETAIL "I"

3" HIGH CHARACTERS WITH 3/8" THICK LINES

NOTES

1. TRANSFORMER BASE SHOWN. OTHER BASES MEETING AASHTO BREAKAWAY REQUIREMENTS MAY BE PROVIDED IF APPROVED BY THE ENGINEER. SEE "BASE DETAILS" ON SHEET 2 OF 3.
2. SINGLE-MEMBER ARMS MAY BE PROVIDED IN LIEU OF TRUSS ARMS, WHEN SPECIFIED ARM LENGTH IS 8' OR LESS AND MOUNTING HEIGHT IS 35' OR LESS.
3. MOUNTING HEIGHT INCLUDES BREAKAWAY BASE FOR LIGHT STANDARDS WITH TRANSFORMER BASES. SEE "BASE DETAILS" ON SHEET 2 OF 3.
4. STANDARD PLACEMENT MAY BE REDUCED TO 3'-6" BEHIND FACE OF GUARDRAIL WHEN POSTS ARE SPACED 3'-1½", OR WHERE SPEED LIMIT IS LESS THAN 55 MPH.
5. INSERT MOUNTING HEIGHT (MH) AND ARM LENGTH (AL) FROM PAY ITEM DESCRIPTION TO DETERMINE PROPOSED SINGLE-ARM LIGHT STANDARDS.
6. LIGHT STANDARDS MOUNTED ON BRIDGE OUTRIGGERS OR BEHIND RETAINING/BARRIER WALLS DO NOT REQUIRE BREAKAWAY BASES.
7. PROVIDE PC18 LIGHT STANDARD JUNCTION BOX WITHIN 2' OF LIGHT STANDARD FOUNDATION FOR CONNECTION OF CIRCUITRY. JUNCTION BOX SHALL BE PLACED TO THE SIDE OR BEHIND THE LIGHT STANDARD, AS VIEWED FROM THE ROADWAY.
8. WHEN DIRECT POLE MOUNTED LUMINAIRES ARE USED, BRACKET ARM IS NOT REQUIRED.



STANDARD PLACEMENT

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

LIGHT STANDARDS

SINGLE-ARM

SHEET 1 OF 3

1404D01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

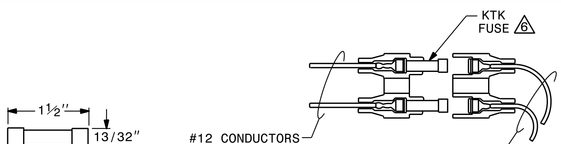
1-12

ENGLISH STANDARD DRAWING FOR

LIGHT STANDARD LUMINAIRES

SHEET 1 OF 1

1406D01



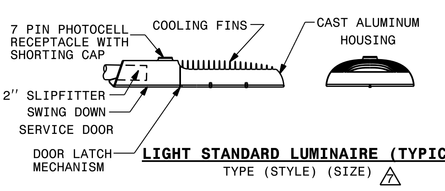
KTK FUSE

FUSEHOLDER

LUMINAIRE CHARACTERISTICS				
SPEC / TYPE	HPS RELACEMENT EQUIVALENT	COLOR TEMP	MINIMUM PERCENT OF INITIAL OUTPUT (70K HOURS & 25°C)	MINIMUM MAINTAINED LUMENS
185W (MAX) LED FIXTURE	250W	3500K-4500K	83%	15,500
285W (MAX) LED FIXTURE	400W	3500K-4500K	83%	21,000

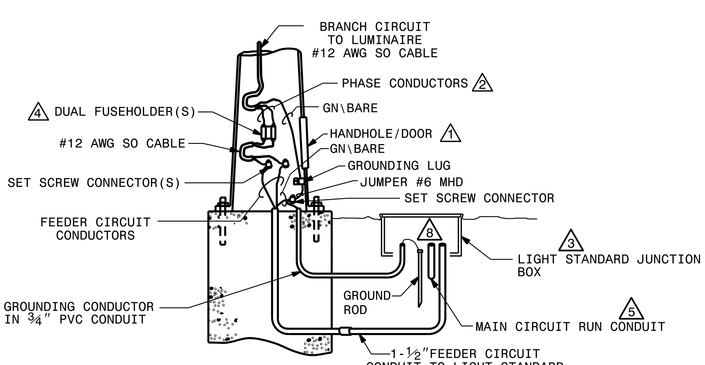
NOTES

1. PROVIDE ACCESS TO FUSEHOLDERS FROM HANDHOLE OR TRANSFORMER BASE.
2. SEE STANDARD SPECIFICATIONS SECTION 1400-4F FOR WIRING METHODS. USE TAPE OR HEAT SHRINK TO COLOR CONDUCTORS TO MATCH PHASE COLOR (RED/BLACK/BLUE).
3. MAKE SPLICES IN ACCORDANCE WITH SECTION 1400-4(F) OF THE STANDARD SPECIFICATIONS.
4. BREAKAWAY FUSEHOLDERS REQUIRED AT ALL BREAKAWAY LIGHT STANDARDS.
5. SIZE FEEDER CIRCUIT CONDUCTORS AS SHOWN IN THE PLANS.
6. SEE STANDARD SPECIFICATIONS SECTION 1400-2E FOR FUSEHOLDERS.
7. INSERT STYLE AND SIZE FROM PAY ITEM DESCRIPTION TO DETERMINE PROPOSED LUMINAIRES.
8. PERMANENTLY ATTACH GROUNDING CONDUCTOR TO GROUND ROD VIA EXOTHERMIC WELD.



LIGHT STANDARD LUMINAIRE (TYPICAL)

TYPE (STYLE) (SIZE) 7



WIRING DIAGRAM

@ BASE OF LIGHT STANDARD

Rev.	Date	Description	Approved
1			
2			

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

LIGHT STANDARD AND LIGHT STANDARD LUMIAIRE DETAILS

I-85/US 321 INTERCHANGE

GASTON COUNTY

Drawn By: AB

Approved By:

Drg No.:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Documents Mgr: Paul Lewis 11/14/2016

PROFESSIONAL ENGINEER SEAL 38252 PAUL LEWIS

PROJECT REFERENCE NO. I-5000

SHEET NO. E4

02/03/98

11/14/2016

PROJECT REFERENCE NO.	SHEET NO.
I-5000	E5

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUN CHAN

DocuSigned by: Paul Chan 11/14/2016

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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

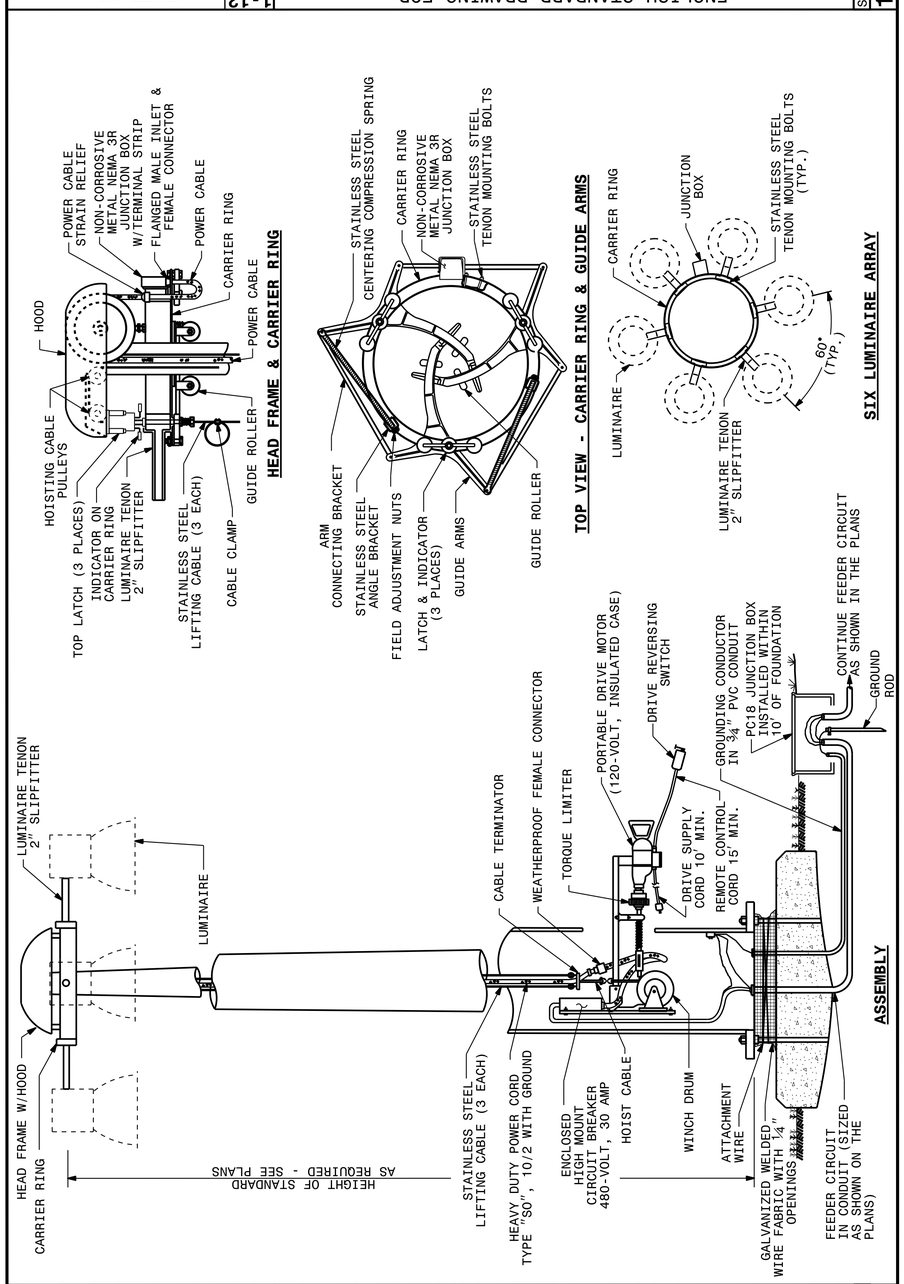
ENGLISH STANDARD DRAWING FOR

HIGH MOUNT STANDARD

ASSEMBLY

SHEET 1 OF 2

1401D01



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Rev.	Date	Description	Approved

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN — LIGHTING/ELECTRICAL SECTION

HIGH MOUNT STANDARD DETAILS

I-85/US 321 INTERCHANGE

GASTON COUNTY

Drawn By:	Approved By:	Dwg No.:
AB		

14-NOV-2016 13:43
R:\Lighting\Electrical\Lighting Design\I-500.1401.D01 HM Foundation with JB.e5.dgn
$$$$USERNAME$$$$

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12

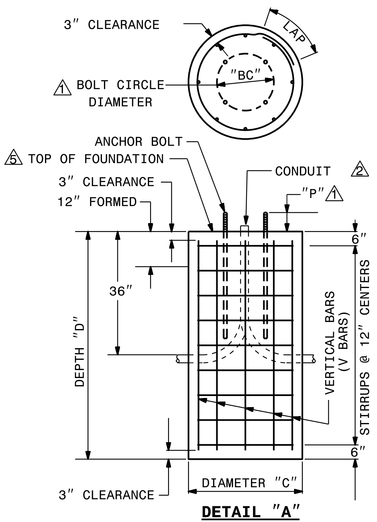
ENGLISH STANDARD DRAWING FOR
HIGH MOUNT FOUNDATION

SHEET 1 OF 1
1402D01

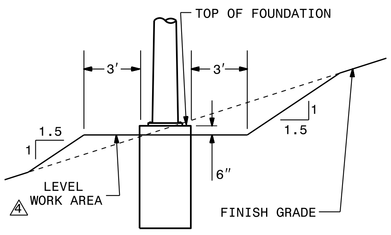
TABLE OF FOUNDATION DIMENSIONS AND QUANTITIES ⚠3

HEIGHT OF HIGH MOUNT FT	DIAMETER "C" FT	STIRRUPS		WIND VELOCITY MPH													
				90					110					130			
				DEPTH "D" FT	V BARS		REINF.* STEEL LBS	CONCRETE CY	DEPTH "D" FT	V BARS		REINF.* STEEL LBS	CONCRETE CY	DEPTH "D" FT	V BARS		REINF.* STEEL LBS	CONCRETE CY
		SIZE	LAP-FT		QTY	SIZE				QTY	SIZE				QTY	SIZE		
60	3.5	#3	1.0	11	8	#8	280	3.9	12	8	#8	306	4.3	13	8	#8	331	4.6
80	3.5	#3	1.0	12	8	#8	306	4.3	13	8	#8	331	4.6	15	8	#8	382	5.3
100	4.0	#3	1.0	13	8	#9	413	6.1	15	8	#9	477	7.0	16	8	#9	509	7.4
120	4.5	#3	1.0	15	8	#10	557	8.2	16	8	#10	636	9.4	18	8	#10	716	10.6

* INCLUDES STIRRUPS AND VERTICAL BARS (V BARS)



DETAIL "A"



DETAIL "B"

NOTES

⚠1 ANCHOR BOLTS

CONFORM NUMBER, SIZE, AND LENGTH OF ANCHOR BOLTS, BOLT CIRCLE DIAMETER "BC", AND ANCHOR BOLT PROJECTION "P" TO APPROVED HIGH MOUNT STANDARD DRAWINGS.

⚠2 CONDUITS

MATCH ORIENTATION, QUANTITY, TYPE, AND SIZE OF CONDUITS TO THE LAYOUT SHEETS. STUB AND CAP ONE SPARE CONDUIT AT EACH FOUNDATION. PROJECT CONDUIT A MAXIMUM OF 2" ABOVE TOP OF FOUNDATION. PLACE CONDUIT 30" BENEATH FINISH GRADE. INCLUDE ¾" CONDUIT FOR GROUNDING ELECTRODE CONDUCTOR TO GROUND ROD AT HIGH MAST FOUNDATION.

⚠3 DIMENSIONS & QUANTITIES

DIMENSIONS AND QUANTITIES OF CONCRETE AND REINFORCING STEEL ARE GIVEN FOR THE PURPOSE OF OBTAINING BID PRICES ONLY. SEE PROJECT SPECIAL PROVISIONS FOR OTHER STRUCTURAL REQUIREMENTS.

⚠4 WORK AREA

PROVIDE A LEVEL WORK AREA AROUND EACH FOUNDATION. CUT/FILL SLOPES MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

⚠5 ELEVATION

SET TOP OF FOUNDATION AT 6" ABOVE LEVEL WORK AREA. SEE DETAIL "B".

⚠6 GUARDRAIL

WHERE GUARDRAIL IS REQUIRED TO BE INSTALLED AS PART OF LIGHTING WORK, SET GUARDRAIL NO MORE THAN 8' FROM CENTER OF HIGH MAST FOUNDATION.

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1402D01

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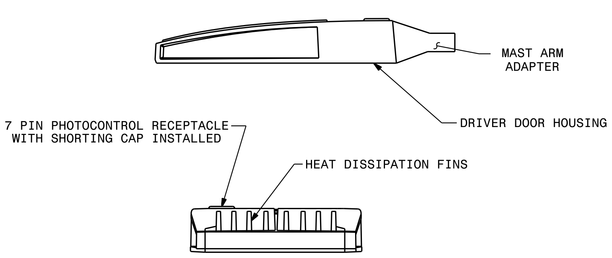
ENGLISH STANDARD DRAWING FOR
HIGH MOUNT LED LUMINAIRES

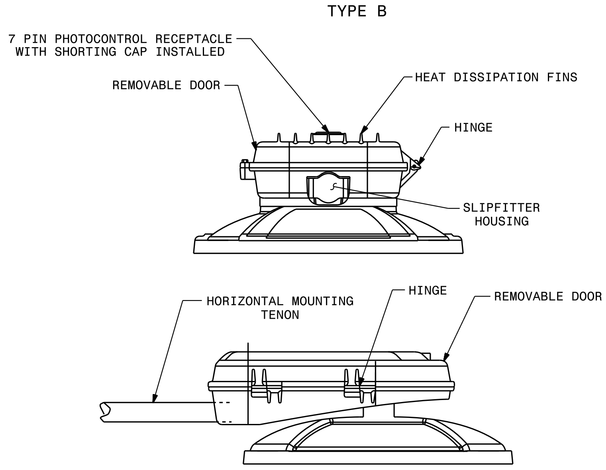
SHEET 1 OF 1
1403D01

TYPICAL CONFIGURATION TYPES

TYPE A



TYPE B



LED LUMEN PACKAGES ⚠1

MOUNTING HEIGHT	# OF LUMINAIRES	MAXIMUM LUMINAIRE WATTAGE	MINIMUM LUMINAIRE MAINTAINED LUMENS	MINIMUM PERCENT OF INITIAL OUTPUT (100K HOURS & 25° C)	COLOR TEMP.
60'	4	320	23,300	87%	4,000K ±500K
80'	8	320	23,300	87%	4,000K ±500K
100'	6	550	44,250	87%	4,000K ±500K
120'	8	550	44,250	87%	4,000K ±500K

△ NOTES

⚠1 SEE PLANS FOR IES DISTRIBUTION

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ENGLISH STANDARD DRAWING FOR
HIGH MOUNT LED LUMINAIRES

SHEET 1 OF 1
1403D01

Rev.	Date	Description	Approved
1			
2			

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

HIGH MOUNT FOUNDATION AND HIGH MOUNT LED LUMINAIRE DETAILS
I-85/US 321 INTERCHANGE
GASTON COUNTY

Drawn By: AB
Approved By:
Drg No.:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Documented by: Paul Lewis 11/14/2016

PROFESSIONAL ENGINEER SEAL 022582 PAUL LEWIS

PROJECT REFERENCE NO. I-5000

SHEET NO. E6