

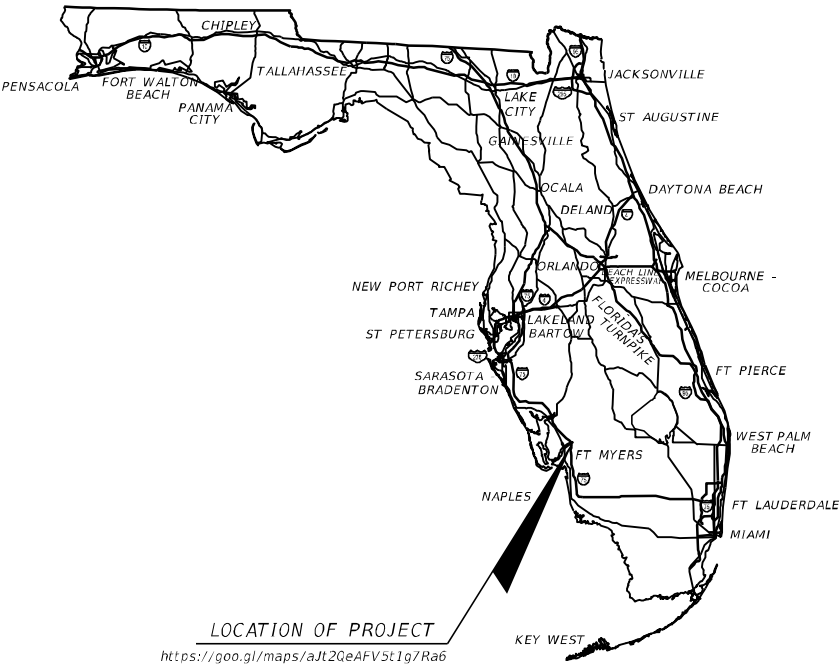
ORANGE RIVER BLVD.  
PEDESTRIAN IMPROVEMENTS

JEI PROJECT ID: 20214267-000

INDEX OF LIGHTING PLANS

SHEET NO.	SHEET DESCRIPTION
L-1	KEY SHEET
L-2	TABULATION OF QUANTITIES
L-3	GENERAL NOTES
L-4	POLE DATA AND LEGEND
L-5 - L-6	LIGHTING PLAN

LIGHTING PLANS



GOVERNING STANDARD PLANS:

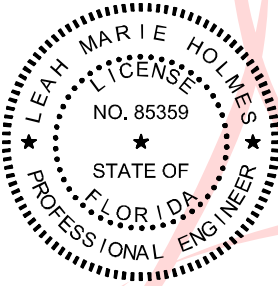
Florida Department of Transportation, FY2024-25 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

Standard Plans for Bridge Construction are included in the Structures Plans Component

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, FY2024-25 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>



Digitally  
signed by  
Leah M.  
Holmes, P.E.  
Date:  
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LIGHTING SHOP DRAWINGS  
TO BE SUBMITTED TO:

LEAH M. HOLMES, P.E.

LIGHTING PLANS  
ENGINEER OF RECORD:

**JOHNSON**  
ENGINEERING

LEAH M. HOLMES, P.E.  
P.E. LICENSE NUMBER 85359  
JOHNSON ENGINEERING, INC.  
2122 JOHNSON STREET  
FORT MYERS, FLORIDA 33901  
CONTRACT NO.:  
VENDOR NO.:  
CERTIFICATE OF AUTHORIZATION NO.: 642

NOTE: THE SCALE OF THESE PLANS MAY  
HAVE CHANGED DUE TO REPRODUCTION.

100% SUBMITTAL  
DECEMBER 2024



CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
	24	L-1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

# TABULATION OF QUANTITIES

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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

LIGHTING GENERAL NOTES:

1. PRIOR TO ANY EQUIPMENT ORDER, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. THESE MUST SPECIFICALLY INCLUDE:

A. LUMINAIRE PHOTOMETRICS.

B. POLE STRENGTH CALCULATIONS AND POLE SHOP DRAWINGS FOR PAY ITEM NO. 715-4-13

C. POLE FRANGIBILITY TEST

D. ANCHOR BOLT DESIGN CALCULATIONS AND SHOP DRAWINGS

E. DISTRIBUTION POINT ELECTRICAL EQUIPMENT
2. THE LOCATIONS OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE AND BASED ON THE INFORMATION FURNISHED TO THE ENGINEER BY THE UTILITY OWNER(S) AND ARE SHOWN AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY OWNER(S) FOR LOCATION AND STAKING OF UNDERGROUND FACILITIES BEFORE EXCAVATING.
3. STATE OF FLORIDA STATUTE 556 (2008) REQUIRES THAT BEFORE EXCAVATING, NOTICE BE GIVEN TO THE SUNSHINE STATE ONE CALL OF FLORIDA, INC. (SSOCOF) A MINIMUM OF TWO (2) FULL BUSINESS DAYS AT 1-800-432-4770. NOT ALL UTILITY COMPANIES ARE MEMBERS OF SSOCOF.
4. THE LOCATION OF THE POLES, CONDUCTORS, CONDUITS, JUNCTION BOXES AND SERVICE POLES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE ENGINEER TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.
5. ALUMINUM POLES, LUMINAIRES AND BASES SHALL BE FABRICATED IN ACCORDANCE WITH AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AND SHALL HAVE BEEN TESTED BY FHWA APPROVED METHODS (LATEST EDITION). CERTIFICATION FOR TESTS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.
6. SHOP DRAWING SUBMITTAL DATA SHALL INCLUDE COMPUTER PRINTOUT SHOWING HORIZONTAL FOOT CANDLE LEVELS TO BE OBTAINED USING SUBMITTED LUMINAIRES ON THIS PROJECT. AT FINAL INSPECTION THE CONTRACTOR SHALL VERIFY THE HORIZONTAL FOOT CANDLE LEVELS ON THE ROADWAY WITH AN APPROVED CURRENTLY CALIBRATED LIGHT METER AND SUBMIT REPORT FOR APPROVAL.
7. ALL ELECTRICAL WORK SHALL MEET ALL REQUIREMENTS OF THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), THE NATIONAL ELECTRICAL SAFETY CODE (NESC) AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL COMPONENTS SHALL BE PROPERLY GROUNDED AND BONDED PER N.E.C. REQUIREMENTS.
8. INSTALL LIGHTNING ARRESTORS, PROPERLY GROUNDED, IN POWER (SECONDARY) ENTRANCES ON OUTSIDE OF ENCLOSURE.
9. IN ACCORDANCE WITH N.E.C., IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL IDENTIFYING CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE.
10. THE CONTRACTOR SHALL NOTIFY FPL AT LEAST 48 HOURS PRIOR TO ANY INSTALLATION THAT IS WITHIN 20 FEET OF ENERGIZED ELECTRICAL CONDUCTORS. EXTREME CAUTION SHALL BE EXERCISED AT ALL TIMES IN PERFORMANCE OF WORK AROUND THE PRIMARY HIGH VOLTAGE COMPONENTS.
11. PULLING INSTRUCTIONS: CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO THE JACKET AND MEET THE MANUFACTURER'S REQUIREMENTS. USE PULLING COMPOUND PER MANUFACTURER'S REQUIREMENTS. ALL BENDS SHALL NOT BE LESS THAN RECOMMENDED BY THE NEC OR NECS FOR THE CABLE USED.
12. CONTRACTOR SHALL FURNISH AND INSTALL AN ALUMINUM IDENTIFICATION TAG ON EACH ROADWAY LIGHTING STANDARD. TAGS SHALL BE 2 INCHES X 8 INCHES IN SIZE WITH WHITE LETTERS ON BLUE BACKGROUND, ATTACHED WITH RIVETS (NO SCREWS). NUMBERS SHALL BE PER THE POLE IDENTIFICATION TAG DETAIL. COST OF TAGS SHALL BE INCLUDED IN THE BID ITEMS FOR LIGHT POLE COMPLETE. BOTTOM OF TAG SHALL BE INSTALLED 5 FEET ABOVE FINISHED GRADE. COORDINATE THE POLE NUMBER WITH LEE COUNTY MAINTENANCE.
13. THE CONTRACTOR SHALL STAKE ALL POLE LOCATIONS AND REQUEST UTILITY COMPANIES TO LOCATE AND STAKE UNDERGROUND UTILITIES PRIOR TO EXCAVATING.
14. ALL CONDUITS UNDER ROADWAY (AND/OR SIDEWALK) SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF ROADWAY BASE AND SURFACE (OR CONCRETE), EXCEPT WHERE OTHERWISE INDICATED IN THE PLANS.
15. DIRECTIONAL BORE OPERATIONS, IF USED, SHALL MEET THE REQUIREMENTS OF THE LEE COUNTY DEPARTMENT OF TRANSPORTATION PLAN SPECIFICATIONS FOR SIGNAL AND STREET LIGHTING.
16. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE WITHIN TWO FEET OF THE LIGHT POLE FOUNDATIONS OR CONDUIT RUNS, AS DETERMINED BY THE ENGINEER, THE CONTRACTOR WILL HAND DIG THE FIRST FOUR FEET OF THE HOLE FOR THE POLE FOUNDATION AND CONDUIT RUN.
17. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF EACH WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. THE CONTRACTOR SHALL NOT OPEN ANY AREA THAT CANNOT BE BACKFILLED IN THE SAME WORK PERIOD.
18. ALL EXCESS DIRT AND DEBRIS EXCAVATED FROM POLE FOUNDATIONS SHALL BE REMOVED DAILY TO AREAS APPROVED BY THE ENGINEER AND PAID FOR UNDER PAY ITEM 715-4-13.
19. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL SIDE STREETS, PRIVATE AND COMMERCIAL DRIVEWAYS AT ALL TIMES DURING THE CONSTRUCTION OPERATION.
20. THE LIGHTING SYSTEM WILL BE MAINTAINED BY LEE COUNTY UPON FINAL ACCEPTANCE. THE CONTRACTOR SHALL SUBMIT "AS-BUILT" PLANS TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.
21. CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD SHOP DRAWINGS DETAILING THE LAYOUT OF THE ELECTRICAL EQUIPMENT INSIDE THE DISTRIBUTION POINT LIGHTING ELECTRICAL ENCLOSURE.

22. ALL CONDUCTORS SHALL HAVE THWN-2 600 VOLT INSULATION. ALL CONDUCTORS TO BE THHN/THWN-2. ALL CONDUCTORS SHALL BE CONTINUOUS IN COLOR FROM THE LOAD CENTER TO EACH STREET LIGHT POLE. PHASE TAPE SHALL NOT BE USED TO IDENTIFY A CONDUCTOR.
23. CONDUIT LOCATIONS AS SHOWN ON THE PLANS ARE DIAGRAMMATIC. CONDUITS MUST BE PLACED WITHIN THE ROADWAY LIMITS, BUT CAN BE ADJUSTED TO FIT AROUND EXISTING AND PROPOSED UTILITIES. WHERE PLANNED LOCATION OF LIGHTING CONDUIT RUNS 36" UNDER PAVEMENT IS FOUND TO CONFLICT WITH UNDERGROUND UTILITIES, THE LIGHTING CONDUIT POSITION SHALL BE ALTERED VERTICALLY OR HORIZONTALLY TO AVOID THE CONFLICT AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. A 24" ABSOLUTE MINIMUM DEPTH SHALL BE MAINTAINED WHERE LIGHTING CONDUITS ARE RELOCATED CLOSER THAN 36" BELOW THE GROUND SURFACE AND SHALL BE PLACED IN AN ADDITIONAL 3" PVC SLEEVE OR BACKFILLED WITH A MINIMUM OF 4" x 4" OF CONCRETE. COST OF SUCH TREATMENT WILL BE INCIDENTAL TO PAY ITEMS PROVIDED.
24. CONTRACTOR SHALL PREPARE ACCURATELY DIMENSIONED "AS-BUILT" PLANS OF FINAL POLE, CONTROLLER, AND CONDUIT LOCATIONS. "AS-BUILT" PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO FINAL ACCEPTANCE. AFTER THE "AS-BUILT" PLANS ARE APPROVED, THE CONTRACTOR SHALL SUBMIT TWO COPIES TO THE RESIDENT ENGINEER AND ONE COPY TO THE LEE COUNTY MAINTENANCE. COST OF SUCH PREPARATION SHALL BE INCIDENTAL TO THE PAY ITEMS PROVIDED.
25. ALL CONDUITS SHALL BE MANDREL TESTED AND CLEANED. CONDUIT PLACED FOR FUTURE USE SHALL HAVE ¼" POLYESTER CORD PULLED IN PLACE AND CAPPED, WITH NOTATION INSIDE CONDUIT AS TO LOCATION OF OPPOSITE END. PLACE PULL BOXES TO MARK ENDS OF EMPTY CONDUITS.
26. THE CONTRACTOR SHALL CONTACT THE POWER COMPANY TO DETERMINE IF A SERVICE PROCESSING FEE IS REQUIRED. THE FEE SHALL BE INCLUDED AS PART OF PAYMENT FOR THE LOAD CENTER.
27. CONTRACTOR SHALL USE THE CONCRETE FOUNDATION PER FDOT STANDARD PLAN INDEX 715-002 (SCREW TYPE FOUNDATION IS NOT ALLOWED).
28. ALL POLE FOUNDATIONS SHOULD BE 2" ABOVE GRADE AT ALL LOCATIONS. IF ADJUSTMENTS ARE NECESSARY PLEASE NOTIFY ENGINEER.
29. STREETLIGHTS, ELECTRIC SERVICES, AND LOAD CENTERS SHALL NOT BE PLACED IN DITCHES, DRAINAGE SLOPES, SWALES, OR WHERE SHEET OR STANDING WATER CAN INTRUDE.

PAY ITEM NOTES:

PAY ITEM NO. 639-1-122:  
ELECTRICAL SERVICE SHALL BE 120/240 VAC - THREE WIRE. ELECTRICAL SERVICE SHALL BE METERED. METER SOCKET SHALL BE 200 AMP LEVER BYPASS NEMA 3R ALUMINUM ENCLOSURE RATED FOR OUTDOOR USE (MILBANK UAP9551-X-OG-HSP). MAIN LUG LOAD CENTER DISCONNECT SHALL BE 125 AMP 24 SPACES/34 CIRCUITS RATED FOR OUTDOOR USE (SQUARE D Q0124M125PRB). SURGE PROTECTION DEVICE (SPD) SHALL BE RATED 120/240 VAC AND BE FDOT APL APPROVED. ALL CIRCUIT BREAKERS SHALL BE ASSIGNED AS FOLLOWS:  
-SPACE 1 SHALL BE A SINGLE POLE 30 AMP FOR RRFB  
-SPACE 2-4 SHALL BE A DOUBLE POLE 30 AMP FOR STREET LIGHTING  
-SPACE 3-5 SHALL BE A DOUBLE POLE 30 AMP FOR SPD

PAY ITEM NO. 654-2-18:  
REFER TO FDOT INDEX 654-001 AND SECTION 18 OF "LEE COUNTY DEPARTMENT OF TRANSPORTATION PLAN SPECIFICATIONS FOR SIGNAL & STREET LIGHTING". RRFB SHALL BE INSTALLED ON ALUMINUM PEDESTAL POST ASSEMBLY. ALL PEDESTAL POLES SHALL BE INSTALLED WITH SQUARE BREAKAWAY BASE FOR ALUMINUM FOUR (4) INCH PEDESTAL POLE WITH ALUMINUM DOOR AND GROUND LUG, PEDESTAL POLE SHALL BE FOUR (4) INCH SCHEDULE 80 SPUN ALUMINUM POLE AND HAVE A POLE & BASE COLLAR LOCKING ASSEMBLY. RRFB SHALL BE CARMANAH - SC315-G AC POWERED RRFB SYSTEM. SHALL INCLUDE AI/TEMPLE AI-500-030 LOW POWER MONITOR UNIT.  
-CARMANAH SC315-G  
-AC POWERED  
-NATURAL ALUMINUM CABINET FINISH  
-DOUBLE LIGHT BARS  
-AUDIBLE PUSH BUTTON ACTIVATION WITH TACTILE ARROW - POLARA INX (INX8GN0-Y) (YELLOW BUTTON AND SIGN PLATE)  
-TYPE X1 - DIAMOND GRADE - YELLOW - 30" X 30" - W11-2  
-TYPE X1 - DIAMOND GRADE - YELLOW - 24" X 12" - W16-7P

PAY ITEM NO. 715-7-12:  
THIS PAY ITEM INCLUDES FURNISHING AND INSTALLING AN ENCLOSURE WITH LIGHTING CONTACTOR AND PHOTO CONTROL AS PER LEE COUNTY SPECIFICATIONS. THE ENCLOSURE SHALL BE A SQUARE D NIGHT MASTER SHORT VERSION, STAINLESS STEEL, (8903SMH61V02).

REVISIONS				<div><div>JOHNSON ENGINEERING</div><div>LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642</div></div>	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			GENERAL NOTES AND POLE DATA	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID		
						LEE	20214267-000		
								L-3	

CONVENTIONAL  
LIGHTING DESIGN CRITERIA

Average Initial Intensity	Foot Candles
Uniformity Ratio Avg./Min.	3:1 Or Less
Max./Min.	10:1 Or Less

LEGEND

SYMBOLS

DESCRIPTION



Holophane Mongoose LED Medium P27, 3000K CCT, Forward Throw, with field adjustable output (MGLEDM-P27-30K-XVOLT480-ZT-FT- VH-GRSD-NTR-NBR-AO-NL). Designed for Type II distribution. Pole mounting height 45 ft.



Holophane Mongoose LED Medium P27, 3000K CCT, Wide Roadway, with field adjustable output (MGLEDM-P27-30K-MVOLT-ZT-WR-VH-GRSD-NTR-NBR-AO-NL-US-HSS). Designed for Type II distribution. Pole mounting height 40 ft with housing side shields and uplight skirt.



Existing pole and luminaire.



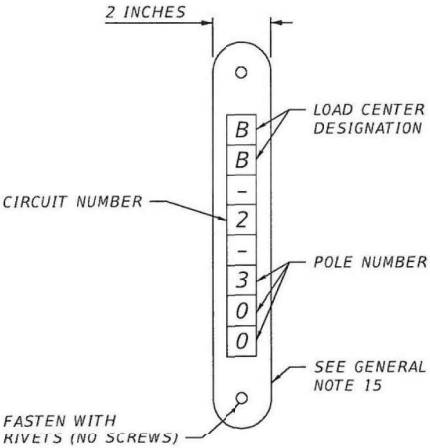
2" Schedule 40 PVC conduit with THW or THWN conductors inside (conduit and conductor size as shown on plan sheets). Run one (1) 6 AWG copper bond conductor (TW green insulation) inside conduit with other conductors.



2" Schedule 40 PVC conduit directional bored with THW or THWN conductors inside (conduit and conductor size as shown on plan sheets). Run one (1) 6 AWG copper bond conductor (TW green insulation) inside conduit with other conductors.



Pull box. For specifications see Section 635-001 of Standard Specifications For Road And Bridge Construction.

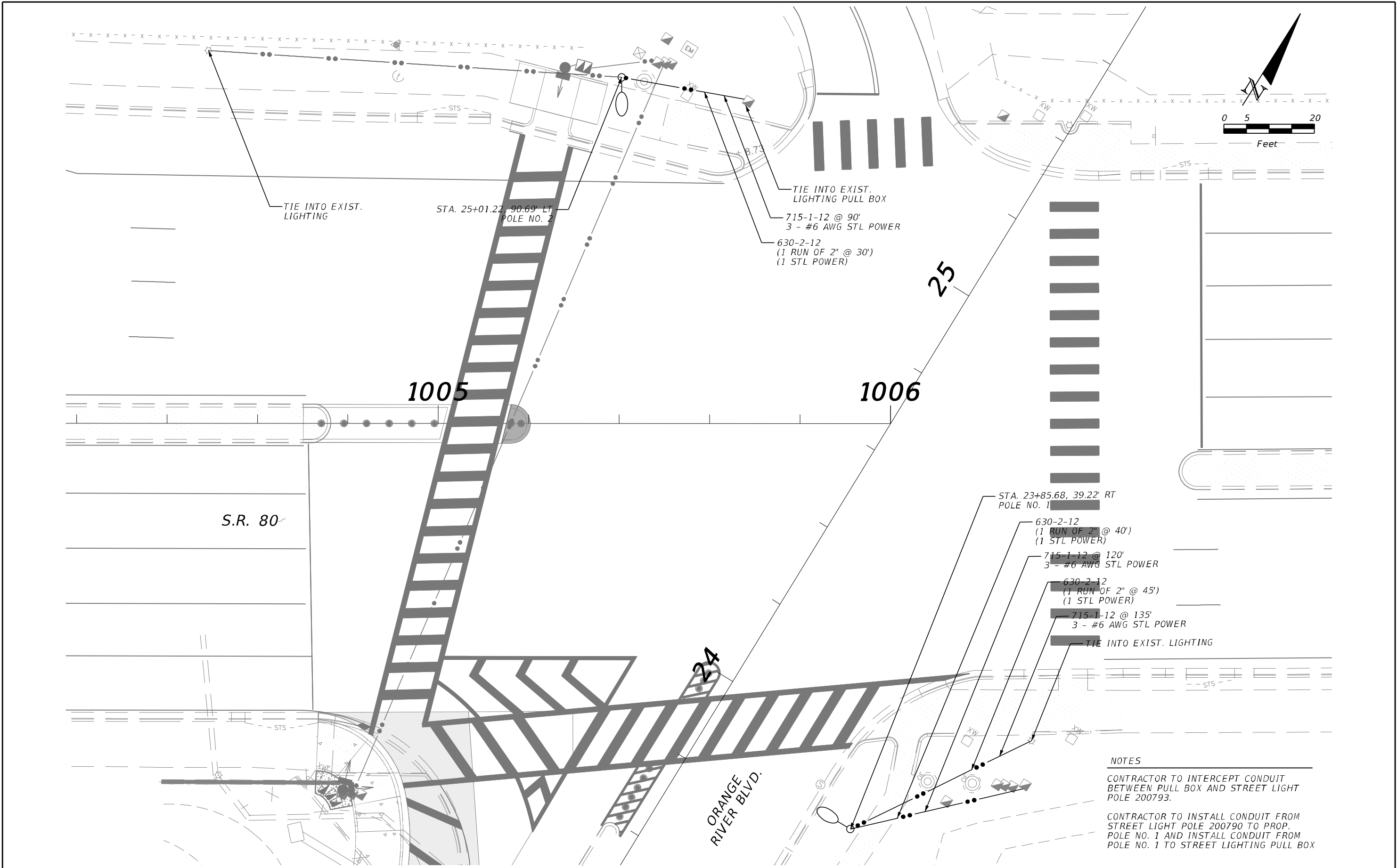


POLE IDENTIFICATION TAG DETAIL  
N.T.S.

POLE DATA

POLE NO.	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	MOUNTING HEIGHT	POLE SETBACK	PAY ITEM
1	23+85.68	0	255	45'	39.22'	715-4-14
2	25+01.22	0	255	45'	90.69'	715-4-14
3	108+44.00	0	255	40'	22.50'	715-4-13
4	109+04.00	0	255	40'	22.50'	715-4-13

REVISIONS				<div>JOHNSON ENGINEERING LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642</div>	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			POLE DATA AND LEGEND	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID		
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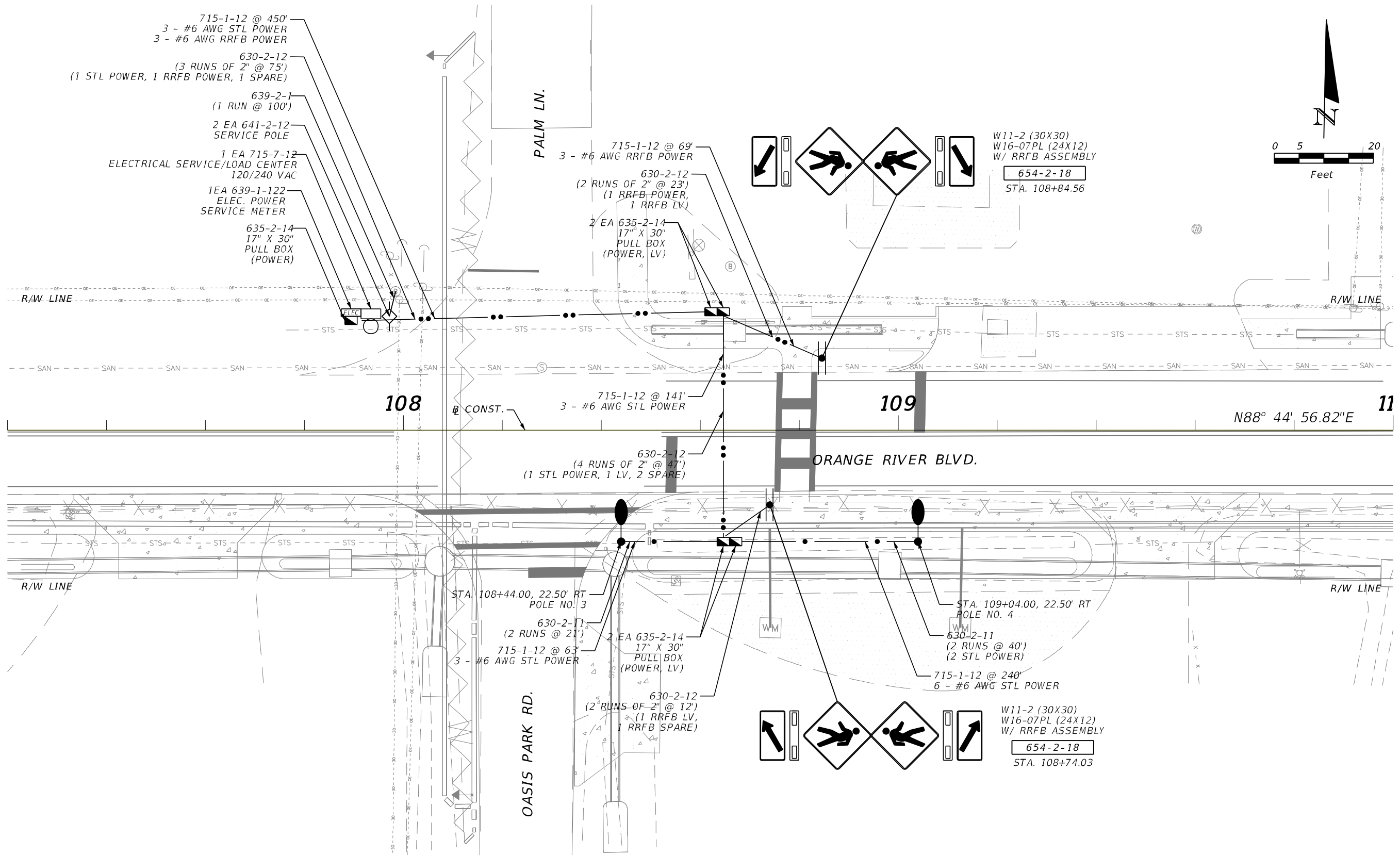


NOTES

CONTRACTOR TO INTERCEPT CONDUIT BETWEEN PULL BOX AND STREET LIGHT POLE 200793.

CONTRACTOR TO INSTALL CONDUIT FROM STREET LIGHT POLE 200790 TO PROP. POLE NO. 1 AND INSTALL CONDUIT FROM POLE NO. 1 TO STREET LIGHTING PULL BOX

REVISIONS				JOHNSON ENGINEERING LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			LIGHTING PLAN ORANGE RIVER BLVD. & S.R. 80		SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID				
						LEE	20214267-000			L-5	



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

**JOHNSON ENGINEERING**  
LEAH M. HOLMES • P.E. LICENSE NO. 85359  
JOHNSON ENGINEERING, INC.  
2122 JOHNSON STREET • FORT MYERS, FL 33901  
CERTIFICATE OF AUTHORIZATION NO. 642

LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	JEI PROJECT ID
	LEE	20214267-000

**LIGHTING PLAN  
ORANGE RIVER BLVD.**

SHEET NO.
L-6

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