

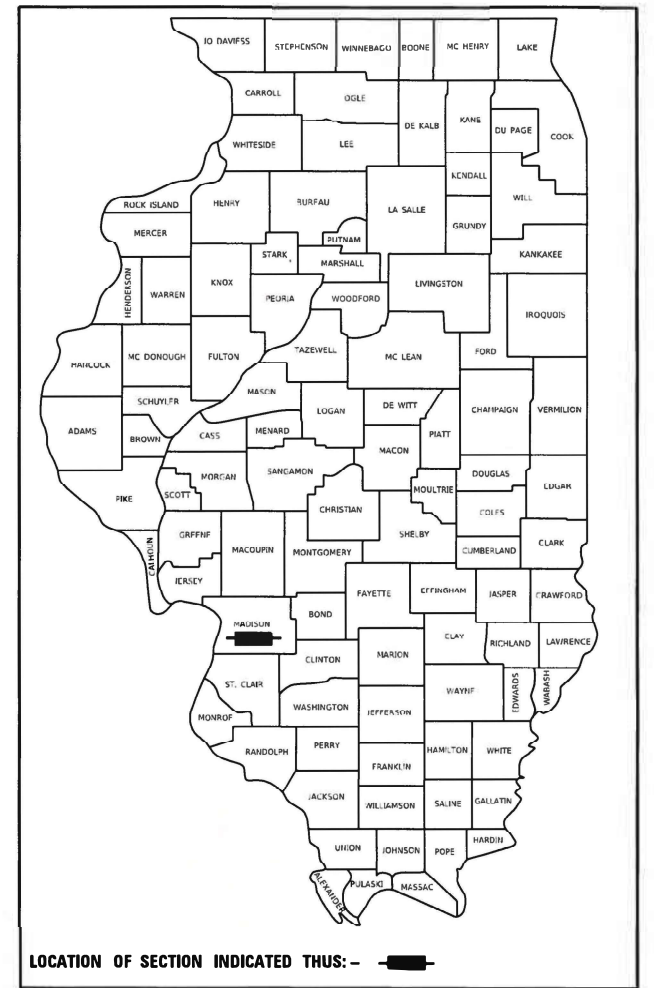
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**PROPOSED  
HIGHWAY PLANS**

FAI ROUTE 55 (I-55)  
SECTION 60-1L-1  
PROJECT NHPP-YGTV(370)  
I-55 AT IL 143-LIGHTING  
MADISON COUNTY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1L-1	MADISON	6	1
		ILLINOIS	CONTRACT NO. 76N80	

D-98-106-20



FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

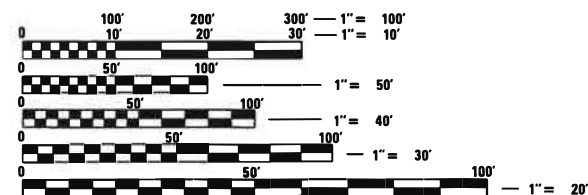
FUNCTIONAL CLASSIFICATION:  
I-55 & RAMPS INTERSTATE  
IL 143 OTHER PRINCIPAL ARTERIAL

POSTED SPEED LIMIT  
I-55 = 70 MPH  
IL 143 = 40 MPH  
RAMPS = 50 MPH

ADT/MV (TRUCKS)

I-55	33,800	(2019)	7000	(2019)
IL 143	13,000	(2019)	195	(2019)
NB EXIT	2900	(2016)	60	(2016) (TRUCKS)
NB ENTR	2000	(2016)	30	(2016) (TRUCKS)
SB EXIT	1750	(2016)	60	(2016) (TRUCKS)
SB ENTR	3150	(2016)	70	(2016) (TRUCKS)

MUNICIPALITY:  
CITY OF EDWARDSVILLE

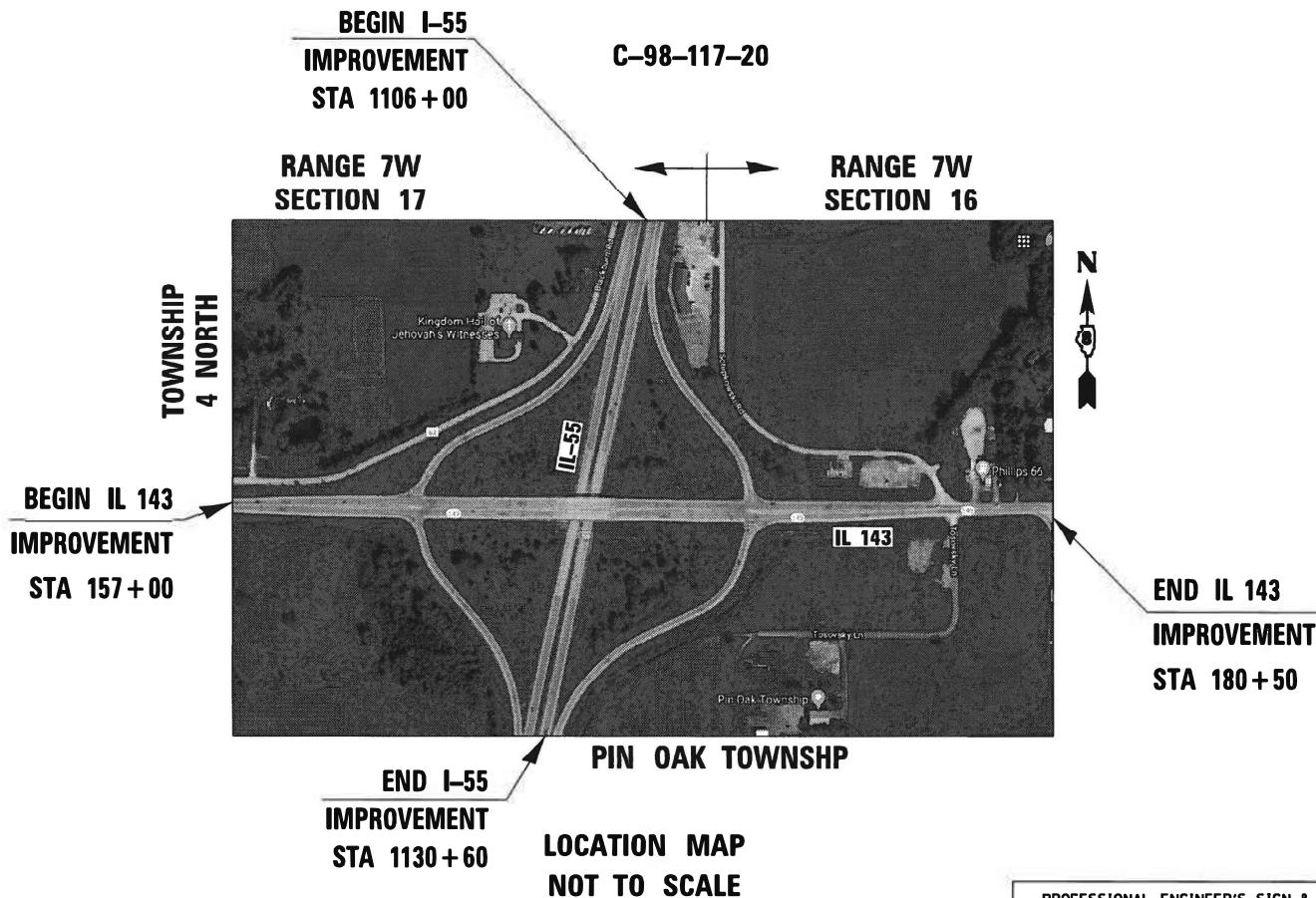


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: HERVE GELIN 618-346-3179  
PROJECT MANAGER: SQUAD LEADER: MICHAEL PRESTON 618-346-3143  
ELECTRICAL SERVICES SUPERVISOR: KENNETH DAVIS 618-346-3274

CONTRACT NO. 76N80



PROFESSIONAL ENGINEER'S SIGN & SEAL  
*Brenda D. Lowery* 01/28/2021  
BRENDA D. LOWERY, P.E.  
EXPIRES 11-30-2021

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
SUBMITTED *Jan 28 2021*  
*K. Roberts JDM*  
REGIONAL ENGINEER  
March 19, 2021  
*Scott A. Elk*  
ENGINEER OF DESIGN AND ENVIRONMENT  
March 19, 2021  
*James M. Jan*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION 13

AMES Engineering, Inc.  
CONSULTING ENGINEERS  
6330 Belmont Road, Suite 4B  
Downers Grove, IL 60515

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**INDEX OF SHEETS**

1. COVER SHEET
2. INDEX OF SHEETS, HIGHWAY STANDARDS AND GENERAL NOTES
3. SUMMARY OF QUANTITIES
4. REMOVAL LIGHTING PLAN
5. PROPOSED LIGHTING PLAN
6. WIRING DIAGRAM

**HIGHWAY STANDARDS**

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701101-05	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55MPH
701422-10	LANE CLOSURE, MULTILANE, FOR SPEEDS ≥ 45 MPH TO 55 MPH
701901-08	TRAFFIC CONTROL DEVICES
821101-02	LUMINAIRE WIRING IN POLE
825026-04	LIGHTING CONTROLLER BASE MOUNT 480V
835001-01	LIGHT TOWER
837001-05	LIGHT TOWER FOUNDATION

**GENERAL NOTES**

1. THIS PROJECT INCLUDES THE INSTALLATION OF A NEW LIGHTING SYSTEM ALONG THE INTERCHANGE OF I-55 AND IL-143. PROPOSED LIGHTING SHALL BE OWNED AND MAINTAINED BY THE STATE OF ILLINOIS.
2. THE CONTRACTOR SHALL CONTACT THE LOCAL ELECTRIC UTILITY COMPANY TO COORDINATE THE ELECTRIC SERVICE CONSTRUCTION WORK.
3. THE QUANTITIES OF RACEWAY WHERE INDICATED ON THESE PLANS ARE APPROXIMATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND SHALL INSTALL RACEWAYS IN COMPLETE COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.
4. THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. TO LOCATE AND MARK/STAKE ALL UNDERGROUND UTILITIES.
5. THE CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND/OVERHEAD UTILITIES PRIOR TO INSTALLATION OF LIGHT POLES AND CONDUITS. IF THERE IS A CONFLICT WITH THE LIGHT POLES/CONDUITS AS SHOWN ON PLANS, THE CONTRACTOR SHALL SUGGEST THE ALTERNATIVE LOCATIONS AND COORDINATE WITH THE ENGINEER PRIOR TO PERFORMING CONSTRUCTION WORK.
6. TRENCHES FOR LIGHTING RACEWAYS SHALL HAVE A MINIMUM DEPTH OF 30".
7. LIGHTING SYSTEM INSTALLATION SHALL CONFORM TO THE LATEST IDOT STANDARDS, NEC AND LOCAL CODES.
8. ALL ELECTRICAL EQUIPMENT AND PRODUCTS SHALL BE U/L LISTED AND LABELED.
9. THE CONTRACTOR SHALL TAKE CARE WHEN INSTALLING UNIT DUCT TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES, TREES AND ROOTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE AS DETERMINED BY THE ENGINEER.
10. THE CONTRACTOR SHALL TAKE CARE WHEN INSTALLING LIGHT POLE FOUNDATIONS TO AVOID CONFLICTS WITH UNDERGROUND UTILITIES. WHEN CONFLICTS ARE ENCOUNTERED, THE CONTRACTOR SHALL REQUEST TO RELOCATE THE FOUNDATION. THE NEW LOCATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
11. GROUND RODS SHALL BE INSTALLED AT EACH LIGHTING UNIT.

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LT-01



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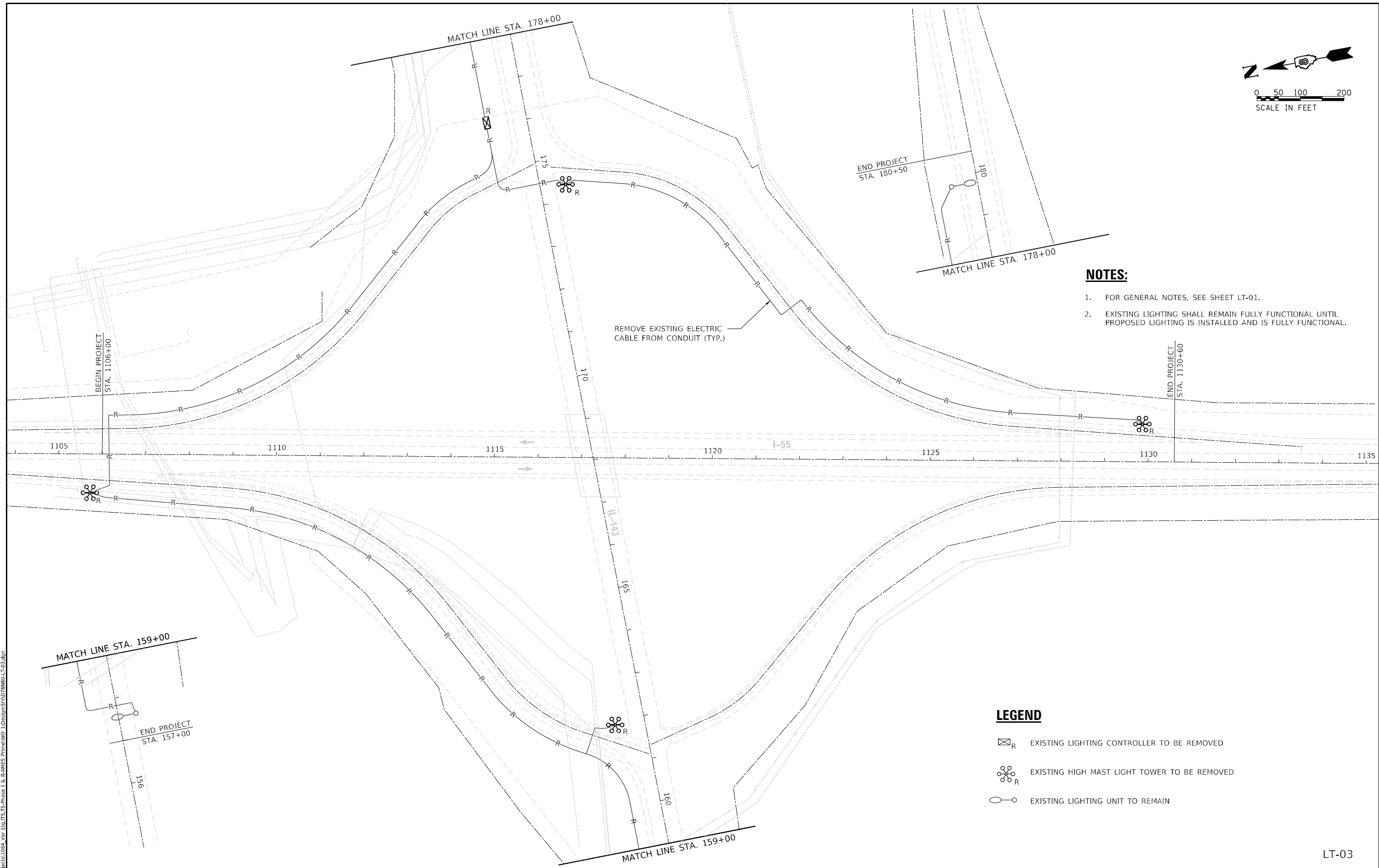
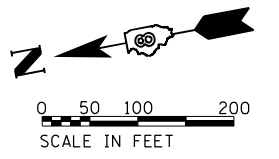
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DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, HIGHWAY STANDARDS AND GENERAL NOTES  
I-55 AT IL 143**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1L-1	MADISON	6	2
CONTRACT NO. 76N80				
ILLINOIS FED. AID PROJECT				





- NOTES:**
- FOR GENERAL NOTES, SEE SHEET LT-01.
  - EXISTING LIGHTING SHALL REMAIN FULLY FUNCTIONAL UNTIL PROPOSED LIGHTING IS INSTALLED AND IS FULLY FUNCTIONAL.

- LEGEND**
- EXISTING LIGHTING CONTROLLER TO BE REMOVED
  - EXISTING HIGH MAST LIGHT TOWER TO BE REMOVED
  - EXISTING LIGHTING UNIT TO REMAIN

LT-03

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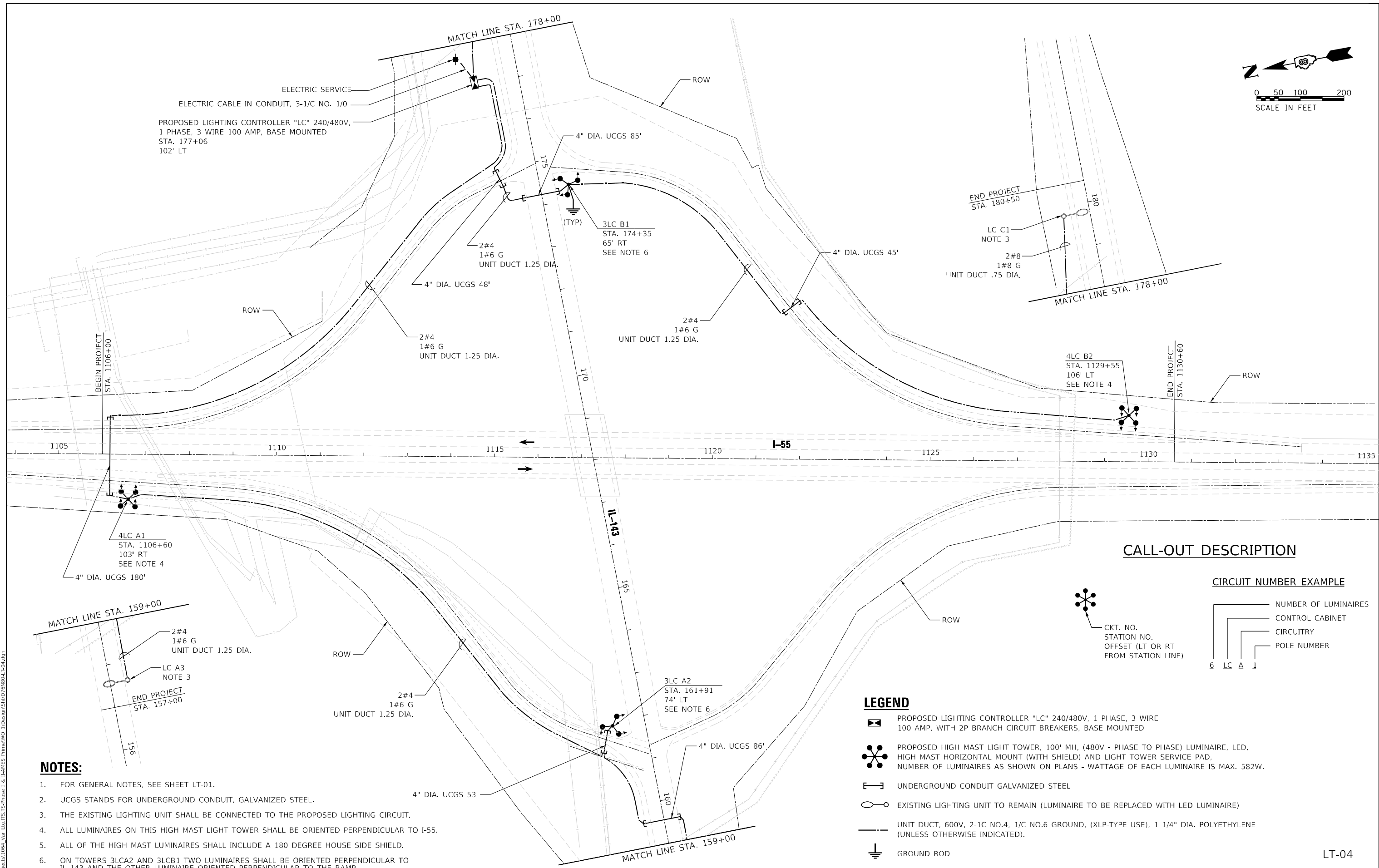
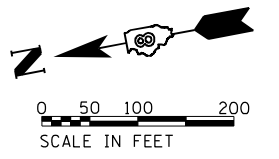
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**REMOVAL LIGHTING PLAN**  
**I-55 AT ILL. 143**

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	600-111-11	MADISON	5	4
CONTRACT NO. 768N80			ILLINOIS FED. AID PROJECT	



ELECTRIC SERVICE  
 ELECTRIC CABLE IN CONDUIT, 3-1/C NO. 1/0  
 PROPOSED LIGHTING CONTROLLER "LC" 240/480V,  
 1 PHASE, 3 WIRE 100 AMP, BASE MOUNTED  
 STA. 177+06  
 102' LT

3LC B1  
 STA. 174+35  
 65' RT  
 SEE NOTE 6

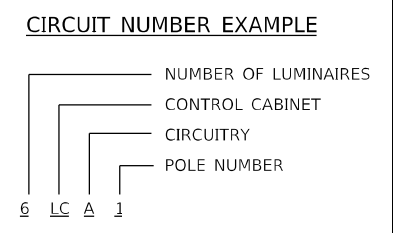
END PROJECT  
 STA. 180+50

LC C1  
 NOTE 3

4LC B2  
 STA. 1129+55  
 106' LT  
 SEE NOTE 4

4LC A1  
 STA. 1106+60  
 103' RT  
 SEE NOTE 4

**CALL-OUT DESCRIPTION**



**NOTES:**

- FOR GENERAL NOTES, SEE SHEET LT-01.
- UCGS STANDS FOR UNDERGROUND CONDUIT, GALVANIZED STEEL.
- THE EXISTING LIGHTING UNIT SHALL BE CONNECTED TO THE PROPOSED LIGHTING CIRCUIT.
- ALL LUMINAIRES ON THIS HIGH MAST LIGHT TOWER SHALL BE ORIENTED PERPENDICULAR TO I-55.
- ALL OF THE HIGH MAST LUMINAIRES SHALL INCLUDE A 180 DEGREE HOUSE SIDE SHIELD.
- ON TOWERS 3LCA2 AND 3LCB1 TWO LUMINAIRES SHALL BE ORIENTED PERPENDICULAR TO IL 143 AND THE OTHER LUMINAIRE ORIENTED PERPENDICULAR TO THE RAMP.

**LEGEND**

- PROPOSED LIGHTING CONTROLLER "LC" 240/480V, 1 PHASE, 3 WIRE 100 AMP, WITH 2P BRANCH CIRCUIT BREAKERS, BASE MOUNTED
- PROPOSED HIGH MAST LIGHT TOWER, 100' MH, (480V - PHASE TO PHASE) LUMINAIRE, LED, HIGH MAST HORIZONTAL MOUNT (WITH SHIELD) AND LIGHT TOWER SERVICE PAD. NUMBER OF LUMINAIRES AS SHOWN ON PLANS - WATTAGE OF EACH LUMINAIRE IS MAX. 582W.
- UNDERGROUND CONDUIT GALVANIZED STEEL
- EXISTING LIGHTING UNIT TO REMAIN (LUMINAIRE TO BE REPLACED WITH LED LUMINAIRE)
- UNIT DUCT, 600V, 2-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE (UNLESS OTHERWISE INDICATED).
- GROUND ROD

LT-04

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	DATE - 01-28-2021	REVISED -

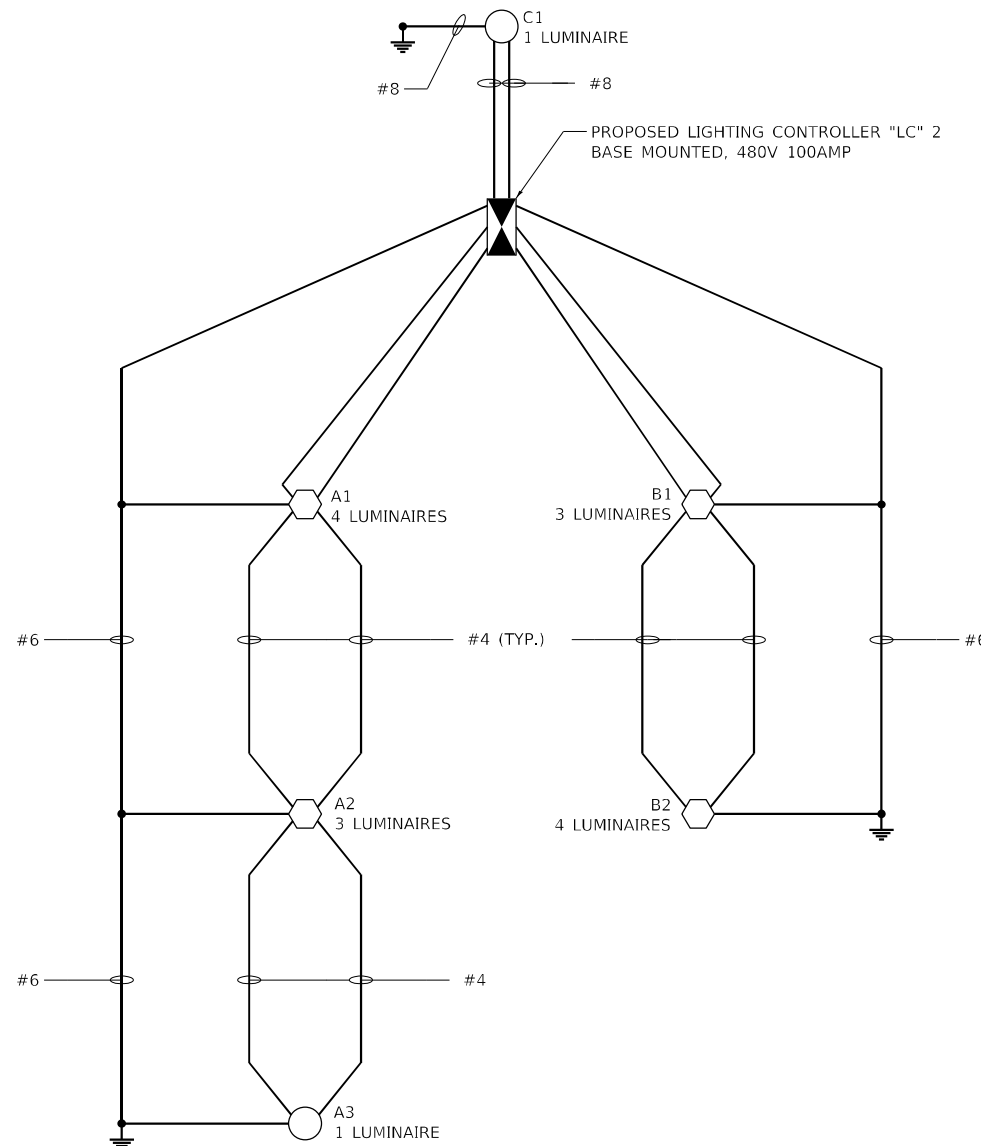
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 DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN  
 I-55 AT IL 143**

SCALE: 1" : 100' SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1L-1	MADISON	6	5
CONTRACT NO. 76N80				

ILLINOIS FED. AID PROJECT



**LOAD TABLE LIGHTING CONTROLLER "LC"**

240/480V, A.C. 1 PHASE, 3 WIRE, 100A WITH 2P BRANCH CIRCUIT BREAKERS

CIRCUIT	TOTAL LUM.	TOTAL CURRENT IN AMPS	TOTAL WATTAGE
A	8	9.76	4239
B	7	9.10	3955
C	1	0.66	284
D	-	SPARE	SPARE
E	-	SPARE	SPARE
F	-	SPARE	SPARE
<b>TOTAL</b>		<b>19.52</b>	<b>8478</b>

TOTAL LOAD IN WATTS 8478  
 TOTAL LOAD IN AMPS 19.52

**LEGEND:**

- PROPOSED LIGHTING CONTROLLER "LC" 240/480V, 1 PHASE, 3 WIRE 100 AMP, WITH 2P BRANCH CIRCUIT BREAKERS, BASE MOUNTED
- UNIT DUCT, 600V, 2-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE
- PROPOSED LIGHT TOWER
- EXISTING LIGHTING UNIT WITH RETROFITTED LED LUMINAIRE
- GROUND ROD

**Illinois Department of Transportation** Luminaire Performance Table

[Print Form](#) [Reset Form](#)

**Project**

Date	Contract Number	Section Number	County
02/10/21	76N80	60-1L-1	Madison
Marked Route Number		Municipality	
55		Edwardsville	

**Roadway**

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	Q-Zero Value
12FT.	5	N/A	R3	0.07

**Structure**

Mounting Height	Arm Length	Set-Back	Number of Luminaires (Highmast & Sign Lighting Only)
100FT.	1FT.	31FT.	4

**Luminaire**

Description	I.E.S. Lateral Distribution	I.E.S. Vertical Distribution	
Highmast, Output Designation K	Type III	Medium	
Total Light Loss Factor (LLF)	B-U-G Rating	Shields	Dimming Protocol
0.7	U=0	House side	0-10V

**Layout**

Spacing (to Nearest 5 ft)	Configuration (Opposite, Staggered, 1 Sided, or Median)
180 FT.	One Sided

**Performance**

Average Illuminance, E <sub>ave</sub> (fc)	Uniformity Ratio, E <sub>ave</sub> /E <sub>min</sub>		
0.9	3.0:1		
Average Luminance, L <sub>ave</sub> (cd/m <sup>2</sup> )	Uniformity Ratio, L <sub>ave</sub> /L <sub>min</sub>	Uniformity Ratio, L <sub>max</sub> /L <sub>min</sub>	Veiling Luminance Ratio, L <sub>v</sub> /L <sub>ave</sub>
N/A	N/A	N/A	N/A

**Light Trespass**

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, E <sub>H</sub>	Max. Vertical Illuminance at ROW, E <sub>v</sub>
46	.3 fc	.3 fc

**Notes**

- Set-Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign to the luminaire.
- Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to the roadway.
- Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
- Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

a. Compliance with performance criteria shall be held to one significant digit.

b. Initial lumens of the proposed luminaire may vary from the values specifies in the table given in Article 1067.06 of the BDE Special Provision for Luminaire, LED.

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**WIRING DIAGRAM AND LUMINAIRE PERFORMANCE TABLE**  
**I-55 AT IL 143**

SCALE: NTS SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.1 RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1L-1	MADISON	6	6
CONTRACT NO. 76N80				
ILLINOIS FED. AID PROJECT				