03-03-2017 LETTING ITEM 041

STATE OF ILLINOIS

* 14-1 = 13 TOTAL SHEETS

D-98-019-17

DEPARTMENT OF TRANSPORTATION

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

FAI ROUTE 64 (I-64)
SECTION 82-9RA-L
I-64 GATEWAY REST AREA
LIGHTING REPAIR
ST. CLAIR COUNTY

C-98-007-17

STANDARDS

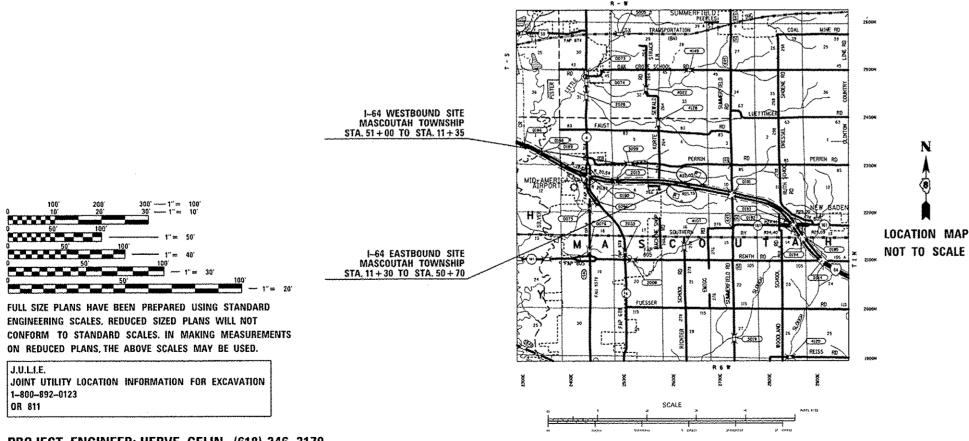
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 001006

 280001-07
 701101-05

 701106-02
 701456-04

 821101-02
 830001-03

 836001-02
 838001



PROJECT ENGINEER: HERVE GELIN (618) 346-3179 PROJECT MANAGER: JEYCEA BOBO (618) 346-3190

CONTRACT NO. 76K03

GROSS LENGTH = 7905 FT. = 1.4972 MILE NET LENGTH = 7905 FT. = 1.4972 MILE STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED

20 / G

REGIONAL ENGINEER

20 / G

REGIONAL ENGINEER

ENGINEER OF DESIGN AND ENVIRONMENT

20 / G

PARTITION OF PROGRAM (DEVELOPMENT)

2 / G

PARTITION OF PROGRAM (DEVELOPMENT)

LOCATION OF SECTION INDICATED THUS: -

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GENERAL NOTES

- 1. ALL PROPOSED LIGHTING UNITS SHALL BE LABELED ACCORDING TO THE STANDARD SPECIFICATIONS, WITH POLE NUMBERS ATTACHED WITH STAINLESS STEEL BANDING. LIGHTING UNIT NUMBERING SHALL BE AS DIRECTED BY THE ENGINEER.
- 2. EXISTING LIGHT POLES TO BE REMOVED, AND ALL ASSOCIATED HARDWARE AND APPURTENANCES, SHALL NOT BE SALVAGED BUT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF SITE AT THE CONTRACTOR'S
- 3. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ELECTRICAL WORK WITH OTHER TRADES.
- 4. CONTRACTOR SHALL INSTALL LIGHT POLES AT THE LOCATIONS INDICATED ON THE PLANS, MAINTAINING ADEQUATE CLEARANCE FROM OVERHEAD UTILITY LINES. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY CLEARANCES PER THE NATIONAL ELECTRICAL SAFETY CODE AND/OR THE REQUIREMENTS OF THE UTILITY COMPANIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL CONFLICTS BETWEEN PROPOSED LIGHT POLE LOCATIONS AND UTILITY LINES. THE LOCATION OF BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE SHOWN FOR INFORMATION ONLY. REROUTING, DISCONNECTION, RELOCATION, PROTECTION ETC., OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- 5. BREAKAWAY DEVICES SHALL NOT BE INSTALLED FOR POLES LOCATED BEHIND THE GUARDRAIL OR IN AREAS OF HIGH PEDESTRIAN ACTIVITY.
- 6. CONTRACTOR SHALL INSPECT EXISTING FOUNDATIONS AND ANCHOR BOLTS BEFORE INSTALLING NEW LIGHT POLES. FOUNDATIONS THAT SHOW OBVIOUS CONCRETE AND ANCHOR BOLT DETERIORATION (HEAVY SPALL, CRACKS, MISALIGNMENT, ETC.) SHALL BE REPLACED IN KIND. EXISTING UNIT DUCT RUNS ENTERING AFFECTED FOUNDATION SHALL BE REPLACED IN KIND IF CURRENT SLACK IS INSUFFICIENT ACCORDING TO ARTICLE 816.03 OF THE STANDARD SPECIFICATIONS. FOUNDATIONS THAT SHOW NEGLIGIBLE CONCRETE AND ANCHOR BOLT DETERIORATION WILL BE REUSED ALONG WITH THE EXISTING BOLTS AND HARDWARE.
- 7. CONTRACTOR SHALL VERIFY THE COMPATIBILITY OF EXISTING FOUNDATIONS BOLT CIRCLE AND ANCHOR RODS WITH NEW BREAKAWAY DEVICES AND POLES.
- 8. BREAKAWAY COUPLINGS SHALL NOT BE REUSED.
- 9. STAINLESS STEEL SCREEN INSTALLED AROUND OR ANCHOR RODS AND NUTS SHALL BE ACCORDING TO ARTICLE 1070.04(A)(2)C OF THE STANDARD SPECIFICATIONS EXCEPT THE MINIMUM WIRE DIAMETER SHALL BE AWG NO. 16 (1.6 MM).
- 10. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING JOINT UTILITY LOCATING INFORMATION (J.U.L.I.E) OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. THE DEPARTMENT (IDOT) IS NOT A J.U.L.I.E. MEMBER AND DOES NOT LOCATE ITS FACILITIES. A QUALIFIED ELECTRICAL CONTRACTOR, LICENSED IN ILLINOIS MUST PERFORM LOCATION OF IDOT'S FACILITIES AT THE CONTRACTOR'S COST. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

 - CHARTER COMMUNICATIONS, INC. (CABLE TV)
 FRONTIER COMMUNICATIONS (COMMUNICATIONS)
 VILLAGE OF NEW BADEN (WATER & SEWER)
 CLINTON COUNTY ELECTRIC COOPERATIVE, INC. (ELECTRIC)

MEMBERS OF J.U.L.I.E. CALL TOLL FREE (800)-892-0123 OR 811 AND ARE INDICATED BY AN \bullet . NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

- 11. IF THE ENGINEER JUDGES THE CONTRACTOR RESPONSIBLE FOR LANDSCAPE, SIDEWALK, PAVEMENT, SHOULDER, DRAINAGE ITEM AND/OR SAFETY RELATED ITEM DAMAGE. THE ENGINEER WILL ALSO JUDGE THE EXTENT OF THE REQUIRED RESTORATION. THE CONTRACTOR SHALL RESTORE THE DAMAGE, AS DIRECTED BY THE ENGINEER AT THE CONTRCTOR'S EXPENSE.
- 12. COORDINATION WITH THE DEPARTMENT'S BUREAU OF OPERATIONS IS REQUIRED BEFORE ANY TRENCHING SHALL BE DONE TO LOCATE HIGHWAY LIGHTING/PUMP STATION/ITS FACILITIES AND TO COORDINATE OTHER FIELD ACTIVITIES. WHEN NEEDED, NOTIFY THE CONTACT PERSON, TOM MOORE AT (618) 304-9929.
- 13. THE DEPARTMENT STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618-874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.
- 14. THE CONTRACTOR SHALL WIRE-BRUSH AND APPLY COLD GALVANIZE TO RUSTED ANCHOR BOLTS BEFORE NEW POLE IS SET ON EXISTING FOUNDATION. THE COST OF THIS WORK SHALL BE CONSIDERED INLCUDED IN THE PAY ITEM FOR "LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. MAST ARM".

- 15, THE CONTRACTOR SHALL STAGE THE REMOVAL OF EXISTING LIGHT POLES AND INSTALLATION OF NEW POLES SO THAT THE LIGHTING SYSTEM REMAINS FULLY OPERATIONAL AT ALL TIMES.
- 16. TRANSFORMER BASE BREAKAWAY DEVICES SHALL BE INSTALLED, UNLESS OTHERWISE
- 17. TEST BRANCH LIGHTING CIRCUITS. THE CONTRACTOR SHALL TAKE INSULATION RESISTANCE MEASUREMENTS OF ALL EXISTING CIRCUITS ACCORDING TO ARTICLE 801.13 ON WHICH WORK IS BEING PERFORMED BEFORE ANY MODIFICATIONS ARE MADE AND PROVIDE THE WRITTEN RESULTS TO THE ENGINEER EXISTING CIRCUITS NOT TESTED AND PROPERLY DOCUMENTED SHALL BE SUBJECT TO THE INSULATION REQUIREMENTS OF ARTICLE 801.13 AT THE TIME OF FINAL INSPECTION AND THE CONTRACTOR SHALL BEARE ALL EXPENSES TO BRING THEM INTO COMPLIANCE. AFTER ALL WORK IS COMPLETED ON THE BRANCH LIGHTING CIRCUITS THEY SHALL AGAIN BE TESTED ACCORDING TO ARTICLE 801.13 AND THE WRITTEN RESULTS SHALL BE PROVIDED TO THE ENGINEER. TESTS SHALL BE RUN WITH ALL COMPONENTS OF THE BRANCH LIGHTING CIRCUITS CONNECTED. IF THE TEST CANNOT BE OBTAINED WITH LED LUMINAIRES CONNECTED THEN THE TEST RESULTS CANNOT BE OBTAINED WITH LED LUMINAIRES CONNECTED THEN THE TEST RESULTS SHALL INDICATE THE SAME. ANY DEGRADATION IN INSULATION READINGS ON ANY BRANCH CIRCUIT BASED ON THE BEFORE AND AFTER TEST RESULTS SHALL BE DISCUSSED WITH THE ENGINEER. ANY WORK NECESSARY TO BRING THE CIRCUITS) INTO COMPLIANCE SHALL BE AT THE CONTRACTOR'S OWN EXPENSE AND NO ADDITIONAL PAYMENT WILL BE ALLOWED. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED INCLUDED IN THE CONTRACT PAY ITEMS "LUMINAIRE, LED, HORIZONTAL MOUNT, LOW WATTAGE" AND "LUMINAIRE, LED HORIZONTAL MOUNT, MEDIUM WATTAGE.

INDEX OF SHEETS

- 1. COVER SHEET

- 1. COVER SHEET

 2. GENERAL NOTES & INDEX OF SHEETS

 3. SUMMARY OF QUANTITIES

 4. LIGHTING & PHOTOCELL WIRING DIAGRAMS

 5. LEGEND & LIGHTING UNIT DETAILS

 6. POLE IDENTIFICATION SIGN PANEL DETAILS

 7-10. LIGHTING REPLACEMENT PLANS

 11. BUILDING ELECTRICAL DETAILS

 * 12-13. LIGHT POLE & PHOTOCELL DETAILS
- - 14. LUMINAIRE PERFORMANCE TABLE
 - * SHEET 13 DELETED

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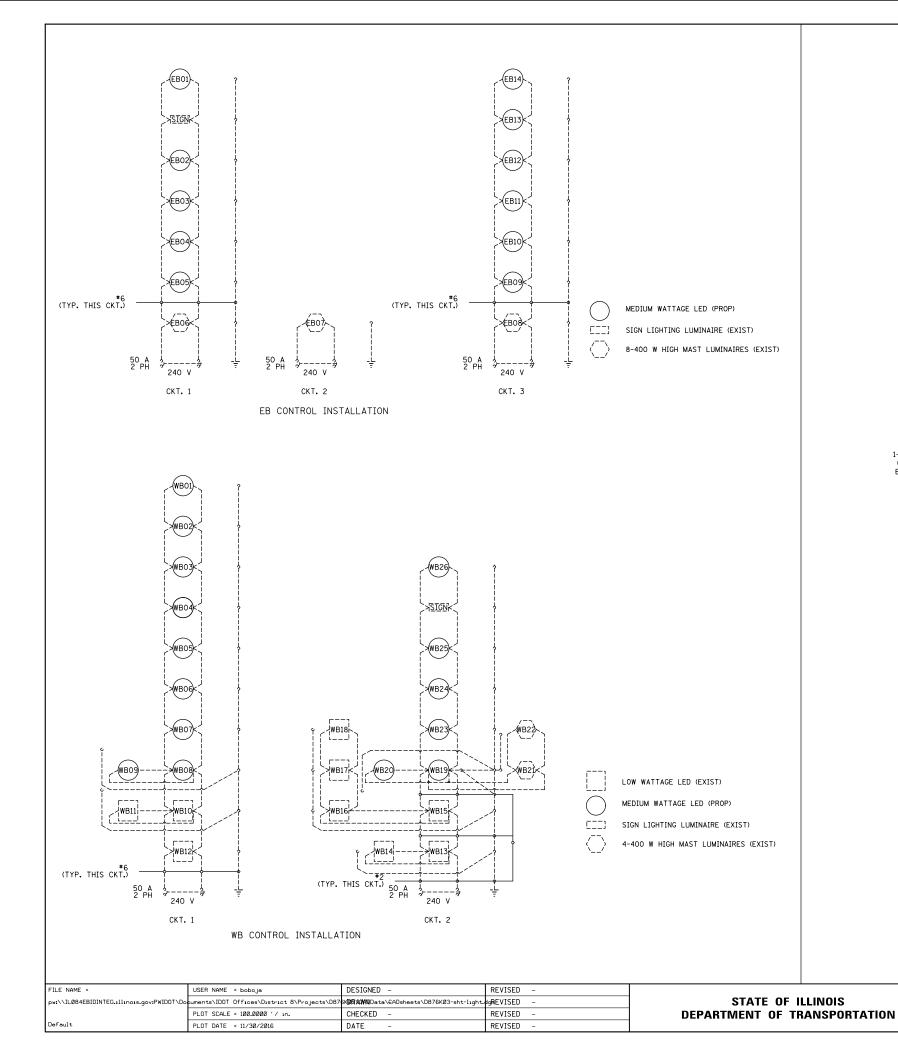
SUMMARY OF QUANTITIES

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33600300	LIGHT POLE FOUNDATION, 30" DIAMETER	FOOT	6.5	0	6. 5										
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84200600	REMOVAL OF LIGHTING UNIT, NO SALVAGE	EACH	26	11	15										
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X1400113	LUMINAIRE, LED, HORIZONTAL MOUNT,	EACH	26	11	15										
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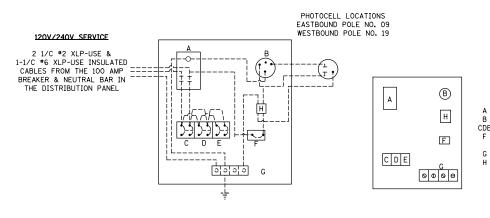
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SUMMARY OF QUANTITIES							F.A.I. RTE. 64	SECTION 82-9RA-L	COUNTY ST. CLAIR CONTRAC	TOTAL SHEETS 14	SHEET NO. 3 76KO3		
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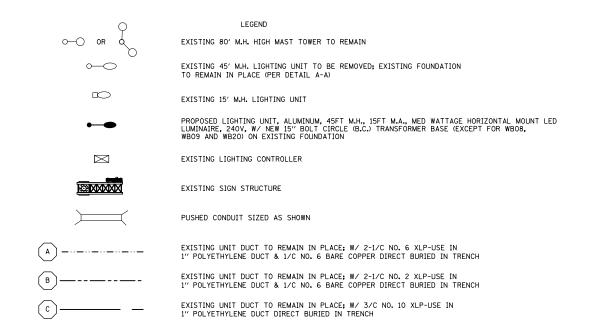
100 AMP 2-POLE CONTACTOR 3 POSITION SELECTOR SWITCH 50 AMP 2-POLE CIRCUIT BREAKERS 15 AMP SIGNAL POLE CONTROL CIRCUIT BREAKER
GROUND BUS
SURGE PROTECTOR 5 WIRE TYPE

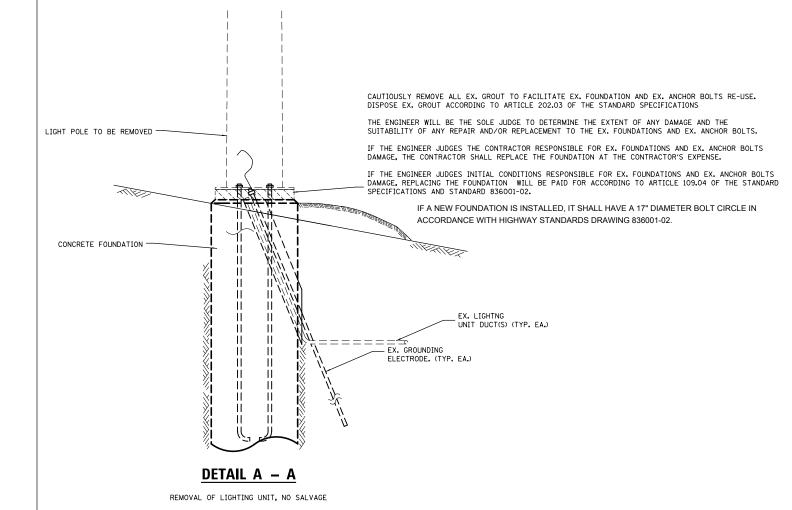
WIRING DIAGRAM EASTBOUND & WESTBOUND

SCALE:

COUNTY TOTAL SHEET NO.

ST. CLAIR 14 4 SECTION **GATEWAY REST AREA** 64 82-9RA-L LIGHTING & PHOTOCELL WIRING DIAGRAMS CONTRACT NO. 76KO3 SHEET SHEETS STA. TO STA.





STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

GATEWAY REST AREA

LEGEND & LIGHTING UNIT DETAILS

SHEET OF SHEETS STA. TO STA.

F.A.I. SECTION COUNTY TOTAL SHEETS NO.

64 82-9RA-L ST. CLAIR 14 5

CONTRACT NO. 76K03

THIS SHEET IS ADDED FOR INFORMATION ONLY

POLE P 20 GA. DARK BRONZE MATTE FINISH ALUMINUM PLATE SERIES C GOTHIC NON-REFLECTIVE WHITE PREMIUM QUALITY EMANEL LETTERS & NUMERALS SIGN INFORMATION SHALL BE IN ACCORDANCE WITH LIGHT POLE NUMBERING & WATTAGES SHOWN ON THE SCHEDULE VARIES VARIES 1/4" STAINLESS STEEL SELF-TAPPING SCREWS WITH 3/16" STAINLESS STEEL SPACERS BEHIND PANEL HOLES FOR MOUNTING SHALL BE DRILLED ON POLE \$\(\text{Q} \) ONLY (2 SCREWS PER PANEL)

TYPICAL POLE IDENTIFICATION SIGN PANEL (NOT TO SCALE)

SCHEDULE OF LIGHT TOWER & LIGHT POLE IDENTIFICATION SIGN PANELS

MESSAGE AREA									
A	В	0							
EB 01 - EB 05	MED WATTAGE	240V							
EB 09 - EB 14	MED WATTAGE	240V							
WB 01 - WB 09	MED WATTAGE	240V							
WB 10 - WB 18	70W	240V							
WB 19 & WB 20	MED WATTAGE	240V							
WB 23 - WB 26	MED WATTAGE	240V							

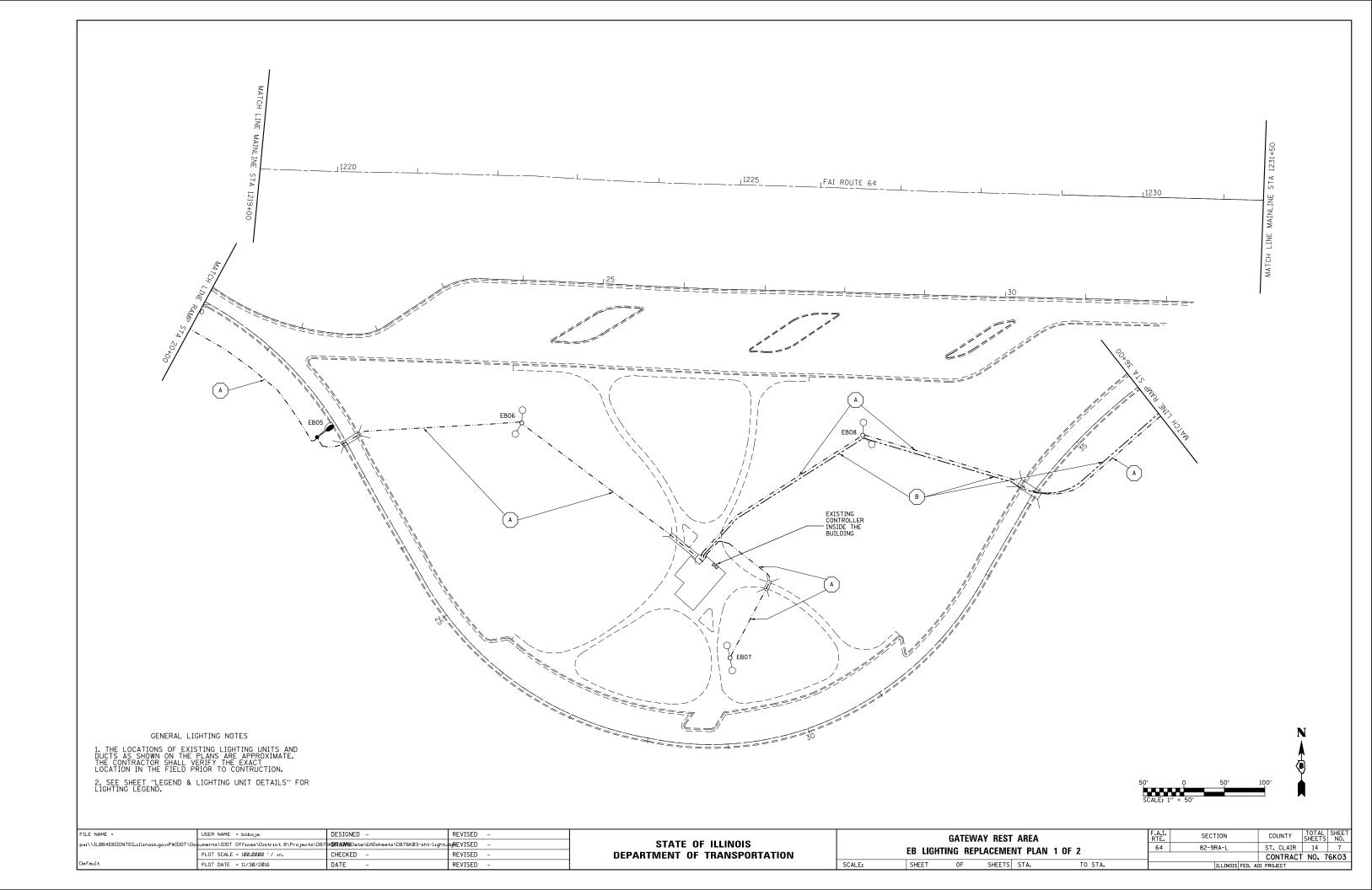
POLE IDENTIFICATION SIGN PANEL DETAILS

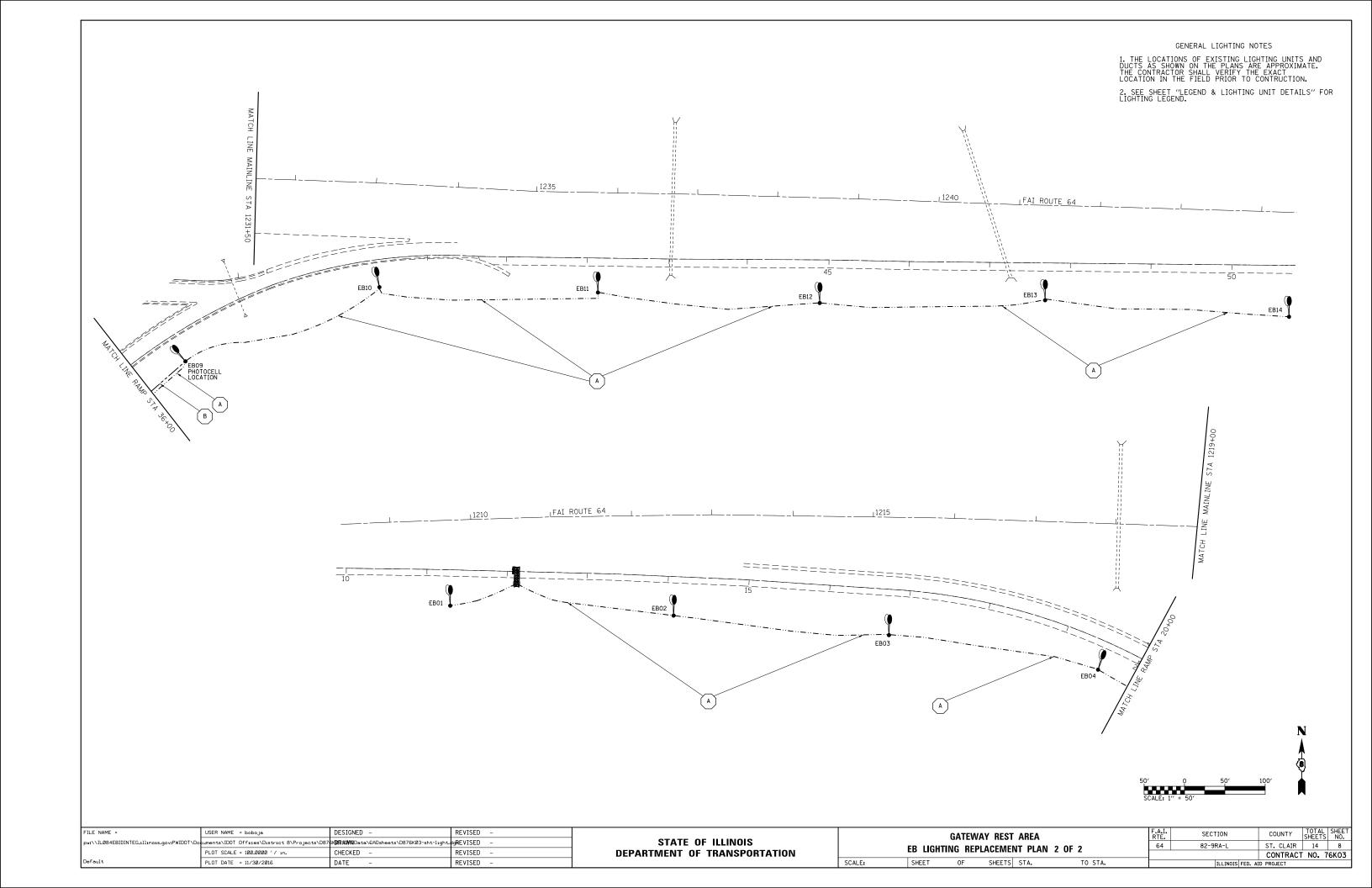
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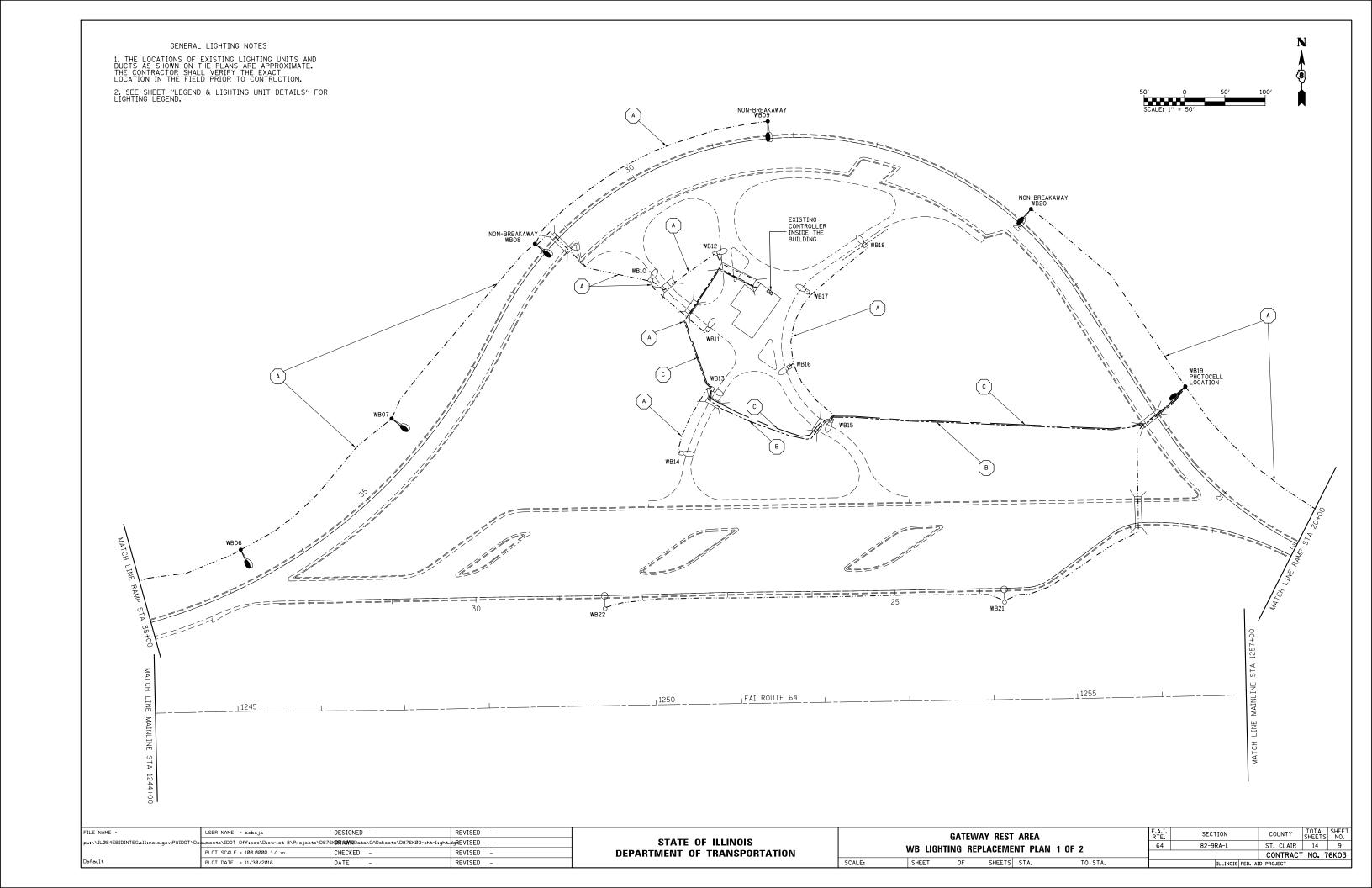
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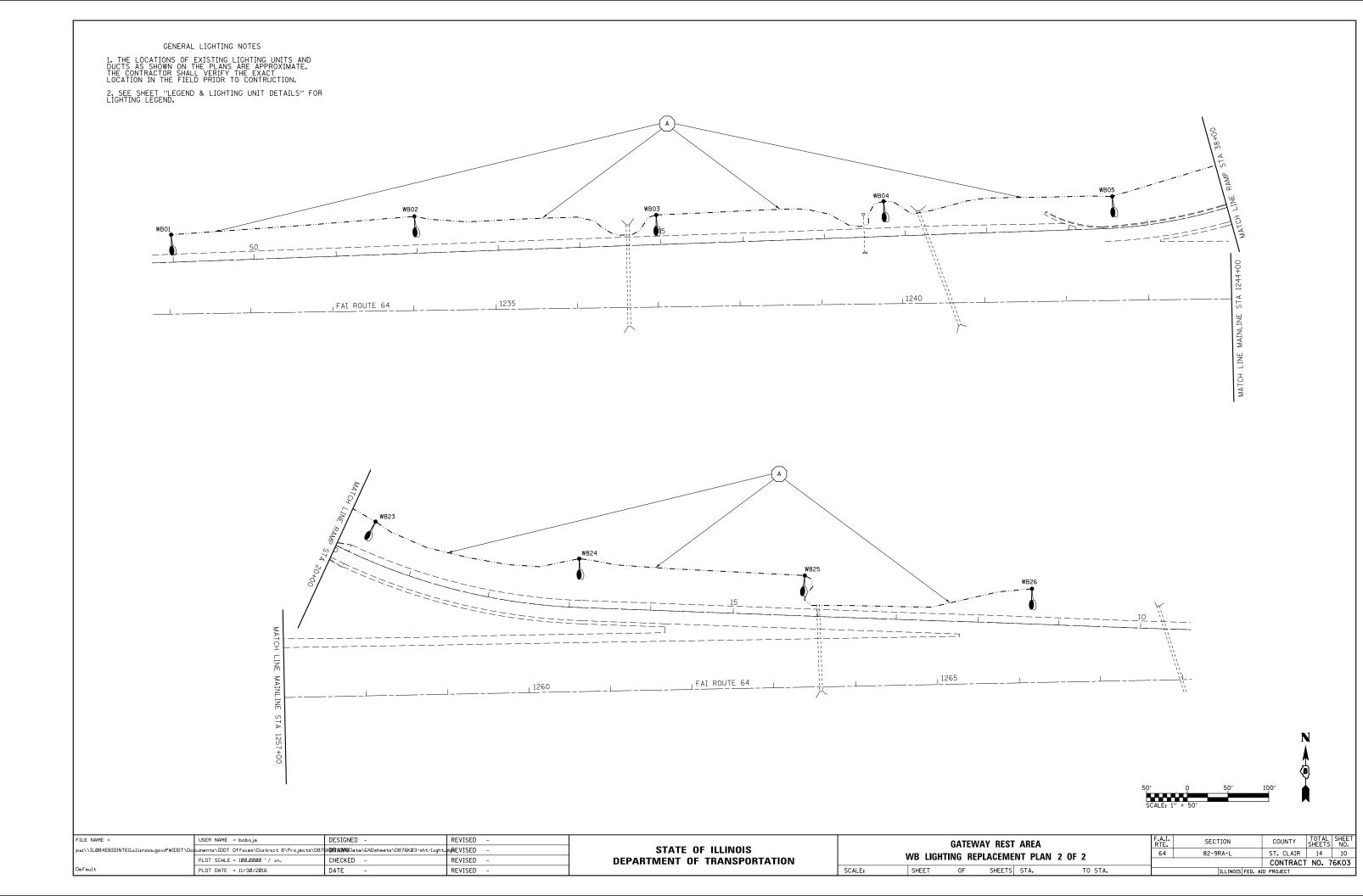
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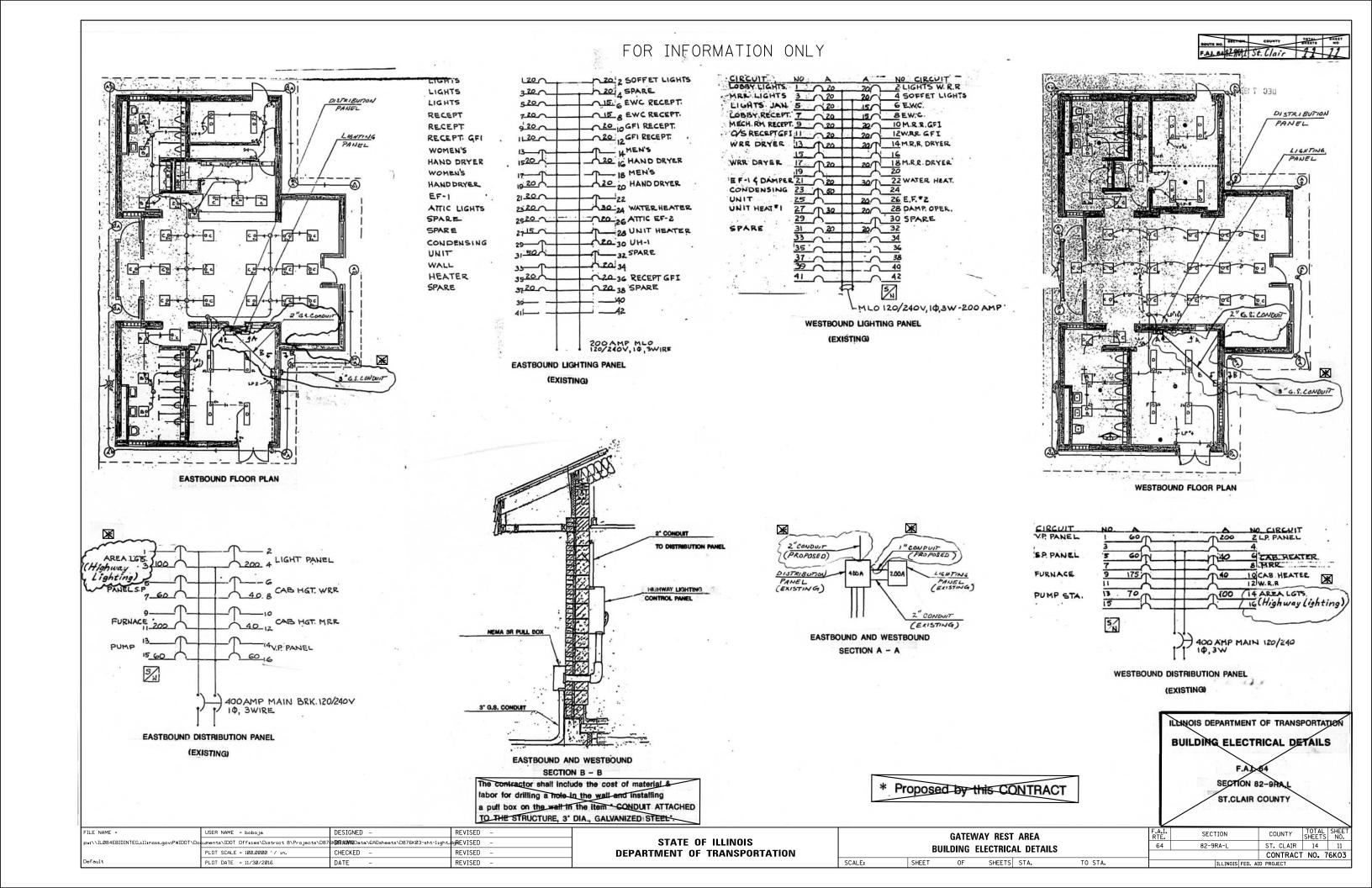
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POLE IDENTIFICATION SIGN PANEL DETAILS							64	82-9RA-L	ST. CLAIR	14	6
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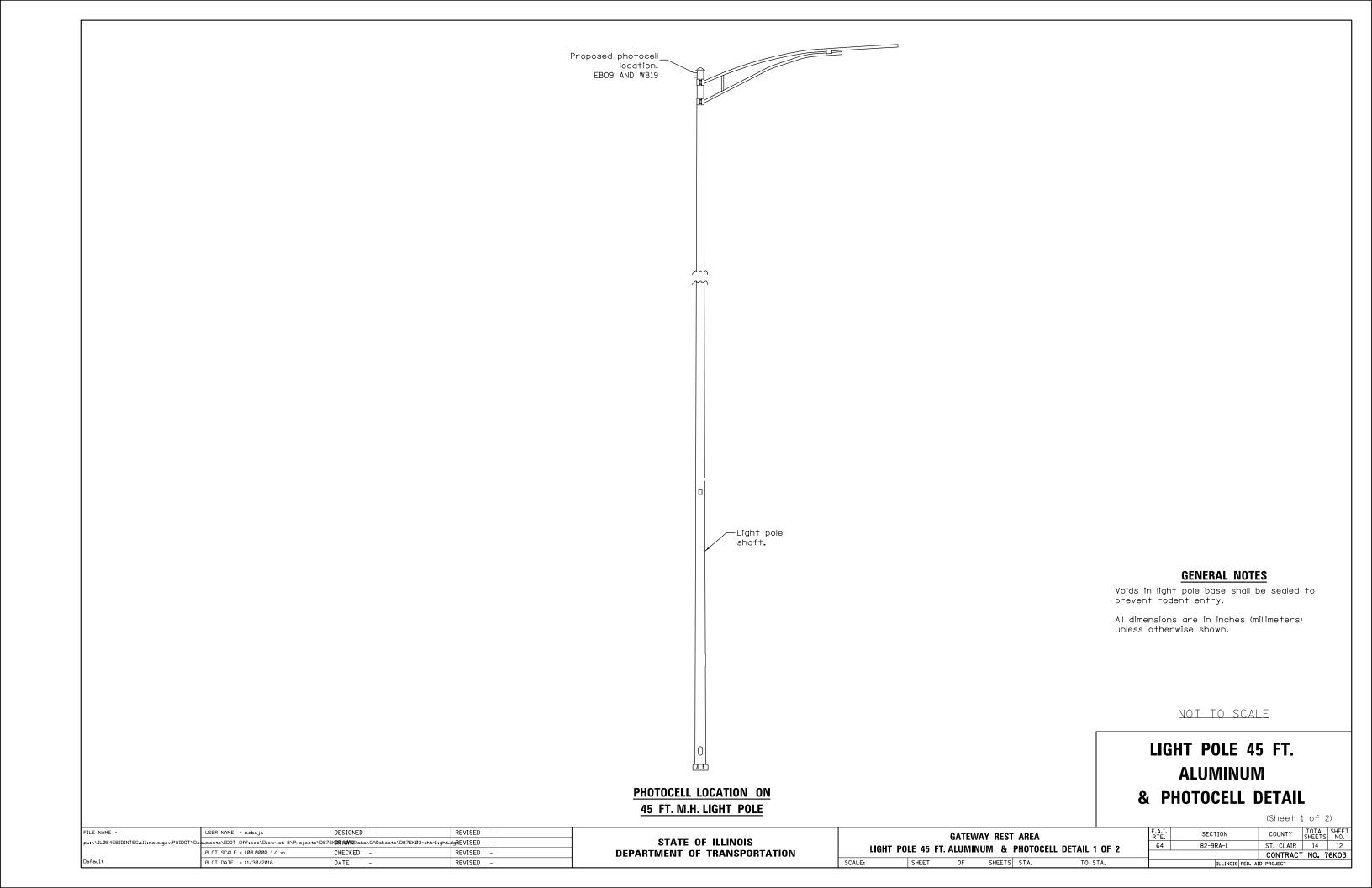












STATE OF ILLINOIS ILLINOIS DEPARTMENT OF TRANSPORTATION LUMINAIRE PERFORMANCE TABLE – ROADWAY

GIVEN CONDITIONS		
ROADWAY DATA	Pavement Width (in one direction only)	18 ft.
	Pavement Width (in opposite direction)	N/A
	Number of Lanes (in one direction only)	N/A
	Number of Lanes (in opposite direction)	N/A
	Median width	N/A
	I.E.S. Surface Classification	R4
	Q-Zero Value	.07
LIGHT POLE DATA	Mounting Height	45 ft.
	Mast Arm Length	15 ft.
	Pole Set-Back From Edge of Pavement	50 ft.
LUMINAIRE DATA	Luminaire Type	LED
	Luminaire Lumens	20,000 – 29,999
	I.E.S. Vertical Distribution	
	I.E.S. Control Of Distribution	
	I.E.S. Lateral Distribution	Type II
	Lamp Lumen Depreciation Factor	0.90 min
	Dirt Depreciation Factor	0.80
	Equipment Factor	0.95
	Total Light Loss Factor	0.684 min
LAYOUT DATA	Spacing	290 ft.
	Configuration	Single-Sided
	Luminaire Overhang over edge of pavement	-35 ft.

NOTE: Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

PERFORMANCE REQUIREMENTS

NOTE: These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above. TM-21 and LM-80 reports must be attached and must support the Lamp Lumen Depreciation Factor given above.

ILLUMINATION	Average Horizontal Illumination,	E _{AVE}	0.6 fc
	Uniformity Ratio, E _{AVE} /E _{MIN}	_	4.0:1
	Max. Veiling Luminance Ratio, L	. _v /L _{AVE}	0.3

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