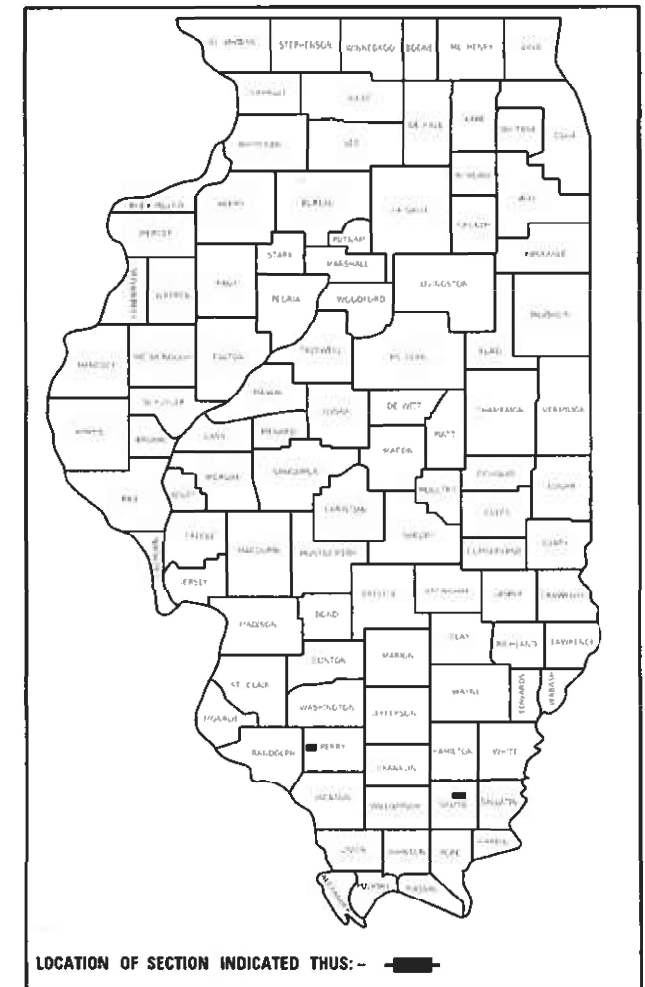


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	19,19-1;L-1,TS-1;(29,8)TS-2	PERRY AND SALINE	11	1

CONTRACT NO. 78856

D-99-033-21



LOCATION OF SECTION INDICATED THUS: - [Symbol] -

FOR INDEX OF SHEETS, SEE SHEET NO. 3

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4-5

**PROPOSED
HIGHWAY PLANS**

VARIOUS ROUTES
SECTION (19,19-1)L-1,TS-1;(29,8)TS-2

**SIGNAL AND HIGHWAY LIGHTING
PERRY AND SALINE COUNTIES**

TRAFFIC DATA

APPROACH	ADT	% TRUCKS
LOCATION 1		
IL 150	1200	30%
IL 154	2000	22%
LOCATION 2		
US 45	16700	1%
OLD 13	6400	4%

TOWNSHIPS

LOCATION 1 - CUTLER PRECINCT
LOCATION 2 - HARRISBURG TOWNSHIP

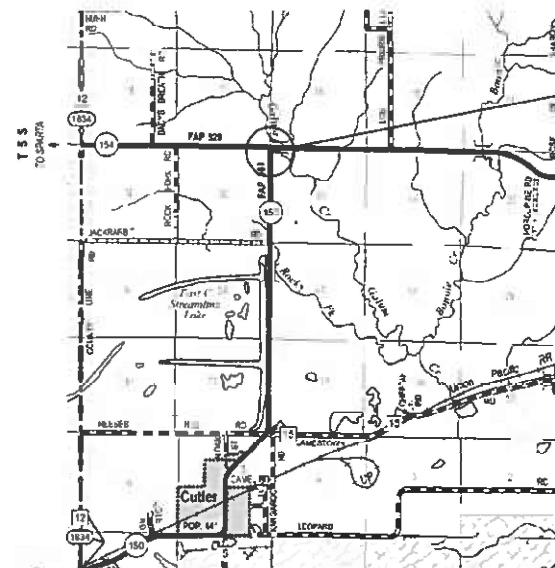
COORDINATE SYSTEM :
LOCATION 1
ILLINOIS COORDINATE SYSTEM,
WEST ZONE
LOCATION 2
ILLINOIS COORDINATE SYSTEM,
EAST ZONE

POSTED SPEED :
LOCATION 1 - 55 MPH
LOCATION 2 - 30 MPH

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

PROJECT ENGINEER SUSAN POE
PROJECT DESIGNER SUSAN POE

CONTRACT NO. 78856

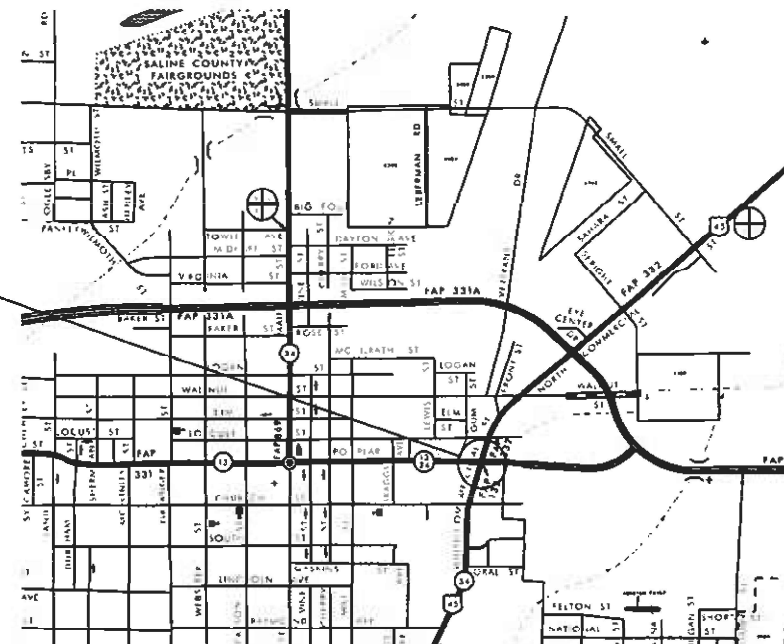


C-99-044-21

PROPOSED IMPROVEMENT

LOCATION 1
IL 154 & IL 150 INTERSECTION
PERRY COUNTY

PROPOSED IMPROVEMENT
LOCATION 2
US 45 & OLD 13 INTERSECTION
HARRISBURG, SALINE COUNTY



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 03-10-2021
K.P.O.
REGION FIVE ENGINEER

May 7, 2021 [Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

May 7, 2021 [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

INDEX OF SHEETS

SHT. NO.	DESCRIPTION
1	COVER SHEET
2	SIGNATURE SHEET
3	INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, COMMITMENTS
4-5	SUMMARY OF QUANTITIES
6	LIGHTING REMOVAL PLAN - LOC 1 IL 154 AND IL 150
7	PROPOSED SIGNAL AND LIGHTING PLAN - LOC 1 IL 154 AND IL 150
8	WIRING DIAGRAM AND LUMINAIRE PERFORMANCE TABLE - LOC 1 IL 154 / IL 150
9	FLASHING BEACON CLEARANCE, SOIL BORING LOG - LOC 1 IL 154 / IL 150
10	SIGNAL PLAN - LOC 2 US 45 / OLD 13
11	EXISTING WIRING DIAGRAM - LOC 2 US 45 / OLD 13

GENERAL NOTES

ELECTRICAL WORK SHALL CONFORM TO NATIONAL, STATE, AND LOCAL CODES.

THE FINAL LOCATION OF THE MAST ARM FOUNDATION AND SERVICE POLE SHALL BE APPROVED BY THE BUREAU OF OPERATIONS BEFORE INSTALLATION.

2" CONDUIT SHALL BE ALLOWED IN MAST ARM FOUNDATION IN LIEU OF 2.5" CONDUIT.

EXISTING SURFACE DISTURBED DURING EXCAVATION FOR FOUNDATIONS AND PUSH PITS SHALL BE RESTORED TO THE LIMITS AND CONDITION SPECIFIED BY THE ENGINEER OR AS SHOWN IN THE PLANS. THE REMOVAL AND RESTORATION SHALL BE INCLUDED IN THE COST OF THE CONTRACT.

COMMITMENTS

NONE

HIGHWAY STANDARDS

- 000001-08 STANDARD SYMBOLS AND ABBREVIATIONS & 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
- 701201-05 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
- 701701-10 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701901-08 TRAFFIC CONTROL DEVICES
- 805001-01 ELECTRIC SERVICE INSTALLATION DETAILS
- 814001-03 HANDHOLES
- 821101-02 LUMINAIRE WIRING IN POLE
- 825001-04 LIGHTING CONTROLLER POLE MOUNT 240V
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 873001-02 TRAFFIC SIGNAL GROUNDING & BONDING
- 877011-10 STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 16' TO 55'
- 878001-11 CONCRETE FOUNDATION DETAILS
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, HIGHWAY STAND
GENERAL NOTES, COMMITMENTS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	(19,19-1)IL-1,TS-1;(29,8)TS-2	*	11	3
			CONTRACT NO. 98856	
		ILLINOIS	FED. AID PROJECT	

* PERRY AND SALINE

SUMMARY OF QUANTITIES

COUNTY:	PERRY	SALINE
	LOCATION 1 IL 154/IL 150	LOCATION 2 US 45/OLD 13
FUNDING:	100% STATE	100% STATE
LOCATION:	RURAL	URBAN
	ROADWAY	ROADWAY
	0021	0021

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ROADWAY 0021	ROADWAY 0021
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1		1
80400100	ELECTRIC SERVICE INSTALLATION	EACH	1	1	
81028350	UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	320	320	
81028390	UNDERGROUND CONDUIT, PVC, 4" DIA.	FOOT	10		10
81400100	HANDHOLE	EACH	2	2	
81702450	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 10	FOOT	383	383	
82110007	LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION G	EACH	2	2	
82500300	LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1	1	
84200600	REMOVAL OF LIGHTING UNIT, NO SALVAGE	EACH	2	2	
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1		1
86000100	MASTER CONTROLLER	EACH	1		1
86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1		1

* PERRY AND SALINE

Model: Default
 File: Model - p:\p\harcam\dat_illinois\p\p\DOT\Documents\DOT_Offices\District 9\Projects\78856\CADD\DATA\CAD\harcam\78856_Light.dgn

USER NAME = poesi DESIGNED - DRAWN - PLOT SCALE = 100.0000' / in. PLOT DATE = 3/5/2021	REVISIONS REVISIONS REVISIONS REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A. RTE. VAR (19,19-1)IL-1,TS-1;(29,0)TS-2	SECTION COUNTY TOTAL SHEETS SHEET NO.	CONTRACT NO. 78856
SCALE: SHEET OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT			

SUMMARY OF QUANTITIES - CONT

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	PERRY	SALINE
					LOCATION 1 IL 154/IL 150	LOCATION 2 US 45/OLD 13
				FUNDING:	100% STATE	100% STATE
				LOCATION:	RURAL	URBAN
					ROADWAY	ROADWAY
					0021	0021
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	420		420	
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	345		345	
87703000	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 55 FT.	EACH	1		1	
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	3			3
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	11		11	
87900200	DRILL EXISTING HANDHOLE	EACH	2			2
88040010	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, MAST-ARM MOUNTED	EACH	1		1	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1			1

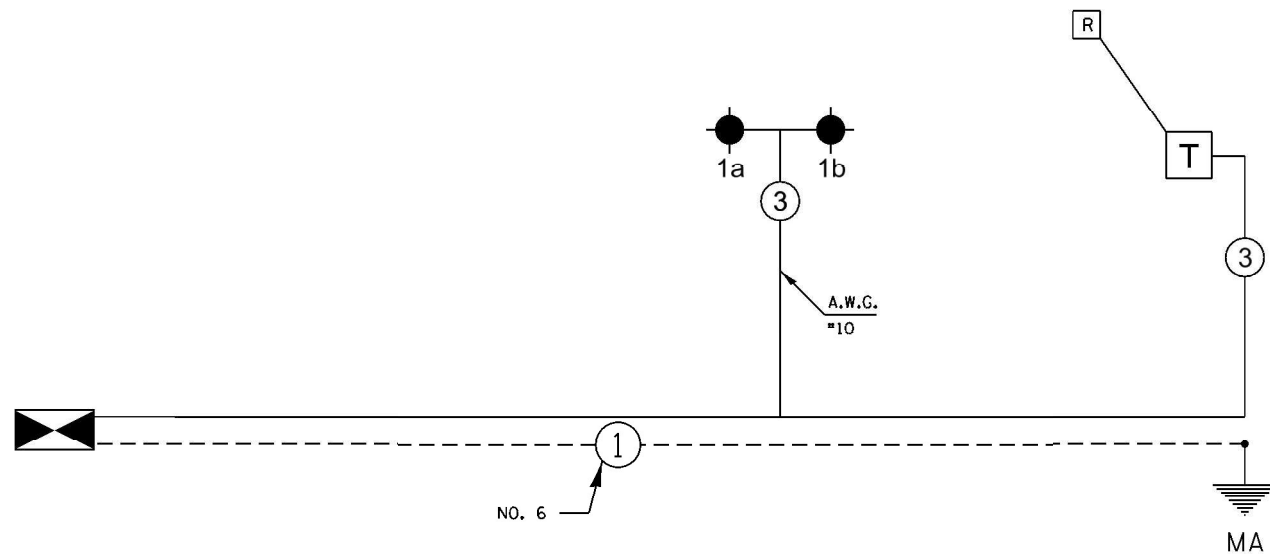
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* PERRY AND SALINE

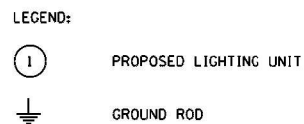
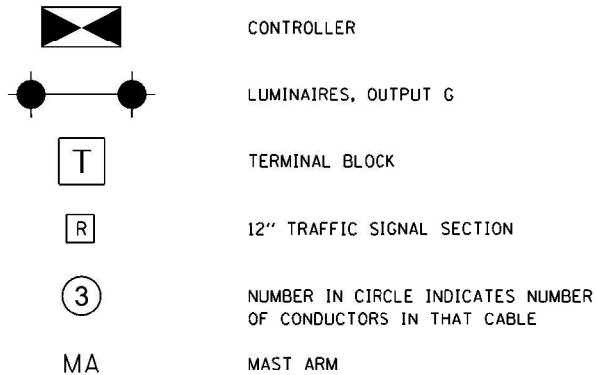
	USER NAME = poesl DESIGNED - DRAWN - CHECKED - DATE -	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A. RTE. VAR (19,19-1)IL-1,TS-1;(29,8)TS-2	SECTION COUNTY TOTAL SHEETS SHEET NO.	CONTRACT NO. 78856					
				SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	ILLINOIS	FED. AID PROJECT

WIRING DIAGRAM

INTERSECTION OF IL 154 AND IL 150
LOCATION 1



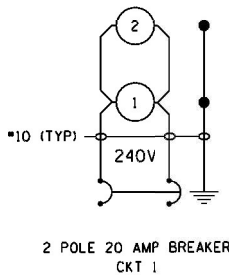
LEGEND



NOTES:
1. ALL NECESSARY REVISIONS TO THE WIRING SHOWN ON THIS SHEET SHALL BE MADE AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.

NOTES

ALL SIGNAL LENSES SHALL BE 12 INCHES.
ELECTRIC SERVICE IS SUPPLIED BY AMEREN.
ALL CABLES SHALL BE A.W.G. #14 UNLESS OTHERWISE NOTED.
ELECTRIC CABLE DENOTED AS #10, 3/C BEING INSTALLED TO THE COMBINATION MAST ARM POLE SHALL NOT GO THROUGH THE TERMINAL BLOCK BUT SHOULD BE SPLICED IN POLE.



IL 150 AND IL 154

PROPOSED LIGHTING CONTROLLER,
POLE MOUNTED, 240V, 30AMP



Luminaire Performance Table

Project

Date	Contract Number	Section Number	County
02/01/21	78856	(19,19-1)L-1,TS-1	Perry

Marked Route Number	Municipality
IL-150	N/A

Roadway

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	Q-Zero Value
17	2	0	R3	0.07

Structure

Mounting Height	Arm Length	Set-Back	Number of Luminaires (Highmast & Sign Lighting Only)
45	15	20	N/A

Luminaire

Description	I.E.S. Lateral Distribution	I.E.S. Vertical Distribution
Roadway Luminaire, LED, Output Desig G	Type III	Medium

Total Light Loss Factor (LLF)	B-U-G Rating	Shields	Dimming Protocol
0.7	U=0	N.A.	0-10V

Layout

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

Performance

Average Illuminance, E_{AVE} (fc)	Uniformity Ratio, E_{AVE}/E_{MIN}
0.8	≤ 3.0

Average Luminance, L_{AVE} (cd/m ²)	Uniformity Ratio, L_{AVE}/L_{MIN}	Uniformity Ratio, L_{MAX}/L_{MIN}	Veiling Luminance Ratio, L_V/L_{AVE}
N/A	N/A	N/A	≤ 0.3

Light Trespass

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, E_H	Max. Vertical Illuminance at ROW, E_V
N/A	N/A	N/A

Notes

1. 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.
2. Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to the roadway.
3. Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
4. Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

Calculations are to be performed in one direction only.

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

Initial lumens of the proposed luminaire may vary from the values specified in the table given in Article 1067.06 of the BDE Special Provisions for Luminaire, LED

Printed 02/05/21

BDE 5630 (04/10/19)

LUMINAIRE PERFORMANCE TABLE

REV. - MS

MODEL: Default
FILE: M:\Work\perry\hansons.dwg
PROJECT: 1919-11L-1,TS-1(29,8)TS-2
OFFICE: District 9
DATE: 3/3/2021

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	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 3/3/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

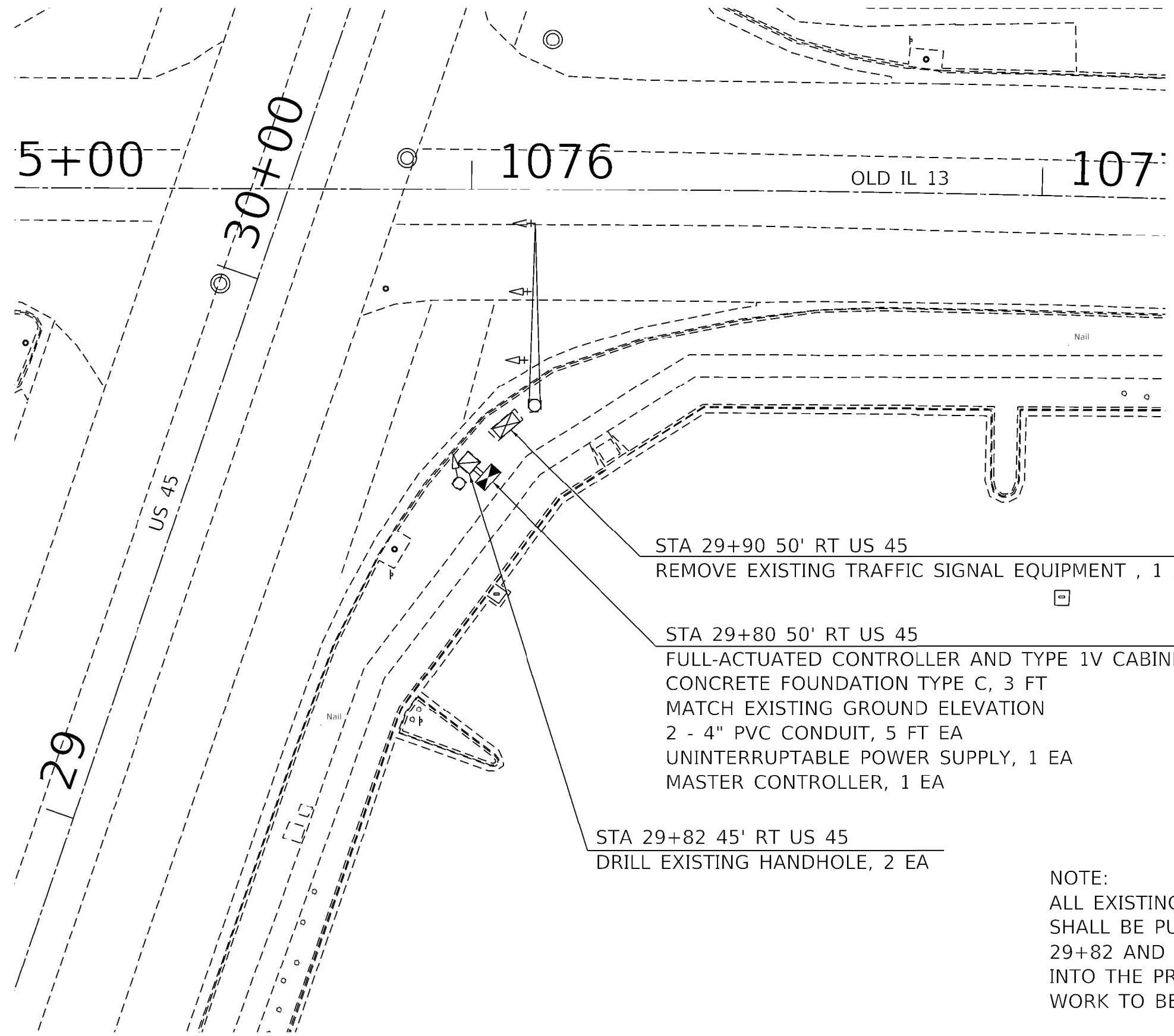
WIRING DIAGRAMS AND LUMINAIRE PERFORMANCE TABLE
LOCATION 1 IL 150 /IL 154

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	(19,19-1)L-1,TS-1;(29,8)TS-2		11	8
CONTRACT NO. 78856				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. TO STA.



SCALE 1" = 10'



STA 29+90 50' RT US 45
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT , 1 EA

STA 29+80 50' RT US 45
FULL-ACTUATED CONTROLLER AND TYPE 1V CABINET, 1 EA
CONCRETE FOUNDATION TYPE C, 3 FT
MATCH EXISTING GROUND ELEVATION
2 - 4" PVC CONDUIT, 5 FT EA
UNINTERRUPTABLE POWER SUPPLY, 1 EA
MASTER CONTROLLER, 1 EA

STA 29+82 45' RT US 45
DRILL EXISTING HANDHOLE, 2 EA

NOTE:
ALL EXISTING FIELD CABLES IN THE EXISTING CABINET SHALL BE PULLED BACK TO THE HANDHOLE AT STATION 29+82 AND ROUTED THROUGH THE PROPOSED CONDUITS INTO THE PROPOSED CABINET AND THEN TERMINATED. WORK TO BE INCLUDED IN THE COST OF THE CABINET.

* PERRY AND SALINE

MODEL: Default
 FILE: Model - perry.saline.dwg
 PROJECT: 78856
 SHEET: 10
 DATE: 3/3/2021

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	DRAWN -	REVISED -
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PLOT DATE = 3/3/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOC 2 US 45 AND OLD IL 13
SIGNAL PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

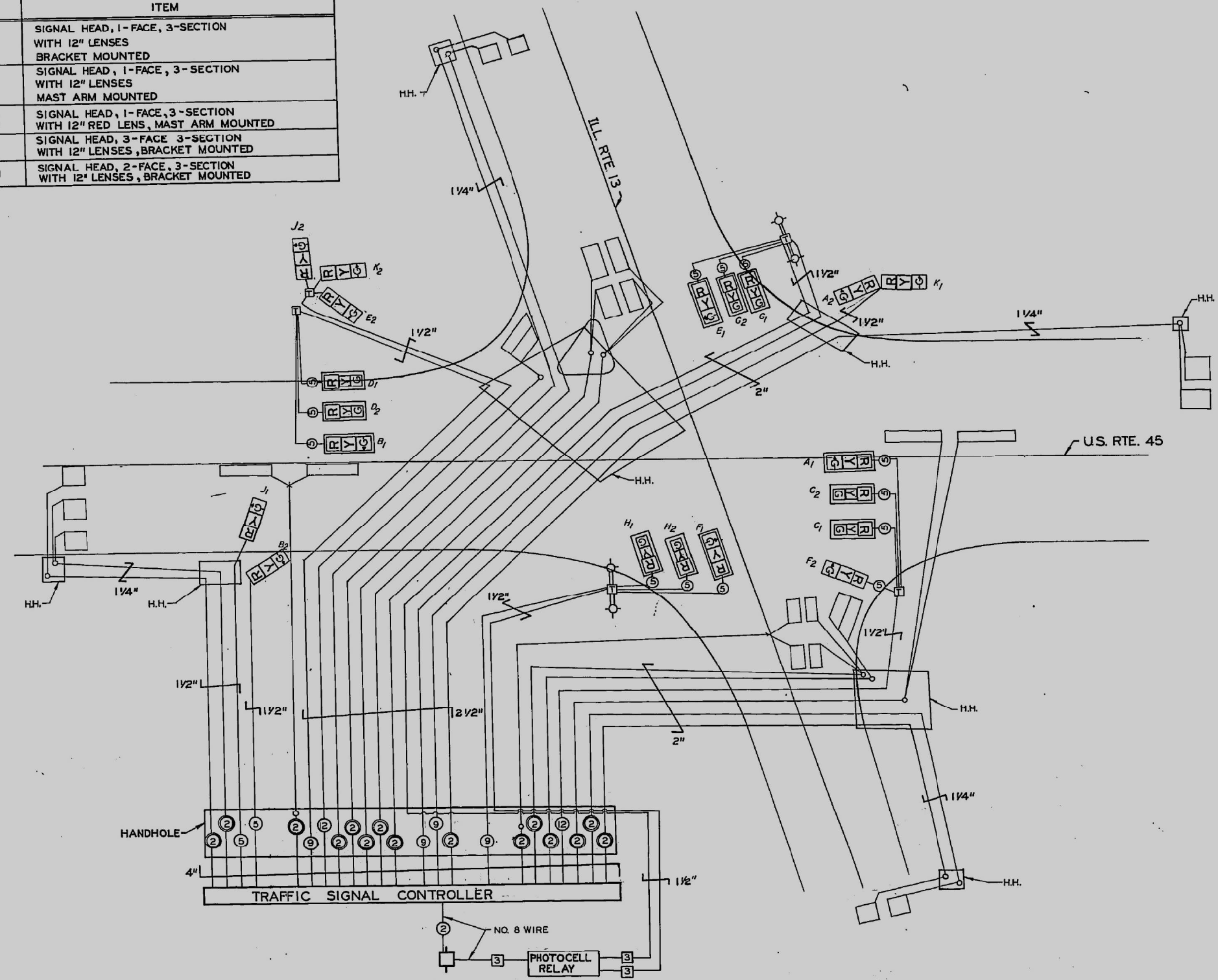
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
19,19-1JL-1,TS-1;(29,8)TS-2			11	10
CONTRACT NO. 78856			ILLINOIS FED. AID PROJECT	

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA. 132	42X-I	SALINE	55	37
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

PROPOSED SCHEDULE OF SIGNAL HEADS

QUANTITY	UNIT	ITEM
3	EACH	SIGNAL HEAD, 1-FACE, 3-SECTION WITH 12" LENSES BRACKET MOUNTED
4	EACH	SIGNAL HEAD, 1-FACE, 3-SECTION WITH 12" LENSES MAST ARM MOUNTED
8	EACH	SIGNAL HEAD, 1-FACE, 3-SECTION WITH 12" RED LENS, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, 3-FACE 3-SECTION WITH 12" LENSES, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, 2-FACE, 3-SECTION WITH 12" LENSES, BRACKET MOUNTED

CABLE PLAN
(NO SCALE)



LEGEND

- 8" TRAFFIC SIGNAL SECTION
- 12" TRAFFIC SIGNAL SECTION
- TERMINAL COMPARTMENT
- SERVICE INSTALLATION
- VEHICLE DETECTOR, INDUCTION LOOP
- DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED
- 2/C SHIELDED CABLE IN CONDUIT
- INDICATES 1-3/C NO. 12 LIGHTING CABLE TO COMBINATION LIGHTING AND SIGNAL POLES.
- INDICATES 2-1/C NO. 12 LIGHTING CABLES FROM POLE HANDHOLE TO EACH LUMINAIRE
- SPLICE POINT FOR DETECTOR LEAD-IN
- SIGNAL FACE WITH BACKPLATE
- H.H. INDICATES HANDHOLE

NOTES

1. SIGNAL FACES A₁, B₁, E₁, F₁ SHALL BE FURNISHED WITH STRAIGHT RAY LOUVER IN THE 12" RED SECTIONS ONLY.
2. WHERE SIGNAL CABLE AND ILLUMINATION CABLE RUN CONCURRENTLY THEY SHALL OCCUPY THE SAME CONDUIT.
3. THE QUANTITIES FOR CONDUIT CARRYING TRAFFIC SIGNAL CABLE OR BOTH LIGHTING AND TRAFFIC CABLES ARE INCLUDED WITH THE TRAFFIC SIGNAL QUANTITIES.
4. HANDHOLES SHALL BE USED FOR BOTH TRAFFIC SIGNALS AND ILLUMINATION.
5. THE SAME SERVICE POLE SHALL BE USED FOR SIGNALIZATION AND ILLUMINATION SERVICE INSTALLATION AND METER.
6. SEE TRAFFIC SIGNAL LAYOUT SHEET 36 FOR MAST ARM AND SIGNAL POST LOCATIONS.

FA. RTE. 132 SEC. 42X-I SALINE CO. CABLE PLAN; PROP. SCHEDULE OF SIGNAL HEADS

FOR INFORMATION ONLY - EXISTING WIRING DIAGRAM US 45 AND OLD 13

* PERRY AND SALINE

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USER NAME = poesl	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 3/3/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING WIRING DIAGRAM
LOC 2 US 45 / OLD 13

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
(19,19-1)L-1,TS-1;(29,8)TS-2			11	11
CONTRACT NO. 78856				
ILLINOIS FED. AID PROJECT				