

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VARIES	08-00389-00-TL	KANE	34	1
		ILLINOIS	CONTRACT NO. 63594	

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**

**FAP 307 (ILLINOIS ROUTE 64)  
FAU 2301 (BURLINGTON ROAD) TO FAP 336 (RANDALL ROAD)  
FAP 2301 (BURLINGTON ROAD)  
FAP 307 (ILLINOIS ROUTE 64) TO TMC  
SECTION 08-00389-00-TL  
PROJECT CMM-9003(205)  
TRAFFIC SIGNAL INTERCONNECTION  
KANE COUNTY  
C-91-262-09**



**TRAFFIC DATA:**  
POSTED SPEED: IL 64  
BETWEEN BURLINGTON RD. & OAK ST. = 45 MPH  
BETWEEN OAK ST. & PECK RD. = 55 MPH  
BETWEEN PECK RD. & RANDALL RD. = 35 MPH

**ADT:**  
BURLINGTON RD.  
BETWEEN IL 64 & TMC = 45 MPH  
  
IL 64  
17,525 BETWEEN BURLINGTON RD. & DEAN ST.  
18,250 BETWEEN DEAN ST. & RANDALL RD.  
  
BURLINGTON RD.  
10,000 BETWEEN IL 64 & CORRON RD.  
8,600 BETWEEN CORRON RD. & TMC.

THIS PROJECT IS LOCATED IN THE CITY OF ST. CHARLES AND VILLAGE OF CAMPTON HILLS

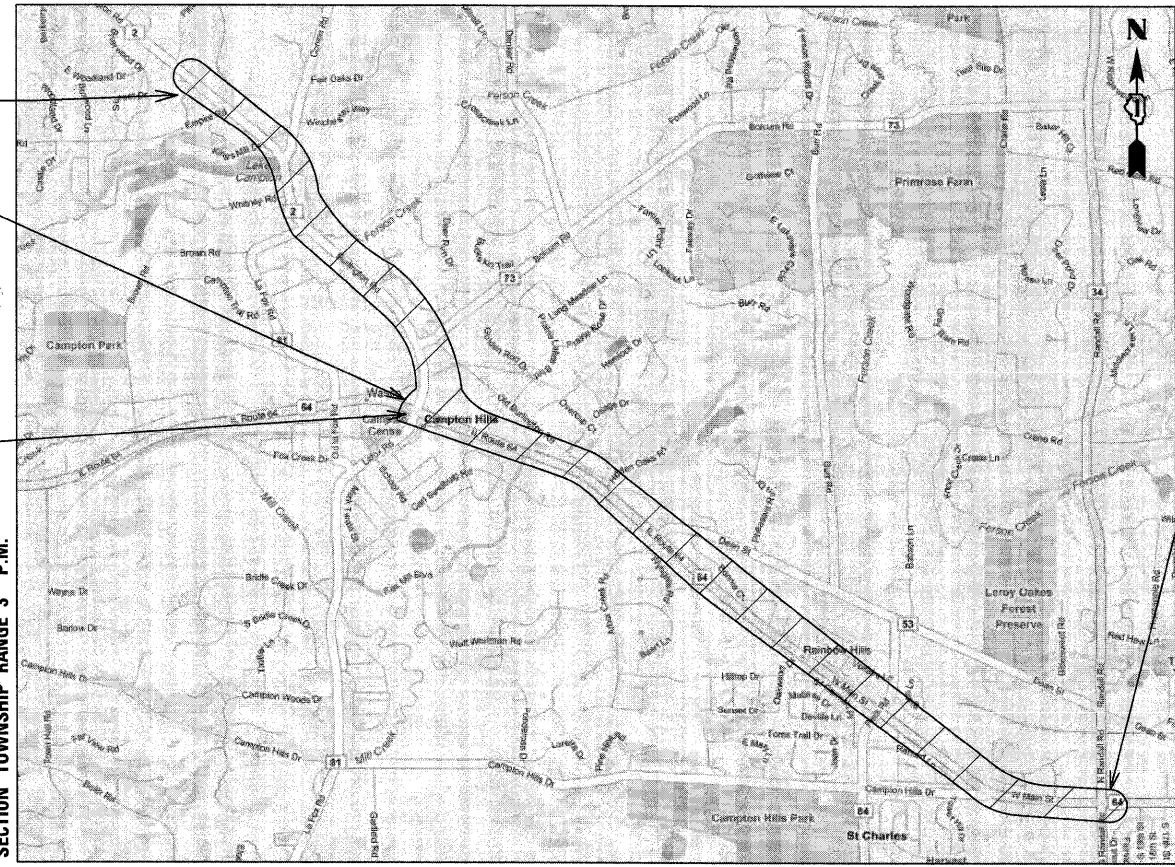
ARTERIAL (IL 64)  
FUNCTIONAL CLASSIFICATION: ARTERIAL (BURLINGTON RD.)

**END PROJECT BURLINGTON RD.  
STA. 193 + 00**

**BEGIN PROJECT BURLINGTON RD.  
STA. 98 + 00**

**STATION EQUATION  
99 + 50.00 BURLINGTON ROAD =  
163 + 92.37 IL ROUTE 64**

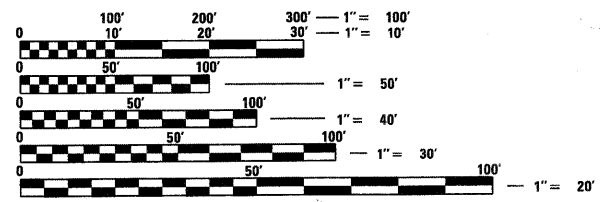
**END PROJECT IL 64  
STA. 163 + 00**



SECTION TOWNSHIP RANGE 3" P.M.

ST. CHARLES TOWNSHIP  
CAMPTON TOWNSHIP

GROSS LENGTH = 25,530 FT. = 4.84 MILES  
NET LENGTH = 25,530 FT. = 4.84 MILES



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**

**CONTRACT NO. 63594**

**IDOT STANDARDS**

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
701001-02	OFF-ROAD OPERATIONS 2L, 2W, >15' AWAY
701006-03	OFF-ROAD OPERATIONS 2L, 2W, 15' TO 24' FROM PAVEMENT EDGE
701101-02	OFF-ROAD OPERATIONS MULTILANE 15' TO 24' FROM PAVEMENT EDGE
701011-02	OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
701301-04	LANE CLOSURE 2L, 2W, SHORT TIME OPERATIONS
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701502-04	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701602-05	URBAN LANE CLOSURE, MULTILANE 2W WITH BIDIRECTIONAL LEFT TURN LANE
701701-07	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801-04	LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
701901-01	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNT DETAILS
857001-01	STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
862001-01	UNINTERRUPTIBLE POWER SUPPLY (UPS)
873001-02	TRAFFIC SIGNAL GROUNDING AND BONDING
880006-01	TRAFFIC SIGNAL MOUNTING DETAILS

**BEGIN PROJECT IL 64  
STA. 352 + 00**

**KANE COUNTY  
DIVISION OF TRANSPORTATION**

**Delcan**  
650 E. ALGONQUIN RD.  
SCHAMBURG, IL 60173  
PHONE: 847-925-0120  
FAX: 847-925-0148

ILLINOIS REGISTRATION NO. 062-047371  
EXPIRATION DATE: 11/30/2011  
PROFESSIONAL DESIGN FIRM NO. 184-000919

SIGNED: *Douglas Brazelton*  
DOUG BRAZELTON  
DATE: APRIL 8 20 11

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

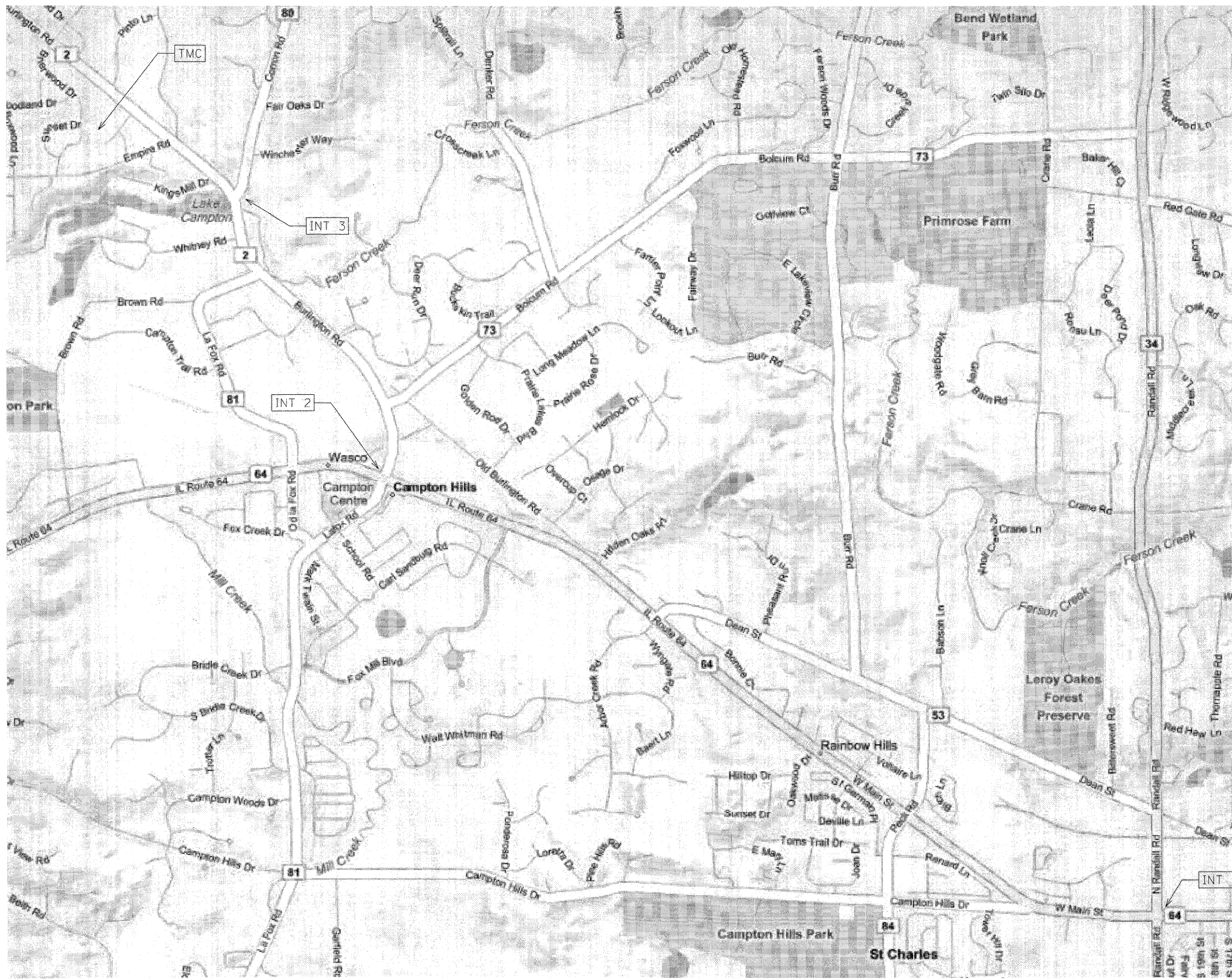
APPROVED: *April 12, 2011*  
*[Signature]*  
KANE COUNTY DIVISION OF TRANSPORTATION  
DIRECTOR OF TRANSPORTATION/COUNTY ENGINEER

PASSED: *April 13, 2011*  
*[Signature]*  
DISTRICT 4 ENGINEER OF LOCAL STREETS & ROADS

RELEASING FOR BID  
BASED ON LIMITED  
REVIEW: *April 13, 2011*  
*[Signature]*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 1 ENGINEER

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

PROGRAM AND OFFICE ENGINEER: CHARLES F. RIDDLE, P.E., 847-705-4406 SCHAMBURG, IL



**INTERSECTION LIST**

- INT 1 BURLINGTON ROAD & CORRON ROAD
- INT 2 IL 64 & BURLINGTON ROAD
- INT 3 IL 64 & RANDALL ROAD

FILE NAME =	USER NAME = #USER#	DESIGNED - DG	REVISED - _____	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>MAP OF LOCATIONS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - JM	REVISED - _____		VARIES	08-00389-00-TL	KANE	28	2			
	PLOT SCALE = #SCALE#	CHECKED - DB	REVISED - _____		SCALE: N/A	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	CONTRACT NO. <b>63594</b>				
	PLOT DATE = #DATE#	DATE - 04/11/2011	REVISED - _____					ILLINOIS FED. AID PROJECT				

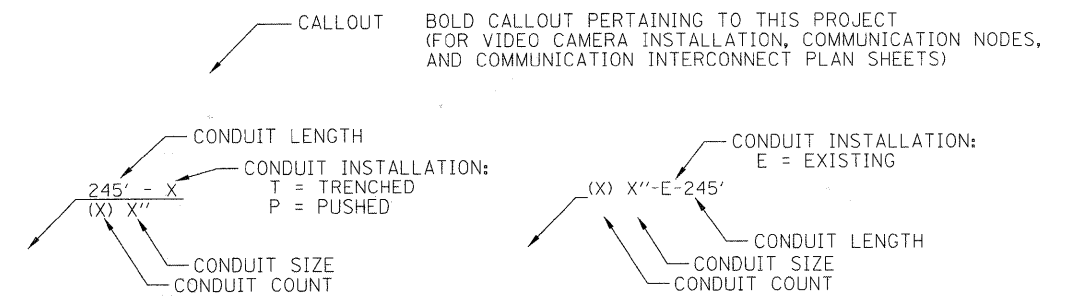
## GENERAL NOTES

- 1) THIS PROJECT INVOLVES THE INSTALLATION OF CONDUIT, HANDHOLES, FIBER-OPTIC CABLE, TRACER CABLE AND TRAFFIC SIGNAL CONTROLLERS AT LOCATIONS INDICATED ON PLANS.
- 2) ALL TRAFFIC SIGNAL CONTROLLER FIRMWARE UPGRADES AND CONTROLLER REMOVAL AND REPLACEMENT WORK WILL BE COMPLETED BY THE CONTRACTOR.
- 3) NEW FIBER-OPTIC CABLE SHALL BE INSTALLED, SPLICED, TERMINATED, AND TESTED, AS SPECIFIED IN THE SPECIAL PROVISIONS. NEW COMMUNICATION EQUIPMENT THAT WILL USE THE FIBER-OPTIC CABLE SHALL BE INSTALLED UNDER THIS CONTRACT. THE CABLE REROUTING, CONNECTIONS, AND OTHER WORK REQUIRED TO MAINTAIN EXISTING SIGNAL INTERCONNECT SYSTEMS IS ALSO INCLUDED UNDER THIS CONTRACT.
- 4) THE SYSTEM COMMUNICATIONS ARE INTENDED TO OPERATE USING BOTH EXISTING AND PROPOSED FIBER OPTIC CABLES. INTERCONNECT SCHEMATICS ARE INCLUDED FOR AREAS THAT INVOLVE PROPOSED FIBER OPTIC CABLE. SHEETS SHOWING EXISTING CABLES ARE ALSO INCLUDED FOR INFORMATION ONLY.
- 5) GENERAL FIBER SPLICES AND TERMINATIONS ARE SHOWN ON THE FIBER LAYOUT SHEETS FOR SINGLE MODE FIBERS ONLY. SPECIFIC TUBE AND FIBERS THAT ARE SPLICED SHALL BE CHOSEN SYSTEMATICALLY AND BE DOCUMENTED TO THE SATISFACTION OF THE ENGINEER.
- 6) THE CONTRACTOR SHALL TERMINATE AND/OR SPLICE SINGLE-MODE FIBERS AS SHOWN ON THE PLANS. SEE FIBER LAYOUT SHEETS (24 - 28) FOR MORE DETAILS.
- 7) THE CONTRACTOR IS REQUIRED TO MARK THE RECORD DRAWINGS TO REFLECT ANY CHANGES TO THE PLANS. RECORD DRAWING REQUIREMENTS ARE IDENTIFIED IN ARTICLE 801.16 OF THE STANDARD SPECIFICATIONS.
- 8) THE CONTRACTOR SHALL COORDINATE WITH AT&T BEFORE CONSTRUCTION ALONG BURLINGTON ROAD AND CORRON ROAD.
- 9) THE CONTRACTOR SHALL NOT TERMINATE THE SM144F AT THE CABINETS. THE SM144F SHALL BE COILED AT HANDHOLES AND DOUBLE HANDHOLES. SEE PLANS FOR MORE DETAILS.
- 10) THE CONTRACTOR SHALL PLACE THE CONDUIT AS CLOSE TO THE EXISTING R.O.W. AS POSSIBLE ALONG IL 64 AT OAK STREET

## UTILITY CONTACTS

MR. TOM PERKINS	ComEd	(630) 723-2128
MR. CRIEG CARR	POWER FOR CITY OF ST. CHARLES	(630) 377-4407
MR. HECTOR GARCIA	AT&T CORP.	(847) 742-1631
MS. CONSTANCE LANE	NICOR	(630) 388-3830
MR. CHRIS ROBERTS	ADESTA	(630) 343-2806
MR. ROBERT SCHULTER	COMCAST	(630) 600-6347

## TYPICAL CALLOUT NOTES



- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
- ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
- ⑥ COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE

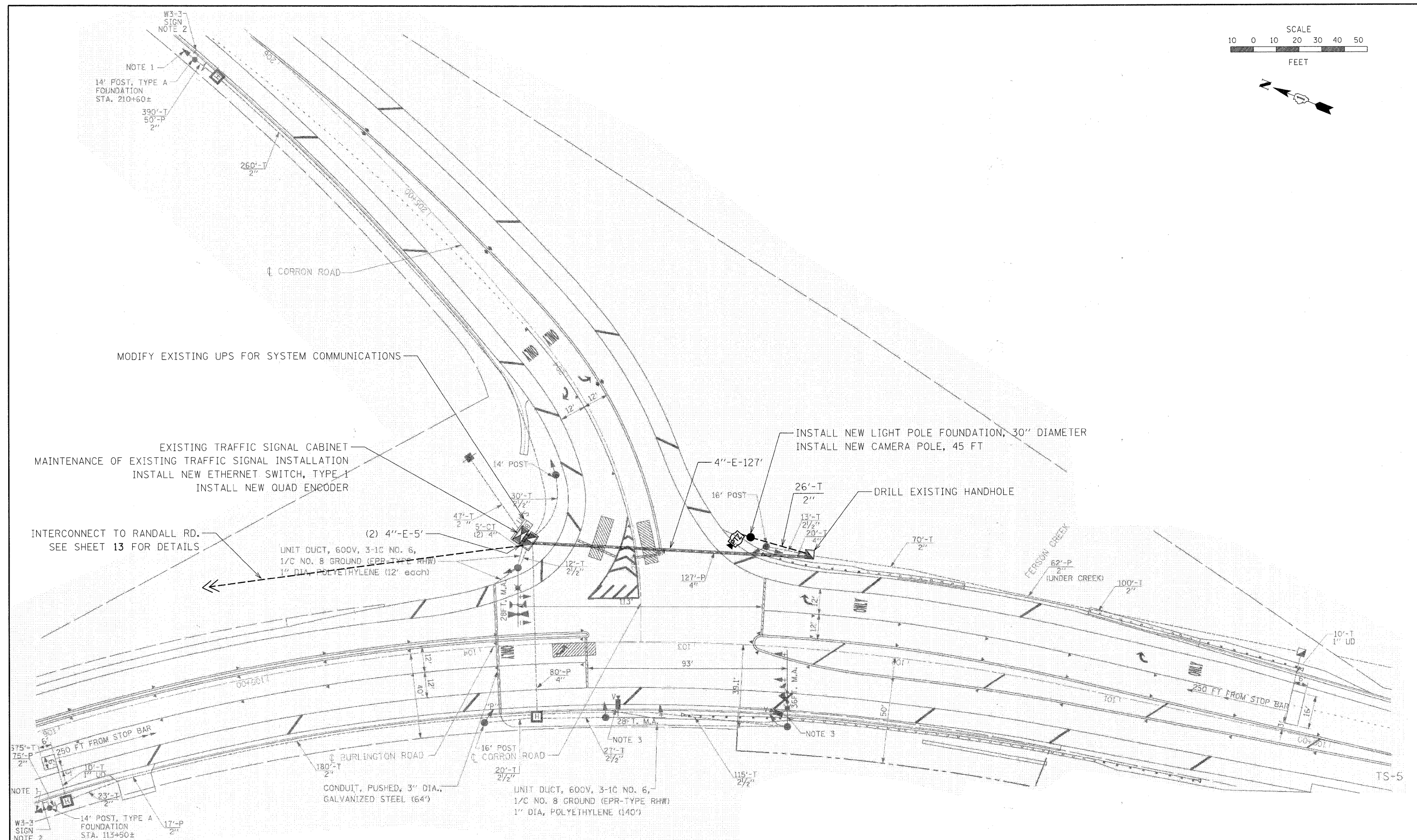
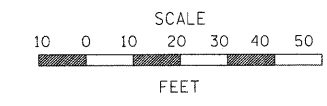
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	PLOT SCALE = #SCALE*	CHECKED - DB	REVISED - _____		SCALE: N/A	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	CONTRACT NO. 63594				
	PLOT DATE = #DATE*	DATE - 04/11/2011	REVISED - _____		ILLINOIS FED. AID PROJECT							

## SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				BURLINGTON RD. & CORRON RD. ROADWAY	IL 64 & BURLINGTON RD. ROADWAY	IL 64 & RANDALL RD. ROADWAY	INTERCONNECT ROADWAY
				0021 RURAL	0021 RURAL	0021 RURAL	0021 RURAL
67100100	MOBILIZATION	L SUM	1				
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1				
70102622	TRAFFIC CONTROL AND PROTECTION, STANDARD 701502	L SUM	1				
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1				
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1				
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	25284	26			25258
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	2232				2232
81400100	HANDHOLE	EACH	48				48
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	25284	26			25258
83600300	LIGHT POLE FOUNDATION, 30" DIAMETER	FOOT	9	9			
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1	
85700500	FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	2		1	1	
87300925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	30996				30996
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	706		706		
87900200	DRILL EXISTING HANDHOLE	EACH	7	1			6
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	3	1	1	1	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2		1	1	
X0323906	CAMERA POLE, 45 FT	EACH	1	1			
X0325462	MEDIA CONVERTER	EACH	2				2
X8710031	FIBER OPTIC CABLE 36 FIBERS, SINGLE MODE	FOOT	31371				31371
X8710039	FIBER OPTIC CABLE 144 FIBERS, SINGLE MODE	FOOT	29727				29727
XX007017	TERMINATE FIBER IN CABINET	EACH	72				72
XX007251	INTERSECTION VIDEO TRAFFIC MONITORING SYSTEM WITH PTZ CAMERA	EACH	2	1	1		
XX007953	NETWORK CONFIGURATION	L SUM	1				
XX008019	UNINTERRUPTIBLE POWER SUPPLY (SPECIALKDOT)	EACH	2		1	1	
XX008252	QUAD ENCODER	EACH	2	1		1	
XX008254	LAYER III FIBER OPTIC TRANSCEIVER MODULE, SFP TYPE, LONG DISTANCE	EACH	2				2
XX008392	OUTDOOR RATED NETWORK CABLE	FOOT	416	234	182		
XX008452	MALFUNCTION MANAGEMENT UNIT	EACH	2		1	1	
XX008453	ETHERNET SWITCH, TYPE 1	EACH	2	1	1		
XX008454	ETHERNET SWITCH, TYPE 2	EACH	2			2	
XX008483	MODIFY EXISTING UPS FOR SYSTEM COMMUNICATIONS	EACH	1	1			

\* - DENOTES SPECIALTY ITEM

FILE NAME =	USER NAME = #USER#	DESIGNED - DC	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = #DATE#	DATE - 04/15/2011	REVISED -		STA. _____ TO STA. _____			ILLINOIS FED. AID PROJECT				



NOTE 1  
14' POST, TYPE A FOUNDATION STA. 210+60±  
390'-T  
50'-P  
2"

MODIFY EXISTING UPS FOR SYSTEM COMMUNICATIONS

EXISTING TRAFFIC SIGNAL CABINET  
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION  
INSTALL NEW ETHERNET SWITCH, TYPE 1  
INSTALL NEW QUAD ENCODER

INTERCONNECT TO RANDALL RD.  
SEE SHEET 13 FOR DETAILS

INSTALL NEW LIGHT POLE FOUNDATION, 30" DIAMETER  
INSTALL NEW CAMERA POLE, 45 FT

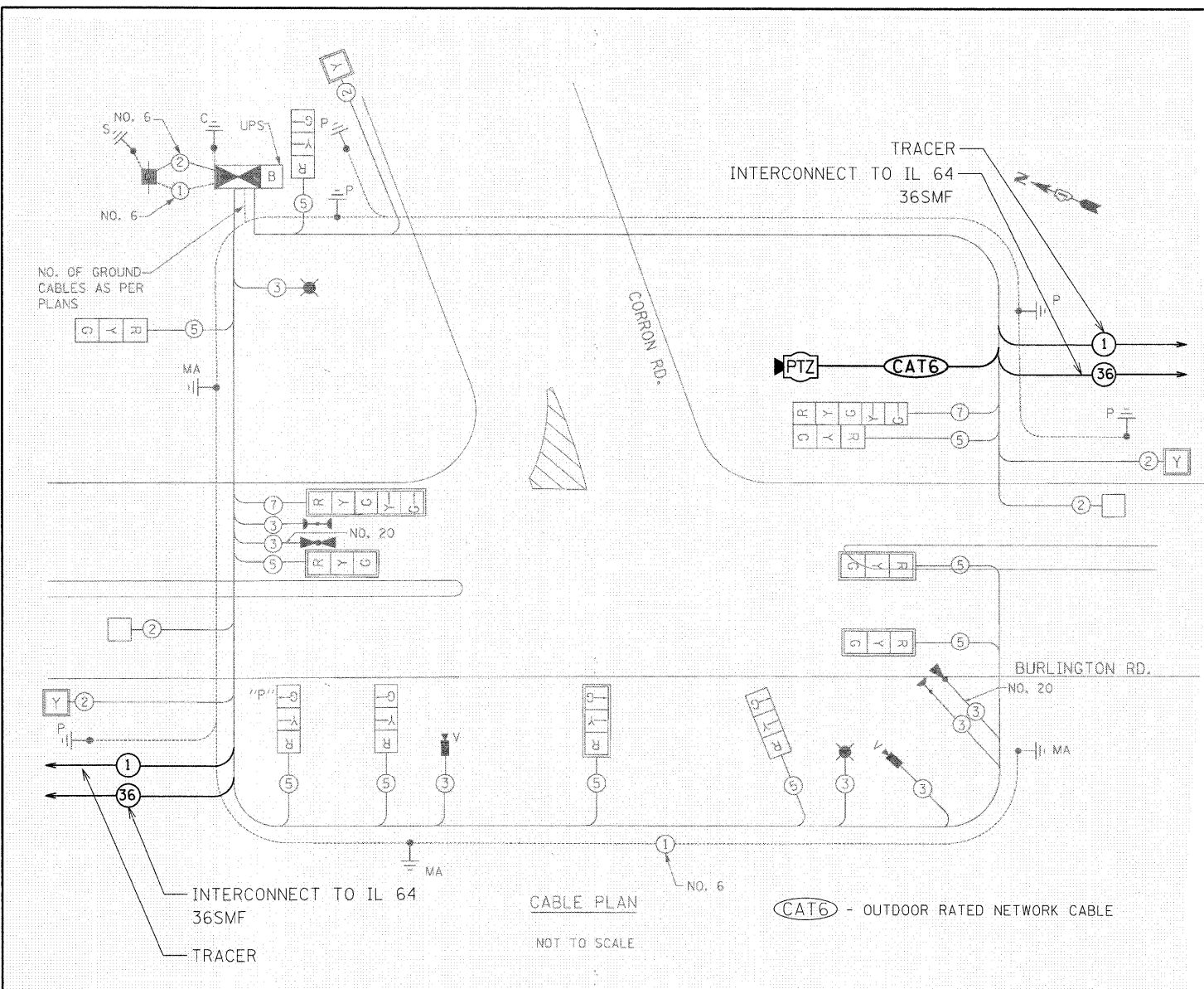
(2) 4"-E-5'  
UNIT DUCT, 600V, 3-1C NO. 6,  
1/2 NO. 8 GROUND (EPR-TYPE RHW)  
1" DIA. POLYETHYLENE (12' each)

CONDUIT, PUSHED, 3" DIA., GALVANIZED STEEL (64')

UNIT DUCT, 600V, 3-1C NO. 6,  
1/2 NO. 8 GROUND (EPR-TYPE RHW)  
1" DIA. POLYETHYLENE (140')

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE M52" TO MATCH FUTURE SYSTEM.

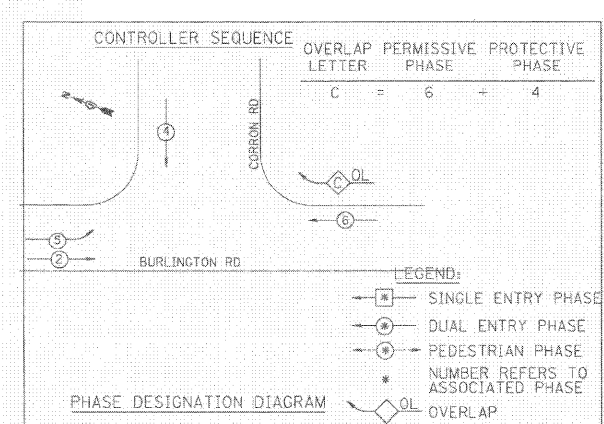
FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL PLAN BURLINGTON ROAD &amp; CORRON ROAD</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -		VARIES	08-00389-00-TL	KANE	28	5			
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	PLOT DATE = #DATE#	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							
					SCALE: 1" = 20'	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____					



ITEM	UNIT	QUANTITY
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	127
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	127
LIGHT POLE FOUNDATION, 30" DIAMETER	FOOT	9
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
DRILL EXISTING HANDHOLE	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
INTERSECTION VIDEO TRAFFIC MONITORING SYSTEM WITH PTZ CAMERA	EACH	1
OUTDOOR RATED NETWORK CABLE	FOOT	234
ETHERNET SWITCH, TYPE 1	EACH	1
CAMERA POLE, 45 FT	EACH	1
MODIFY EXISTING UPS FOR SYSTEM COMMUNICATIONS	EACH	1

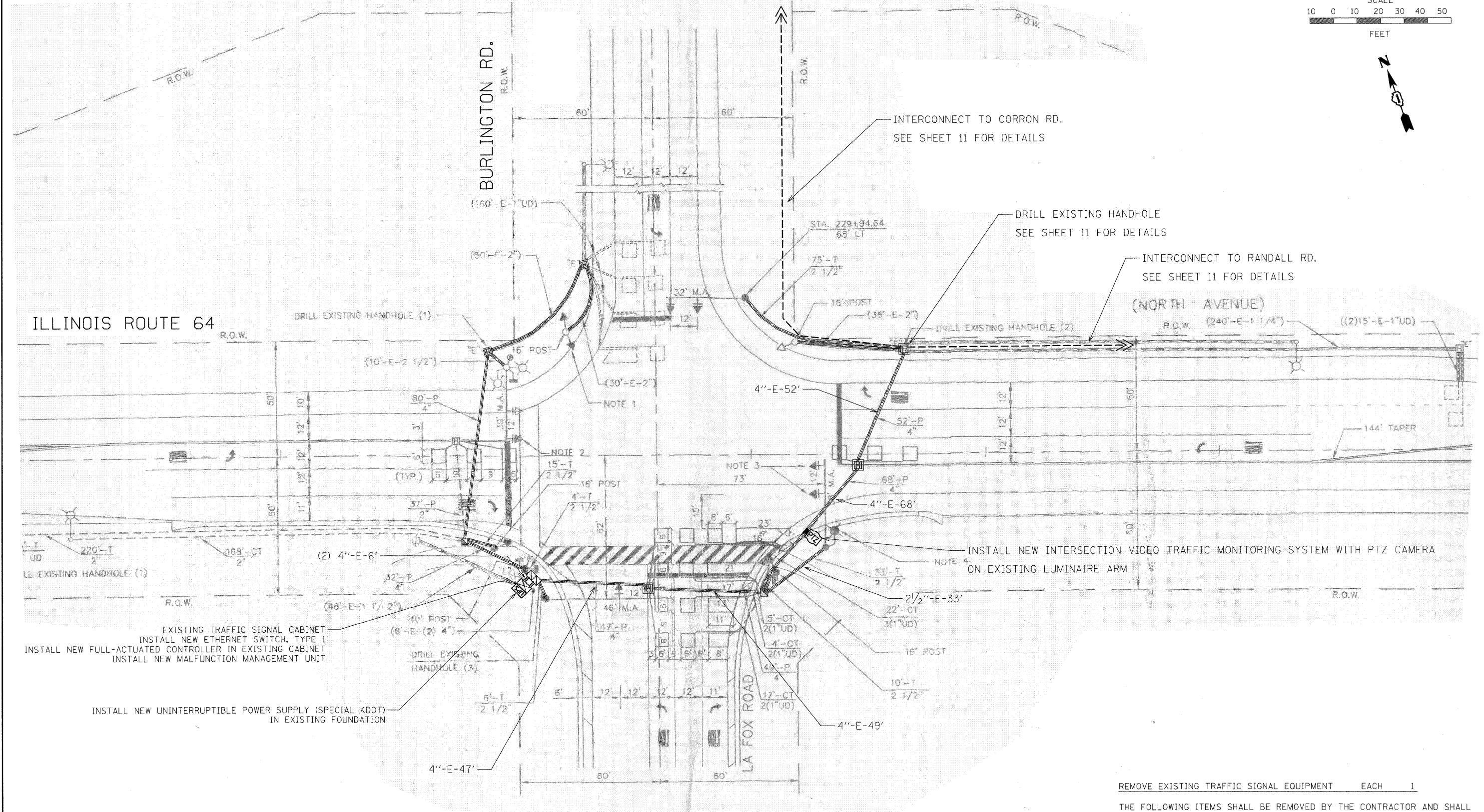
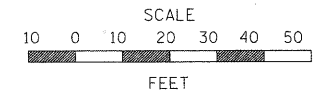
I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	
SIGNAL (RED)	12	135	17	0.50	102.0
(YELLOW)	12	135	25	0.25	75.0
(GREEN)	12	135	15	0.25	45.0
ARROW	4	135	12	0.10	4.8
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN		84	35	0.05	
ILLUMINAIRE	2	100		0.50	100.0
FLASHER	2	135	25	0.50	37.5
ENERGY COST TO: KANE COUNTY D.O.T. TOTAL =					464.3

FOUNDATION (DEPTH) (FT.) (m)	CABLE SLACK (FT.) (m)	CABLE SLACK (FT.) (m)
TYPE A - POST 4 (1.2)	HANDHOLE 6.5 (2.0)	ALL FOUNDATIONS 3.5 (1.0)
D - CONTROLLER 4 (1.2)	DOUBLE HANDHOLE 15 (4.0)	MAST FOUNDATIONS 20 +/- 2" (6m +/- 0.6m)
E - M. ARM POLE 24" (600mm) 10 (3.0)	SIGNAL POST 2 (1.0)	MAST ARM (L) POLE 20 +/- 2" (6m +/- 0.6m)
30" (750mm) 15 (4.6)	CONTROLLER CAB. 1 (0.5)	BRACKET MOUNTED 13 (4.0)
	FIBER OPTIC 13 (4.0)	PED. PUSHBUTTON 4 (1.2)
	ELECTRIC SERVICE 1 (0.5)	ELECTRIC SERVICE 13.5 (4.1)
	GROUND CABLE 1 (0.5)	SERVICE TO GROUND 13.5 (4.1)
		POST MOUNTED 6 (1.8)



PROPOSED EMERGENCY VEHICLE PREEMPTOR	
EMERGENCY VEHICLE PREEMPTION	3 4
MOVEMENT	=

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE M52" TO MATCH FUTURE SYSTEM.



ILLINOIS ROUTE 64

BURLINGTON RD.

(NORTH AVENUE)

LA FOX ROAD

EXISTING TRAFFIC SIGNAL CABINET  
 INSTALL NEW ETHERNET SWITCH, TYPE 1  
 INSTALL NEW FULL-ACTUATED CONTROLLER IN EXISTING CABINET  
 INSTALL NEW MALFUNCTION MANAGEMENT UNIT

INSTALL NEW UNINTERRUPTIBLE POWER SUPPLY (SPECIAL KDOT)  
 IN EXISTING FOUNDATION

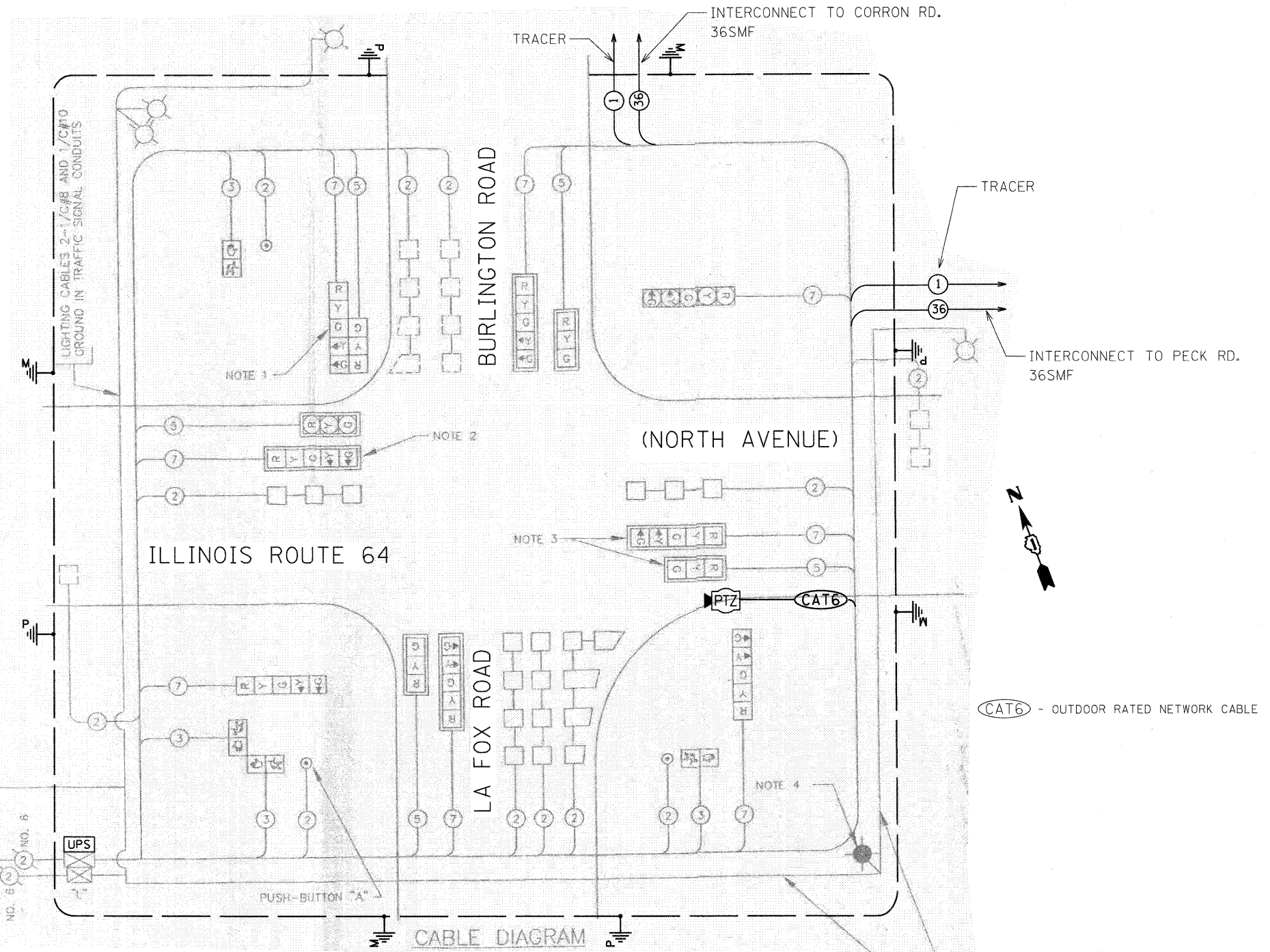
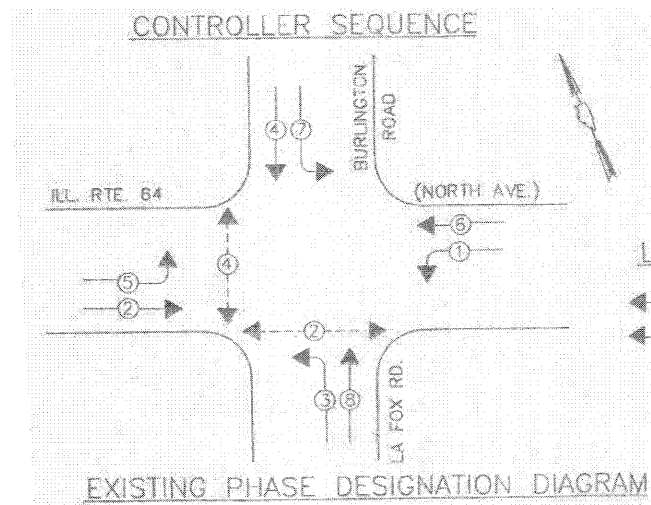
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE SIEMENS EAGLE COMPATIBLE IN COMPLIANCE WITH THE COUNTY'S EXISTING ATMS

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH TRAFFIC SIGNAL CONTROLLER (COMPLETE)
- 1 EACH MALFUNCTION MANAGEMENT UNIT (COMPLETE)
- 1 EACH UNINTERRUPTIBLE POWER SUPPLY (COMPLETE)

FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL MODERNIZATION IL 64 &amp; BURLINGTON ROAD</b>			F.A.P. RTE. VARIES	SECTION 08-00389-00-TL	COUNTY KANE	TOTAL SHEETS 28	SHEET NO. 7
	PLOT SCALE = #SCALE#	DRAWN -	REVISED -		SCALE: 1" = 20'	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	CONTRACT NO. 63594				
	PLOT DATE = #DATE#	CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -									

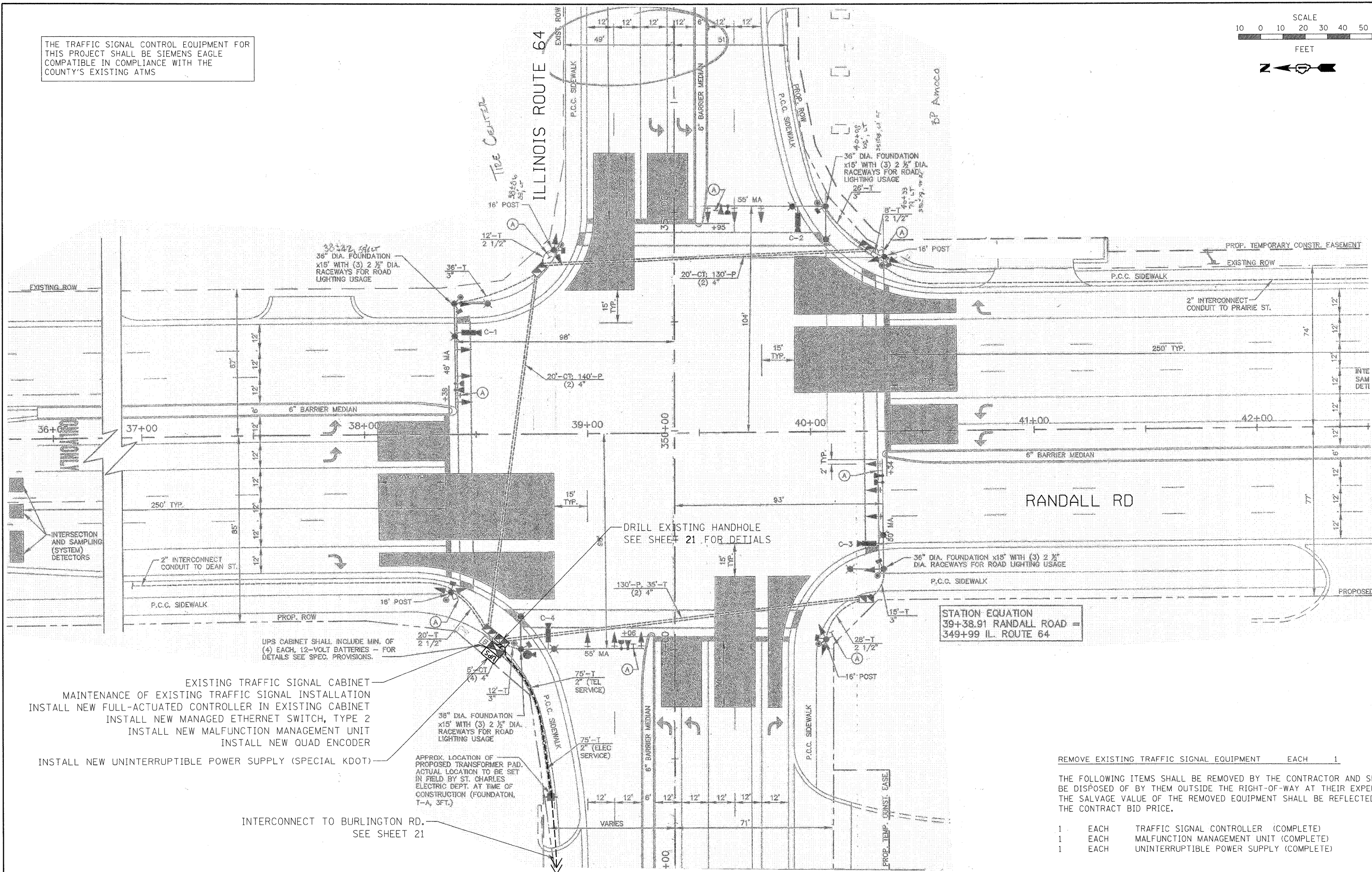
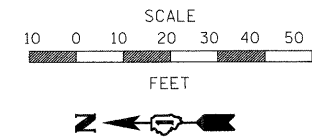


ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUND, NO. 6 1C (GREEN)	FOOT	663
INTERSECTION VIDEO TRAFFIC MONITORING SYSTEM WITH PTZ CAMERA	EACH	1
UNINTERRUPTIBLE POWER SUPPLY (SPECIAL KDOT)	EACH	1
OUTDOOR RATED NETWORK CABLE	FOOT	217
ETHERNET SWITCH, TYPE 1	EACH	1
MALFUNCTION MANAGEMENT UNIT	EACH	1

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE SIEMENS EAGLE COMPATIBLE IN COMPLIANCE WITH THE COUNTY'S EXISTING ATMS



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE SIEMENS EAGLE COMPATIBLE IN COMPLIANCE WITH THE COUNTY'S EXISTING ATMS



- EXISTING TRAFFIC SIGNAL CABINET
- MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
- INSTALL NEW FULL-ACTUATED CONTROLLER IN EXISTING CABINET
- INSTALL NEW MANAGED ETHERNET SWITCH, TYPE 2
- INSTALL NEW MALFUNCTION MANAGEMENT UNIT
- INSTALL NEW QUAD ENCODER
- INSTALL NEW UNINTERRUPTIBLE POWER SUPPLY (SPECIAL KDOT)

INTERCONNECT TO BURLINGTON RD.  
SEE SHEET 21

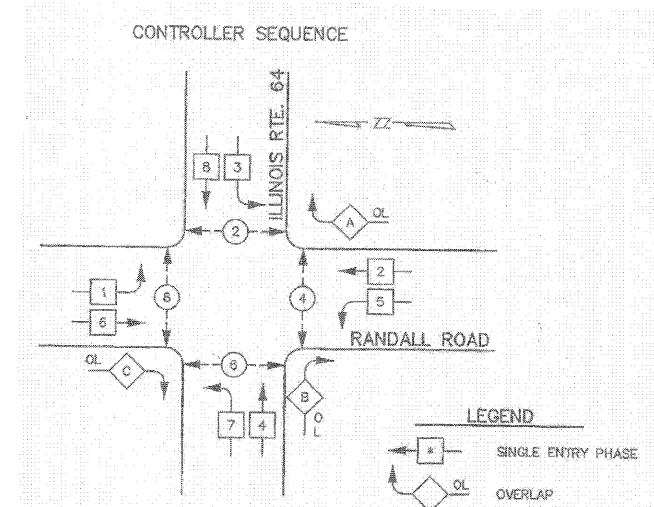
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH TRAFFIC SIGNAL CONTROLLER (COMPLETE)
- 1 EACH MALFUNCTION MANAGEMENT UNIT (COMPLETE)
- 1 EACH UNINTERRUPTIBLE POWER SUPPLY (COMPLETE)

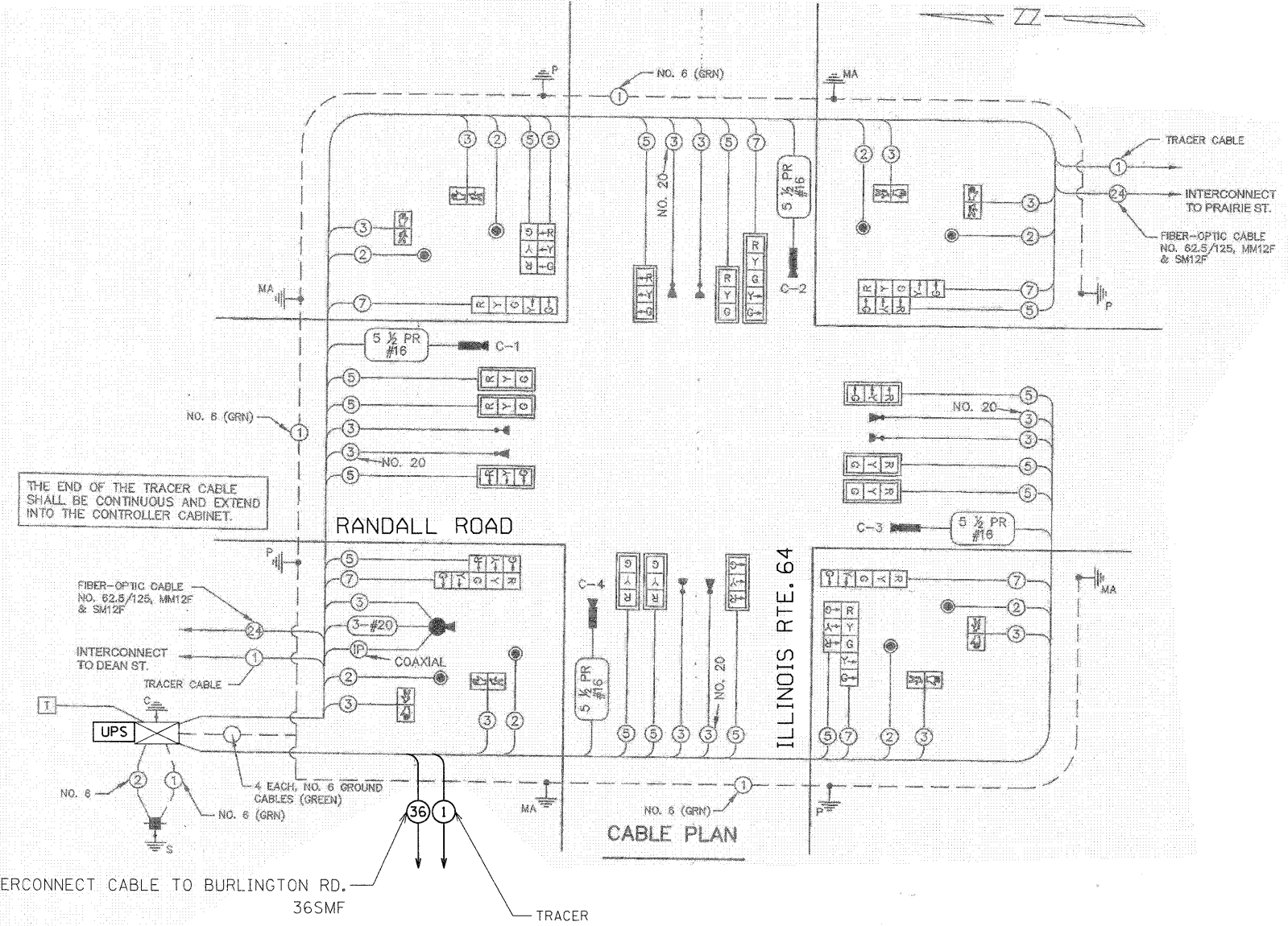
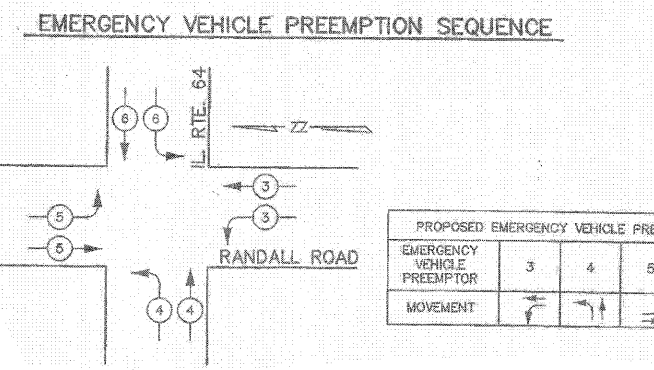
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#FILE#		DRAWN - -	REVISED -		VARIES	08-00389-00-TL	KANE	28	9			
	PLOT SCALE = #SCALE#	CHECKED - -	REVISED -		SCALE: 1" = 50'			SHEET NO. ___ OF ___ SHEETS		STA. _____ TO STA. _____		
	PLOT DATE = #DATE#	DATE - -	REVISED -		CONTRACT NO. 63,594							

ILLINOIS FED. AID PROJECT



**PHASE DESIGNATION DIAGRAM**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 2	+ 3
B	= 4	+ 5
C	= 6	+ 7



ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
DRILL EXISTING HANDHOLE	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY (SPECIAL KDOT)	EACH	1
QUAD ENCODER	EACH	1
ETHERNET SWITCH, TYPE 2	EACH	1
MALFUNCTION MANAGEMENT UNIT	EACH	1

FILE NAME =	USER NAME = #USER#	DESIGNED - -	REVISED -
#FILE#		DRAWN - -	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - -	REVISED -
	PLOT DATE = #DATE#	DATE - -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

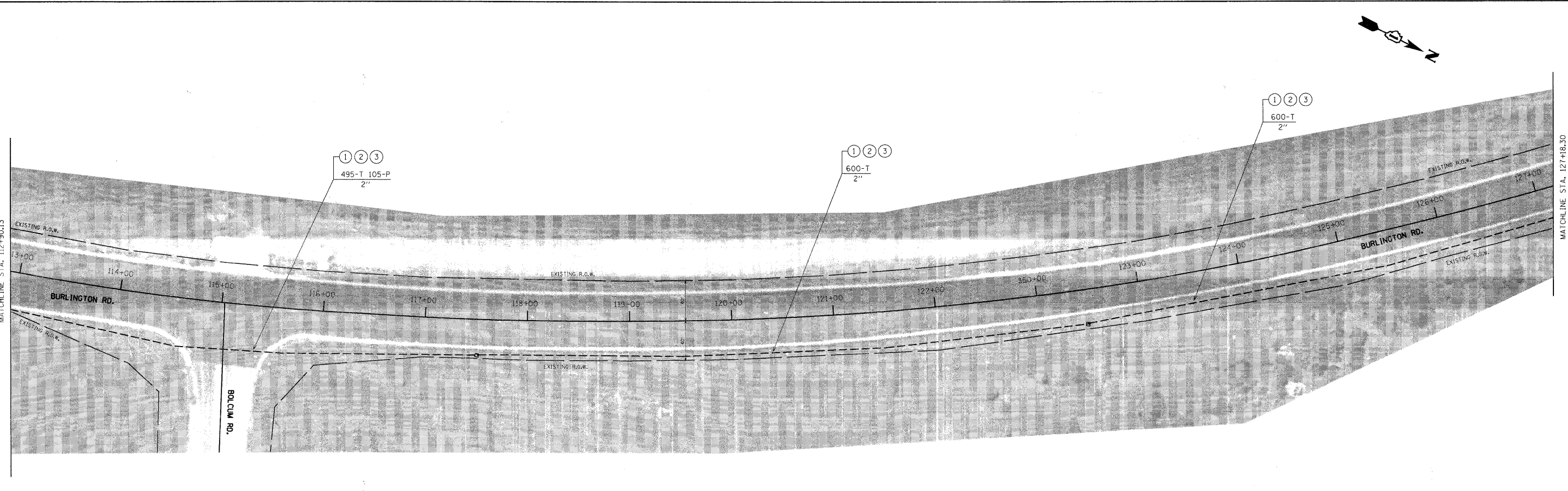
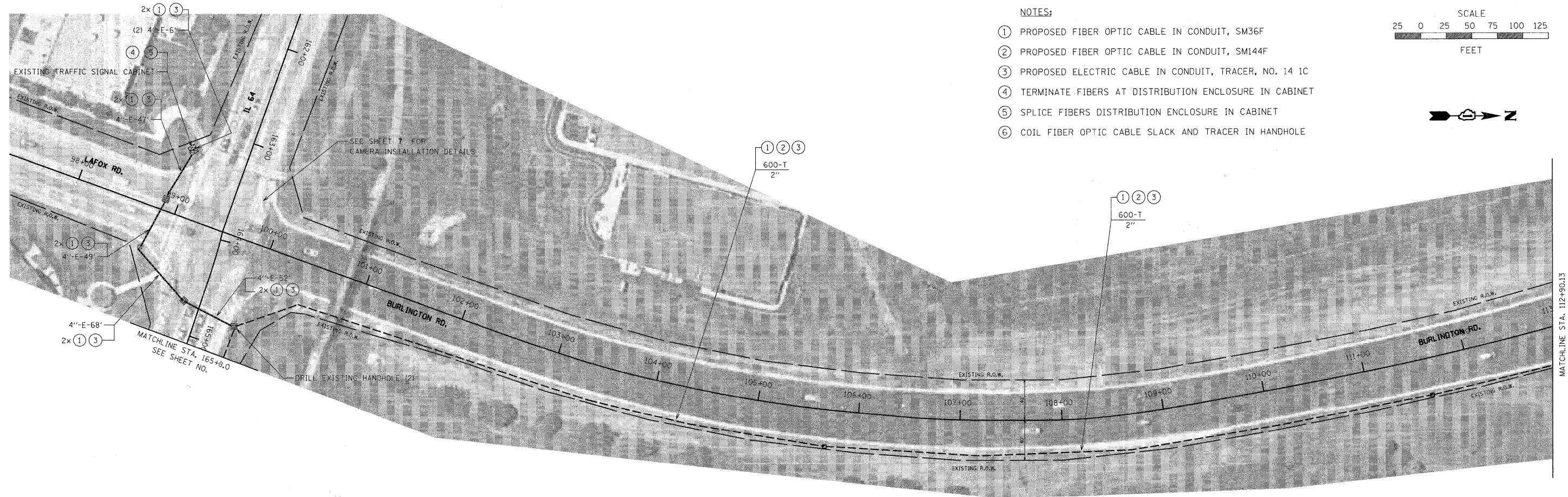
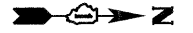
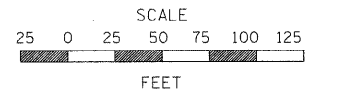
**CABLE AND PHASE DESIGNATION DIAGRAM  
IL 64 & RANDALL ROAD**

SCALE: N/A    SHEET NO. \_\_\_ OF \_\_\_ SHEETS    STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VARIES	08-00389-00-TL	KANE	28	10
CONTRACT NO. 63,594				
ILLINOIS FED. AID PROJECT				

NOTES:

- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
- ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
- ⑥ COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE



FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - DG	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURLINGTON ROAD FROM IL 64 TO TMC</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = #DATE#	CHECKED - DB	REVISED -		SCALE: 1" = 50'    SHEET NO. 1 OF 4 SHEETS    STA. 98+00 TO STA. 127+18.30			CONTRACT NO. 63594				
		DATE - 04/11/2011	REVISED -		ILLINOIS FED. AID PROJECT							

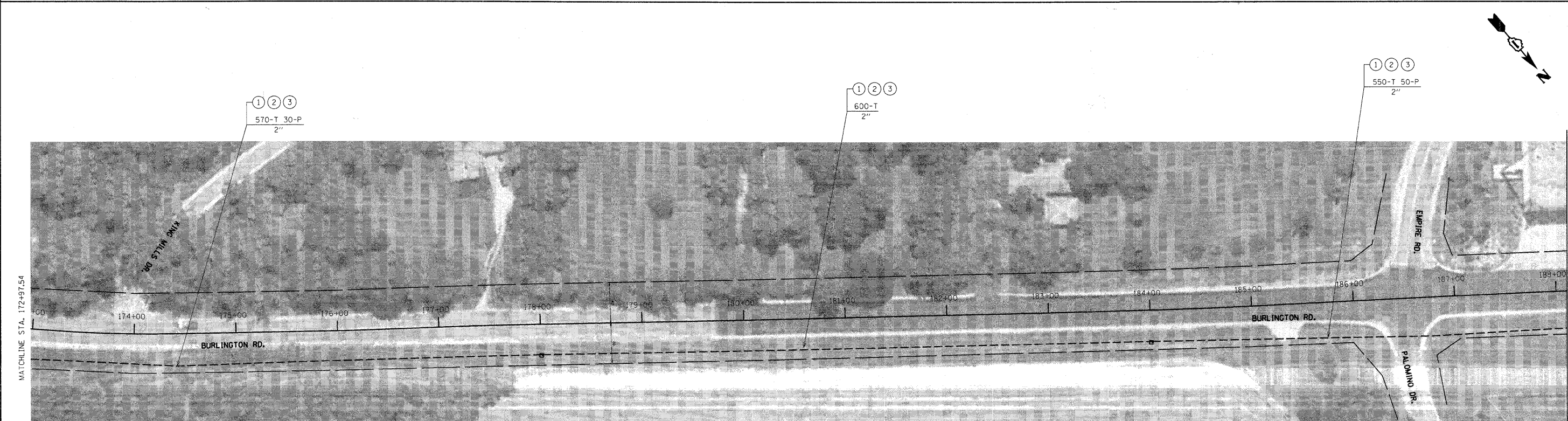
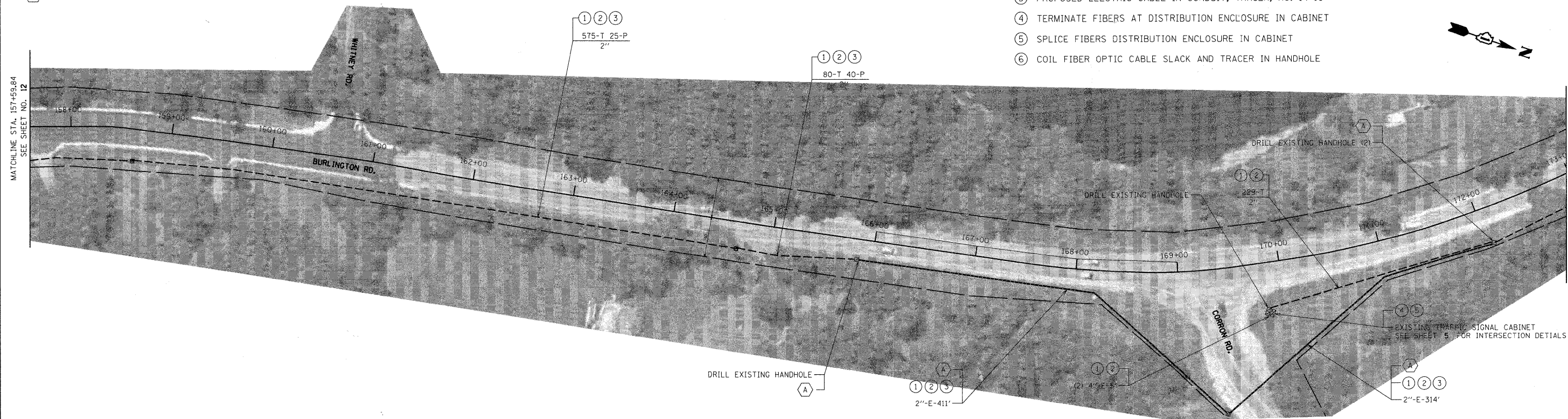
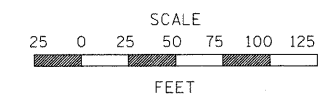


CONSTRUCTION NOTES:

- (A) EXISTING AT&T CONDUIT. CONTRACTOR SHALL COORDINATE WITH AT&T BEFORE CONSTRUCTION.
- (B) PLACE NEW CONDUIT AS CLOSE TO THE EXISTING R.O.W. AS POSSIBLE.
- (C) CONTRACTOR SHALL COORDINATE WITH KANE COUNTY DIVISION OF TRANSPORTATION BEFORE CONSTRUCTION.

NOTES:

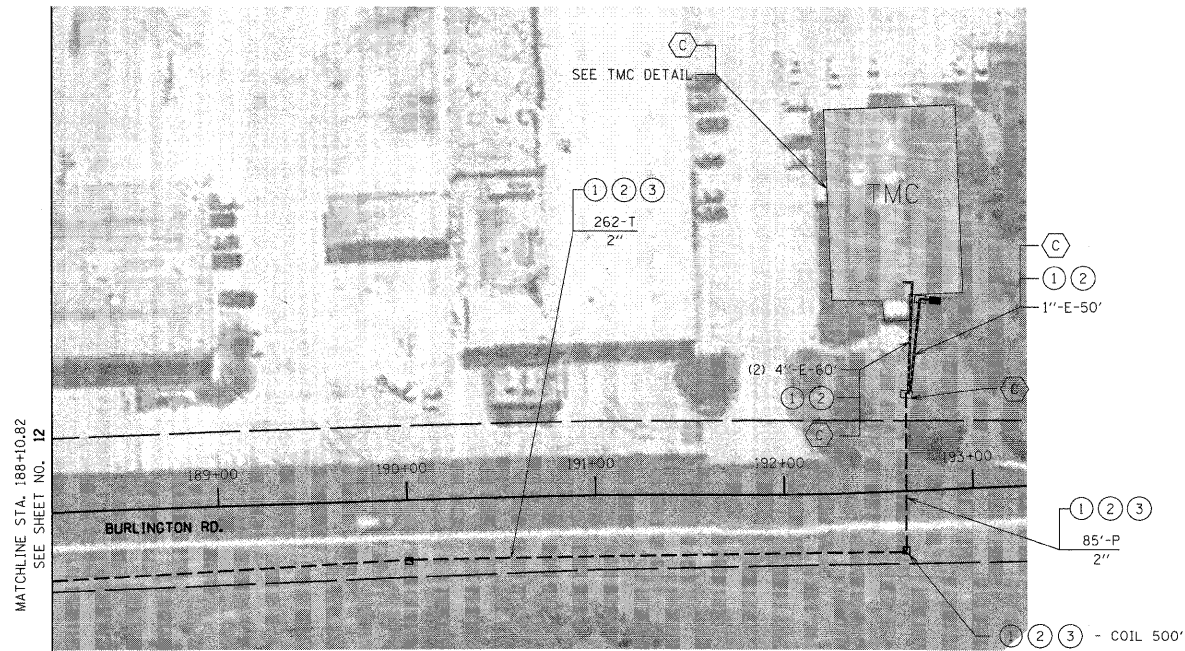
- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
- ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
- ⑥ COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE



FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - DG	REVISOR -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BURLINGTON ROAD FROM IL 64 TO TMC</b>		F.A.P. RTE. VARIES	SECTION 08-00389-00-TL	COUNTY KANE	TOTAL SHEETS 28	SHEET NO. 13
	PLOT SCALE = #SCALE#	DRAWN - JM	REVISIONS -		SCALE: 1" = 50'	SHEET NO. 3 OF 4 SHEETS	STA. 157+59.84 TO STA. 188+10.82	CONTRACT NO. 63594		ILLINOIS FED. AID PROJECT	
	PLOT DATE = #DATE#	CHECKED - DB	REVISIONS -								
		DATE - 04/11/2011	REVISIONS -								

CONSTRUCTION NOTES:

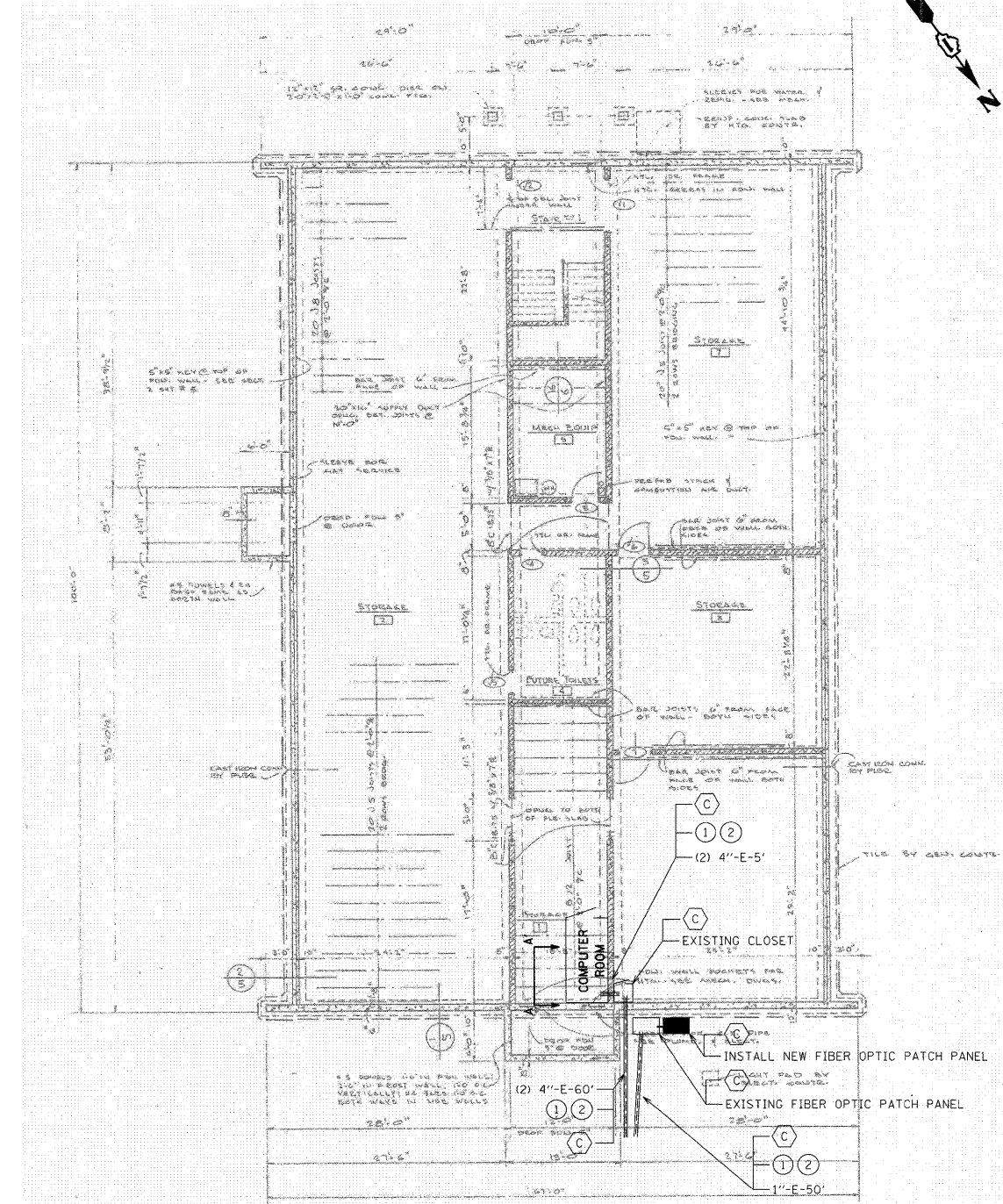
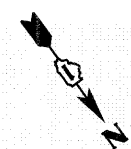
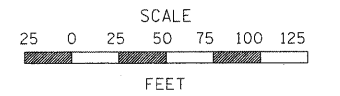
- (A) EXISTING AT&T CONDUIT. CONTRACTOR SHALL COORDINATE WITH AT&T BEFORE CONSTRUCTION.
- (B) PLACE NEW CONDUIT AS CLOSE TO THE EXISTING R.O.W. AS POSSIBLE.
- (C) CONTRACTOR SHALL COORDINATE WITH KANE COUNTY DIVISION OF TRANSPORTATION BEFORE CONSTRUCTION.



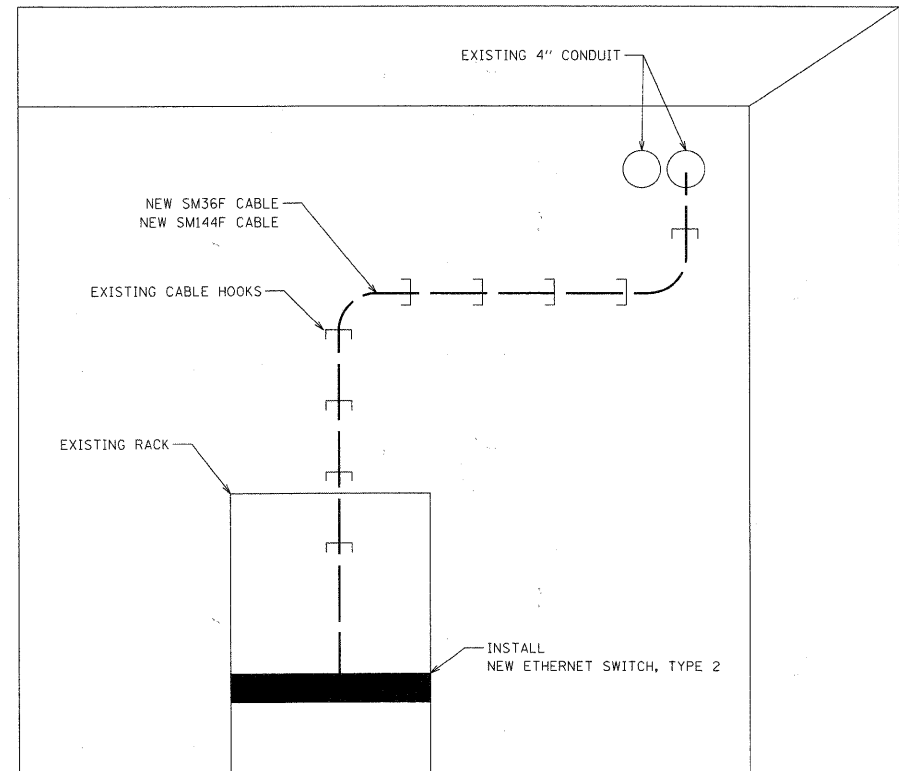
SCALE: 1" = 50'

NOTES:

- (1) PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- (2) PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- (3) PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 IC
- (4) TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
- (5) SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
- (6) COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE



TMC DETAIL  
TMC BASEMENT, FOOTING, AND FOUNDATION PLAN  
SCALE: N.T.S.

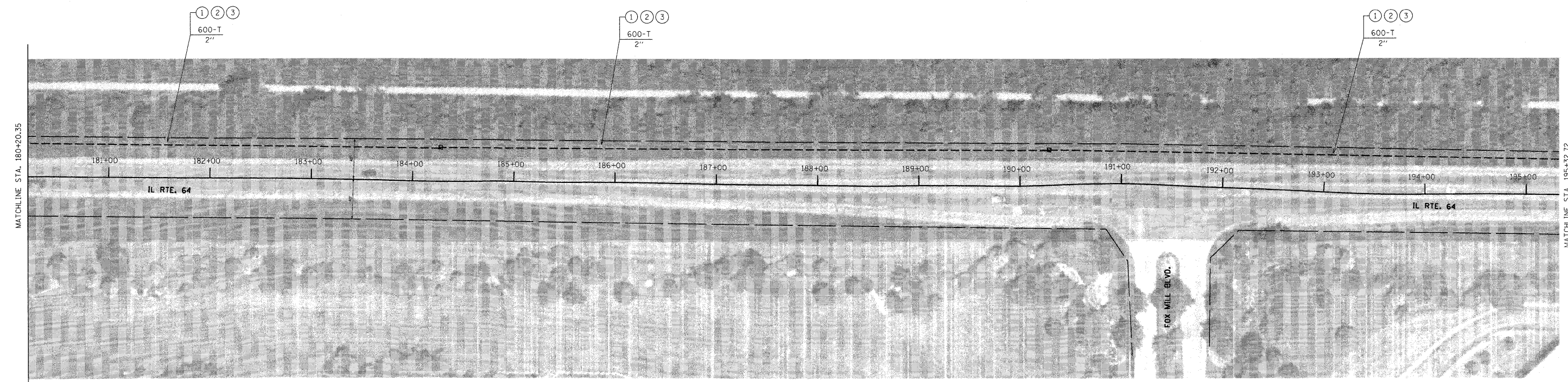
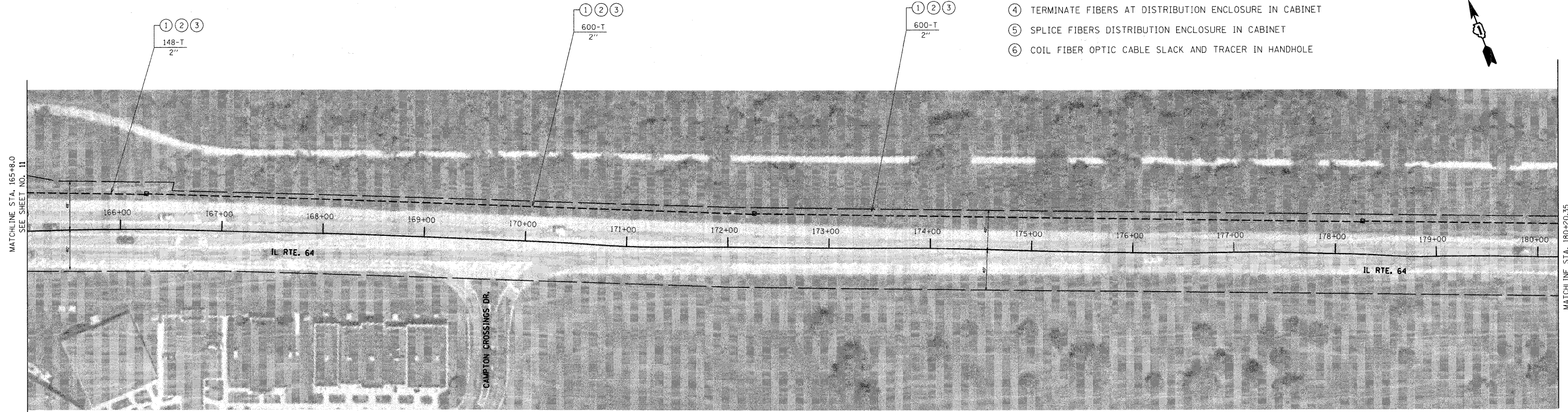
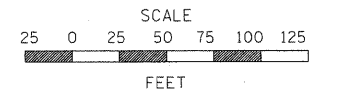


DETAIL A-A'  
TMC BASEMENT COMPUTER ROOM  
SCALE: N.T.S.

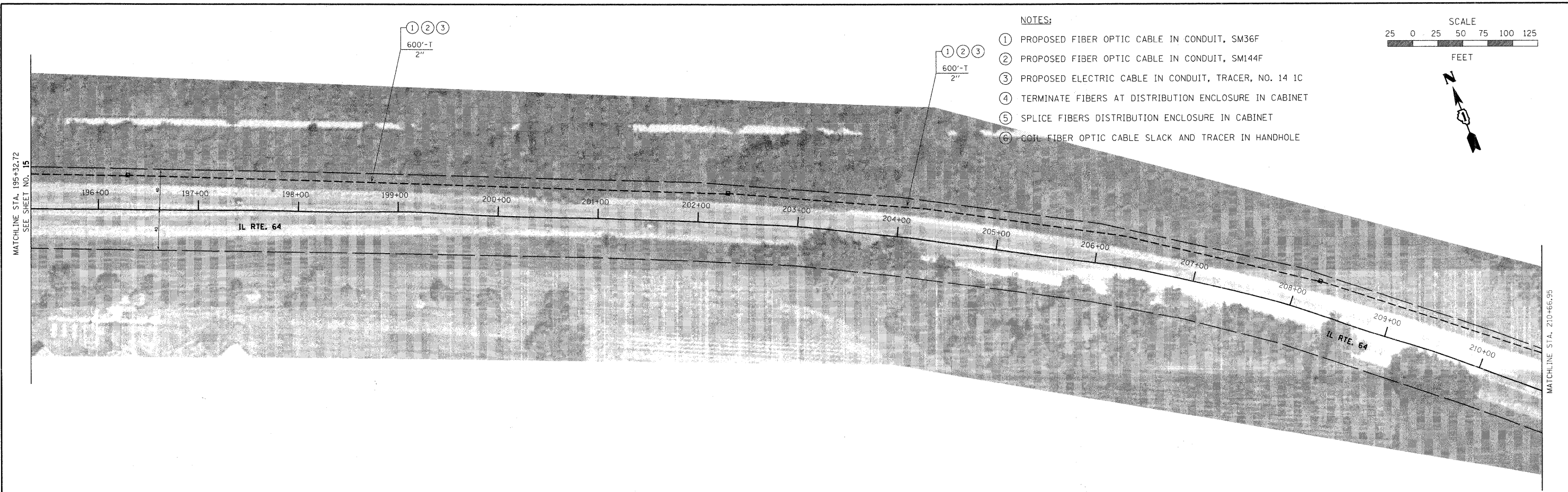
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	PLOT SCALE = #SCALE#	DRAWN - JM	REVISED -		SCALE: 1" = 50'	SHEET NO. 4 OF 4 SHEETS	STA. 188+10.82 TO STA. 193+00	CONTRACT NO. 63594		ILLINOIS FED. AID PROJECT		
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		DATE - 04/11/2011	REVISED -									

NOTES:

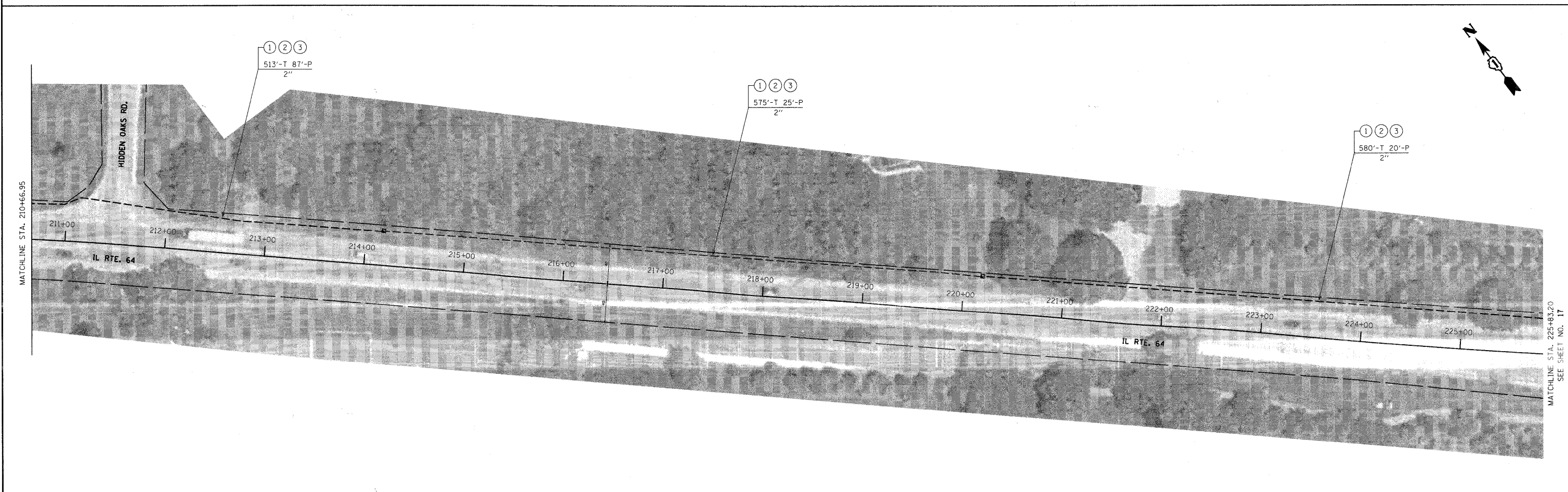
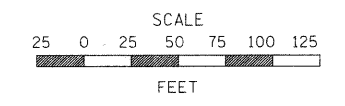
- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
- ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
- ⑥ COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE



FILE NAME =	USER NAME = #USER#	DESIGNED - DC	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 64 BURLINGTON ROAD TO RANDALL ROAD</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		DATE - 04/11/2011	REVISED -			SCALE: 1" = 50'		SHEET NO. 1 OF 7 SHEETS		STA. 165+8.0 TO STA. 195+32.72



- NOTES:
- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
  - ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
  - ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
  - ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
  - ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
  - ⑥ COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE



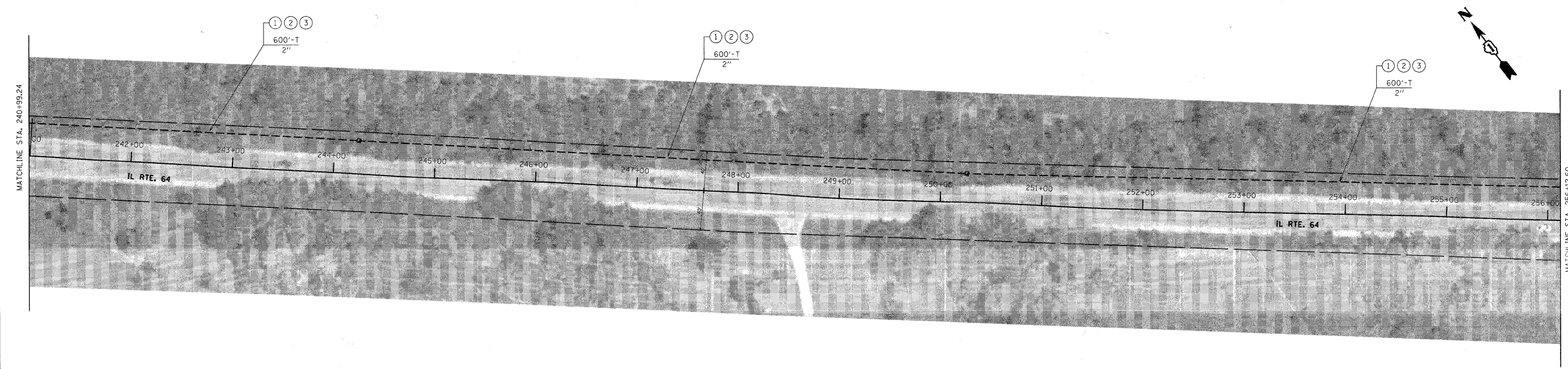
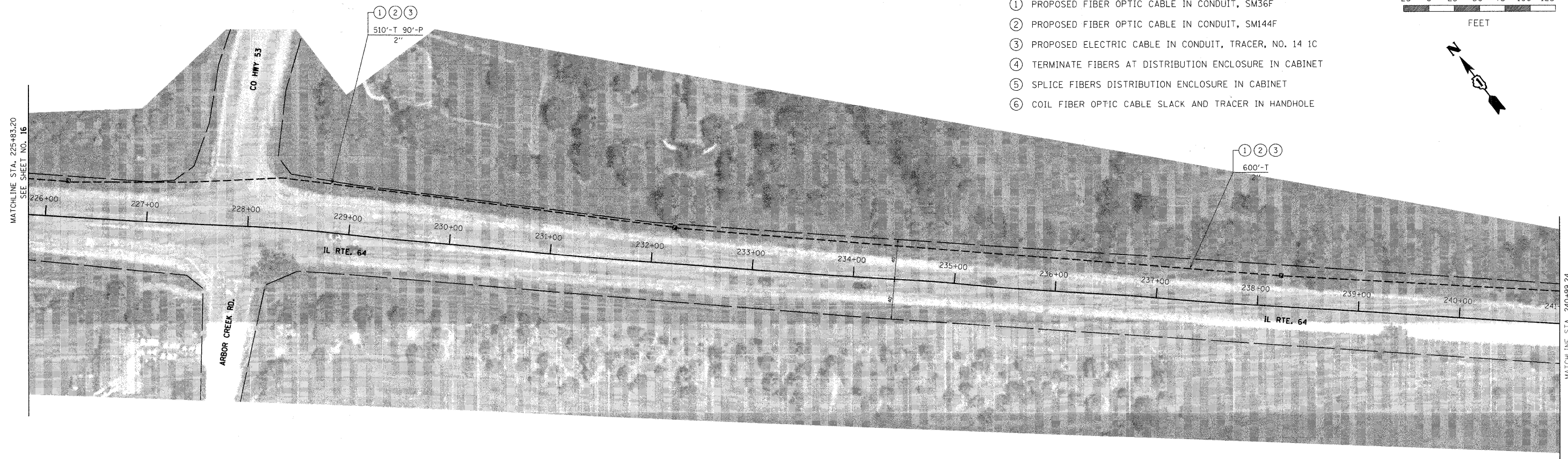
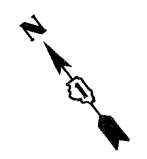
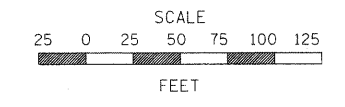
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						ILLINOIS FED. AID PROJECT					

SCALE: 1" = 50' SHEET NO. 2 OF 7 SHEETS STA. 195+32.72 TO STA. 225+83.20



NOTES:

- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
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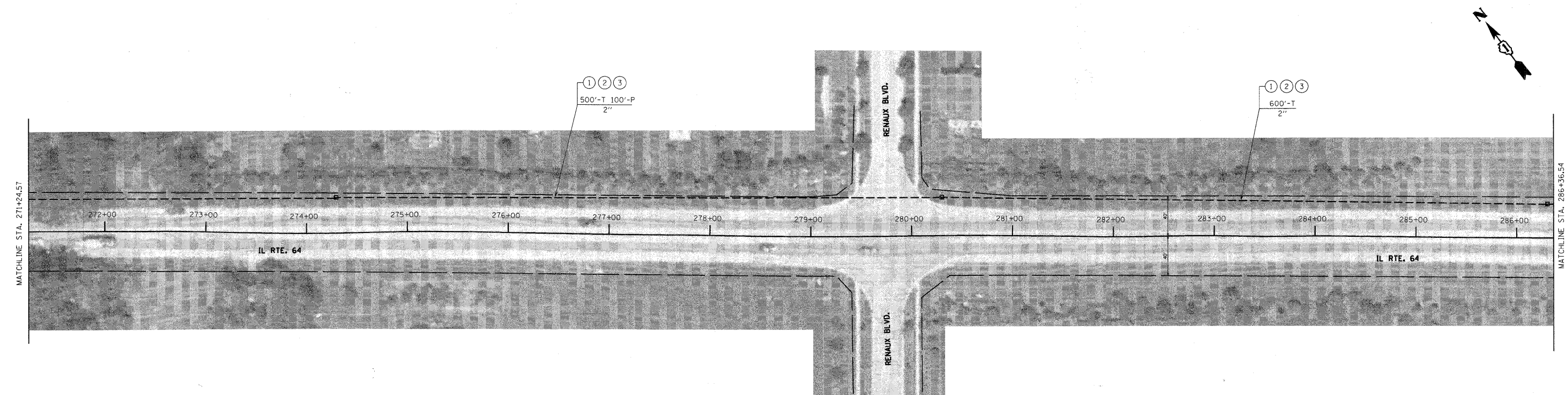
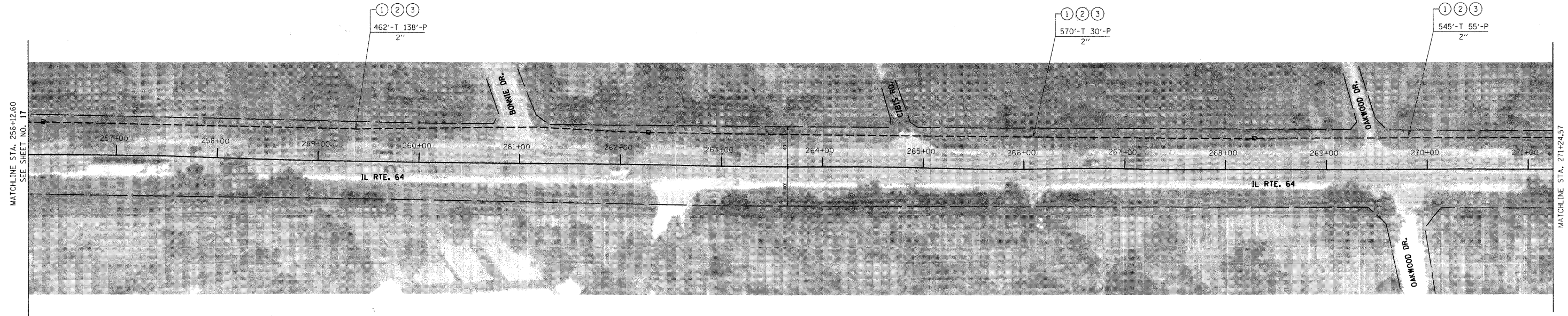
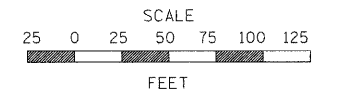
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		DATE -	REVISED -								

CONSTRUCTION NOTES:

- A EXISTING AT&T CONDUIT. CONTRACTOR SHALL COORDINATE WITH AT&T BEFORE CONSTRUCTION.
- B PLACE NEW CONDUIT AS CLOSE TO THE EXISTING R.O.W. AS POSSIBLE.
- C CONTRACTOR SHALL COORDINATE WITH KANE COUNTY DIVISION OF TRANSPORTATION BEFORE CONSTRUCTION.

NOTES:

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- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
- ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
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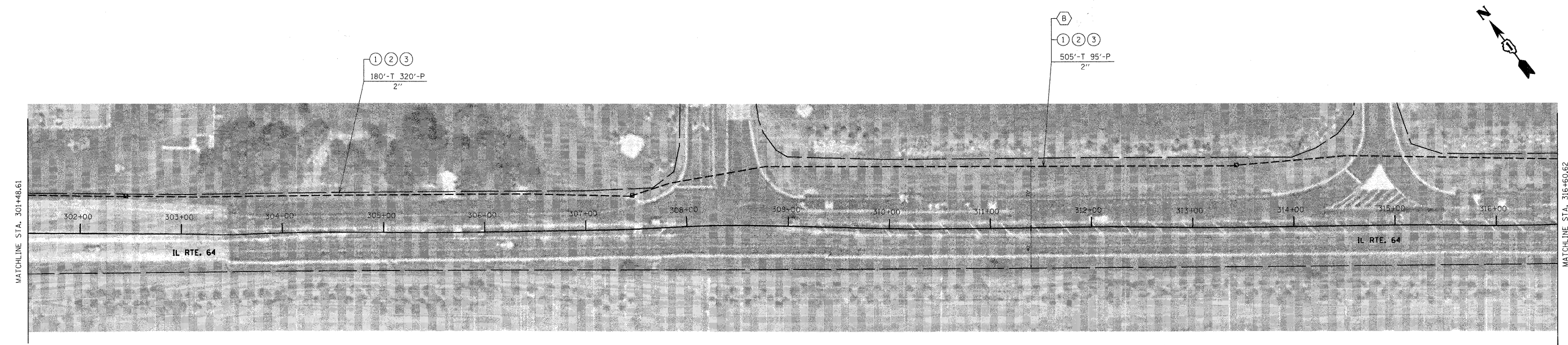
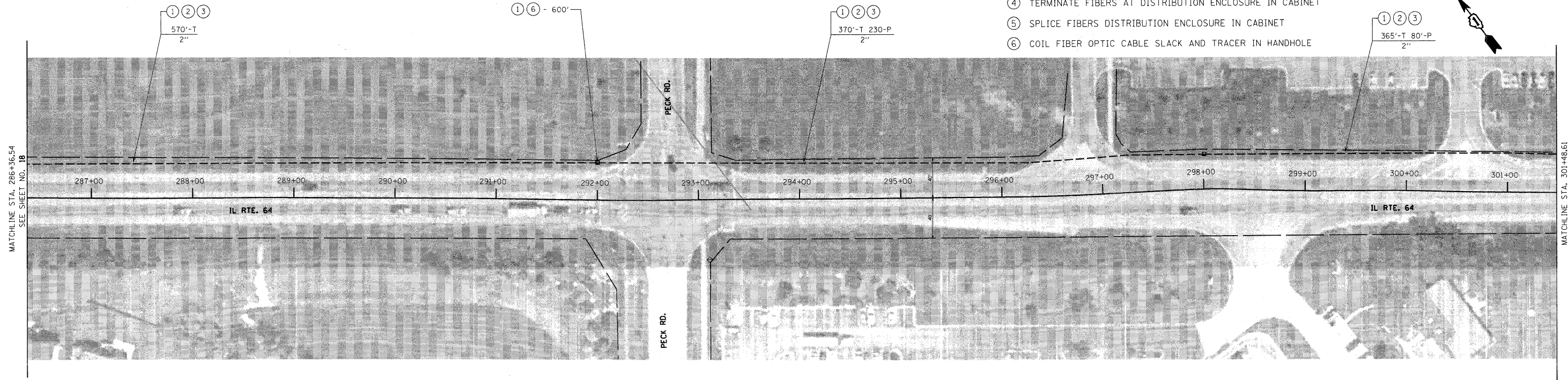
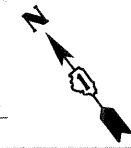
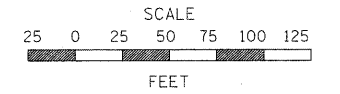
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#FILEL#		DRAWN - JM	REVISED -		VARIES	08-00389-00-TL	KANE	28	18			
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	PLOT DATE = #DATE#	DATE - 04/11/2011	REVISED -		ILLINOIS FED. AID PROJECT							

**CONSTRUCTION NOTES:**

- A EXISTING AT&T CONDUIT. CONTRACTOR SHALL COORDINATE WITH AT&T BEFORE CONSTRUCTION.
- B PLACE NEW CONDUIT AS CLOSE TO THE EXISTING R.O.W. AS POSSIBLE.
- C CONTRACTOR SHALL COORDINATE WITH KANE COUNTY DIVISION OF TRANSPORTATION BEFORE CONSTRUCTION.

**NOTES:**

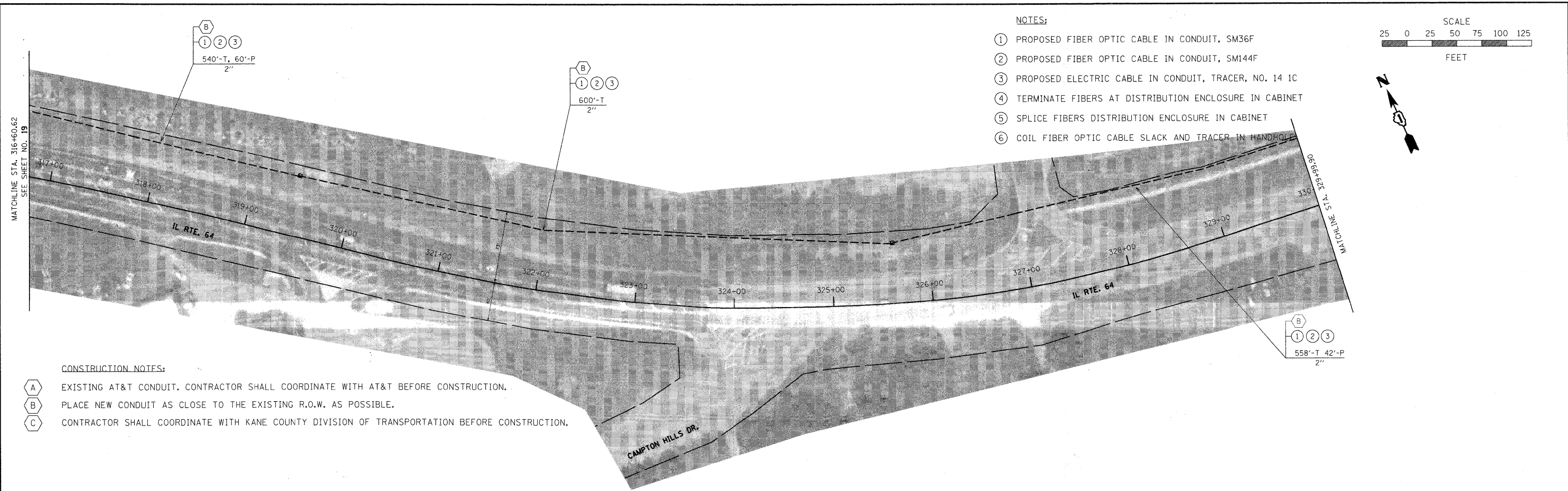
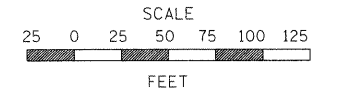
- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
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- ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
- ⑥ COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE



FILE NAME =	USER NAME = \$USER\$	DESIGNED - DG	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 64 BURLINGTON ROAD TO RANDALL ROAD</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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						SCALE: 1" = 50'	SHEET NO. 5 OF 7 SHEETS	STA. 286+36.54 TO STA. 316+60.62			

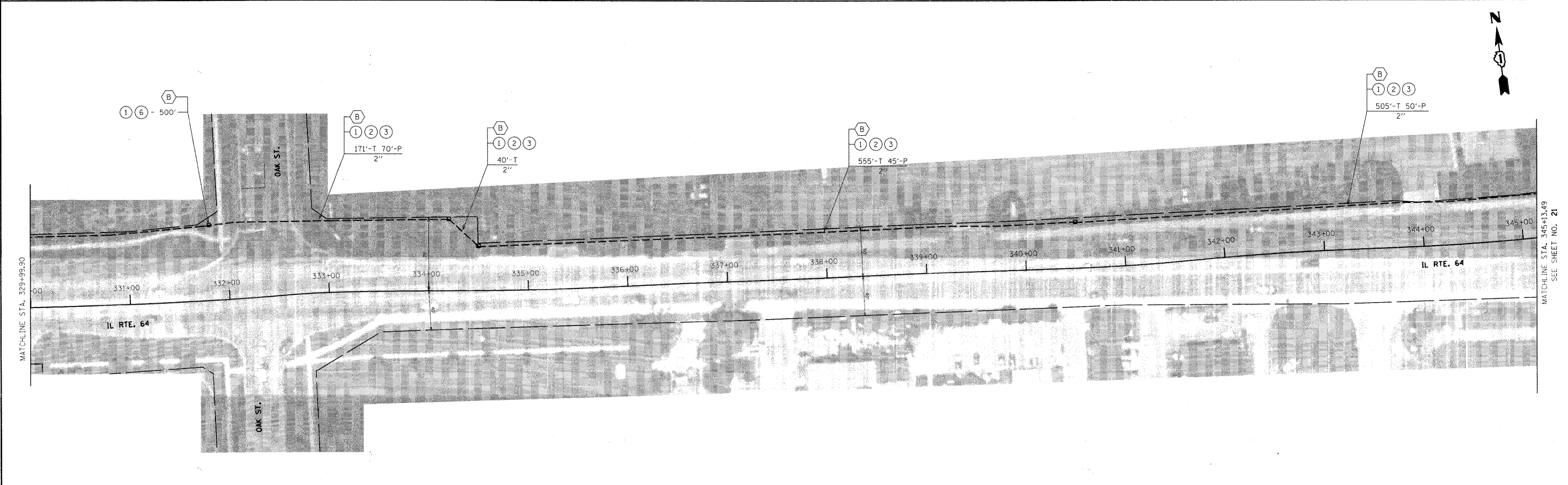
**NOTES:**

- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 IC
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
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**CONSTRUCTION NOTES:**

- A EXISTING AT&T CONDUIT. CONTRACTOR SHALL COORDINATE WITH AT&T BEFORE CONSTRUCTION.
- B PLACE NEW CONDUIT AS CLOSE TO THE EXISTING R.O.W. AS POSSIBLE.
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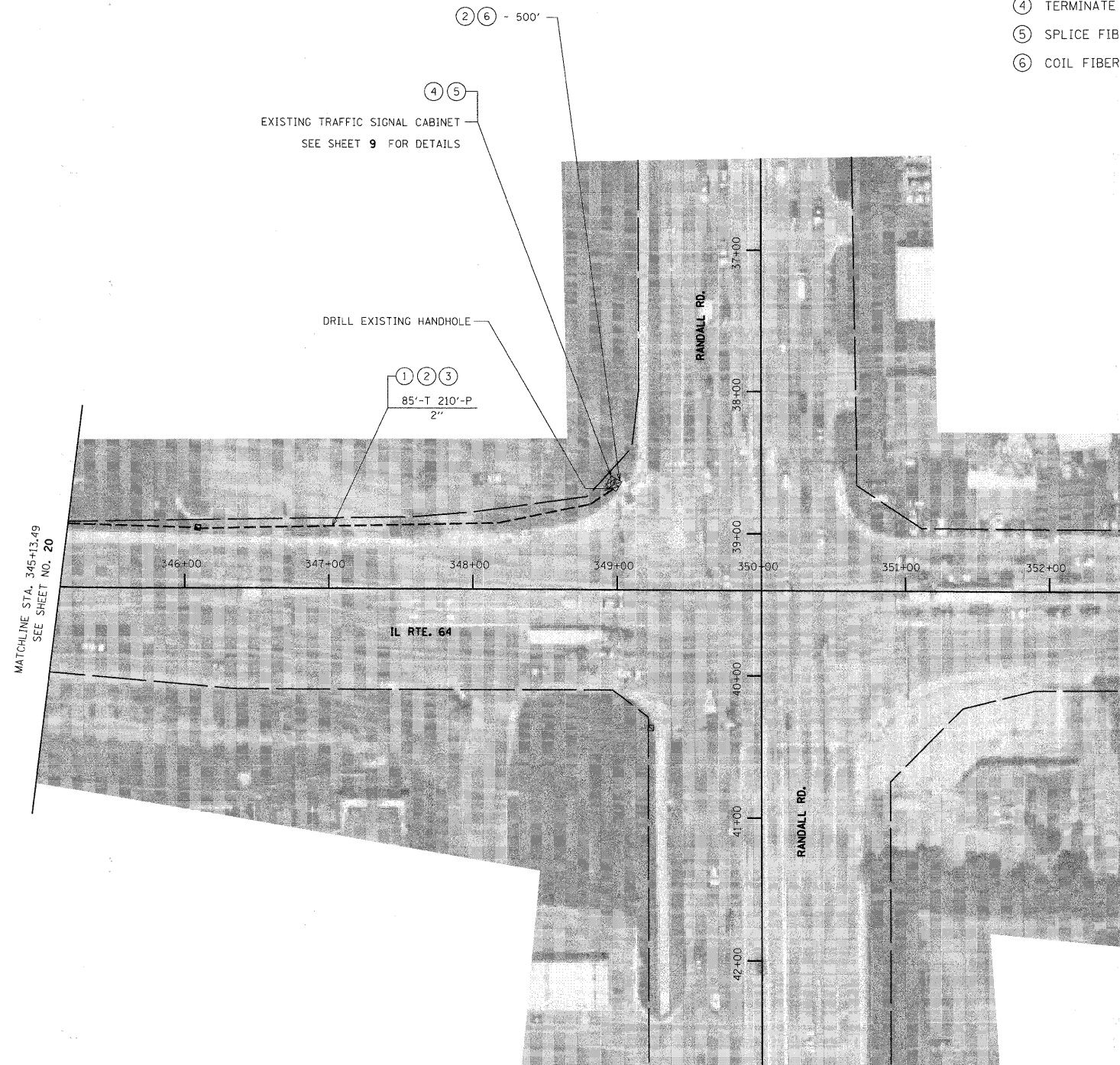
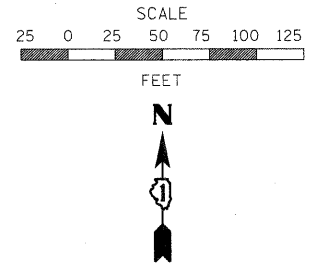
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		DATE - 04/11/2011	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: 1" = 50'	SHEET NO. 6 OF 7 SHEETS	STA. 316+60.62 TO STA. 345+13.49				

**CONSTRUCTION NOTES:**

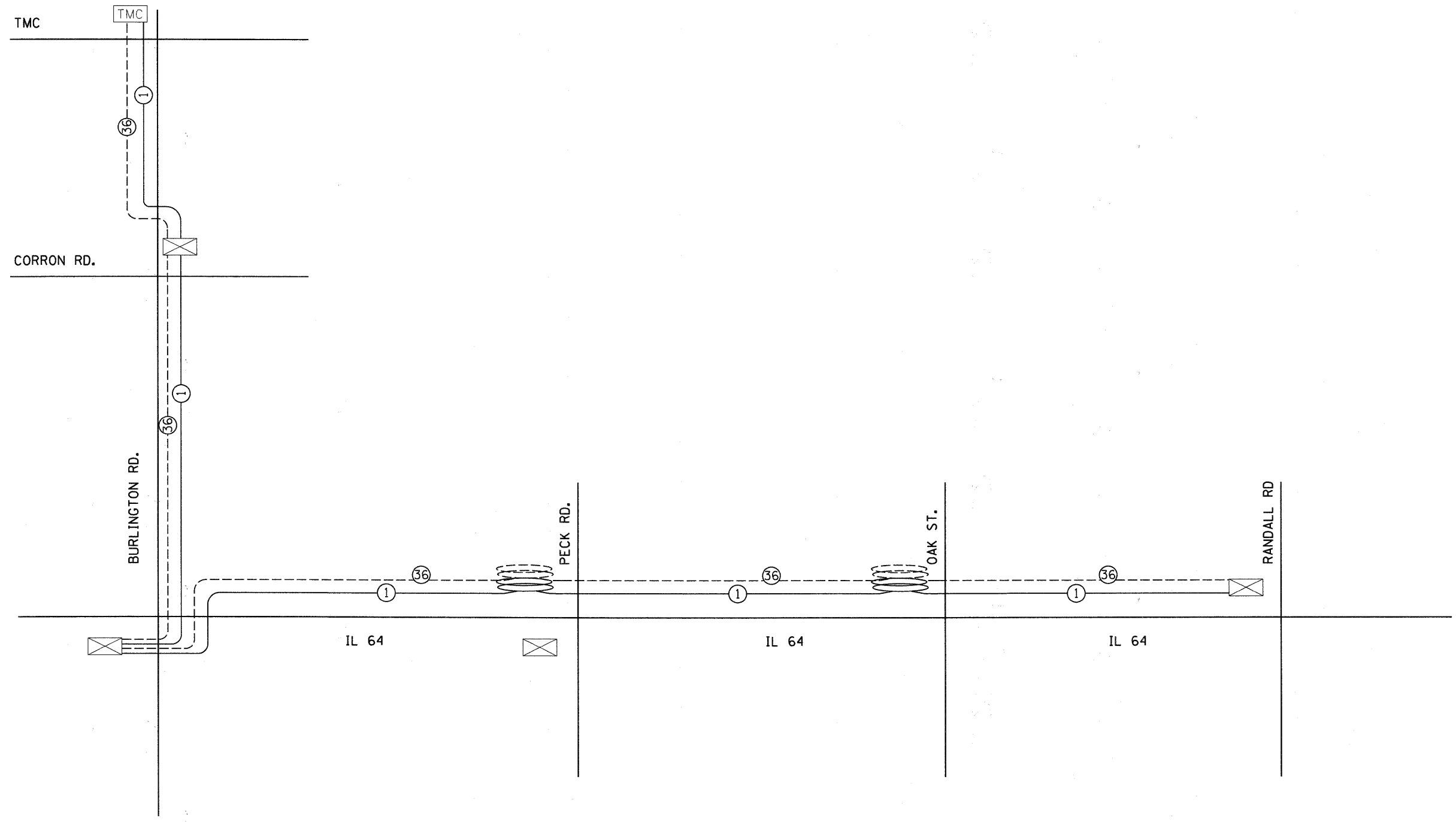
- A EXISTING AT&T CONDUIT. CONTRACTOR SHALL COORDINATE WITH AT&T BEFORE CONSTRUCTION.
- B PLACE NEW CONDUIT AS CLOSE TO THE EXISTING R.O.W. AS POSSIBLE.
- C CONTRACTOR SHALL COORDINATE WITH KANE COUNTY DIVISION OF TRANSPORTATION BEFORE CONSTRUCTION.

**NOTES:**

- ① PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM36F
- ② PROPOSED FIBER OPTIC CABLE IN CONDUIT, SM144F
- ③ PROPOSED ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
- ④ TERMINATE FIBERS AT DISTRIBUTION ENCLOSURE IN CABINET
- ⑤ SPLICE FIBERS DISTRIBUTION ENCLOSURE IN CABINET
- ⑥ COIL FIBER OPTIC CABLE SLACK AND TRACER IN HANDHOLE



FILE NAME =	USER NAME = #USER#	DESIGNED - DC	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 64 BURLINGTON ROAD TO RANDALL ROAD</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - JM	REVISED -		VARIES	08-00389-00-TL	KANE	28	21			
	PLOT SCALE = #SCALE#	CHECKED - DB	REVISED -		SCALE: 1" = 50'		SHEET NO. 7 OF 7 SHEETS		STA. 345+13.49 TO STA. 352+00		CONTRACT NO. 63594	
	PLOT DATE = #DATE#	DATE - 04/11/2011	REVISED -		ILLINOIS FED. AID PROJECT							



- ③⑥ - FIBER OPTIC CABLE IN CONDUIT, SM36F
- ① - TRACER CABLE

FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - DG	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SCHEMATIC</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = #SCALE#	DRAWN - JM	REVISED -		VARIES	08-00389-00-TL	KANE	28	22			
PLOT DATE = #DATE#	CHECKED - DB	REVISED -	SCALE: N/A		SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	CONTRACT NO. <b>63594</b>		ILLINOIS FED. AID PROJECT			
	DATE - 04/11/2011	REVISED -										

CENTER POINT OF INTERSECTION

EDGE OF PAV'T.

PZT CAMERA ARM SHALL BE ALIGNED AT AN ANGLE OF 45° TOWARD THE CENTER POINT OF THE INTERSECTION

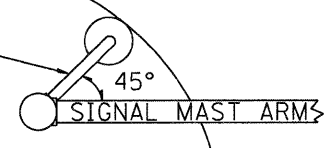
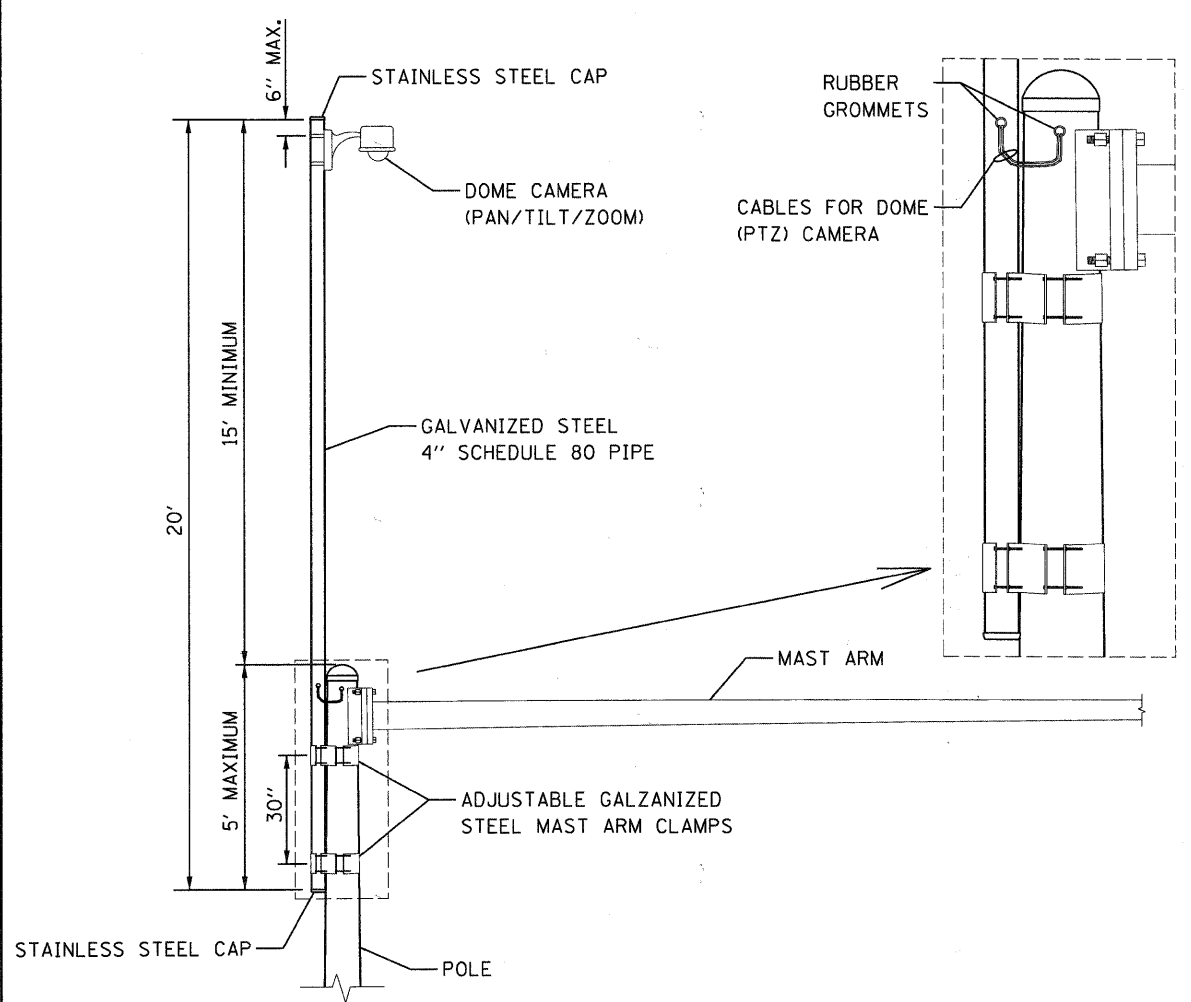


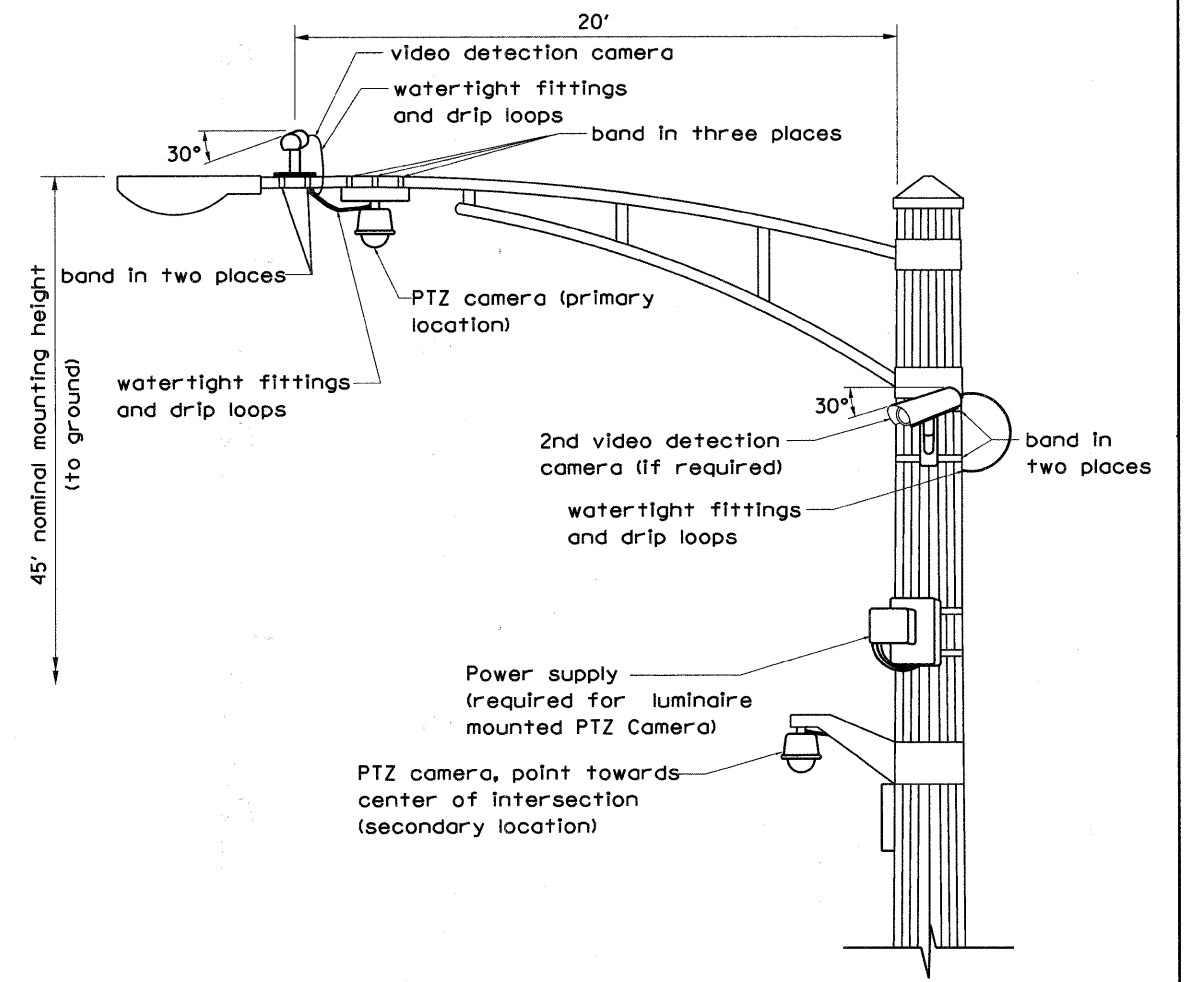
IMAGE SENSOR MOUNTING DETAILS

(NO SCALE)



CAMERA MOUNTING ASSEMBLY DETAIL

(NOT TO SCALE)

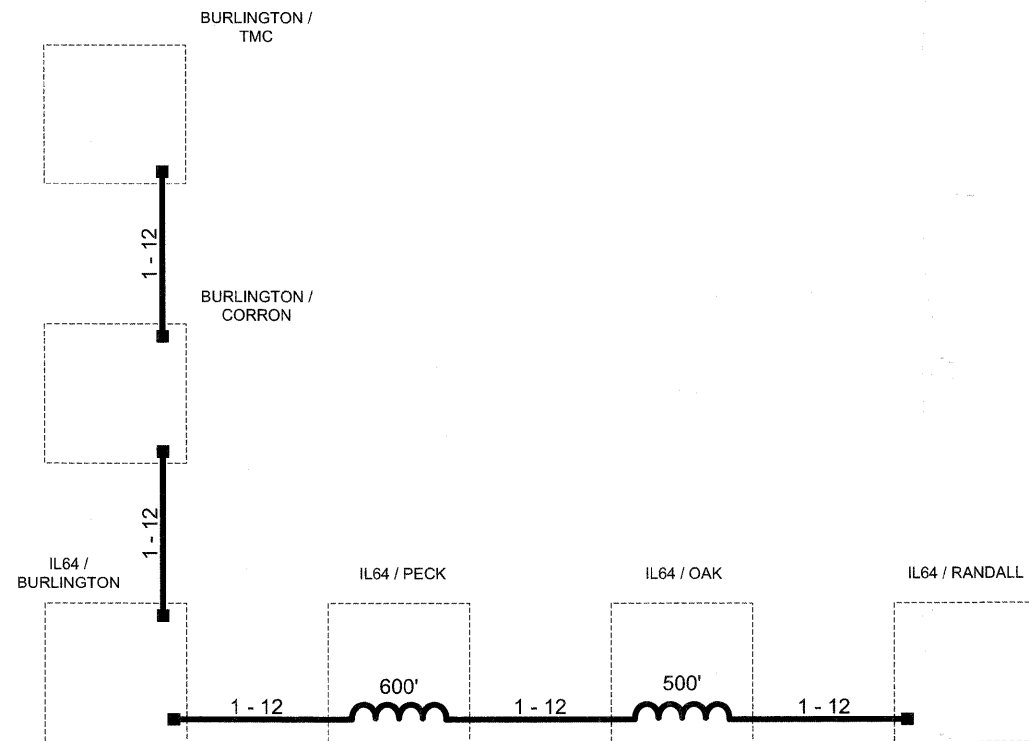









VIDEO DETECTION CAMERA(S) AND DOME (PTZ) CAMERA MOUNTING DETAIL

(NOT TO SCALE)

- NOTES FOR SINGLE, DUAL AND MULTIPLE MVP MOUNTING:
- MOUNT LUMINAIRE MOUNTING BRACKET AS HIGH AS POSSIBLE.
  - AIM BRACKET TOWARD DIRECTION OF TRAFFIC TO BE DETECTED.
  - MOUNT MACHINE VISION PROCESSOR AIMING DOWN AT 30 DEGREE ANGLE.

FILE NAME =	USER NAME = #USER#	DESIGNED - DG	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CCTV AND VIDEO DETECTION MOUNTING DETAIL</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = #DATE#	DATE - 04/11/2011	REVISED -		ILLINOIS FED. AID PROJECT								



-  COILED CABLE IN NEW HANDHOLE
-  EXISTING CONNECTOR / EXISTING FIBER
-  PROPOSED CONNECTOR / EXISTING FIBER
-  PROPOSED FUSION SPLICE / EXISTING FIBER
-  PROPOSED CONNECTOR / PROPOSED FIBER
-  PROPOSED FUSION SPLICE / PROPOSED FIBER
-  FUTURE FIBER (BY OTHERS)

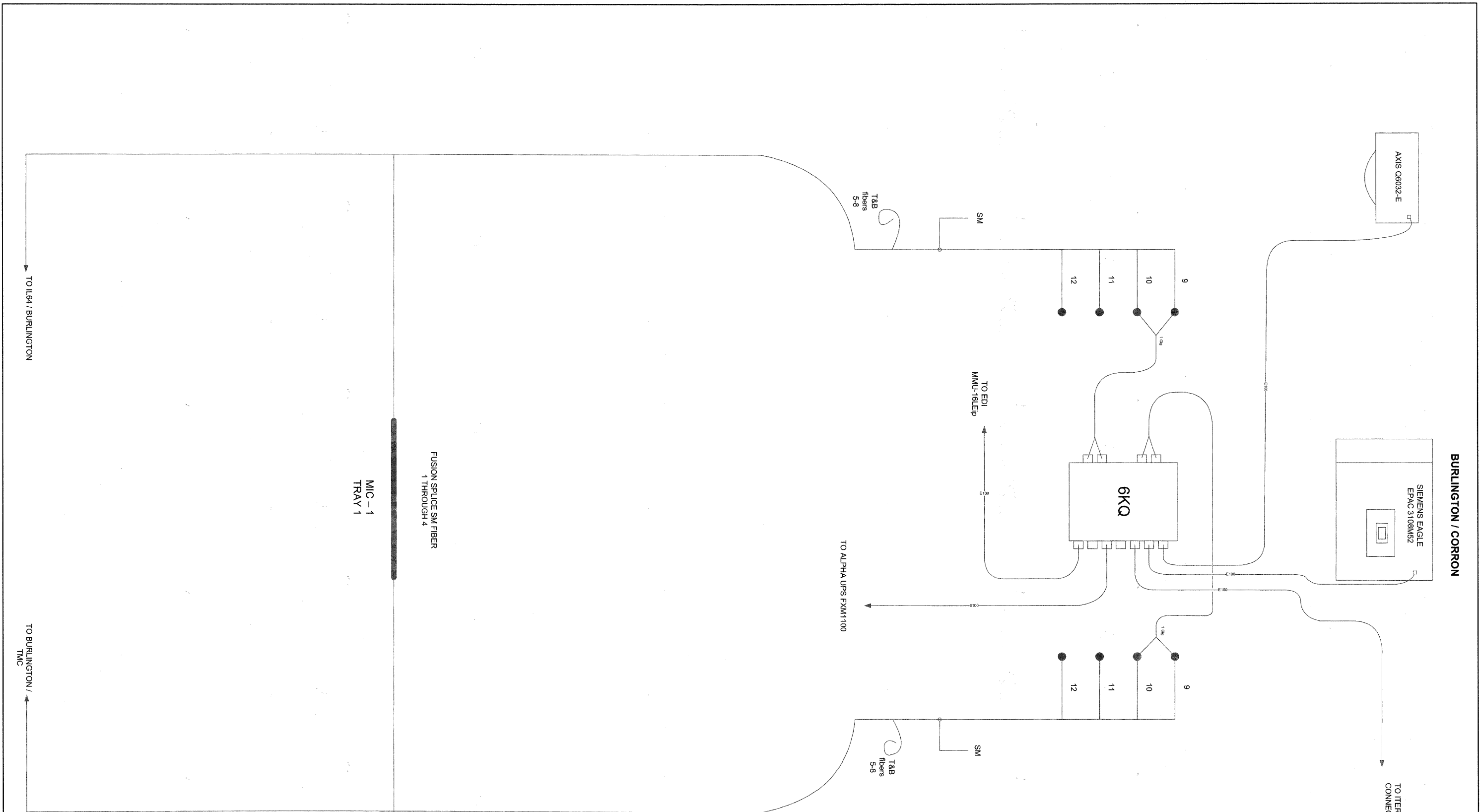


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				SCALE: NTS	SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				





FILE NAME =	USER NAME = \$USERS	DESIGNED - DG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEMATIC	F.A.P. RTE	SECTION NUMBER	COUNTY	TOTAL SHEETS	SHEET NO.	
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SCALE: NTS						SHEET NO. OF SHEETS STA. TO STA.					



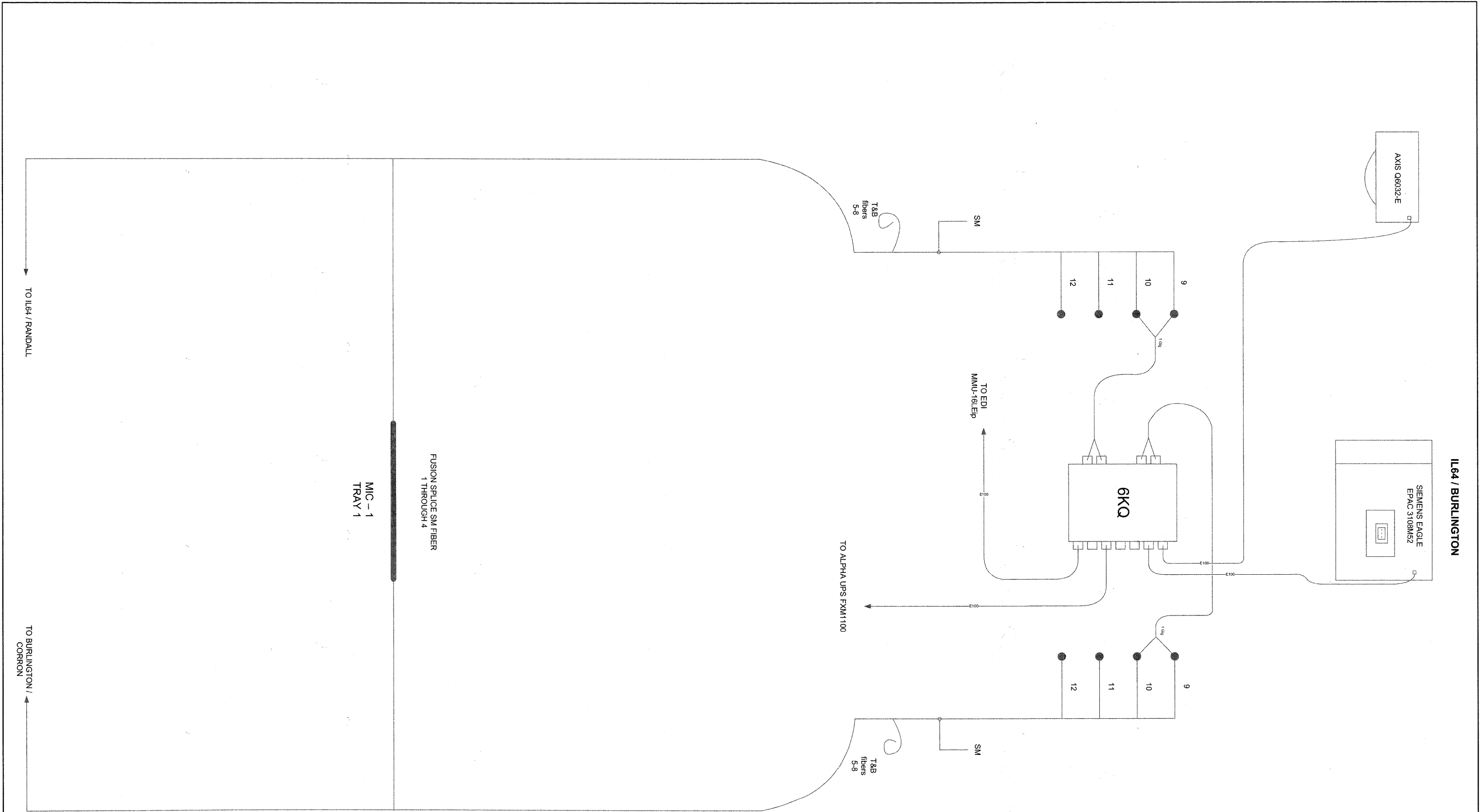
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	PLOT SCALE = \$DATES	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SCHEMATIC**

SCALE: NTS    SHEET NO.    OF    SHEETS    STA.    TO STA.

F.A.P. RTE.	SECTION NUMBER	COUNTY	TOTAL SHEETS	SHEET NO.
VARIES	08-00389-00-TL	KANE	28	28
CONTRACT NO. 63594				
		ILLINOIS	FED. AID PROJECT	



FILE NAME =	USER NAME = \$USERS	DESIGNED - DG	REVISED -
FILE#		DRAWN - YM	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SCHEMATIC**

SCALE: NTS    SHEET NO.    OF    SHEETS    STA.    TO STA.

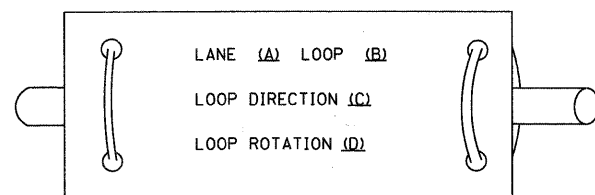
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VARIABLES	08-00389-00-TL	KANE	28	27
CONTRACT NO. 63594				
		ILLINOIS	FED. AID PROJECT	



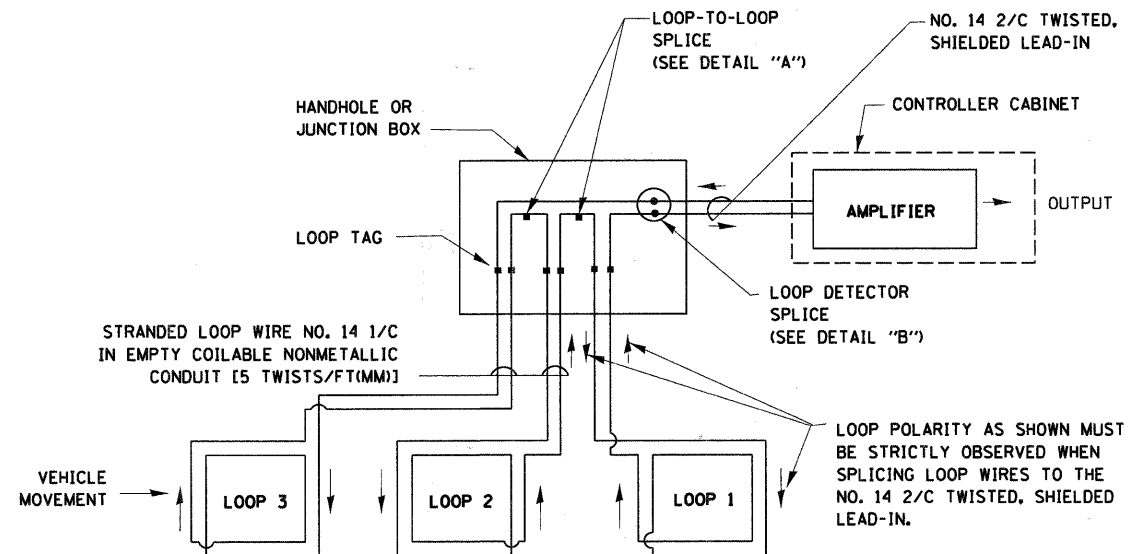
**LOOP DETECTOR NOTES**

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

**LOOP LEAD-IN CABLE TAG**

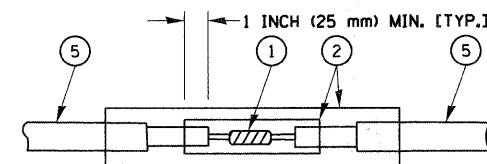


- A. LANE #1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

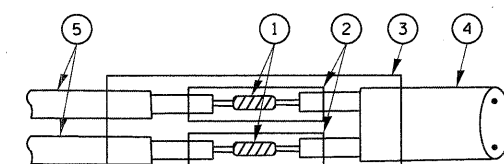


**DETECTOR LOOP WIRING SCHEMATIC**

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

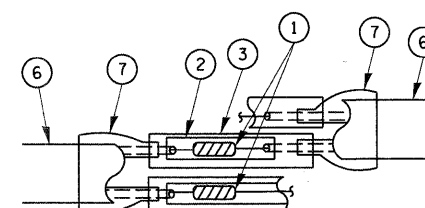


**DETAIL "A"  
LOOP-TO-LOOP SPLICE**

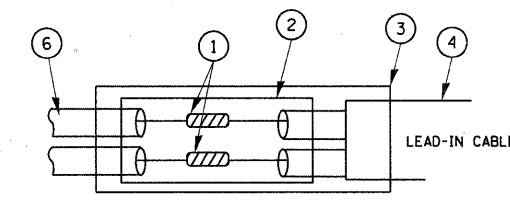


**DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE**

**TYPE I LOOP**



**DETAIL "A"  
LOOP-TO-LOOP SPLICE**



**DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE**

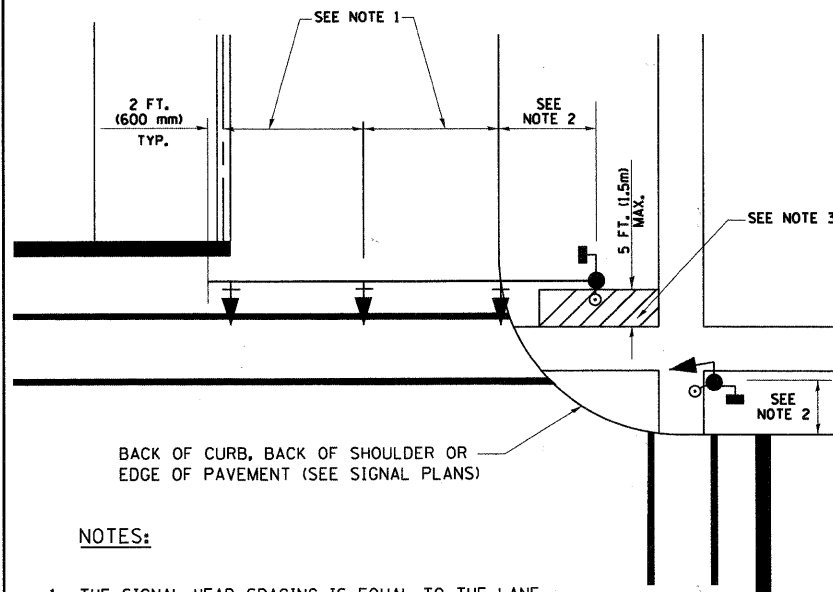
**LOOP DETECTOR SPLICE**

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

FILE NAME =	USER NAME = #USER#	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILEL#		DRAWN - BCK	REVISED -		VARIES	08-00389-00-TL	KANE		29				
		CHECKED - DAD	REVISED -		SCALE: N.T.S			SHEET NO. 1 OF 6 SHEETS		STA.	TO STA.	CONTRACT NO. 63594	
		DATE - 10-28-09	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								

**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**

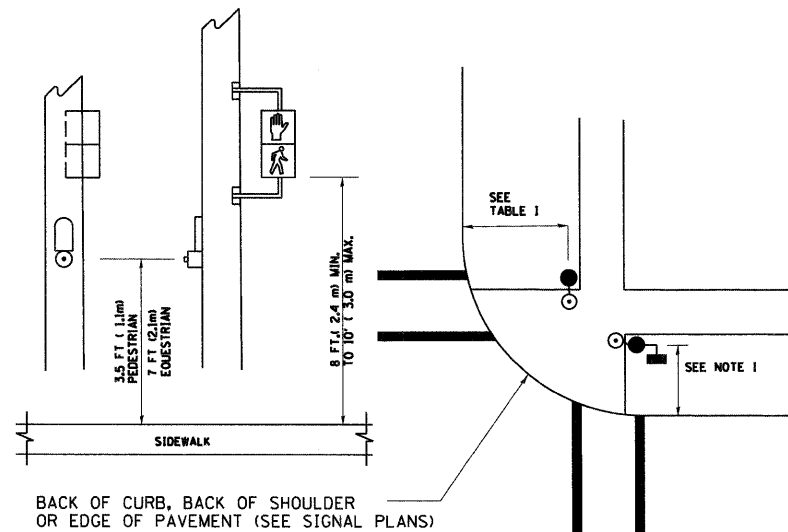
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

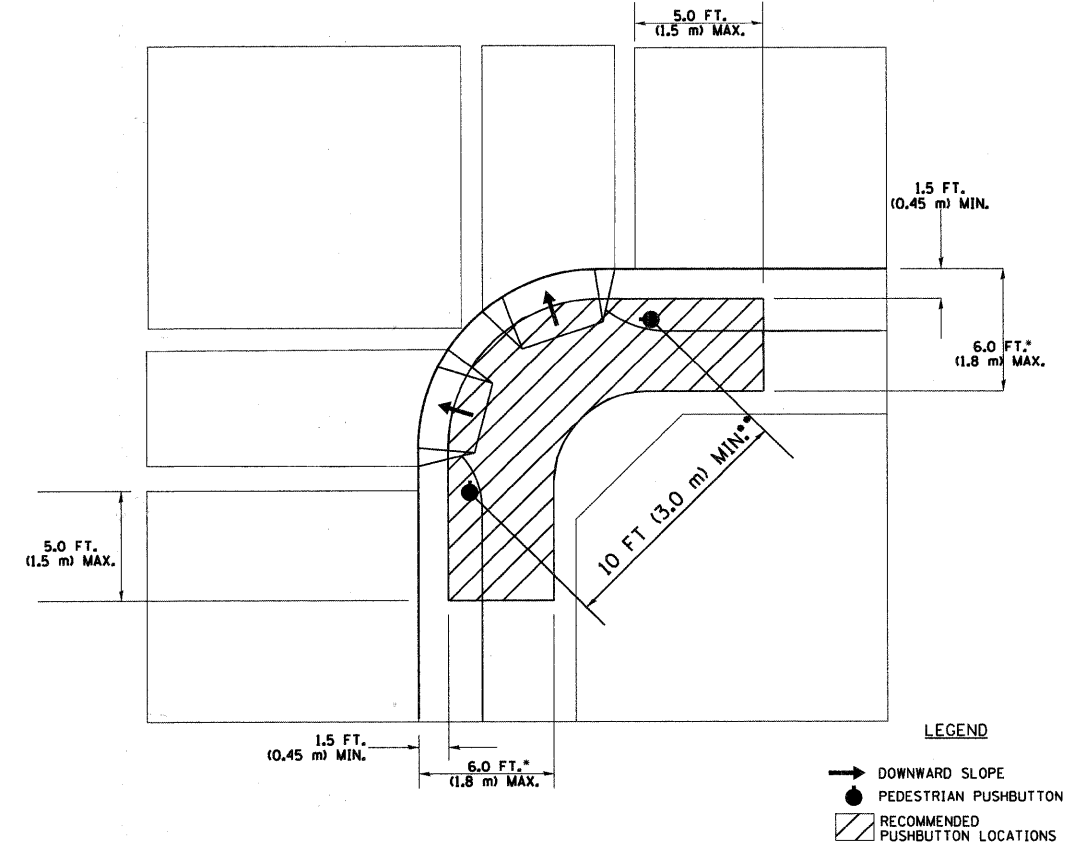
**PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



**LEGEND**

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- ▨ RECOMMENDED PUSHBUTTON LOCATIONS

- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

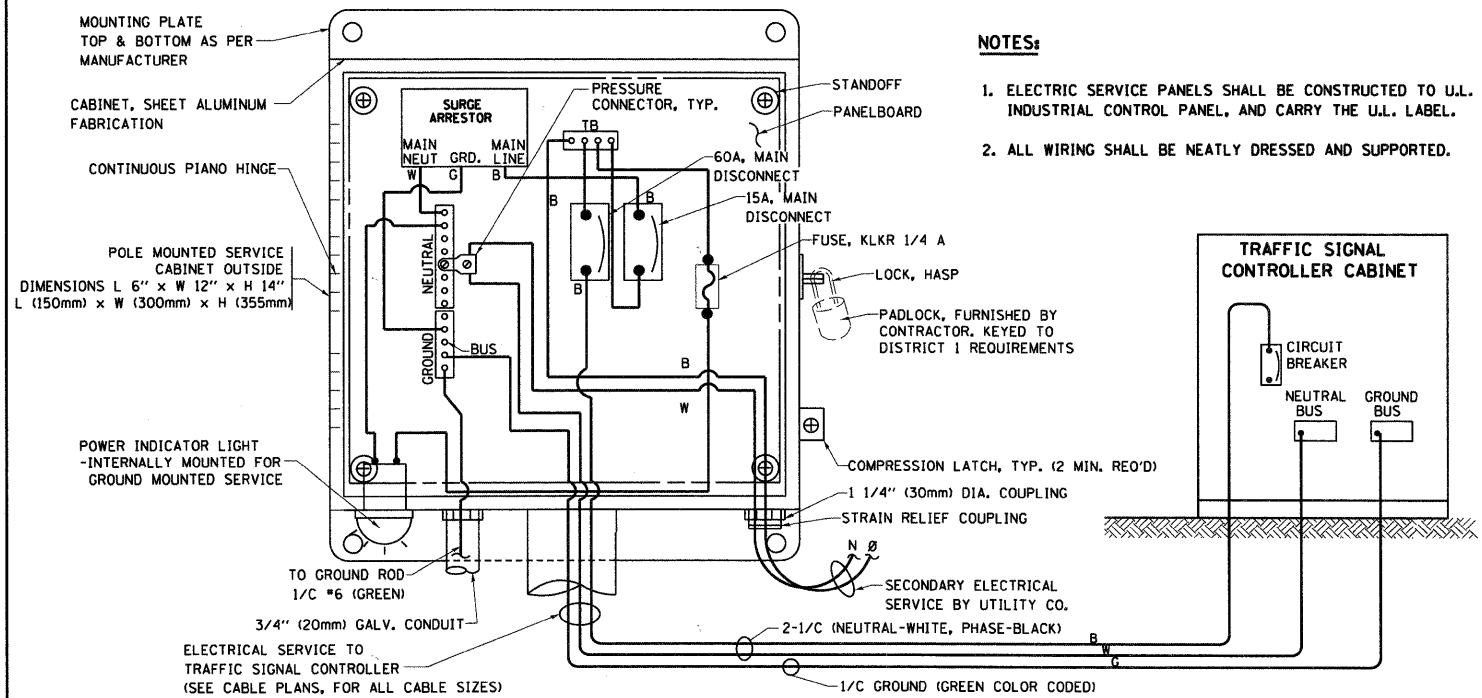
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

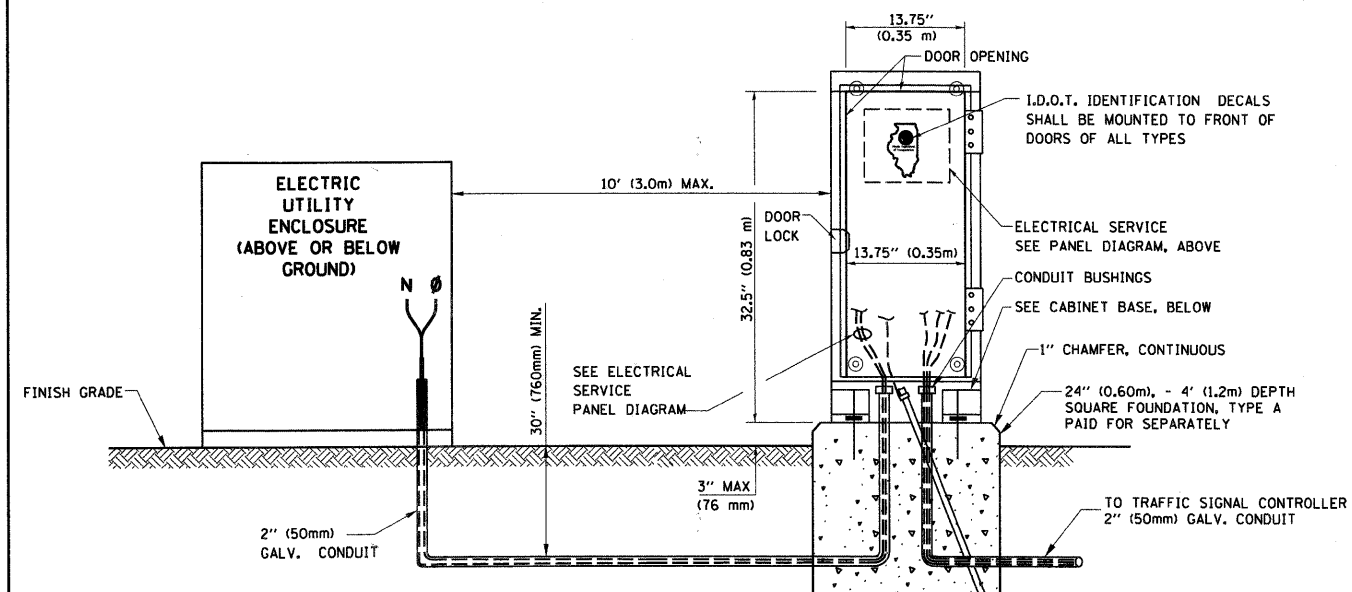
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

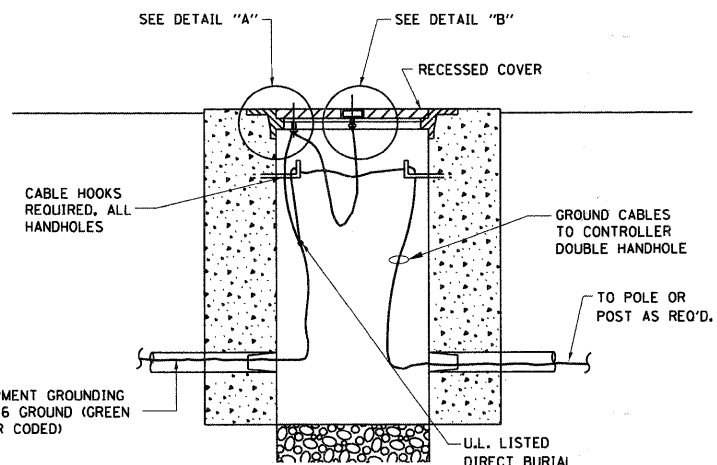
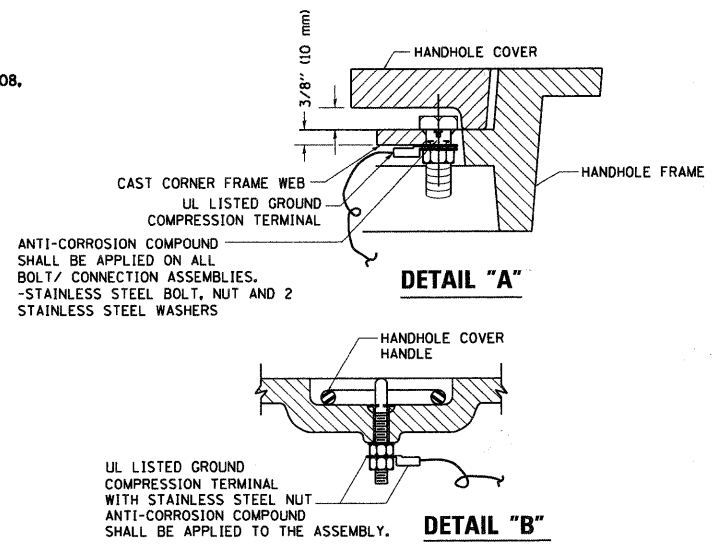
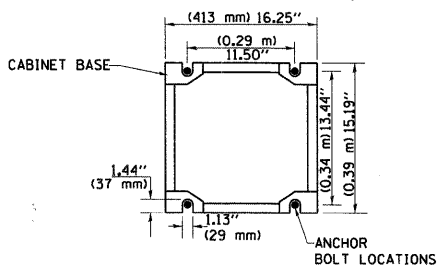


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)

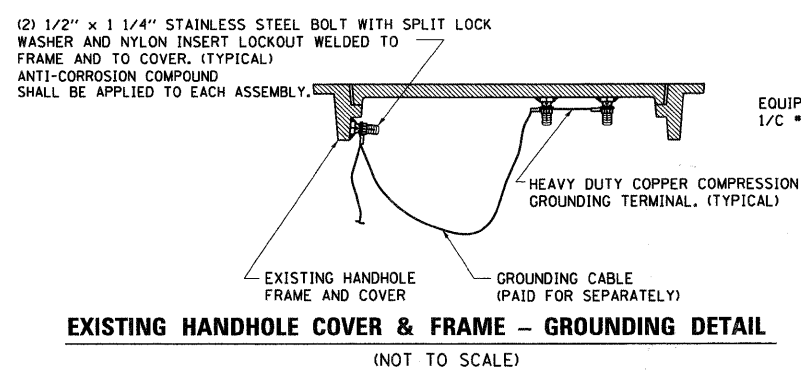


**SERVICE INSTALLATION GROUND MOUNT (NOT TO SCALE)**

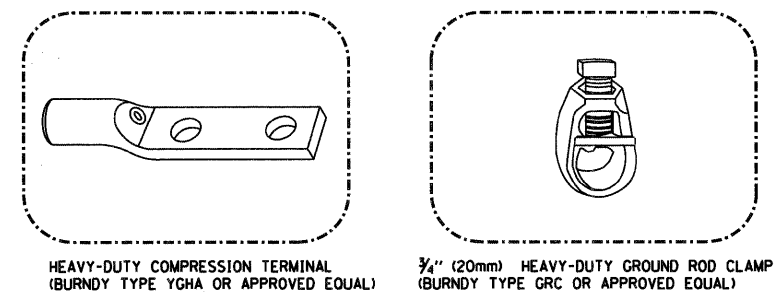
**CABINET - BASE BOLT PATTERN (NOT TO SCALE)**



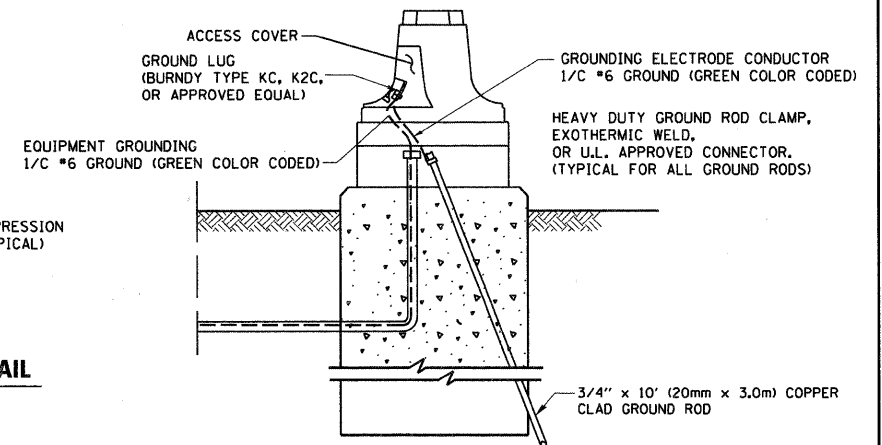
**HANDHOLE COVER & FRAME - GROUNDING DETAIL (NOT TO SCALE)**



**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL (NOT TO SCALE)**

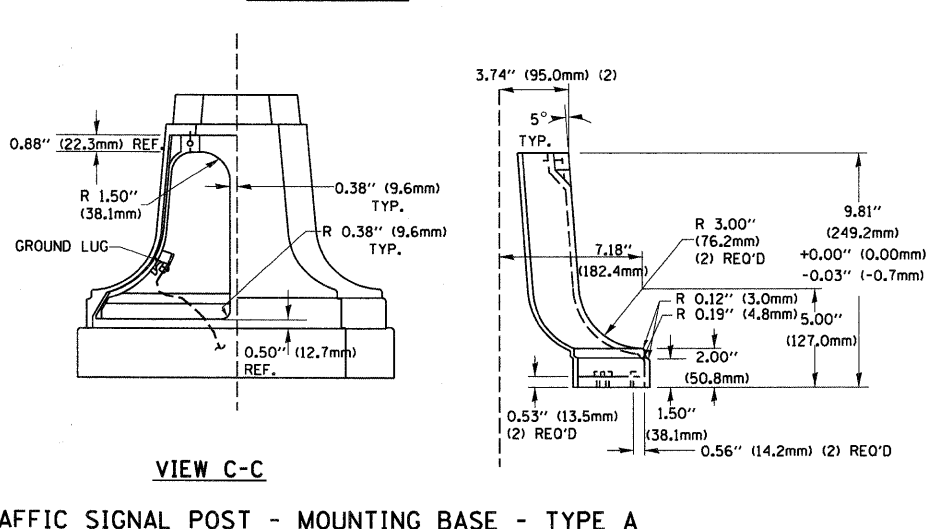
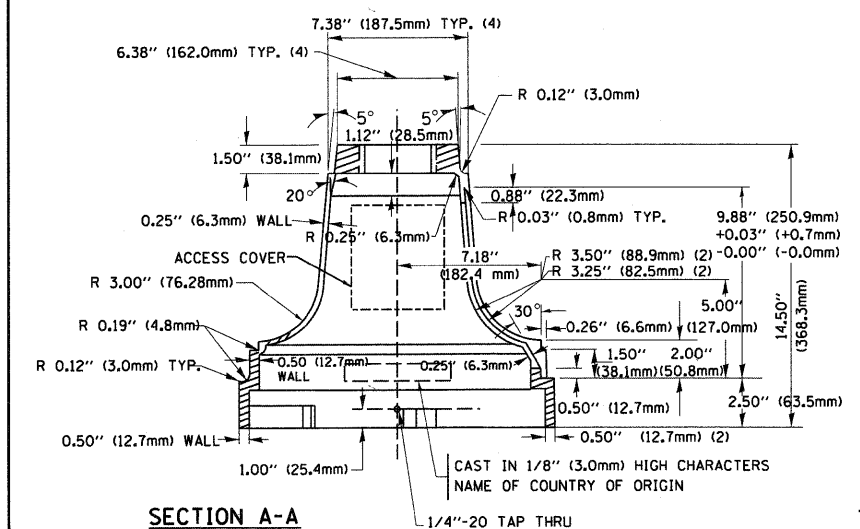
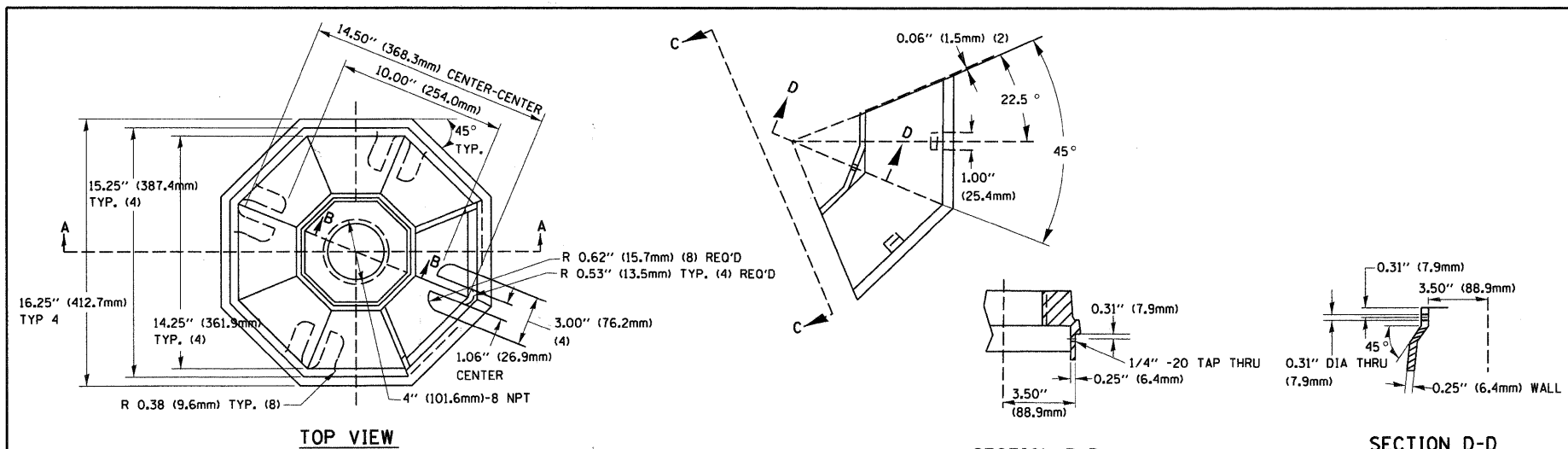


- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

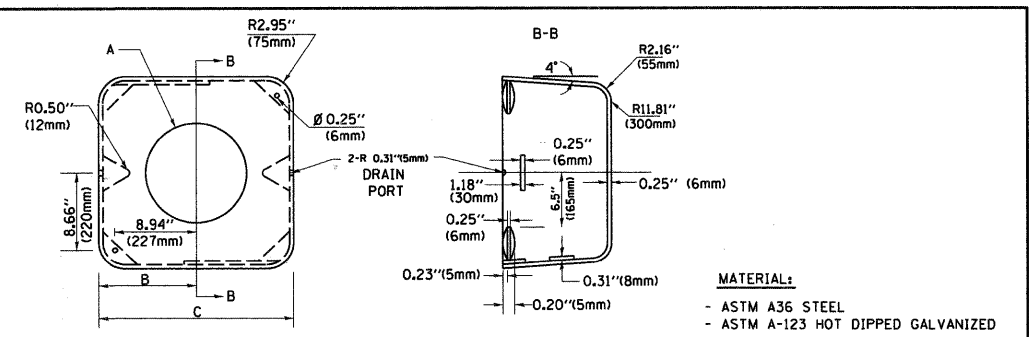


**MAST ARM POLE / POST-GROUNDING DETAIL (NOT TO SCALE)**

FILE NAME =	USER NAME = #USER#	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILEL#		DRAWN - BCK	REVISED -		SCALE: NONE	SHEET NO. 3 OF 6 SHEETS	STA.	TO STA.	VARIES	08-00389-00-TL	KANE	31	
		PLOT SCALE = #SCALE#	REVISED -						<b>TS-05</b>				
		PLOT DATE = #DATE#	REVISED -						<b>CONTRACT NO. 63594</b>				
		DATE - 10-28-09	REVISED -						<b>FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT</b>				
									<b>ILLINOIS DEPARTMENT OF TRANSPORTATION</b>				



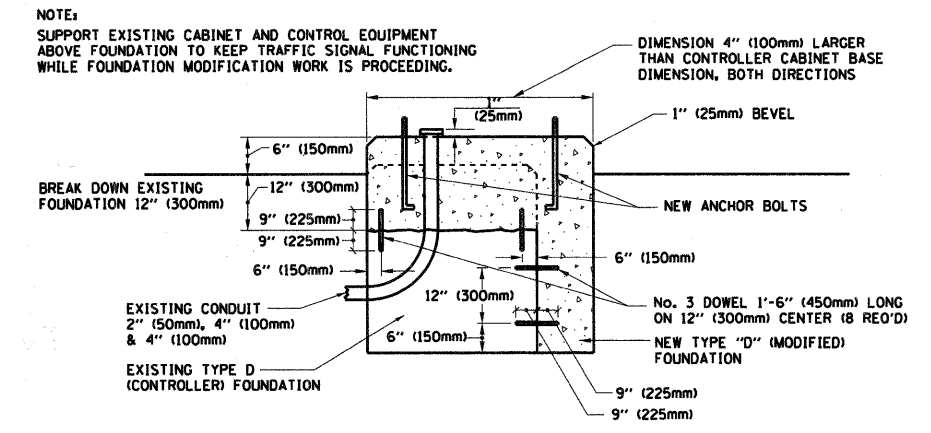
TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



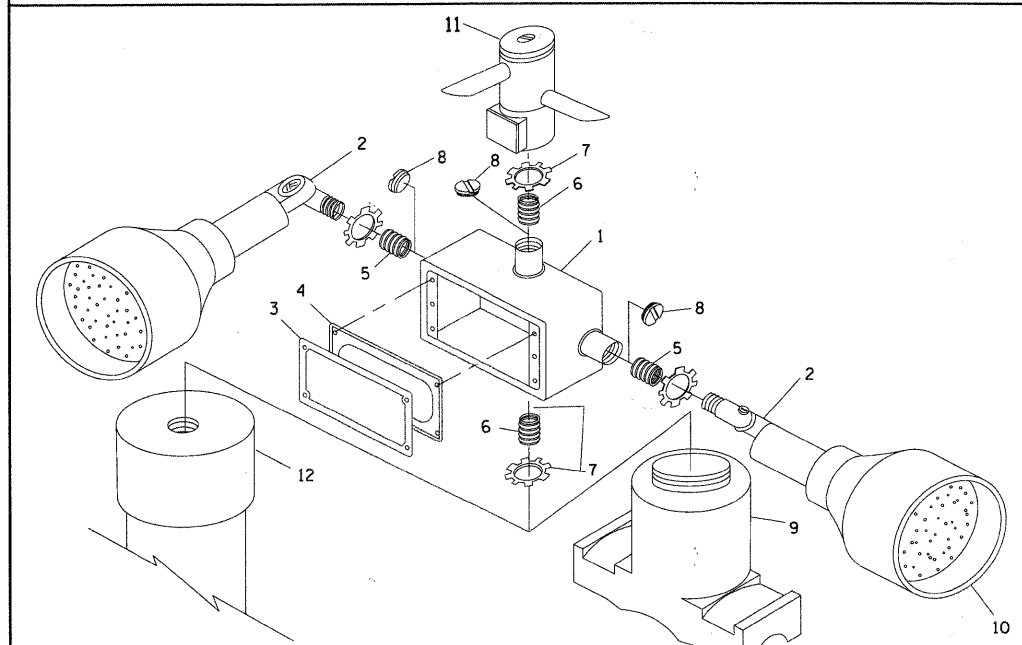
A	B	C	HEIGHT	WEIGHT
VARIES	9.5\"(241mm)	19\"(483mm)	7\"(178mm) - 12\"(300mm)	53 lbs (24kg)
VARIES	10.75\"(273mm)	21.5\"(546mm)	7\"(178mm) - 12\"(300mm)	68 lbs (31 kg)
VARIES	13.0\"(330mm)	26\"(660mm)	7\"(178mm) - 12\"(300mm)	81 lbs (37 kg)
VARIES	18.5\"(470mm)	37\"(940mm)	7\"(178mm) - 12\"(300mm)	126 lbs (57 kg)

SHROUD

- NOTES:
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
  - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
  - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

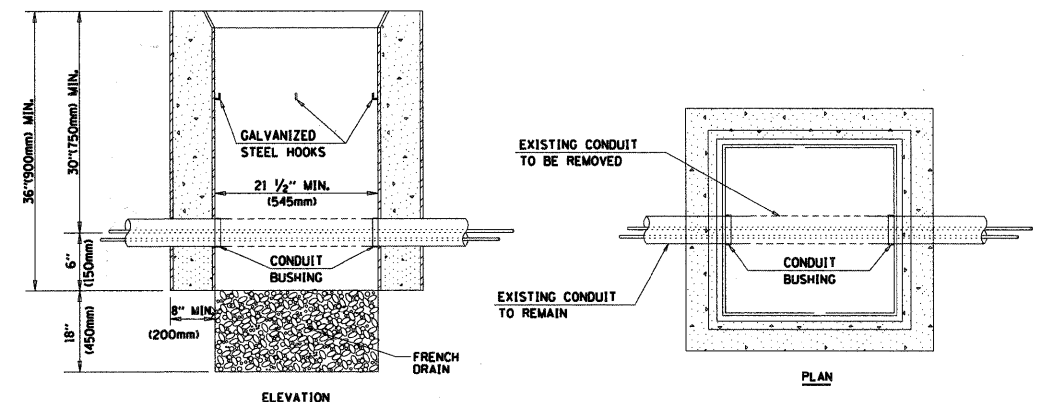


MODIFY EXISTING TYPE "D" FOUNDATION



ITEM NO.	IDENTIFICATION
1	OUTLET BOX - GALV. 21 CU. IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

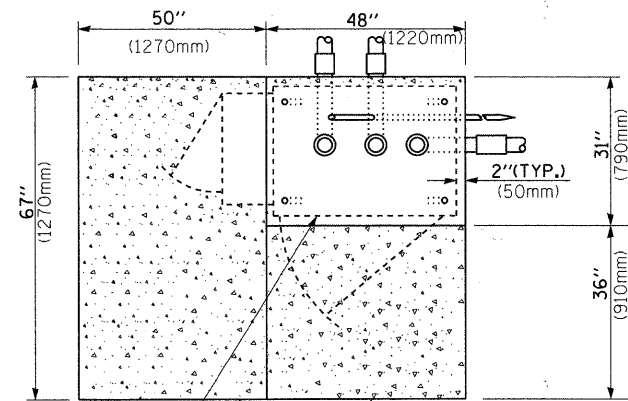
- NOTES:
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
  - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



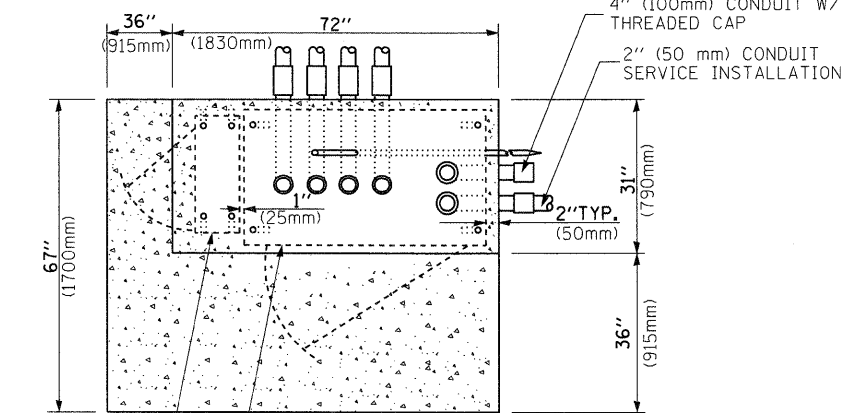
- NOTES:
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
  - REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

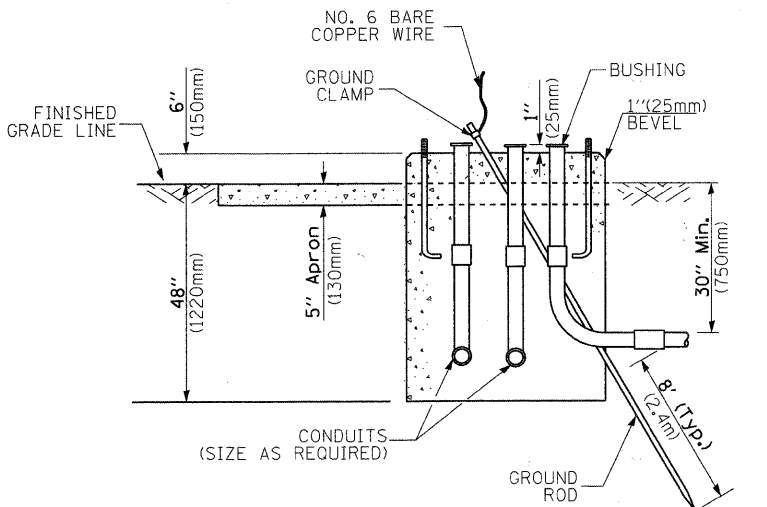




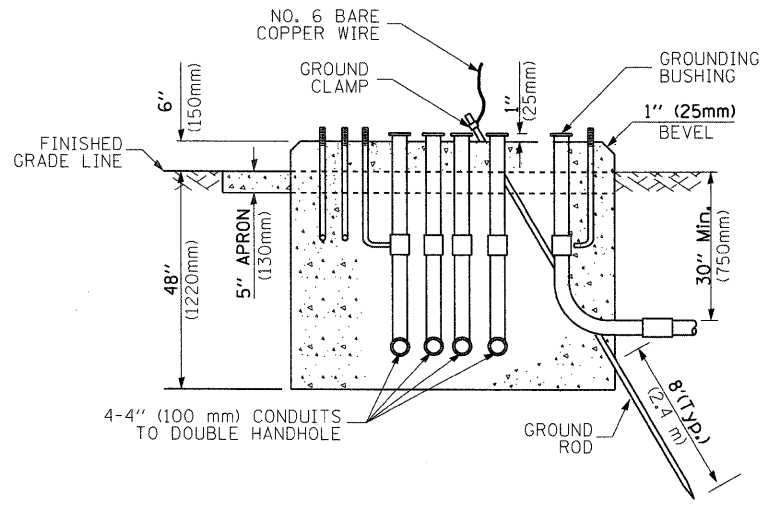
CONTROLLER CABINET BASE  
EXISTING APRON  
PROPOSED APRON  
**TOP VIEW**



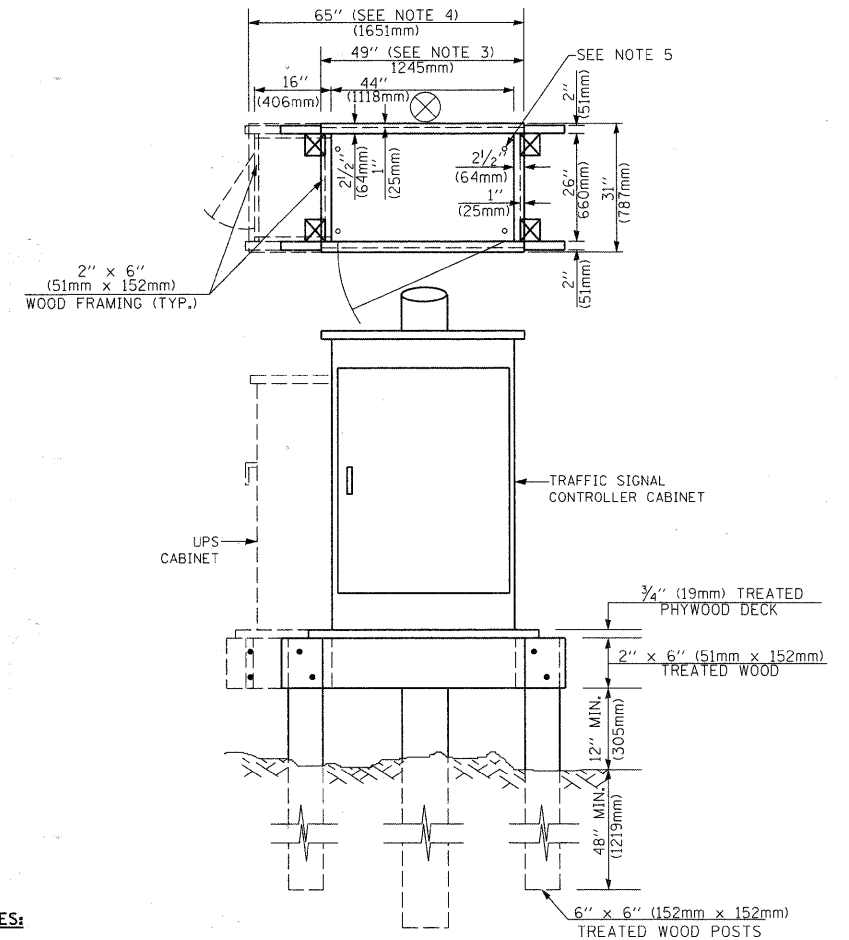
UPS CABINET BASE  
CONTROLLER CABINET BASE  
**TOP VIEW**  
APRON



**TYPE D**  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET



**TYPE C**  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET



- NOTES:**
- BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  - BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  - PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
  - PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
  - DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
  - FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

- NOTES:**
- These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (0u) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
  - Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
  - Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
  - For mast arm assemblies with dual arms refer to state standard 878001.

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH			CT	CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)			CNC	STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			SIGNAL POST AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
GUY WIRE				ABANDON ITEM	A			SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PREFORMED SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL							
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED							
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID							
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER							
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT							
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER							
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED							
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
MICROWAVE VEHICLE SENSOR											
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

## RAILROAD SYMBOLS

	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		