

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	1
		ILLINOIS	CONTRACT NO. 62U46	

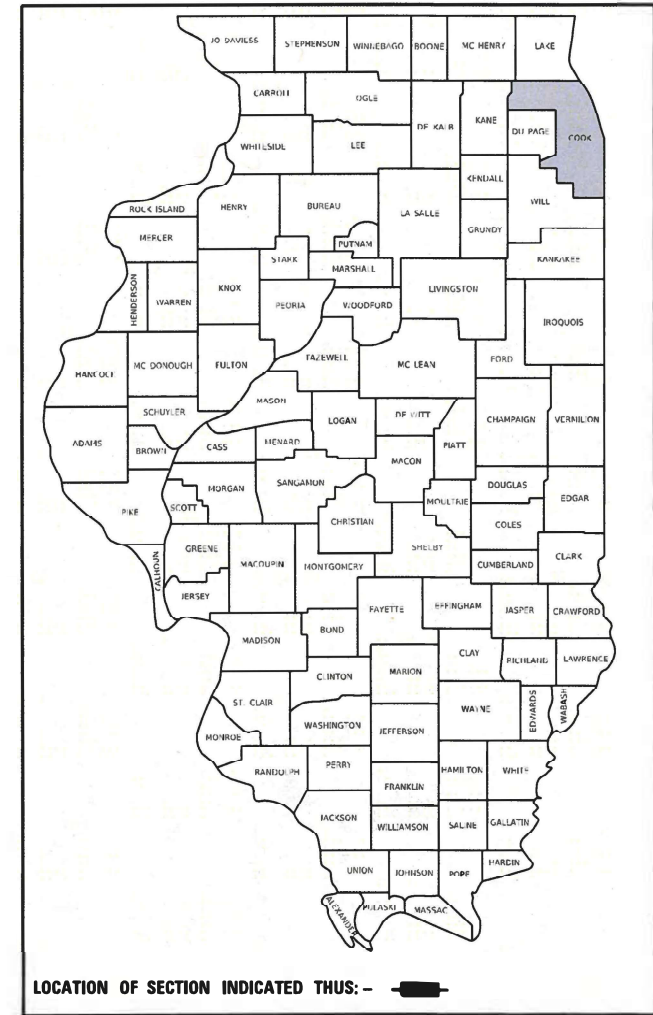
D-91-045-23

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

VARIOUS LOCATIONS IN DISTRICT 1  
CONTRACT NO. 62U46  
SECTION: 2022 VAR TSM 2  
PROJECT: STP-D0QW(194)  
**TROMBONE MAST ARM REPLACEMENT  
COOK COUNTY**

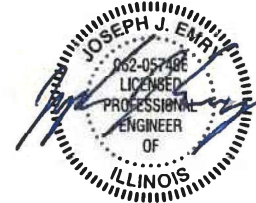
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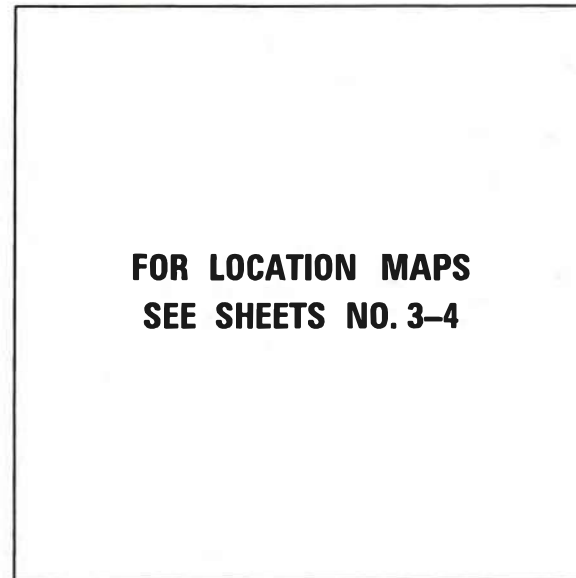
FOR INDEX OF SHEETS, SEE SHEET NO. 2



*Daniel Wiktorzak*  
Applies to sheets 19-40.

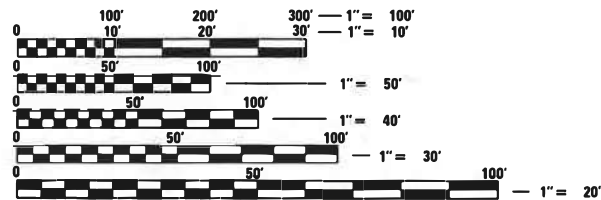


Applies to sheets 41-46.



FOR LOCATION MAPS  
SEE SHEETS NO. 3-4

VARIOUS TOWNSHIPS



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 EXCAVATORS  
1-800-892-0123  
OR 811

PROJECT ENGINEER: IOVAN PLASCENCIA (847) 705-4504  
PROJECT MANAGER: NICHOLAS BUTLER (847) 705-4420

CONTRACT NO. 62U46

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED FEBRUARY 8, 2023  
*Joseph Emry*  
REGIONAL ENGINEER

March 24, 2023 *Joseph Emry*  
ENGINEER OF DESIGN AND ENVIRONMENT

March 24, 2023 *Stephen M. Smith*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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

**INDEX OF SHEETS**

SHT NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, AND GENERAL NOTES
3-4	LOCATION MAPS
5-10	SUMMARY OF QUANTITIES
11-17	DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS (TS-05)
18	DISTRICT 1 MAST ARM MOUNTED STREET NAME SIGNS (TS-02)

SHT NO.	TS NO.	INTERSECTION NAME
19-22	2965	IL RTE 62 (ALGONQUIN RD) AT GOEBBERT RD
23-26	13005	ALGONQUIN RD AT KOLPIN DR / SEYMOUR AVE
27-30	12985	TOUHY AVE AT MAPLE ST
31-36	1675	US RTE 45 (DES PLAINES RIVER RD) AT CENTRAL RD
37-40	2010	IL RTE 21 (MILWAUKEE AVE) AT DEARLOVE RD / GLENVIEW RD
41-46	2120	IL RTE 43 (HARLEM AVE) AT 25TH ST

SHT NO.	DESCRIPTION
47	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
48	ARTERIAL ROAD INFORMATION SIGN (TC-22)

**HIGHWAY STANDARDS**

STD. NO.	TITLE
000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701101-05	OFF-ROAD OPERATIONS MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701606-10	URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIUM
701701-10	URBAN LANE CLOSURE MULTILANE INTERSECTION
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-08	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAIL
814001-03	HANDHOLES
814006-03	DOUBLE HANDHOLES
862001-01	UNINTERRUPTABLE POWER SUPPLY
873001-02	TRAFFIC SIGNAL GROUNDING & BONDING
877001-08	STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
878001-11	CONCRETE FOUNDATION DETAILS
880006-01	TRAFFIC SIGNAL MOUNTING DETAILS
886001-01	DETECTOR LOOP INSTALLATIONS

**GENERAL NOTES**

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV, 72 HOURS IN ADVANCE OF BEGINNING WORK.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION. THIS SHALL INCLUDE LOCATING THE MAST ARM FOUNDATIONS AND VERIFYING THE MAST ARM LENGTHS.

ALL EXISTING R.O.W. SHOWN IS APPROXIMATE AND MAY NEED TO BE VERIFIED IN THE FIELD. ANY R.O.W. CONFLICTS SHALL BE COORDINATED WITH THE RESIDENT ENGINEER.

THE EXACT LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE ORDERING ANY MATERIALS AND STARTING ANY WORK. FOR LOCATIONS OF UTILITIES, LOCALLY OWNED EQUIPMENT, LEASED ENFORCEMENT CAMERA SYSTEM FACILITIES AND IDOT UNDERGROUND FACILITIES, CONTACT THE LOCAL COUNTIES, MUNICIPALITIES AND IDOT FOR LOCATES. THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811, IN THE CITY OF CHICAGO CONTACT DIGGER AT (312) 744-7000 FOR FIELD LOCATIONS OF BURIED UTILITIES (48 HOURS NOTIFICATION REQUIRED).

IF THIS CONTRACT REQUIRES THE SERVICES OF AN ELECTRICAL CONTRACTOR, THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS/HER OWN EXPENSE FOR LOCATING EXISTING IDOT ELECTRICAL FACILITIES PRIOR TO PERFORMING ANY WORK. IF THIS CONTRACT DOES NOT REQUIRE THE SERVICES OF AN ELECTRICAL CONTRACTOR, THE CONTRACTOR MAY REQUEST ONE FREE LOCATE FOR EXISTING IDOT ELECTRICAL FACILITIES FROM THE DISTRICT ONE ELECTRICAL MAINTENANCE CONTRACTOR PRIOR TO THE START OF ANY WORK. ADDITIONAL REQUESTS MAY BE AT THE EXPENSE OF THE CONTRACTOR. THE LOCATION OF UNDERGROUND TRAFFIC FACILITIES DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO REPAIR ANY FACILITIES DAMAGED DURING CONSTRUCTION AT THEIR EXPENSE.

THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS FOR UNDERGROUND AND OVERHEAD UTILITY CONFLICTS. THE CONTRACTOR SHALL NOTIFY THE AREA ENGINEER, THE RESIDENT ENGINEER AND ANY IMPACTED UTILITY COMPANY OF THE CONFLICT, AND SHALL COORDINATE AND RESOLVE THE ISSUE PRIOR TO ORDERING MATERIALS, AND PRIOR TO POURING FOUNDATIONS.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, LOCAL GOVERNMENT AGENCIES AND IDOT.

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIUM, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

PARTIAL PAYMENT AS DESCRIBED IN ARTICLE 109.07(b) OF THE STANDARD SPECIFICATIONS WILL NOT BE ALLOWED FOR ITEMS INCLUDED IN THIS CONTRACT.

LOCATIONS WITH PEDESTRIAN EQUIPMENT HAVE BEEN DESIGNED TO BE ADA COMPLIANT. ANY DEVIATION FROM THE PLANS FOR TRAFFIC SIGNAL MAST ARM/POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO INSURE ADA COMPLIANCE.

DIMENSIONED OFFSETS FOR THE TRAFFIC SIGNAL MAST ARMS AND POSTS ARE MEASURED FROM THE BACK OF CURB TO THE CENTER OF THE FOUNDATION WHERE CURB IS PRESENT. IF NO CURB IS PRESENT, OFFSETS ARE MEASURED FROM THE EDGE OF PAVEMENT TO THE CENTER OF THE FOUNDATION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ANY EXISTING SIGNS FROM THE MAST ARM ASSEMBLIES AND POSTS THAT ARE TO BE REMOVED AND TRANSFER THEM TO THE PROPOSED MAST ARM ASSEMBLIES AND POSTS PER THE STANDARD SPECIFICATIONS.

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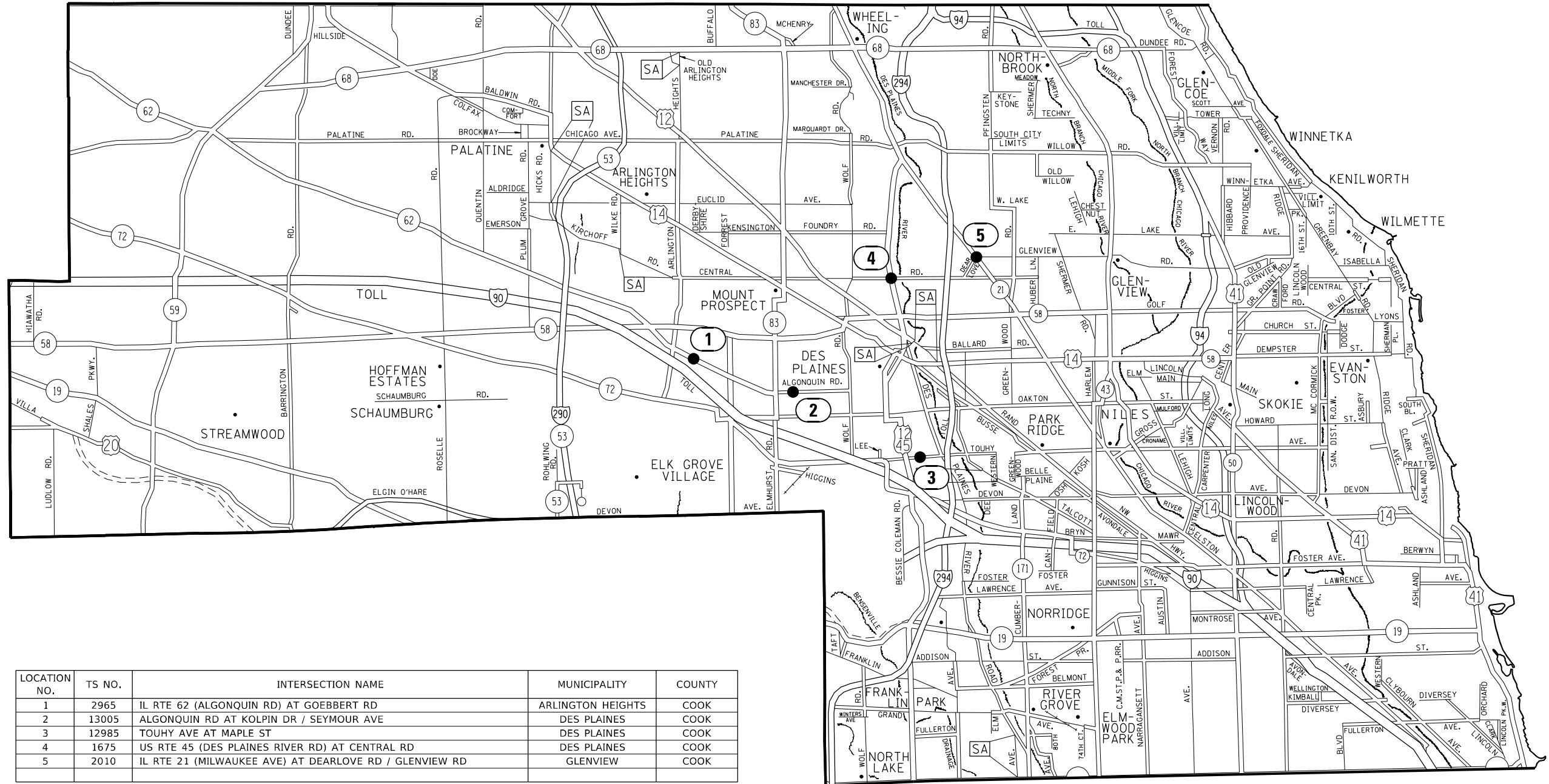
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, HIGHWAY STANDARDS & GENERAL NOTES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	2
			CONTRACT NO. 62U46	
		ILLINOIS	FED. AID PROJECT	





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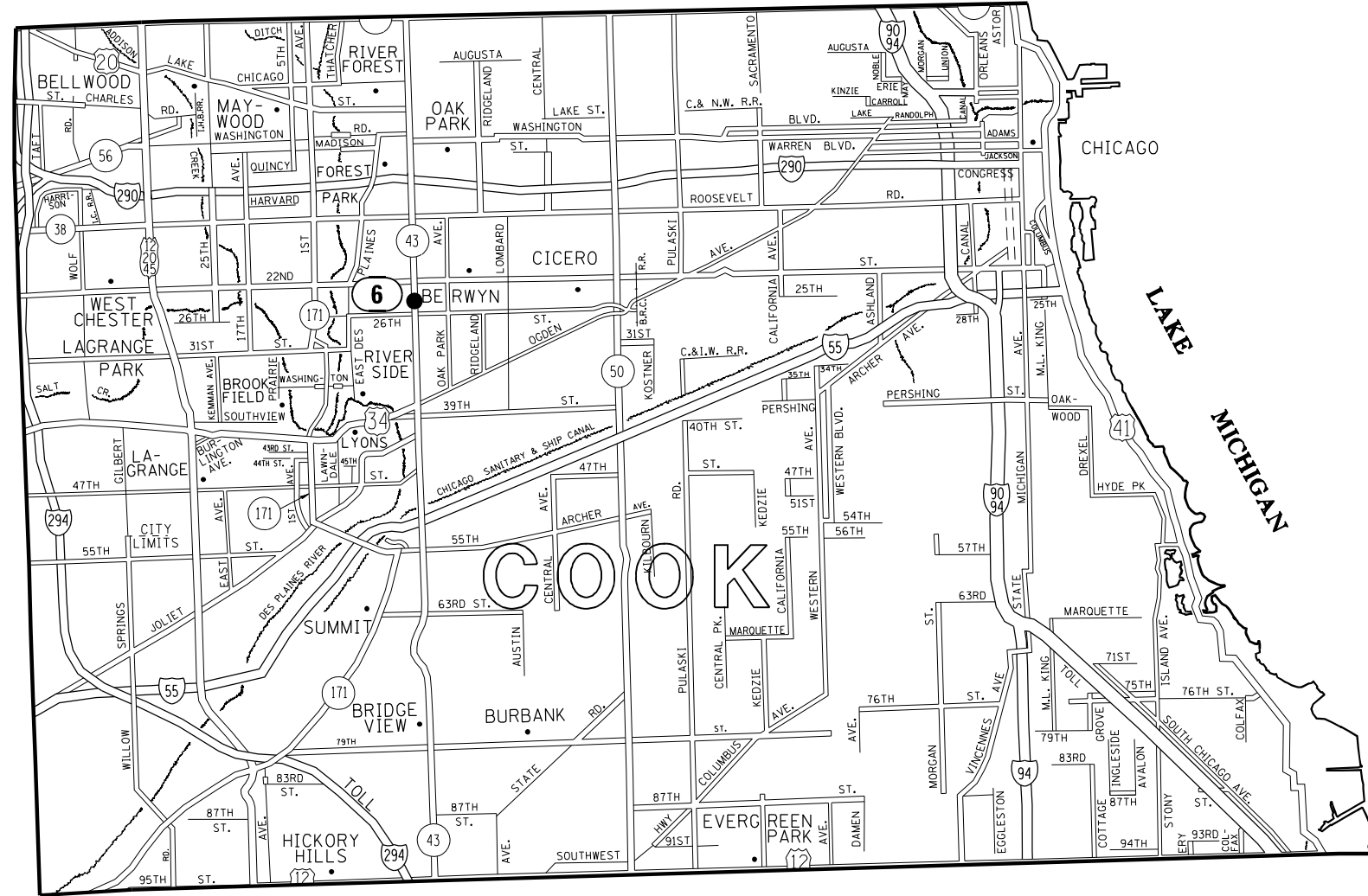
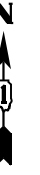
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LOCATION MAP (SHEET 1 OF 2)  
NORTH COOK COUNTY**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	3
CONTRACT NO. 62U46				
ILLINOIS		FED. AID PROJECT		



LOCATION NO.	TS NO.	INTERSECTION NAME	MUNICIPALITY	COUNTY
6	2120	IL RTE 43 (HARLEM AVE) AT 25TH ST	NORTH RIVERSIDE / BERWYN	COOK

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PLOT DATE = 2/9/2023	DATE - 2/3/2023	REVISED -

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

**LOCATION MAP (SHEET 2 OF 2)**  
**CENTRAL COOK COUNTY**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	4
			CONTRACT NO. 62U46	
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE					
				80% FED	20% STATE				
				COOK COUNTY					
				TRAFFIC SIGNALS					
				0021					
				URBAN					
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	65	65					
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	6	6					
* 66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	L SUM	1	1					
* 66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	L SUM	1	1					
* 66901006	REGULATED SUBSTANCES MONITORING	CAL DA	18	18					
67100100	MOBILIZATION	L SUM	1	1					
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	1					
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1					
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1					
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1					
72000100	SIGN PANEL - TYPE 1	SQ FT	82.5	82.5					
72000200	SIGN PANEL - TYPE 2	SQ FT	181.25	181.25					
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	790	790					
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	441	441					

\* SPECIALTY ITEM

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES  
(SHEET 1 OF 6)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	5
			CONTRACT NO. 62U46	
		ILLINOIS FED. AID PROJECT		

CONSTRUCTION CODE				
80% FED 20% STATE COOK COUNTY				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	TRAFFIC SIGNALS					
				0021					
				URBAN					
81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	1,636	1,636					
81400100	HANDHOLE	EACH	4	4					
81400200	HEAVY-DUTY HANDHOLE	EACH	6	6					
81400300	DOUBLE HANDHOLE	EACH	1	1					
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	6	6					
86400100	TRANSCEIVER - FIBER OPTIC	EACH	1	1					
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	3,030	3,030					
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	3,706	3,706					
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	12,348	12,348					
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	3,569	3,569					
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3,240	3,240					
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	2,853	2,853					
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	13	13					
87700140	STEEL MAST ARM ASSEMBLY AND POLE, 20 FT.	EACH	1	1					

\* SPECIALTY ITEM

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES (SHEET 2 OF 6)				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	6
			CONTRACT NO. 62U46	
ILLINOIS FED. AID PROJECT				



CONSTRUCTION CODE				
80% FED 20% STATE COOK COUNTY				
TRAFFIC SIGNALS				
0021				
URBAN				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY						
87700160	STEEL MAST ARM ASSEMBLY AND POLE, 24 FT.	EACH	1	1					
87700170	STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	2	2					
87700180	STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.	EACH	2	2					
87700190	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	1	1					
87700200	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	4	4					
87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1	1					
87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2	2					
87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1	1					
87700250	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1	1					
87700260	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1	1					
87702510	STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 34 FT.	EACH	1	1					
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	28	28					
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	181.5	181.5					
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	38	38					

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

SUMMARY OF QUANTITIES (SHEET 3 OF 6)				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	7
CONTRACT NO. 62U46			ILLINOIS FED. AID PROJECT	

CONSTRUCTION CODE				
80% FED 20% STATE COOK COUNTY				
TRAFFIC SIGNALS				
0021				
URBAN				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY						
87900200	DRILL EXISTING HANDHOLE	EACH	66	66					
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	46	46					
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	32	32					
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	12	12					
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	14	14					
88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	22	22					
88200410	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	60	60					
88500100	INDUCTIVE LOOP DETECTOR	EACH	12	12					
88600100	DETECTOR LOOP, TYPE I	FOOT	467	467					
89501250	RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	5	5					
89502200	MODIFY EXISTING CONTROLLER	EACH	2	2					
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	4	4					
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	9,043	9,043					
89502350	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	245	245					

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES (SHEET 4 OF 6)				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	8
CONTRACT NO. 62U46			ILLINOIS FED. AID PROJECT	

CONSTRUCTION CODE				
80% FED 20% STATE COOK COUNTY				
TRAFFIC SIGNALS				
0021				
URBAN				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY						
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	6	6					
89502380	REMOVE EXISTING HANDHOLE	EACH	5	5					
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	24	24					
X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	820	820					
X0325922	CELLULAR MODEM	EACH	1	1					
X1400081	FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL)	EACH	1	1					
X1400367	PEDESTRIAN SIGNAL POST, 10 FT.	EACH	9	9					
X6700407	ENGINEER'S FIELD OFFICE, TYPE A (D1)	CAL MO	6	6					
X8570215	FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	2	2					
X8600105	MASTER CONTROLLER (SPECIAL)	EACH	1	1					
X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1	1					
X8620310	REMOVE AND REPLACE BATTERIES FOR UNINTERUPTABLE POWER SUPPLY, EXTENDED	EACH	3	3					
X8760200	ACCESSIBLE PEDESTRIAN SIGNALS	EACH	22	22					
X8780012	CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	36	36					

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES  
(SHEET 5 OF 6)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	9
			CONTRACT NO. 62U46	
ILLINOIS FED. AID PROJECT				





# TRAFFIC SIGNAL LEGEND

(NOT TO SCALE)

ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED
CONTROLLER CABINET			HANDHOLE -SQUARE			SIGNAL HEAD		
COMMUNICATION CABINET			-ROUND			-(P) PROGRAMMABLE SIGNAL HEAD		
MASTER CONTROLLER			HEAVY DUTY HANDHOLE -SQUARE					
MASTER MASTER CONTROLLER			-ROUND					
UNINTERRUPTABLE POWER SUPPLY			DOUBLE HANDHOLE			SIGNAL HEAD WITH BACKPLATE		
SERVICE INSTALLATION -(P) POLE MOUNTED			JUNCTION BOX			-(P) PROGRAMMABLE SIGNAL HEAD		
SERVICE INSTALLATION -(G) GROUND MOUNTED			RAILROAD CANTILEVER MAST ARM			-(RB) RETROREFLECTIVE BACKPLATE		
-(GM) GROUND MOUNTED METERED			RAILROAD FLASHING SIGNAL					
TELEPHONE CONNECTION			RAILROAD CROSSING GATE			PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS		
STEEL MAST ARM ASSEMBLY AND POLE			RAILROAD CROSSBUCK			PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER		
ALUMINUM MAST ARM ASSEMBLY AND POLE			RAILROAD CONTROLLER CABINET			ILLUMINATED SIGN "NO LEFT TURN"/"NO RIGHT TURN"		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE			UNDERGROUND CONDUIT (UC), GALVANIZED STEEL			NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE. ALL DETECTOR LOOP CABLE TO BE SHIELDED		
SIGNAL POST -(BM) BARREL MOUNTED - TEMPORARY			TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE			GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)		
WOOD POLE			SYSTEM ITEM			ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1/C		
GUY WIRE			INTERSECTION ITEM			COAXIAL CABLE		
SIGNAL HEAD			REMOVE ITEM			VENDOR CABLE		
SIGNAL HEAD WITH BACKPLATE			RELOCATE ITEM			COPPER INTERCONNECT CABLE, NO. 18, 3 PAIR TWISTED, SHIELDED		
SIGNAL HEAD OPTICALLY PROGRAMMED			ABANDON ITEM			FIBER OPTIC CABLE -NO. 62.5/125, MM12F		
FLASHER INSTALLATION -(FS) SOLAR POWERED			CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			-NO. 62.5/125, MM12F SM12F		
PEDESTRIAN SIGNAL HEAD			MAST ARM POLE AND FOUNDATION TO BE REMOVED			-NO. 62.5/125, MM12F SM24F		
PEDESTRIAN PUSH BUTTON -(APS) ACCESSIBLE PEDESTRIAN PUSH BUTTON			SIGNAL POST AND FOUNDATION TO BE REMOVED			GROUND ROD -(C) CONTROLLER		
RADAR DETECTION SENSOR			DETECTOR LOOP, TYPE I			-(M) MAST ARM		
VIDEO DETECTION CAMERA			PREFORMED DETECTOR LOOP			-(P) POST		
RADAR/VIDEO DETECTION ZONE			SAMPLING (SYSTEM) DETECTOR			-(S) SERVICE		
PAN, TILT, ZOOM (PTZ) CAMERA			INTERSECTION AND SAMPLING (SYSTEM) DETECTOR					
EMERGENCY VEHICLE LIGHT DETECTOR			QUEUE AND SAMPLING (SYSTEM) DETECTOR					
CONFIRMATION BEACON			WIRELESS DETECTOR SENSOR					
WIRELESS INTERCONNECT			WIRELESS ACCESS POINT					
WIRELESS INTERCONNECT RADIO REPEATER								

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

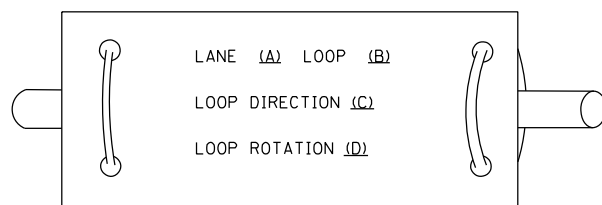
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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<b>TS-05</b>		CONTRACT NO. 62U46		
ILLINOIS FED. AID PROJECT				

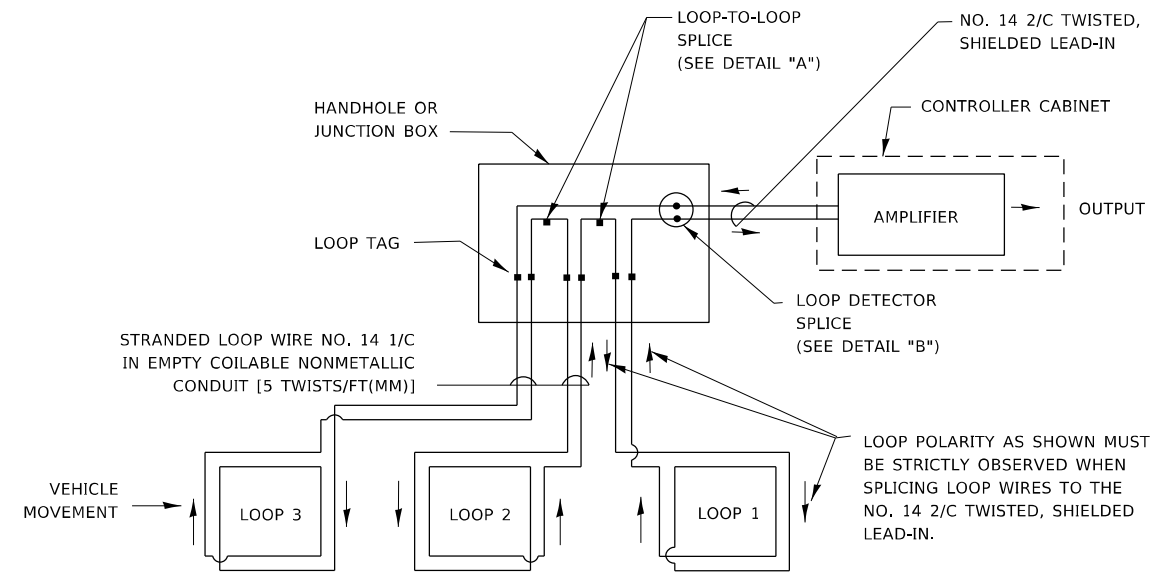
**LOOP DETECTOR NOTES**

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**

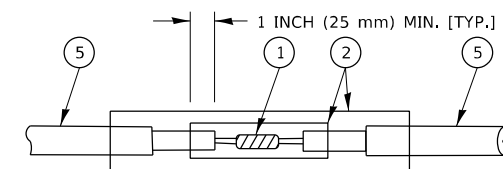


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

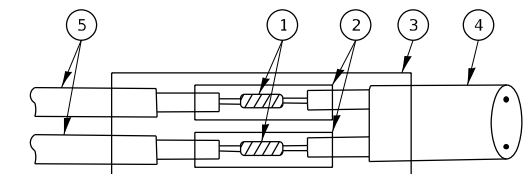


**DETECTOR LOOP WIRING SCHEMATIC**

- 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.

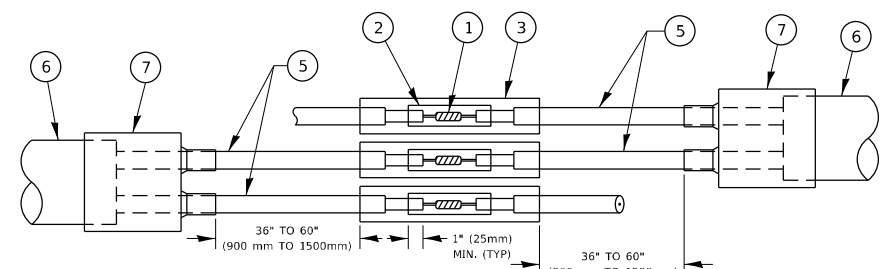


DETAIL "A"  
LOOP-TO-LOOP SPLICE

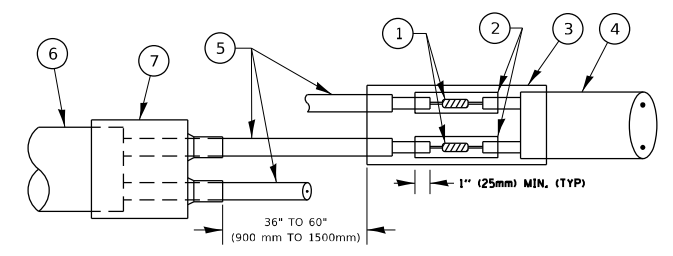


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**TYPE I LOOP**



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**PREFORMED LOOP**

**LOOP DETECTOR SPLICE**

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- 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. PREFORMED LOOP
- 6 XL POLYOLEFIN 2 CONDUCTOR
- 7 BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

MODEL: Default  
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

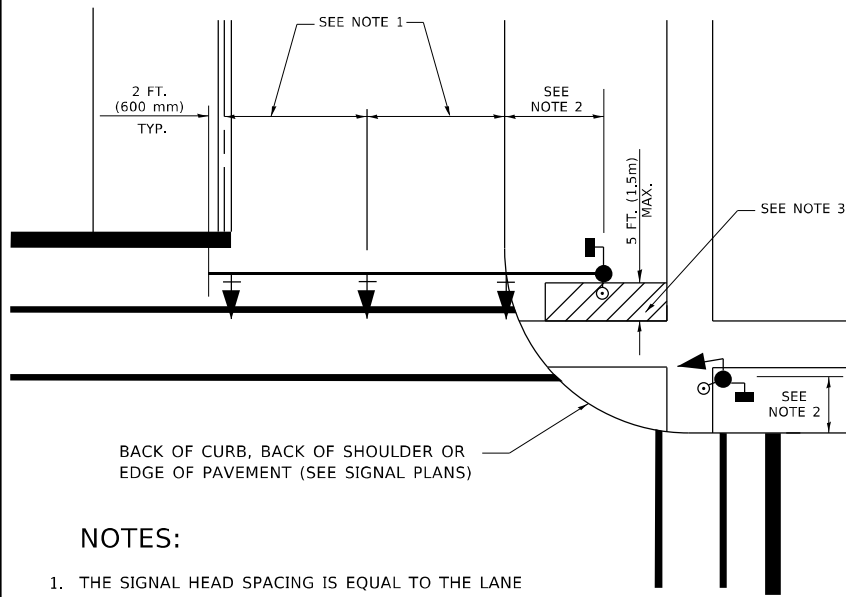
**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 2 OF 7 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	12
<b>TS-05</b>		CONTRACT NO. 62U46		
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.

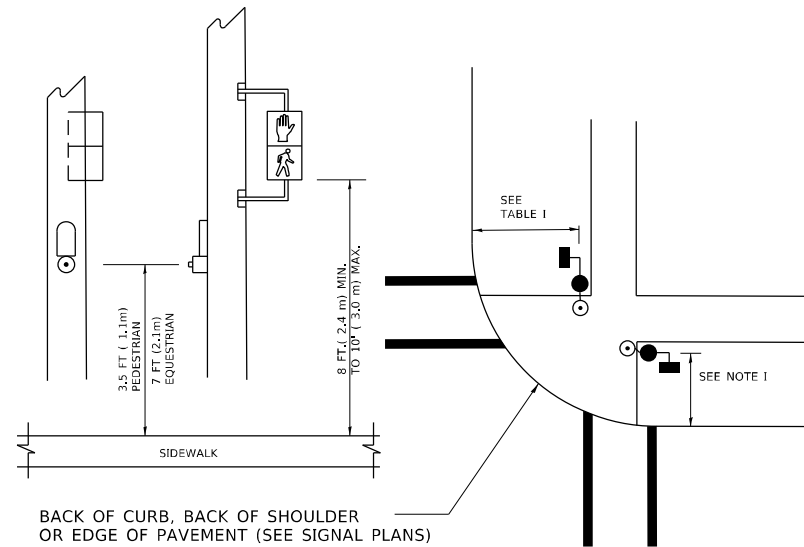


BACK OF CURB, BACK OF SHOULDER OR EDGE OF PAVEMENT (SEE SIGNAL PLANS)

**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**

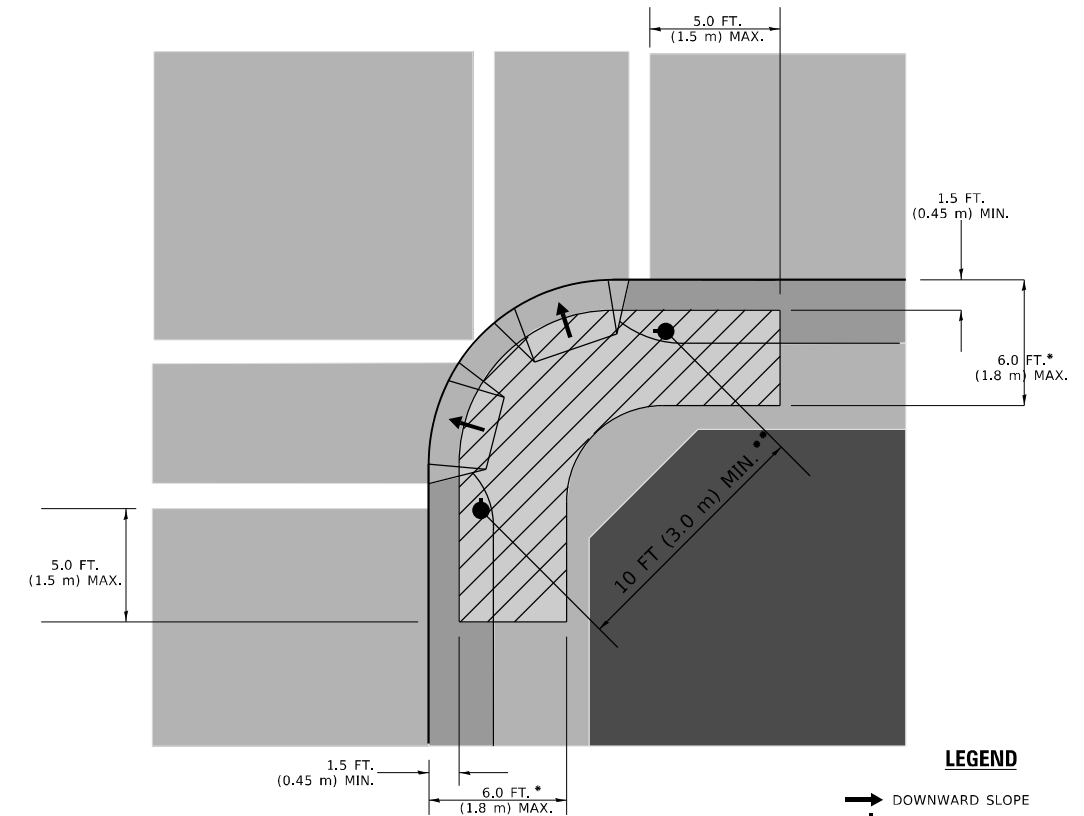


BACK OF CURB, BACK OF SHOULDER OR EDGE OF PAVEMENT (SEE SIGNAL PLANS)

**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.

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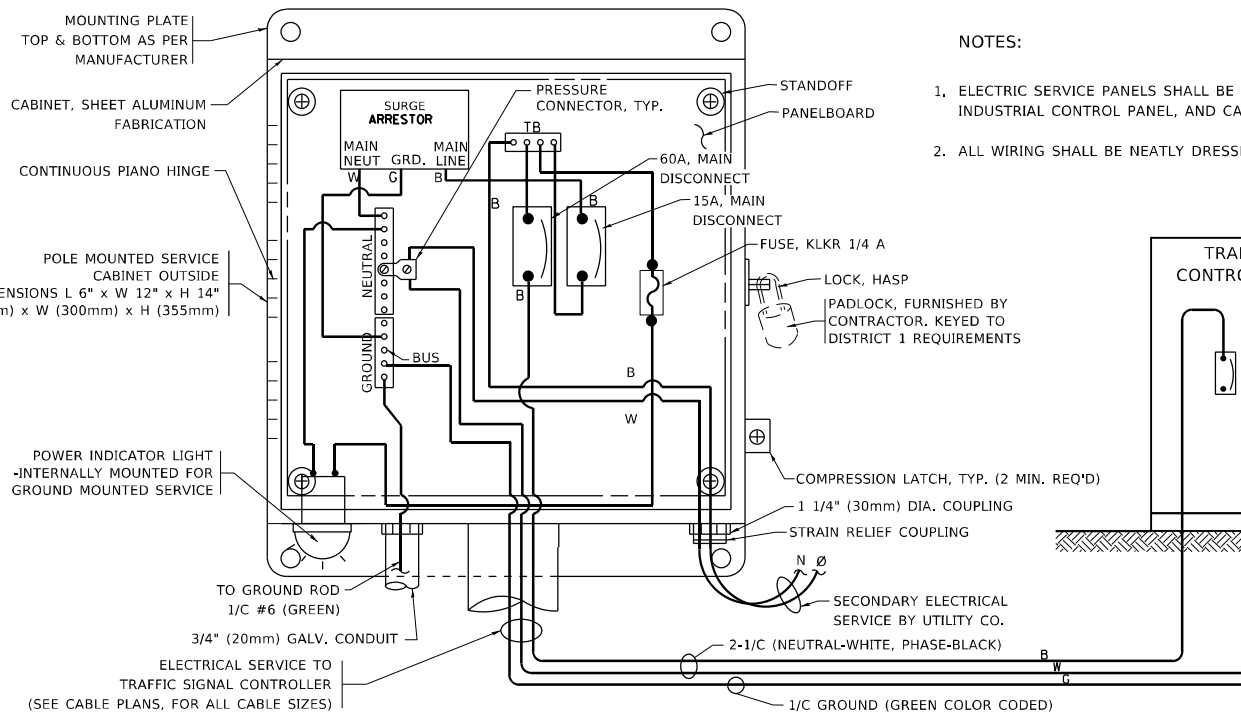
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

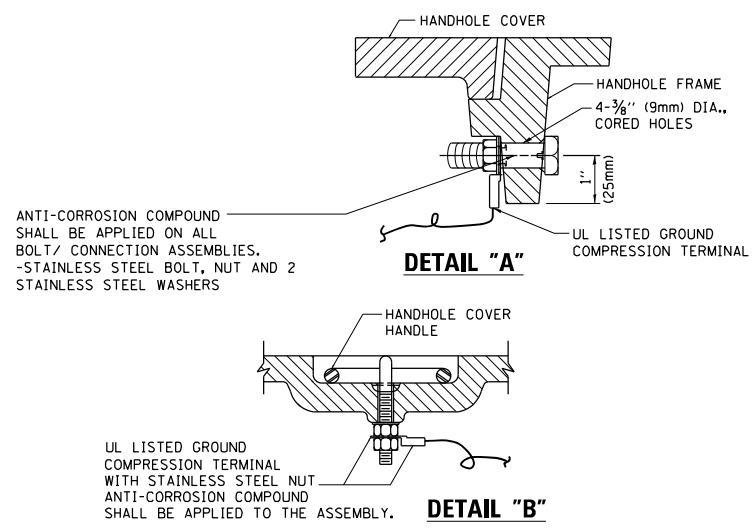
**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 3 OF 7 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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<b>TS-05</b>		CONTRACT NO. 62U46		
ILLINOIS FED. AID PROJECT				

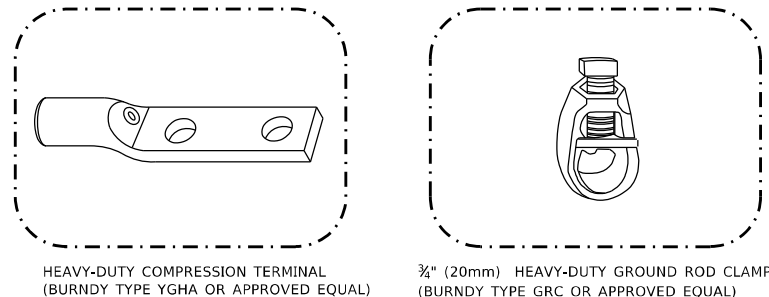


**ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



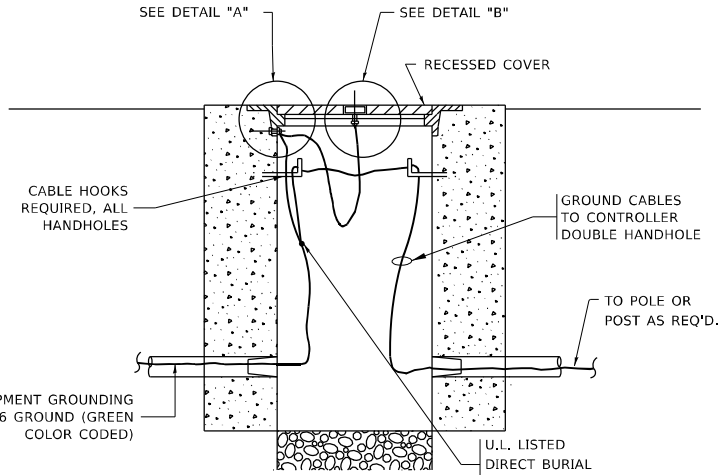
**NOTES:**  
**GROUNDING SYSTEM**

- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
- THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
- ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



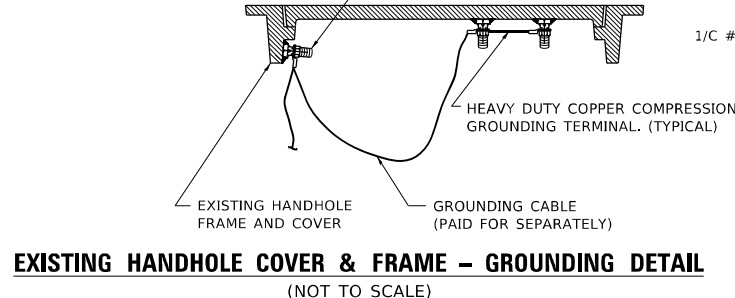
**NOTES:**

- 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.

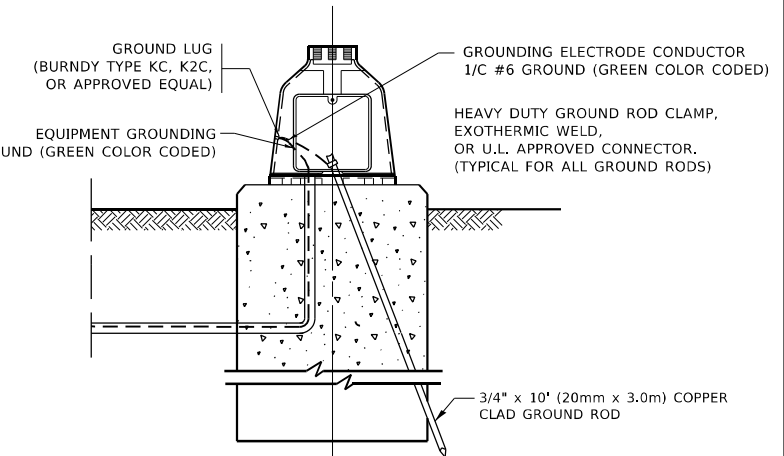


**HANDHOLE COVER & FRAME – GROUNDING DETAIL**  
 (NOT TO SCALE)

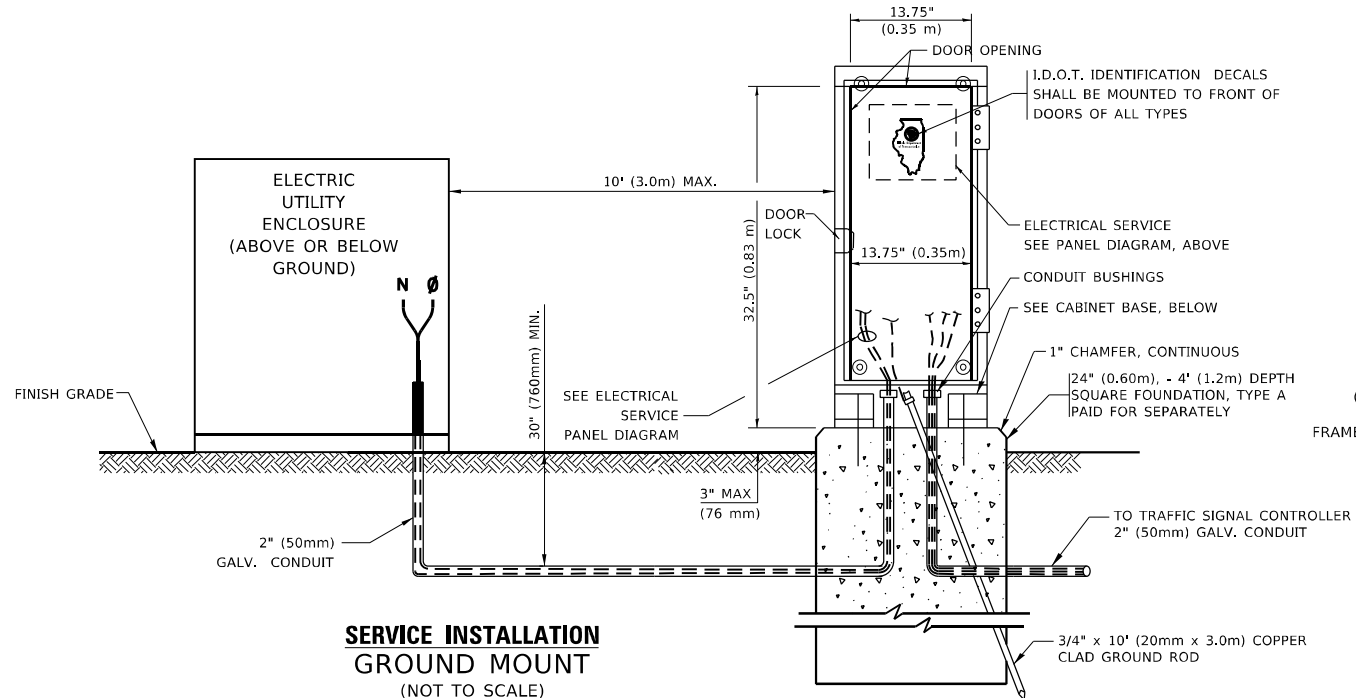
(2) 1/2" x 1 1/4" STAINLESS STEEL BOLT WITH SPLIT LOCK WASHER AND NYLON INSERT LOCKOUT WELDED TO FRAME AND TO COVER. (TYPICAL). ANTI-CORROSION COMPOUND SHALL BE APPLIED TO EACH ASSEMBLY.



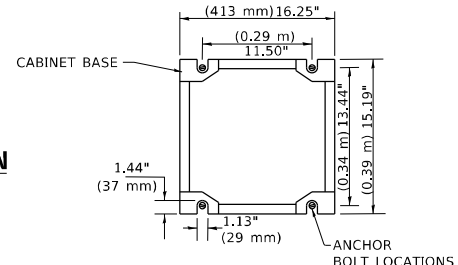
**EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL**  
 (NOT TO SCALE)



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



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



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

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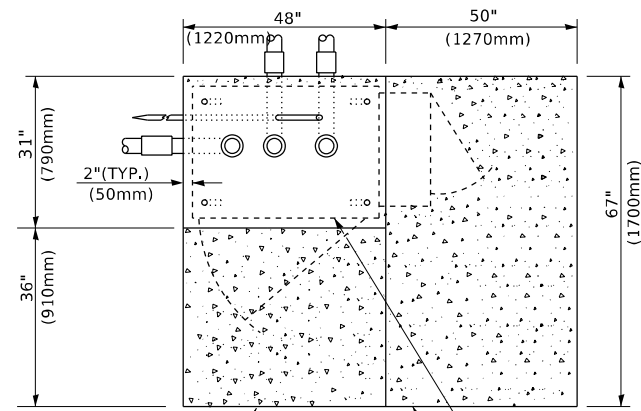
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
 STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

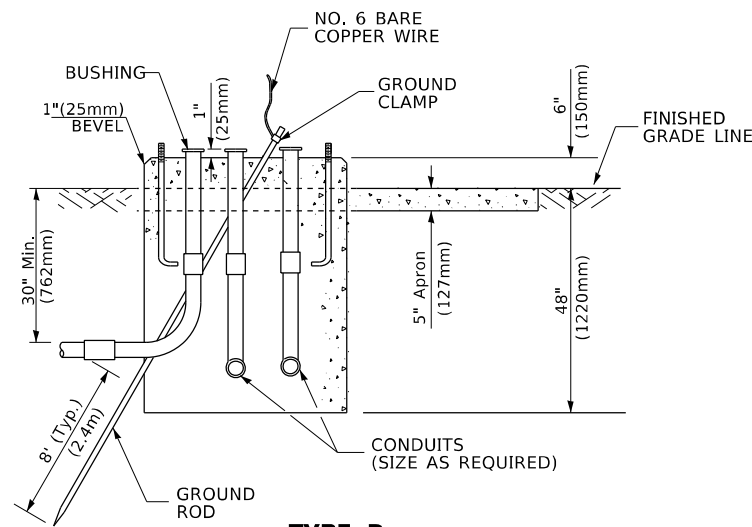
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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<b>TS-05</b>		CONTRACT NO. 62U46		
ILLINOIS FED. AID PROJECT				

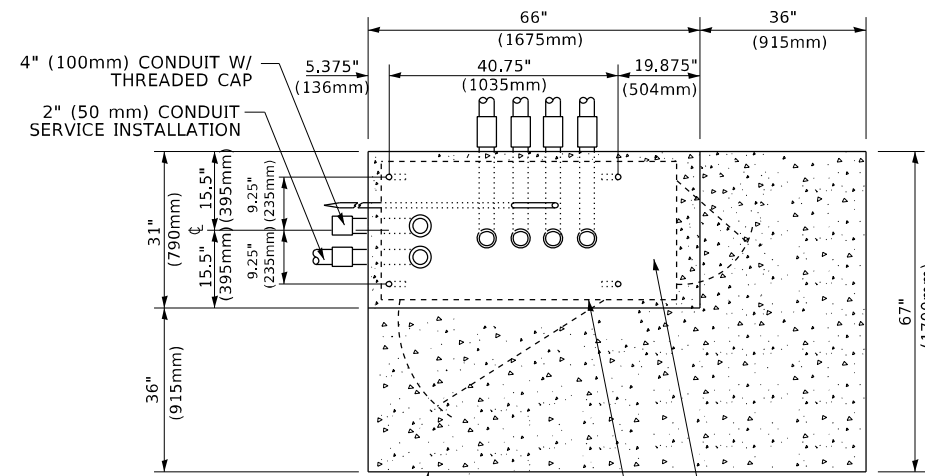




**TOP VIEW**



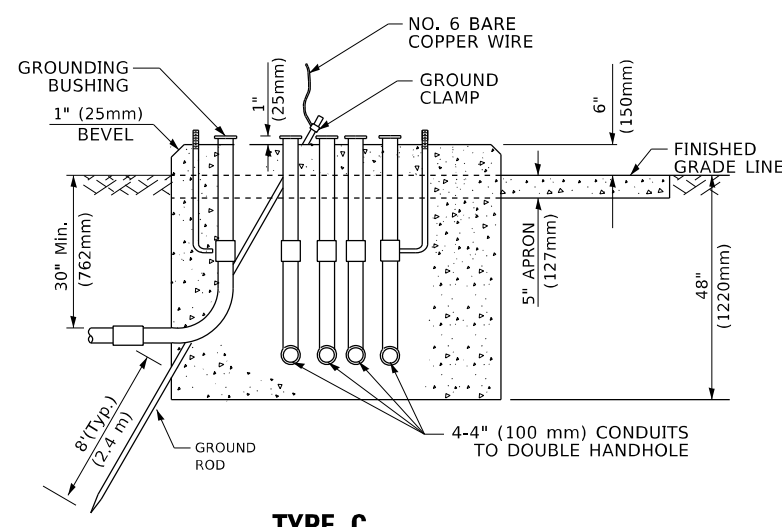
**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**



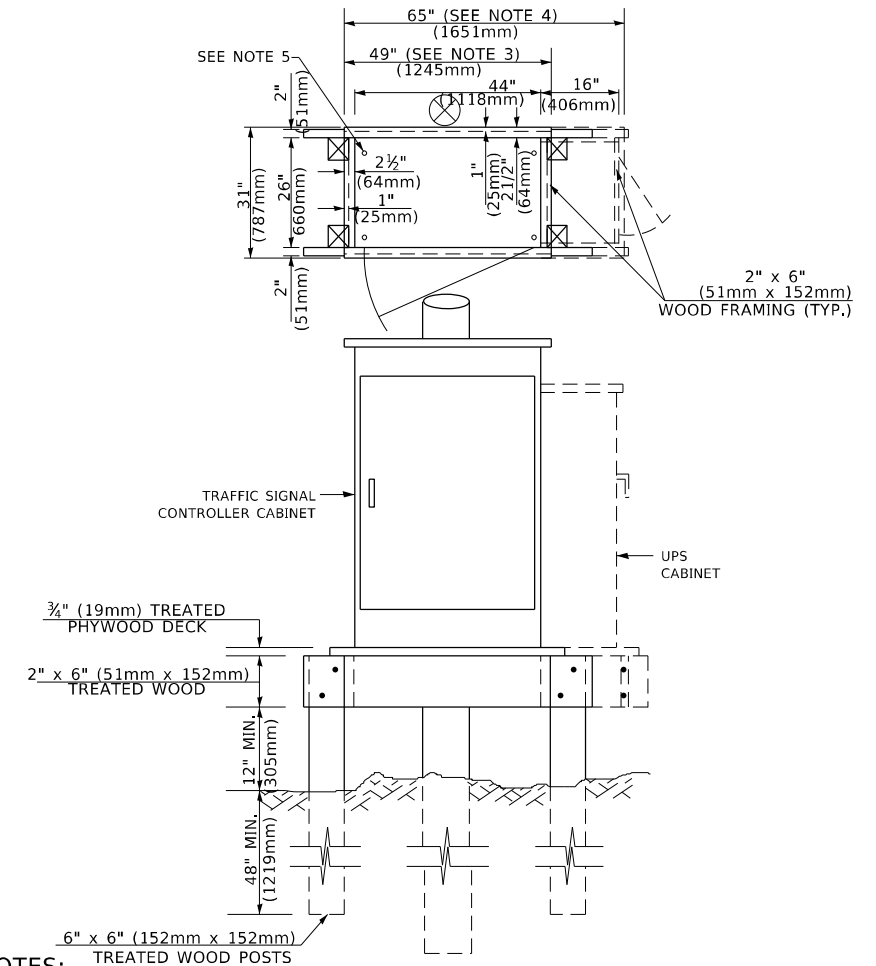
**TOP VIEW**

**NOTE:**

TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



**TYPE C  
FOR GROUND MOUNTED  
SUPER P (TYPE IV) AND SUPER R (TYPE V)  
CONTROLLER CABINETS**



**NOTES:**

1. 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.
2. 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.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. 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.
6. 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)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m) and up to 85' (25.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

**NOTES:**

1. 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 (Qu) > 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.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations
4. For mast arm assemblies with dual arms refer to state standard 878001..

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

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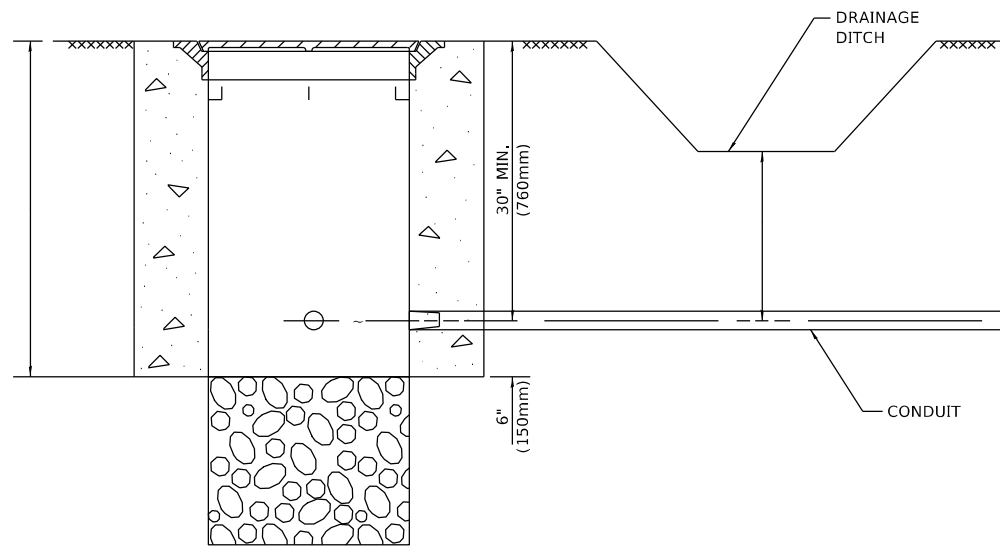
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PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 2/8/2023	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 5 OF 7 SHEETS STA. TO STA.

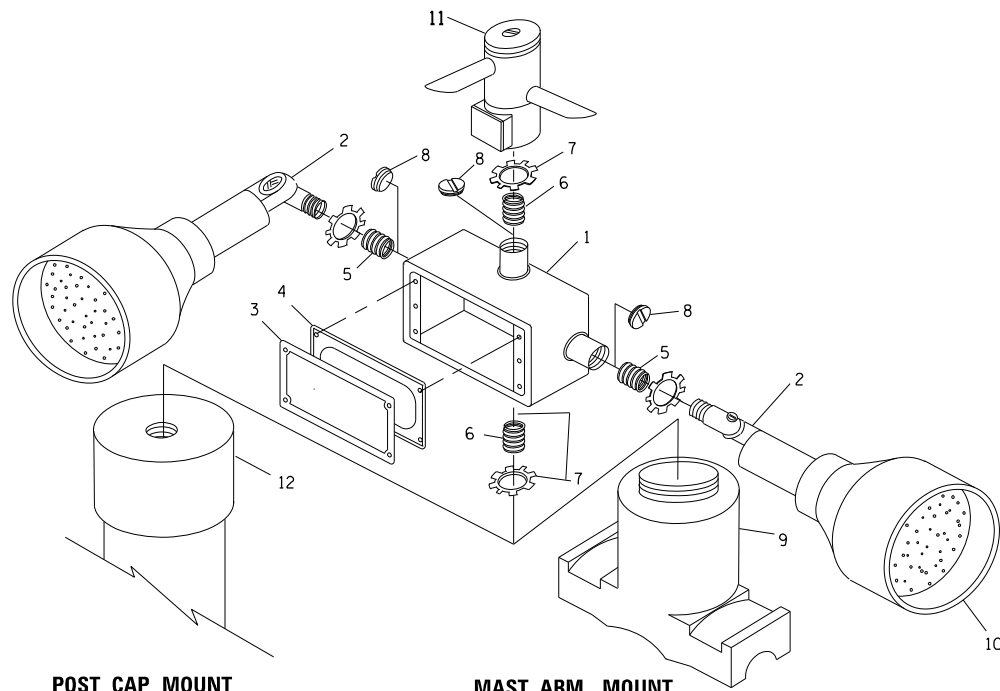
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	15
<b>TS-05</b>		CONTRACT NO. 62U46		
		ILLINOIS FED. AID PROJECT		



**NOTES:**

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

**HANDHOLE WITH MINIMUM CONDUIT DEPTH**  
(NOT TO SCALE)

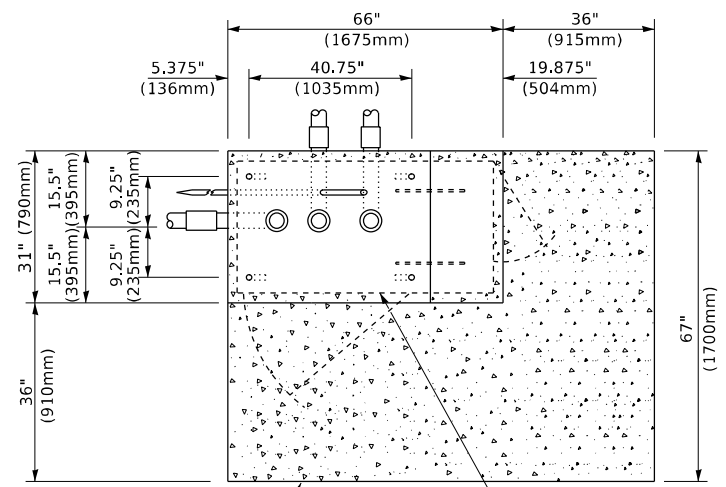


**POST CAP MOUNT**      **MAST ARM MOUNT**  
**EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL**

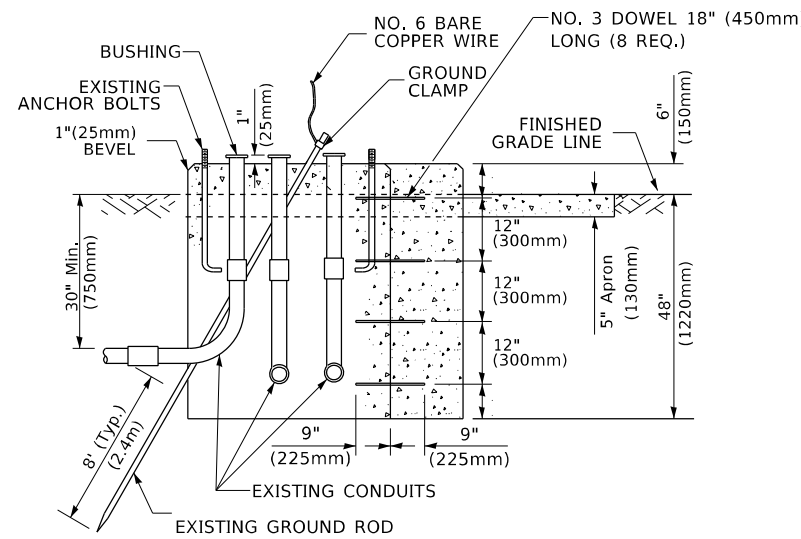
ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0,000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4" (19 mm) CLOSE NIPPLE
7	3/4" (19 mm) LOCKNUT
8	3/4" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

**NOTES:**

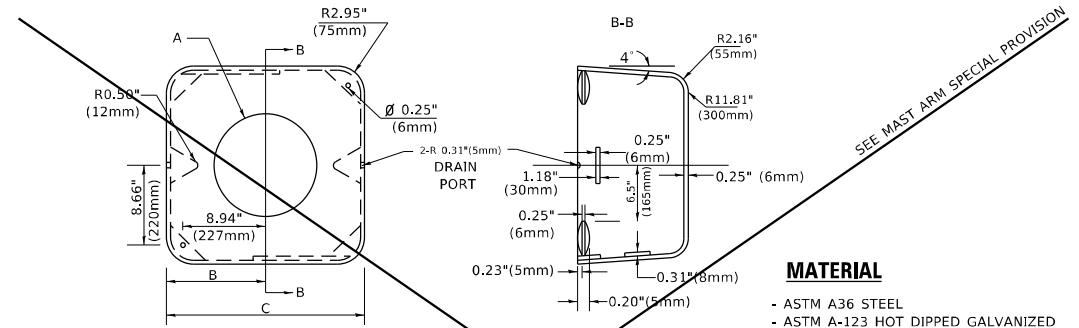
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. 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.



**TOP VIEW**  
(NOT TO SCALE)



**MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION**  
(NOT TO SCALE)



**MATERIAL**  
- ASTM A36 STEEL  
- ASTM A-123 HOT DIPPED GALVANIZED

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

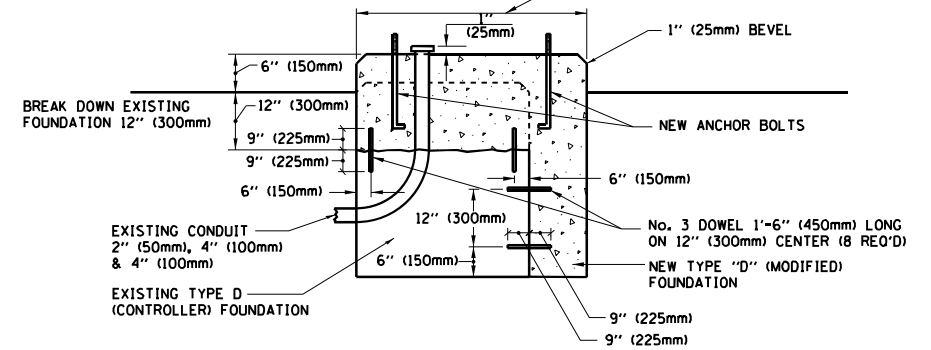
**SHROUD**

**NOTES:**

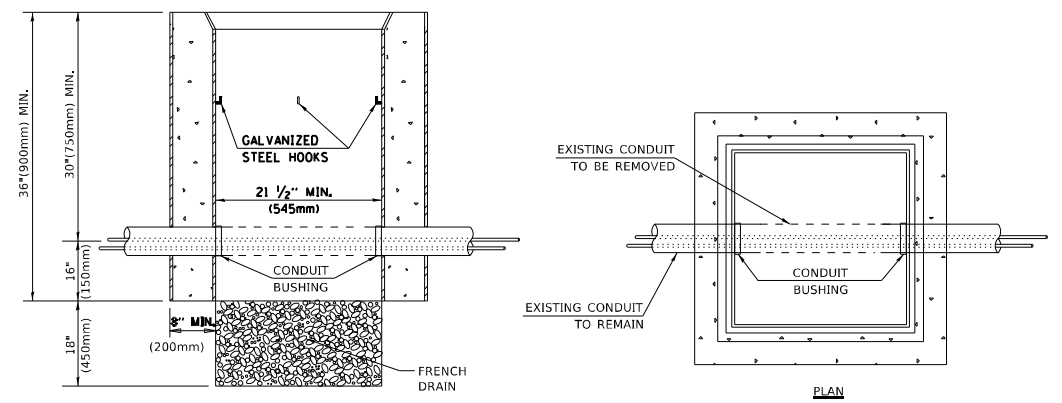
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

**NOTE:**

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



**MODIFY EXISTING TYPE "D" FOUNDATION**



**NOTES:**

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

**HANDHOLE TO INTERCEPT EXISTING CONDUIT**

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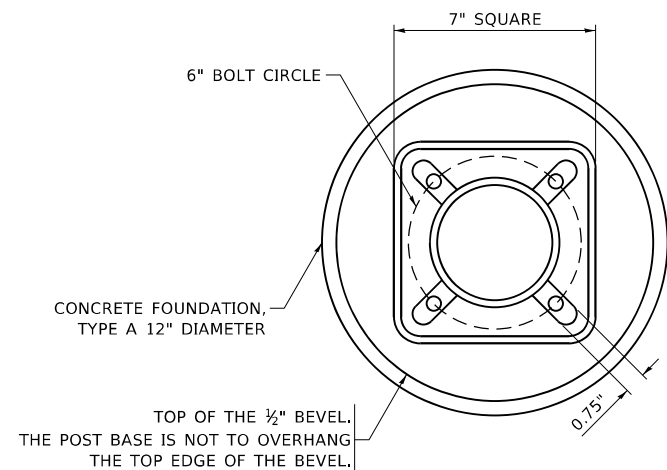
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PLOT DATE = 2/8/2023	CHECKED -	REVISED -
	DATE -	REVISED -

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

**DISTRICT ONE**  
**STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE    SHEET 6 OF 7 SHEETS    STA. TO STA.

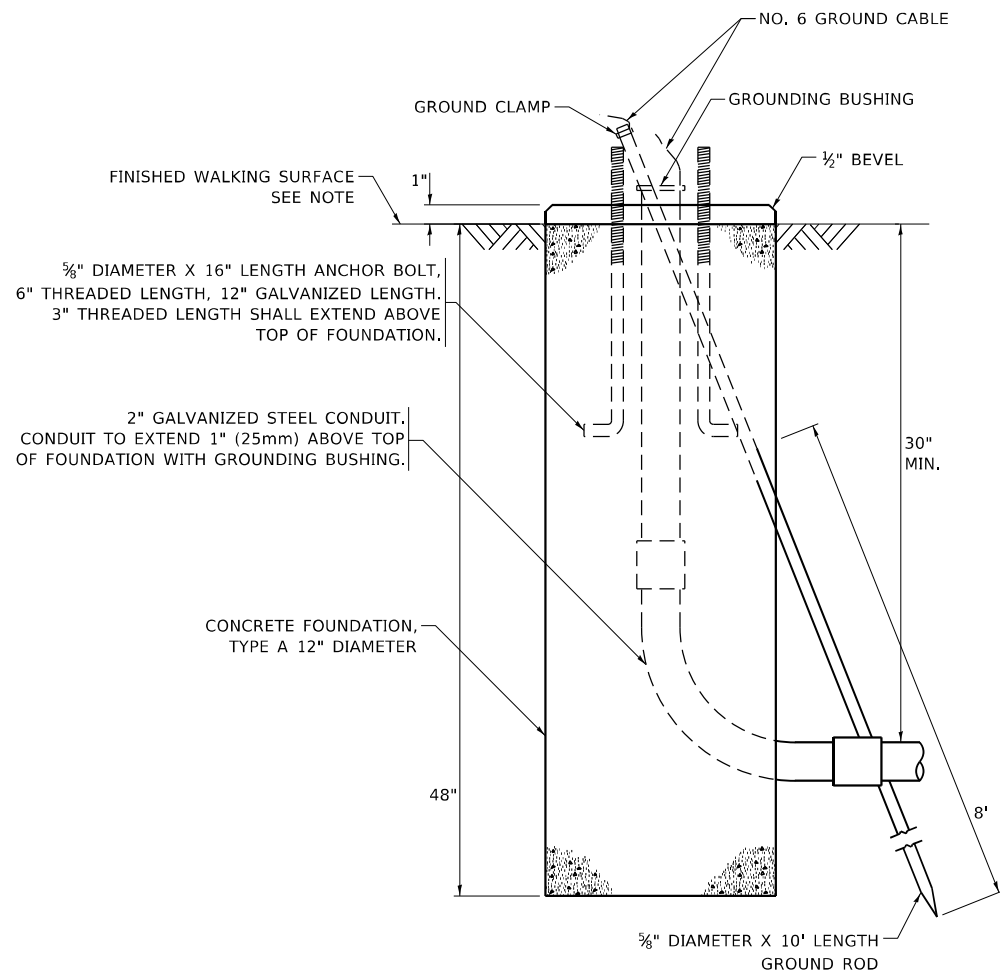
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	16
<b>TS-05</b>		CONTRACT NO. 62U46		
ILLINOIS FED. AID PROJECT				



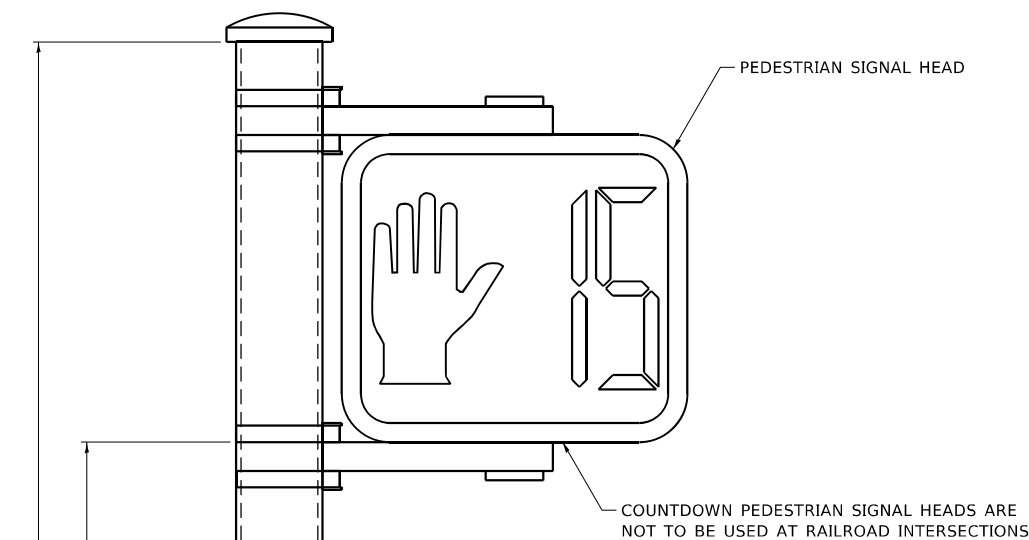
**BOLT PATTERN**

**NOTE:**

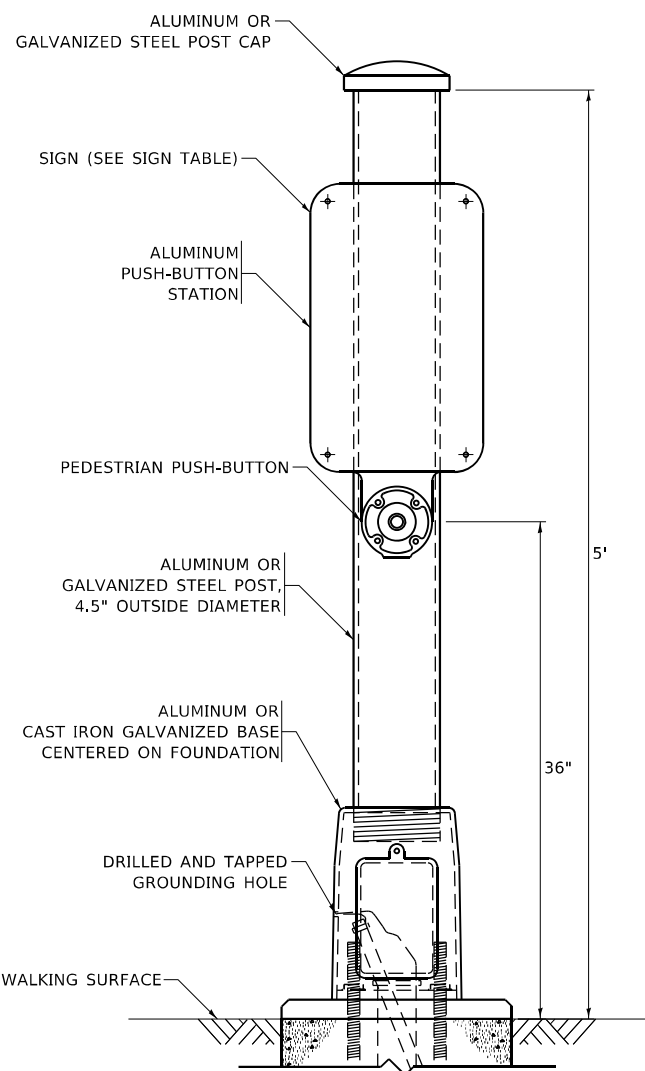
1. IF THE PEDESTRIAN SIGNAL POST FOUNDATION IS INSTALLED WITHIN OR BEHIND A BARRIER CURB, THE TOP OF THE FOUNDATION SHALL BE INSTALLED FLUSH WITH THE TOP OF THE BARRIER CURB.



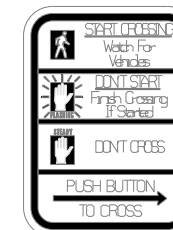
**CONCRETE FOUNDATION,  
TYPE A 12-INCH DIAMETER**



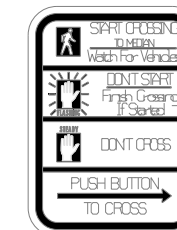
**PEDESTRIAN SIGNAL POST, 10 FT.**



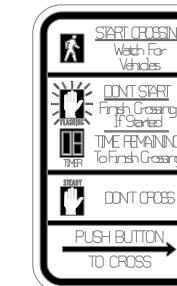
**PEDESTRIAN SIGNAL POST, 5 FT.**



**R10-3b**



**R10-3d**



**R10-3e**

**SIGN TABLE**

SIGN	DIMENSIONS
R10-3b (RAILROAD ONLY)	9" X 12"
R10-3d (RAILROAD ONLY)	9" X 12"
R10-3e	9" X 12"

**NOTES:**

1. THE SIGN PANELS SHALL BE TYPE AP SHEETING.
2. THE ARROW ON SIGNS FOR PUSH-BUTTONS SERVING TWO DIRECTIONS ON THE SAME PHASE SHALL BE BI-DIRECTIONAL.
3. THE SIGN FOR DUAL-CALL PUSH-BUTTONS SHALL HAVE NO ARROW.

MODEL: Default  
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PLOT SCALE = 100,0000' / in.	DRAWN - IP	REVISED -
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	DATE - 10-15-2018	REVISED -

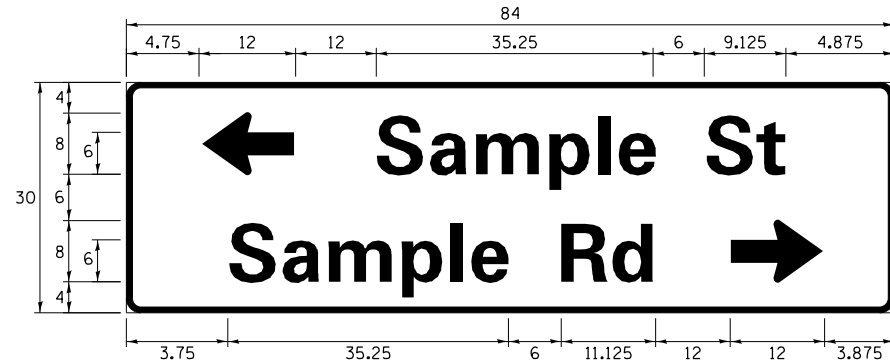
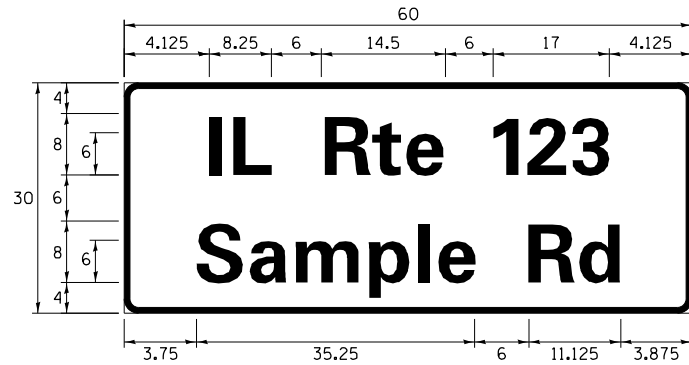
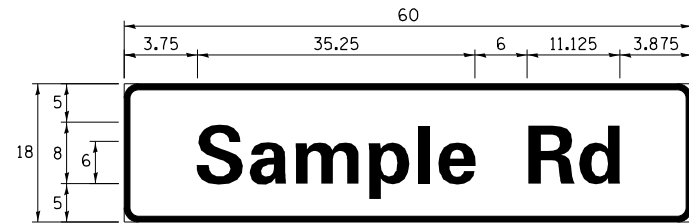
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 7 OF 7 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	17
<b>TS-05</b>		CONTRACT NO. 62U46		
ILLINOIS FED. AID PROJECT				

**SIGN PANEL – TYPE 1 OR TYPE 2**



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D OR C	-	1 OR 2	ZZ	-

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE

**COMMON STREET NAME ABBREVIATIONS AND WIDTHS**

NAME	ABBREVIATION	WIDTH (INCH)	
		SERIES "C"	SERIES "D"
AVENUE	Ave	15.000	18.250
BOULEVARD	Blvd	17.125	20.000
CIRCLE	Cir	11.125	13.000
COURT	Ct	8.250	9.625
DRIVE	Dr	8.625	10.125
HIGHWAY	Hwy	18.375	22.000
ILLINOIS	IL	7.000	8.250
LANE	Ln	9.125	10.750
PARKWAY	Pkwy	23.375	27.375
PLACE	Pl	7.125	7.750
ROAD	Rd	9.625	11.125
ROUTE	Rte	12.625	14.500
STREET	St	8.000	9.125
TERRACE	Ter	12.625	14.625
TRAIL	Tr	7.750	9.125
UNITED STATES	US	10.375	12.250

**GENERAL NOTES**

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
- THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE 3/4" WIDE. CORNER RADIUS SHALL BE 1-7/8". THE SPACING BETWEEN THE WORDS SHOULD BE 6", IF POSSIBLE, BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. A MINIMUM OF 2-1/2" SHALL BE INCLUDED BETWEEN THE WORD AND THE RIGHT AND LEFT EDGES OF THE SIGN.
- A PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE SERIES "D" LETTER ON A ONE-LINE SIGN 18" IN HEIGHT AND A MAXIMUM OF 8'-0" IN WIDTH. IF SERIES "D" DOES NOT FIT ON A 8'-0" SIGN, THEN SERIES "C" SHOULD BE TRIED. IF SERIES "C" DOES NOT FIT ON A 8'-0" SIGN, A 30" HIGH TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION AS TO STREET, AVENUE, ETC. SHOULD BE SPELLED OUT ON THE SECOND LINE, IF THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLOGY MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENT AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

**LOCAL SUPPLIERS:**

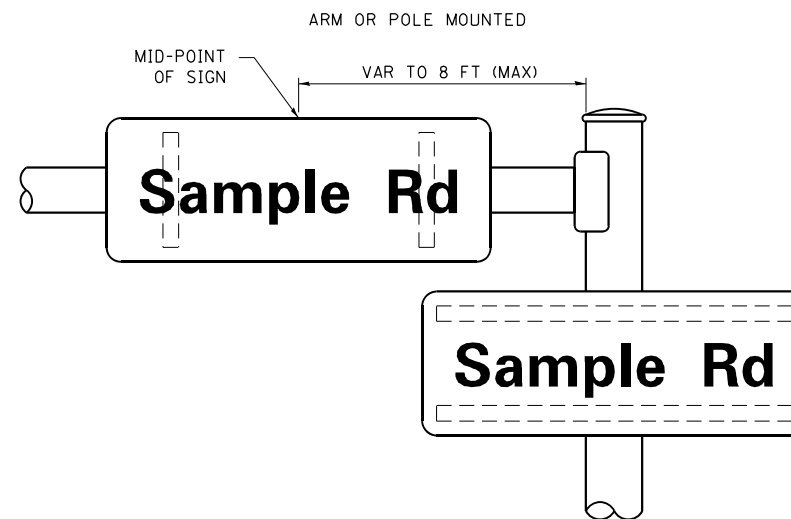
- J.O. HERBERT COMPANY, INC  
MIDLOTHIAN, VA
- WESTERN REMAC, INC.  
WOODRIDGE, IL

**PARTS LISTING:**

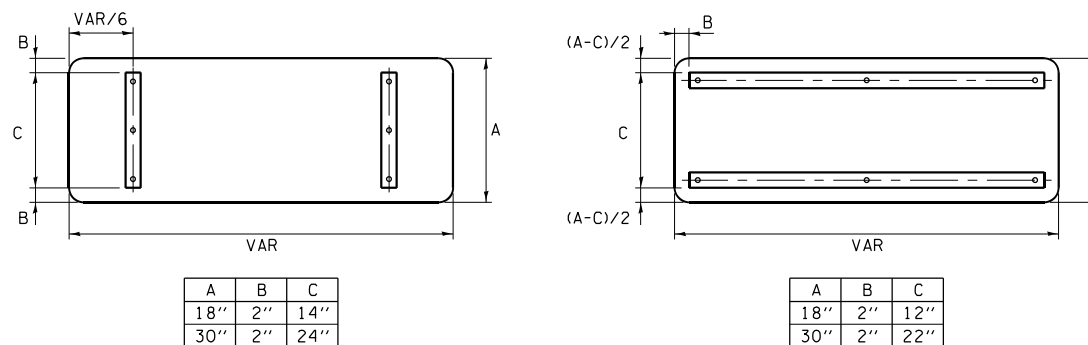
- SIGN CHANNEL PART \*HPN053 (MED. CHANNEL)  
1/4" x 14 x 1" H.W.H. #3  
SELF TAPPING WITH NEOPRENE WASHER
- SIGN SCREWS PART \*HPN034 (UNIVERSAL)  
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- BRACKETS

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

**MOUNTING LOCATION**



**SUPPORTING CHANNELS**



**STANDARD ALPHABETS SPACING CHART**

(8") UPPER CASE AND (6") LOWER CASE

CHARACTER	FHWA SERIES "C"			FHWA SERIES "D"			
	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)	CHARACTER	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)
A	0.240	5.122	0.240	A	0.240	6.804	0.240
B	0.880	4.482	0.480	B	0.960	5.446	0.400
C	0.720	4.482	0.720	C	0.800	5.446	0.800
D	0.880	4.482	0.720	D	0.960	5.446	0.800
E	0.880	4.082	0.480	E	0.960	4.962	0.400
F	0.880	4.082	0.240	F	0.960	4.962	0.240
G	0.720	4.482	0.720	G	0.800	5.446	0.800
H	0.880	4.482	0.880	H	0.960	5.446	0.960
I	0.880	1.120	0.880	I	0.960	1.280	0.960
J	0.240	4.082	0.880	J	0.240	5.122	0.960
K	0.880	4.482	0.480	K	0.960	5.604	0.400
L	0.880	4.082	0.240	L	0.960	4.962	0.240
M	0.880	5.284	0.880	M	0.960	6.244	0.960
N	0.880	4.482	0.880	N	0.960	5.446	0.960
O	0.720	4.722	0.720	O	0.800	5.684	0.800
P	0.880	4.482	0.720	P	0.960	5.446	0.240
Q	0.720	4.722	0.720	Q	0.800	5.684	0.800
R	0.880	4.482	0.480	R	0.960	5.446	0.400
S	0.480	4.482	0.480	S	0.400	5.446	0.400
T	0.240	4.082	0.240	T	0.240	4.962	0.240
U	0.880	4.482	0.880	U	0.960	5.446	0.960
V	0.240	4.962	0.240	V	0.240	6.084	0.240
W	0.240	6.084	0.240	W	0.240	7.124	0.240
X	0.240	4.722	0.240	X	0.400	5.446	0.400
Y	0.240	5.122	0.240	Y	0.240	6.884	0.240
Z	0.480	4.482	0.480	Z	0.400	5.446	0.400
a	0.320	3.842	0.640	a	0.400	4.562	0.720
b	0.720	4.082	0.480	b	0.800	4.802	0.480
c	0.480	4.002	0.240	c	0.480	4.722	0.240
d	0.480	4.082	0.720	d	0.480	4.802	0.800
e	0.480	4.082	0.320	e	0.480	4.722	0.320
f	0.320	2.480	0.160	f	0.320	2.882	0.160
g	0.480	4.082	0.720	g	0.480	4.802	0.800
h	0.720	4.082	0.640	h	0.800	4.722	0.720
i	0.720	1.120	0.720	i	0.800	1.280	0.800
j	0.000	2.320	0.720	j	0.000	2.642	0.800
k	0.720	4.322	0.160	k	0.800	5.122	0.160
l	0.720	1.120	0.720	l	0.800	1.280	0.800
m	0.720	6.724	0.640	m	0.800	7.926	0.720
n	0.720	4.082	0.640	n	0.800	4.722	0.720
o	0.480	4.082	0.480	o	0.480	4.882	0.480
p	0.720	4.082	0.480	p	0.800	4.802	0.480
q	0.480	4.082	0.720	q	0.480	4.802	0.800
r	0.720	2.642	0.160	r	0.800	3.042	0.160
s	0.320	3.362	0.240	s	0.320	3.762	0.240
t	0.080	2.882	0.080	t	0.080	3.202	0.080
u	0.640	4.082	0.720	u	0.720	4.722	0.800
v	0.160	4.722	0.160	v	0.160	5.684	0.160
w	0.160	7.524	0.160	w	0.160	9.046	0.160
x	0.000	5.202	0.000	x	0.000	6.244	0.000
y	0.160	4.962	0.160	y	0.160	6.004	0.160
z	0.240	3.362	0.240	z	0.240	4.002	0.240
1	0.720	1.680	0.880	1	0.800	2.000	0.960
2	0.480	4.482	0.480	2	0.800	5.446	0.800
3	0.480	4.482	0.480	3	1.440	5.446	0.800
4	0.240	4.962	0.720	4	0.160	6.004	0.960
5	0.480	4.482	0.480	5	0.800	5.446	0.800
6	0.720	4.482	0.720	6	0.800	5.446	0.800
7	0.240	4.482	0.720	7	0.560	5.446	0.560
8	0.480	4.482	0.480	8	0.800	5.446	0.800
9	0.480	4.482	0.480	9	0.800	5.446	0.800
0	0.720	4.722	0.720	0	0.800	5.684	0.800
-	0.240	2.802	0.240	-	0.240	2.802	0.240

MODEL: D:\p\p\Design\Ivanan08\_MastArmContract\06\_62U46 - April 2023\CADD\62U46-06-01.dwg

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	DATE - 10/15/2018	REVISED -

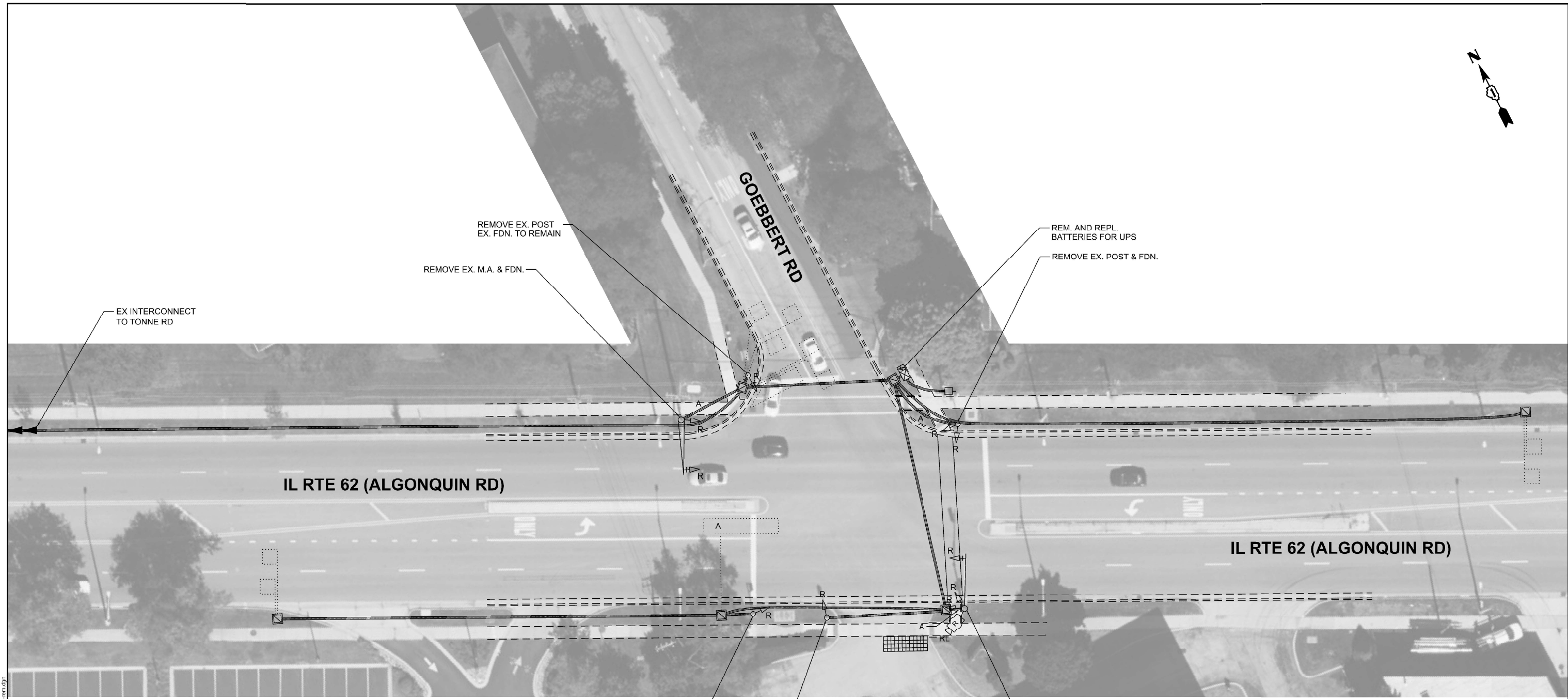
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
MAST ARM MOUNTED STREET NAME SIGNS**

SCALE: NTS SHEET NO. 7 OF 7 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	18
<b>TS-02</b>		CONTRACT NO. 62U46		
ILLINOIS		FED. AID PROJECT		





**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.

**REMOVAL AND RELOCATION NOTES:**

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 UNIT BID PRICE.

- 8 EACH SIGNAL HEAD, 1 FACE, 3 SECTION
- 2 EACH SIGNAL HEAD, 1 FACE, 5 SECTION
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH ALUMINUM MAST ARM ASSMRLY AND POLE
- 1 EACH CONTROLLER (EPAC 300 (M41))
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 2 EACH STREET NAME SIGN PANEL

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, AND RELOCATED TO THE PROPOSED MAST ARM ASSEMBLIES AND POLES AND CONTROLLER CABINET:

- 1 EACH RADAR DETECTOR

**TS 2965  
EAGLE 1N**

MODEL: 1A, TS 2965  
 FILE NAME: X:\projects\2022\2965\DOT\PTB\_2022\2965\Var\Var\_TSM\03\_Tombora\_MAL\_CADD\Drawn\Sheet\012965\_eagle1n.dgn



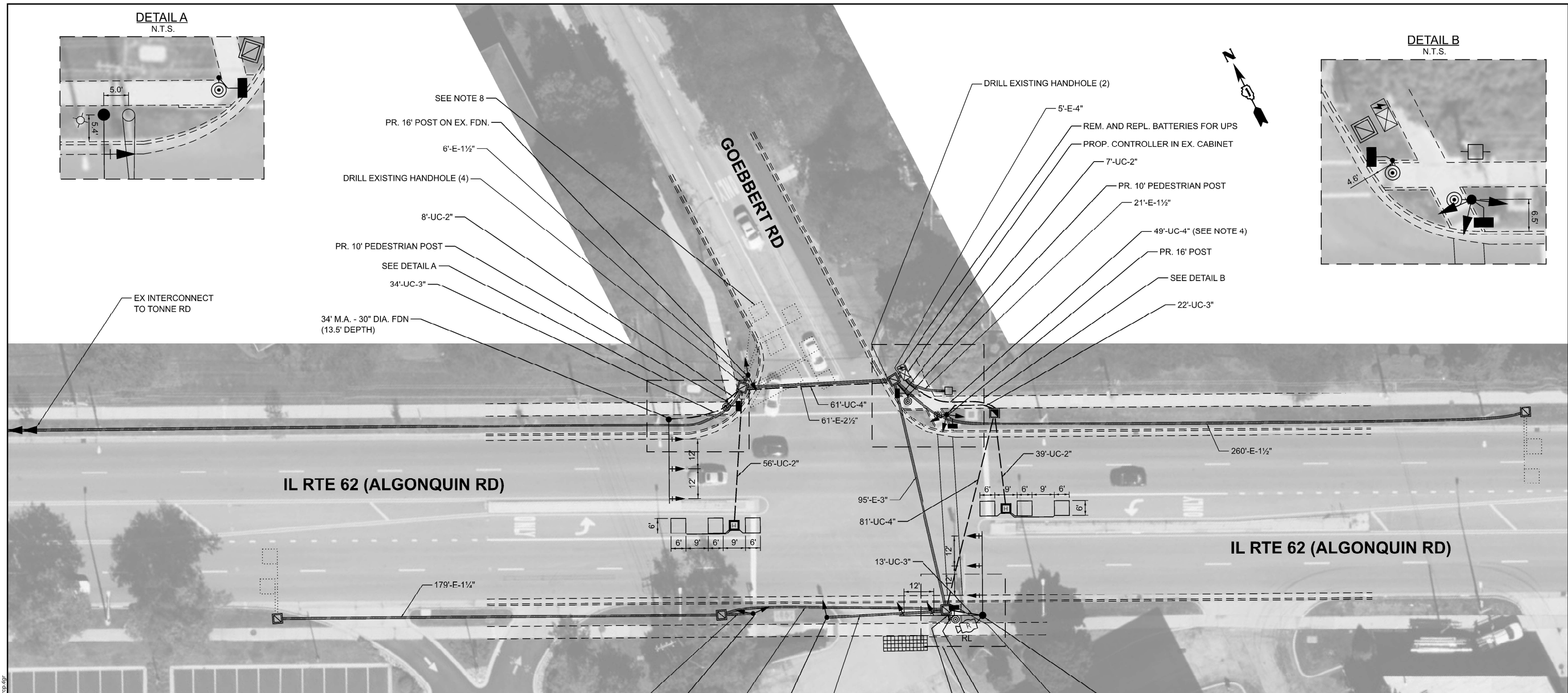
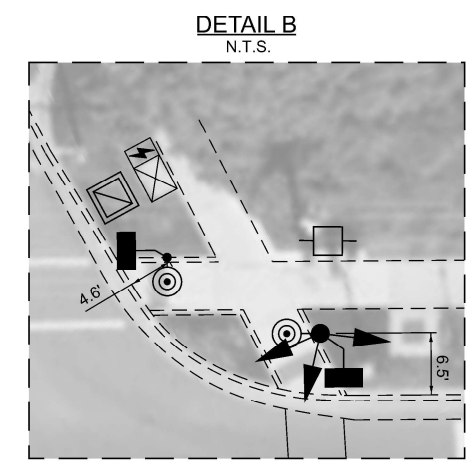
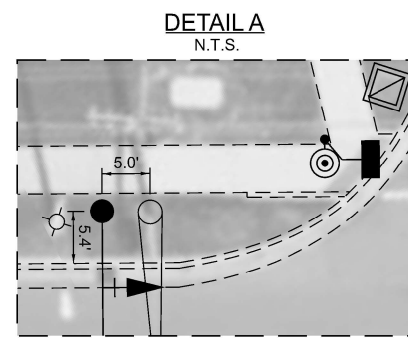
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DRAWN - RG	REVISIONS -	
PLOT SCALE = 40,000' / in.	CHECKED - DW	REVISED -
PLOT DATE = 2/7/2023	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>REMOVAL PLAN</b>			
<b>IL RTE 62 (ALGONQUIN RD) AT GOEBBERT RD</b>			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

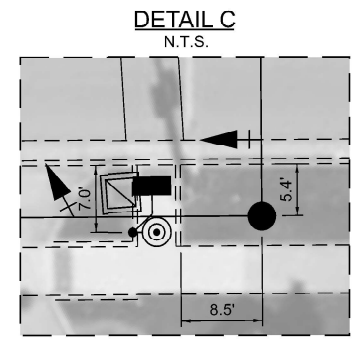
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	19
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				





**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. ALL PROPOSED TRAFFIC SIGNAL CABLE SHALL BE ROUTED THROUGH THE PROPOSED CONDUIT.
4. THE CONDUIT SHALL TERMINATE INTO THE EXISTING CONTROLLER CABINET WITH AN OUTDOOR RATED 90 DEGREE ELBOW. THE EXACT LOCATION IN THE CONTROLLER CABINET SHALL BE DETERMINED IN THE FIELD.
5. ALL PROPOSED PUSH-BUTTONS SHALL BE APS.
6. THIS LOCATION HAS BEEN DESIGNED TO BE ADA COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE PEDESTRIAN POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO INSURE ADA COMPLIANCE.
7. THE SIDEWALK CURB IN THE NORTHWEST, NORTHEAST AND SOUTHEAST QUADRANTS SHALL BE CUT SO THAT THE POST FOUNDATION IS FLUSH WITH THE EDGE OF THE SIDEWALK.
8. A SEPERATE LEAD-IN CABLE SHALL BE INSTALLED FOR THE DETECTOR LOOPS ON THE SOUTHBOUND RIGHT TURN LANE.
9. CROSSWALK MARKINGS TO BE INSTALLED BY OTHERS.



MODEL: 1A, TS 2965  
FILE NAME: X:\projects\2022\202218800\DOT\PTB\_2022\2022\_Var\_Alt\_1\TSM\0\_3\_Tombora\_MAL\cadd\DrawSheets\3121\U46\_eagle1n.dwg



USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
	DRAWN - RG	REVISED -
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PLOT DATE = 2/7/2023	DATE - 2/3/2023	REVISED -

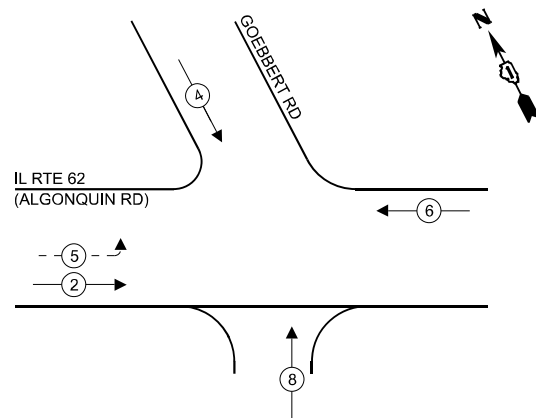
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>TRAFFIC SIGNAL MODERNIZATION PLAN</b>	
<b>IL RTE 62 (ALGONQUIN RD) AT GOEBBERT RD</b>	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	20
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 2965  
EAGLE 1N**

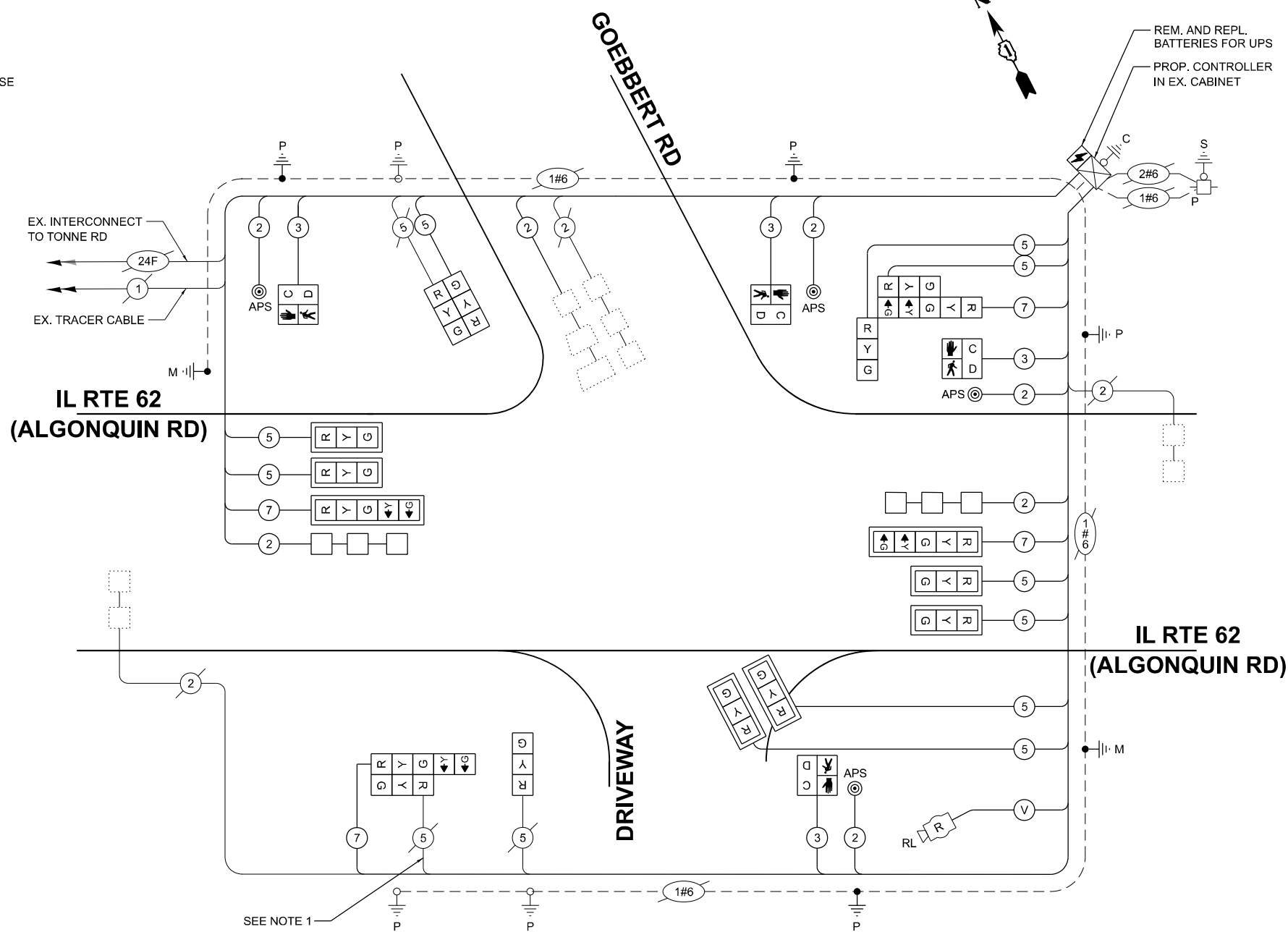
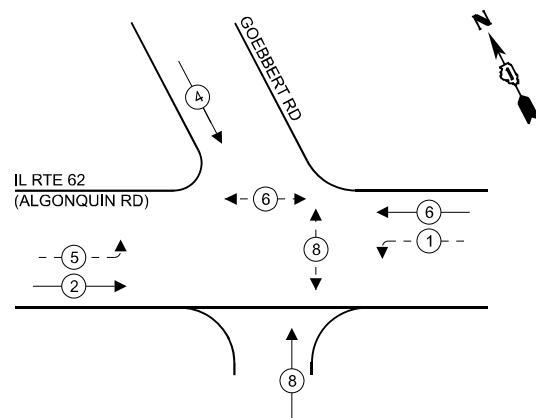
**EXISTING CONTROLLER SEQUENCE**



**LEGEND**

- ← ⊙ — PROTECTED PHASE
- ← ⊙ - - PROTECTED/PERMITTED PHASE
- ← ⊙ ⊙ — PEDESTRIAN PHASE
- ⊙ OL — OVERLAP

**PROPOSED CONTROLLER SEQUENCE**



**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16	11	50	88
(YELLOW)	16	20	5	16
(GREEN)	16	12	45	86.4
PERMISSIVE ARROW	8	10	10	8
PED. SIGNAL	4	20	100	80
CONTROLLER	1	100	100	100
UPS	1	25	100	25
RADAR	1	150	100	150
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	250	50	-
PTZ CAMERA	-	75	100	-
TOTAL =				553.4

ENERGY COSTS TO:  
**VILLAGE OF ARLINGTON HEIGHTS**  
 33 S ARLINGTON HEIGHTS RD  
 ARLINGTON HEIGHTS, IL 60005  
 ENERGY SUPPLY: CONTACT: MR. DAVE SCHACHT  
 PHONE: (630) 437-2129  
 COMPANY: COMED  
 ACCOUNT NUMBER:

- NOTES:**
- THE EXISTING 5C CABLE SHALL BE RE-USED FOR THE PROPOSED EB NEAR RIGHT SIGNAL HEAD. THE 5C CABLE SHALL BE RE-LANDED ON THE PHASE 2 TERMINALS.

**CABLE PLAN**  
(NOT TO SCALE)

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CABLE PLAN AND PHASE DESIGNATION DIAGRAM  
 IL RTE 62 (ALGONQUIN RD) AT GOEBBERT RD

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	21
CONTRACT NO. 62U46				

TS 2965  
 EAGLE 1N

MODEL: 14  
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USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' = 1"	DRAWN - RG	REVISED -
PLOT DATE = 2/7/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

SCALE: SHEET OF SHEETS STA. TO STA.

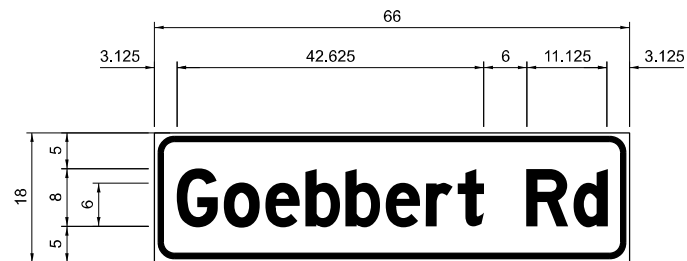
ILLINOIS FED. AID PROJECT

**SIGN PANEL DETAIL**



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	15	2	ZZ	1

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE.



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	8.25	1	ZZ	2

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE.

NOTE:  
FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION  
PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET  
NAME SIGN DETAIL.

**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
SIGN PANEL - TYPE 1	SQ FT	16.5
SIGN PANEL - TYPE 2	SQ FT	15
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	113
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	69
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	191
HANDHOLE	EACH	1
HEAVY-DUTY HANDHOLE	EACH	2
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	390
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	410
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1455
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	775
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1PAIR	FOOT	340
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	365
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 34 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	13.5
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	12
DRILL EXISTING HANDHOLE	EACH	9
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	6
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	6
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	2
DETECTOR LOOP, TYPE I	FOOT	202
RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	440
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	3
PEDESTRIAN SIGNAL POST, 10 FT.	EACH	3
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
REMOVE AND REPLACE BATTERIES FOR UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1
ACCESSIBLE PEDESTRIAN SIGNALS	EACH	4
CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	12
TEMPORARY INFORMATION SIGNING	SQ FT	51.4
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1	EACH	1

MODEL: 1A TS 2965  
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USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
DRAWN - RG	CHECKED - DW	REVISED -
PLOT SCALE = 40,000' = 1"	DATE - 2/3/2023	REVISED -
PLOT DATE = 2/7/2023		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAST ARM MOUNTED STREET NAME SIGNS  
AND SCHEDULE OF QUANTITIES  
IL RTE 62 (ALGONQUIN RD) AT GOEBBERT RD**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	22
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 2965  
EAGLE 1N**



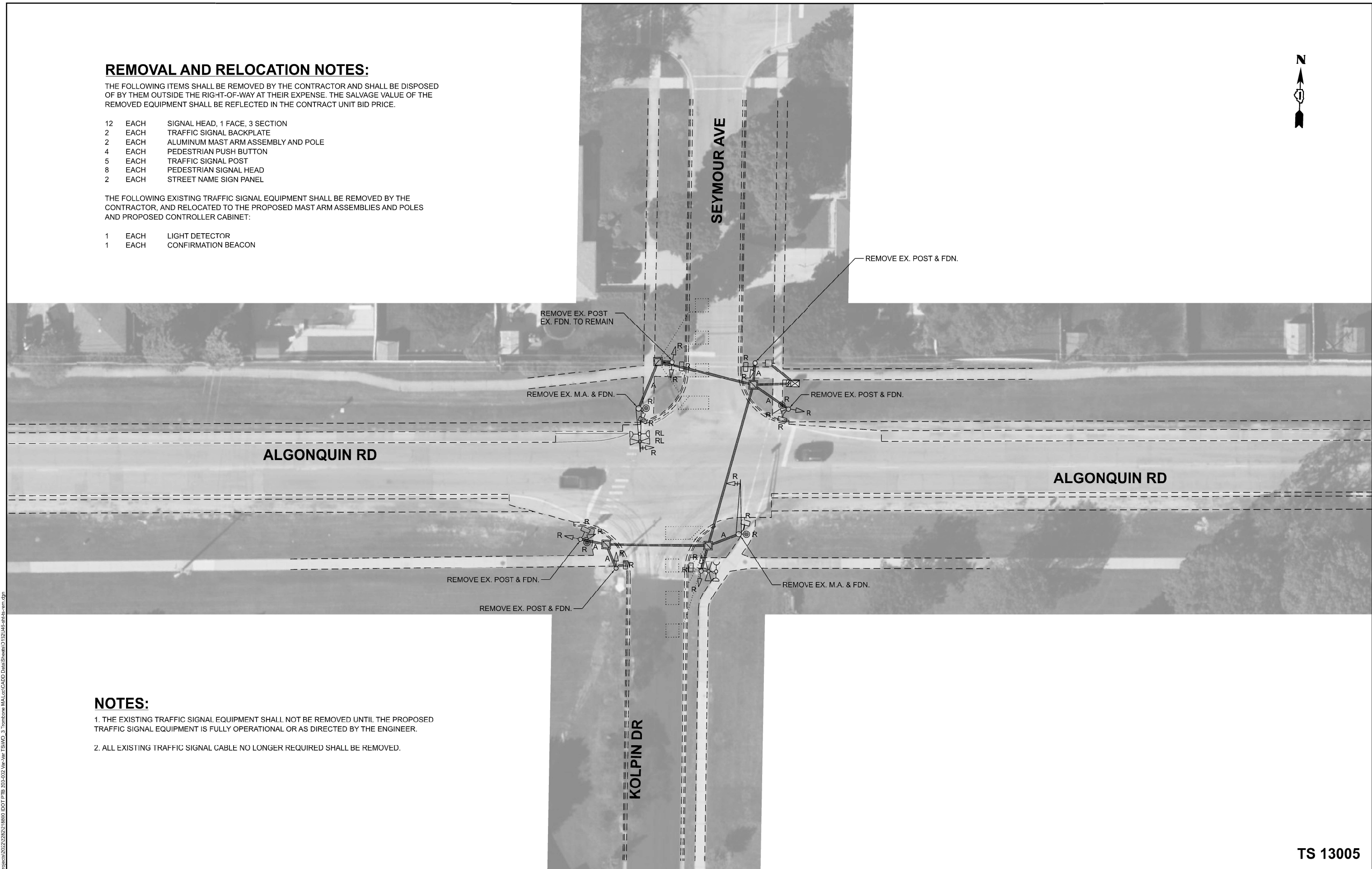
**REMOVAL AND RELOCATION NOTES:**

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 UNIT BID PRICE.

- 12 EACH SIGNAL HEAD, 1 FACE, 3 SECTION
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 4 EACH PEDESTRIAN PUSH BUTTON
- 5 EACH TRAFFIC SIGNAL POST
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH STREET NAME SIGN PANEL

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, AND RELOCATED TO THE PROPOSED MAST ARM ASSEMBLIES AND POLES AND PROPOSED CONTROLLER CABINET:

- 1 EACH LIGHT DETECTOR
- 1 EACH CONFIRMATION BEACON



**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.

MODEL: 18 - TS - 0805  
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**TS 13005**



USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
DRAWN - RG	REVISED -	
PLOT SCALE = 40,000' / in	CHECKED - DW	REVISED -
PLOT DATE = 2/7/2023	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

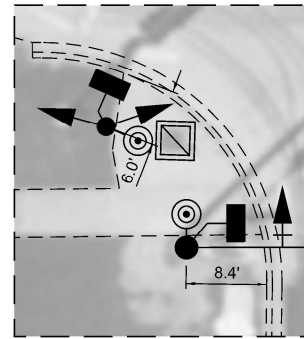
**REMOVAL PLAN  
ALGONQUIN RD AT KOLPIN DR /SEYMOUR AVE**

SCALE: SHEET OF SHEETS STA. TO STA.

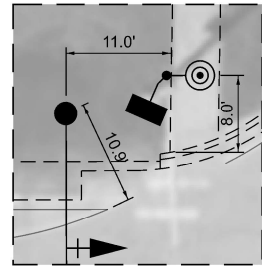
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	23
CONTRACT NO. 62U46			ILLINOIS FED. AID PROJECT	



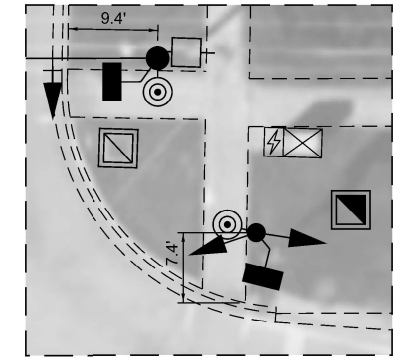
DETAIL A  
N.T.S.



DETAIL B  
N.T.S.



DETAIL C  
N.T.S.



- PR. 16' POST ON EX. FDN.
- 8'-E-2"
- DRILL EXISTING HANDHOLE (3)
- 21'-UC-2"
- SEE DETAIL B
- PR. 10' PEDESTRIAN POST
- 29'-UC-3"
- 28' M.A. - 30" DIA. FDN (10' DEPTH)

- 26' M.A. - 30" DIA. FDN (10' DEPTH)
- 10'-UC-3"
- SEE DETAIL C
- DRILL EXISTING HANDHOLE (2)
- 15'-E-1 1/2"
- 17'-E-5"
- 16'-UC-4" (SEE NOTE 7)

- 243'-UC-2"
- 1" CNC  
SEE NOTE 3

ALGONQUIN RD

ALGONQUIN RD

KOLPIN DR

SEYMOUR AVE

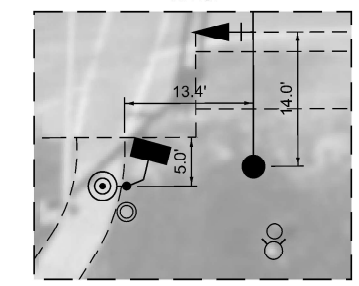
**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.
4. ALL PROPOSED TRAFFIC SIGNAL CABLE SHALL BE ROUTED THROUGH THE PROPOSED CONDUIT.
5. ALL PROPOSED PUSH-BUTTONS SHALL BE APS.
6. THIS LOCATION HAS BEEN DESIGNED TO BE ADA COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE PEDESTRIAN POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO INSURE ADA COMPLIANCE.
7. THE CONDUIT SHALL TERMINATE INTO THE EXISTING CONTROLLER CABINET WITH AN OUTDOOR RATED 90 DEGREE ELBOW. THE EXACT LOCATION IN THE CONTROLLER CABINET SHALL BE DETERMINED IN THE FIELD.

- SEE DETAIL A
- PR. 16' POST
- 8'-UC-3"
- DRILL EXISTING HANDHOLE (4)
- 11'-UC-3"
- 24' M.A. - 30" DIA. FDN (10' DEPTH)

- 28' M.A. - 30" DIA. FDN (10' DEPTH)
- SEE DETAIL D
- PR. 10' PEDESTRIAN POST
- 23'-UC-2"
- 38'-UC-3"
- DRILL EXISTING HANDHOLE (4)
- 14'-E-1 1/2"
- EX. 18' POST

DETAIL D  
N.T.S.



MODEL: 18 - TS 13005  
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USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' / in	DRAWN - RG	REVISED -
PLOT DATE = 2/7/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN  
ALGONQUIN RD AT KOLPIN DR / SEYMOUR AVE

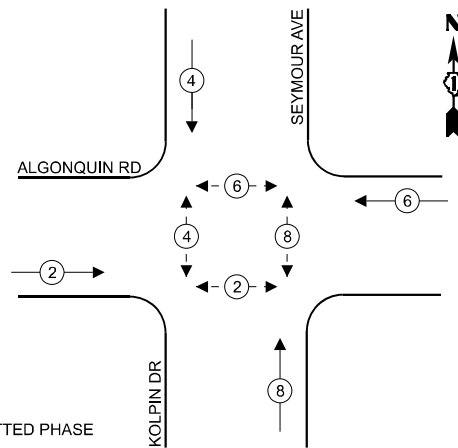
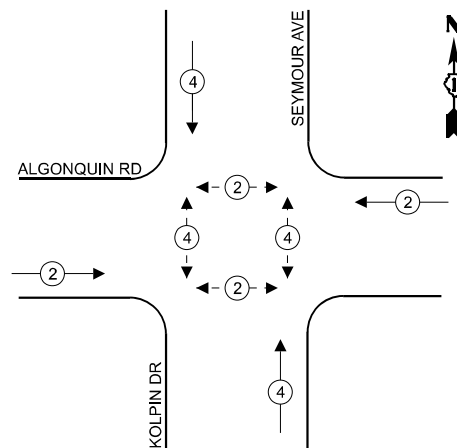
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	24
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

TS 13005

**EXISTING CONTROLLER SEQUENCE**

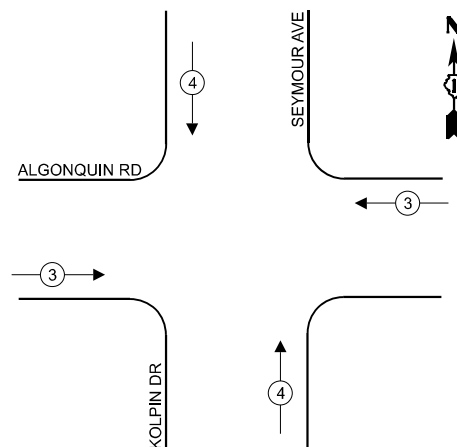
**PROPOSED CONTROLLER SEQUENCE**



**LEGEND**

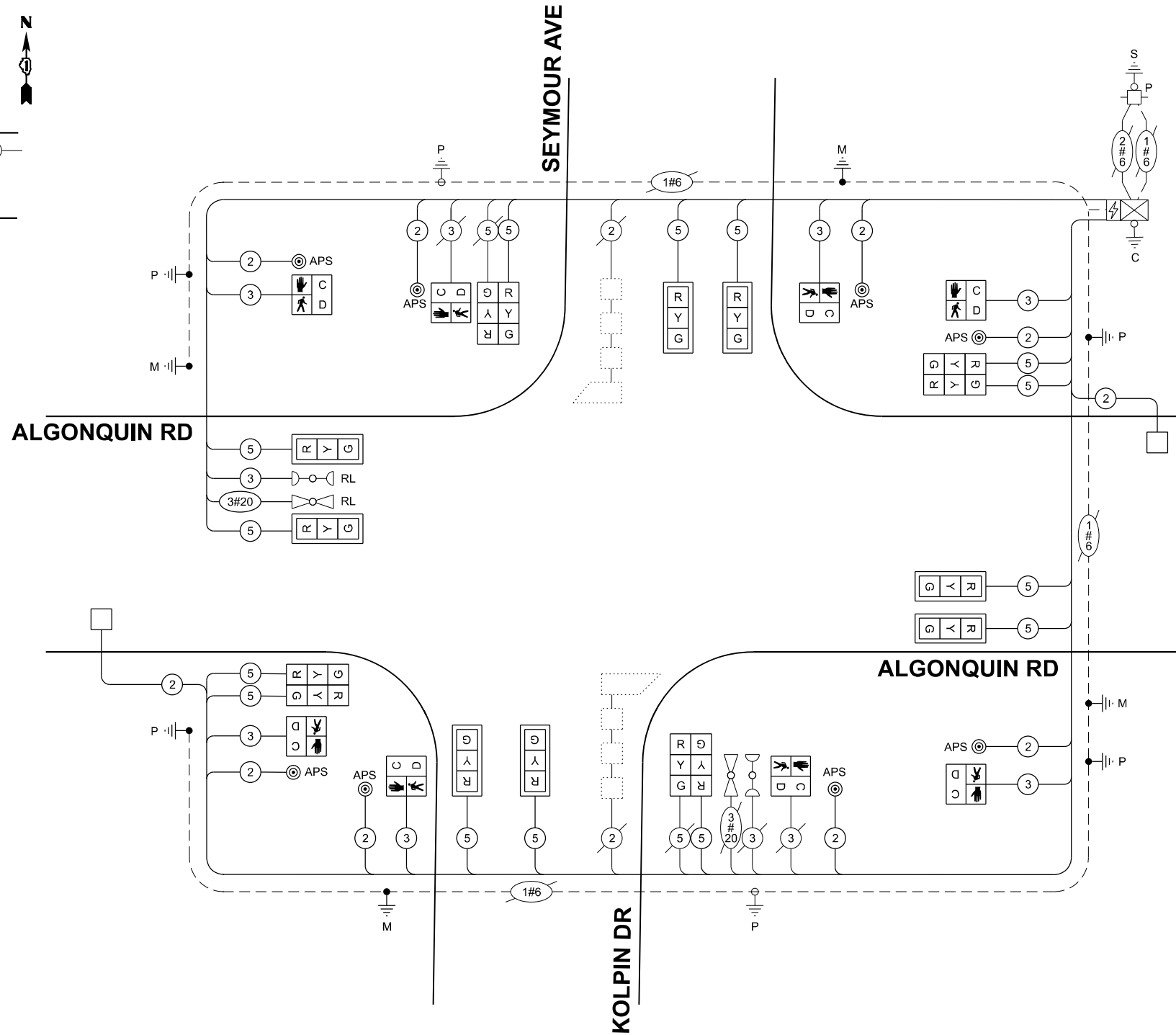
- ← \* → PROTECTED PHASE
- ← \* - - → PROTECTED/PERMITTED PHASE
- ← \* → PEDESTRIAN PHASE
- ← \* OL → OVERLAP

**EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**ALGONQUIN RD**

**ALGONQUIN RD**



**CABLE PLAN**  
(NOT TO SCALE)

**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16	11	50	88
(YELLOW)	16	20	5	16
(GREEN)	16	12	45	86.4
PERMISSIVE ARROW	-	10	10	-
PED. SIGNAL	8	20	100	160
CONTROLLER	1	100	100	100
UPS	1	25	100	25
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	250	50	-
PTZ CAMERA	-	75	100	-
TOTAL =				475.4

**ENERGY COSTS TO:  
CITY OF DES PLAINES**

1420 MINER ST  
DES PLAINES, IL 60016

ENERGY SUPPLY: CONTACT: MR. DAVE SCHACHT  
PHONE: (630) 437-2129  
COMPANY: COMED  
ACCOUNT NUMBER:

MODEL: 18  
FILE NAME: X:\p\g\des\2022\2822\1860\DOT\_PTB\_202402\_Vpn\18\_TSM\03\_TrafficSignalElectricalServiceRequirements.dgn



USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' = 1"	DRAWN - RG	REVISED -
PLOT DATE = 2/7/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

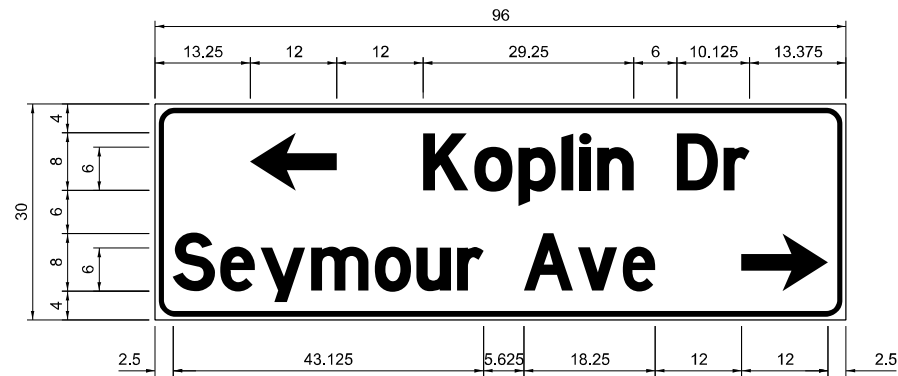
**CABLE PLAN, PHASE DESIGNATION DIAGRAM AND  
EMERGENCY VEHICLE PREEMPTION SEQUENCE  
ALGONQUIN RD AT KOLPIN DR / SEYMOUR AVE**

SCALE: SHEET OF SHEETS STA. TO STA.

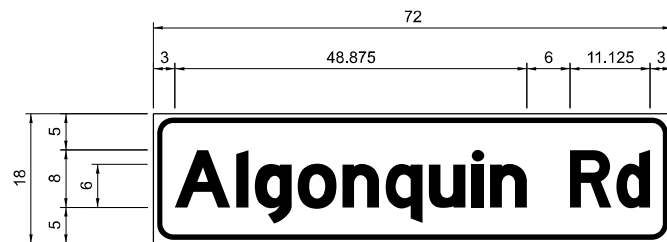
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	25
			CONTRACT NO. 62U46	
		ILLINOIS FED. AID PROJECT		

**TS 13005**

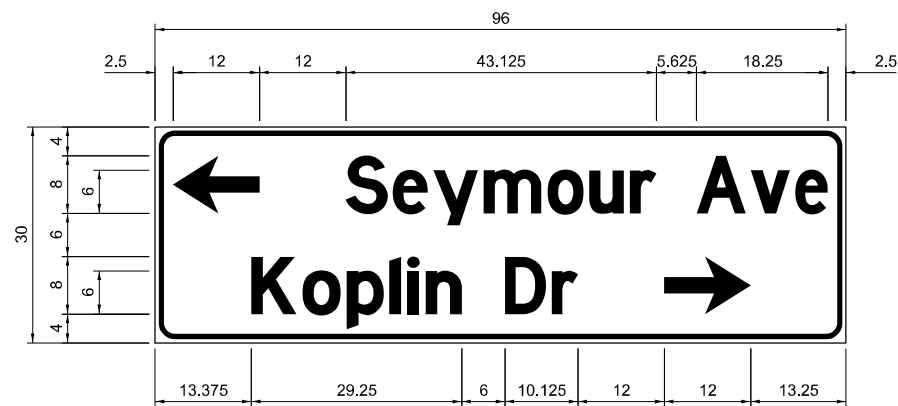
**SIGN PANEL DETAIL**



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	20	2	ZZ	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	9	1	ZZ	2



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	20	2	ZZ	1

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE.

NOTE:  
FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE  
DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGN DETAIL.

**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
SIGN PANEL - TYPE 1	SQ FT	18
SIGN PANEL - TYPE 2	SQ FT	40
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	542
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	106
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	207
HANDHOLE	EACH	1
HEAVY-DUTY HANDHOLE	EACH	2
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1045
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	985
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2190
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1PAIR	FOOT	725
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	450
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	3
STEEL MAST ARM ASSEMBLY AND POLE, 24 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.	EACH	2
CONCRETE FOUNDATION, TYPE A	FOOT	8
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	40
DRILL EXISTING HANDHOLE	EACH	13
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	8
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	2
DETECTOR LOOP, TYPE I	FOOT	61
RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
MODIFY EXISTING CONTROLLER	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1680
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	6
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	160
PEDESTRIAN SIGNAL POST, 10 FT.	EACH	2
ACCESSIBLE PEDESTRIAN SIGNALS	EACH	8
CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	8
TEMPORARY INFORMATION SIGNING	SQ FT	51.4

MODEL: 18\_TS\_10495  
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USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' / 1 in.	DRAWN - RG	REVISED -
PLOT DATE = 2/8/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAST ARM MOUNTED STREET NAME SIGNS  
AND SCHEDULE OF QUANTITIES  
ALGONQUIN RD AT KOLPIN DR /SEYMOUR AVE**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	26
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 13005**



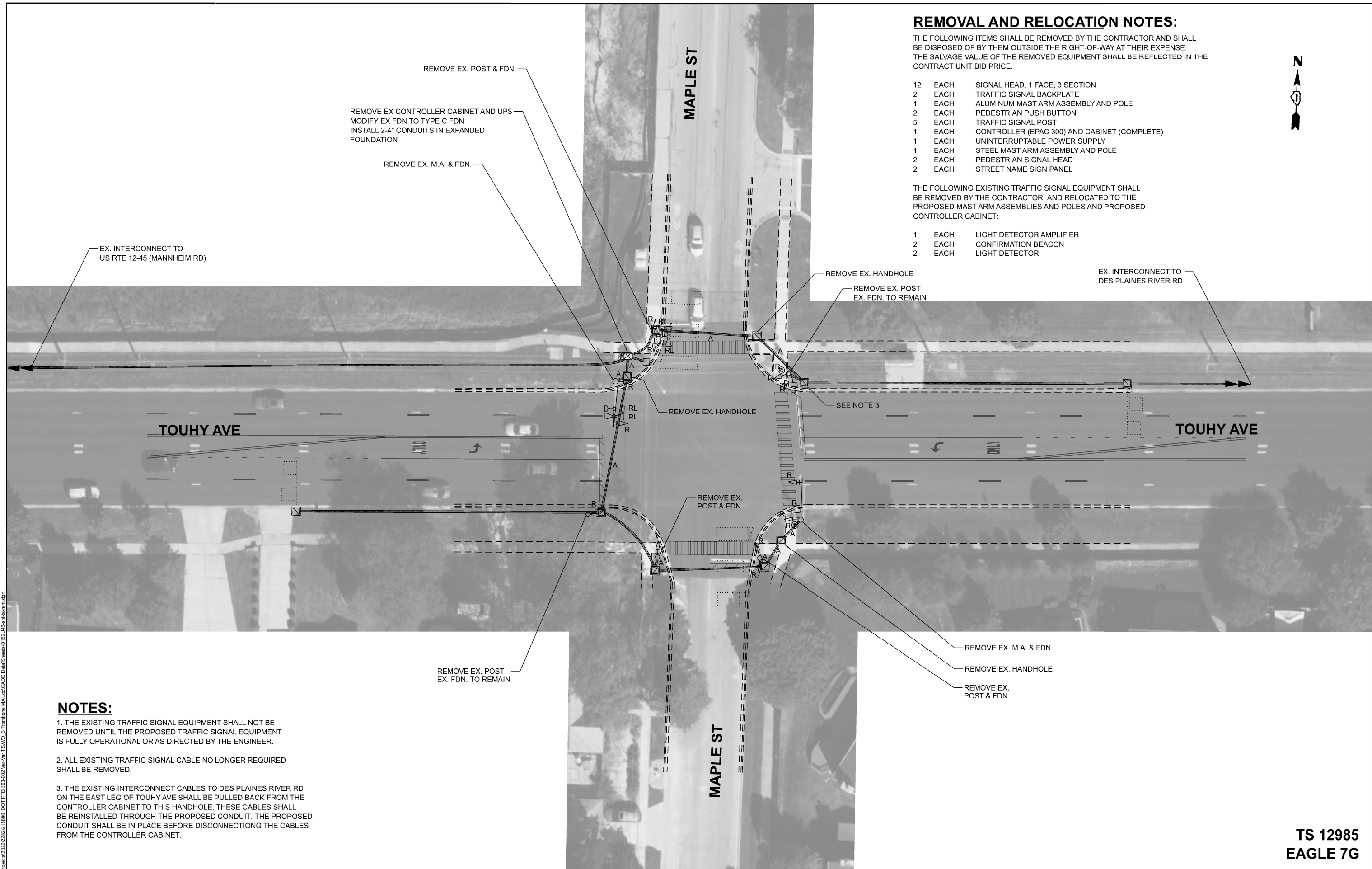
**REMOVAL AND RELOCATION NOTES:**

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 UNIT BID PRICE.

- 12 EACH SIGNAL HEAD, 1 FACE, 3 SECTION
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 2 EACH PEDESTRIAN PUSH BUTTON
- 5 EACH TRAFFIC SIGNAL POST
- 1 EACH CONTROLLER (EPAC 300) AND CABINET (COMPLETE)
- 1 EACH UNINTERRUPTABLE POWER SUPPLY
- 1 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH STREET NAME SIGN PANEL

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, AND RELOCATED TO THE PROPOSED MAST ARM ASSEMBLIES AND POLES AND PROPOSED CONTROLLER CABINET:

- 1 EACH LIGHT DETECTOR AMPLIFIER
- 2 EACH CONFIRMATION BEACON
- 2 EACH LIGHT DETECTOR



**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. THE EXISTING INTERCONNECT CABLES TO DES PLAINES RIVER RD ON THE EAST LEG OF TOUHY AVE SHALL BE PULLED BACK FROM THE CONTROLLER CABINET TO THIS HANDHOLE. THESE CABLES SHALL BE REINSTALLED THROUGH THE PROPOSED CONDUIT. THE PROPOSED CONDUIT SHALL BE IN PLACE BEFORE DISCONNECTING THE CABLES FROM THE CONTROLLER CABINET.

MODEL: I:\TS\_12985  
 FILE NAME: X:\Projects\2022\202218800\DOT\PTB\_202\2022\_Var\Var\_TSM2\_3\_Tombora.MAL\c:\cadd\DrawSheets\12985-ehs-rem.dgn



USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' / in	DRAWN - RG	REVISED -
PLOT DATE = 2/7/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

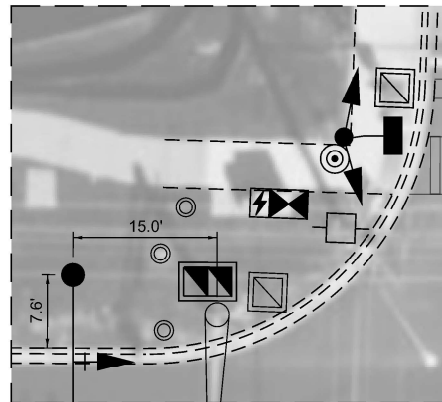
**REMOVAL PLAN  
TOUHY AVE AT MAPLE ST**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	27
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

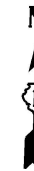
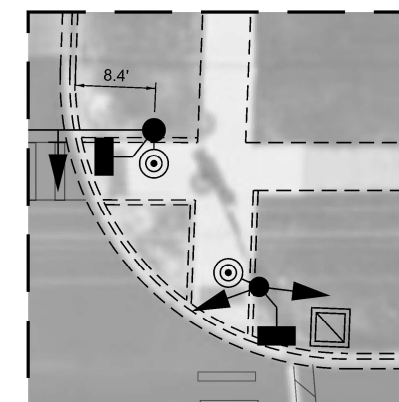
**TS 12985  
EAGLE 7G**



**DETAIL B**  
N.T.S.



**DETAIL C**  
N.T.S.



**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. ALL PROPOSED TRAFFIC SIGNAL CABLE SHALL BE ROUTED THROUGH THE PROPOSED CONDUIT.
4. ALL PROPOSED PUSH-BUTTONS SHALL BE APS.
5. THIS LOCATION HAS BEEN DESIGNED TO BE ADA COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE PEDESTRIAN POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO INSURE ADA COMPLIANCE.
6. THE SIDEWALK CURB IN THE NORTHEAST QUADRANT SHALL BE CUT SO THAT THE MAST ARM FOUNDATION IS FLUSH WITH THE EDGE OF THE SIDEWALK.

MAPLE ST

TOUHY AVE

TOUHY AVE

MAPLE ST

- DRILL EXISTING HANDHOLE (1)
- 7'-UC-3"
- PR. 16' POST
- 18'-E-2½"
- PROP. SUPER P CABINET  
MODIFY FDN TO TYPE C
- 15'-UC-2-4"
- SEE DETAIL B
- 13'-UC-3"
- 32' MA - 30" DIA FDN  
(13.5' DEPTH)
- 36'-UC-2"

- 30' M.A. - 30" DIA. FDN (13.5 DEPTH)  
SEE NOTE 6
- 29'-UC-3"
- PR. 16' POST ON EX. FDN
- 9'-E-1½"
- SEE DETAIL C
- DRILL EXISTING HANDHOLE (3)
- 140'-E-1¼"

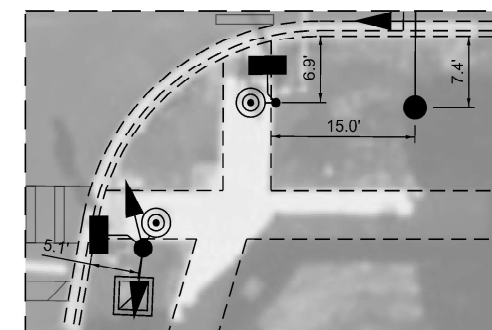
EX. INTERCONNECT TO  
DES PLAINES RIVER RD

EX INTERCONNECT TO  
US RTE 12-45 (MANNHEIM RD)

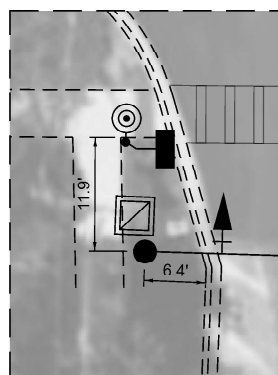
- PR. 16' POST ON EX. FDN
- DRILL EXISTING HANDHOLE (2)
- 39'-UC-4"
- 39'-E-2½"
- SEE DETAIL A
- PR. 10' PEDESTRIAN POST
- 8'-UC-2"
- DRILL EXISTING HANDHOLE (4)
- 4'-UC-3"
- 20' M.A. - 30" DIA. FDN (10' DEPTH)

- SEE DETAIL D
- 32' M.A. - 30" DIA. FDN  
(13.5' DEPTH)
- 35'-UC-3"
- PR. 10' PEDESTRIAN POST
- 25'-UC-2"
- DRILL EXISTING HANDHOLE (4)
- 5'-UC-3"
- 51'-UC-4"
- 51'-E-2½"

**DETAIL D**  
N.T.S.



**DETAIL A**  
N.T.S.



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN  
TOUHY AVE AT MAPLE ST

TS 12985  
EAGLE 7G

MODEL: 10 - TS 12985  
FILE NAME: X:\Projects\2022\2022118800 IDOT PTB 202202 Var-Var 1 TSM 2 - Tomhore MA.Loc.CADD Data\SheetD12U45-814-2022.dwg



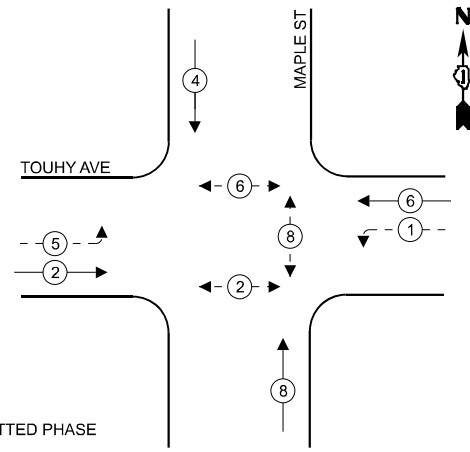
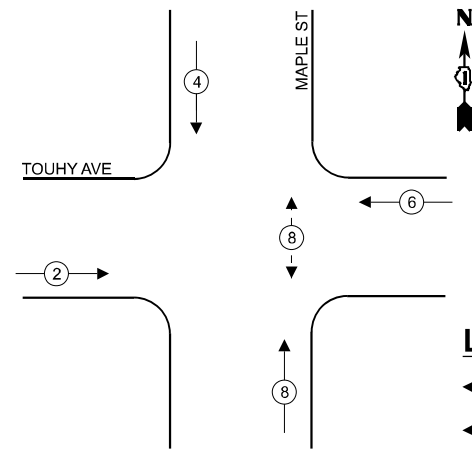
USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' / in	DRAWN - RG	REVISED -
PLOT DATE = 2/7/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	28
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**EXISTING CONTROLLER SEQUENCE**

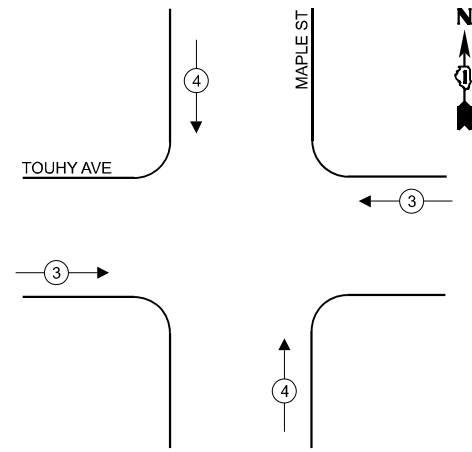
**PROPOSED CONTROLLER SEQUENCE**



**LEGEND**

- ← (with star) PROTECTED PHASE
- ← (with star and dashed line) PROTECTED/PERMITTED PHASE
- ← (with star and arrow) PEDESTRIAN PHASE
- ← (with star and OL) OVERLAP

**EXISTING EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



**TRAFFIC SIGNAL ELECTRICAL  
SERVICE REQUIREMENTS**

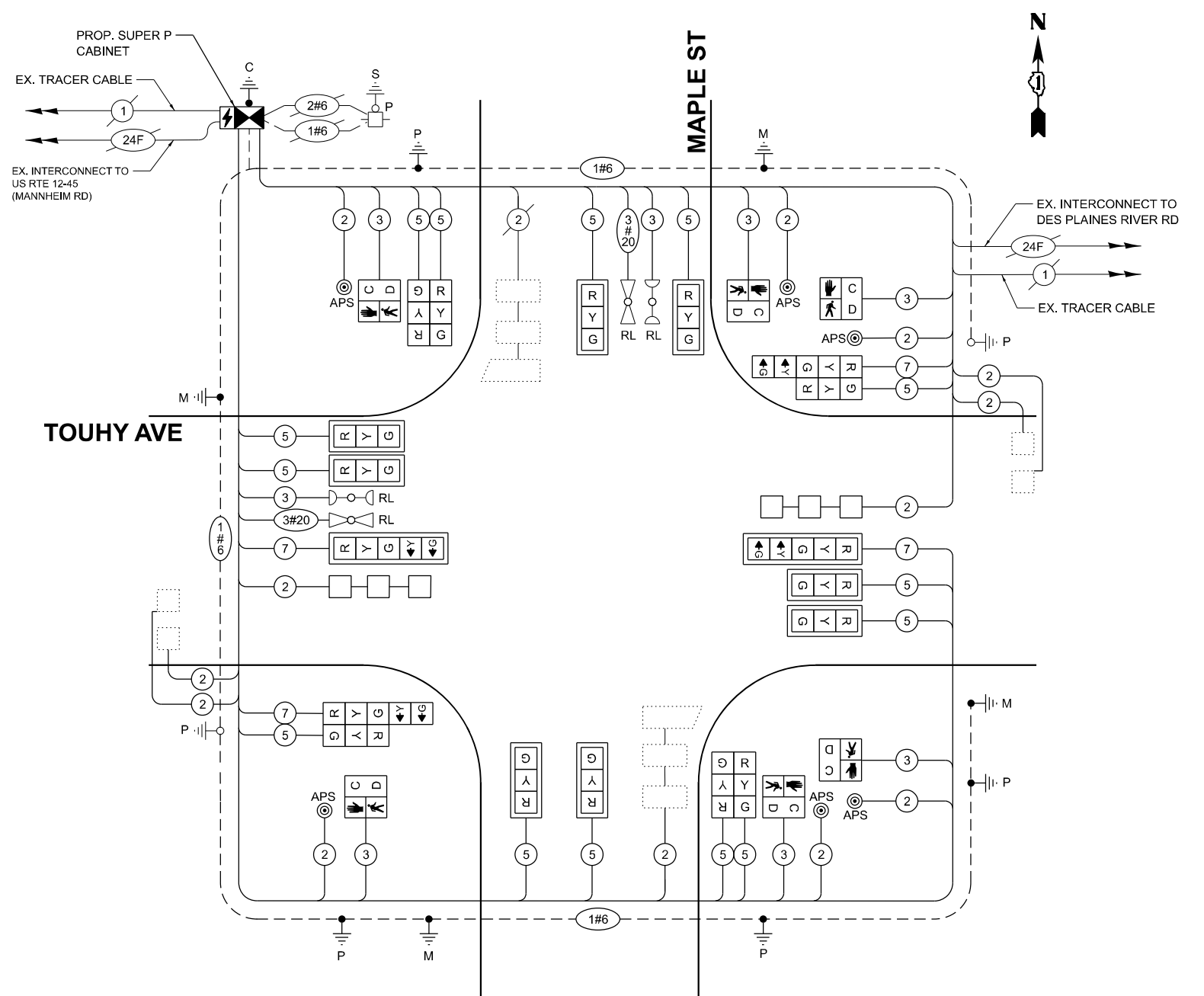
TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	18	11	50	99
(YELLOW)	18	20	5	18
(GREEN)	18	12	45	97.2
PERMISSIVE ARROW	8	10	10	8
PED. SIGNAL	6	20	100	120
CONTROLLER	1	100	100	100
UPS	1	25	100	25
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	250	50	-
PTZ CAMERA	-	75	100	-
TOTAL =				467.2

ENERGY COSTS TO:  
**CITY OF DES PLAINES**

1420 MINOR ST  
DES PLAINES, IL 60016

ENERGY SUPPLY: CONTACT: MR. DAVE SCHACHT  
PHONE: (630) 437-2129  
COMPANY: COMED  
ACCOUNT NUMBER:

**CABLE PLAN  
(NOT TO SCALE)**



MODEL: 1C  
 FILE NAME: X:\p\g\143\2022\2822\1880\DOT\_PTB\_202402\_Vpn\1c\_TSM\03\_TrafficSignalMkA\CADD\DrawSheets\1821\Utlr-hb-ec-hb.dgn



USER NAME = zhoerbert  
 PLOT SCALE = 40,000' = 1" = 1/4"  
 PLOT DATE = 2/7/2023

DESIGNED - ZH  
 DRAWN - RG  
 CHECKED - DW  
 DATE - 2/3/2023

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

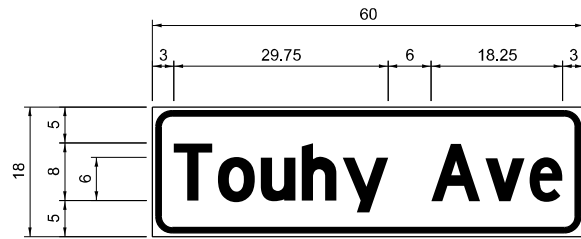
**CABLE PLAN, PHASE DESIGNATION DIAGRAM AND  
EMERGENCY VEHICLE PREEMPTION SEQUENCE  
TOUHY AVE AT MAPLE ST**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	29
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

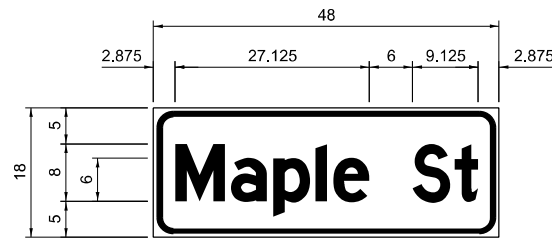
**TS 12985  
EAGLE 7G**

**SIGN PANEL DETAIL**



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	7.5	1	ZZ	2

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE.



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	6	1	ZZ	2

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE.

NOTE:  
FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION  
PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET  
NAME SIGN DETAIL.

**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
SIGN PANEL - TYPE 1	SQ FT	27
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	100
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	93
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	271
HEAVY-DUTY HANDHOLE	EACH	2
DOUBLE HANDHOLE	EACH	1
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	990
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1340
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2380
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	680
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1510
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	600
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	2
CONCRETE FOUNDATION, TYPE A	FOOT	8
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	50.5
DRILL EXISTING HANDHOLE	EACH	14
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	6
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	6
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	10
INDUCTIVE LOOP DETECTOR	EACH	8
DETECTOR LOOP, TYPE I	FOOT	204
RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1205
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	245
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	3
REMOVE EXISTING CONCRETE FOUNDATION	EACH	5
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	315
FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL)	EACH	1
PEDESTRIAN SIGNAL POST, 10 FT.	EACH	2
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
ACCESSIBLE PEDESTRIAN SIGNALS	EACH	6
CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	8
MODIFY EXISTING TYPE "D" FOUNDATION	EACH	1
TEMPORARY INFORMATION SIGNING	SQ FT	51.4
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1	EACH	1

MODEL: 10 - TS 12985  
FILE NAME: X:\p\3\30222222222222222222\18801\DOT\_PTB\_202402\_Vpn\47\_TSI\WO\_3\_Trombone\_MA\_Loc\CADD\Draws\Sheet\182\Ush\ts-hc-hd-jms.dgn



USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' = 1"	DRAWN - RG	REVISED -
PLOT DATE = 2/1/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAST ARM MOUNTED STREET NAME SIGNS  
AND SCHEDULE OF QUANTITIES  
TOUHY AVE AT MAPLE ST**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	30
			CONTRACT NO. 62U46	
		ILLINOIS	FED. AID PROJECT	

**TS 12985  
EAGLE 7G**



MATCHLINE A-A



US RTE 45  
(DES PLAINES RIVER RD)

REMOVE EX. M.A. & FDN.

REMOVE EX. M.A. & FDN.

CENTRAL RD

CENTRAL RD

MATCHLINE B-B

REMOVE EX. HANDHOLE

REM. AND REPL. BATTERIES FOR UPS

REMOVE EX. M.A. & FDN.

REMOVE EX. POST & FDN.

US RTE 45  
(DES PLAINES RIVER RD)

MATCHLINE C-C

**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.

**REMOVAL AND RELOCATION NOTES:**

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 UNIT BID PRICE.

- 6 EACH SIGNAL HEAD, 1 FACE, 3 SECTION
- 8 EACH SIGNAL HEAD, 1 FACE, 5 SECTION
- 6 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 1 EACH CONTROLLER (ASC/2S-1000)
- 1 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 4 EACH STREET NAME SIGN PANEL

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, AND RELOCATED TO THE PROPOSED MAST ARM ASSEMBLIES AND POLES AND CONTROLLER CABINET:

- 1 EACH CONFIRMATION BEACON
- 1 EACH LIGHT DETECTOR
- 1 EACH RADAR DETECTOR

TS 1675  
ECON 166

MODEL: I:\TS 1675  
FILE NAME: X:\Projects\2022\202218800\DOT\PTB\_2022\2022\_Var\Var\_TSM\03\_Tombora\_MAL\CC\CADD\Drawn\Sheet\01212146-sh16-rem.dgn



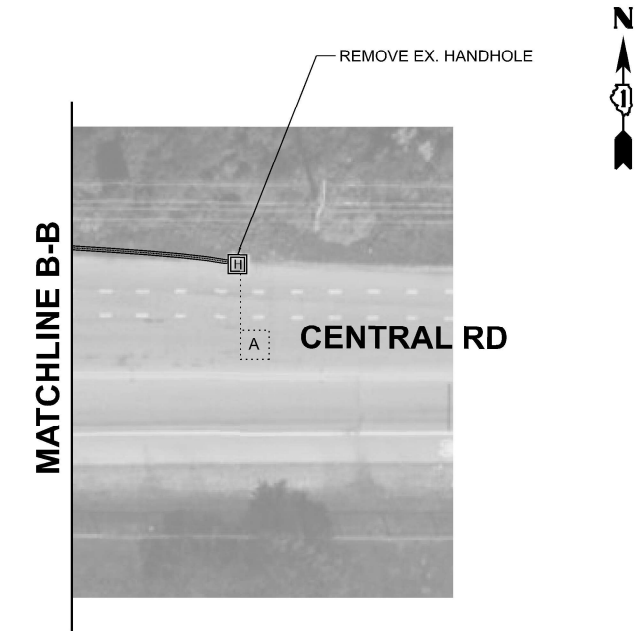
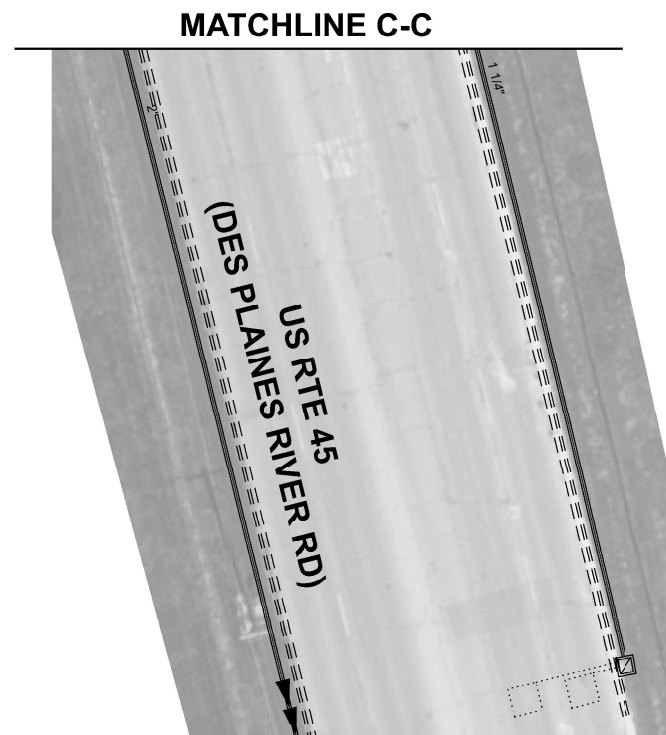
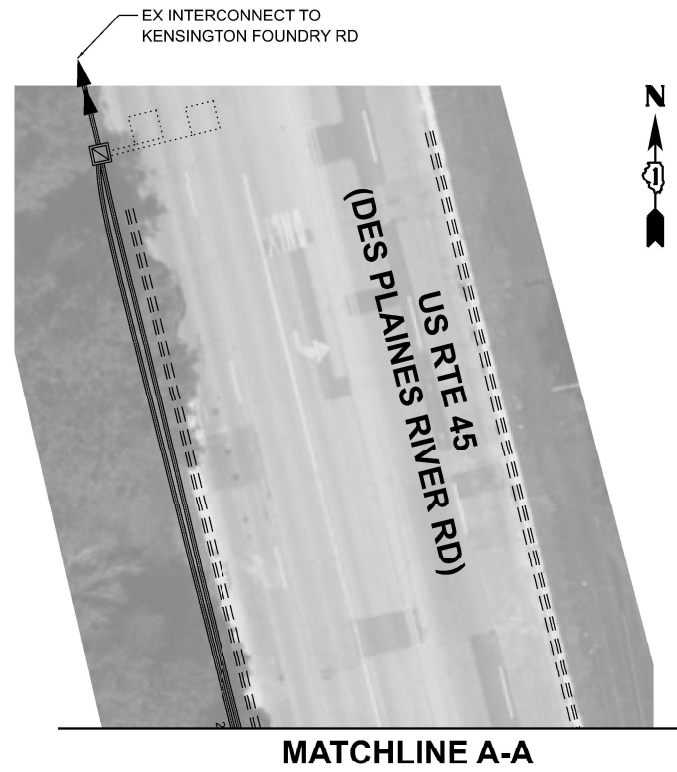
USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
	DRAWN - RG	REVISED -
PLOT SCALE = 40,000' / 1"	CHECKED - DW	REVISED -
PLOT DATE = 2/7/2023	DATE - 2/3/2023	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REMOVAL PLAN (SHEET 1 OF 2)  
US RTE 45 (DES PLAINES RIVER RD) AT CENTRAL RD

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	31
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62U46	



**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.

MODEL: I:\\_TS\_1675  
 FILE NAME: X:\p022\2022\2022\18800\DOT\PTB\_202\2022\_Var-Var\_TSM\DOT\_3\_Tombora\_MAL\CC\CADD\DrawSheets\212\212\48\48\ts-rem.dgn



USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
	DRAWN - RG	REVISED -
PLOT SCALE = 40,000' / in	CHECKED - DW	REVISED -
PLOT DATE = 2/7/2023	DATE - 2/3/2023	REVISED -

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

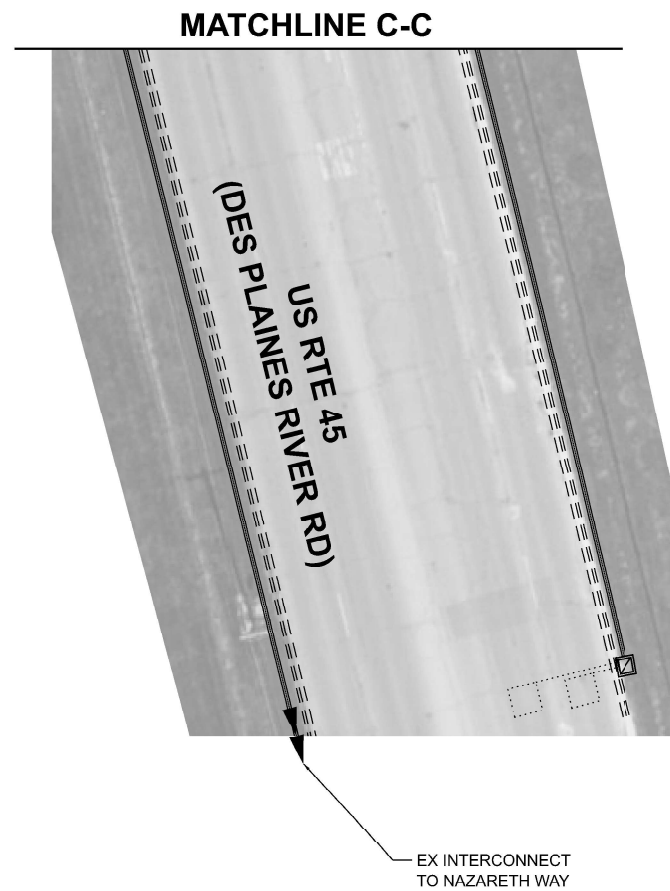
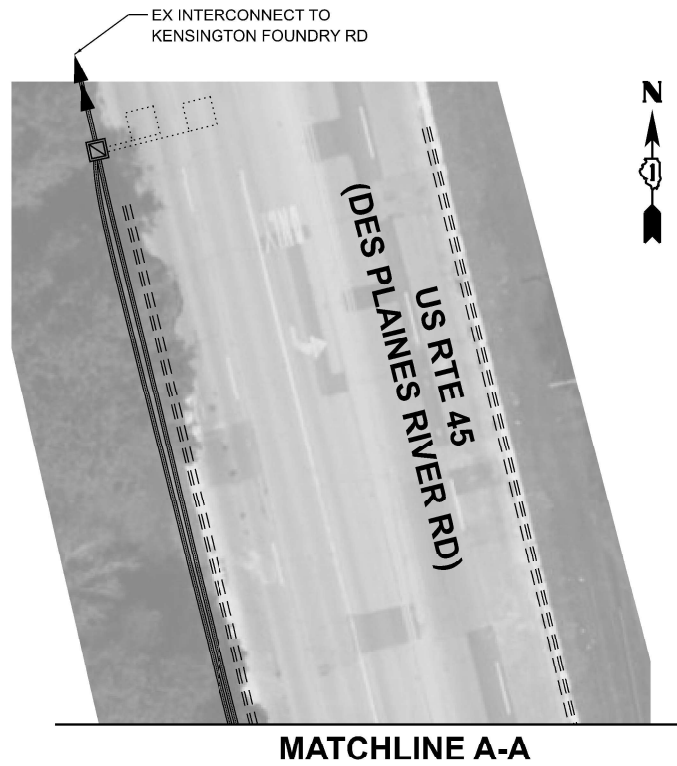
<b>REMOVAL PLAN (SHEET 2 OF 2)</b> <b>US RTE 45 (DES PLAINES RIVER RD) AT CENTRAL RD</b>			
SCALE:	SHEET	OF	SHEETS
	STA.	TO	STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	32
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 1675**  
**ECON 166**







**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. ALL PROPOSED TRAFFIC SIGNAL CABLE SHALL BE ROUTED THROUGH THE PROPOSED CONDUIT.

MODEL: I:\\_TS 1675  
 FILE NAME: X:\projects\2022\202218800\DOT\PTB\_203\2022\_Var\Var\_TSM\DOT\_CADD\Drawn\Sheet\2022\18800\18800\_02.dwg



USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
	DRAWN - RG	REVISED -
PLOT SCALE = 40,000' / in	CHECKED - DW	REVISED -
PLOT DATE = 2/7/2023	DATE - 2/3/2023	REVISED -

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

**TRAFFIC SIGNAL MODERNIZATION PLAN (SHEET 2 OF 2)**  
**US RTE 45 (DES PLAINES RIVER RD) AT CENTRAL RD**

SCALE: SHEET OF SHEETS STA. TO STA.

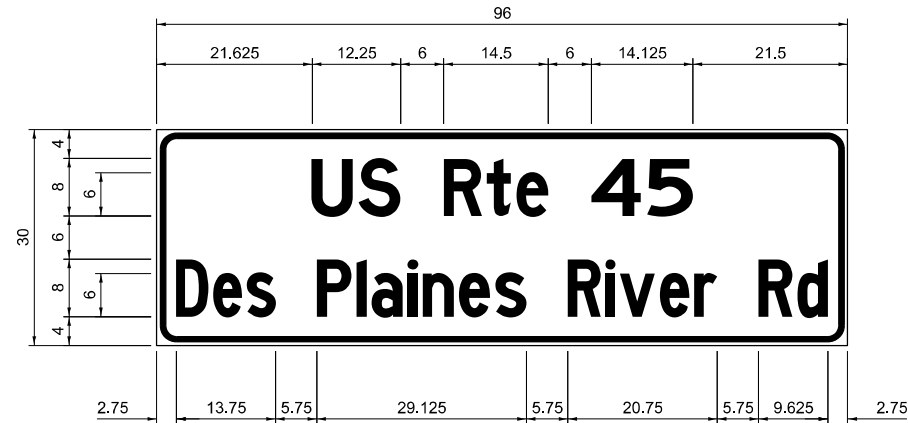
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	34
			CONTRACT NO. 62U46	
		ILLINOIS	FED. AID PROJECT	

**TS 1675**  
**ECON 166**



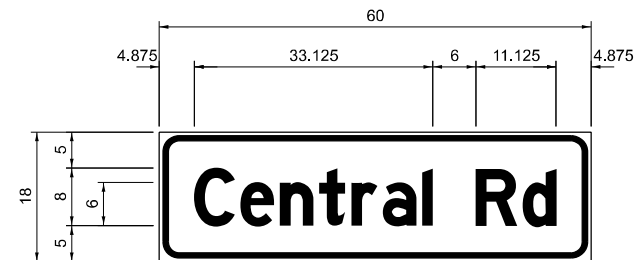


**SIGN PANEL DETAIL**



DESIGN SERIES	TEXT	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	US Rte 45	20	2	ZZ	2
C	Des Plaines River Rd				

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE.



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	7.5	2	ZZ	2

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE.

NOTE:  
FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION  
PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET  
NAME SIGN DETAIL.

**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
SIGN PANEL - TYPE 1	SQ FT	15
SIGN PANEL - TYPE 2	SQ FT	40
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	85
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	315
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	100
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1970
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1095
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	525
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2
CONCRETE FOUNDATION, TYPE A	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	40.5
DRILL EXISTING HANDHOLE	EACH	14
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	6
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	10
RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1825
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	2
REMOVE EXISTING CONCRETE FOUNDATION	EACH	4
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	100
REMOVE AND REPLACE BATTERIES FOR UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1
TEMPORARY INFORMATION SIGNING	SQ FT	51.4

MODEL: 10 - TS 1675  
FILE NAME: X:\projects\2022\2822\1880\DOT\PTB\202402\plan\47\_TSI\WO\_3\_Tombora\MA\cadd\DrawSheets\182\Udr\ts-hcb-hcb\signs.dgn



USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' = 1"	DRAWN - RG	REVISED -
PLOT DATE = 2/7/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAST ARM MOUNTED STREET NAME SIGNS  
AND SCHEDULE OF QUANTITIES  
US RTE 45 (DES PLAINES RIVER RD) AT CENTRAL RD**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	36
			CONTRACT NO. 62U46	
		ILLINOIS FED. AID PROJECT		

**TS 1675  
ECON 166**

**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. CONTRACT 62N53 IS INSTALLING PAVEMENT MARKINGS, ADA IMPROVEMENTS, APS PUSH BUTTONS AND PEDESTRIAN SIGNAL HEADS WITH COUNTDOWN TIMERS SHOWN AS EXISTING IN THESE PLANS. THE CONTRACTOR SHALL COORDINATE PROPOSED IMPROVEMENTS WITH CONTRACT 62N53.

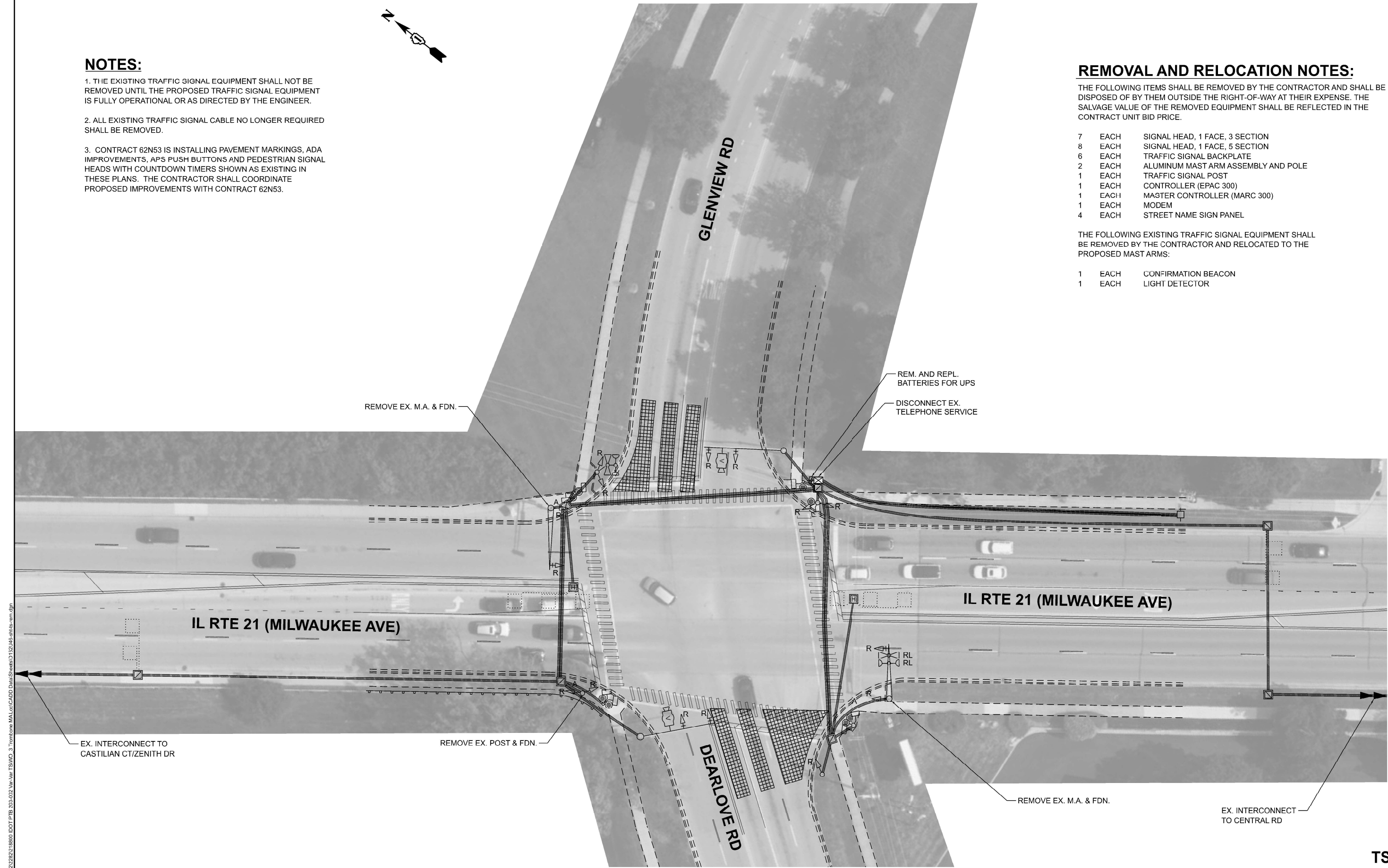
**REMOVAL AND RELOCATION NOTES:**

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 UNIT BID PRICE.

- 7 EACH SIGNAL HEAD, 1 FACE, 3 SECTION
- 8 EACH SIGNAL HEAD, 1 FACE, 5 SECTION
- 6 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 1 EACH TRAFFIC SIGNAL POST
- 1 EACH CONTROLLER (EPAC 300)
- 1 EACH MASTER CONTROLLER (MARC 300)
- 1 EACH MODEM
- 4 EACH STREET NAME SIGN PANEL

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND RELOCATED TO THE PROPOSED MAST ARMS:

- 1 EACH CONFIRMATION BEACON
- 1 EACH LIGHT DETECTOR



MODEL: ILS - TS 2010  
 FILE NAME: X:\projects\2022\202218800\DOT\PTB\2022\2022 Var - Var 1 TSM\DOT\_3\_Tombora\_MAL\CC\CADD\DrawSheets\2022\2022-2022-2022.dgn

**TS 2010  
EAGLE 7H**



USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
DRAWN - RG	REVISED -	
PLOT SCALE = 40,000' / in	CHECKED - DW	REVISED -
PLOT DATE = 2/8/2023	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**REMOVAL PLAN  
IL RTE 21 (MILWAUKEE AVE) AT DEARLOVE RD /GLENVIEW RD**

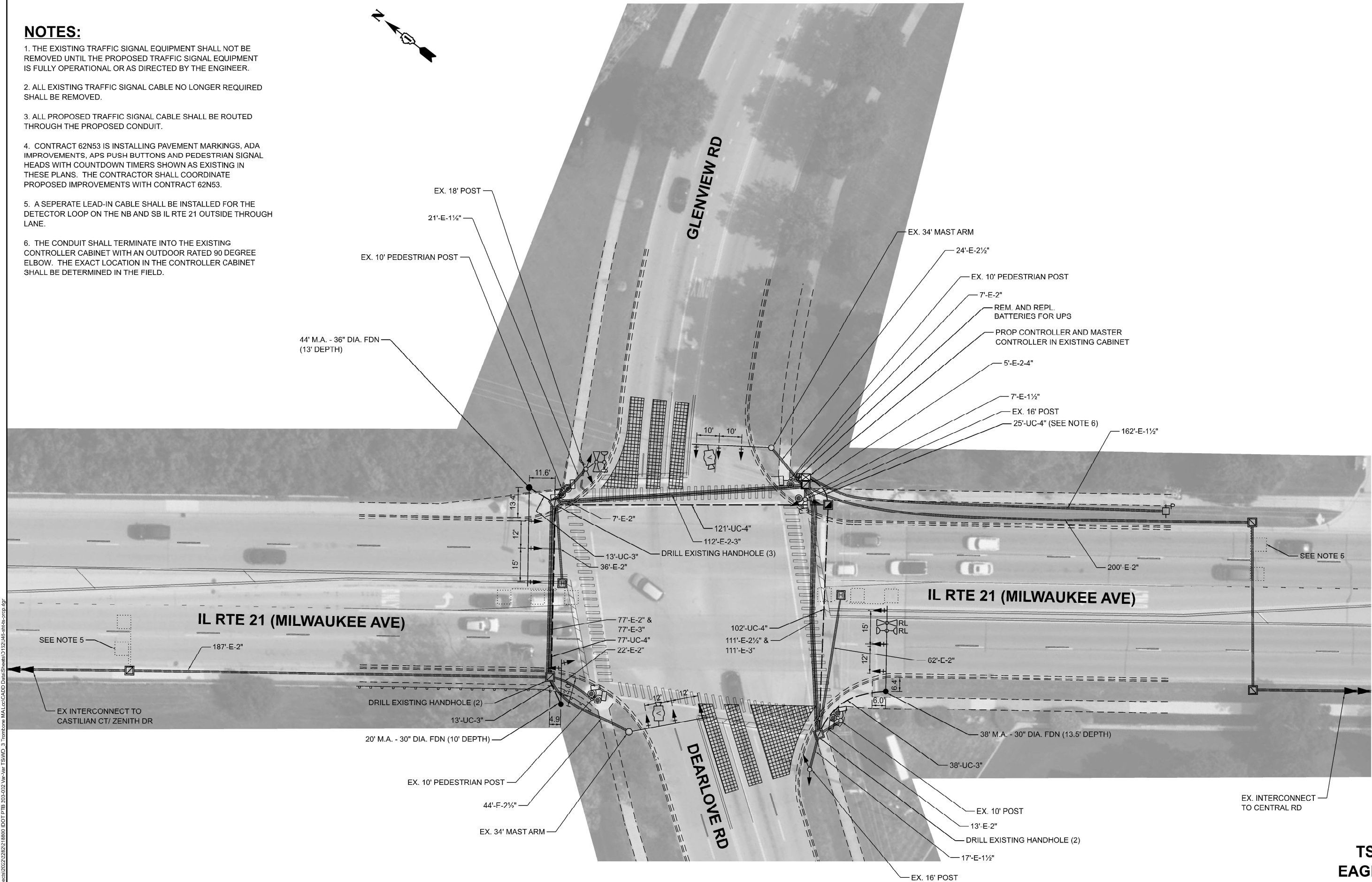
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	37
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. TO STA.



**NOTES:**

1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. ALL PROPOSED TRAFFIC SIGNAL CABLE SHALL BE ROUTED THROUGH THE PROPOSED CONDUIT.
4. CONTRACT 62N53 IS INSTALLING PAVEMENT MARKINGS, ADA IMPROVEMENTS, APS PUSH BUTTONS AND PEDESTRIAN SIGNAL HEADS WITH COUNTDOWN TIMERS SHOWN AS EXISTING IN THESE PLANS. THE CONTRACTOR SHALL COORDINATE PROPOSED IMPROVEMENTS WITH CONTRACT 62N53.
5. A SEPERATE LEAD-IN CABLE SHALL BE INSTALLED FOR THE DETECTOR LOOP ON THE NB AND SB IL RTE 21 OUTSIDE THROUGH LANE.
6. THE CONDUIT SHALL TERMINATE INTO THE EXISTING CONTROLLER CABINET WITH AN OUTDOOR RATED 90 DEGREE ELBOW. THE EXACT LOCATION IN THE CONTROLLER CABINET SHALL BE DETERMINED IN THE FIELD.



**TS 2010  
EAGLE 7H**

MODEL: ILS - 'S 2010  
 FILE NAME: X:\projects\2022\202218800\DOT\PTB\2022\2022 Var - Jct TSM\03\_Tombora\_MAL\cadd\DrawSheets\2022\2022-08-15-2022.dwg



USER NAME - zhoerbert	DESIGNED - ZH	REVISED -
DRAWN - RG	REVISED -	
CHECKED - DW	REVISED -	
DATE - 2/3/2023	REVISED -	

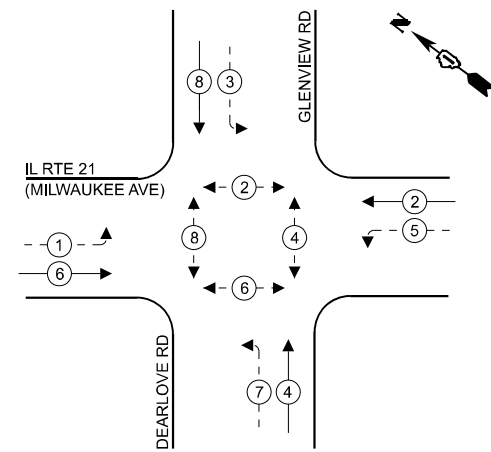
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODERNIZATION PLAN  
IL RTE 21 (MILWAUKEE AVE) AT DEARLOVE RD / GLENVIEW RD**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	38
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. TO STA.

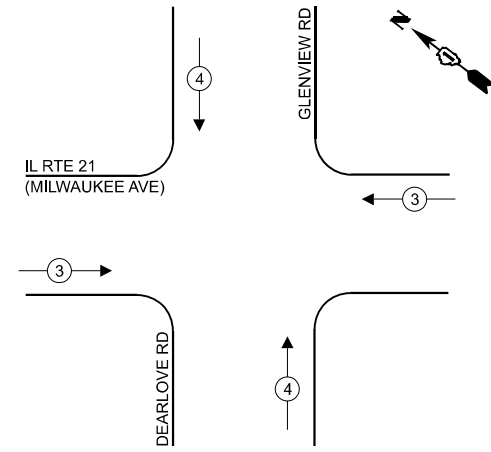
### EXISTING CONTROLLER SEQUENCE



### LEGEND

- ← (⊛) ← PROTECTED PHASE
- ← (⊛) ← PROTECTED/PERMITTED PHASE
- ← (⊛) → PEDESTRIAN PHASE
- ← (⊛) OL OVERLAP

### EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE

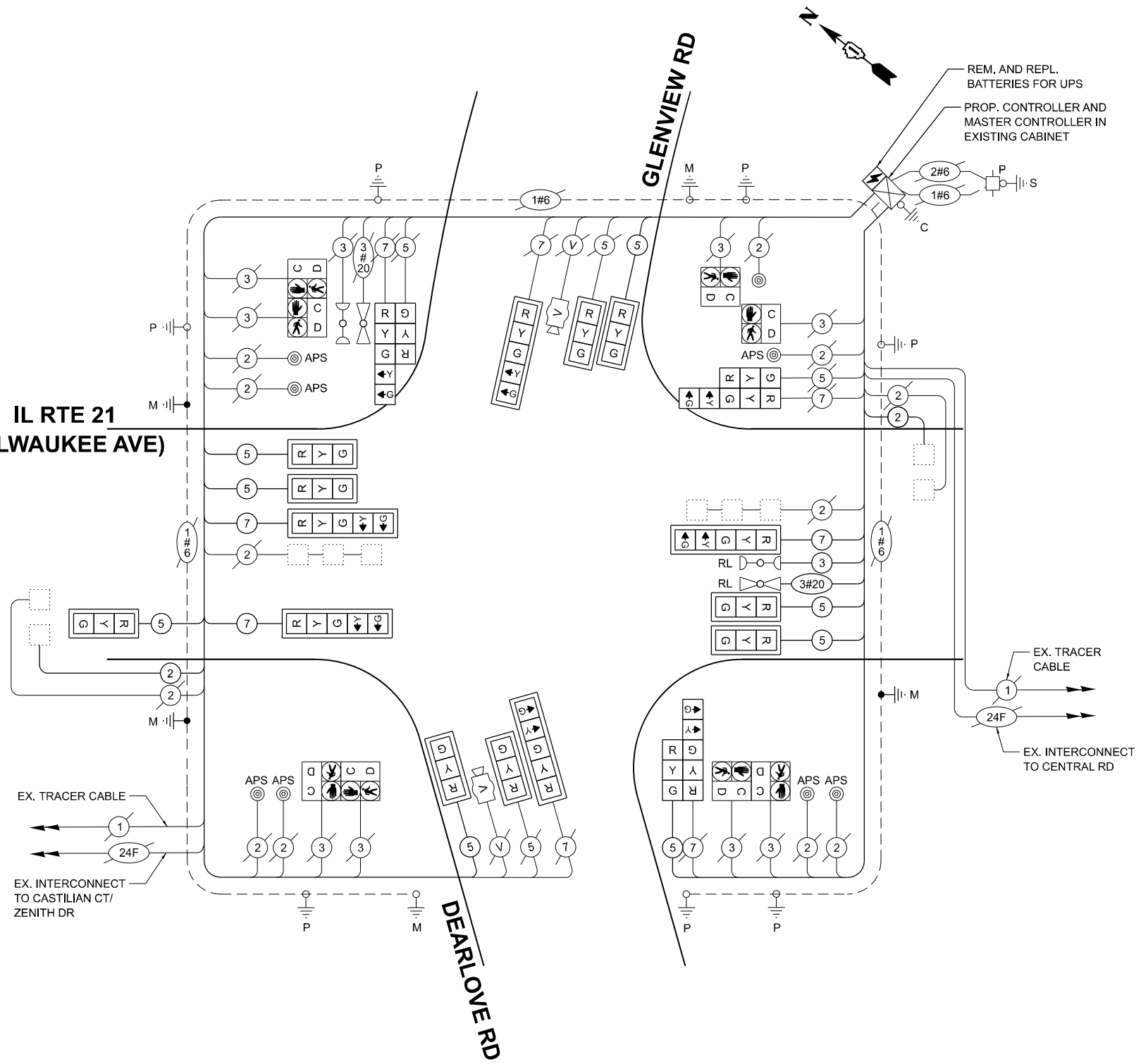


### TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	20	11	50	110
(YELLOW)	20	20	5	20
(GREEN)	20	12	45	108
PERMISSIVE ARROW	16	10	10	16
PED. SIGNAL	8	20	100	160
CONTROLLER	2	100	100	200
UPS	1	25	100	25
VIDEO SYSTEM	1	150	100	150
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	250	50	-
PTZ CAMERA	-	75	100	-
TOTAL =				789

ENERGY COSTS TO:  
**VILLAGE OF GLENVIEW**  
 1225 WAUKEGAN RD  
 GLENVIEW, IL 60025  
 ENERGY SUPPLY: CONTACT: MR. TERRI BLECK  
 PHONE: (847)-816-5239  
 COMPANY: COMED  
 ACCOUNT NUMBER:

### IL RTE 21 (MILWAUKEE AVE)



**CABLE PLAN**  
(NOT TO SCALE)

MODEL: IFE  
 FILE NAME: X:\p\g\as\2022\2822\1860\DOT\_PTB\_202402\_Vpn\27\_TSM\03\_TrafficSignalElectricalServiceRequirements.dgn



USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
DRAWN - RG	REVISED -	
PLOT SCALE = 40,000' / 1 in.	CHECKED - DW	REVISED -
PLOT DATE = 2/7/2023	DATE - 2/3/2023	REVISED -

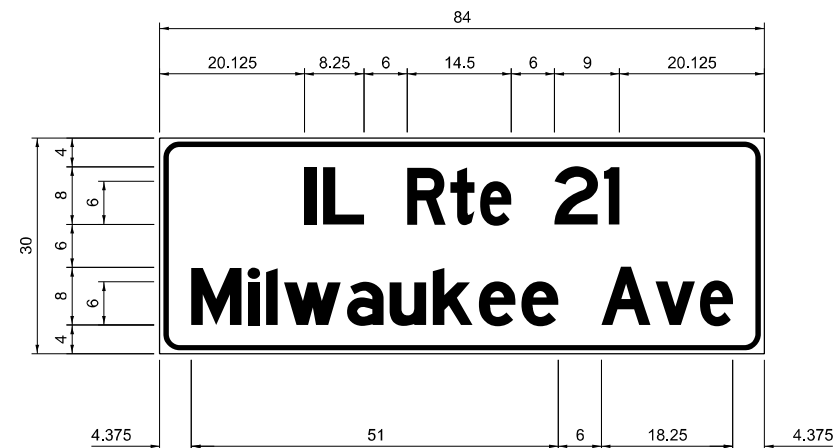
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CABLE PLAN, PHASE DESIGNATION DIAGRAM AND  
 EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 IL RTE 21 (MILWAUKEE AVE) AT DEARLOVE RD / GLENVIEW RD**

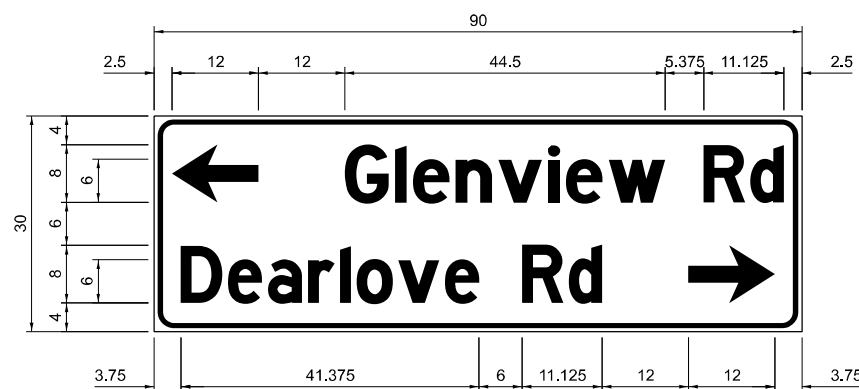
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	39
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 2010  
 EAGLE 7H**

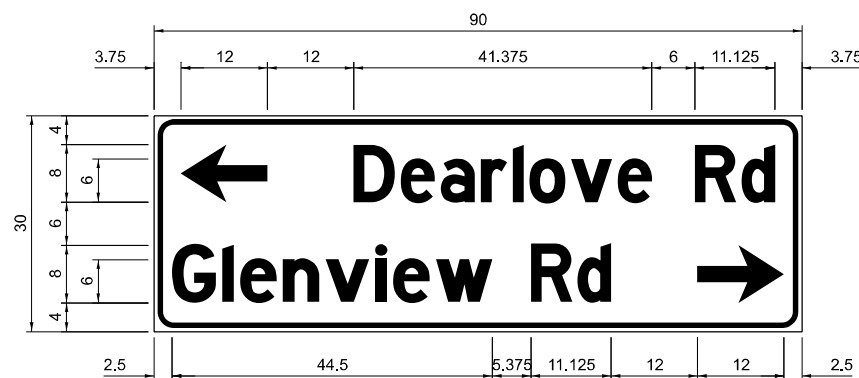
**SIGN PANEL DETAIL**



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	17.5	2	ZZ	2



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	18.75	2	ZZ	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	18.75	2	ZZ	1

NOTE:  
FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION  
PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET  
NAME SIGN DETAIL.

**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
SIGN PANEL - TYPE 2	SQ FT	72.5
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	64
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	325
HANDHOLE	EACH	1
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	245
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1790
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	800
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	665
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	470
STEEL MAST ARM ASSEMBLY AND POLE, 20 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	23.5
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13
DRILL EXISTING HANDHOLE	EACH	7
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	9
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	5
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	14
RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1085
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	3
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	245
CELLULAR MODEM	EACH	1
FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
MASTER CONTROLLER (SPECIAL)	EACH	1
REMOVE AND REPLACE BATTERIES FOR UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1
TEMPORARY INFORMATION SIGNING	SQ FT	51.4

MODEL: TS 2010  
FILE NAME: X:\p03\2022\2822\1880\DOT\_PTB\_202402\_Vpn\47\_TSI\WO\_3\_Trombone\_MA\_Loc\CADD Data\Sheet\1821\Ude\ts-hc-boljms.dgn



USER NAME = zhoerbert	DESIGNED - ZH	REVISED -
PLOT SCALE = 40,000' = 1"	DRAWN - RG	REVISED -
PLOT DATE = 2/7/2023	CHECKED - DW	REVISED -
	DATE - 2/3/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAST ARM MOUNTED STREET NAME SIGNS  
AND SCHEDULE OF QUANTITIES  
IL RTE 21 (MILWAUKEE AVE) AT DEARLOVE RD /GLENVIEW RD**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	40
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 2010  
EAGLE 7H**





MATCH LINE STA 86+50  
SEE SHEET 2 OF 2

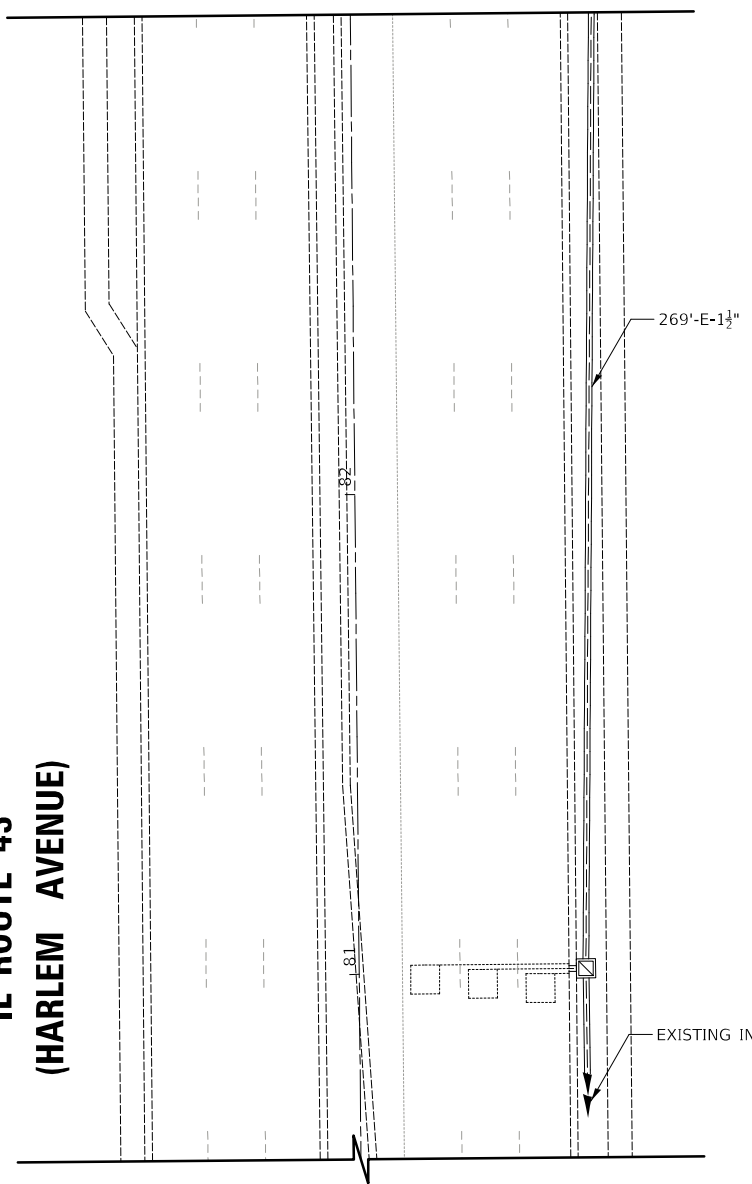
**REMOVAL AND RELOCATION NOTES:**

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 STEEL MAST ARM ASSEMBLY AND POLE
- 1 EACH TRAFFIC SIGNAL POST
- 1 EACH PEDESTRIAN PUSH-BUTTON POST
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 2 EACH PEDESTRIAN SIGNAL HEAD
- 9 EACH 3-SECTION SIGNAL HEAD
- 2 EACH 5-SECTION SIGNAL HEAD
- 3 EACH SIGNAL BACKPLATES
- 1 EACH STREET NAME SIGN PANEL (25TH ST)

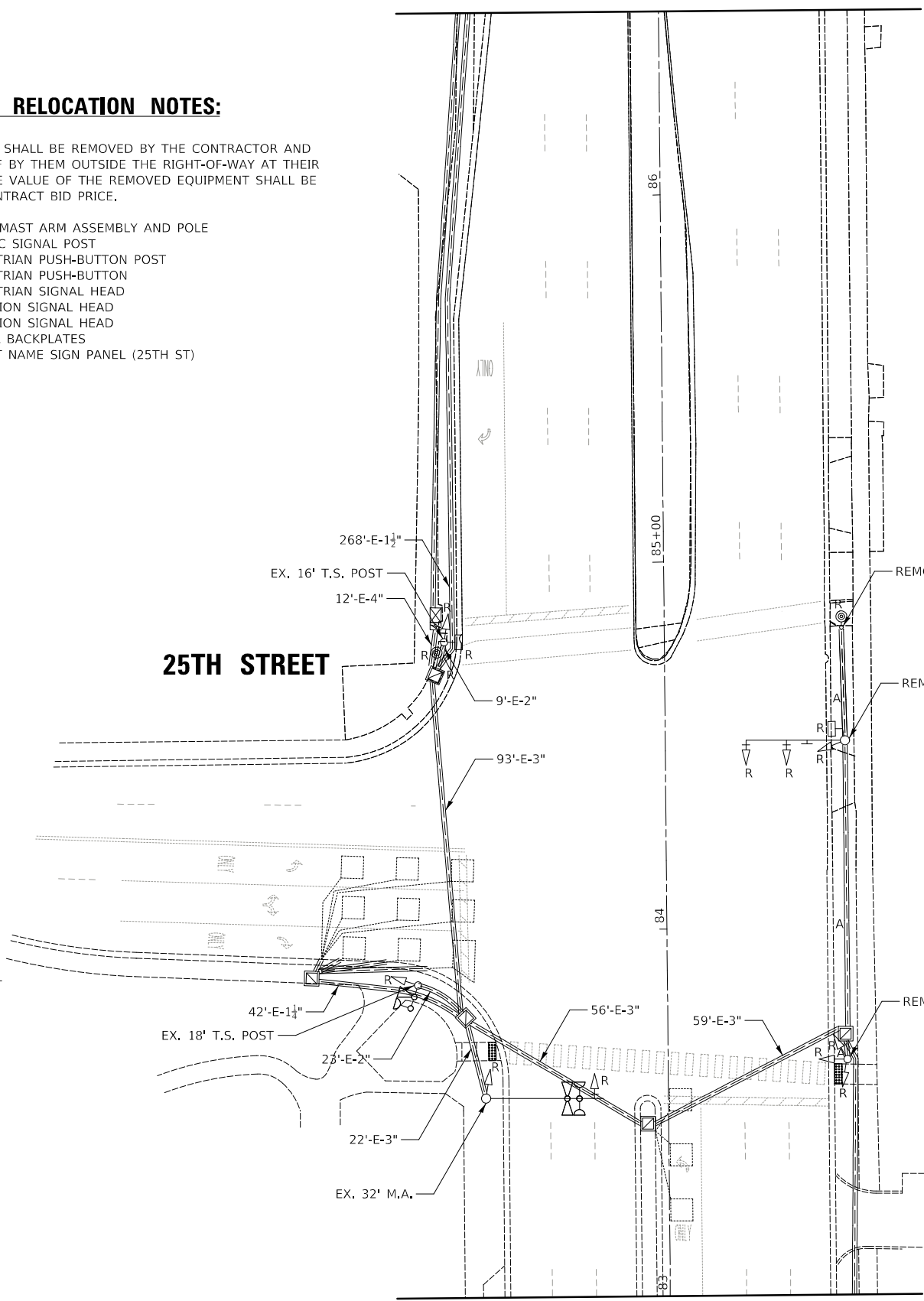
MATCH LINE  
SEE RIGHT

**IL ROUTE 43  
(HARLEM AVENUE)**



**25TH STREET**

**IL ROUTE 43  
(HARLEM AVENUE)**



MATCH LINE  
SEE LEFT

PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	NOT CHECKED	
	RT. OF WAY CHECKED	
	CADD FILE NAME	

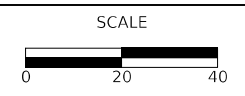
PROFILE	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	NOT CHECKED	
	RT. OF WAY CHECKED	
	STRUCTURE NOTATIONS CHECKED	



Two Pierce Place, Suite 1400  
Itasca, Illinois 60143  
Tel: 630.773.3900 Fax: 630.773.3975  
www.civiltechinc.com

DESIGNED	-	JMG	REVISED	-
DRAWN	-	JMG	REVISED	-
CHECKED	-	JJE	REVISED	-
DATE	-	1/9/2023	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**



**REMOVAL PLAN (SHEET 1 OF 2)  
IL ROUTE 43 (HARLEM AVENUE) AND 25TH STREET**

SHEET 1 OF 2 SHEETS STA. 85+00.00 TO STA. 86+50.00

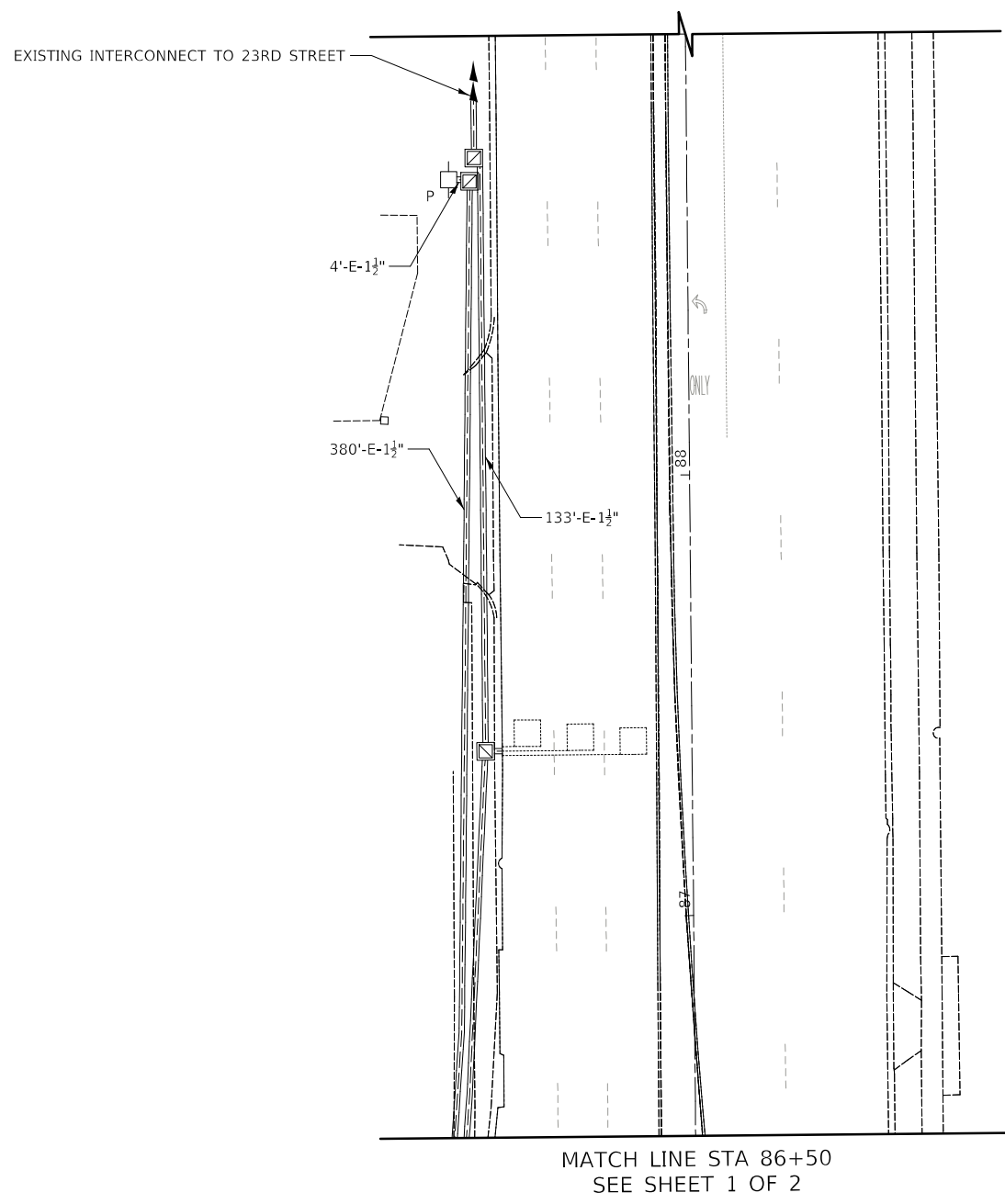
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	41
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 2120  
ECON 30**



PLAN	SURVEYED	DATE
	PLOTTED CHECKED RT. OF WAY CHECKED CADD FILE NAME	
	NOTE BOOK NO.	

PROFILE	SURVEYED	DATE
	PLOTTED CHECKED RM. NOTED STRUCTURE NOTATION CPKD	
	NOTE BOOK NO.	



**IL ROUTE 43  
(HARLEM AVENUE)**

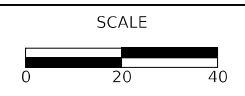
**TS 2120  
ECON 30**



Two Pierce Place, Suite 1400  
Itasca, Illinois 60143  
Tel: 630.773.3900 Fax: 630.773.3975  
www.civiltechinc.com

DESIGNED - JMG	REVISED -
DRAWN - JMG	REVISED -
CHECKED - JJE	REVISED -
DATE - 1/9/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**



**REMOVAL PLAN (SHEET 2 OF 2)  
IL ROUTE 43 (HARLEM AVENUE) AND 25TH STREET**

SHEET 2 OF 2 SHEETS	STA. 86+50.00 TO STA. 89+00.00
---------------------	--------------------------------

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	42
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				





**NOTES:**

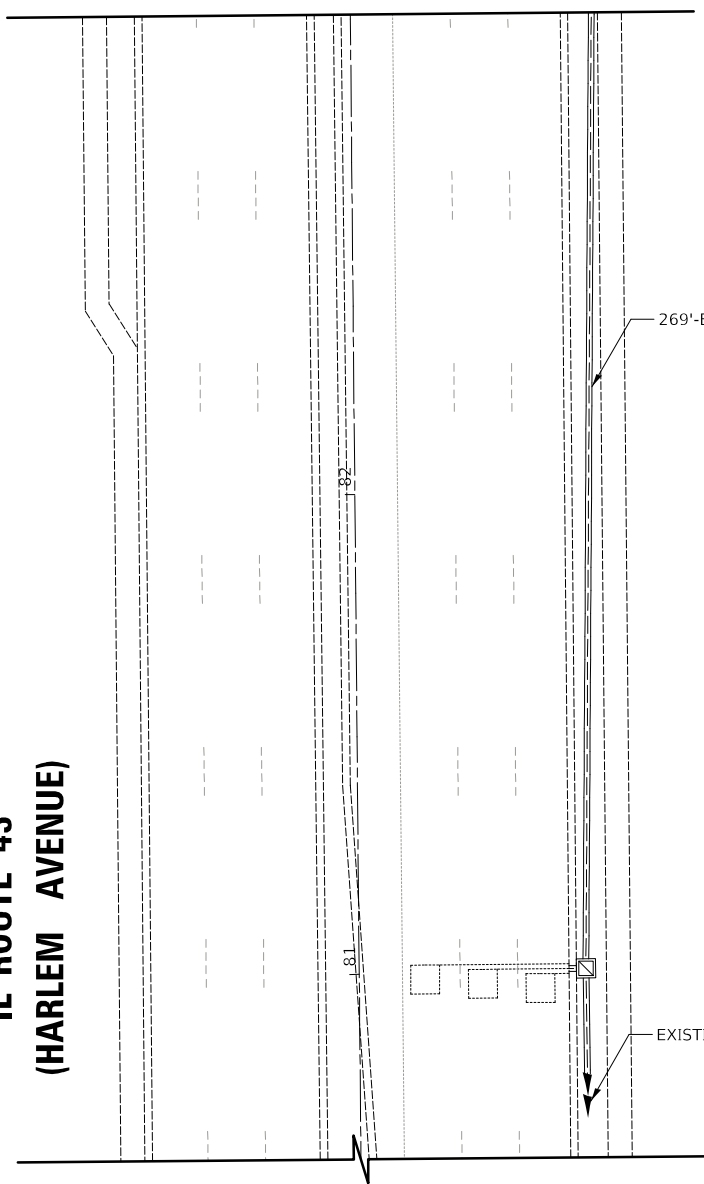
1. THE EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL NOT BE REMOVED UNTIL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT IS FULLY OPERATIONAL OR AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL CABLE NO LONGER REQUIRED SHALL BE REMOVED.
3. ALL PROPOSED TRAFFIC SIGNAL CABLE SHALL BE ROUTED THROUGH THE PROPOSED CONDUIT.
4. ALL PROPOSED PUSH-BUTTONS SHALL BE APS.
5. THIS LOCATION HAS BEEN DESIGNED TO BE ADA COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE TRAFFIC SIGNAL POSTS AND MAST ARMS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO ENSURE ADA COMPLIANCE.
6. THE CONDUIT SHALL TERMINATE INTO THE EXISTING CONTROLLER CABINET WITH AN OUTDOOR RATED 90 DEGREE ELBOW. THE EXACT LOCATION IN THE CONTROLLER CABINET SHALL BE DETERMINED IN THE FIELD.

PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	
ID.	NOT CHECKED	
	RT. OF WAY CHECKED	
	CADD FILE NAME	

PROFILE	SURVEYED	DATE
NOTE BOOK	PLOTTED	
ID.	NOT CHECKED	
	RT. OF WAY CHECKED	
	STRUCTURE NOTATIONS CPKD	

MATCH LINE  
SEE RIGHT

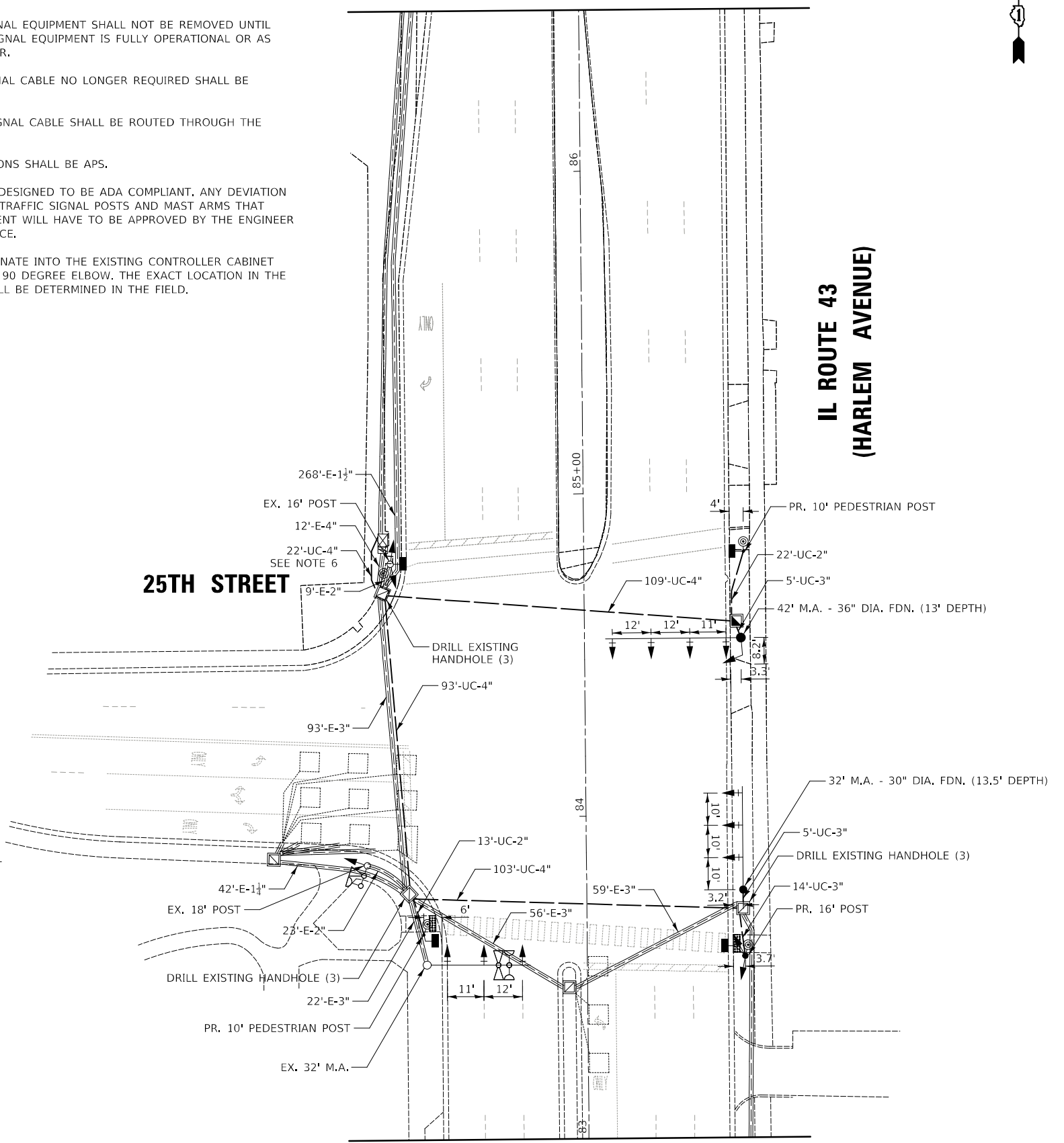
IL ROUTE 43  
(HARLEM AVENUE)



MATCH LINE STA 86+50  
SEE SHEET 2 OF 2

25TH STREET

IL ROUTE 43  
(HARLEM AVENUE)



MATCH LINE  
SEE LEFT

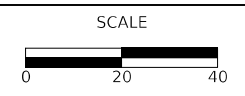
TS 2120  
ECON 30



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DESIGNED -	JMG	REVISED -	
DRAWN -	JMG	REVISED -	
CHECKED -	JJE	REVISED -	
DATE -	1/9/2023	REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



TRAFFIC SIGNAL MODERNIZATION PLAN (SHEET 1 OF 2)  
IL ROUTE 43 (HARLEM AVENUE) AND 25TH STREET

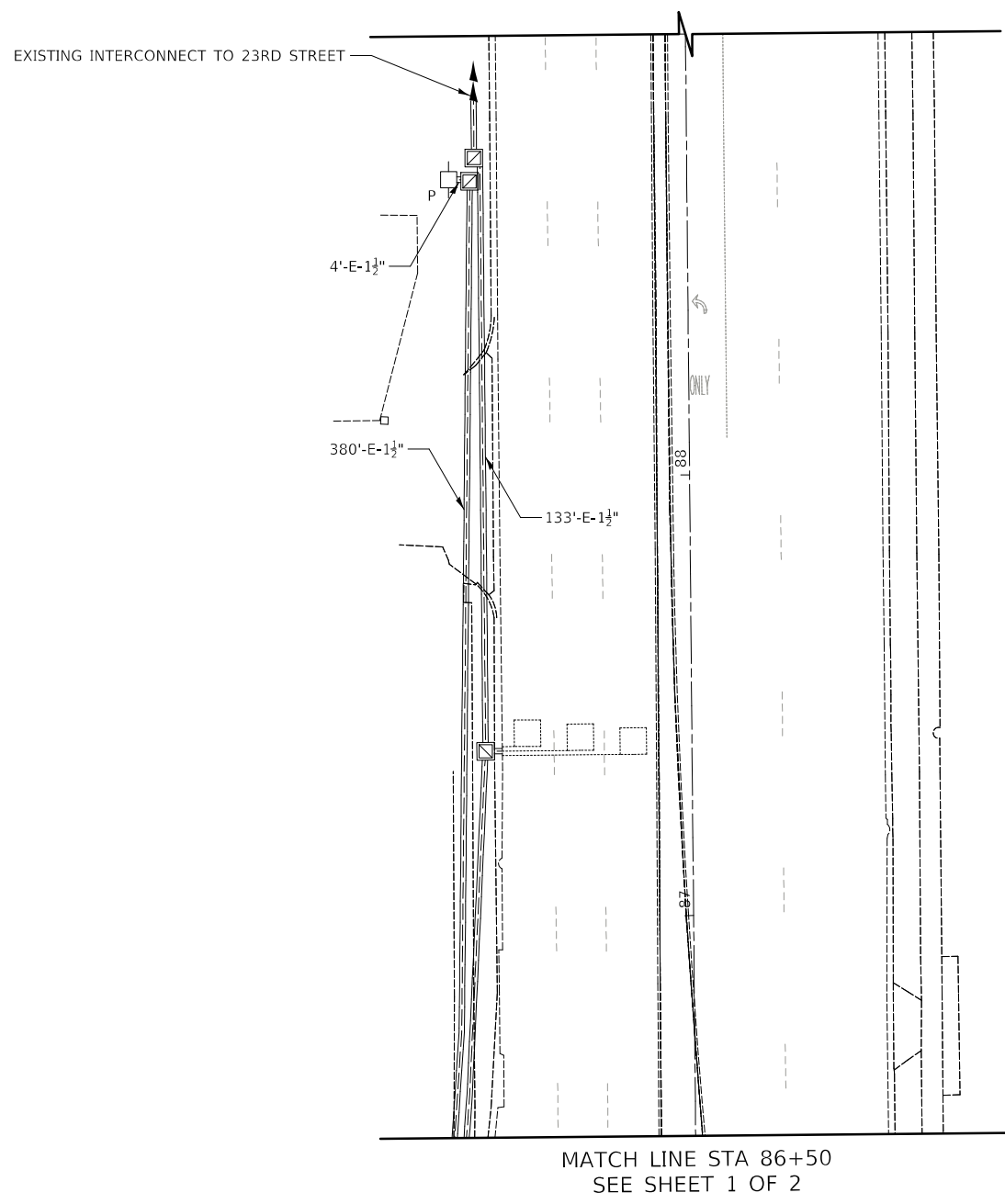
SHEET 1 OF 2 SHEETS STA. 85+00.00 TO STA. 86+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	43
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				



PLAN	SURVEYED	DATE
	PLOTTED CHECKED RT. OF WAY CHECKED CADD FILE NAME	
	NOTE BOOK NO.	

PROFILE	SURVEYED	DATE
	PLOTTED CHECKED RM. NOTED STRUCTURE NOTATIONS CPMO	
	NOTE BOOK NO.	



**IL ROUTE 43  
(HARLEM AVENUE)**

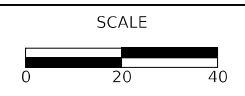
**TS 2120  
ECON 30**



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 Itasca, Illinois 60143  
 Tel: 630.773.3900 Fax: 630.773.3975  
 www.civiltechinc.com

DESIGNED - JMG	REVISED -
DRAWN - JMG	REVISED -
CHECKED - JJE	REVISED -
DATE - 1/9/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**



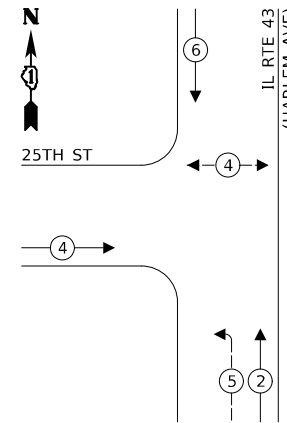
**TRAFFIC SIGNAL MODERNIZATION PLAN (SHEET 2 OF 2)  
IL ROUTE 43 (HARLEM AVENUE) AND 25TH STREET**

SHEET 2 OF 2 SHEETS	STA. 86+50.00 TO STA. 89+00.00
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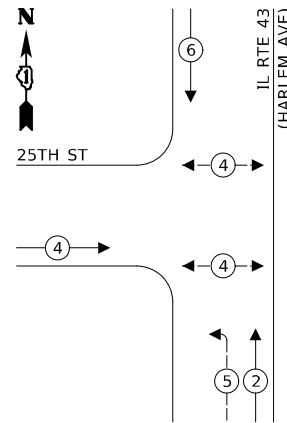
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	44
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62U46	



**EXISTING CONTROLLER SEQUENCE**



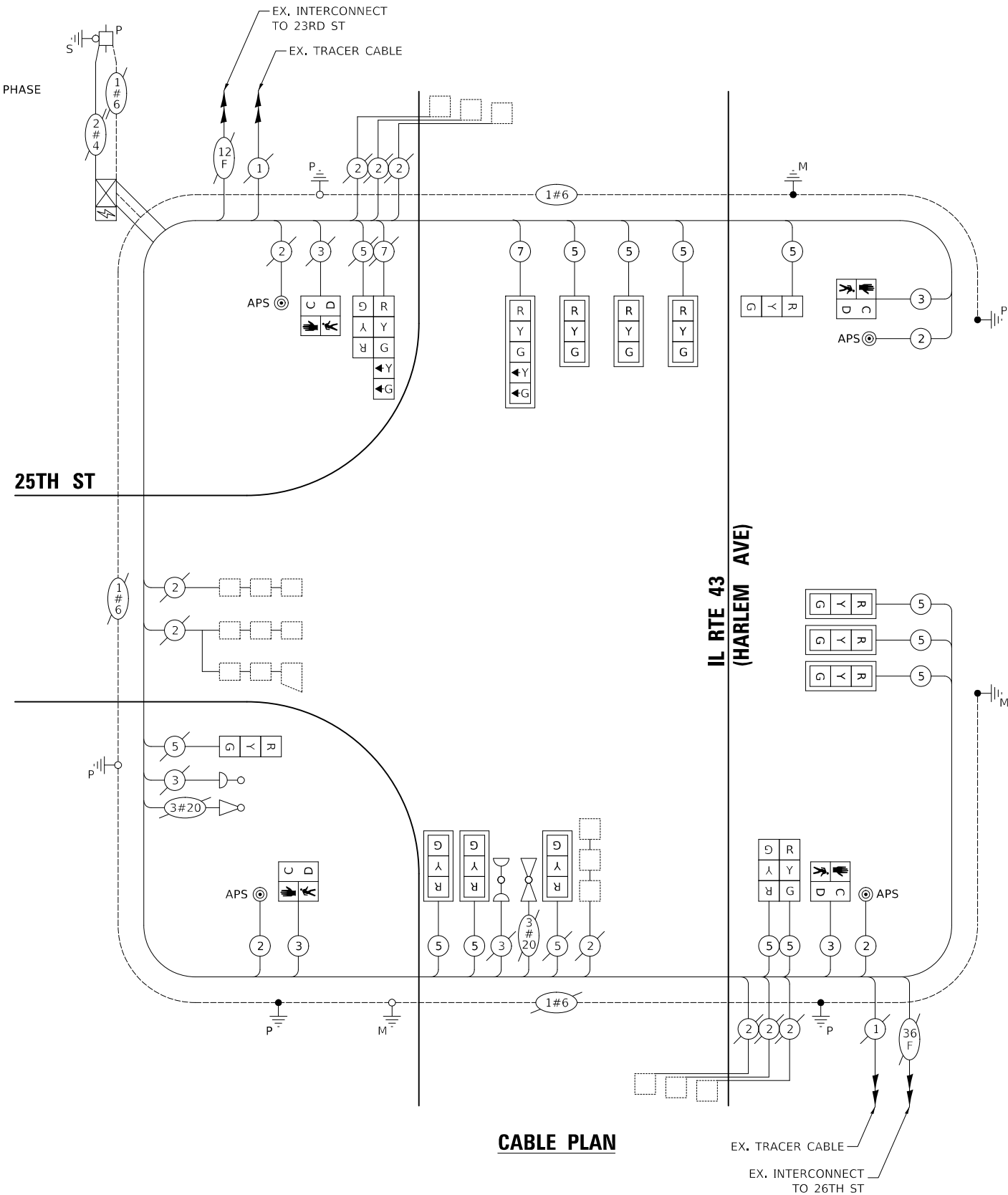
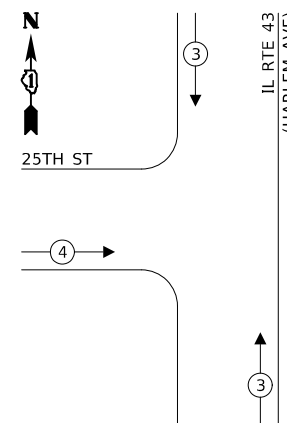
**PROPOSED CONTROLLER SEQUENCE**



**LEGEND:**

- ← \* → PROTECTED PHASE
- ← \* - - → PROTECTED/PERMITTED PHASE
- ← \* → PEDESTRIAN PHASE
- ← \* OL → OVERLAP

**EXISTING AND PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**CABLE PLAN**

**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16	11	50	88.0
(YELLOW)	16	20	5	16.0
(GREEN)	16	12	45	86.4
PERMISSIVE ARROW	4	10	10	4.0
PED. SIGNAL	4	20	100	80.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
<b>TOTAL =</b>				<b>399.4</b>

ENERGY COSTS TO:

VILLAGE OF NORTH RIVERSIDE  
2401 S DES PLAINES AVE  
NORTH RIVERSIDE, 60546

ENERGY SUPPLY: CONTACT: JOE STACHO  
PHONE: (630) 424-5704  
COMPANY: COMMONWEALTH EDISON  
ACCOUNT NUMBER: ---

USER NAME = jimg	DESIGNED - JMG	REVISED -
PLOT SCALE = 20,0000 * / in.	DRAWN - JMG	REVISED -
PLOT DATE = 2/6/2023	CHECKED - JJE	REVISED -
	DATE - 1/9/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CABLE PLAN, PHASE DESIGNATION DIAGRAM,  
AND EMERGENCY VEHICLE PREEMPTION SEQUENCE  
IL RTE 43 (HARLEM AVE) AT 25TH ST**

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

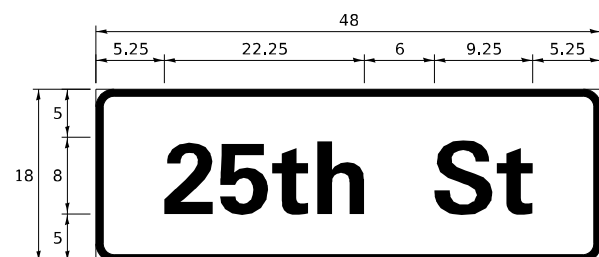
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	45
CONTRACT NO. 62U46				
ILLINOIS FED. AID PROJECT				

**TS 2120  
ECON 30**

MODEL: 4400BELNAMES  
FILE NAME: 3332305-1-11-2023-25th\_Cable\_Plan.dgn

**SIGN PANEL – TYPE 1 OR TYPE 2**

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY REQUIRED
D	6	1	ZZ	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY REQUIRED
D	13.75	2	ZZ	1

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS DETAIL.

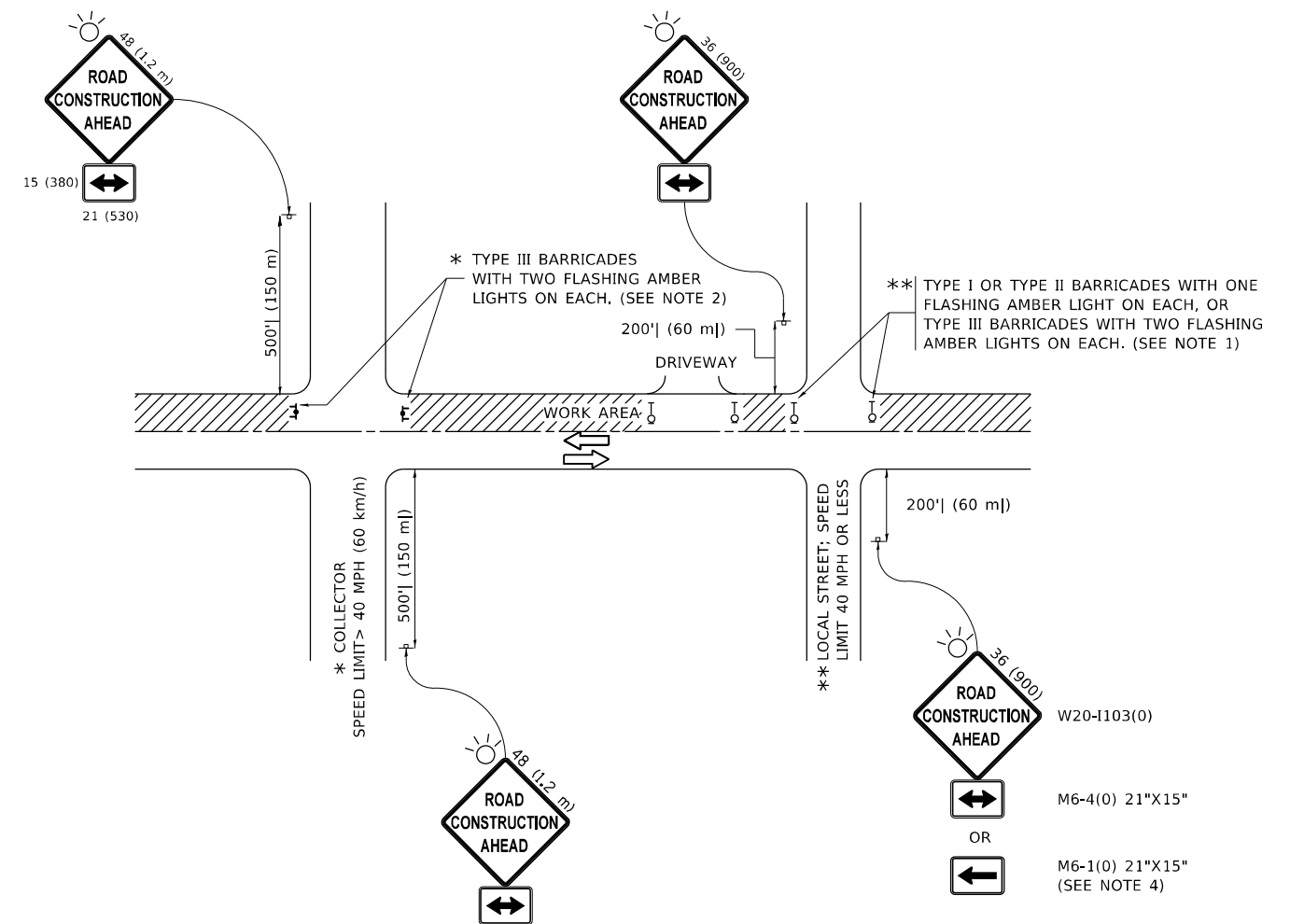
**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNITS	TOTAL QTY
SIGN PANEL - TYPE 1	SQ FT	6
SIGN PANEL - TYPE 2	SQ FT	13.75
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	35
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	24
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	327
HANDHOLE	EACH	1
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	605
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	626
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2,563
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	219
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	443
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	13.5
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13
DRILL EXISTING HANDHOLE	EACH	9
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	9
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	10
MODIFY EXISTING CONTROLLER	EACH	1
MODIFY EXISTING CONTROLLER CABINET	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	2,808
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	3
PEDESTRIAN SIGNAL POST, 10 FT.	EACH	2
ACCESSIBLE PEDESTRIAN SIGNALS	EACH	4
CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	8
TEMPORARY INFORMATION SIGNING	SQ FT	51.4
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1	EACH	1

MODEL Path: J:\Projects\2022\2022-04-01\2022\Design\Ivanov\08\_MastArmContract\06\_62U46\_April 2022\CADD\62U46-6-14.dwg

**TS 2120  
ECON 30**

USER NAME = Ivanov.Plascencia	DESIGNED - IP	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>MAST ARM MOUNTED STREET NAME SIGNS</b> <b>AND SCHEDULE OF QUANTITIES</b> <b>IL RTE 43 (HARLEM AVE) AT 25TH ST</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 40,0000 */ in.	DRAWN - IP	REVISED -			VAR	2022 VAR TSM 2	COOK	48	46	
PLOT DATE = 2/8/2023	CHECKED - NB	REVISED -			CONTRACT NO. 62U46					
	DATE - 2/3/2023	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO



**NOTES:**

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

MODEL: Default  
FILE NAME: S:\WP\Design\Iovan\08\_Master\Contract\06\_62U46 - April 2023\CADD\062U46-62U46-01.dgn

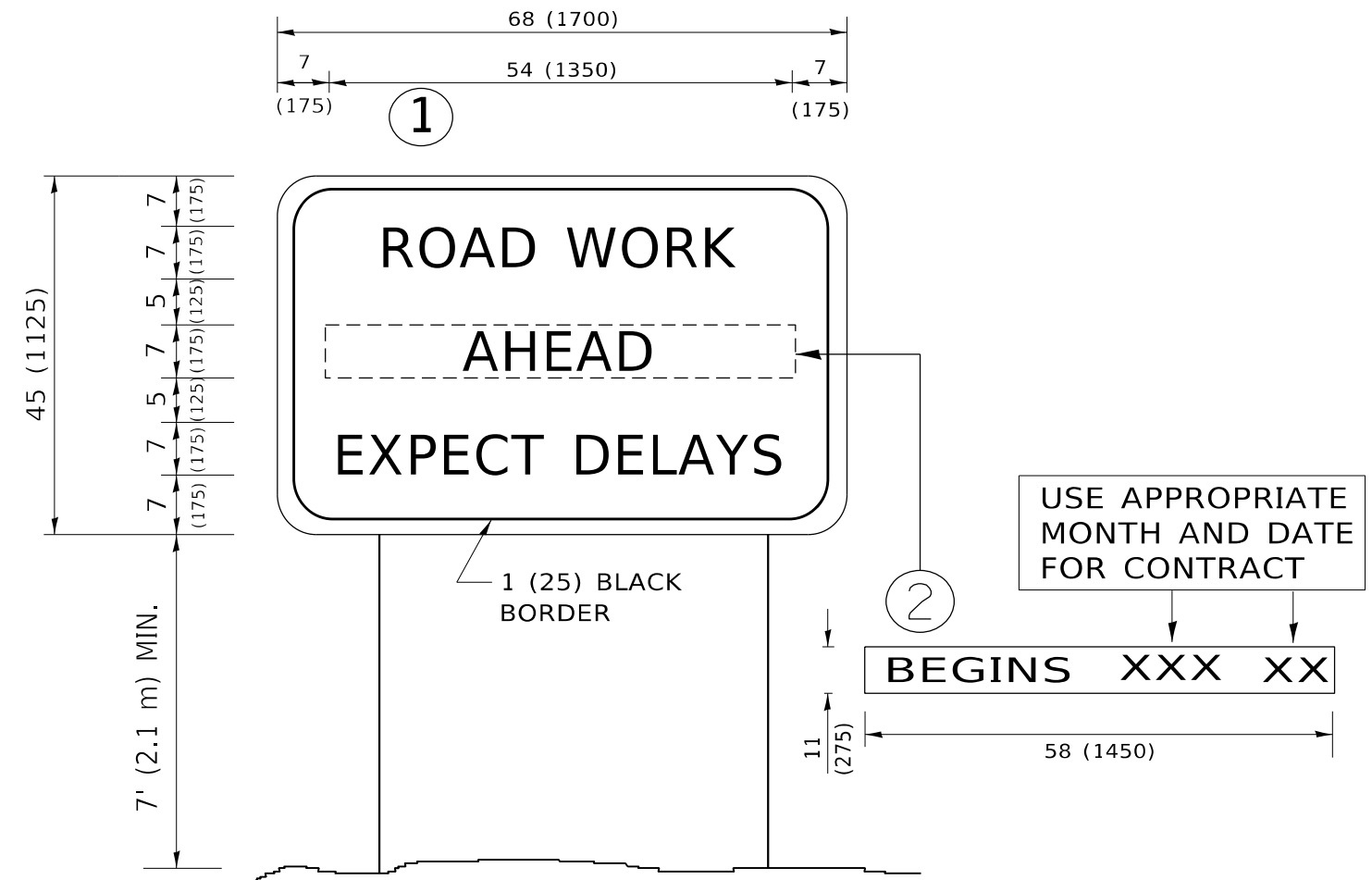
USER NAME = Iovan,Plascencia	DESIGNED - L.H.A.	REVISED - A. HOUSEH 10-15-96
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED - T. RAMMACHER 01-06-00
PLOT DATE = 2/8/2023	DATE - 06-89	REVISED - A. SCHUETZE 07-01-13
		REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	47
<b>TC-10</b>			CONTRACT NO. 62U46	
ILLINOIS FED. AID PROJECT				



**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL: D:\info\... FILE NAME: S:\WP\Design\Ivanan08\_Master\Contract\06\_62U46 - April 2023\CAD\062U46-62U46-01.dgn

USER NAME = Iovan,Plascencia	DESIGNED -	REVISED - R. MIRS 09-15-97
	DRAWN -	REVISED - R. MIRS 12-11-97
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
PLOT DATE = 2/8/2023	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD  
INFORMATION SIGN**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2022 VAR TSM 2	COOK	48	48
<b>TC-22</b>		CONTRACT NO. 62U46		
ILLINOIS FED. AID PROJECT				