TRAFFIC SIGNAL LEGEND

ITEM	EXISTING	PROPOSED
Traffic Signal Cabinet		
Uninterruptable Power Supply		
Communication Cabinet	CC	CC
Master Controller	MC	MC
Master Master Controller	MMC	MMC
Service Installation -(P) Pole Mounted	P	P
Service Installation -(G) Ground Mounted -(GM) Ground Mounted Metered	G GM	G GM
Cellular Modem	CM	CM
Telephone Connection	T	T
Steel Mast Arm Assembly and Pole		
Aluminum Mast Arm Assembly and Pole		
Steel Combination Mast Arm Assembly and Pole with Luminaire		
Signal Post -(BM) Barrel Mounted - Temporary		BM
Wood Pole		
Guy Wire		
Signal Head		
Signal Head with Backplate		
Signal Head - Programmable	P P	P P
Flasher Installation -(FS) Solar Powered	F FS F FS	F FS F FS
Pedestrian Signal Head		
Pedestrian Push Button -(APS) Accessible Pedestrian Push Button	APS	APS
Radar Detection Sensor	R	R
Video Detection Camera	V	V
Radar/Video Detection Zone		
Pan, Tilt, Zoom (PTZ) Camera	PTZ	PTZ
Emergency Vehicle Light Detector		
Confirmation Beacon		
Wireless Interconnect		
Wireless Interconnect Radio Repeater	ERR	RR
Wireless Access Point		

ITEM	EXISTING	PROPOSED
Handhole -Square -Round		
Double Handhole		
Heavy Duty Handhole -Square -Round	H	H
Junction Box	J	J
Railroad Cantilever Mast Arm		
Railroad Flashing Signal		
Railroad Crossing Gate		
Railroad Crossbuck		
Railroad Controller Bungalow	RR	RR
Underground Conduit (UC), Galvanized Steel		
Temporary Span Wire, Tether Wire, and Cable		
System Item	S	SP
Intersection Item	I	IP
Removal Item		R
Relocate Item		RL
Abandon Item		A
Controller Cabinet and Foundation to be Removed		RCF
Mast Arm Pole and Foundation to be Removed		RMF
Signal Post and Foundation to be Removed		RPF
Detector Loop, Type I		
Preformed Detector Loop	P	P
Wireless Detector Sensor	W	W

ITEM	EXISTING	PROPOSED
Signal Head -(P) Programmable Signal Head -(EV) Elongated Visors	R Y G P EV	R Y G P EV
Signal Head with Backplate -(RB) Retroreflective Backplate -(P) Programmable Signal Head -(EV) Elongated Visors	R Y G RB P EV	R Y G RB P EV
Pedestrian Signal Head with Countdown Timer	C D	C D
Illuminated LED Sign "NO LEFT TURN"/"NO RIGHT TURN"		
Electric Cable, Signal, No. 14 - 2/C, 3/C, 5/C, 7/C	5	5
Electric Cable, Lead-In, No. 14, 1 Pair	1P	1P
Service Cable, 2/C - No. 2, No. 4, No. 6	2#2 2#4 2#6	2#2 2#4 2#6
Ground Cable No. 6 Solid Copper (Green), 1/C	1#6	1#6
Electric Cable, Tracer, No. 14, 1/C	1	1
Electric Cable, Railroad, No. 14, 3/C	Railroad No. 14 3/C 3	Railroad No. 14 3/C 3
Electric Cable, Street Name Sign No. 14, 3/C, Type SOOW	SOOW 3	SOOW 3
Vendor Cable	V	V
Emergency Vehicle Priority Line Sensor Cable, No. 20, 3/C	3#20	3#20
Outdoor Rated Network Cable	ONC	ONC
Fiber Optic Cable -12F: 12 Multimode -24F: 12 Multimode / 12 Single Mode -36F: 12 Multimode / 24 Single Mode -24SM: 24 Single Mode -48SM: 48 Single Mode	12F 24F 36F 24SM 48SM	24F 36F 24SM 48SM
Ground Rod -(C) Controller -(M) Mast Arm -(P) Post -(S) Service	C M P S	C M P S

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

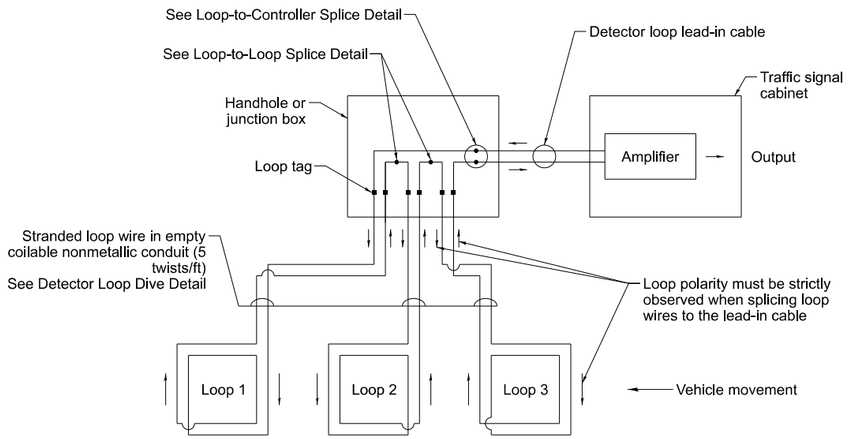
DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NTS | SHEET 1 OF 7 SHEETS | STA. | TO STA.

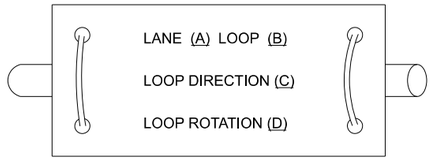
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS-01	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

DETECTOR LOOP NOTES:

1. LOOPS SHALL BE SPLICED IN SERIES.
2. SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" AT A DEPTH OF 3". IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
3. LOOP CORNERS SHALL BE DRILLED WITH A 2" DIAMETER CORE.
4. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NON-METALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6". EMPTY COILABLE NON-METALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE DETECTOR LOOP PAY ITEM.
5. 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.
6. EACH LEAD-IN CABLE SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP NUMBER, LOOP DIRECTION (IN OR OUT), AND LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE) IN WATER PROOF INK. SEE DETECTOR LOOP LEAD-IN CABLE TAG DETAIL. THE CONTRACTOR SHALL MARK THE LOOP LOCATIONS ON THE RECORD DRAWINGS AND PRESENT THEM TO THE ENGINEER AFTER THE FINAL INSPECTION.
7. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
8. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND THE DIVE HOLES 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" APART.
9. 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.
10. PREFORMED DETECTOR LOOPS SHALL BE USED 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.



DETECTOR LOOP WIRING SCHEMATIC



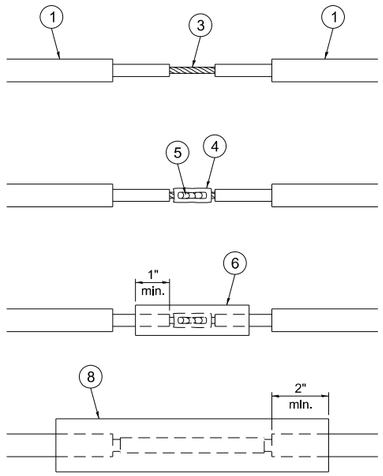
A. Lane 1 is the lane closest to the centerline of the roadway.

B. Loop #1 is the loop closest to the intersection.

C. Label loop cable "in" or loop cable "out".

D. Label loop cable clockwise or loop cable counterclockwise.

DETECTOR LOOP LEAD–IN CABLE TAG



LOOP–TO–LOOP SPLICE DETAIL

(1) Detector loop cable.

(2) Detector loop lead-in cable

(3) Bare conductors twisted together.

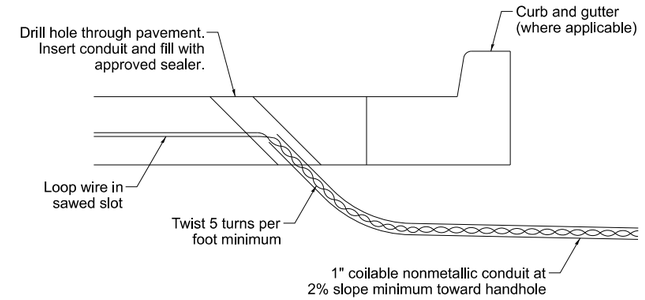
(4) Butt splice crimp connector.

(5) Splice soldered with rosin core flux. All exposed surfaces of the solder shall be smooth. The splices shall be staggered.

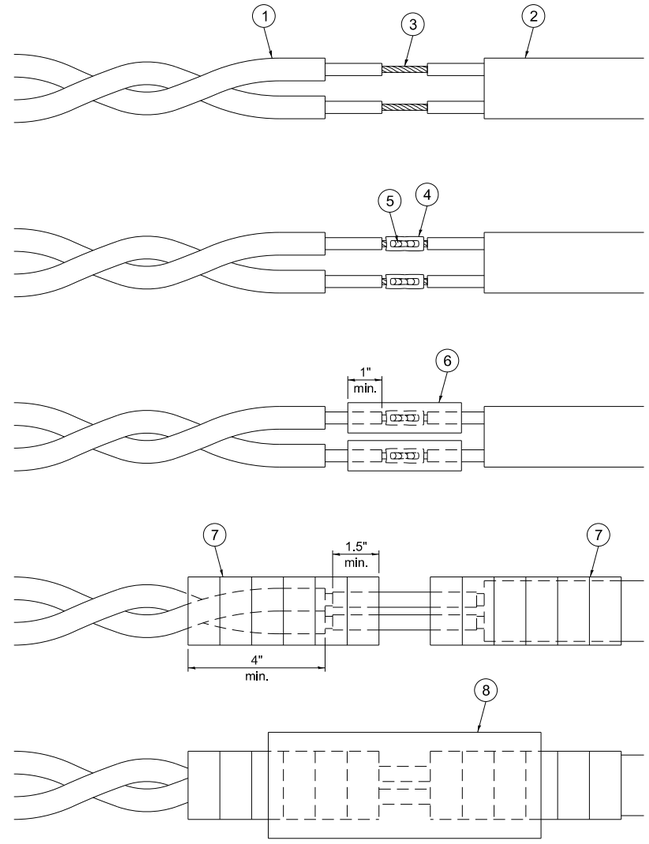
(6) WCSMW 30/100 heat shrink tube, 3" minimum length, underwater grade.

(7) Self-infused, silicone electrical tape tightly wrapped around cables.

(8) WCS 200/750 heat shrink tube, 8" minimum length, underwater grade.



DETECTOR LOOP DIVE DETAIL



LOOP–TO–CONTROLLER SPLICE DETAIL

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

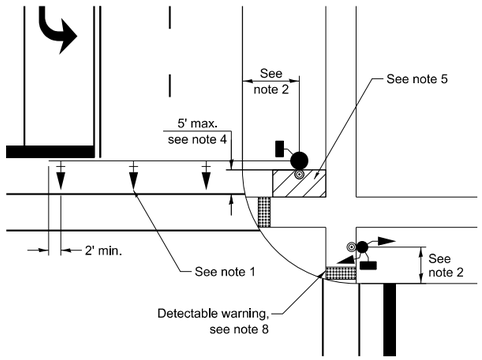
SCALE: NTS | SHEET 2 OF 7 SHEETS | STA. | TO STA.

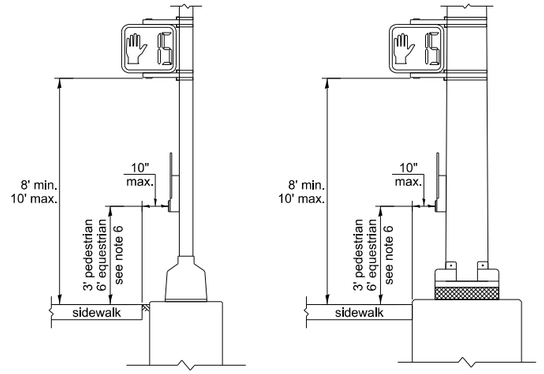
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS-01	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

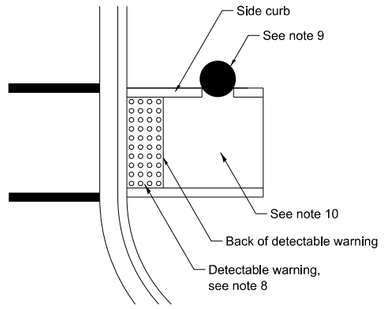
NOTES:

1. THE MAST ARM MOUNTED SIGNAL HEADS SHALL BE CENTERED ON THE LANES OR AS SHOWN ON THE TRAFFIC SIGNAL PLANS.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET MINIMUMS TABLE.
3. A 4' MINIMUM UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE SHALL BE MAINTAINED.
4. THE PUSH-BUTTON SHALL BE LOCATED 5' OR LESS FROM THE OUTSIDE EDGE OF THE MARKED CROSSWALK FARTHEST FROM THE INTERSECTION FOR THE CROSSWALK THAT THE PUSH-BUTTON CONTROLS.
5. IF THE MAST ARM POLE OR SIGNAL POST WHERE THE PUSH-BUTTON IS TO BE INSTALLED IS NOT IMMEDIATELY ADJACENT TO THE SIDEWALK, PROVIDE A FIRM, STABLE, AND SLIP RESISTANT SURFACE UP TO THE MAST ARM POLE OR SIGNAL POST. THE MINIMUM PAVED AREA IN FRONT OF THE PUSH-BUTTON SHALL BE 2.5' X 4'. IF THIS DOES NOT MEET THE REQUIREMENT STATED IN NOTE 3, A SEPARATE PEDESTRIAN SIGNAL POST SHALL BE INSTALLED TO PLACE THE PUSH-BUTTON ADJACENT TO THE SIDEWALK SURFACE.
6. THE HEIGHT OF THE PEDESTRIAN PUSH-BUTTON SHALL BE 36". IF APPROVED BY THE AREA TRAFFIC SIGNAL ENGINEER, THE PUSH-BUTTON MAY BE LOCATED AT A HEIGHT BETWEEN 30" AND 42". THE HEIGHT OF THE EQUESTRIAN PUSH-BUTTON SHAL BE 72" OR AS DIRECTED BY THE ENGINEER.
7. THE FACE OF THE PUSH-BUTTON SHALL BE PARALLEL TO THE CROSSWALK IT CONTROLS.
8. THE PUSH-BUTTON SHALL BE LOCATED BEHIND THE DETECTABLE WARNING.
9. WHERE A PUSH-BUTTON IS BEING INSTALLED ON A MAST ARM POLE OR SIGNAL POST ADJACENT TO THE PEDESTRIAN ACCESS ROUTE, THE PROPOSED FOUNDATION SHALL BE INSTALLED WITHIN THE SIDE CURB IN ORDER TO MEET THE 10" REACH REQUIREMENT.
10. THE SIDEWALK PANEL IN FRONT OF THE PUSH-BUTTON SHALL HAVE A SLOPE LESS THAN 5%.
11. WHERE TWO PEDESTRIAN PUSH-BUTTONS ARE PROVIDED ON THE SAME CORNER, THEY SHALL BE 10' OR MORE APART. EXCEPTION: IN ALTERATIONS WHERE TECHNICALLY INFEASIBLE TO PROVIDE 10' SEPARATION BETWEEN PUSH-BUTTONS ON THE SAME CORNER.
12. CORRESPONDING PEDESTRIAN EQUIPMENT (SIGNAL HEAD AND PUSH-BUTTON) SHALL BE INSTALLED ON THE SAME POST CLOSEST TO THE CROSSWALK IT CONTROLS.
13. PEDESTRIAN SIGNAL HEADS INSTALLED ON MAST ARM POLES OR SIGNAL POSTS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) NOT LESS THAN 8' OR MORE THAN 10' ABOVE SIDEWALK LEVEL. PEDESTRIAN SIGNAL HEADS INSTALLED ON PEDESTRIAN SIGNAL POSTS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) NOT LESS THAN 8' ABOVE SIDEWALK LEVEL. THE PEDESTRIAN SIGNAL HEADS SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
14. THE LOCATIONS OF THE PEDESTRIAN PUSH-BUTTONS AND PEDESTRIAN SIGNAL HEADS SHALL MEET THE REQUIREMENTS OF THE MUTCD, PROWAG, AND THE REQUIREMENTS ON THIS DETAIL SHEET.

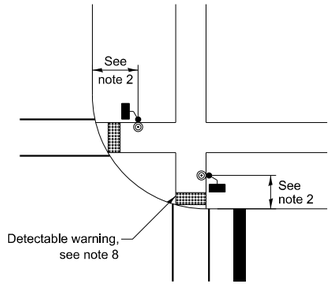
TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

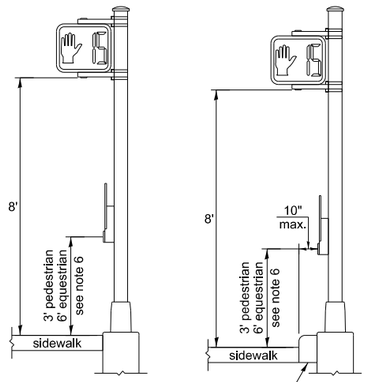




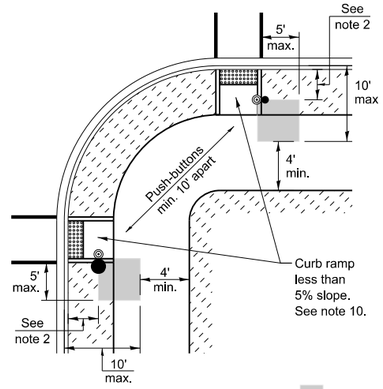


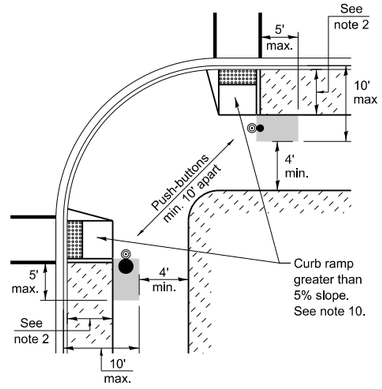
PEDESTRIAN SIGNAL POST





PUSH–BUTTON LOCATIONS





Preferred push-button location

TRAFFIC SIGNAL EQUIPMENT	BARRIER CURB (MINIMUM DISTANCE FROM THE BACK OF CURB TO THE CENTER OF THE FOUNDATION)	SHOULDER / NON-BARRIER CURB (MINIMUM DISTANCE FROM THE EDGE LINE OF THE RIGHT-MOST LANE TO THE CENTER OF THE FOUNDATION)
Mast arm assembly and pole	6'	Shoulder width + 2', minimum 10'
Signal post	4'	Shoulder width + 2', minimum 10'
Pedestrian signal post	4'	4' - See note 2
Temporary wood pole	6'	Shoulder width + 2', minimum 10'
Traffic signal cabinet	6' - See Note 3	Shoulder width + 6', minimum 16' - See note 3
Service cabinet	6' - See Note 3	Shoulder width + 6', minimum 16' - See note 3

TRAFFIC SIGNAL EQUIPMENT OFFSET MINIMUMS

NOTES:

1. CONTACT THE AREA TRAFFIC SIGNAL ENGINEER FOR ASSISTANCE LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS AND THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF THE DETECTABLE WARNING.
3. MINIMUM DISTANCE 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" TABLE AND THE TRAFFIC SIGNAL PLAN COULD AFFECT THE PLACEMENT OF THE TRAFFIC SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, AND THE PEDESTRIAN PUSH-BUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THESE REQUIREMENTS. THE LOCATIONS OF THE PEDESTRIAN PUSH-BUTTONS AND PEDESTRIAN SIGNAL HEADS SHALL MEET THE REQUIREMENTS OF THE MUTCD, PROWAG, AND THE REQUIREMENTS ON THIS DETAIL SHEET.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NTS | SHEET 3 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS–01	CONTRACT NO.		
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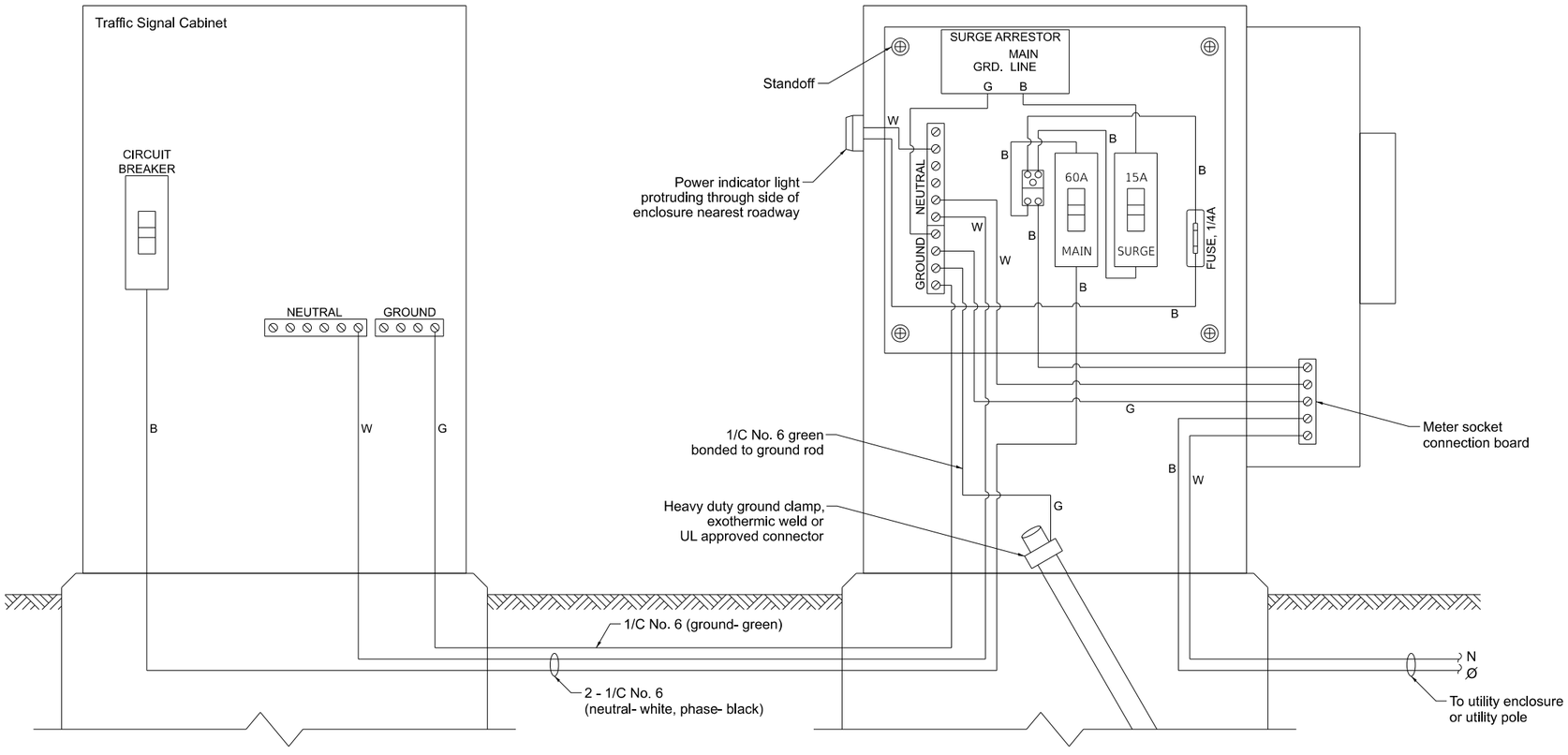
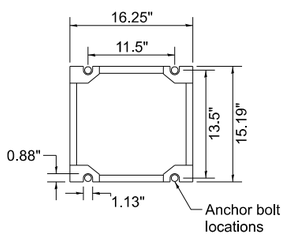


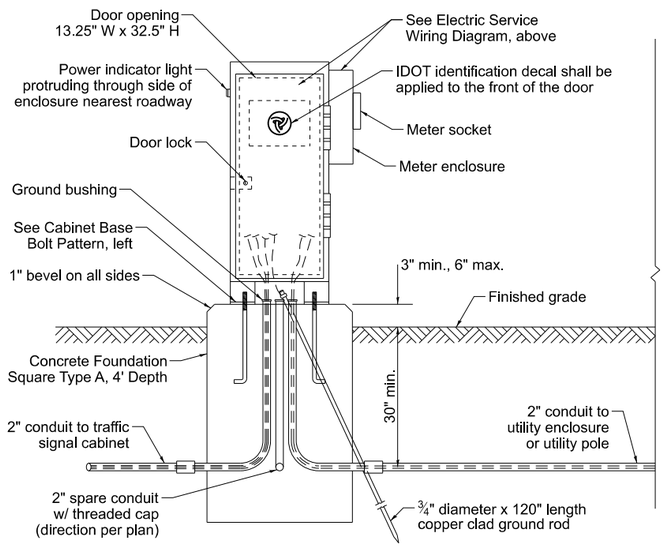
ELECTRIC SERVICE WIRING DIAGRAM IN GROUND MOUNTED SERVICE CABINET

NOTES:

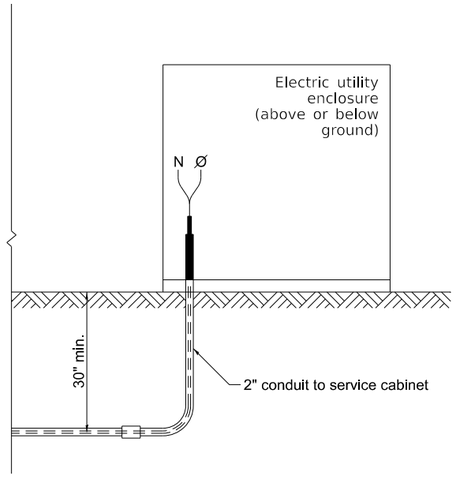
1. THE GROUND MOUNTED SERVICE CABINET IS TO BE LOCATED BETWEEN THE TRAFFIC SIGNAL CABINET AND THE UTILITY CONNECTION, PREFERABLY 20' TO 50' FROM THE TRAFFIC SIGNAL CONTROLLER CABINET.
2. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO UL STD. 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE UL LABEL.
3. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
4. THE METER SOCKET IS TO BE PROVIDED BY THE CONTRACTOR. THE METER IS TO BE PROVIDED BY THE UTILITY COMPANY.



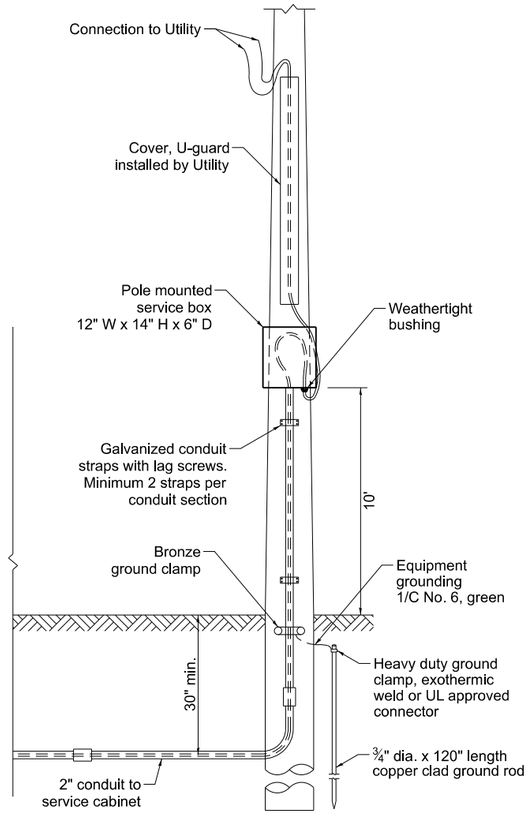
CABINET BASE BOLT PATTERN



SERVICE INSTALLATION – GROUND MOUNTED WITH METER



CONNECTION TO UTILITY ENCLOSURE



CONNECTION TO UTILITY POLE

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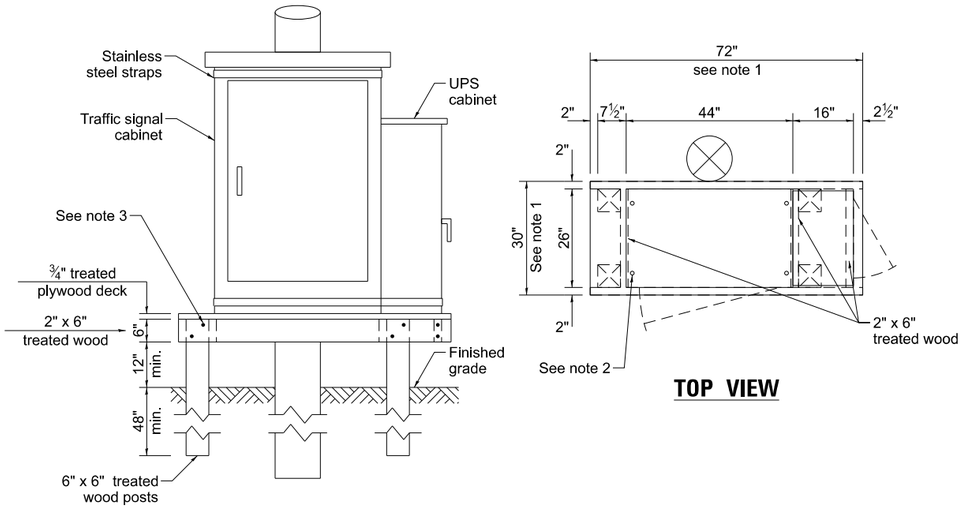
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NTS | SHEET 4 OF 7 SHEETS | STA. | TO STA.

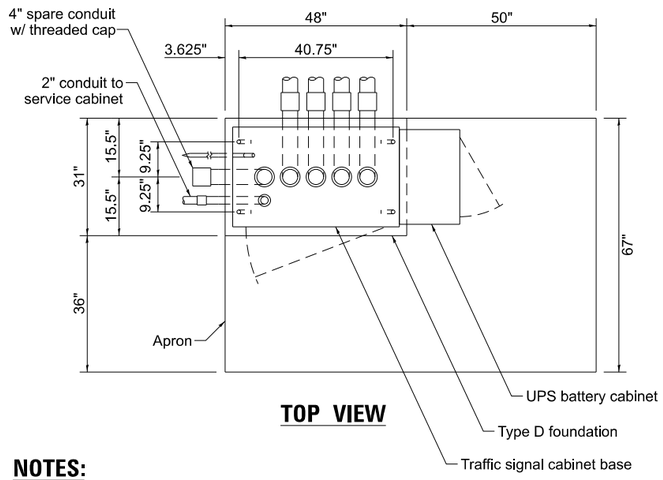
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS–01	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



NOTES:

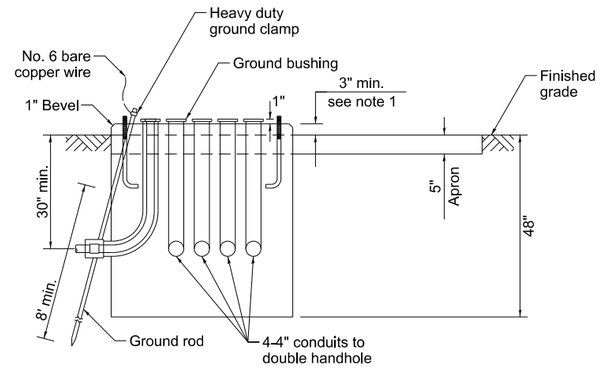
1. THE PLATFORM SIZE IS BASED ON A TRAFFIC SIGNAL CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" AND UNINTERRUPTABLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25". ADJUST THE PLATFORM SIZE TO FIT THE BASE DIMENSIONS OF THE CABINET SUPPLIED.
2. DRILLED HOLES THROUGH THE PLATFORM ARE TO MATCH THE TRAFFIC SIGNAL CABINET BOLT TEMPLATE. THE CABINET SHALL BE FASTENED TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS, AND NUTS.
3. ALL WOOD SUPPORT FRAMING SHALL BE FASTENED TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

TEMPORARY TRAFFIC SIGNAL CABINET WOOD SUPPORT PLATFORM

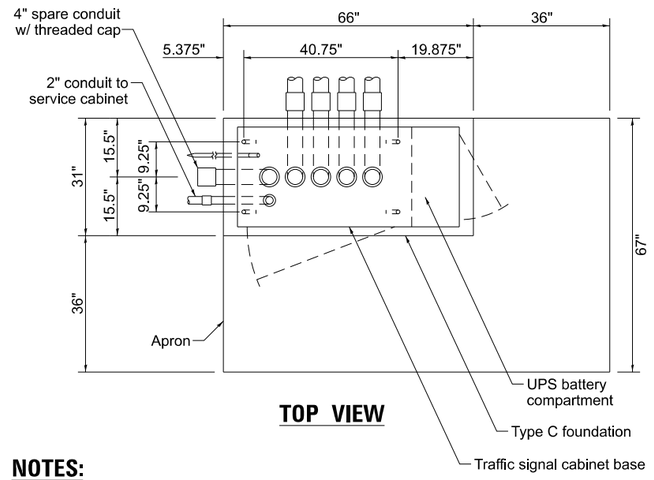


NOTES:

1. THE TOP OF THE FOUNDATION SHALL BE HIGHER THAN THE TOP OF THE DOUBLE HANDHOLE.

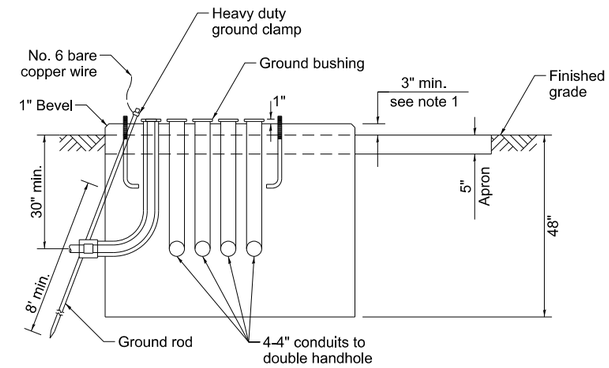


TYPE D FOUNDATION TYPE IV AND TYPE V TRAFFIC SIGNAL CABINET AND UPS BATTERY CABINET



NOTES:

1. THE TOP OF THE FOUNDATION SHALL BE HIGHER THAN THE TOP OF THE DOUBLE HANDHOLE.



TYPE C FOUNDATION SUPER P AND SUPER R TRAFFIC SIGNAL CABINETS

MAST ARM LENGTH	Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30'	10'	30"	24"	8	#6
Greater than or equal to 30' and less than 40'	13.5'	30"	24"	8	#6
	11'	36"	30"	12	#7
Greater than or equal to 40' and less than 50'	13'	36"	30"	12	#7
Greater than or equal to 50' and up to 55'	15'	36"	30"	12	#7
Greater than or equal to 56' and less than 65'	21'	42"	36"	16	#8
Greater than or equal to 65' and up to 75'	25'	42"	36"	16	#8

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

FOUNDATION	DEPTH
Type A - Signal post, service cabinet	4'
Type C - Traffic signal cabinet with UPS	4'
Type D - Traffic signal cabinet	4'

DEPTH OF FOUNDATIONS TYPES A, C & D

VERTICAL CABLE	LENGTH
Mast arm mounted signal head (L = mast arm length - distance to signal head from end of arm)	20'+L
Bracket mounted signal head (mast arm pole or signal pole)	13'
Pedestrian signal head	10'
Pedestrian push button	6'
Service installation pole mount to service drop	13.5'
Service installation pole mount to ground	13.5'
Service installation ground mount	6'
Foundation (signal post, mast arm, traffic signal cabinet, service cabinet)	3'

VERTICAL CABLE LENGTH

CABLE SLACK	LENGTH
Handhole	6.5'
Double handhole	13'
Signal post	2'
Mast arm	2'
Traffic signal cabinet or service cabinet	1.5'
Fiber optic cable at traffic signal cabinet	13'
Ground cable at signal post, mast arm, or cabinet	1.5'
Ground cable at handhole or double handhole	6.5'
Ground cable between handhole frame and cover	5'

CABLE SLACK LENGTH

TYPE E FOUNDATION NOTES:

1. FOR STANDARD AND COMBINATION MAST ARM ASSEMBLIES, FOUNDATION DEPTHS FOR STANDARD DUAL MAST ARMS WITH THE LONGEST ARM LENGTH UP TO AND INCLUDING 55' SHALL BE INCREASE BY 1' OF THAT SHOWN IN THE TABLE, BASED ON THE LONGER OF THE TWO ARMS.
2. SEE STATE STANDARD 878001 CONCRETE FOUNDATION DETAILS FOR MORE INFORMATION.

TS SHT NO. 5

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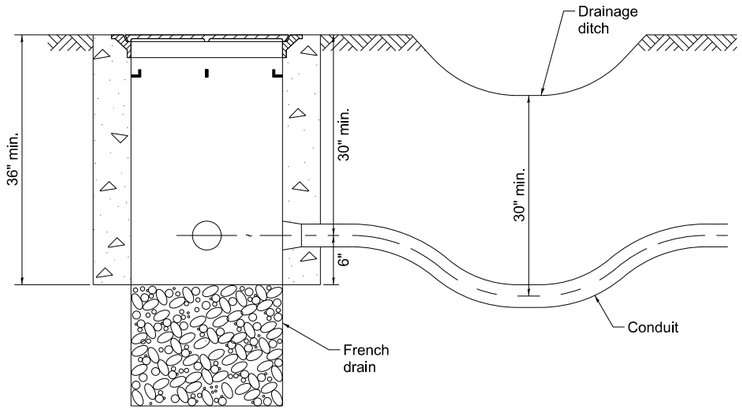
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NTS | SHEET 5 OF 7 SHEETS | STA. | TO STA.

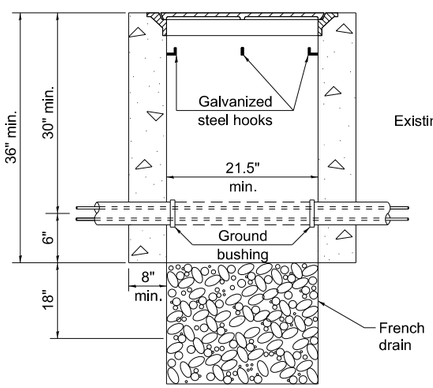
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS-01	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

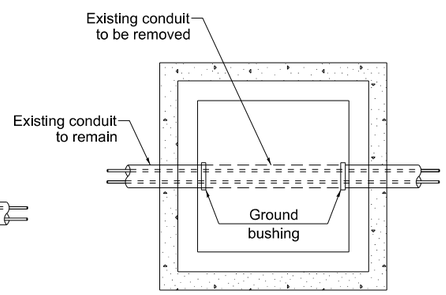


NOTES:

1. THE CONDUIT DEPTH SHALL BE A MINIMUM OF 30" 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



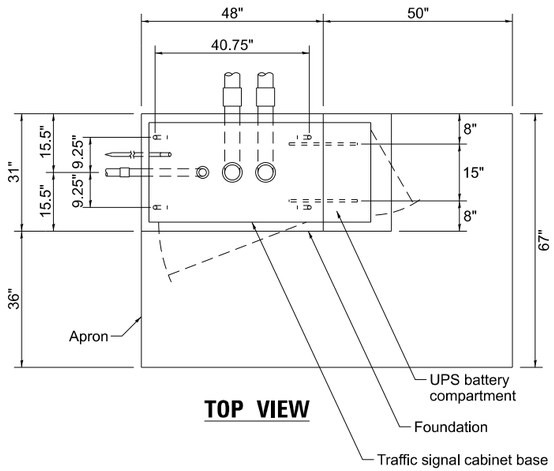


TOP VIEW

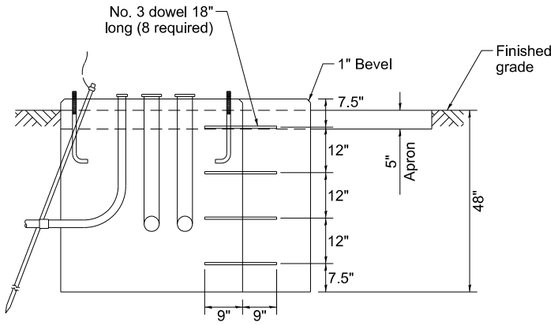
NOTES:

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.

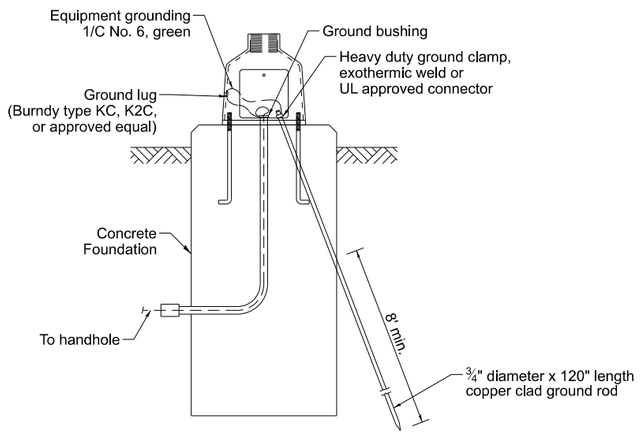
HANDHOLE TO INTERCEPT EXISTING CONDUIT



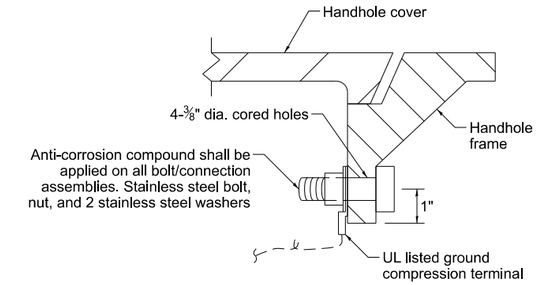
TOP VIEW



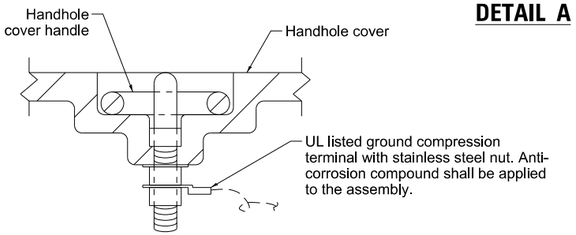
MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION



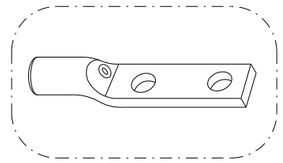
MAST ARM / POST GROUNDING DETAIL



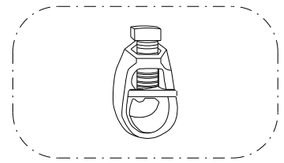
DETAIL A



DETAIL B



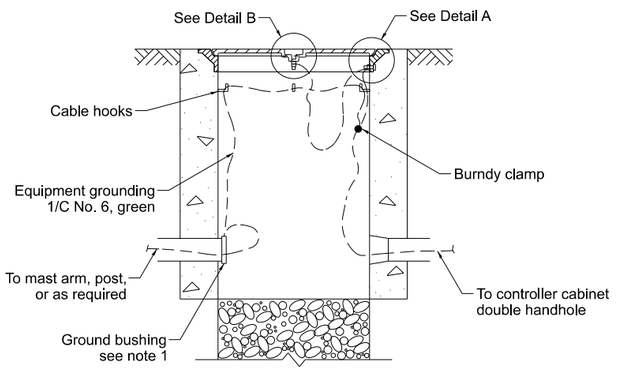
Heavy-Duty Compression Terminal
(Burndy Type YGHA or approved equal)



¾" Heavy-Duty Ground Rod Clamp
Bronze or Copper, UL Approved
(Burndy Type GRC or approved equal)

NOTES:

1. CONDUIT THAT HAS BEEN DRILLED INTO AN EXISTING HANDHOLE WILL REQUIRE A GROUND BUSHING FOR THE CONDUIT TO BE PROPERLY GROUNDED.
2. GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES. 6.5' OF SLACK SHALL BE PROVIDED IN SINGLE AND DOUBLE HANDHOLES. 5' OF SLACK SHALL BE PROVIDED BETWEEN THE FRAME AND COVER.



HANDHOLE GROUNDING DETAIL

TS SHT NO. 6

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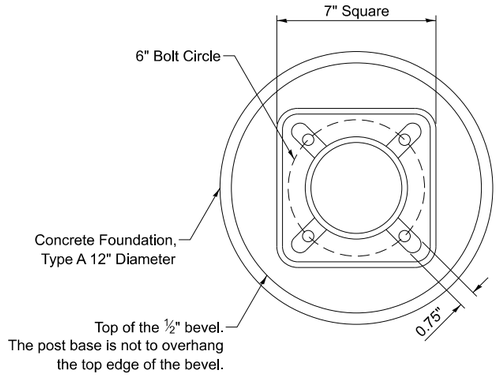
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NTS | SHEET 6 OF 7 SHEETS | STA. | TO STA.

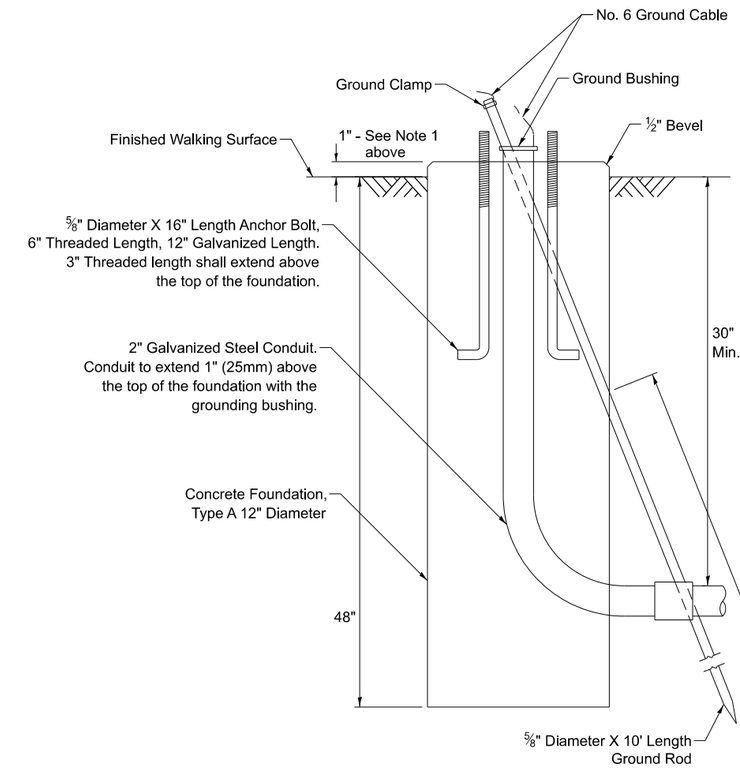
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS-01	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



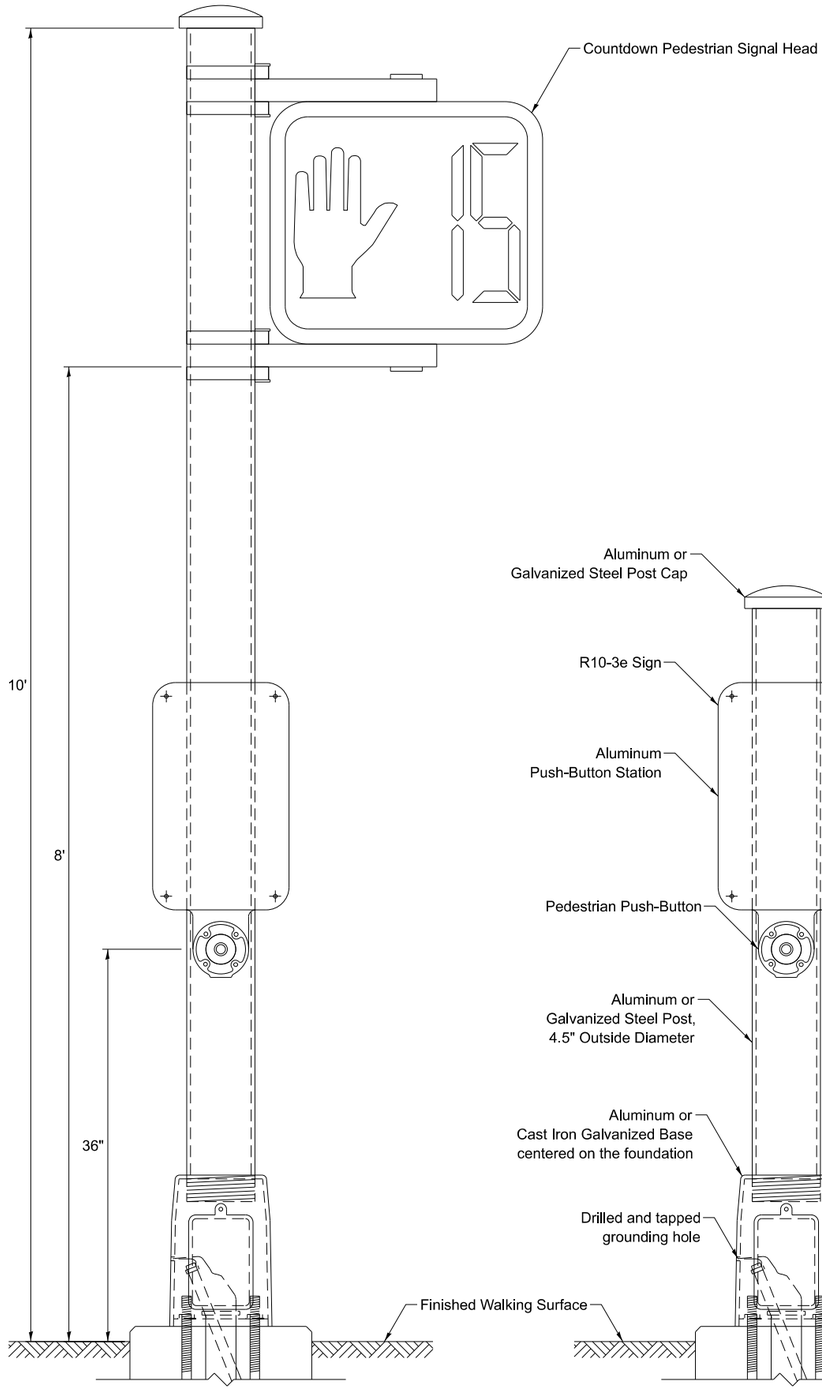
BOLT PATTERN

NOTES:

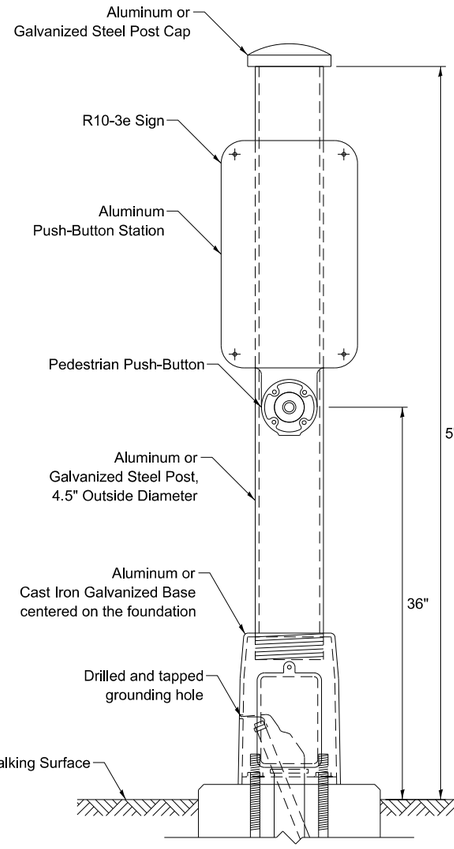
1. IF THE PEDESTRIAN SIGNAL POST FOUNDATION IS INSTALLED WITHIN A SIDEWALK CURB, THE TOP OF THE FOUNDATION SHALL BE INSTALLED FLUSH WITH THE TOP OF THE SIDEWALK CURB.



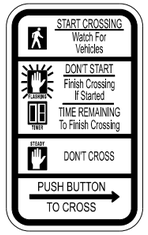
CONCRETE FOUNDATION, TYPE A 12–INCH DIAMETER



PEDESTRIAN SIGNAL POST, 10 FT.



PEDESTRIAN SIGNAL POST, 5 FT.



R10-3e
9" X 15"

W10-I101
18" X 24"

SIGN NOTES:

1. THE SIGN PANELS SHALL BE TYPE AP SHEETING.
2. WHEN SIGN R10-3e IS INSTALLED AT MEDIANS WHERE ONLY ONE PUSH-BUTTON IS BEING USED FOR BOTH DIRECTIONS, THE ARROW SHALL BE BI-DIRECTIONAL.
3. SIGN W10-I101 IS REQUIRED FOR EACH PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS.

TS SHT NO. 7

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PLOT DATE =	DATE - 10/15/2025	REVISED -	

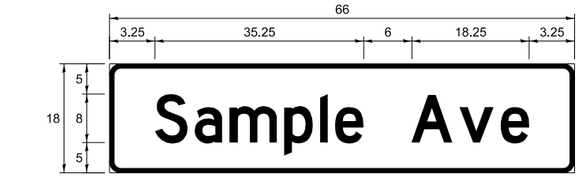
DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

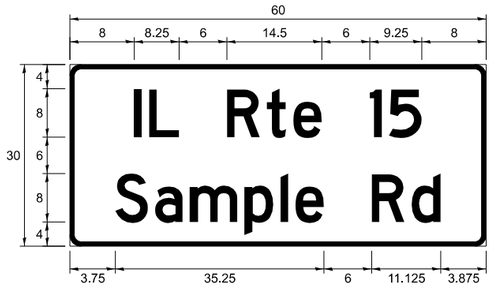
SCALE: NTS | SHEET 7 OF 7 SHEETS | STA. | TO STA.

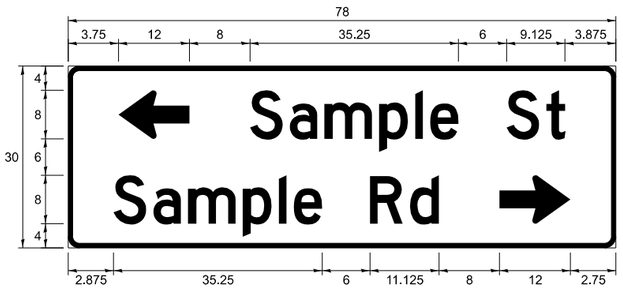
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS–01	CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

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
C OR D	-	1 OR 2	ZZ	-

COMMON STREET NAME ABBREVIATIONS

NAME	ABBREVIATION	LENGTH (INCH)	
		SERIES "C"	SERIES "D"
Avenue	Ave	15	18.25
Boulevard	Blvd	17.125	20
Circle	Cir	11.125	13
Court	Ct	8.25	9.625
Drive	Dr	8.625	10.125
Highway	Hwy	18.375	22
Illinois	IL	7	8.25
Lane	Ln	9.125	10.75
Parkway	Pkwy	23.375	27.375
Place	Pl	7.125	7.75
Road	Rd	9.625	11.125
Route	Rte	12.625	14.5
Street	St	8	9.125
Terrace	Ter	12.625	14.625
Trail	Tr	7.75	9.125
United States	US	10.375	12.25

GENERAL NOTES

1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ONSTANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO 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.
2. ALL SIGNS SHALL CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
3. 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", BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. THE SPACING BETWEEN THE LEFT OR RIGHT ARROW AND THE ADJACENT WORD SHOULD BE 8", BUT MAY BE REDUCED TO 6" 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.
4. THE PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE THE SERIES "D" ALPHABET ON A ONE-LINE SIGN THAT IS 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 ONE-LINE 8'-0" SIGN, A 30" HEIGHT TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION (I.E. STREET, AVENUE, ETC.) SHALL BE SPELLED OUT ON THE SECOND LINE, IF THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
5. 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 REQUIREMENTS AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
6. 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

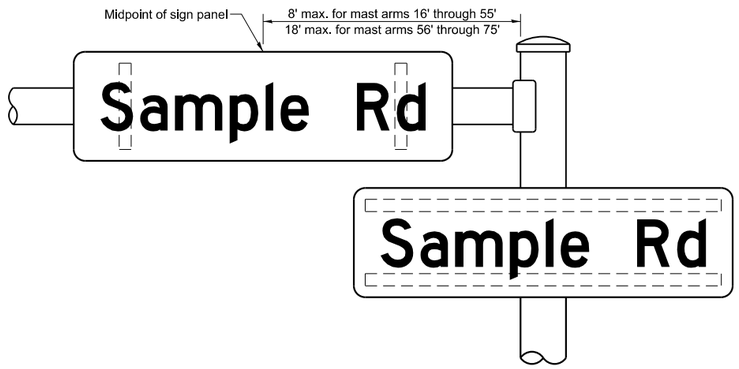
PARTS LISTING:

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

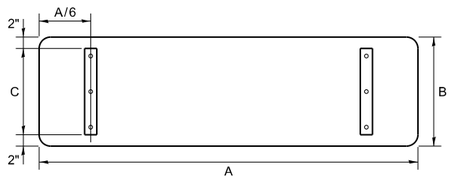
OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

MOUNTING LOCATIONS

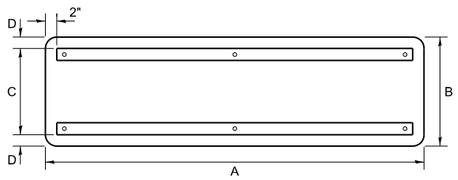
ARM OR POLE MOUNTED



SUPPORTING CHANNELS



A	B	C
Var.	18"	14"
Var.	30"	26"



A	B	C	D
Var.	18"	12"	3"
Var.	30"	22"	4"

STANDARD ALPHABETS SPACING CHART

MEASUREMENTS BASED ON 8" UPPER CASE LETTER HEIGHT

FHWA SERIES "C"				FHWA SERIES "D"			
CHARACTER	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

TS SHT NO. 8

USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -	
	DRAWN - IP	REVISED -	
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PLOT DATE =	DATE - 10/15/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
MAST ARM MOUNTED STREET NAME SIGNS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS–02	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

REMOVAL NOTES:

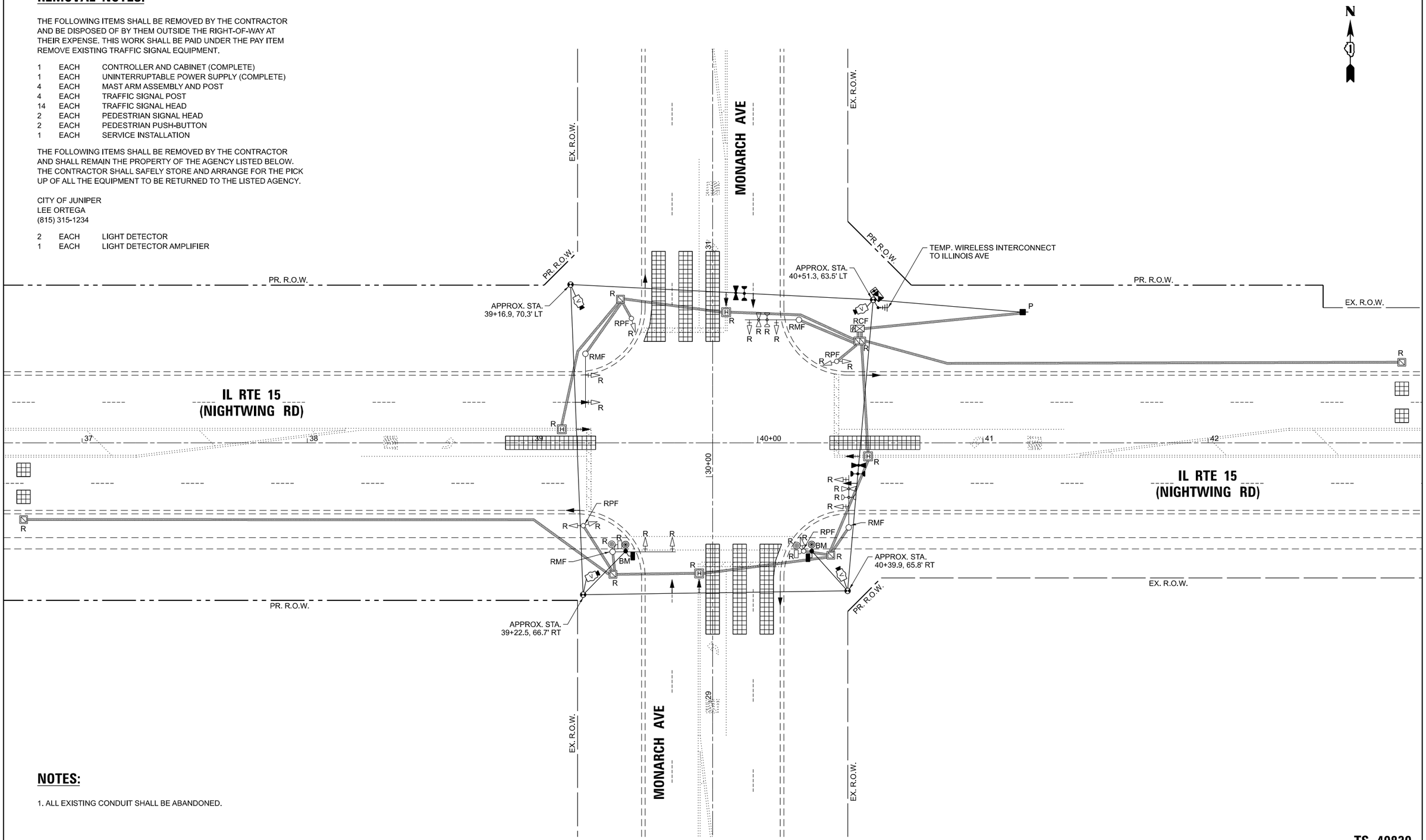
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THIS WORK SHALL BE PAID UNDER THE PAY ITEM REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

1	EACH	CONTROLLER AND CABINET (COMPLETE)
1	EACH	UNINTERRUPTABLE POWER SUPPLY (COMPLETE)
4	EACH	MAST ARM ASSEMBLY AND POST
4	EACH	TRAFFIC SIGNAL POST
14	EACH	TRAFFIC SIGNAL HEAD
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	SERVICE INSTALLATION

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR THE PICK UP OF ALL THE EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY.

CITY OF JUNIPER
LEE ORTEGA
(815) 315-1234

2	EACH	LIGHT DETECTOR
1	EACH	LIGHT DETECTOR AMPLIFIER



NOTES:

1. ALL EXISTING CONDUIT SHALL BE ABANDONED.

TS 40830
EAGLE 2115

TS SHT NO. 9

USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -	
	DRAWN - IP	REVISED -	
	CHECKED - NB	REVISED -	
PLOT DATE =	DATE - 10/15/2025	REVISED -	

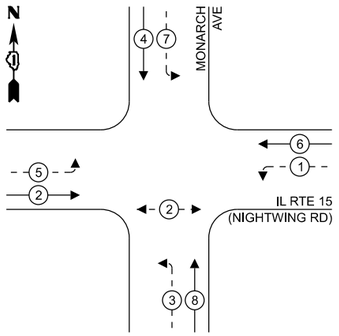
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND REMOVAL PLAN
IL RTE 15 (NIGHTWING RD) AT MONARCH AVE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

TEMPORARY CONTROLLER PHASE DIAGRAM



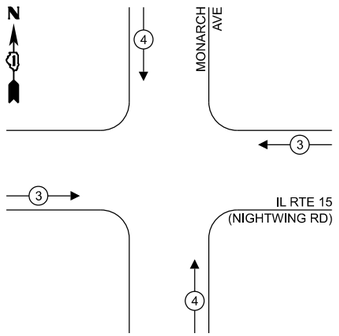
LEGEND:

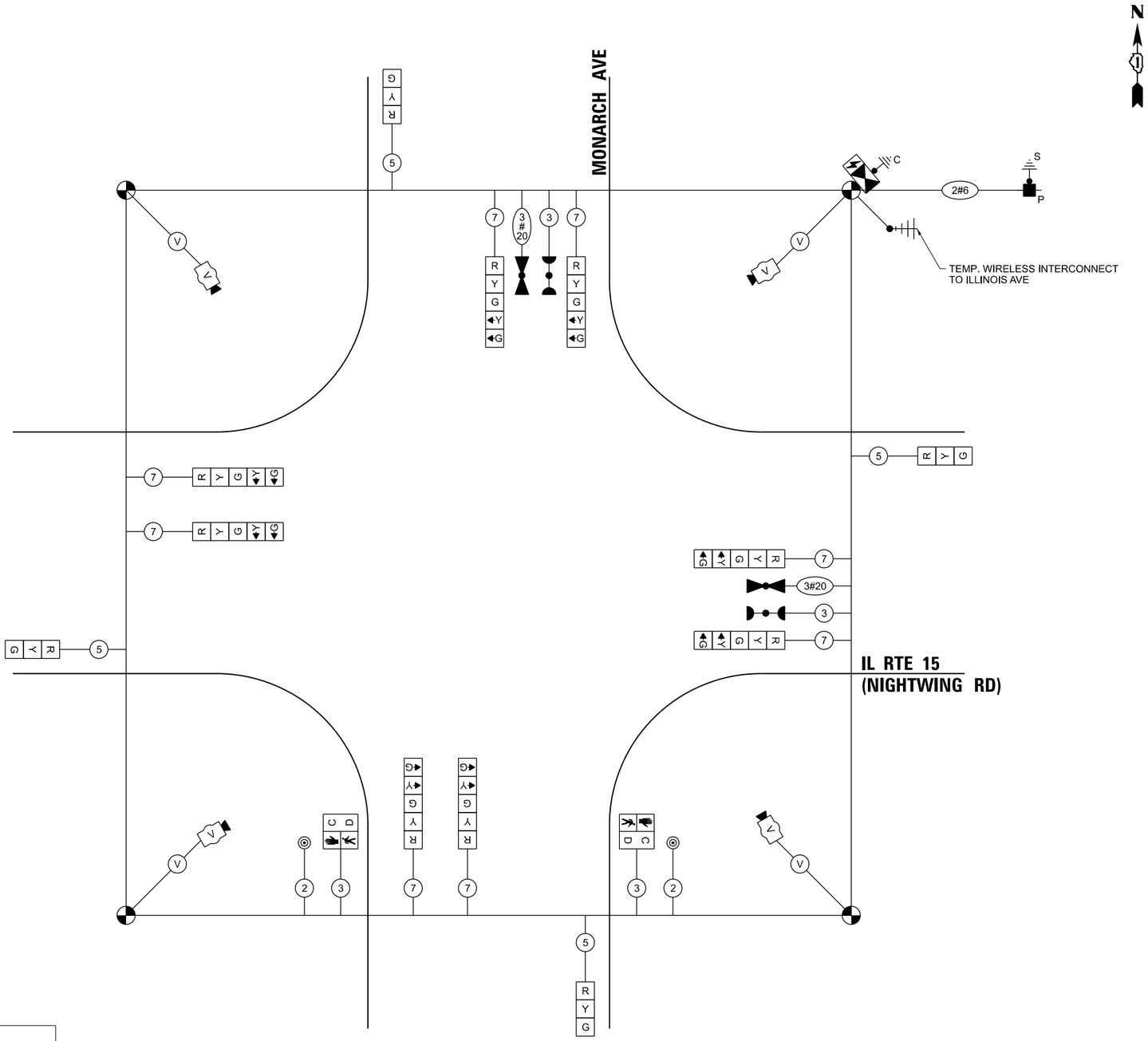
PROTECTED PHASE

PROTECTED/PERMISSIVE PHASE

PEDESTRIAN PHASE

TEMPORARY EMERGENCY VEHICLE PREEMPTION PHASE DIAGRAM





CABLE PLAN

TRAFFIC SIGNAL ELECTRIC SERVICE REQUIREMENTS

EQUIPMENT TYPE		QUANTITY	UNIT WATTAGE	TOTAL WATTAGE
SIGNAL HEAD	1 OR 3-SECTION	4	11	44
	4-SECTION	-	14	-
	5-SECTION	8	13	104
PROGRAMMABLE	3-SECTION	-	22	-
	4-SECTION	-	32	-
	5-SECTION	-	28	-
PEDESTRIAN SIGNAL		2	15	30
CONTROLLER		1	150	150
MASTER CONTROLLER		-	100	-
UPS		1	25	25
DETECTION	VIDEO	4	20	80
BLANK-OUT SIGN		-	25	-
NETWORK SWITCH	II OR III	-	35	-
CELLULAR MODEM		-	15	-
PTZ CAMERA		-	75	-
	TOTAL UPS SIZING			433
UPS CHARGING		1	225	225
BATTERY HEATER MAT		1	180	180
CABINET HEATER		1	200	200
FLASHER		-	15	-
LED STREET NAME SIGN		-	120	-
LUMINAIRE		-	240	-
	TOTAL SERVICE WIRE SIZING			1,038

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 W CENTER CT
SCHAUMBURG, IL 60196

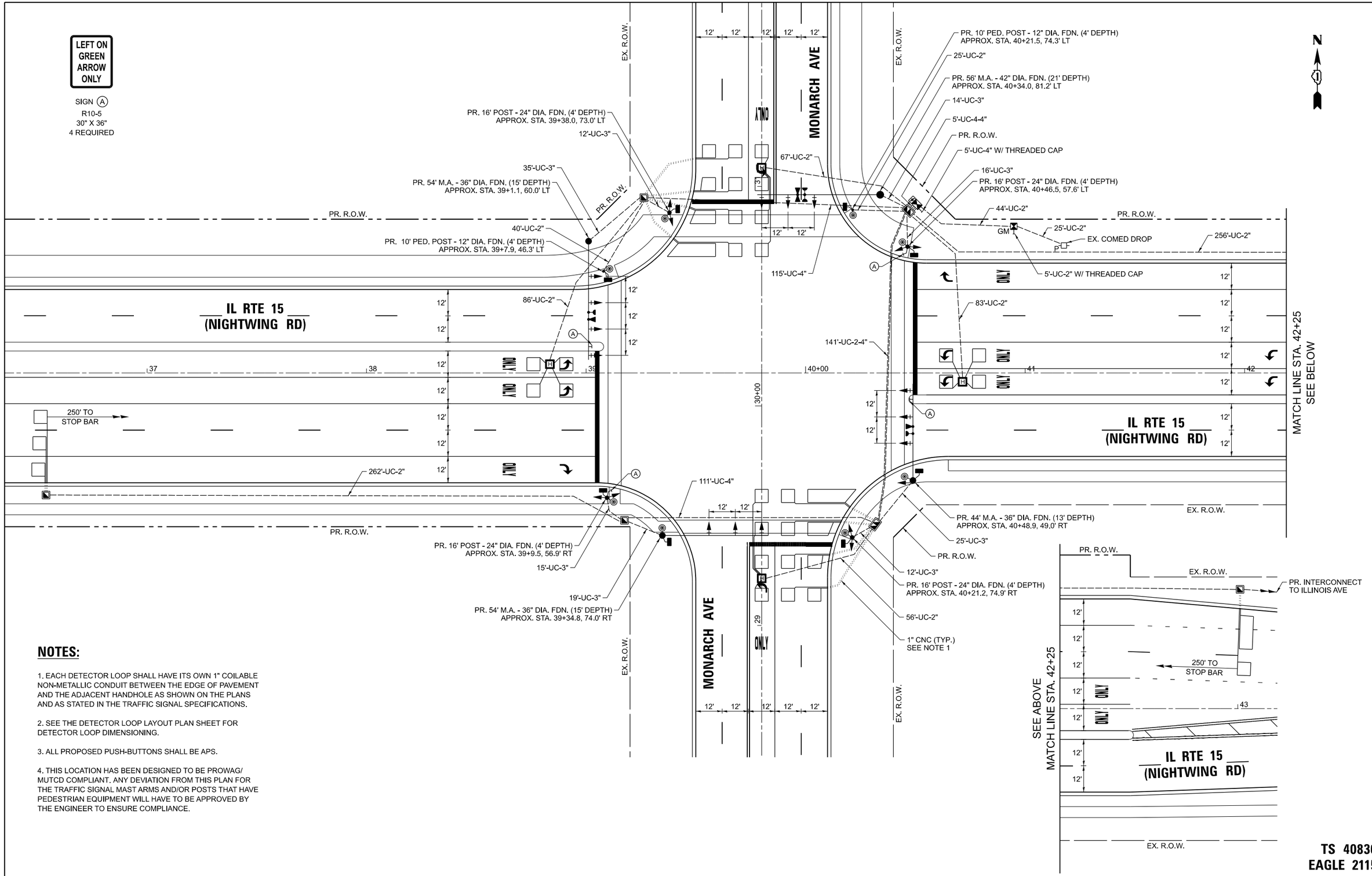
ENERGY SUPPLY: CONTACT: NEW BUSINESS
PHONE: ---
COMPANY: COMED
ACCOUNT NUMBER: ---
METER NUMBER: ---

TS SHT NO. 10

TS 40830
EAGLE 2115

USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - IP	REVISED -	TEMPORARY CABLE PLAN, CONTROLLER PHASE DIAGRAM, AND EMERGENCY VEHICLE PREEMPTION PHASE DIAGRAM IL RTE 15 (NIGHTWING RD) AT MONARCH AVE
	CHECKED - NB	REVISED -	SCALE: SHEET OF SHEETS STA. TO STA.
PLOT DATE =	DATE - 10/15/2025	REVISED -	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



NOTES:

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.

2. SEE THE DETECTOR LOOP LAYOUT PLAN SHEET FOR DETECTOR LOOP DIMENSIONING.

3. ALL PROPOSED PUSH-BUTTONS SHALL BE APS.

4. THIS LOCATION HAS BEEN DESIGNED TO BE PROWAG/ MUTCD COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE TRAFFIC SIGNAL MAST ARMS AND/OR POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO ENSURE COMPLIANCE.

TS SHT NO. 11

TS 40830
EAGLE 2115

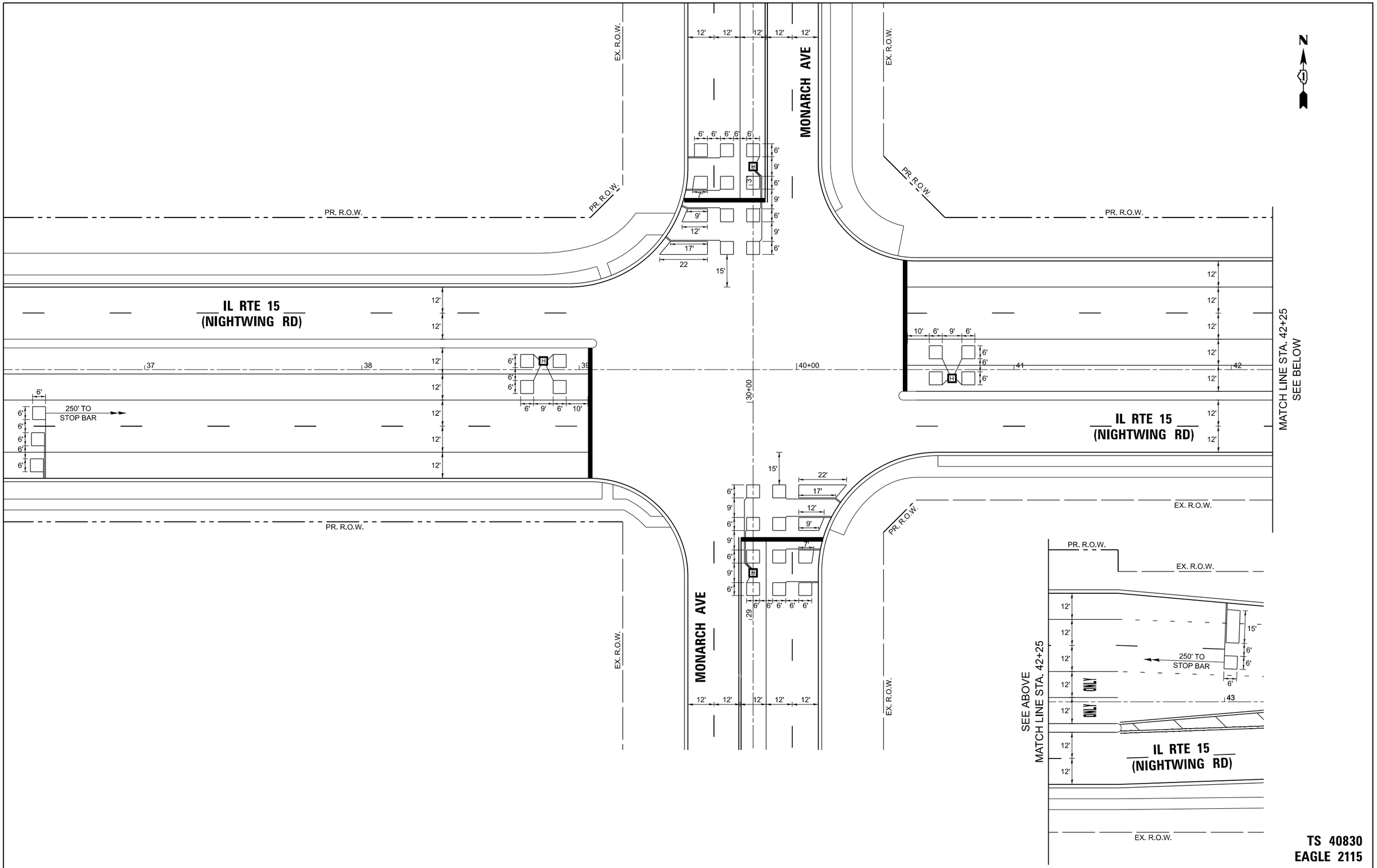
USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -
	DRAWN - IP	REVISED -
	CHECKED - NB	REVISED -
PLOT DATE =	DATE - 10/15/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN
IL RTE 15 (NIGHTWING RD) AT MONARCH AVE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



TS SHT NO. 12

TS 40830
EAGLE 2115

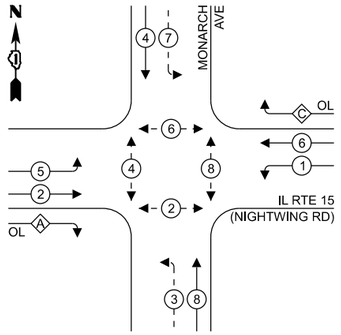
USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - IP	REVISED -	
	CHECKED - NB	REVISED -	
PLOT DATE =	DATE - 10/15/2025	REVISED -	

DETECTOR LOOP LAYOUT PLAN
IL RTE 15 (NIGHTWING RD) AT MONARCH AVE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

PROPOSED CONTROLLER PHASE DIAGRAM



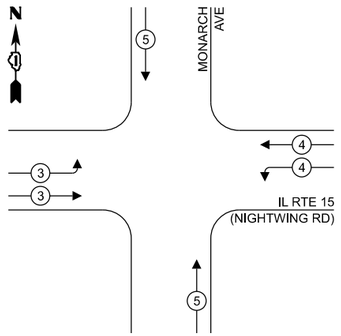
LEGEND:

- PROTECTED PHASE
- PROTECTED/PERMISSIVE PHASE
- PEDESTRIAN PHASE
- OVERLAP

RIGHT TURN OVERLAP PHASE DESIGNATION:

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

PROPOSED EMERGENCY VEHICLE PREEMPTION PHASE DIAGRAM



NOTES:

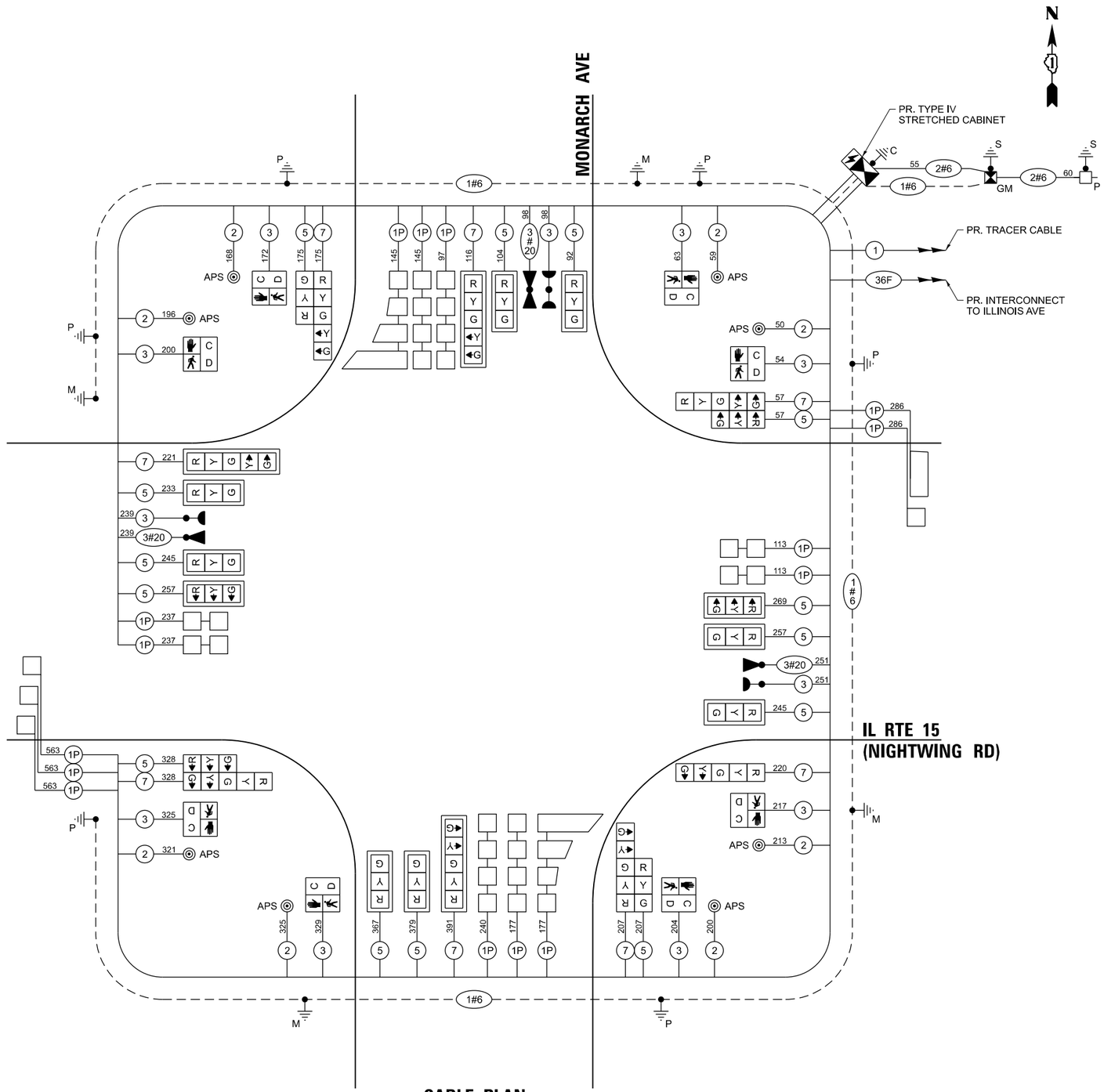
1. ALL RED SIGNAL INDICATIONS SHALL HAVE A LENS COVER.

TRAFFIC SIGNAL ELECTRIC SERVICE REQUIREMENTS

EQUIPMENT TYPE		QUANTITY	UNIT WATTAGE	TOTAL WATTAGE
SIGNAL HEAD	1 OR 3-SECTION	14	11	154
	4-SECTION	-	14	-
	5-SECTION	8	13	104
PROGRAMMABLE	3-SECTION	-	22	-
	4-SECTION	-	32	-
	5-SECTION	-	28	-
PEDESTRIAN SIGNAL		8	15	120
CONTROLLER		1	150	150
MASTER CONTROLLER		-	100	-
UPS		1	25	25
DETECTION	VIDEO	-	20	-
BLANK-OUT SIGN		-	25	-
NETWORK SWITCH	II OR III	-	35	-
CELLULAR MODEM		-	15	-
PTZ CAMERA		-	75	-
TOTAL UPS SIZING				553
UPS CHARGING		1	225	225
BATTERY HEATER MAT		1	180	180
CABINET HEATER		1	200	200
FLASHER		-	15	-
LED STREET NAME SIGN		-	120	-
LUMINAIRE		-	240	-
TOTAL SERVICE WIRE SIZING				1,158

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 W CENTER CT
SCHAUMBURG, IL 60196

ENERGY SUPPLY: CONTACT: NEW BUSINESS
PHONE: ---
COMPANY: COMED
ACCOUNT NUMBER: ---
METER NUMBER: ---



CABLE PLAN

TS SHT NO. 13

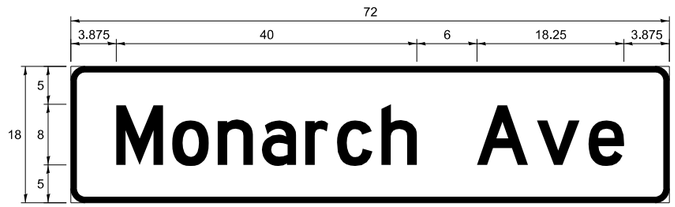
TS 40830
EAGLE 2115

USER NAME = iovan.plascencia	DESIGNED - IP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - IP	REVISED -	CABLE PLAN, CONTROLLER PHASE DIAGRAM, AND EMERGENCY VEHICLE PREEMPTION PHASE DIAGRAM IL RTE 15 (NIGHTWING RD) AT MONARCH AVE
	CHECKED - NB	REVISED -	SCALE: SHEET OF SHEETS STA. TO STA.
PLOT DATE =	DATE - 10/15/2025	REVISED -	

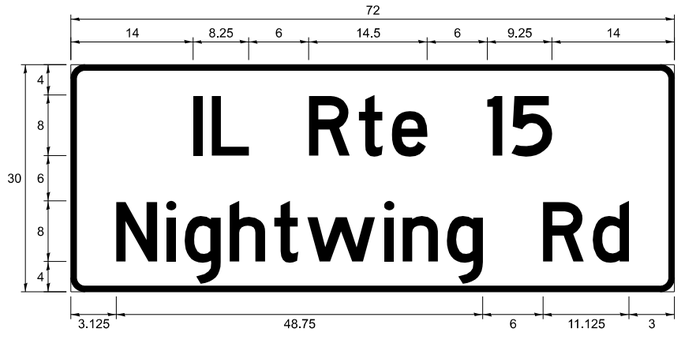
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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	9	1	ZZ	2



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

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION SEE DISTRICT STANDARD TS-02 - MAST ARM MOUNTED STREET NAME SIGNS.

SCHEDULE OF QUANTITIES

	ITEM DESCRIPTION	UNITS	TOTAL QTY
	SIGN PANEL - TYPE 1	SQ FT	48
	SIGN PANEL - TYPE 2	SQ FT	30
	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	949
	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	148
	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	533
	HANDHOLE	EACH	4
	HEAVY-DUTY HANDHOLE	EACH	4
	DOUBLE HANDHOLE	EACH	2
	TRANSCEIVER - FIBER OPTIC	EACH	1
	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1,532
	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2,152
	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	3,215
	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1,715
	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3,942
	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	115
	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	965
	TRAFFIC SIGNAL POST, 16 FT.	EACH	4
	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
	STEEL MAST ARM ASSEMBLY AND POLE, 54 FT.	EACH	2
	STEEL MAST ARM ASSEMBLY AND POLE, 56 FT.	EACH	1
	CONCRETE FOUNDATION, TYPE A	FOOT	20
	CONCRETE FOUNDATION, TYPE D	FOOT	4
	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	43
	CONCRETE FOUNDATION, TYPE E 42-INCH DIAMETER	FOOT	21
	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	10
	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	5
	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	3
	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	13
	INDUCTIVE LOOP DETECTOR	EACH	15
	DETECTOR LOOP, TYPE I	FOOT	1,400
✳	LIGHT DETECTOR	EACH	3
✳	LIGHT DETECTOR AMPLIFIER	EACH	1
	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
	REMOVE EXISTING HANDHOLE	EACH	10
	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
✳	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	588
	SERVICE INSTALLATION, GROUND MOUNTED, METERED	EACH	1
	PEDESTRIAN SIGNAL POST, 10 FT.	EACH	2
	FULL-ACTUATED CONTROLLER AND TYPE IV STRETCHED CABINET (SPECIAL)	EACH	1
	UNINTERRUPTABLE POWER SUPPLY AND CABINET (SPECIAL)	EACH	1
	ACCESSIBLE PEDESTRIAN SIGNALS	EACH	8
	CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	8
	LED SIGNAL FACE, LENS COVER	EACH	22
	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	1

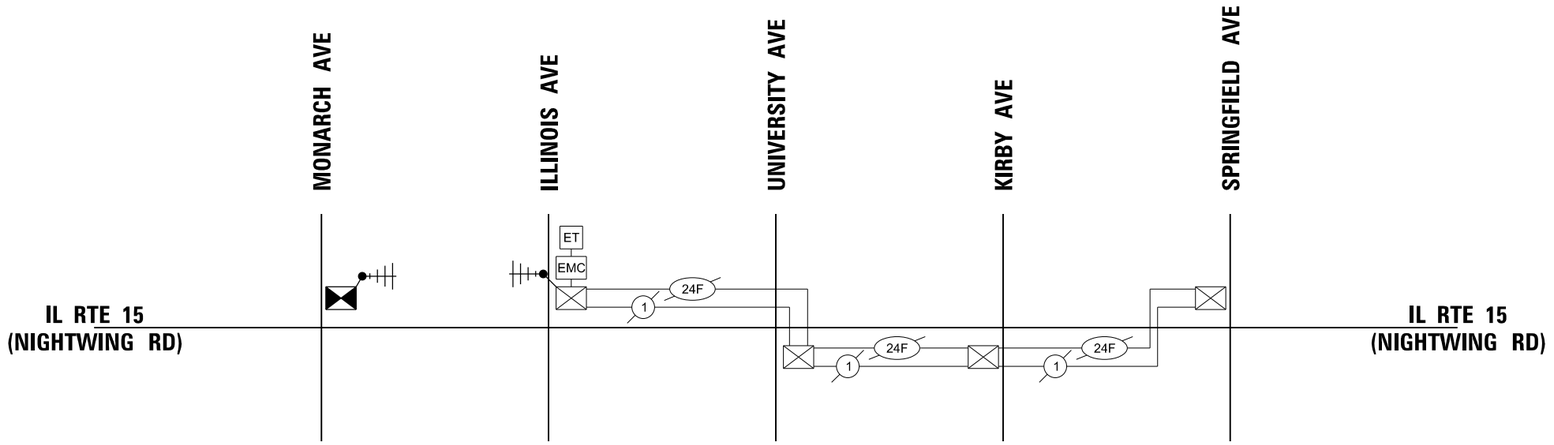
✳ 100% COST TO THE CITY OF JUNIPER

TS SHT NO. 14

TS 40830
EAGLE 2115

USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAST ARM MOUNTED STREET NAME SIGNS AND SCHEDULE OF QUANTITIES IL RTE 15 (NIGHTWING RD) AT MONARCH AVE	F.A. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN - IP	REVISED -			
	CHECKED - NB	REVISED -			CONTRACT NO.
PLOT DATE =	DATE - 10/15/2025	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT

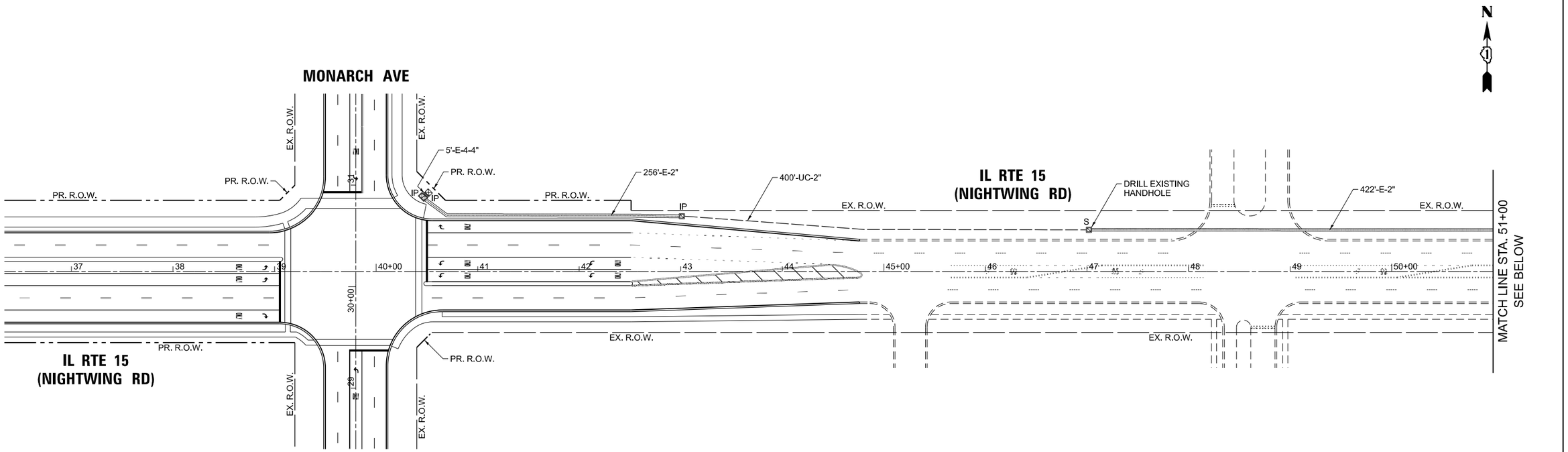
N

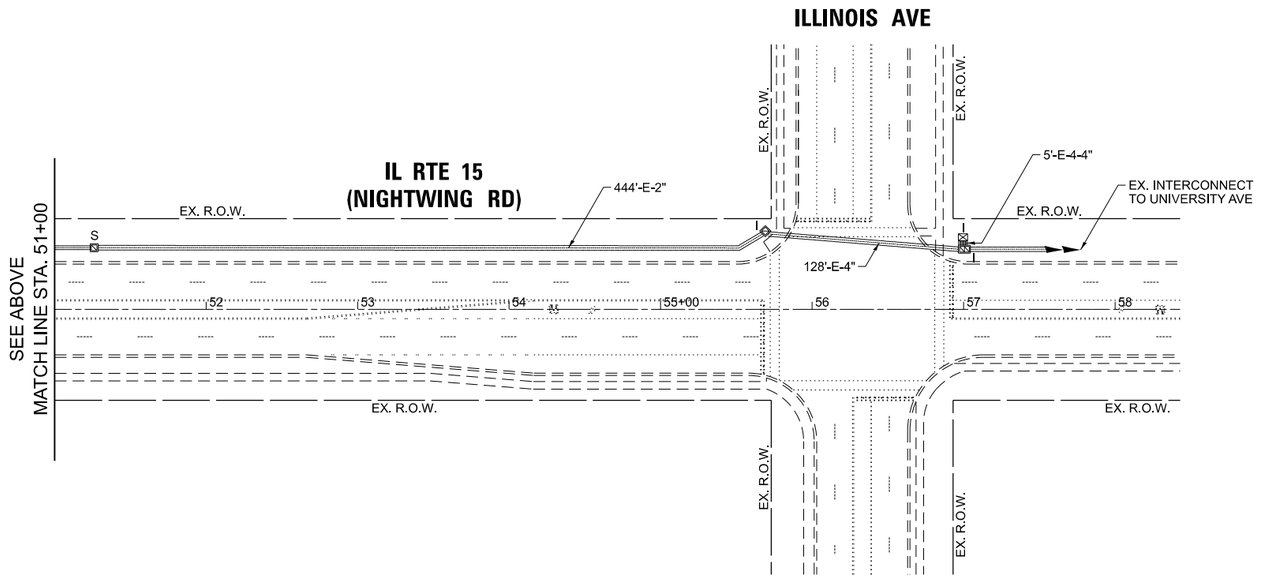


TS SHT NO. 15

EAGLE 2115

USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY INTERCONNECT SCHEMATIC IL RTE 15 (NIGHTWING RD) - MONARCH AVE TO SPRINGFIELD AVE	F.A. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN - IP	REVISED -			
	CHECKED - NB	REVISED -		SCALE: / SHEET OF SHEETS / STA. / TO STA.	CONTRACT NO.
PLOT DATE =	DATE - 10/15/2025	REVISED -			ILLINOIS / FED. AID PROJECT





TS SHT NO. 16

EAGLE 2115

USER NAME = lovanpilascencia	DESIGNED - IP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - IP	REVISED -	
	CHECKED - NB	REVISED -	
PLOT DATE =	DATE - 10/15/2025	REVISED -	

PROPOSED INTERCONNECT PLAN
IL RTE 15 (NIGHTWING RD) -
MONARCH AVE TO ILLINOIS AVE

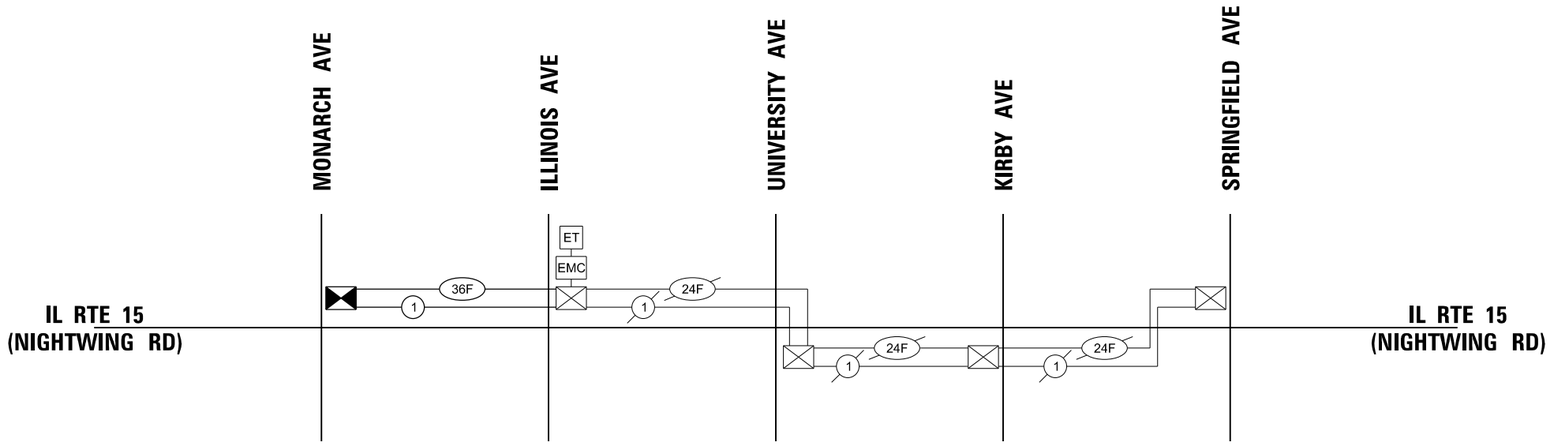
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

NOTES:

1. THE SCAT CONSULTANT WILL DETERMINE THE LOCATIONS OF THE SYSTEM DETECTORS.

N



SCHEDULE OF QUANTITIES

	ITEM DESCRIPTION	UNITS	TOTAL QTY
	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	400
	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	1,690
	DRILL EXISTING HANDHOLE	EACH	1
	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	2,080
✳	ROD AND CLEAN EXISTING CONDUIT	FOOT	866
	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	FOOT	1,750

✳ NOMINAL QUANTITY TO BE USED AS NEEDED AND AS APPROVED BY THE ENGINEER

TS SHT NO. 17

EAGLE 2115

USER NAME = lovan.plascencia	DESIGNED - IP	REVISED -	
	DRAWN - IP	REVISED -	
	CHECKED - NB	REVISED -	
PLOT DATE =	DATE - 10/15/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED INTERCONNECT SCHEMATIC AND SCHEDULE OF QUANTITIES
IL RTE 15 (NIGHTWING RD) -
MONARCH AVE TO SPRINGFIELD AVE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		