

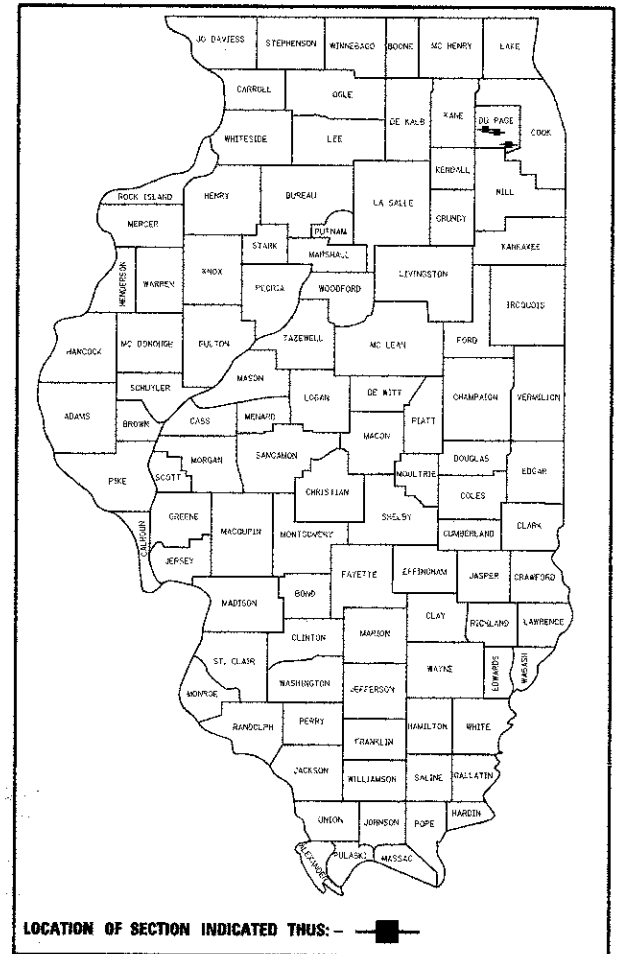
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

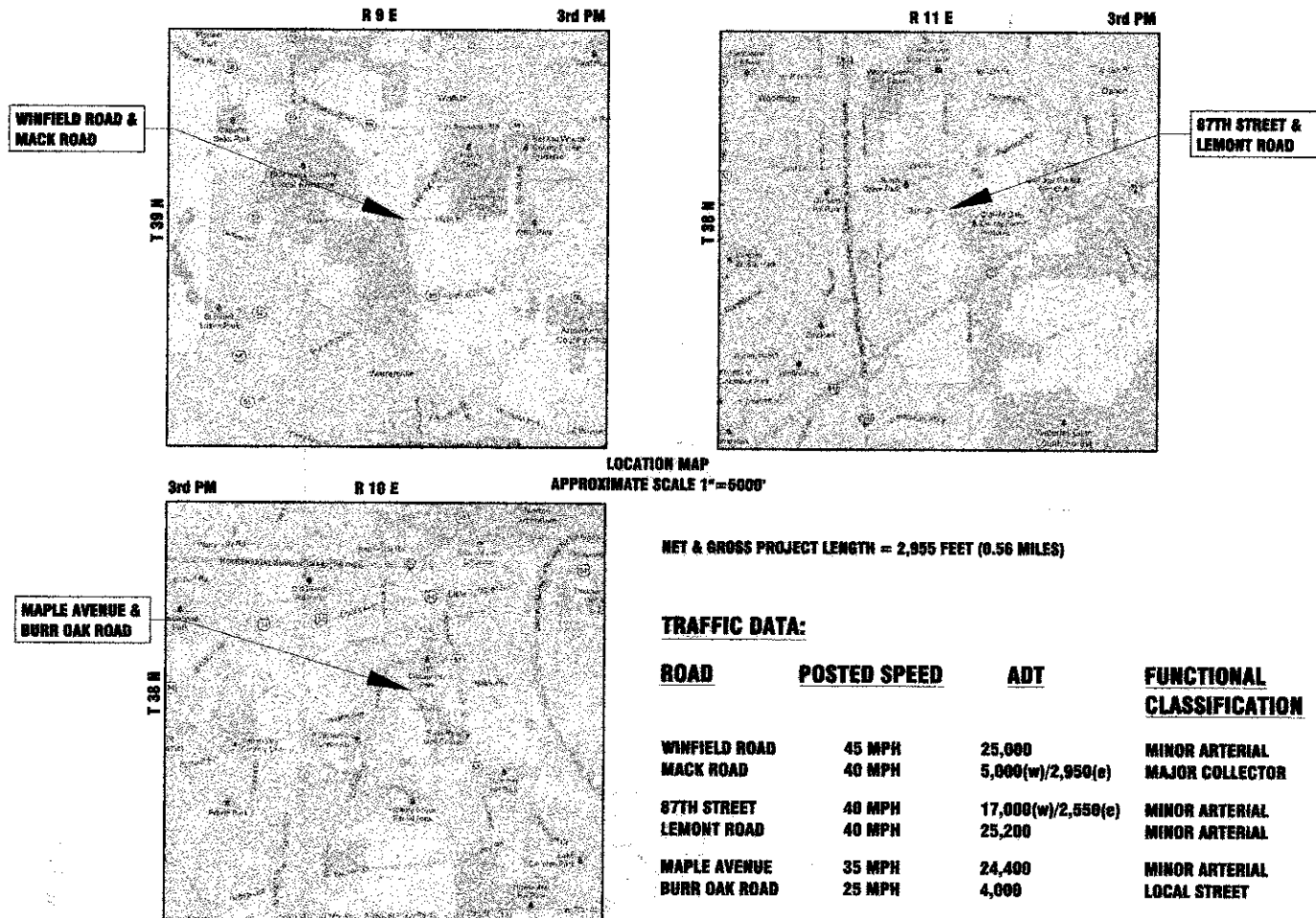
VARIOUS ROUTES
VARIOUS LIMITS
TRAFFIC SIGNAL MODERNIZATION
LIGHTING & ADVANCED WARNING SIGNS/FLASHERS

SECTION 11-00232-06-SP
PROJECT NO. HSIP-0089(169)
DuPAGE COUNTY

C-91-564-12



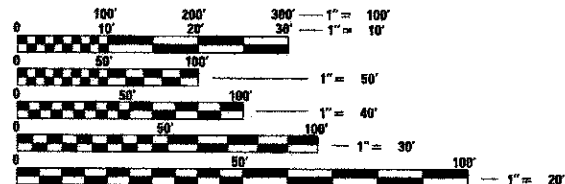
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & SUMMARY OF QUANTITIES
3-8	DISTRICT 1 TRAFFIC SIGNAL STANDARDS
9	STREET NAME SIGNS - WINFIELD RD & MACK RD
10	EXISTING TRAFFIC SIGNAL PLAN - WINFIELD RD & MACK RD
11	PROPOSED TRAFFIC SIGNAL INSTALLATION - WINFIELD RD & MACK RD
12	PROPOSED TRAFFIC SIGNAL CABLE PLAN, PHASE DIAGRAM, EVP SEQUENCE, & SCHEDULE OF QUANTITIES
13	FLASHING BEACON PLAN & DETAIL - WINFIELD RD & MACK RD
14	TRAFFIC SIGNAL MODERNIZATION PLAN - LEMONT RD & 87TH ST
15	PROPOSED TRAFFIC SIGNAL CABLE PLAN, PHASE DIAGRAM, EVP SEQUENCE, & SCHEDULE OF QUANTITIES
16	FLASHING BEACON PLAN & DETAIL - LEMONT RD & 87TH ST
17	INTERCONNECT SCHEMATIC - LEMONT RD FROM 83RD ST TO INTERNATIONALE PKWY
18	TRAFFIC SIGNAL MODERNIZATION PLAN - MAPLE AVE & BURR OAK RD
19	PROPOSED TRAFFIC SIGNAL CABLE PLAN, PHASE DIAGRAM, EVP SEQUENCE, & SCHEDULE OF QUANTITIES
20	OVERHEAD FLASHING BEACON INSTALLATION PLAN & DETAIL - MAPLE AVE & BURR OAK RD
21	INTERCONNECT SCHEMATIC - MAPLE AVE FROM CHARLES AVE TO PATTON DR



NET & GROSS PROJECT LENGTH = 2,955 FEET (0.56 MILES)

TRAFFIC DATA:

ROAD	POSTED SPEED	ADT	FUNCTIONAL CLASSIFICATION
WINFIELD ROAD	45 MPH	25,000	MINOR ARTERIAL
MACK ROAD	40 MPH	5,000(w)/2,950(e)	MAJOR COLLECTOR
87TH STREET	40 MPH	17,000(w)/2,550(e)	MINOR ARTERIAL
LEMONT ROAD	40 MPH	25,200	MINOR ARTERIAL
MAPLE AVENUE	35 MPH	24,400	MINOR ARTERIAL
BURR OAK ROAD	25 MPH	4,000	LOCAL STREET



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER: BRIEN FUNK, E.I.
PROJECT MANAGER: JOHN SCHWARZ, P.E.

CONTRACT NO. 63777

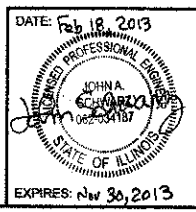
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED February 19th 2013
Christopher Snyder
DuPAGE COUNTY HIGHWAY ENGINEER

PASSED April 9 2013
John Fortman
DISTRICT 1 ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW April 10 2013
John Fortman
DEPUTY DIRECTOR OF HIGHWAYS REGION 1 ENGINEER

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Hampton, Lenzini and Renwick, Inc.
Civil Engineers • Structural Engineers
Land Surveyors • Environmental Services

HLR
380 SHEPARD DRIVE
ELGIN, ILLINOIS 60123
847.697.6700 www.hirengineering.com
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

HLR PROJECT NUMBER: 12.0123.380 DATE: 12-13-2012

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

SUMMARY OF QUANTITIES

IDOT CODE	ITEM	UNIT	TOTAL QUANTITY	WINFIELD & MACK	87TH & LEMONT	MAPLE & BURR OAK
				ROADWAY	ROADWAY	ROADWAY
				0021 RURAL	0021 RURAL	0021 RURAL
66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	88.2	71.8	8.2	8.2
66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	0.7	0.15	0.15
66900530	SOIL DISPOSAL ANALYSIS	EACH	3	1	1	1
67100100	MOBILIZATION	L SUM	1	0.34	0.33	0.33
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	0.34	0.33	0.33
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.5	0.25	0.25
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	0.4	0.2	0.4
72000100	SIGN PANEL - TYPE 1	SQ FT	30	30		
80500010	SERVICE INSTALLATION - GROUND MOUNTED	EACH	1	1		
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1010	919	83	8
81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	55	45		10
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	134	90	17	27
81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	371	371		
81400100	HANDHOLE	EACH	4	4		
81400300	DOUBLE HANDHOLE	EACH	2	2		
81702450	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 10	FOOT	776	776		
82102310	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 310 WATT	EACH	4	4		
83003600	LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM	EACH	1			1
83009600	LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. MAST ARM	EACH	2	1	1	
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	3	1	1	1
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1
85820400	FLASHER CONTROLLER, SPECIAL, WITHOUT CABINET	EACH	3	1	1	1
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1903	1232		671
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	9240	3803	2722	2715
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2621	1268	513	840
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1686	1471	215	
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	55	55		
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	4231	1462	1000	1769
87500600	TRAFFIC SIGNAL POST, 10 FT.	EACH	1			1
87501200	TRAFFIC SIGNAL POST, 16 FT.	EACH	5	3	2	
87501400	TRAFFIC SIGNAL POST, 18 FT.	EACH	3	1	1	1
87702880	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 30 FT.	EACH	1	1		
87702900	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT.	EACH	1	1		
87702940	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 42 FT.	EACH	1	1		
87702950	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 44 FT.	EACH	1	1		
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	20	16		4
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4	4		
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	30	10	10	10
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	42	42		
87900200	DRILL EXISTING HANDHOLE	EACH	1		1	
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	10	6	2	2
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2			2
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	5	4	1	
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4	4		
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	2	1	1	
88040020	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, BRACKET MOUNTED	EACH	6	2	2	2
88102825	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER	EACH	2			2
88102845	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 2-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER	EACH	5	4		1
88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	32	12	12	8
88700090	CONFIRMATION BEACON	EACH	2		2	
88700200	LIGHT DETECTOR	EACH	6	4	1	1
88700300	LIGHT DETECTOR AMPLIFIER	EACH	1	1		
88800100	PEDESTRIAN PUSH-BUTTON	EACH	12	8		4
89500100	RELOCATE EXISTING SIGNAL HEAD	EACH	6		4	2
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	2		1	1
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	486		326	160
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	3	1	1	1
89502380	REMOVE EXISTING HANDHOLE	EACH	8	8		
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	10	9	1	
X0323372	VIDEO VEHICLE DETECTION, 2 CAMERAS	EACH	2		1	1
X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	3773	1537	1212	1024
X0327515	THERMAL VEHICLE DETECTION SYSTEM	EACH	1	1		
X8140102	GROUND EXISTING HANDHOLE	EACH	6			6
X8570215	FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1			1
X8570226	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1	1		
X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	3	1	1	1
X8803040	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT	EACH	1		1	
X8803084	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	5		5	
X8803088	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	3		3	
Z0013798	CONSTRUCTION LAYOUT	EACH	1	0.7	0.15	0.15

△ SPECIALTY ITEM

GENERAL NOTES

ALL WORK SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2012, (HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS); THE "SUPPLEMENTAL" SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS," ADOPTED JANUARY 1, 2013; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DUPAGE COUNTY DIVISION OF TRANSPORTATION SPECIFICATIONS; THE DETAILS IN THE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

THE STANDARD SPECIFICATIONS, PROJECT SPECIFICATIONS, CONSTRUCTION PLANS, AND SUBSEQUENT DETAILS ARE ALL TO BE CONSIDERED AS PART OF THE CONTRACT. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE TO BE CONSIDERED A PART OF THE CONTRACT.

WHENEVER, DURING CONSTRUCTION OPERATIONS, ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THE LOOSE MATERIAL WILL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OF UNSTABLE MATERIALS CREATED AS A RESULT THEREOF.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ADEQUATE SIGNS, TRAFFIC CONTROL DEVICES, AND WARNING DEVICES TO INFORM AND PROTECT THE PUBLIC DURING ALL PHASES OF CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL AREAS AFFECTED BY EQUIPMENT OR LABORERS TO EXISTING CONDITIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROTECTING ALL NEW WORK UNTIL COMPLETION OF THIS CONTRACT. ANY WORK THAT IS VANDALIZED OR OTHERWISE DAMAGED AND JUDGED UNACCEPTABLE BY THE COUNTY SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING TRAFFIC SIGNAL AND LIGHTING FACILITIES IN THE PROJECT LIMITS. IF THERE ARE ANY QUESTIONS CONCERNING THE EXISTING EQUIPMENT THE CONTRACTOR SHALL CONTACT THE DUPAGE COUNTY DIVISION OF TRANSPORTATION AT (630) 407-6900 FOR TRAFFIC SIGNAL CABLE LOCATIONS A MINIMUM OF 48 HOURS IN ADVANCE (WEEKENDS AND HOLIDAYS EXCLUDED) AT ANY LOCATION WITHIN THE RIGHT-OF-WAY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE OWNERS OF ALL UTILITIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF ALL UTILITY EQUIPMENT. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY OWNERS AS PROVIDED FOR IN THE STANDARD SPECIFICATIONS IF UTILITY RELOCATION, ADJUSTMENT OR PROTECTION IS NECESSARY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

PLAN SETS IDENTIFY CONSTRUCTION IN BOLD PRINT; EXISTING ROADWAY ELEMENTS INCLUDED FOR REFERENCE ONLY ARE IDENTIFIED IN LIGHTER PRINT.

FORTY-EIGHT (48) HOURS BEFORE STARTING EXCAVATION, THE CONTRACTOR SHALL CALL J.U.L.I.E. (1-800-892-0123) TO HAVE THE LOCATION OF EXISTING UTILITIES STAKED.

FILE NAME 122123-ant-notes & quantities	USER NAME hwhgh	DESIGNED - BF	REVISED - 02/05/2013 HLR
		DRAWN - BF	REVISED - 03/18/2013 DPCCDT
		CHECKED - JS	REVISED -
		DATE - 12-13-12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES, INDEX OF SHEETS
SUMMARY OF QUANTITIES

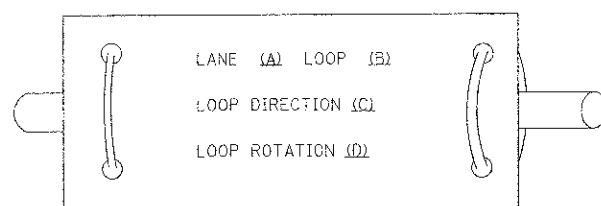
F.A.J. RTE.	SECTION 11-00232-06-SP	COUNTY DUPAGE	TOTAL SHEETS 21	SHEET NO. 2
HLR PROJECT NO. 12.0123.350	CONTRACT NO. 63777		ILLINOIS FEG. AID PROJECT	

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

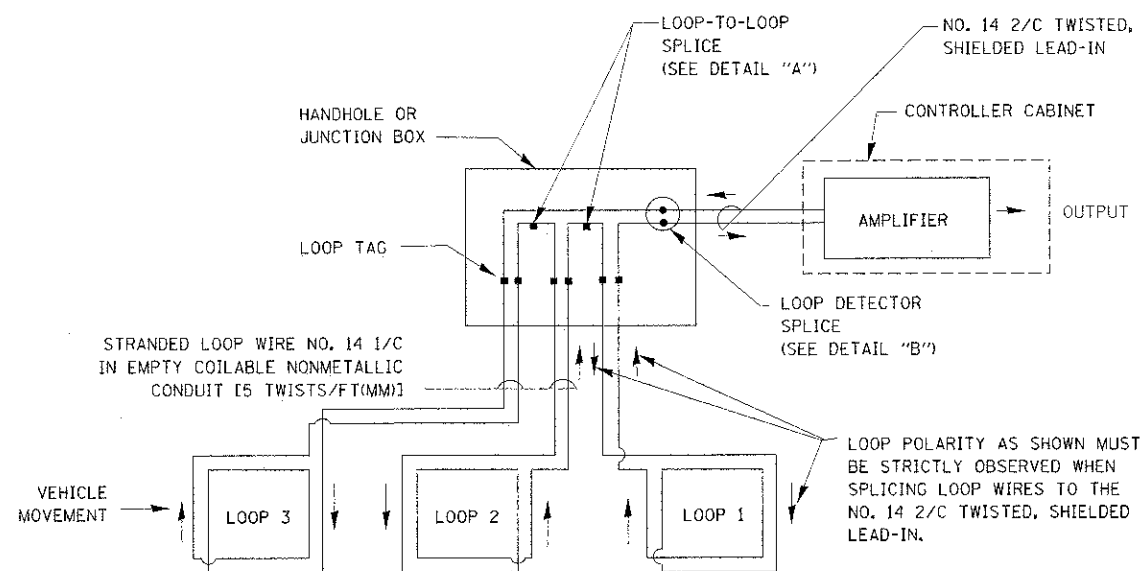
LOOP DETECTOR NOTES

- 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.
- 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.
- 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.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- 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.
- 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.
- PERFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PERFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

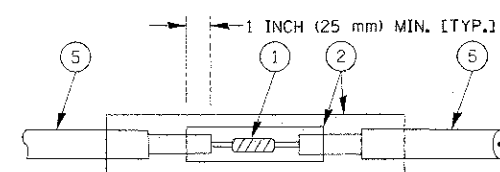


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

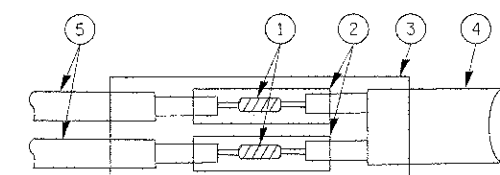


DETECTOR LOOP WIRING SCHEMATIC

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

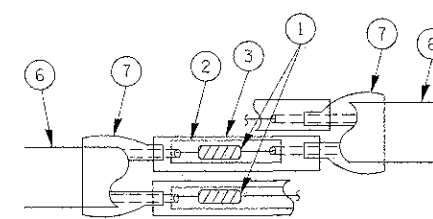


DETAIL "A"
LOOP-TO-LOOP SPLICE

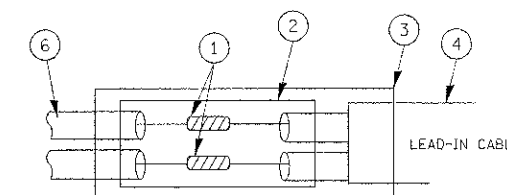


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

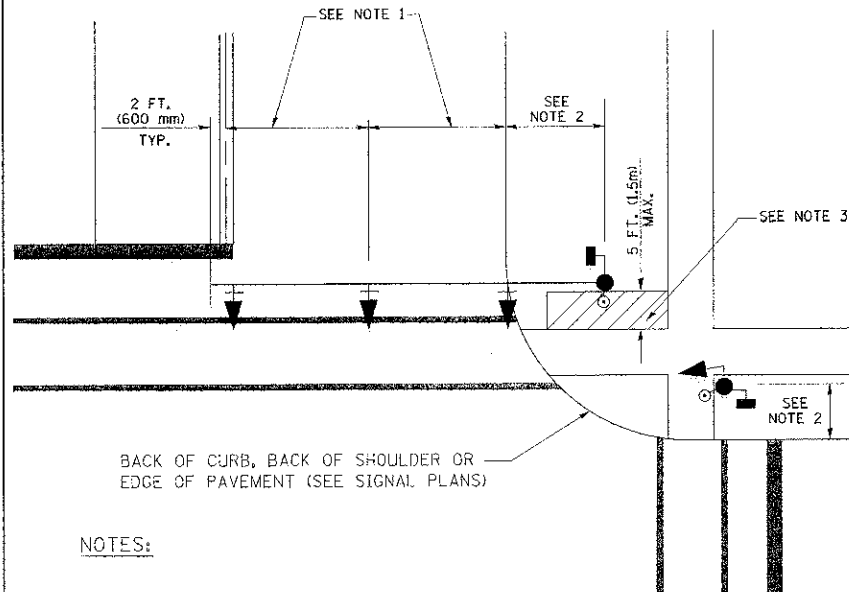
LOOP DETECTOR SPLICE

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

FILE NAME =	USER NAME =	DESIGNED - DAD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS			P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
as\p\work\PI007\KANT\GPH\EXR\RC\01126	Legend.v7.dgn	DRAWN - BCK	REVISED -		SCALE:	SHEET NO. 1 OF 6 SHEETS	STA.	TO STA.	11-00232-06-5A	DVPAGE	21	3
	PLOT SCALE = 24,3600 1/1 IN.	CHECKED - DAD	REVISED -									
	PLOT DATE = 10/6/2009	DATE - 10/28/09	REVISED -									
								CONTRACT NO. 63777		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

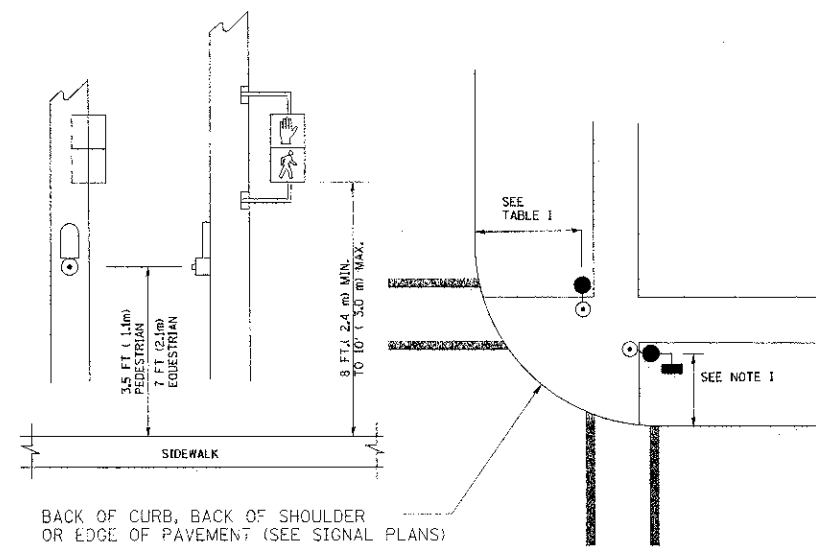
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

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

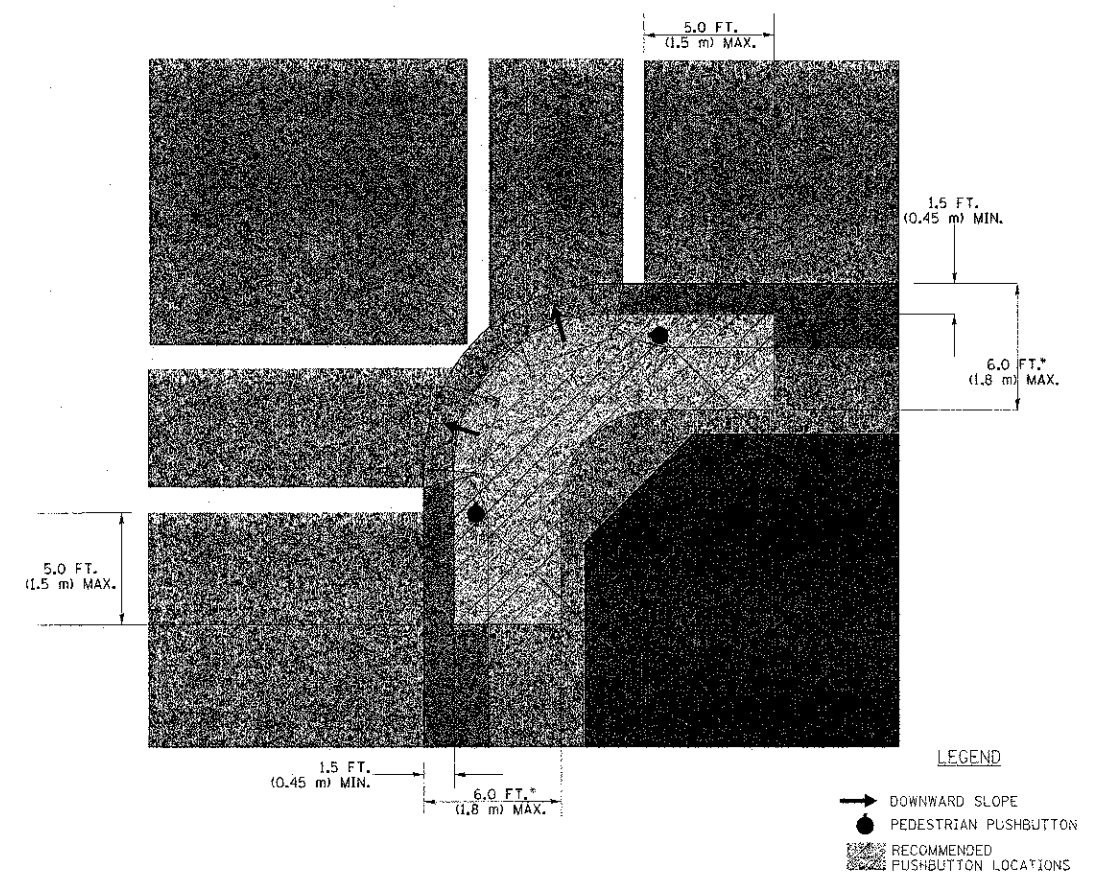
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

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

RECOMMENDED PUSHBUTTON LOCATIONS



LEGEND

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- RECOMMENDED PUSHBUTTON LOCATIONS

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

NOTES:

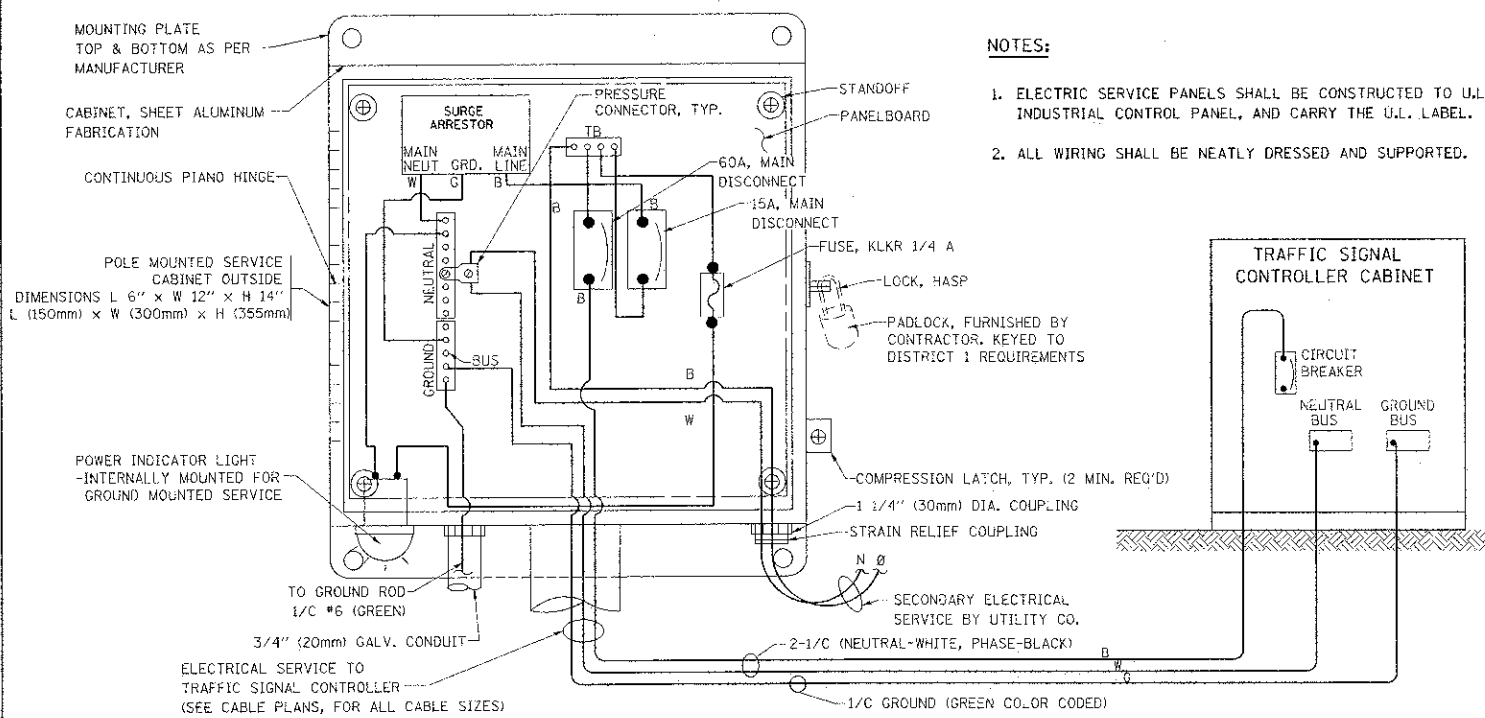
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM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

TRAFFIC SIGNAL EQUIPMENT OFFSET

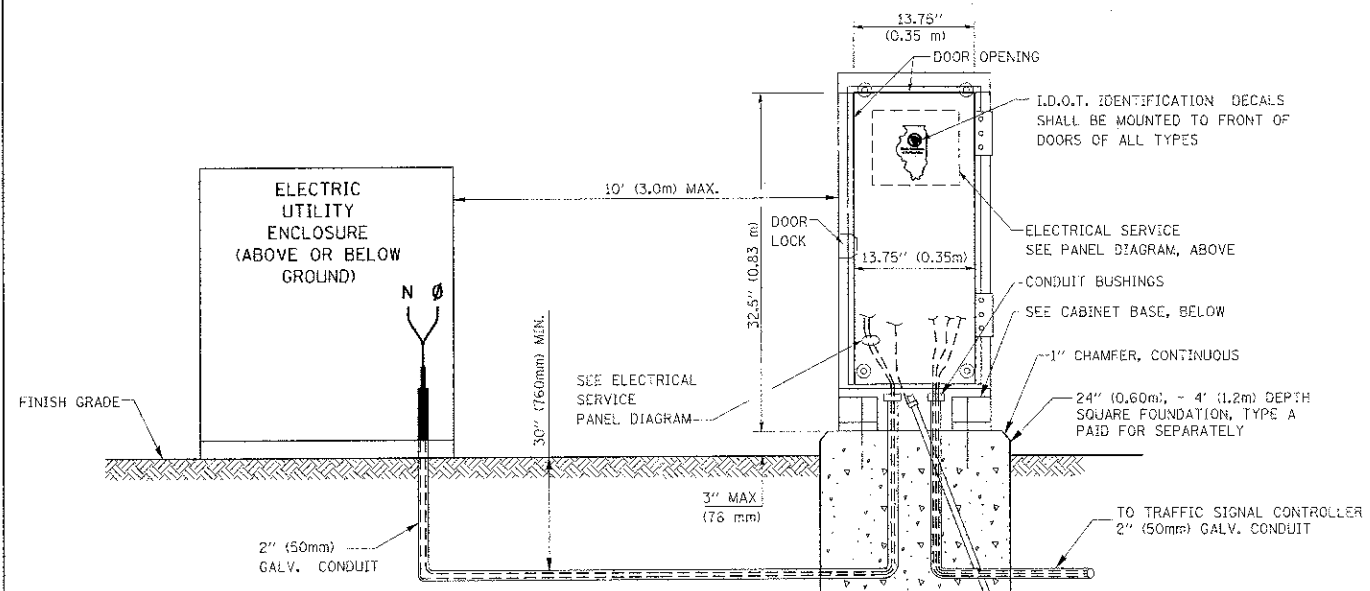
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10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

NOTES:

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

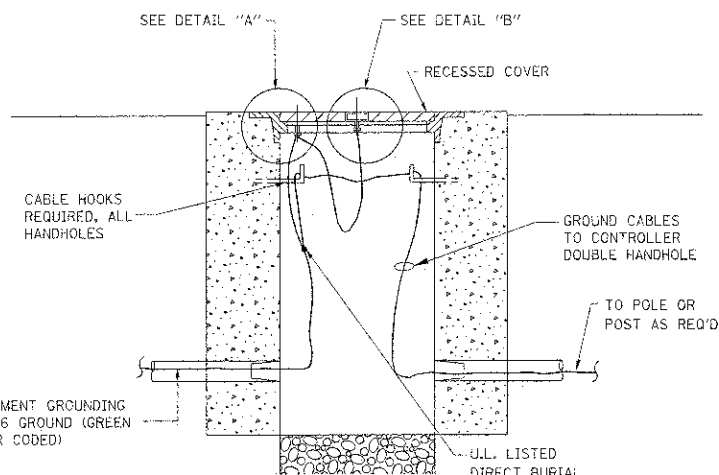
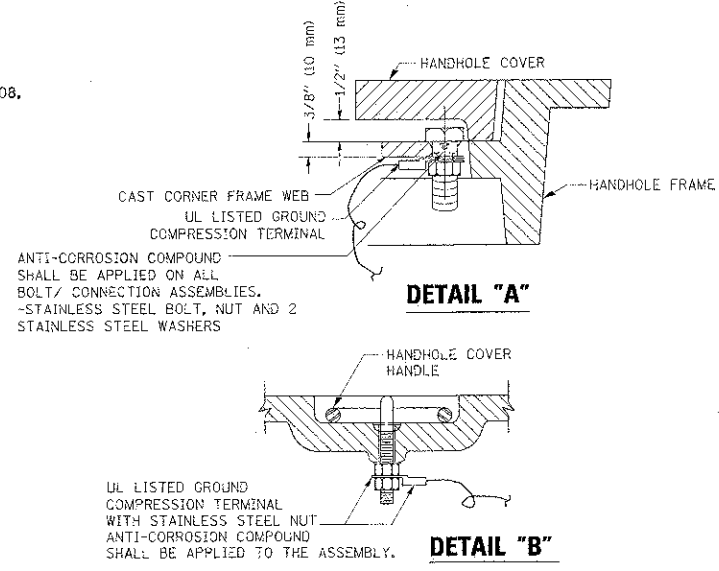
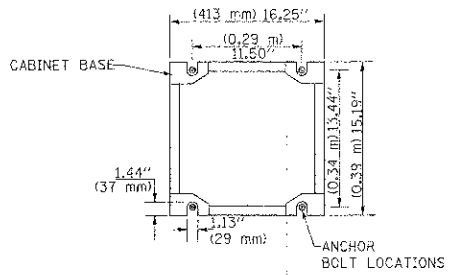


ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)

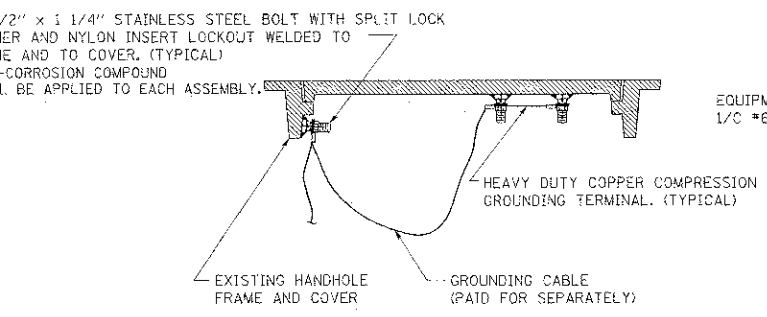


SERVICE INSTALLATION GROUND MOUNT
 (NOT TO SCALE)

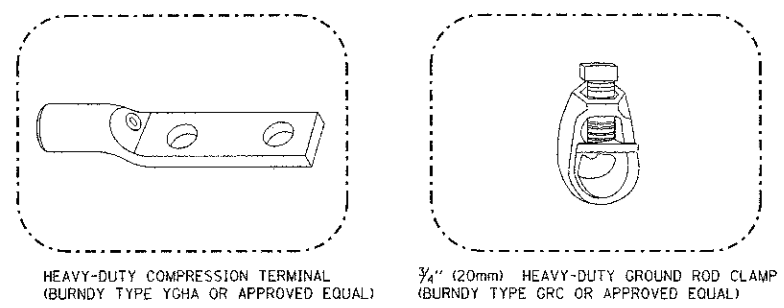
CABINET - BASE BOLT PATTERN
 (NOT TO SCALE)



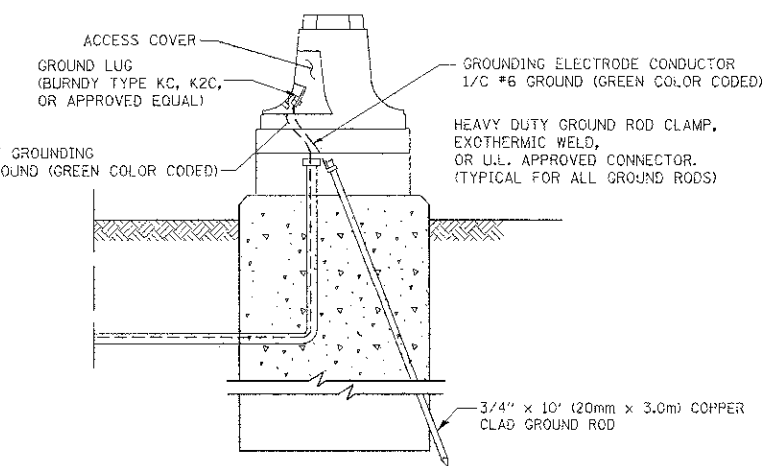
HANDHOLE COVER & FRAME - GROUNDING DETAIL
 (NOT TO SCALE)



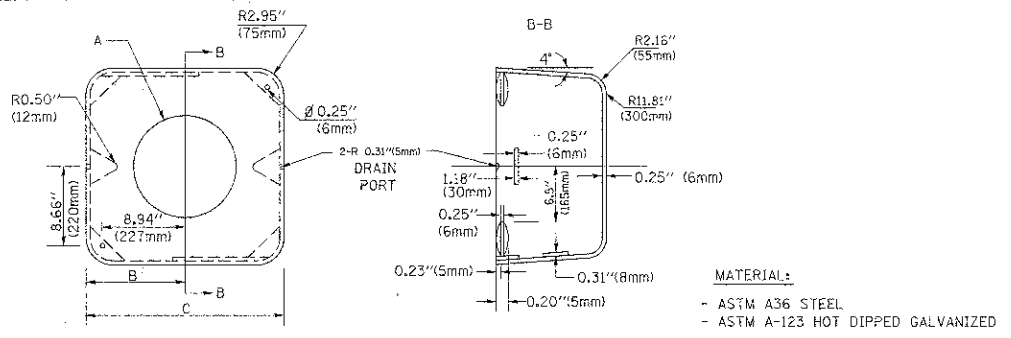
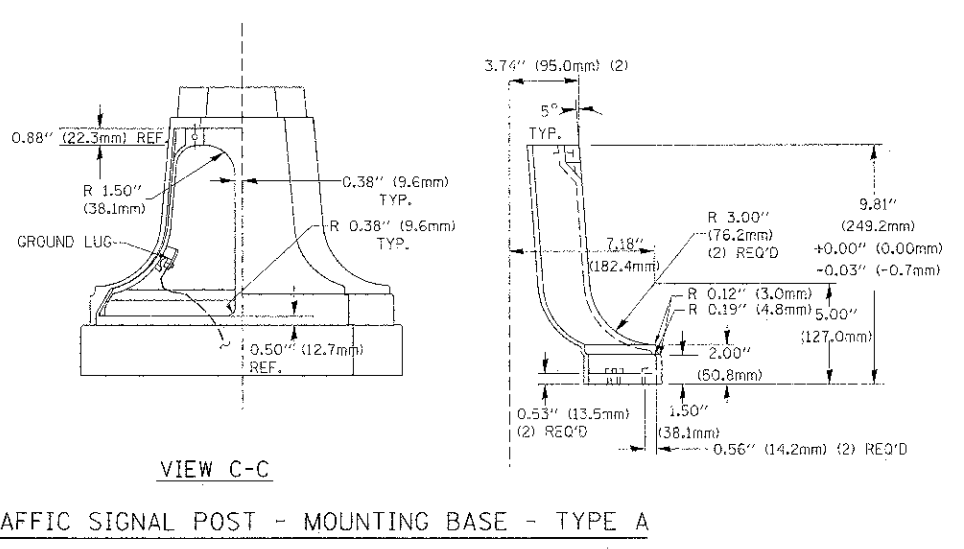
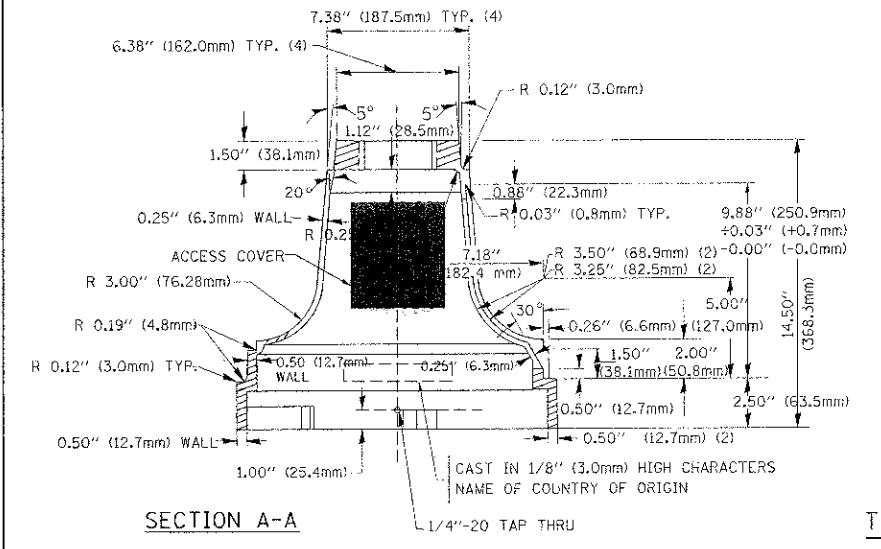
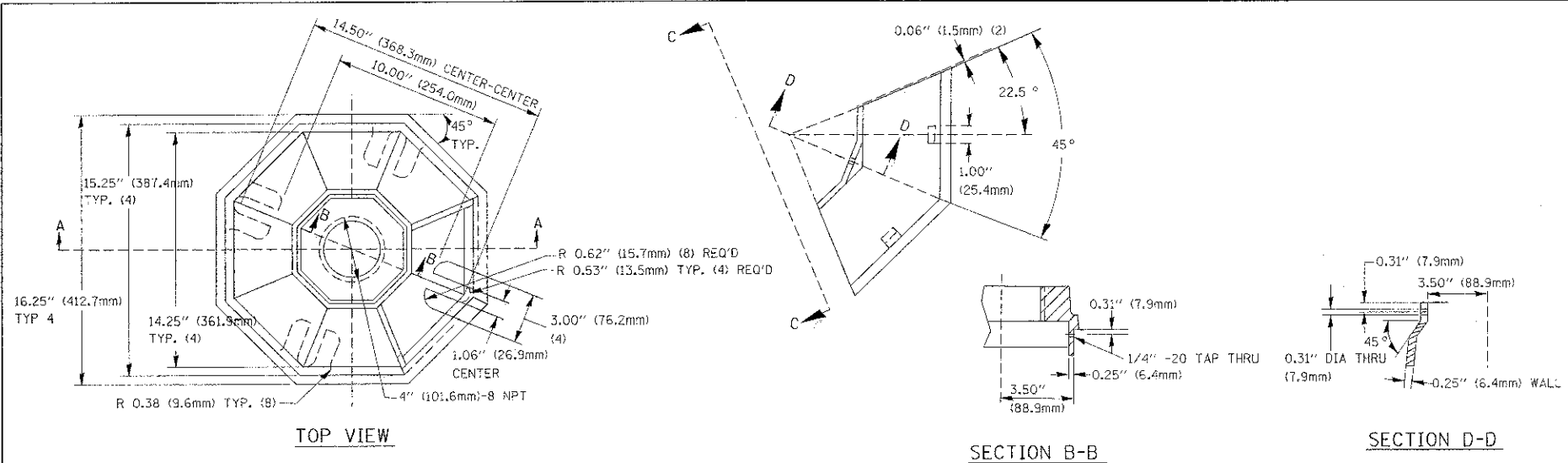
EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL
 (NOT TO SCALE)



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



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

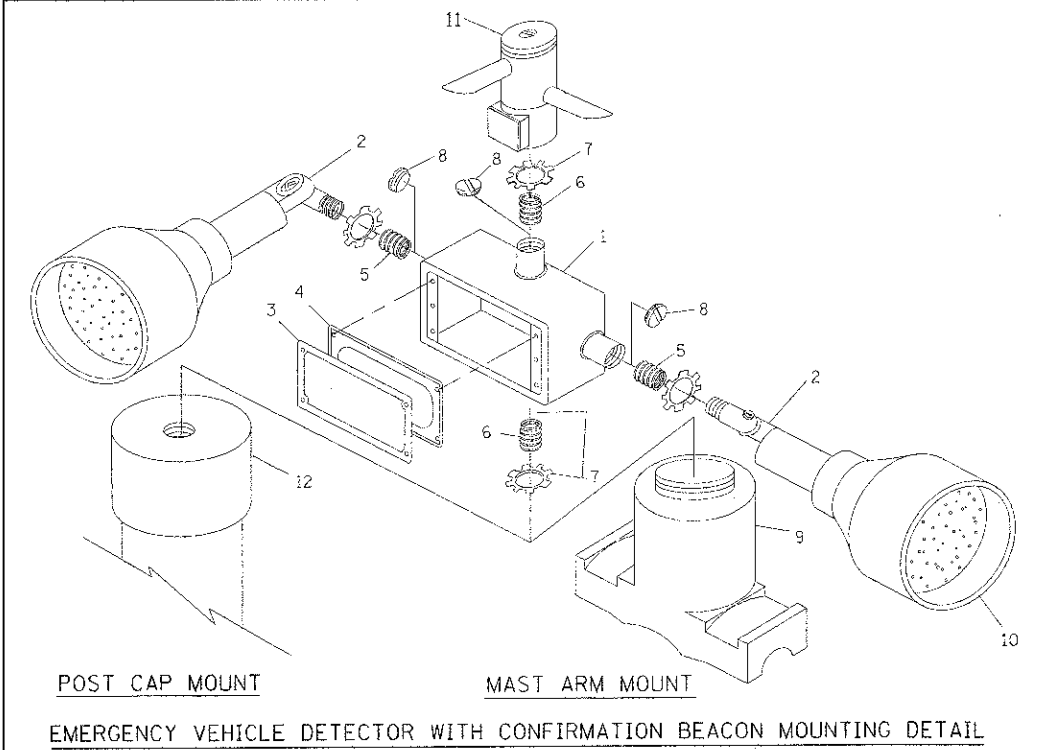
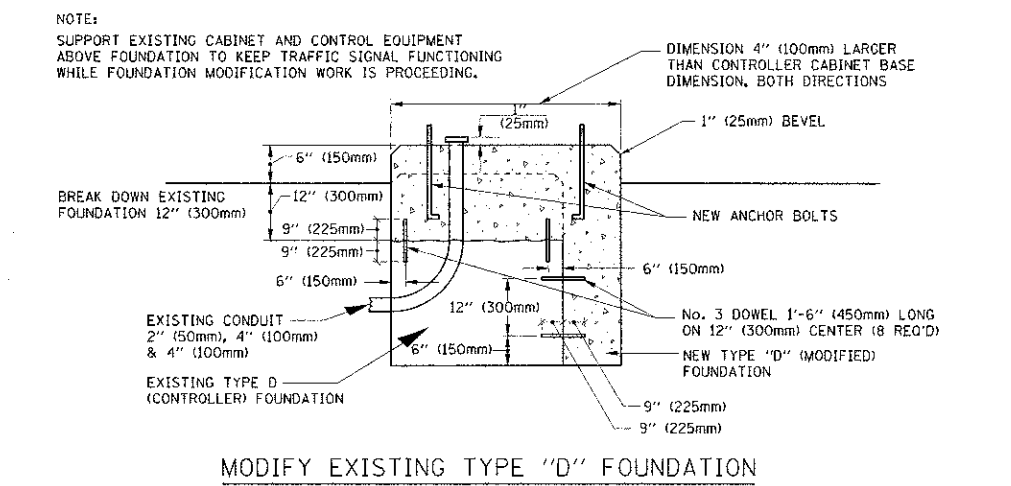


A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\" (241mm)	19\" (483mm)	7\" (178mm) - 12\" (300mm)	53 lbs (24kg)
VARIABLES	10.75\" (273mm)	21.5\" (546mm)	7\" (178mm) - 12\" (300mm)	68 lbs (31 kg)
VARIABLES	13.0\" (330mm)	26\" (660mm)	7\" (178mm) - 12\" (300mm)	81 lbs (37 kg)
VARIABLES	18.5\" (470mm)	37\" (940mm)	7\"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

SHROUD

NOTES:

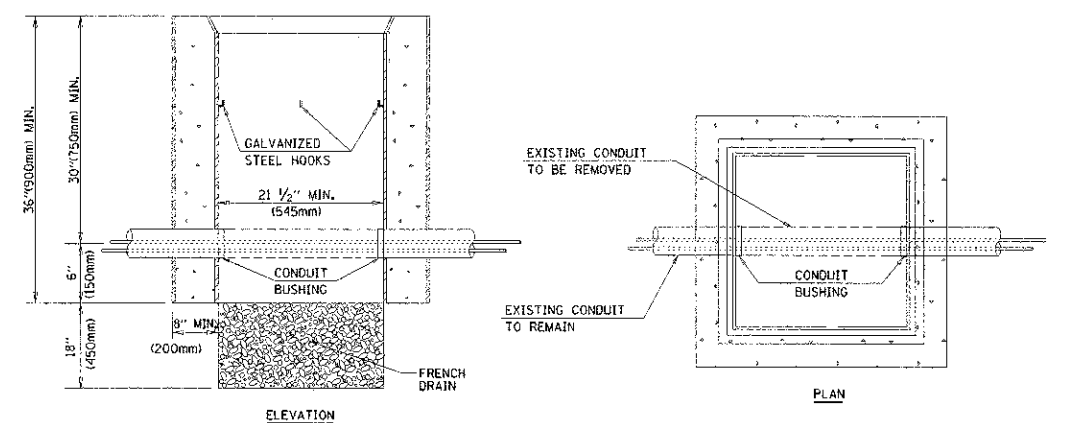
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
- THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
- THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.



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	1/4\" (19 mm) CLOSE NIPPLE
7	1/4\" (19 mm) LOCKNUT
8	1/4\" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	5 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

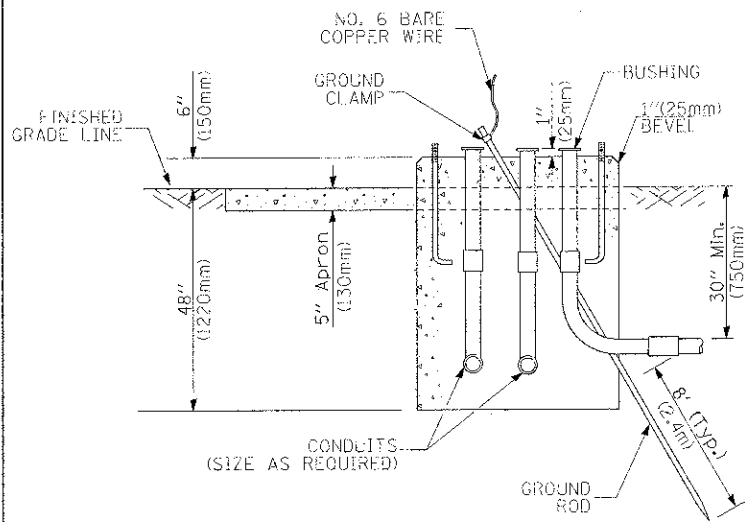
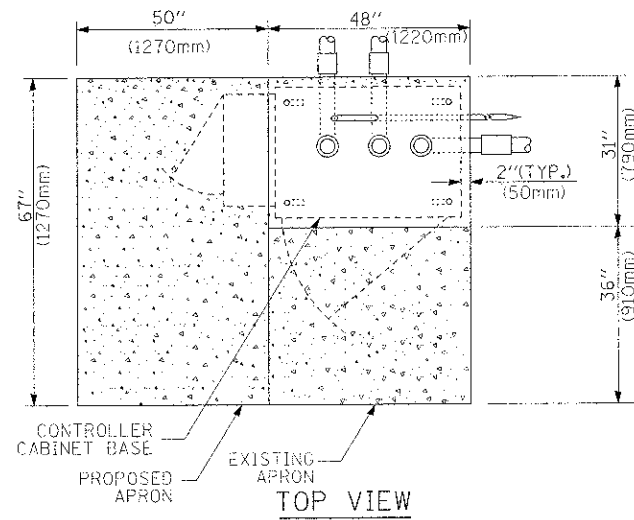
NOTES:

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

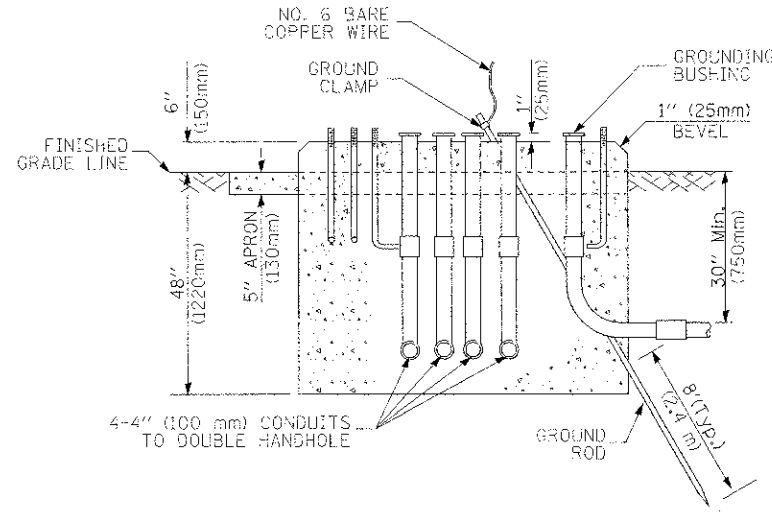
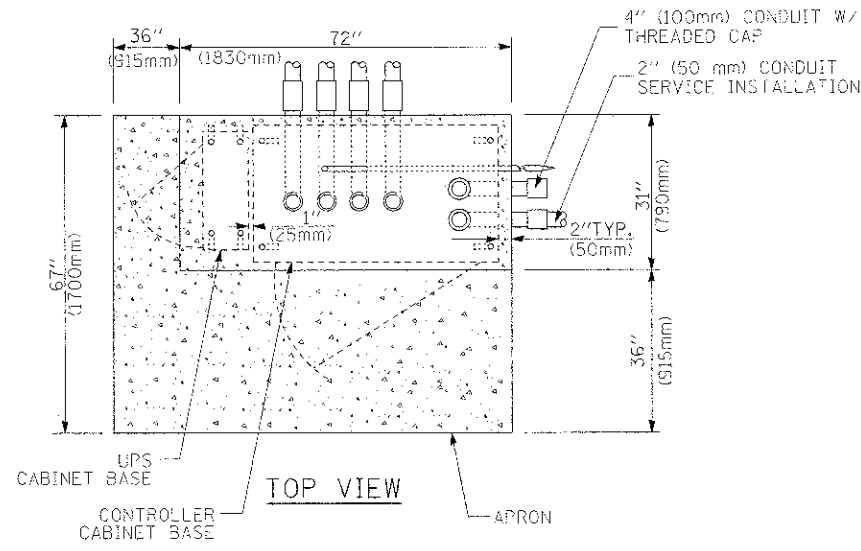


NOTES:

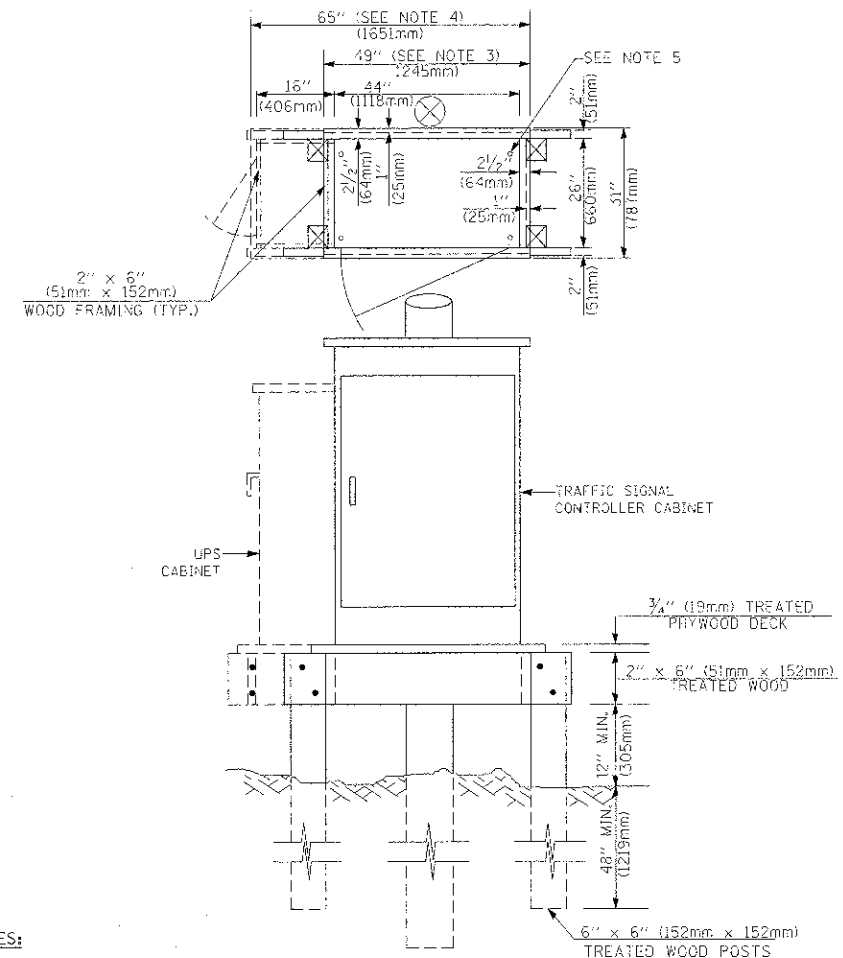
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
- REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.



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



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



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	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)
	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 (UCS) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation grilling. 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

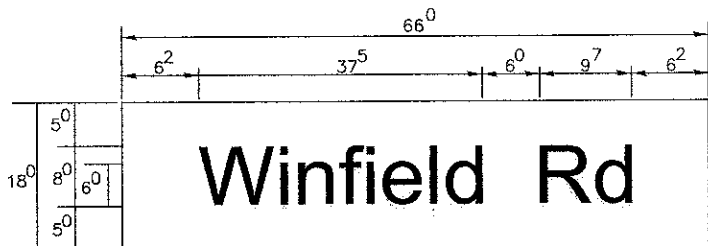
TRAFFIC SIGNAL LEGEND

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

RAILROAD SYMBOLS

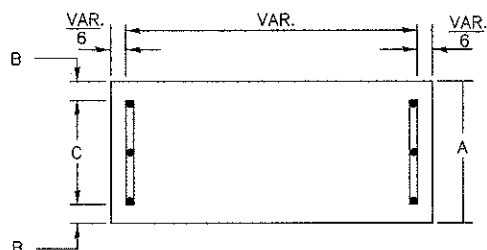
	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

PANEL SIGN DESIGN TYPE 1



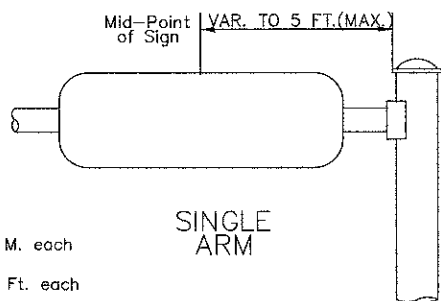
Sq. M. each
8.25 Sq. Ft. each
2 Required
Design Series D

SUPPORTING CHANNELS



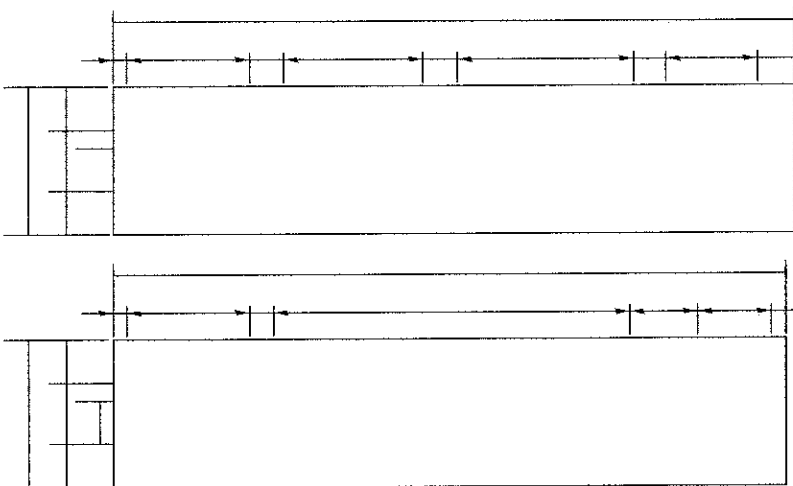
A	B	C
18"	2"	14"

Sq. M. each
6.75 Sq. Ft. each
2 Required
Design Series D



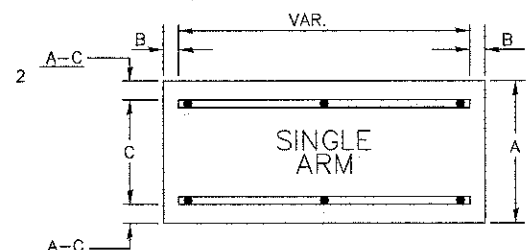
SINGLE ARM

PANEL SIGN DESIGN TYPE 2



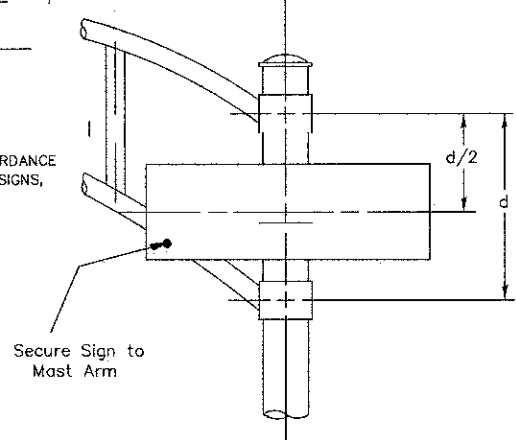
Sq. M. each
Sq. Ft. each
Required
Design Series

SUPPORTING CHANNELS



A	B	C
18"	2"	12"
30"	2"	22"

Sq. M. each
Sq. Ft. each
Required
Design Series



DUAL ARM

SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM
Shall be used. See Note #5.

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

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 HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
- THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8'-0".
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
* J.O. HERBERT CO. MIDLOTHIAN, VA. * WESTERN REMAC INC. WOODRIDGE, IL.

PARTS LISTING:
SIGN CHANNEL
SIGN SCREWS

PART #IPN053 (MED. CHANNEL)
1/4" x 14 x 1" H.W.H. #3
SELF TAPPING WITH NEOPRENE WASHER
PART #IPN034 (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/BACKET OF THE ABOVE PRODUCT.

FILE NAME =	USER NAME =	DESIGNED -- JS	REVISED --
		DRAWN -- BF	REVISED --
		CHECKED --	REVISED --
		DATE -- 10/18/2012	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DISTRICT 1
MAST ARM MOUNTED STREET NAME SIGNS

SCALE: NONE

SHEET NO. OF SHEETS STA.

TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11-00232-06-SP	DUPAGE	21	9
HLR PROJECT NO. - 12.0123		CONTRACT NO. 63777		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2³ DENOTES 3/8"

FIRST LETTER	SECOND LETTER															
	acde		bhikl		fw		j		st		vy		xz			
	goq		mnp	ru												
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D		
A W X	12	14	14	15	12	14	06	10	11	14	06	10	11	12	12	14
B	14	15	20	21	14	15	11	12	14	15	12	14	12	14	16	17
C E G	14	15	20	21	12	14	06	10	12	14	12	14	14	15	14	15
D O Q R	14	15	20	21	14	15	06	10	12	14	12	14	14	15	14	15
F	05	06	14	15	06	10	05	06	06	10	06	10	06	10	11	12
H I M N	20	21	22	24	20	21	14	15	16	17	16	17	20	21	20	21
J U	20	21	20	21	16	17	14	15	16	17	16	17	16	17	20	21
K L	11	12	16	17	11	12	05	06	11	12	11	12	11	12	12	14
P	12	14	14	15	12	14	05	06	11	12	11	12	12	14	12	14
S	12	14	16	17	12	14	06	10	12	14	12	14	12	14	12	14
T	11	12	16	17	06	10	06	10	11	12	11	12	11	12	12	14
V	06	10	14	15	11	12	06	10	12	14	12	14	12	14	12	14
Y	05	06	14	15	06	10	05	06	05	07	05	06	06	10	11	12
Z	16	17	22	24	16	17	12	14	16	17	16	17	16	17	20	21

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

FIRST LETTER	SECOND LETTER															
	acde		bhikl		fw		j		st		vy		xz			
	goq		mnp	ru												
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D		
adhgij	16	17	22	24	16	17	12	14	14	15	14	15	16	17	16	17
lmnqu																
bfkops	12	14	16	17	11	12	05	06	11	12	11	12	12	14	12	14
c e	12	14	16	17	12	14	06	10	12	14	12	14	12	14	12	14
r	06	10	12	14	06	10	03	03	05	06	05	06	06	10	06	10
t z	12	14	16	17	12	14	06	10	11	12	11	12	12	14	12	14
v y	11	12	14	15	11	12	05	06	06	10	06	10	11	12	11	12
w	11	12	14	15	11	12	05	06	11	12	11	12	11	12	12	14
x	12	14	16	17	11	12	05	06	11	12	11	12	11	12	12	14

Number To Number
Spacing Chart 8 Inch Series "C & D"

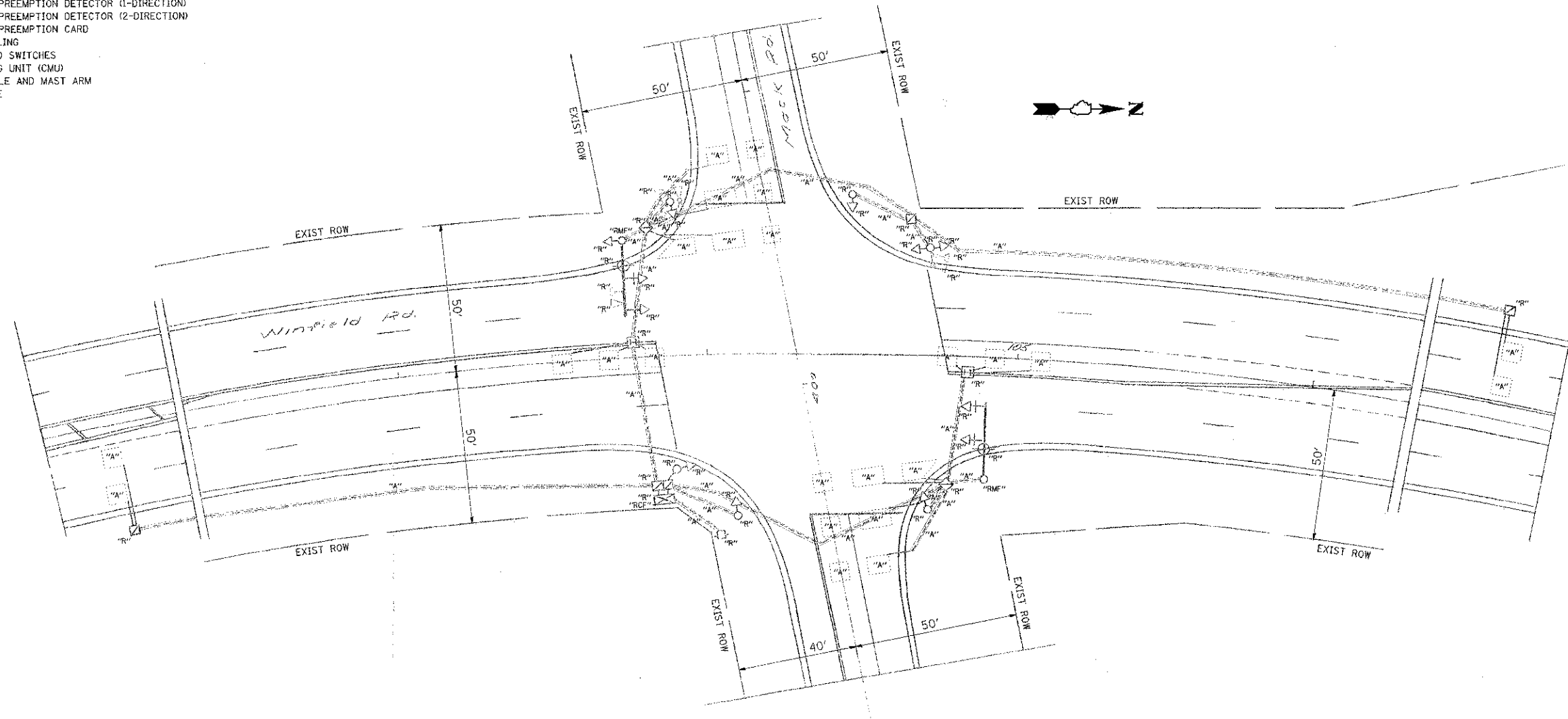
FIRST NUMBER	SECOND NUMBER																			
	0		1		2		3		4		5		6		7		8		9	
	SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C
0 9	16	17	16	17	14	15	12	14	14	15	14	15	16	17	12	14	16	17	16	17
1	20	21	20	21	20	21	16	17	14	15	20	21	20	21	14	15	20	21	20	21
2 3 4	14	15	14	15	14	15	12	14	12	14	14	15	14	15	11	12	16	17	14	15
5	14	15	14	15	14	15	11	12	11	12	14	15	14	15	11	12	14	15	14	15
6	16	17	14	15	14	15	12	15	12	14	14	15	14	15	11	12	14	15	14	15
7	12	14	12	14	14	15	12	15	05	06	12	14	14	15	11	12	14	15	12	14
8	16	17	16	17	14	15	12	15	12	14	14	15	16	17	12	14	16	17	14	15

LETTERS	UPPER AND LOWER CASE LETTER WIDTHS						
	6 INCH UPPER CASE LETTERS		8 INCH UPPER CASE LETTERS		LETTERS	6 INCH LOWER CASE LETTERS	
	SERIES		SERIES			SERIES	
S	C	D	C	D	S	C	D
A	3 ⁶	5 ⁰	5 ⁰	6 ⁵	a	3 ⁵	4 ²
B	3 ²	4 ⁰	4 ³	5 ³	b	3 ⁵	4 ²
C	3 ²	4 ⁰	4 ³	5 ³	c	3 ⁵	4 ¹
D	3 ²	4 ⁰	4 ³	5 ³	d	3 ⁵	4 ²
E	3 ⁰	3 ⁵	4 ⁰	4 ⁷	e	3 ⁵	4 ²
F	3 ⁰	3 ⁵	4 ⁰	4 ⁷	f	2 ³	2 ⁶
G	3 ²	4 ⁰	4 ³	5 ³	g	3 ⁵	4 ²
H	3 ²	4 ⁰	4 ³	5 ³	h	3 ⁵	4 ²
I	0 ⁷	0 ⁷	1 ¹	1 ²	i	1 ¹	1 ¹
J	3 ⁰	3 ⁶	4 ⁰	5 ⁰	j	2 ⁰	2 ²
K	3 ²	4 ¹	4 ³	5 ⁴	k	3 ⁵	4 ²
L	3 ⁰	3 ⁵	4 ⁰	4 ⁷	l	1 ¹	1 ¹
M	3 ⁷	4 ⁵	5 ¹	6 ¹	m	6 ⁰	7 ⁰
N	3 ²	4 ⁰	4 ³	5 ³	n	3 ⁵	4 ²
O	3 ⁴	4 ²	4 ⁵	5 ⁵	o	3 ⁶	4 ³
P	3 ²	4 ⁰	4 ³	5 ³	p	3 ⁵	4 ²
Q	3 ⁴	4 ²	4 ⁵	5 ⁵	q	3 ⁵	4 ²
R	3 ²	4 ⁰	4 ³	5 ³	r	2 ⁶	3 ²
S	3 ²	4 ⁰	4 ³	5 ³	s	3 ⁶	4 ²
T	3 ⁰	3 ⁵	4 ⁰	4 ⁷	t	2 ⁷	3 ²
U	3 ²	4 ⁰	4 ³	5 ³	u	3 ⁵	4 ²
V	3 ⁵	4 ⁴	4 ⁷	6 ⁰	v	4 ²	4 ⁷
W	4 ⁴	5 ²	6 ⁰	7 ⁰	w	5 ⁵	6 ⁴
X	3 ⁴	4 ⁰	4 ⁵	5 ³	x	4 ⁴	5 ¹
Y	3 ⁶	5 ⁰	5 ⁰	6 ⁶	y	4 ⁶	5 ³
Z	3 ²	4 ⁰	4 ³	5 ³	z	3 ⁶	4 ³

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
	1	12	14	20
2	32	40	53	
3	32	40	53	
4	35	43	57	
5	32	40	53	
6	32	40	53	
7	32	40	53	
8	32	40	53	
9	32	40	53	
0	34	42	55	

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

- 2 EACH SIGNAL HEAD, 1-FACE 3-SECTION, MAST ARM MOUNTED
- 2 EACH SIGNAL HEAD, 1-FACE 5-SECTION, MAST ARM MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE 3-SECTION, BRACKET MOUNTED
- 7 EACH SIGNAL HEAD, 1-FACE 5-SECTION, BRACKET MOUNTED
- 1 EACH ECONOLITE CONTROLLER AND TYPE IV CABINET
- 4 EACH 2-CHANNEL LOOP DETECTOR AMP
- 2 EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 310 WATT
- 2 EACH EMERGENCY VEHICLE PREEMPTION BEACON (1-DIRECTION)
- 1 EACH EMERGENCY VEHICLE PREEMPTION BEACON (2-DIRECTION)
- 2 EACH EMERGENCY VEHICLE PREEMPTION DETECTOR (1-DIRECTION)
- 1 EACH EMERGENCY VEHICLE PREEMPTION DETECTOR (2-DIRECTION)
- 1 EACH EMERGENCY VEHICLE PREEMPTION CARD
- 1 LSUM TRAFFIC SIGNAL CABLING
- 10 EACH TRAFFIC SIGNAL LOAD SWITCHES
- 1 EACH CONFLICT MONITORING UNIT (CMU)
- 2 EACH COMBO MAST ARM POLE AND MAST ARM
- 6 EACH TRAFFIC SIGNAL POLE

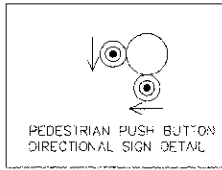
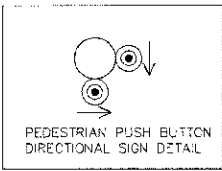
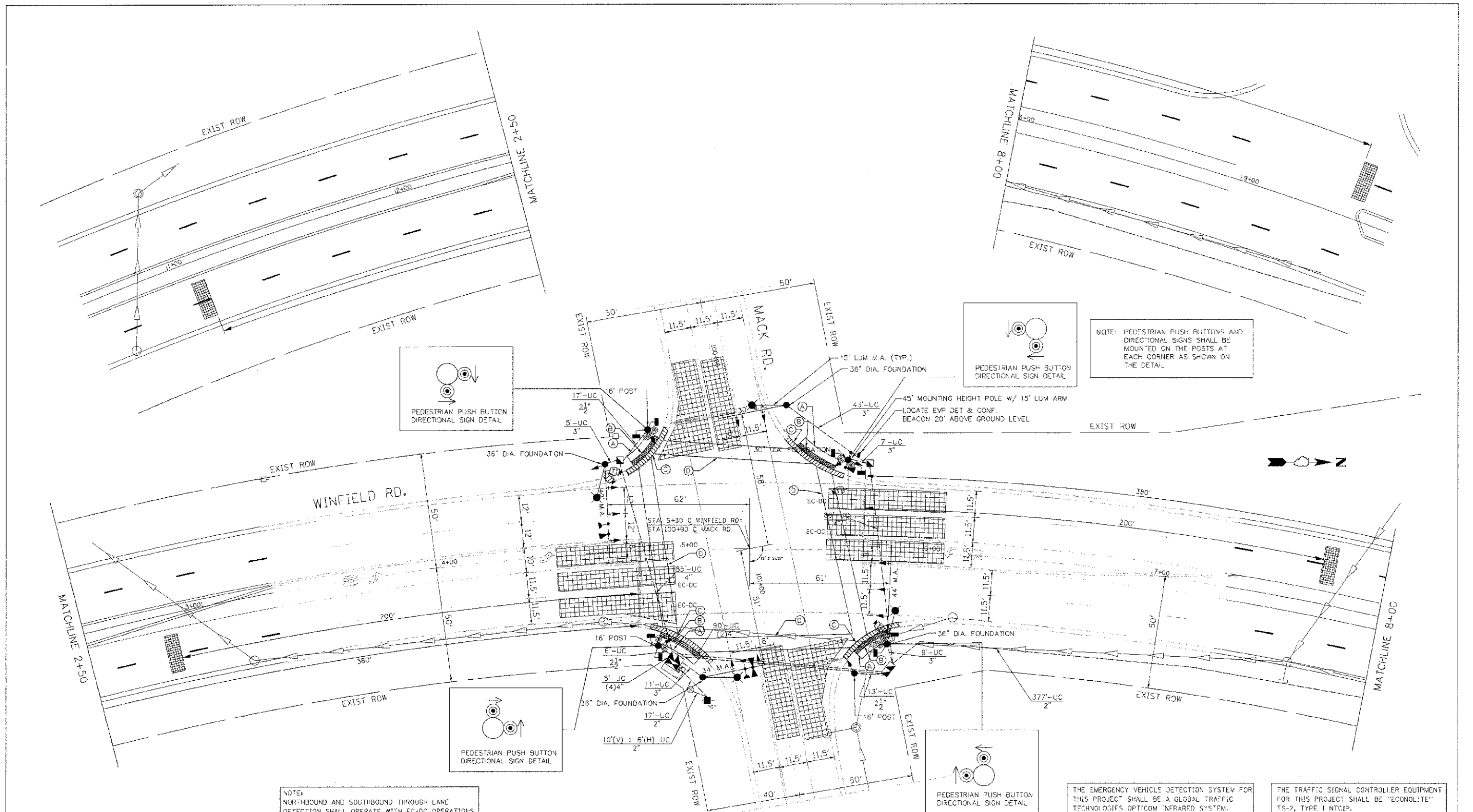


CONSTRUCTION NOTES:

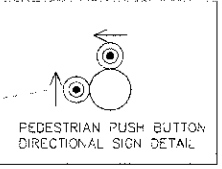
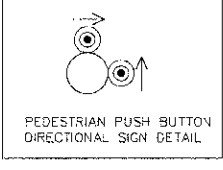
1. ALL DETECTOR LOOPS TO BE ABANDONED.
2. ALL UNDERGROUND CONDUIT TO BE ABANDONED.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLD, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACED SUCH AS SHOULDERS, MEDIANS, 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.

FILE NAME =	USER NAME = #USER#	DESIGNED - BF	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 EXISTING TRAFFIC SIGNAL & REMOVAL PLAN WINFIELD ROAD & MACK ROAD	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
PA\2012\120123\road\phase 2\dwg\120123-sh	Winfield & Mack-EX traffic signal.dwg	DRAWN - BF	REVISED -			11-00232-06-SP	DUPAGE	21	10
PLOT SCALE = #SCALE#	CHECKED - JS	REVISED -	HLR PROJECT NO. 12.0123.350			CONTRACT NO. 63777			
PLOT DATE = 12/13/2012	DATE - 12-13-12	REVISED -	SCALE: 1" = 20'			SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT	



NOTE: PEDESTRIAN PUSH BUTTONS AND DIRECTIONAL SIGNS SHALL BE MOUNTED ON THE POSTS AT EACH CORNER AS SHOWN ON THE DETAIL.



NOTE:
NORTHBOUND AND SOUTHBOUND THROUGH LANE DETECTION SHALL OPERATE WITH EC-DC OPERATIONS. DILEMMA ZONE SPEED 45MPH.

NOTE: WORK TO BE PERFORMED BY OTHERS

- (A) SIDEWALK
- (B) DETECTABLE WARNINGS
- (C) CURB REMOVAL AND REPLACEMENT
- (D) 6" SOLID WHITE CROSSWALKS

THE EMERGENCY VEHICLE DETECTION SYSTEM FOR THIS PROJECT SHALL BE A GLOBAL TRAFFIC TECHNOLOGIES OPTICOM INFRARED SYSTEM.

THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TS-2, TYPE 1 NTCIP.

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

ALL TRAFFIC SIGNAL HEAD VISORS SHALL BE HALF-VISOR "CAP" STYLE, SEE SPECS.

FILE NAME = 120123-hwy-Winfield & Mack-PROP traffic signal

USER NAME = hvrbh	DESIGNED = BF	REVISED = 02-07-2013 H_R
PLOT SCALE = 20.0'/in	DRAWN = BF	REVISED = 03-18-2013 DPCDDT
PLOT DATE = 03/27/2013	CHECKED = JS	REVISED =
	DATE = 12-13-12	REVISED =

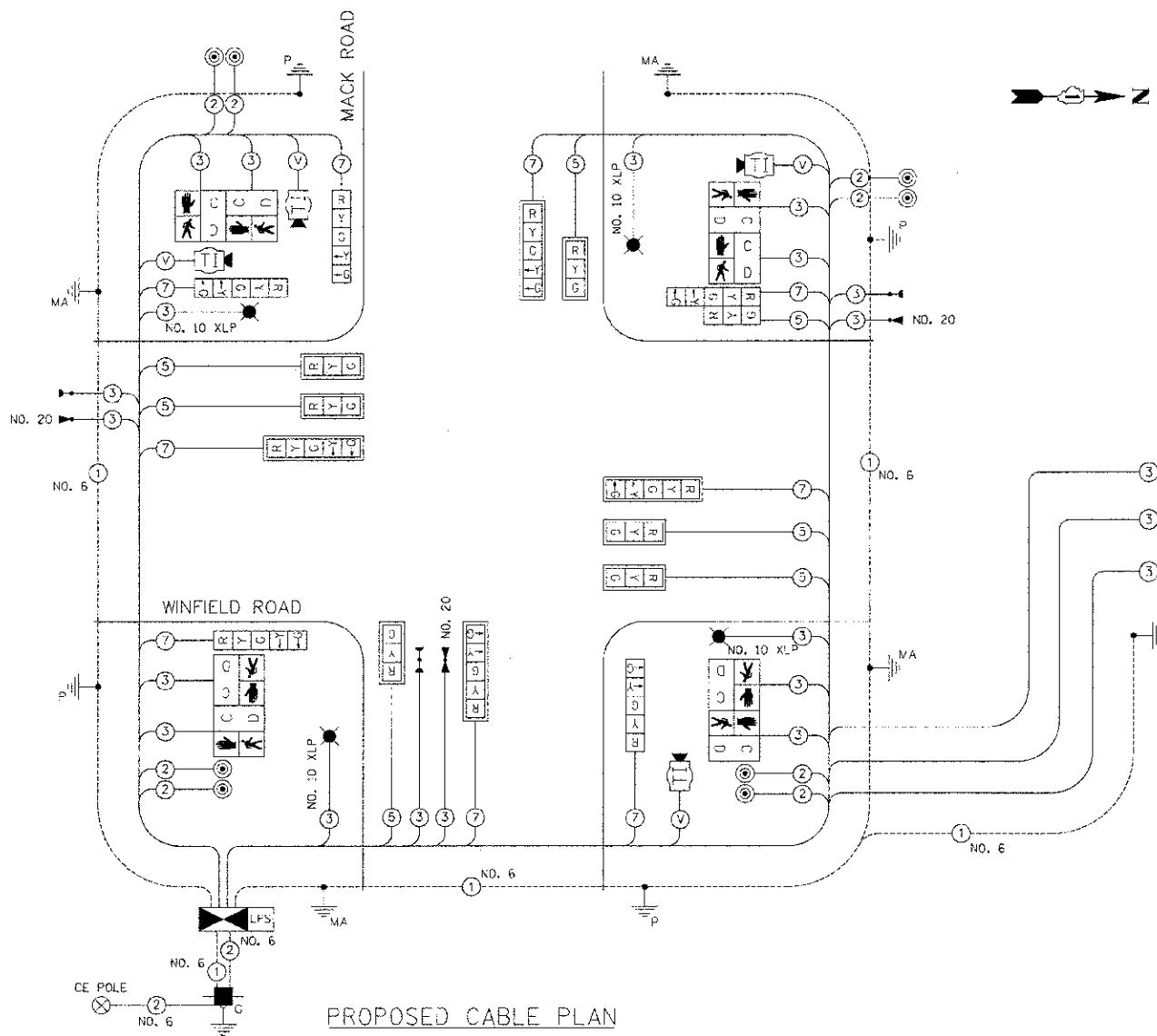
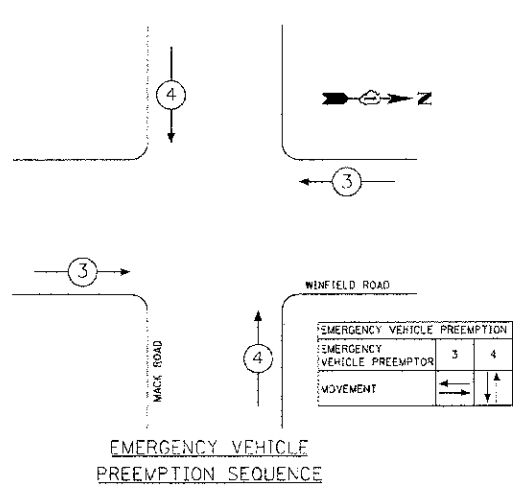
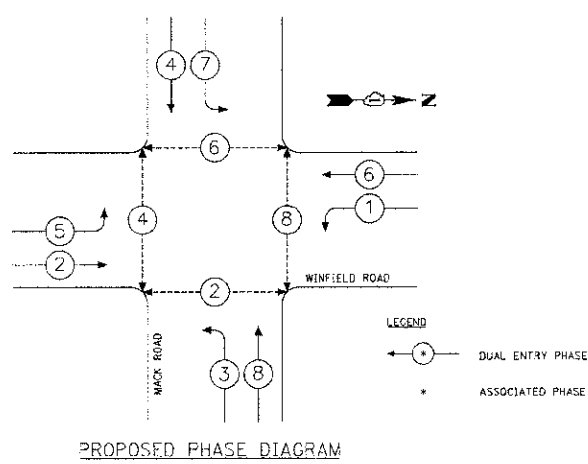
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



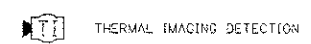
PROPOSED TRAFFIC SIGNAL INSTALLATION
WINFIELD ROAD & MACK ROAD

SCALE: 1"= 20' SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	SHEETS NO.
	11-00232-06-SP		2
HLR PROJECT NO. 12.0123.350	CONTRACT NO. 63777		
ILLINOIS FED. AID PROJ. SECT.			



CABLE PLAN LEGEND



ADVANCE WARNING FLASHING BEACON
 OPERATION NOTE:
 THE ADVANCE WARNING FLASHING BEACON OPERATION SHALL COMMENCE AT START OF THE PHASE 6 YELLOW AND SHALL CONTINUE TO FLASH DURING THE PHASE 6 YELLOW AND RED INTERVALS.
 THE ADVANCE WARNING FLASHER SHALL TURN OFF AT THE START OF THE PHASE 6 GREEN.

SCHEDULE OF QUANTITIES

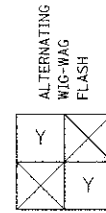
IDOT CODE	ITEM	UNIT	TOTAL	IDOT CODE	ITEM	UNIT	TOTAL
66900200	NON-SPECIAL WASTE DISPOSAL	CUYD	71.8	87702980	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 30 FT.	EACH	1
66900450	SPECIAL WASTE PLANS AND REPORTS	L.SUM	0.7	87702990	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT.	EACH	1
66900530	SOIL DISPOSAL ANALYSIS	EACH	1	87702940	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 42 FT.	EACH	1
67100100	MOBILIZATION	L.SUM	0.34	87702950	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 44 FT.	EACH	1
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L.SUM	0.34	87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L.SUM	0.5	87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4
72000100	SIGN PANEL - TYPE 1	SQ.FT	30	87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	10
80500010	SERVICE INSTALLATION - GROUND MOUNTED	EACH	1	87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	42
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	959	88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	6
81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	45	88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	90	88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4
81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	371	88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
81400100	HANDHOLE	EACH	4	88040020	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, BRACKET MOUNTED	EACH	2
82400300	DOUBLE HAND-OLE	EACH	2	88102845	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 2-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER	EACH	4
81702450	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/8" NO. 10	FOOT	776	88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	12
82102310	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 310 WATT	EACH	4	88700200	LIGHT DETECTOR	EACH	4
83009600	LIGHT POLE, A LUM NUM, 45 FT. M.H., 15 FT. MAST ARM	EACH	1	88700300	LIGHT DETECTOR AMPLIFIER	EACH	1
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	1	88800100	PEDESTRIAN PUSH-BUTTON	EACH	8
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1	88902375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
85820400	FLASHER CONTROLLER, SPECIAL, WITHOUT CABINET	EACH	1	88902380	REMOVE EXISTING HANDHOLE	EACH	8
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1232	88902385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	3803	X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	1537
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1268	X8570226	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1471	X8620200	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	55	20013798	CONSTRUCTION LAYOUT	L.SUM	0.7
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1462	X0827515	THERMAL VEHICLE DETECTION SYSTEM	EACH	1
87501200	TRAFFIC SIGNAL POST, 16 FT.	EACH	3				
87501400	TRAFFIC SIGNAL POST, 18 FT.	EACH	1				

LIGHTING CONSTRUCTION NOTES:
 1. SEPARATE 30A BREAKER SHALL BE INSTALLED IN THE TRAFFIC SIGNAL CABINET TO POWER THE LIGHTING SYSTEM
 2. SEPARATE PHOTOCELLS SHALL BE INSTALLED IN EACH LUMINAIRE

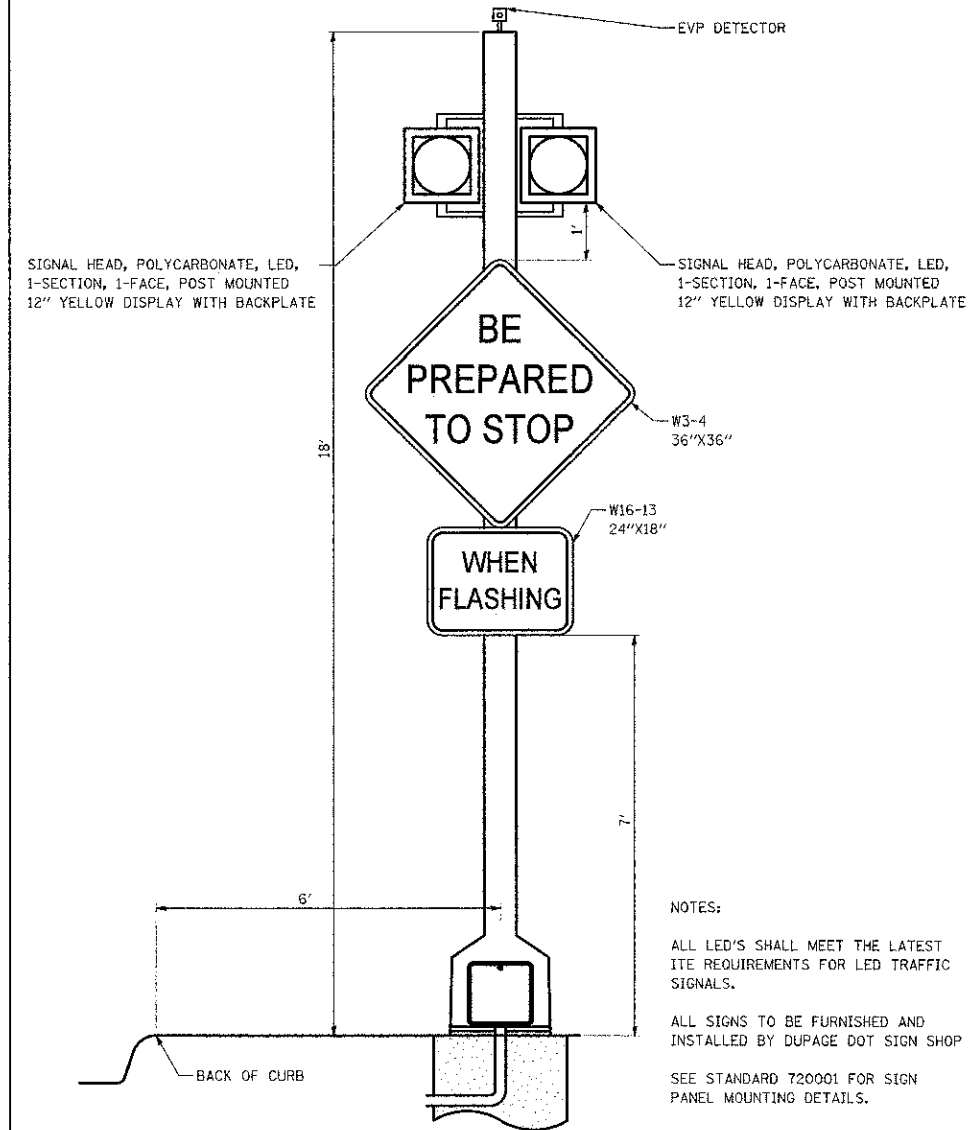
RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOO, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 253 RESPECTIVELY.

DUPAGE COUNTY D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND. LED	% OPERATION	
SIGNAL (RED)	16	436 17	0.50	136
SIGNAL (YELLOW)	16	436 25	0.25	100
SIGNAL (GREEN)	16	436 15	0.25	80
ARROW	18	436 12	0.10	21.6
FLASHER	2	25	0.50	25
CONTROLLER	1	100	1.00	100
VIDEO DETECTION	1	150	1.00	150
LUMINAIRE	4	310	0.50	620
TOTAL =				1212.6

WINFIELD RD AWF SB OUTBOARD
 WINFIELD RD AWF SB INBOARD

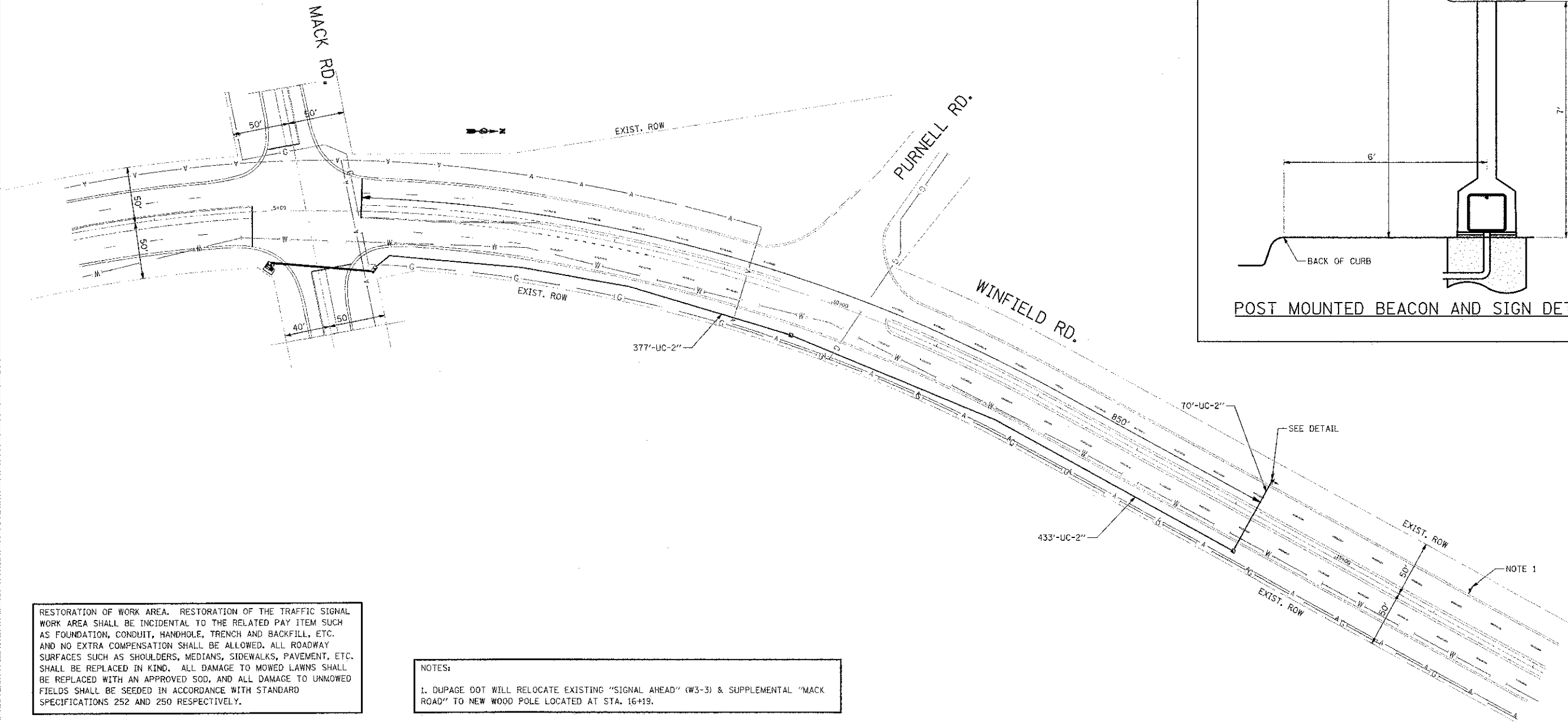


**ADVANCE WARNING
 FLASHER SEQUENCE**



NOTES:
 ALL LED'S SHALL MEET THE LATEST ITE REQUIREMENTS FOR LED TRAFFIC SIGNALS.
 ALL SIGNS TO BE FURNISHED AND INSTALLED BY DUPAGE DOT SIGN SHOP
 SEE STANDARD 720001 FOR SIGN PANEL MOUNTING DETAILS.

POST MOUNTED BEACON AND SIGN DETAIL AT STA. 14+19



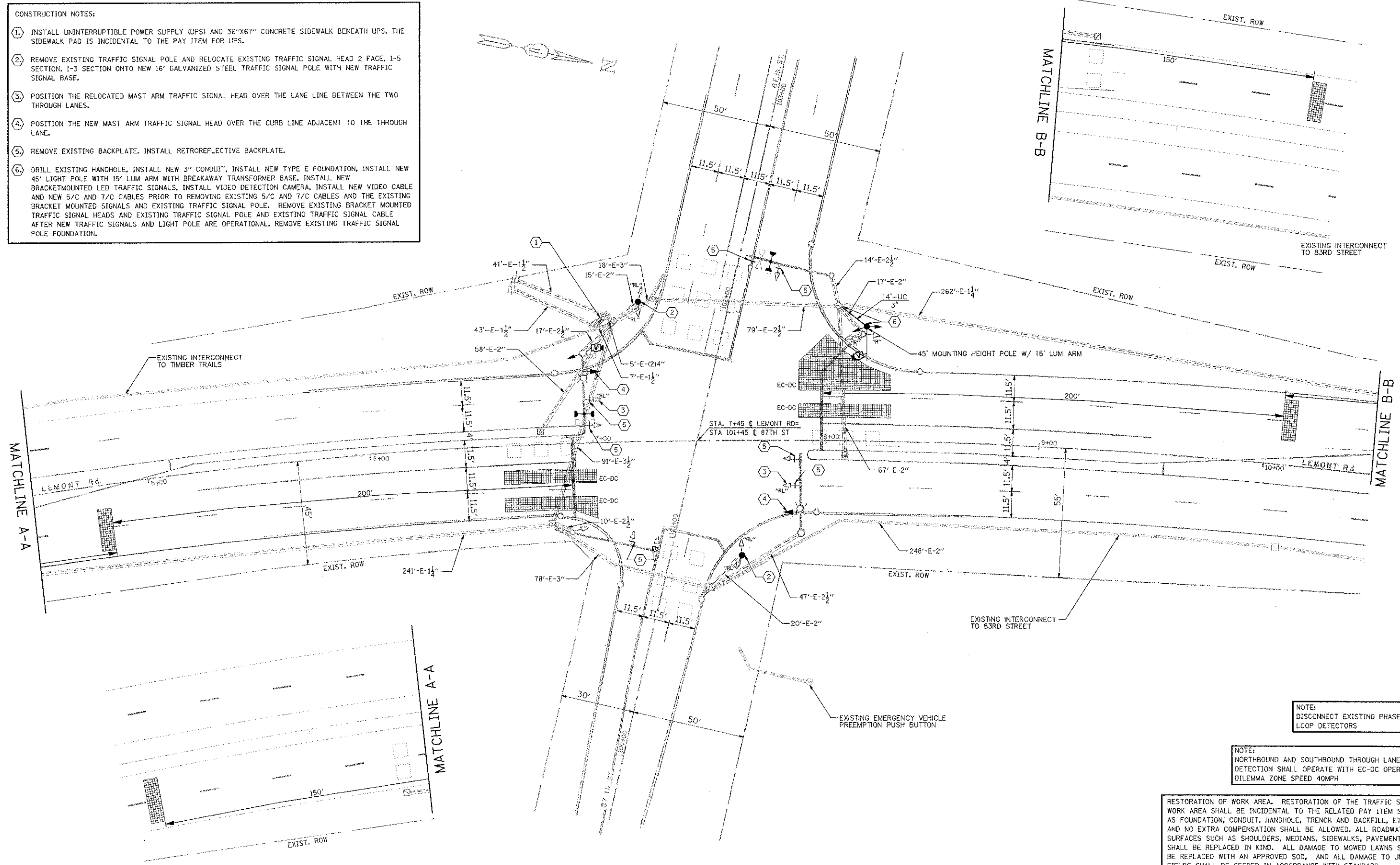
RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL 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.

NOTES:
 1. DUPAGE DOT WILL RELOCATE EXISTING "SIGNAL AHEAD" (W3-3) & SUPPLEMENTAL "MACK ROAD" TO NEW WOOD POLE LOCATED AT STA. 16+19.

FILE NAME: P:\2012\122123\road\p123\2\4\4\20123-11\winfield & Mack - flashing beacon.dgn	USER NAME: JUSER#	DESIGNED - BF	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HLR	OVERHEAD FLASHING BEACON INSTALLATION WINFIELD ROAD & MACK ROAD		F.A.U. RTE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE: #SCALE#	CHECKED - JS	REVISED -	REVISED -			11-00232-06-SP	DUPAGE	21	13			
PLOT DATE: 2/4/2013	DATE - 12-13-12	REVISED -	REVISED -			HLR PROJECT NO. 12.0123.350	CONTRACT NO. 63777					
								ILLINOIS FED. AID PROJECT				

CONSTRUCTION NOTES:

- ① INSTALL UNINTERRUPTIBLE POWER SUPPLY (UPS) AND 36"X67" CONCRETE SIDEWALK BENEATH UPS. THE SIDEWALK PAD IS INCIDENTAL TO THE PAY ITEM FOR UPS.
- ② REMOVE EXISTING TRAFFIC SIGNAL POLE AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD 2 FACE, 1-5 SECTION, 1-3 SECTION ONTO NEW 16' GALVANIZED STEEL TRAFFIC SIGNAL POLE WITH NEW TRAFFIC SIGNAL BASE.
- ③ POSITION THE RELOCATED MAST ARM TRAFFIC SIGNAL HEAD OVER THE LANE LINE BETWEEN THE TWO THROUGH LANES.
- ④ POSITION THE NEW MAST ARM TRAFFIC SIGNAL HEAD OVER THE CURB LINE ADJACENT TO THE THROUGH LANE.
- ⑤ REMOVE EXISTING BACKPLATE. INSTALL RETROREFLECTIVE BACKPLATE.
- ⑥ DRILL EXISTING HANDHOLE, INSTALL NEW 3" CONDUIT, INSTALL NEW TYPE E FOUNDATION, INSTALL NEW 45' LIGHT POLE WITH 15' LUM ARM WITH BREAKAWAY TRANSFORMER BASE, INSTALL NEW BRACKETMOUNTED LED TRAFFIC SIGNALS, INSTALL VIDEO DETECTION CAMERA, INSTALL NEW VIDEO CABLE AND NEW 5/C AND 7/C CABLES PRIOR TO REMOVING EXISTING 5/C AND 7/C CABLES AND THE EXISTING BRACKET MOUNTED SIGNALS AND EXISTING TRAFFIC SIGNAL POLE. REMOVE EXISTING BRACKET MOUNTED TRAFFIC SIGNAL HEADS AND EXISTING TRAFFIC SIGNAL POLE AND EXISTING TRAFFIC SIGNAL CABLE AFTER NEW TRAFFIC SIGNALS AND LIGHT POLE ARE OPERATIONAL. REMOVE EXISTING TRAFFIC SIGNAL POLE FOUNDATION.



MATCHLINE A-A

MATCHLINE B-B

NOTE:
DISCONNECT EXISTING PHASE 2 & 6
LOOP DETECTORS

NOTE:
NORTHBOUND AND SOUTHBOUND THROUGH LANE
DETECTION SHALL OPERATE WITH EC-DC OPERATIONS.
DILEMMA ZONE SPEED 40MPH

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL
WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH
AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC.
AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY
SURFACES SUCH AS SHOULDERS, MEDIANS, 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.

FILE NAME =	USER NAME = 4JSE#	DESIGNED - BF	REVISED -
P:\2012\120123\cda\phase 2\dyg\120123-sh-87th & Lemont-PROP traffic signal.dgn		DRAWN - BF	REVISED -
		CHECKED - JS	REVISED -
		DATE - 12-13-12	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

HLR
**PROPOSED TRAFFIC SIGNAL MODIFICATION
87TH STREET & LEMONT ROAD**

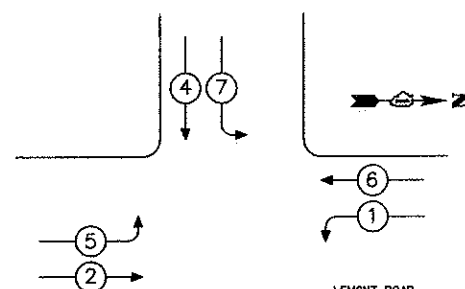
SCALE: 1" = 20' SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
	11-00232-06-SP	DuPAGE	21 14
HLR PROJECT NO. 12.0123.350		CONTRACT NO. 63777	
ILLINOIS FED. AID PROJECT			

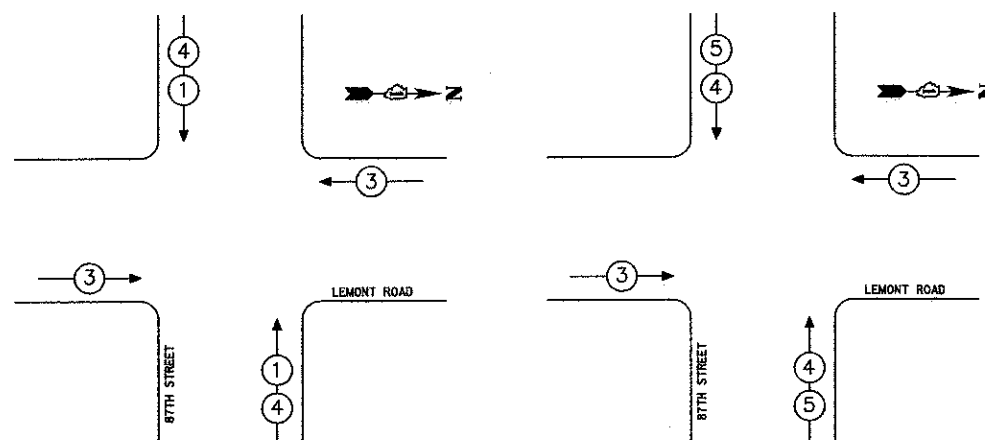
SCHEDULE OF QUANTITIES

IDOT CODE	ITEM	UNIT	TOTAL
66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	8.2
66900530	SOIL DISPOSAL ANALYSIS	EACH	1
67100100	MOBILIZATION	LSUM	0.33
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	LSUM	0.33
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	0.25
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	83
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	17
83005600	LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. MAST ARM	EACH	1
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	1
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
85820400	FLASHER CONTROLLER, SPECIAL, WITHOUT CABINET	EACH	1
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2722
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	513
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	215
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1000
87501200	TRAFFIC SIGNAL POST, 16 FT.	EACH	2
87501400	TRAFFIC SIGNAL POST, 18 FT.	EACH	1
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	10
87900200	DRILL EXISTING HANDHOLE	EACH	1
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	2
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
88040020	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, BRACKET MOUNTED	EACH	2
88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	12
88700090	CONFIRMATION BEACON	EACH	2
88700200	LIGHT DETECTOR	EACH	1
89500100	RELOCATE EXISTING SIGNAL HEAD	EACH	4
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	1
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	326
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	1
X0323372	VIDEO VEHICLE DETECTION, 2 CAMERAS	EACH	1
X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	1212
X8620200	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1
X8803040	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT	EACH	1
X8803084	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	5
X8803088	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	3

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT		
ITEM	UNIT	TOTAL
TRAFFIC SIGNAL BACKPLATE	EACH	8
TRAFFIC SIGNAL POST	EACH	3
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION			
EMERGENCY VEHICLE PREEMPTOR	1	3	4
MOVEMENT	↑	←	↑

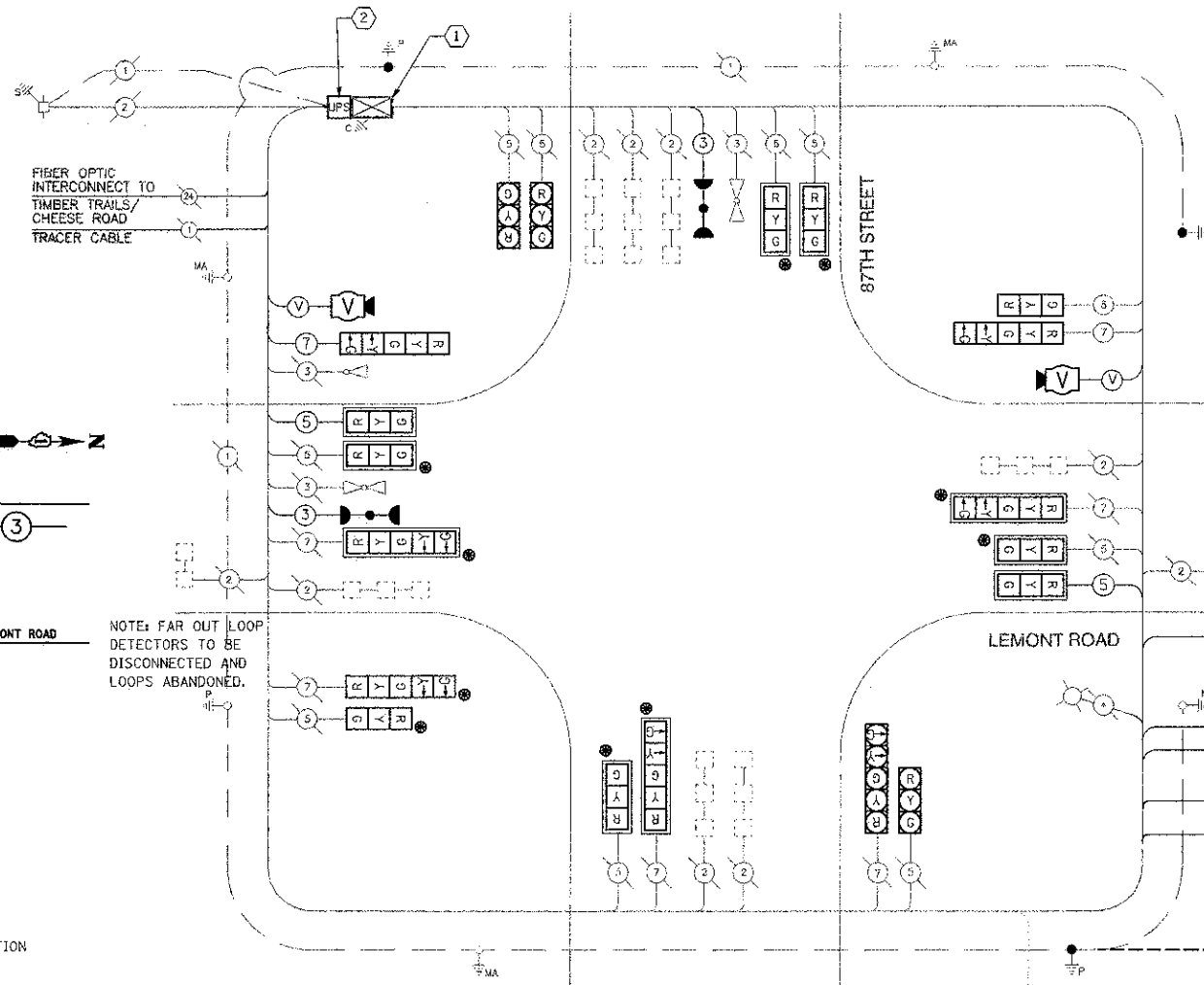
EXISTING PREEMPTOR 1 = PUSH BUTTON ACTUATION FROM FIRE STATION IN NE QUADRANT

EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTION			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	←	↑	↑

PROPOSED PREEMPTOR 5 = PUSH BUTTON ACTUATION FROM FIRE STATION IN NE QUADRANT

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



NOTE: FAR OUT LOOP DETECTORS TO BE DISCONNECTED AND LOOPS ABANDONED.

ADVANCE WARNING FLASHING BEACON OPERATION NOTE:
 THE ADVANCE WARNING FLASHING BEACON OPERATION SHALL COMMENCE AT THE START OF THE PHASE 6 YELLOW AND SHALL CONTINUE TO FLASH DURING THE PHASE 6 YELLOW AND RED INTERVALS.
 THE ADVANCE WARNING FLASHER SHALL TURN OFF AT THE START OF THE PHASE 6 GREEN.

DUPAGE COUNTY D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND. LED	% OPERATION		
SIGNAL (RED)	19	17	0.50	161.5	
SIGNAL (YELLOW)	19	25	0.25	118.8	
SIGNAL (GREEN)	19	15	0.25	71.3	
ARROW	14	12	0.10	16.8	
FLASHER	2	25	0.50	25.0	
VIDEO DETECTION	1	75	1.00	75.0	
CONTROLLER	1	100	1.00	100.0	
LUMINAIRE	1	310	0.50	155.0	
TOTAL =				723.3	

- CONSTRUCTION NOTES:
- (1) FLASHING BEACON WILL BE CONTROLLED BY TS2-TYPE 1 CONTROLLER USING LOGIC IN THE CONTROLLER AND A DEDICATED TS2 FLASHER.
 - (2) INSTALL UNINTERRUPTIBLE POWER SUPPLY.

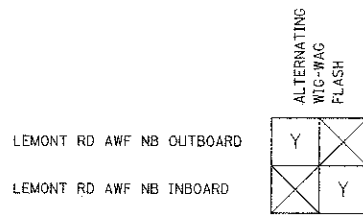
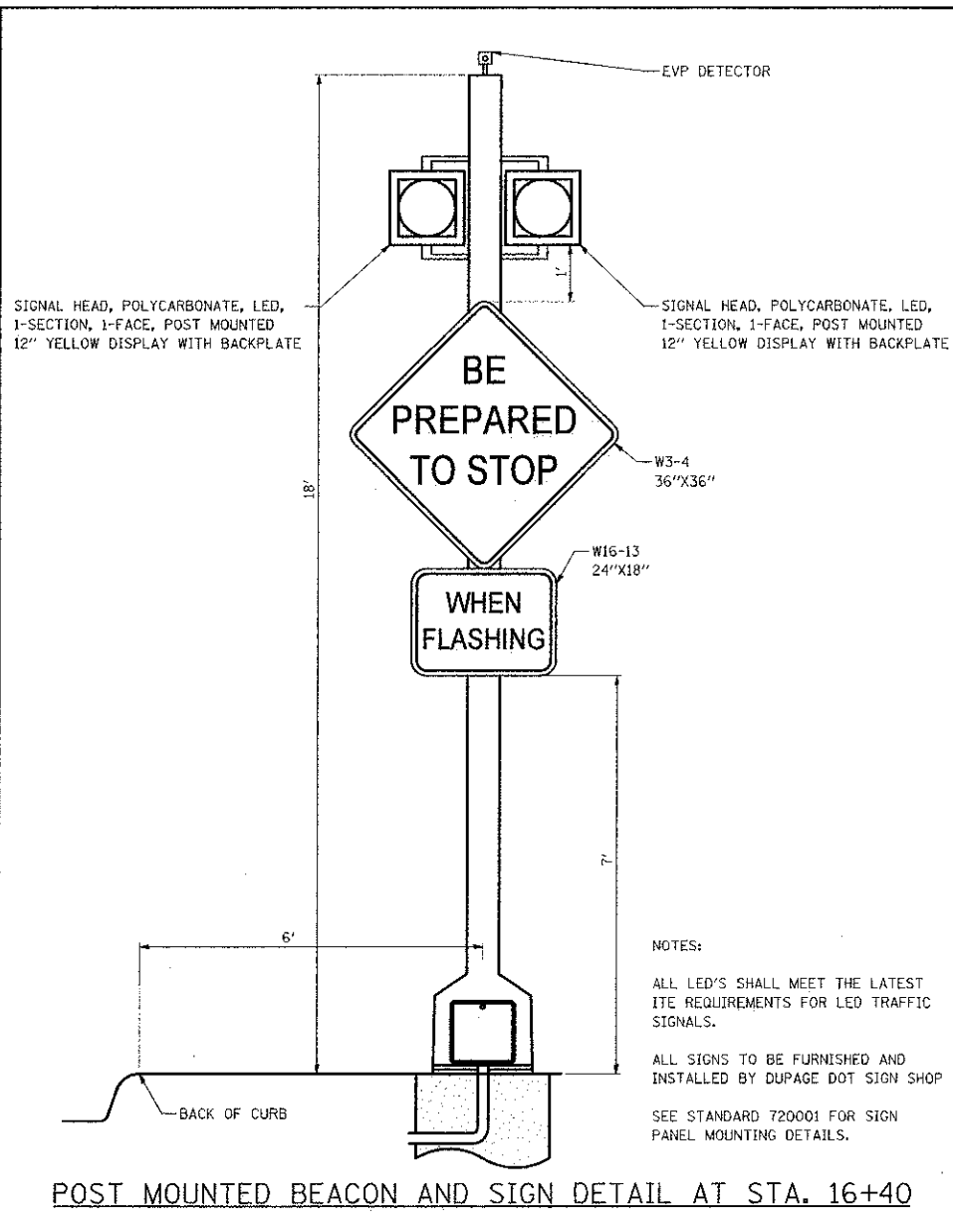
FILE NAME =	USER NAME = #JSETR	DESIGNED - BF	REVISED - 02-06-13 HLR *
PA\2012\120123\cad\phase 2\dup\120123-st-87th & Lemont-cable plan.dgn		DRAWN - BF	REVISED -
	PLOT SCALE = 1/8"=1'-0"	CHECKED - JS	REVISED -
	PLOT DATE = 2/6/2013	DATE - 12-13-12	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

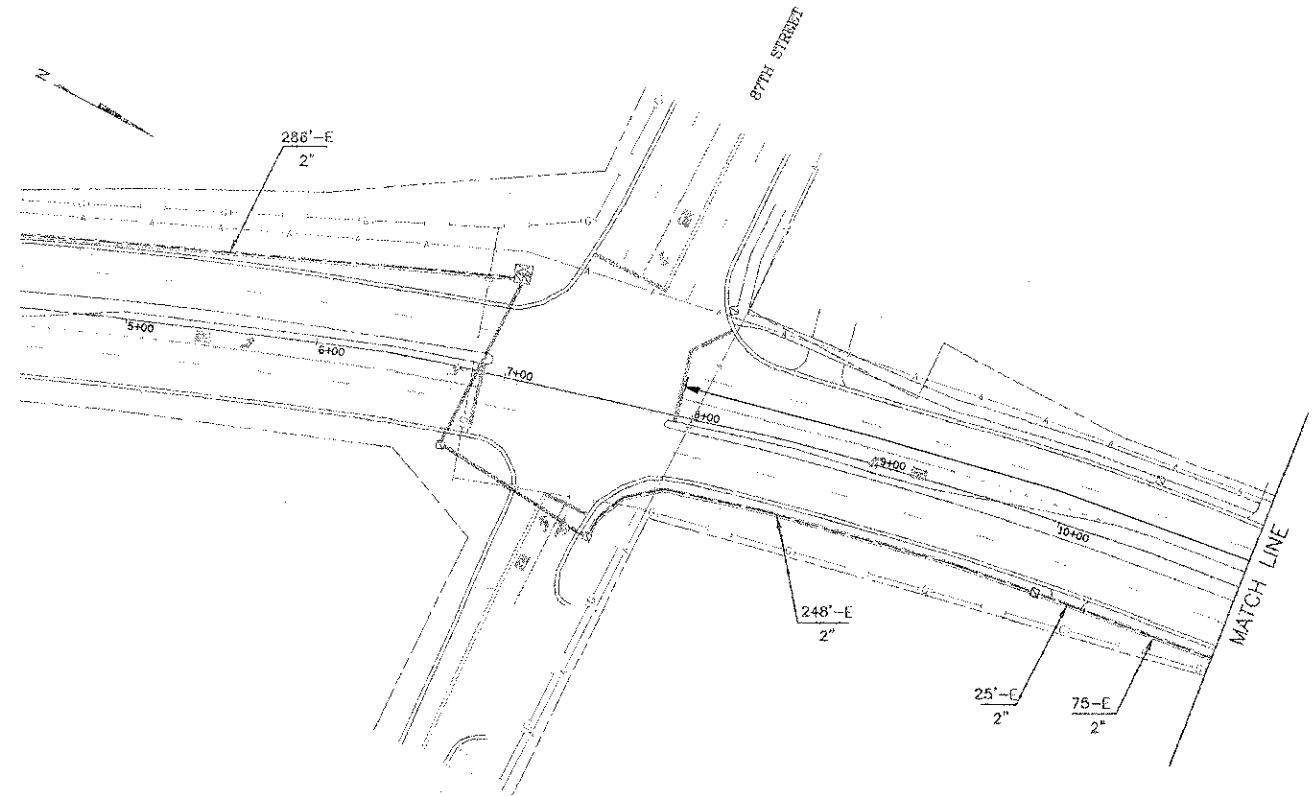


PROPOSED CABLE PLAN & SEQUENCE OF OPERATIONS
 87TH STREET & LEMONT ROAD

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11-00232-06-SP	DUPAGE	22	15
HLR PROJECT NO. 12.0123.350			CONTRACT NO. 63777	
ILLINOIS FED. AID PROJECT				

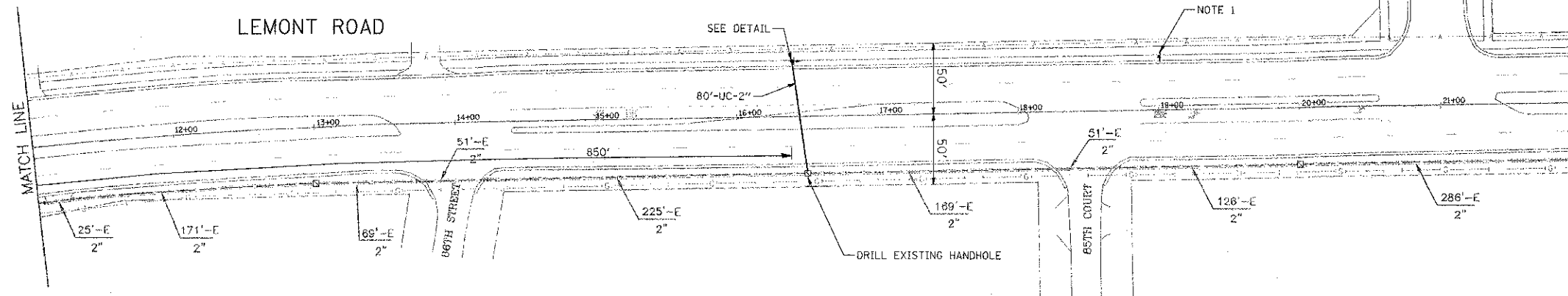


ADVANCE WARNING FLASHER SEQUENCE



NOTES:
 ALL LED'S SHALL MEET THE LATEST ITE REQUIREMENTS FOR LED TRAFFIC SIGNALS.
 ALL SIGNS TO BE FURNISHED AND INSTALLED BY DUPAGE DOT SIGN SHOP
 SEE STANDARD 720001 FOR SIGN PANEL MOUNTING DETAILS.

POST MOUNTED BEACON AND SIGN DETAIL AT STA. 16+40



NOTES:
 1. DUPAGE DOT WILL RELOCATE EXISTING "SIGNAL AHEAD" (#3-3) & SUPPLEMENTAL "87TH ST" TO NEW WOOD POLE LOCATED AT STA. 19+00.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, 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 SEEDDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

FILE NAME =	USER NAME = \$USER\$	DESIGNED - BF	REVISED -
P:\2012\120123\road\phase 2\dwg\120123-sta 16+40-87th & Lemont- flashing beacon.dwg		DRAWN - BF	REVISED -
PLOT SCALE = #SCALE#		CHECKED - JS	REVISED -
PLOT DATE = 2/4/2013		DATE - 12-13-12	REVISED -

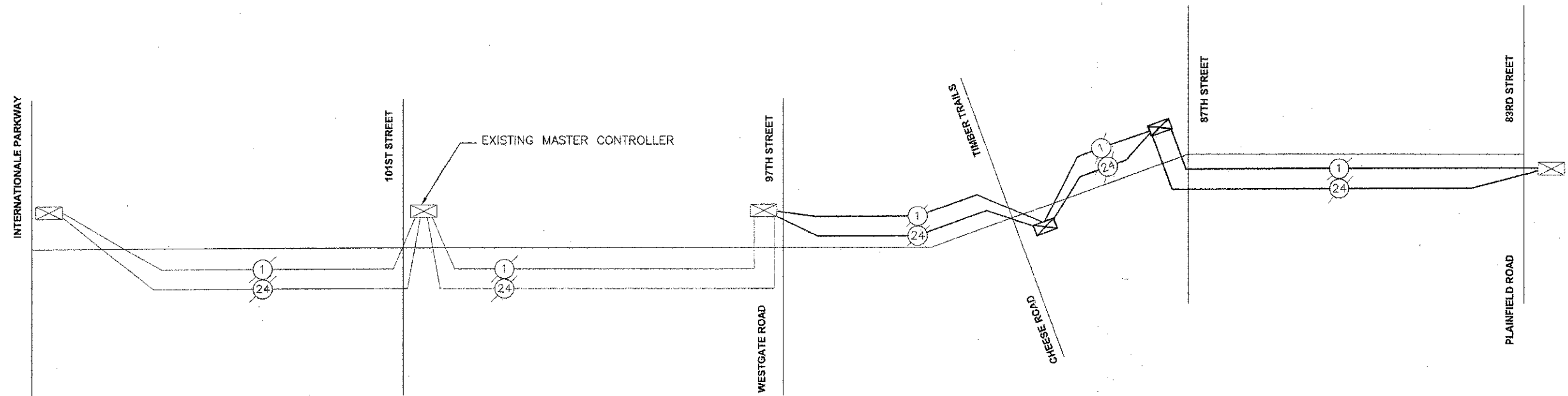
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION



PROPOSED FLASHING BEACON INSTALLATION
 87TH STREET & LEMONT ROAD

SCALE: 1" = 50' SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11-00232-06-SP	DUPAGE	21	16
HLR PROJECT NO. 12.0123.350			CONTRACT NO. 63777	
ILLINOIS FED. AID PROJECT				

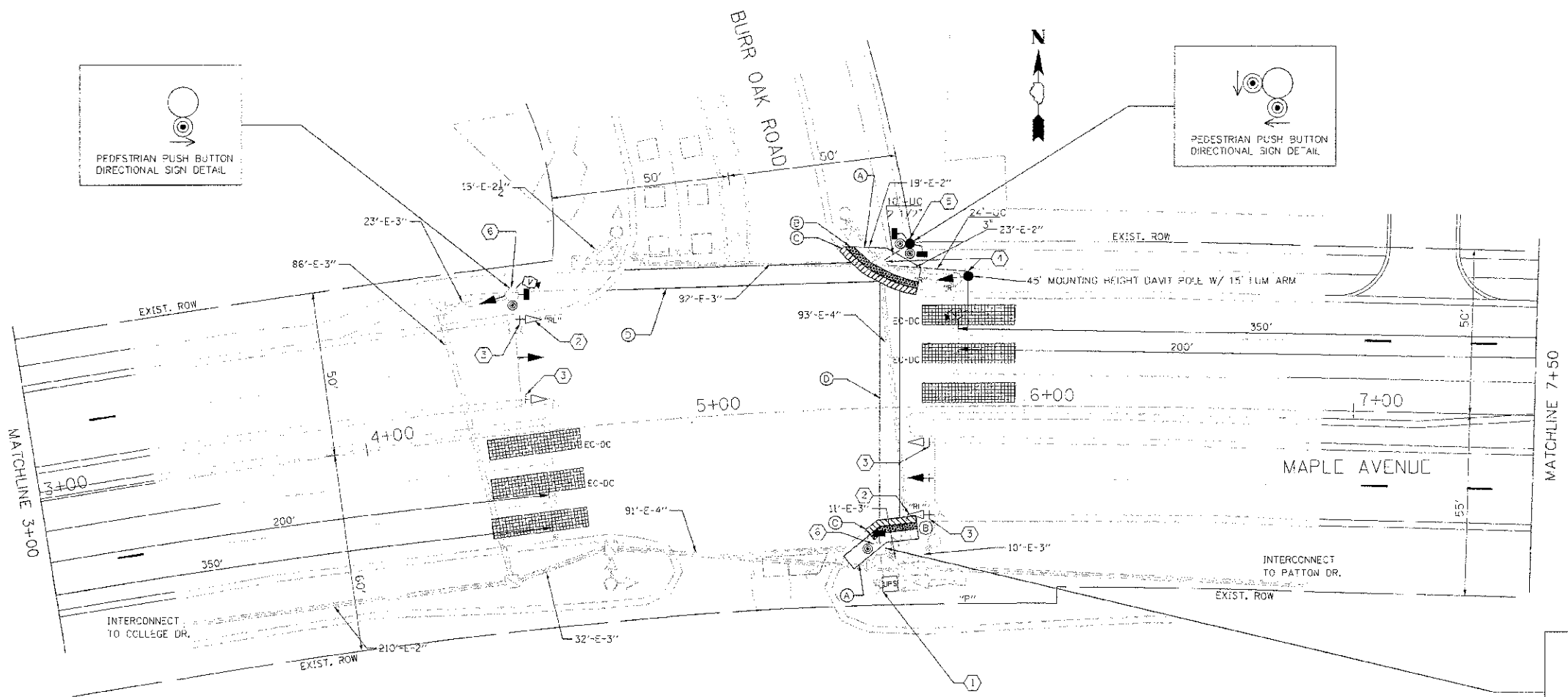
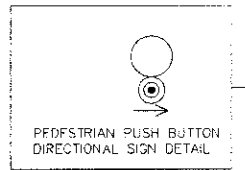


FOR INFORMATION ONLY

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

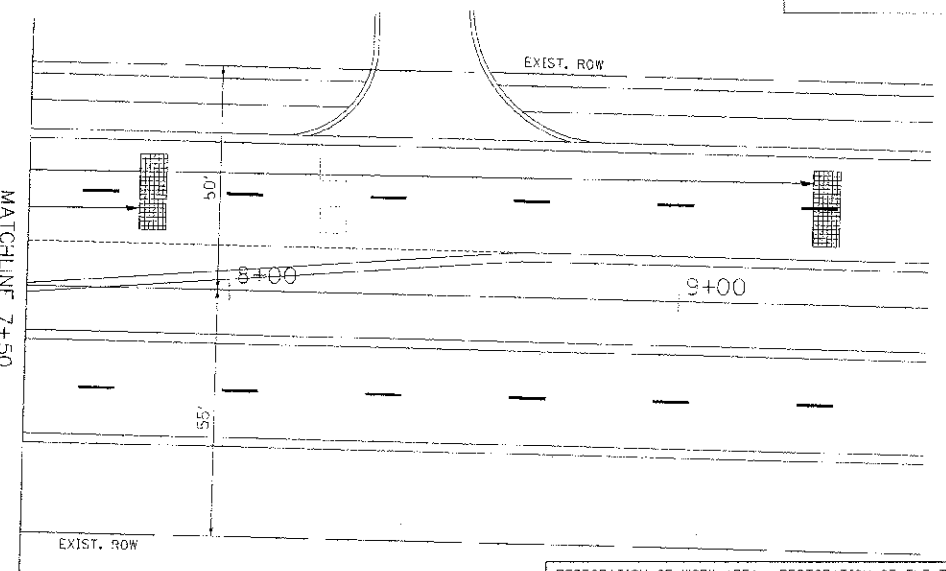
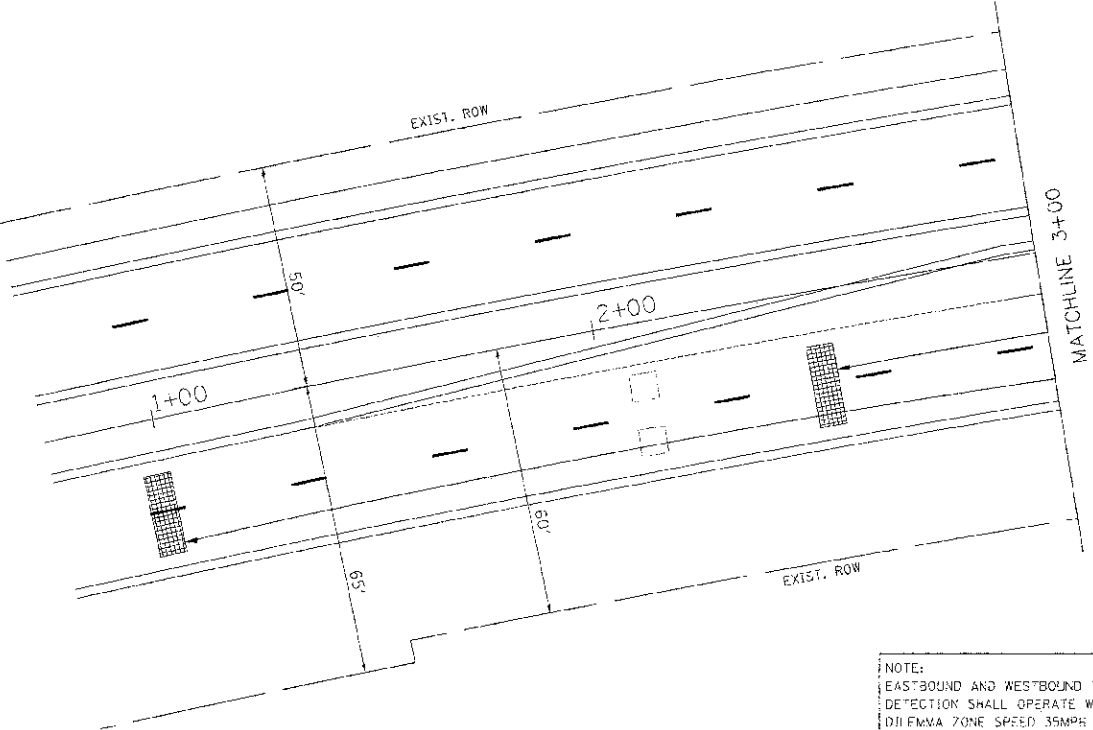
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		DRAWN - BF	REVISED -			87TH STREET & LEMONT ROAD			11-00232-06-SP	DuPAGE	21	17		
		CHECKED - JS	REVISED -			SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	HLR PROJECT NO. 12.0123.350	CONTRACT NO. 63777	
		DATE - 12-13-12	REVISED -			ILLINOIS FED. AID PROJECT								

NOTE: PEDESTRIAN PUSH BUTTONS AND DIRECTIONAL SIGNS SHALL BE MOUNTED ON THE POSTS AT EACH CORNER AS SHOWN ON THE DETAIL.



- CONSTRUCTION NOTES:
1. INSTALL UNINTERRUPTIBLE POWER SUPPLY (UPS) AND 36"x67" CONCRETE PAD. THE NEW CONCRETE PAD IS INCIDENTAL TO THE PAY ITEM FOR UPS.
 2. MOVE EXISTING 3-SECTION SIGNAL HEAD TO LOCATION OVER CURB LINE.
 3. REMOVE EXISTING BACKPLATE. INSTALL RETROREFLECTIVE BACKPLATE.
 4. DRILL EXISTING HANDHOLE. INSTALL NEW 3" CONDUIT. INSTALL NEW TYPE I FOUNDATION. INSTALL NEW 45' LIGHT POLE WITH 15' LUM ARM WITH BREAKAWAY TRANSFORMER BASE. INSTALL NEW BRACKET MOUNTED LED TRAFFIC SIGNAL. INSTALL VIDEO DETECTION CAMERA. INSTALL NEW VIDEO CABLE AND NEW 5/C CABLE PRIOR TO REMOVING THE EXISTING 5/C CABLE AND EXISTING BRACKET MOUNTED AND EXISTING TRAFFIC SIGNAL POLE. REMOVE EXISTING BRACKET MOUNTED TRAFFIC SIGNAL HEAD AND EXISTING TRAFFIC SIGNAL POLE AND EXISTING TRAFFIC SIGNAL CABLE AFTER THE NEW TRAFFIC SIGNALS AND LIGHT POLE ARE OPERATIONAL. REMOVE EXISTING TRAFFIC SIGNAL FOUNDATION.
 5. INSTALL PEDESTRIAN SIGNAL HEADS AND PUSH BUTTONS ON A NEW 10 FOOT POST AND FOUNDATION.
 6. INSTALL PEDESTRIAN SIGNALS AND PUSH BUTTONS ON EXISTING SIGNAL POSTS.

- NOTE: WORK TO BE PERFORMED BY OTHERS
- (A) SIDEWALK
 - (B) DETECTABLE WARNINGS
 - (C) CURB REMOVAL AND REPLACEMENT
 - (D) 6" SOLID WHITE CROSSWALKS



NOTE:
EASTBOUND AND WESTBOUND THROUGH LANE DETECTION SHALL OPERATE WITH EC-DC OPERATIONS. DUE TO 70% SPEED 35MPH.
DISCONNECT PHASE 2 & 6 LOOP DETECTORS

NOTE:
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, 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 SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

FILE NAME = 120123-hlt-Maple & Burr Oak-PROP traffic signal	USER NAME = hwtch	DESIGNED BY BF	REVISED - 03-13-18 DP/CDCT
		DRAWN - BF	REVISED -
		CHECKED - JS	REVISED -
		DATE - 12-13-12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



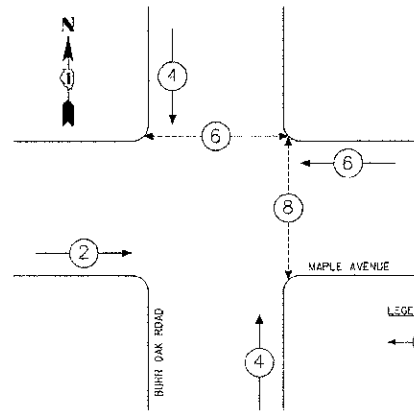
PROPOSED TRAFFIC SIGNAL MODIFICATION
MAPLE AVENUE & BURR OAK ROAD

SCALE: 1" = 20'	SHEET NO. OF SHEETS	STA. TO STA.	SECTION: 11-00232-06-SP	COUNTY: DUPAGE	TOTAL SHEETS: 21	SHEET NO.: 18
			HLR PROJECT NO. 12.0123.350	CONTRACT NO. 63777		
ILLINOIS HIGHWAY PROJECT						

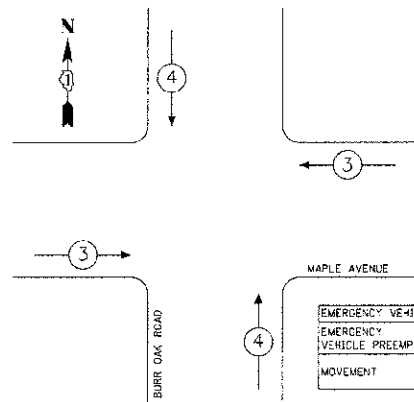
SCHEDULE OF QUANTITIES

IDOT CODE	ITEM	UNIT	TOTAL
6690200	NON-SPECIAL WASTE DISPOSAL	CUYD	8.2
6690040	SPECIAL WASTE PLANS AND REPORTS	LSUM	0.15
6690050	SOIL DISPOSAL ANALYSIS	EACH	1
6710010	MOBILIZATION	LSUM	0.33
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	LSUM	0.33
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	0.25
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	8
81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	10
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	27
83009500	LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM	EACH	1
83802005	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	1
85002000	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
85820400	FLASHER CONTROLLER, SPECIAL, WITHOUT CABINET	EACH	1
879C1215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	671
879C1225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2715
879C1245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	840
879C1900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1769
87500500	TRAFFIC SIGNAL POST, 10 FT.	EACH	1
87501400	TRAFFIC SIGNAL POST, 18 FT.	EACH	1
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	4
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	10
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	2
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
88040020	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, BRACKET MOUNTED	EACH	2
88102825	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER	EACH	2
88102845	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 2-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER	EACH	1
88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	8
88700200	LIGHT DETECTOR	EACH	1
88800100	PEDESTRIAN PUSH-BUTTON	EACH	4
89500100	RELOCATE EXISTING SIGNAL HEAD	EACH	2
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	1
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	160
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
X0323872	VIDEO VEHICLE DETECTION, 2 CAMERAS	EACH	1
X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	1024
X8140102	GROUND EXISTING HANDHOLE	EACH	6
X8570215	FULL-ACTUATED CONTROLLER IN EXISTING CABINET	EACH	1
X8620200	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1
Z0013798	CONSTRUCTION LAYOUT	LSUM	0.15

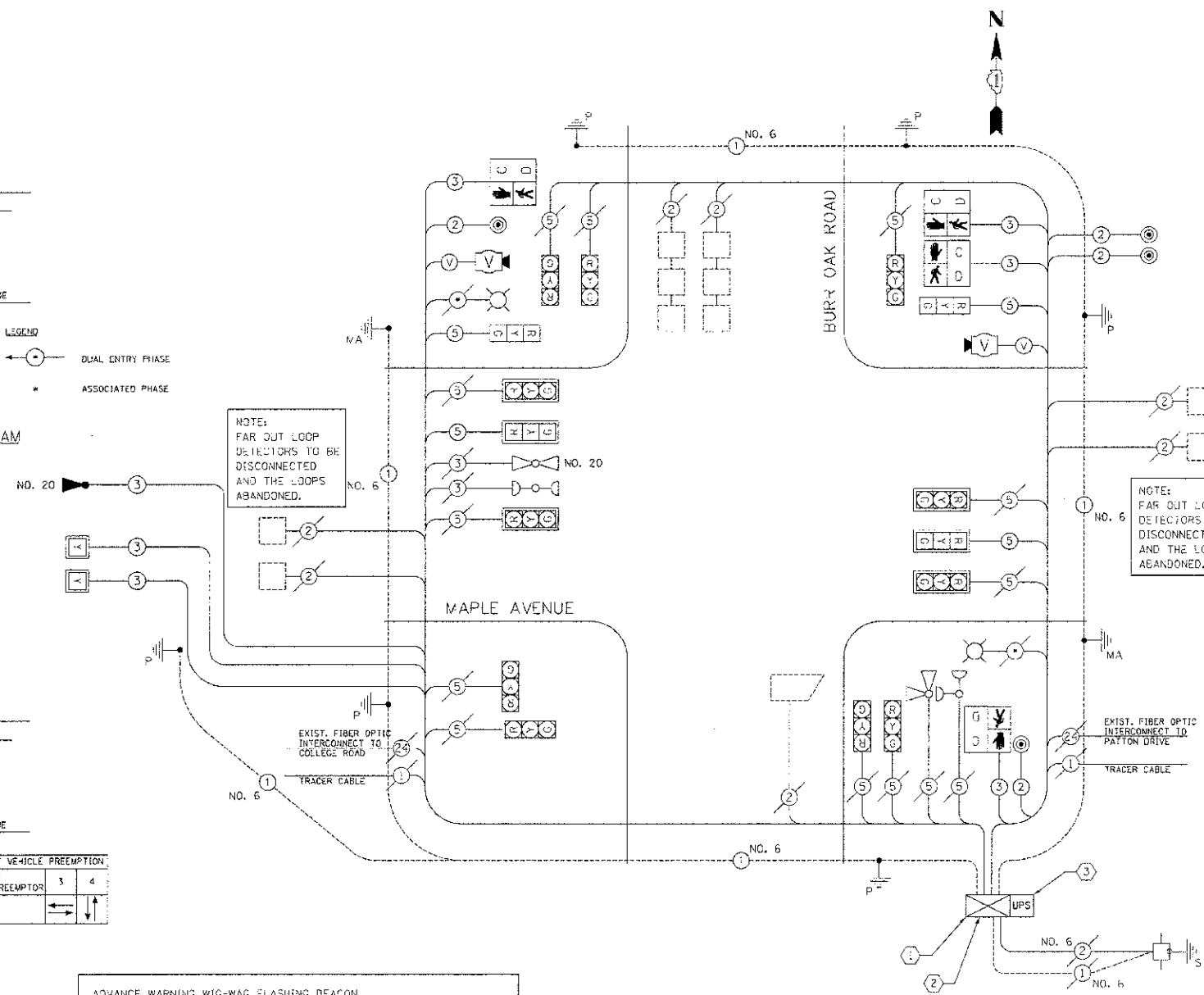
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT		
ITEM	UNIT	TOTAL
TRAFFIC SIGNAL BACKPLATE	EACH	8
TRAFFIC SIGNAL POST	EACH	1
SIGNAL HEAD, LED, 1-FACE, 1-3 SECTION, BRACKET MOUNTED	EACH	1



EXISTING & PROPOSED PHASE DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED CABLE PLAN

ADVANCE WARNING WIG-WAG FLASHING BEACON OPERATION NOTE:

THE ADVANCE ALTERNATE WIG-WAG WARNING FLASHING BEACON OPERATION SHALL COMMENCE AT THE START OF THE PHASE 2 YELLOW AND SHALL CONTINUE TO FLASH DURING THE PHASE 2 YELLOW AND RED INTERVALS.

THE ADVANCE WARNING FLASHER SHALL TURN OFF AT THE START OF THE PHASE 2 GREEN.

CONSTRUCTION NOTES:

- REPLACE EXISTING ASC/2 CONTROLLER WITH NEW ASC/3 CONTROLLER.
- FLASHING BEACON WILL BE CONTROLLED BY IS2-TYPE 1 CONTROLLER USING LOGIC IN THE CONTROLLER AND A DEDICATED T52 FLASHER.
- INSTALL UNINTERRUPTIBLE POWER SUPPLY.

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

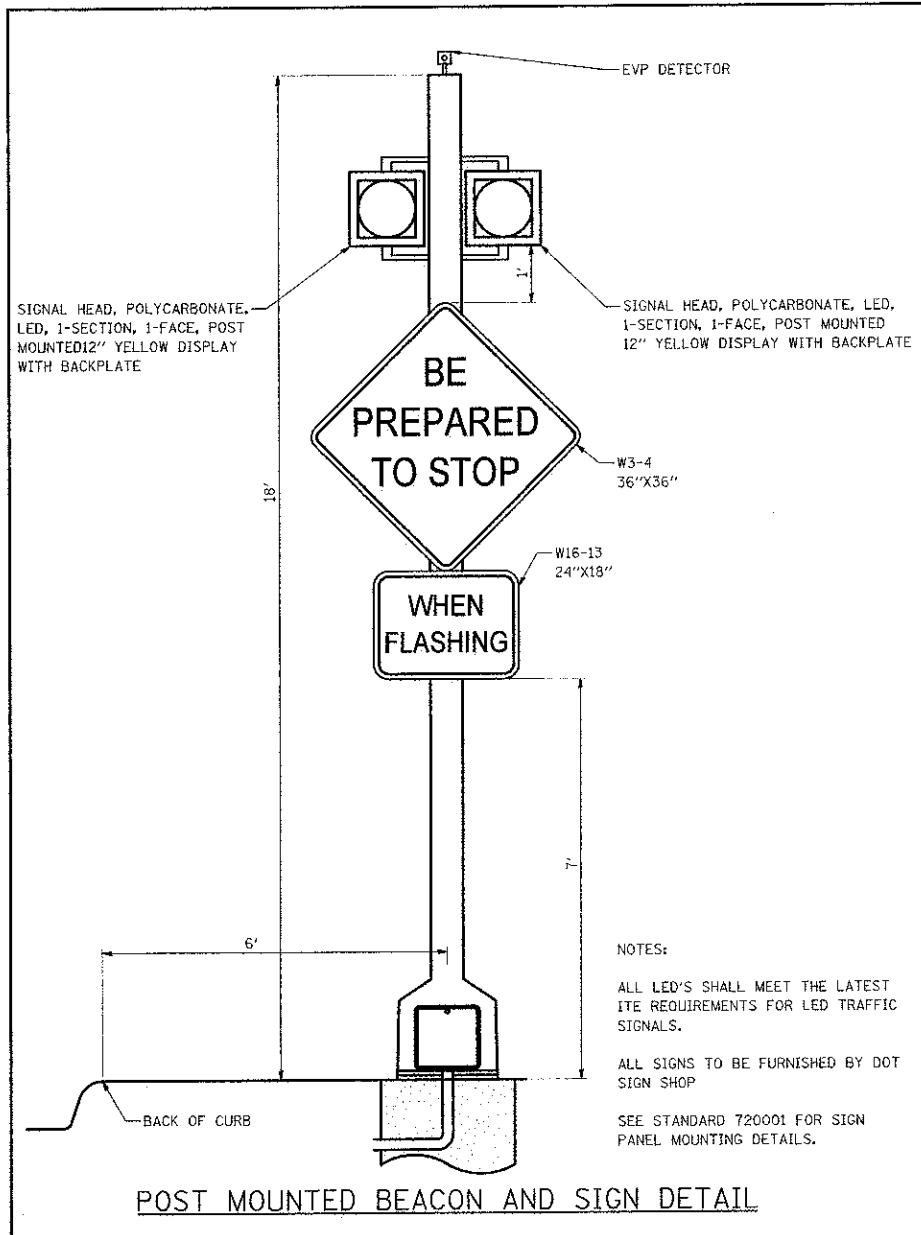
DUPAGE COUNTY D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	15		17	0.50	127.5
SIGNAL (YELLOW)	15		25	0.25	93.8
SIGNAL (GREEN)	15		15	0.25	56.3
ARROW	0		12	0.70	0.0
FLASHER	2		25	0.50	25.0
VIDEO DETECTION	1	75		1.00	75.0
CONTROLLER	1	100		1.00	100.0
LUMINAIRE	2	310		0.50	310.0
TOTAL =					787.5

FILE NAME = 22123-ent-Maain & Burr Oak-cable plan	USER NAME = hwh	DESIGNED = DF	REVISED = 02-06-13 HLR
		DRAWN = BF	REVISED = 03-18-13 DPCDOT
	PLLOT SCALE = 1:1000 7/16	CHECKED = JS	REVISED =
	PLOT DATE = 03/21/2013	DATE = 12-13-12	REVISED =

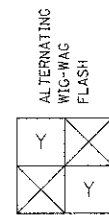
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLR PROPOSED CABLE PLAN & SEQUENCE OF OPERATIONS
MAPLE AVENUE & BURR OAK ROAD

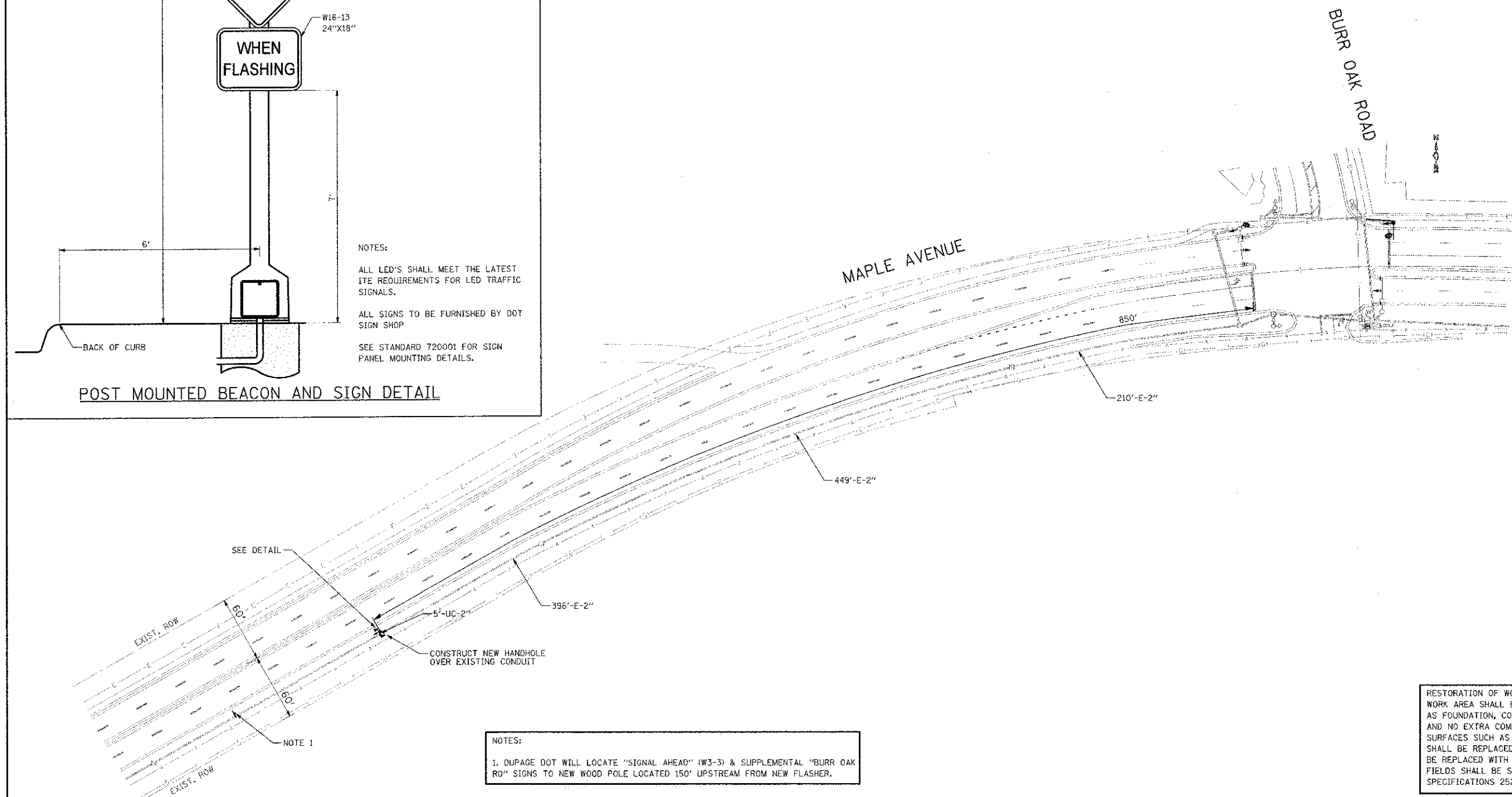
P.A.D. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11-00232-06-SP	DUPAGE	21	19
ILLR PROJECT NO. 12.0123.350		CONTRACT NO. 63777		
ILLINOIS FED. AID PROJECT				



MAPLE AVE AWF EB OUTBOARD
 MAPLE AVE AWF EB INBOARD



**ADVANCE WARNING
 FLASHER SEQUENCE**

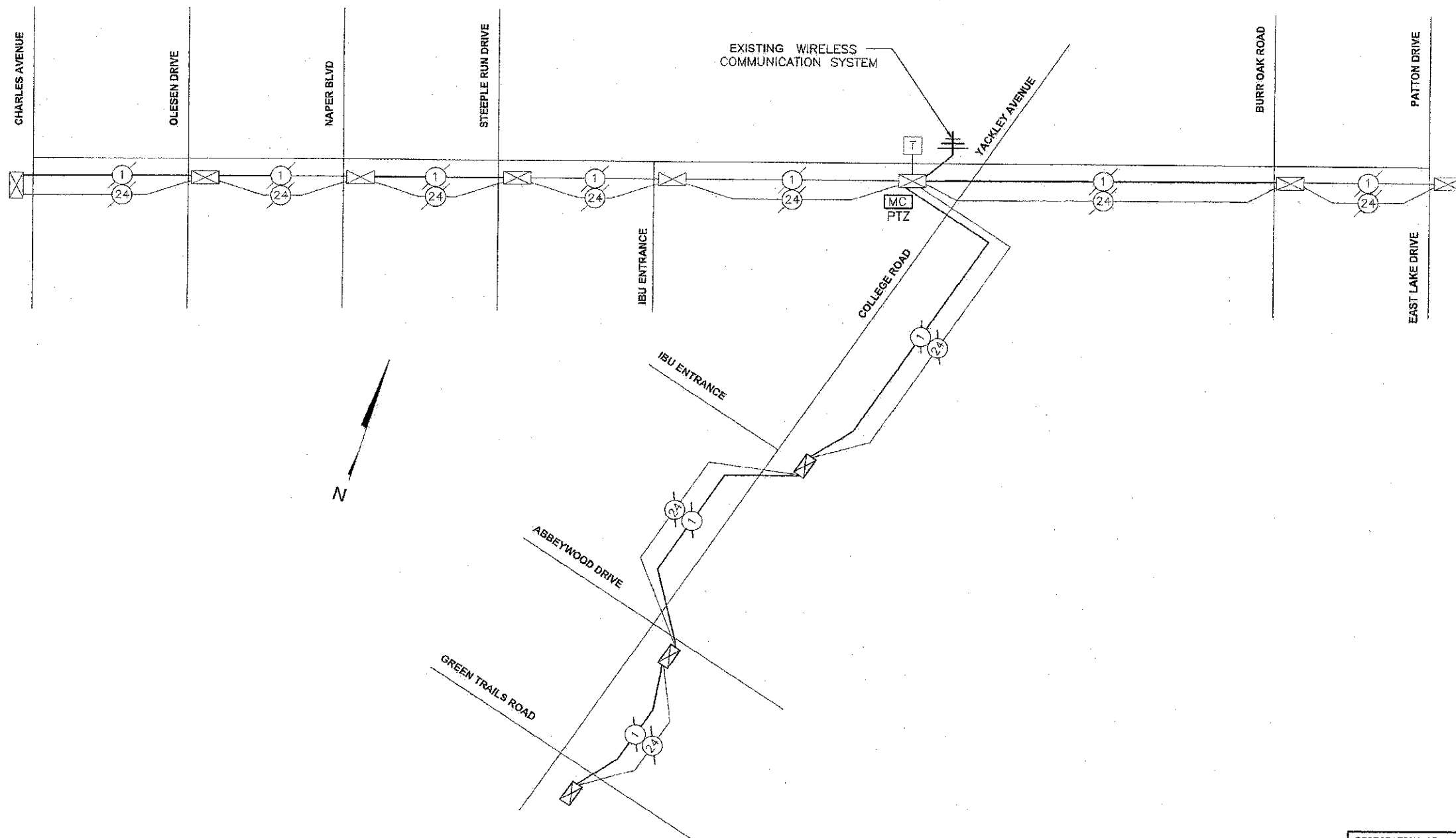


NOTES:

1. DUPAGE DOT WILL LOCATE "SIGNAL AHEAD" (W3-3) & SUPPLEMENTAL "BURR OAK RD" SIGNS TO NEW WOOD POLE LOCATED 150' UPSTREAM FROM NEW FLASHER.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, 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.

FILE NAME: P:\2012\120123\load\phase 2\dwg\120123-sh-Maple & Burr Oak - Flashing (reason.dgn)	USER NAME: #USER#	DESIGNED - BF	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HLR	PROPOSED FLASHING BEACON INSTALLATION MAPLE AVENUE & BURR OAK ROAD	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE: #SCALE#	DRAWN - BF	CHECKED - JS	REVISED -				11-00232-06-SP	DUPAGE	21	20	
PLOT DATE: 2/4/2013	DATE - 12-13-12	REVISED -	REVISED -				HLR PROJECT NO. 12.0123.350	CONTRACT NO. 63777		ILLINOIS FED. AID PROJECT	
SCALE: 1" = 50'							SHEET NO. OF SHEETS STA. TO STA.				



FOR INFORMATION ONLY

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLD, TRENCH AND BACKFILL, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACED SUCH AS SHOULDERS, MEDIANS, 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.

FILE NAME =	USER NAME = #USER#	DESIGNED - BF	REVISED -
P:\2012\120123\road\phase 2\deg\128123-Maple & Burr Oak Interconnect.dgn		DRAWN - BF	REVISED -
PLT SCALE = \$SCALE\$		CHECKED - JS	REVISED -
PLT DATE = 12/13/2012		DATE - 12-13-12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INTERCONNECT SCHEMATIC
MAPLE AVENUE & BURR OAK ROAD

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11-00232-06-SP	DuPAGE	21	21
HLR PROJECT NO. 12.0123.350			CONTRACT NO. 63777	
ILLINOIS FED. AID PROJECT				