

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 324: IL 23
AT CORAL RD /PLEASANT GROVE RD
SECTION 24N-2
INTERSECTION IMPROVEMENT
PROJECT: NHPP-0324 (023)
McHENRY COUNTY
C-91-512-12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	1
ILLINOIS			CONTRACT NO. 60V05	

* 30 + 2 = 32 total sheets

D-91-512-12



FOR INDEX OF SHEETS, SEE SHEET NO. 2

THIS IMPROVEMENT IS LOCATED
IN RILEY TOWNSHIP

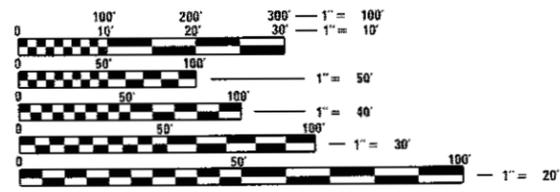
TRAFFIC DATA

IL 23:
2016 ADT=4150
POSTED SPEED LIMIT=45 MPH

CORAL RD /PLEASANT GROVE RD:
2016 ADT=1100
POSTED SPEED LIMIT=45 MPH

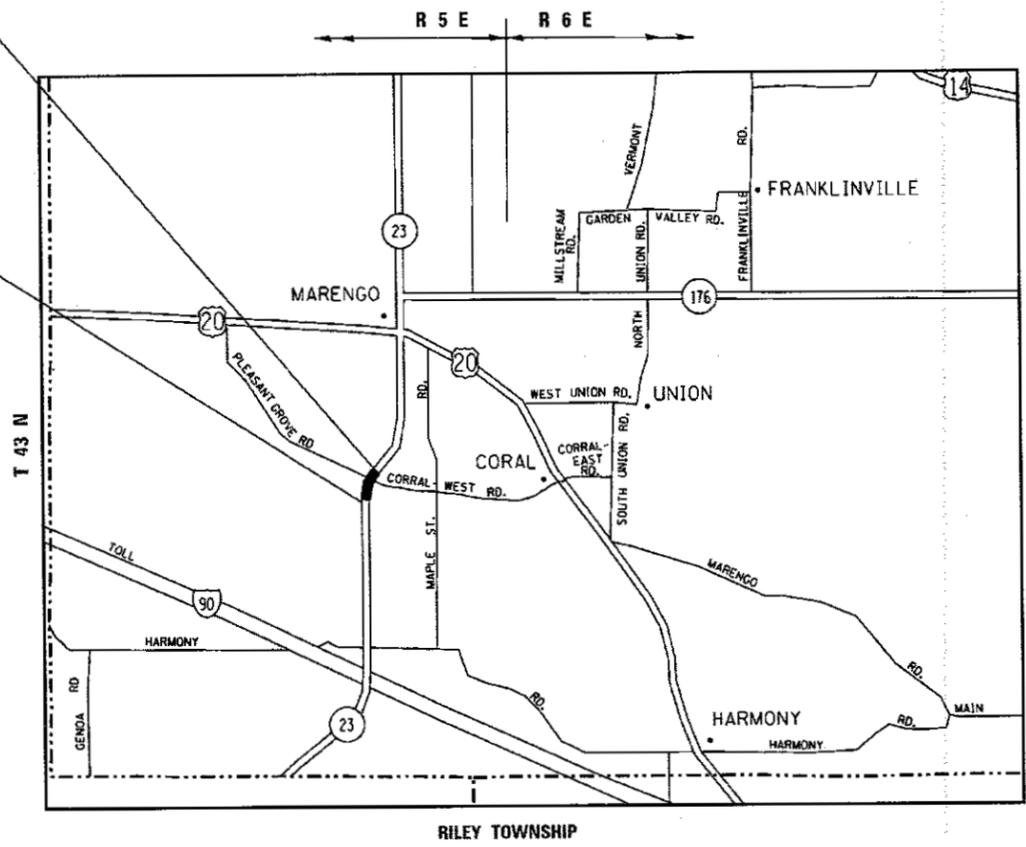
IMPROVEMENT ENDS
STA. 505 + 00

IMPROVEMENT BEGINS
STA. 495 + 01



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: MIDY, J. ALAIN (847) 221-3056
PROJECT MANAGER: RAYAN, ISSAM (847) 705-4178

CONTRACT NO. 60V05

GROSS AND NET LENGTH=999 FT.=0.19 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 4 2017
Anthony J. [Signature] REGIONAL ENGINEER

June 30 2017
Maureen M. Addis, P.E. ENGINEER OF DESIGN AND ENVIRONMENT

June 30 2017
[Signature] DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
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2	INDEX OF SHEETS, STANDARDS AND GENERAL NOTES
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6	TYPICAL SECTIONS
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LIST OF STATE STANDARDS

STANDARD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
442201-03	CLASS C AND D PATCHES
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-RD OPERATIONS, 2L, 2W, DAY ONLY
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701306-03	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS > 45 MPH
701311-03	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY
701336-06	LANE CLOSURE, 2L, 2W, WORK AREAS IN SERIES, FOR SPEEDS > 45 MPH
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701502-07	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-06	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
805001-01	ELECTRICAL SERVICE INSTALLATION DETAILS
814006-02	DOUBLE HANDHOLES
873001-02	TRAFFIC SIGNAL GROUNDING
877001-06	STEEL MAST ARM ASSEMBLY AND POLE
878001-10	CONCRETE FOUNDATION DETAILS
886001-01	DETECTOR LOOP INSTALLATION

GENERAL NOTES

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

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, IDOT, MCHENRY COUNTY DIVISION OF TRANSPORTATION, CITY OF MARENGO AND RILEY TOWNSHIP.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

ANY PAVEMENT MARKINGS AND RAISED REFLECTIVE PAVEMENT MARKERS OBLITERATED BY MILLING AND RESURFACING OPERATIONS ON SIDE STREETS AND ENTRANCES SHALL BE REPLACED AND PAID FOR IN KIND.

BEFORE BEGINING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES AND REVISED REFLECTIVE PAVEMENT MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.

ALL PAVEMENT PATCHING LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

THE RESIDENT ENGINEER SHALL CONTACT WALTER CZARNY, ARTERIAL TRAFFIC FIELD ENGINEER AT "walter.czarny@illinois.gov" A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THE CONTRACTOR SHALL USE CARE IN REMOVING OR EXCAVATING NEAR ALL EXISTING ITEMS WHICH WILL REMAIN. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ADJUTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

DOUBLE LANE MARKERS ARE TO BE USED AS SHOWN ON THE DISTRICT ONE DETAIL "TYPICAL APPLICATIONS - RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)" SHOWN IN THE PLANS.

PAVEMENT MARKING TAPE, TYPE III SHALL BE USED FOR SHORT TERM PAVEMENT MARKINGS ON ALL FINAL SURFACES.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40MM) WHERE THE SPEED LIMIT IS 40 MPH (80KM/H) OR LESS AND 1 INCH (25 MM) WHERE THE SPEED LIMIT IS GREATER THAN 40 MPH (80 KM/H), WITH WRITTEN APPROVAL OF THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H) OR A NOTCHED LONGITUDINAL WEDGE IS USED.

DRAINAGE ADJUSTMENT OR RECONSTRUCTION LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

OVERNIGHT LANE CLOSURES SHALL NOT BE ALLOWED FOR REHABILITATION PROJECTS INVOLVING DAYTIME MILLING AND RESURFACING OPERATIONS AND CLASS D PATCHING UNLESS OTHER CONDITIONS WARRANT EXTENDED LANE CLOSURES AS DETERMINED AND APPROVED IN WRITING BY THE ENGINEER OR AS PROVIDED FOR IN THE CONTRACT SPECIFICATIONS.

FILE NAME : p:\jlb\84EBIDINTEG\illinois.gov\1001\Documents\1001\Offices\District 1\Projects\P12551\Design\12551-shr-gennote.dgn Default	USER NAME : gorengetab	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLT SCALE = 5000.0000 1" = 100'	CHECKED -	REVISED -		324	24N-2	McHENRY	30	2				
	PLT DATE = 6/15/2017	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

URBAN

URBAN

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	0005 ROADWAY 80% FED. 20% STATE	0021 TRAFFIC SIGNAL 80% FED. 10% STATE 5% CITY OF WARENGO 5% COUNTY				
25000210	SEEDING, CLASS 2A	ACRE	0.003	0.003					
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	0.27	0.27					
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	0.27	0.27					
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	0.27	0.27					
25100630	EROSION CONTROL BLANKET	SO YD	14.3	14.3					
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	3515	3515					
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	8	8					
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	210	210					
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	62	62					
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	442	442					
44000158	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"	SO YD	5210	5210					
44201863	CLASS D PATCHES, TYPE II, 18 INCH	SO YD	120	120					
44201869	CLASS D PATCHES, TYPE IV, 18 INCH	SO YD	60	60					
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	96	96					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	1	2				
67100100	MOBILIZATION	LSUM	1	0.5	0.5				

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	0005 ROADWAY 80% FED. 20% STATE	0021 TRAFFIC SIGNAL 80% FED. 10% STATE 5% CITY OF WARENGO 5% COUNTY				
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	LSUM	1	1					
70100600	TRAFFIC CONTROL AND PROTECTION, STANDARD 701336	LSUM	1	1					
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	1	1					
70102622	TRAFFIC CONTROL AND PROTECTION, STANDARD 701502	LSUM	1	1					
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	1	1					
70300100	SHORT TERM PAVEMENT MARKING	FOOT	1390	1390					
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	580	580					
70300210	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS	SO FT	145.6	145.6					
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	5155	5155					
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	545	545					
70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	50	50					
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	88	88					
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	2880	2880					
70300570	PAVEMENT MARKING TAPE, TYPE III 24"	FOOT	88	88					
* 72000100	SIGN PANEL - TYPE 1	SO FT	13.5		13.5				
* 72000200	SIGN PANEL - TYPE 2	SO FT	40		40				

16

FILE NAME :
 USER NAME : gprongoutub
 DESIGNED -
 CHECKED -
 DATE -

OFFICE: District 1/Projects/P1255/INCAD/Design/P1255-
 PLOT SCALE = 1000000' / 1" /
 PLOT DATE = 5/9/2017

DESIGNED -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES				
IL 23 AT CORAL RD / PLEASANT GROVE RD				
SCALE:	SHEET NO.	OF	SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	3
CONTRACT NO. 60V05				
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				

* Specialty Item

URBAN

URBAN

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		0005 ROADWAY 80% FED. 20% STATE	0021 TRAFFIC SIGNAL 80% FED. 10% STATE 5% CITY OF MARENGO 5% COUNTY			
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	50 FT	145.6	145.6				
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	5155	5155				
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	545	545				
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	50	50				
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	88	88				
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	57	57				
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	57	57				
* 80500020	SERVICE INSTALLATION - POLE MOUNTED	EACH	1		1			
* 81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	692		692			
* 81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	171		171			
* 81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	234		234			
* 81400200	HEAVY-DUTY HANDHOLE	EACH	7		7			
* 81400300	DOUBLE HANDHOLE	EACH	1		1			
* 85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1		1			

SUMMARY OF QUANTITIES				TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT	0005 ROADWAY 80% FED. 20% STATE		0021 TRAFFIC SIGNAL 80% FED. 10% STATE 5% CITY OF MARENGO 5% COUNTY				
* 87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1750		1750				
* 87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	630		630				
* 87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	920		920				
* 87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	110		110				
* 87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	650		650				
* 87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4		4				
* 87700150	STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	1		1				
* 87700170	STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	2		2				
* 87700200	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1		1				
* 87800100	CONCRETE FOUNDATION, TYPE A	FOOT	24		24				
* 87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4				
* 87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	30		30				
* 87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	11		11				
* 88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	7		7				
* 88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4		4				

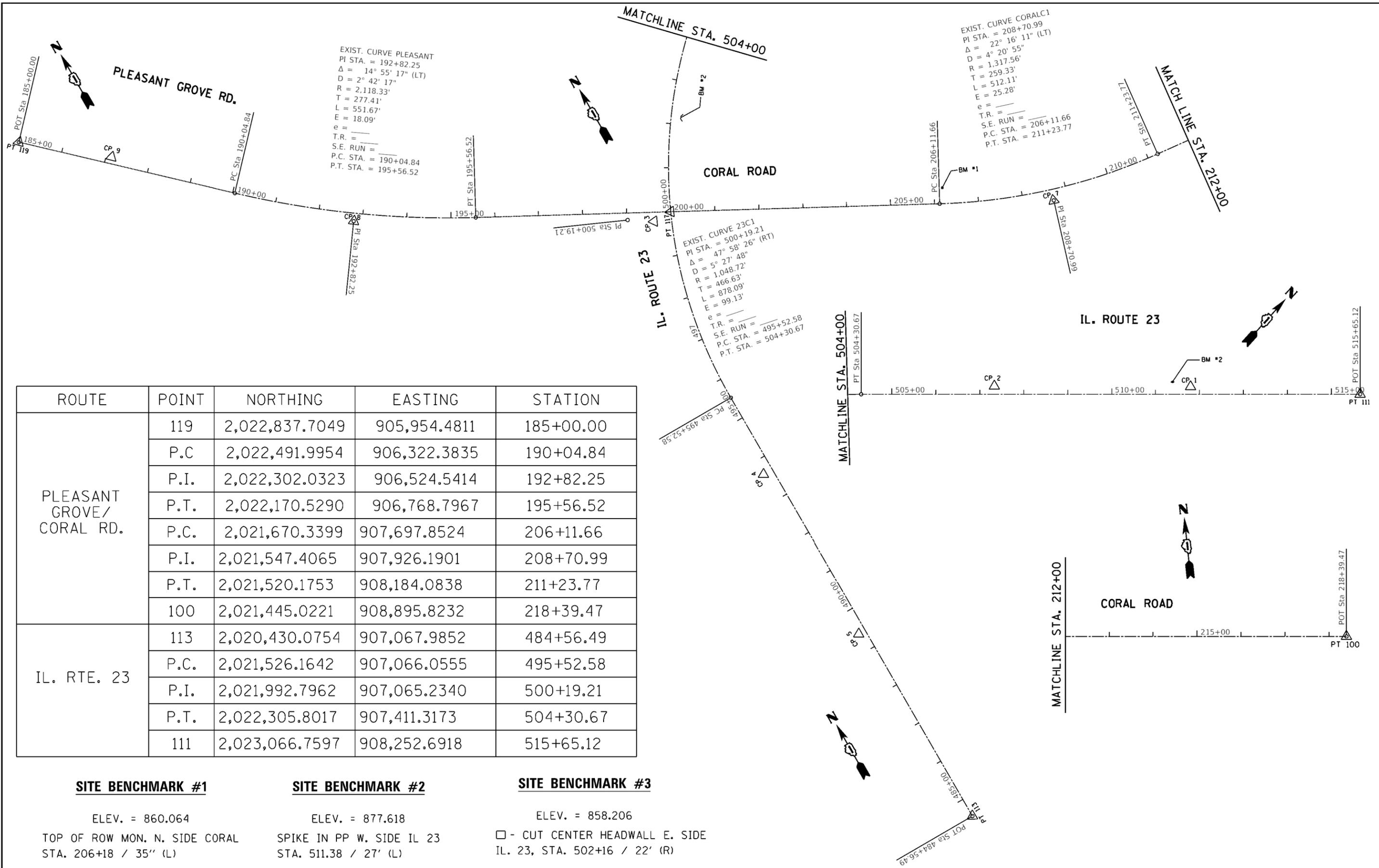
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PLT DATE = 5/9/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES			
IL 23 AT CORAL RD / PLEASANT GROVE RD			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A.P. RTE. 324	SECTION 24N-2	COUNTY McHENRY	TOTAL SHEETS 30	SHEET NO. 4
CONTRACT NO. 60V05				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

* Specialty Item



ROUTE	POINT	NORTHING	EASTING	STATION
PLEASANT GROVE / CORAL RD.	119	2,022,837.7049	905,954.4811	185+00.00
	P.C.	2,022,491.9954	906,322.3835	190+04.84
	P.I.	2,022,302.0323	906,524.5414	192+82.25
	P.T.	2,022,170.5290	906,768.7967	195+56.52
	P.C.	2,021,670.3399	907,697.8524	206+11.66
	P.I.	2,021,547.4065	907,926.1901	208+70.99
	P.T.	2,021,520.1753	908,184.0838	211+23.77
IL. RTE. 23	100	2,021,445.0221	908,895.8232	218+39.47
	113	2,020,430.0754	907,067.9852	484+56.49
	P.C.	2,021,526.1642	907,066.0555	495+52.58
	P.I.	2,021,992.7962	907,065.2340	500+19.21
	P.T.	2,022,305.8017	907,411.3173	504+30.67
	111	2,023,066.7597	908,252.6918	515+65.12

SITE BENCHMARK #1

ELEV. = 860.064
 TOP OF ROW MON. N. SIDE CORAL
 STA. 206+18 / 35" (L)

SITE BENCHMARK #2

ELEV. = 877.618
 SPIKE IN PP W. SIDE IL 23
 STA. 511.38 / 27' (L)

SITE BENCHMARK #3

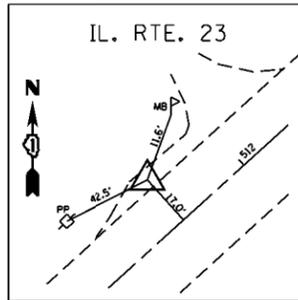
ELEV. = 858.206
 □ - CUT CENTER HEADWALL E. SIDE
 IL. 23, STA. 502+16 / 22' (R)

FILE NAME =	USER NAME = gorengautab	DESIGNED -	REVISED -
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		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

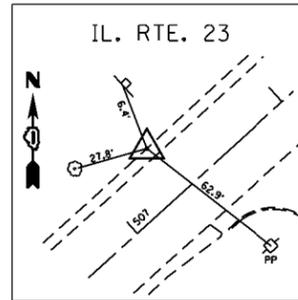
ALIGNMENT, TIES AND BENCHMARKS			
IL. ROUTE 23 AT PLEASANT GROVE ROAD / CORAL ROAD			
SCALE: 1"=100'	SHEET	OF SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	5A
CONTRACT NO. 60V05			ILLINOIS FED. AID PROJECT	



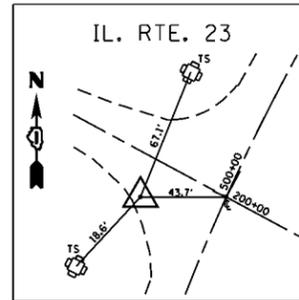
CONTROL POINT #1

MAG NAIL
 STA. 511+79.86, 17.03 L
 N=2,022,820.9732
 E=907,955.5353
 ELEV.=878.6853



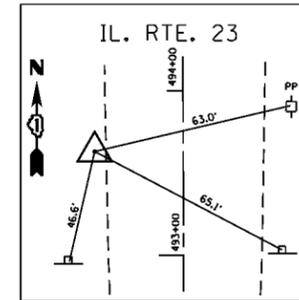
CONTROL POINT #2

IRON ROD W/CAP
 STA. 507+33.10, 18.38 L
 N=2,022,522.2938
 E=907,623.2917
 ELEV.=865.6334



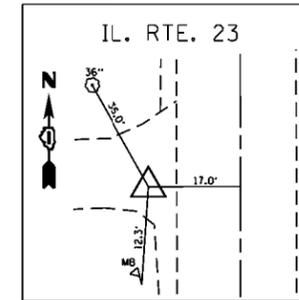
CONTROL POINT #3

MAG NAIL
 STA. 499+82.68, 39.96 L
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 E=907,115.6160
 ELEV.=861.1969



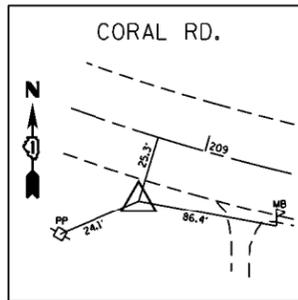
CONTROL POINT #4

IRON ROD W/CAP
 STA. 493+65.04, 22.96 L
 N=2,021,338.5879
 E=907,043.4258
 ELEV.=852.3542



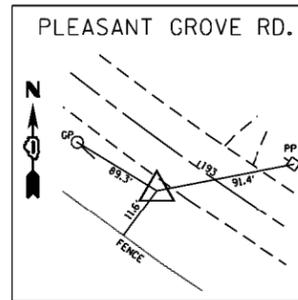
CONTROL POINT #5

MAG NAIL
 STA. 489+42.35, 16.94 L
 N=2,020,915.9035
 E=907,050.1894
 ELEV.=852.3582



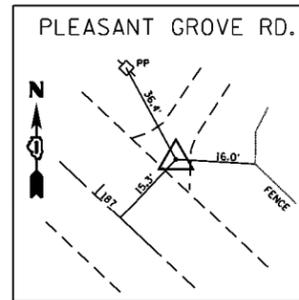
CONTROL POINT #7

IRON ROD W/CAP
 STA. 208+70.99, 25.28 R
 N=2,021,547.4065
 E=907,926.1901
 ELEV.=862.9776



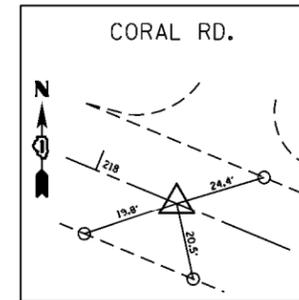
CONTROL POINT #8

IRON ROD W/CAP
 STA. 192+80.68, 8.09 R
 N=2,022,302.0323
 E=906,524.5414
 ELEV.=852.8748



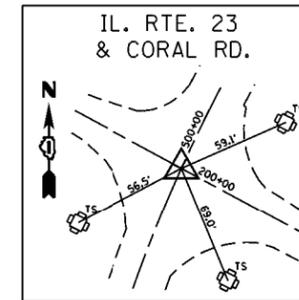
CONTROL POINT #9

MAG NAIL
 STA. 187+12.78, 15.20 L
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 E=906,119.9544
 ELEV.=856.0194



CONTROL POINT #100

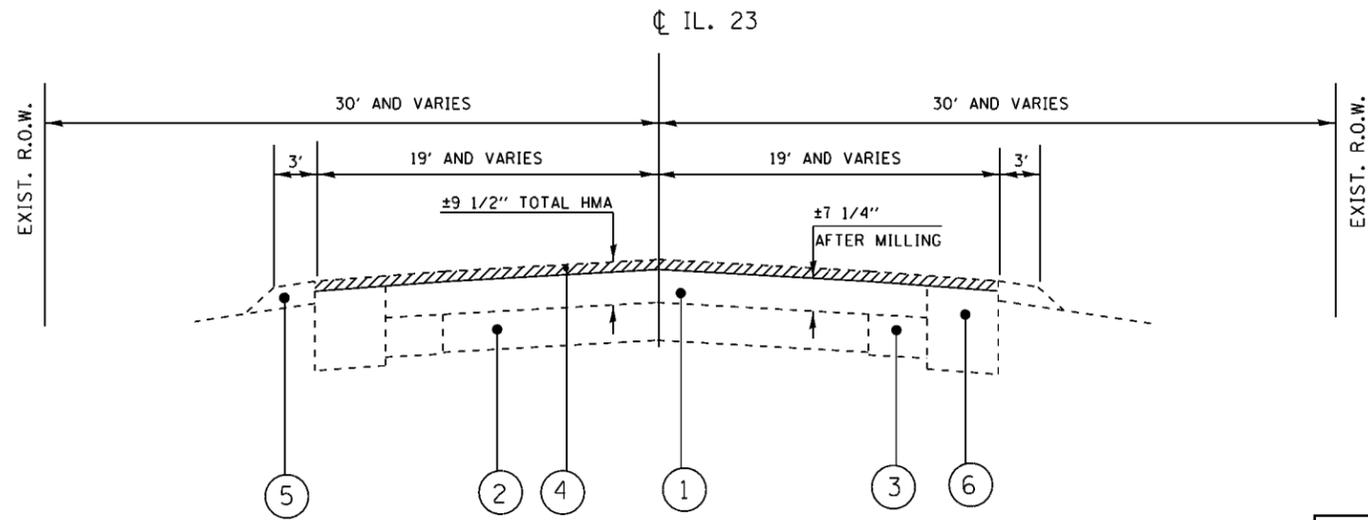
MAG NAIL
 STA. 218+39.47, 0.0
 N=2,021,445.0221
 E=908,895.8232
 ELEV.=880.2361



CONTROL POINT #117

MAG NAIL C-C IL. 23 & CORAL
 STA. 500+00, 0.0 IL. 23
 STA. 200+00, 0.0, CORAL RD.
 N=2,021,960.2923
 E=907,159.2923
 NO ELEV.

FILE NAME =	USER NAME = gorengautab	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ALIGNMENT, TIES AND BENCHMARKS IL. ROUTE 23 AT PLEASANT GROVE ROAD / CORAL ROAD	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw:\il084EBIDINTEG.illinois.gov.PWIDOT\Documents\DOT Offices\District 1\Projects\P125511\CADDData\CADsheets\P125511\5B.dgn	DRAWN	REVISED -	REVISED -			324	24N-2	McHENRY	30	5B	
PLOT SCALE = 200.0000 / in.	CHECKED -	REVISED -	REVISED -			CONTRACT NO. 60V05					
Default	DATE -	REVISED -	REVISED -			ILLINOIS FED. AID PROJECT					



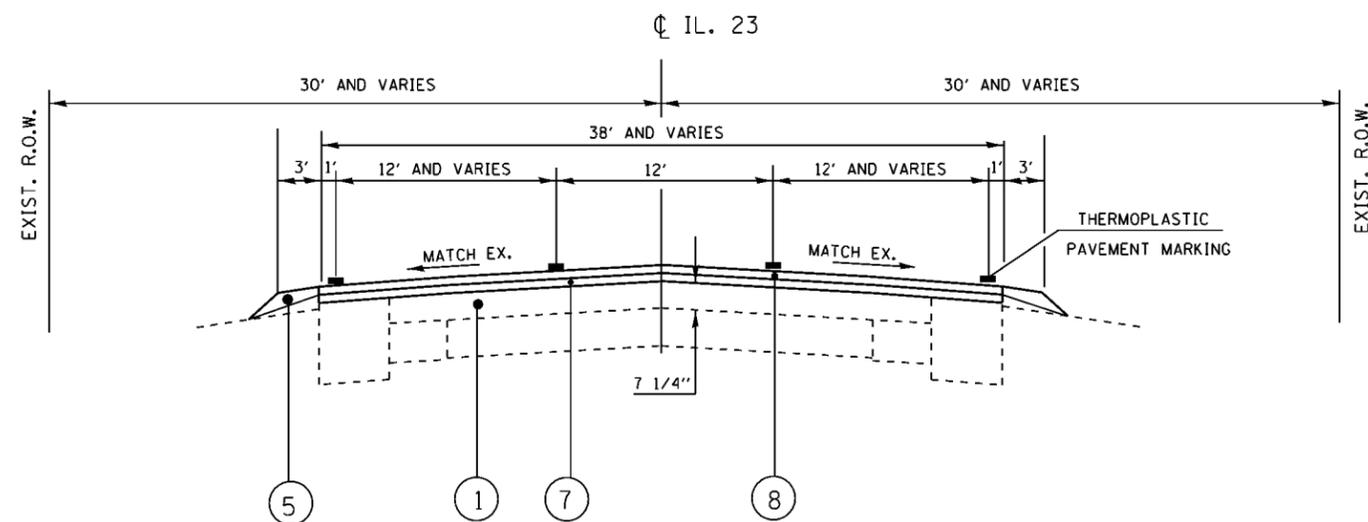
EXISTING TYPICAL SECTION

IL ROUTE 23
STA 495+01 TO STA 505+00

THE CONTRACTOR SHALL MILL FIRST BEFORE PATCHING

LEGEND

1. EXISTING HMA SURFACE ± 9 1/2"
2. EXISTING P.C.C. PAVEMENT ± 6 1/2"
3. EXISTING HMA BASE CSE WIDENING
4. PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL 2 1/4"
5. PROPOSED AGGREGATE WEDGE SHOULDER TYPE B
6. EXISTING BASE COURSE WIDENING
7. PROPOSED LEVELING BINDER (MACHINE METHOD), N50, 3/4"
8. PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL 9.5 mm) 1 1/2"



PROPOSED TYPICAL SECTION

IL ROUTE 23
STA 495+01 TO STA 505+00

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		QUALITY MANAGEMENT PROGRAM (QMP)
MIXTURE TYPE	AIR VOIDS AND NOTES	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL 9.5 mm)	4% @ 50 Gyr.	QC /QA
LEVELING BINDER (MACHINE METHOD), N 50 (IL -9.5)	4% @ 50 Gyr.	QC /QA
PATCHING		
CLASS D PATCHES (HMA BINDER IL-19 mm)	4% @ 70 Gyr.	QC /QA
QMP Designation: Quality Control/Quality Assurance (QS/QA); Quality Control per Performance (QCP);		

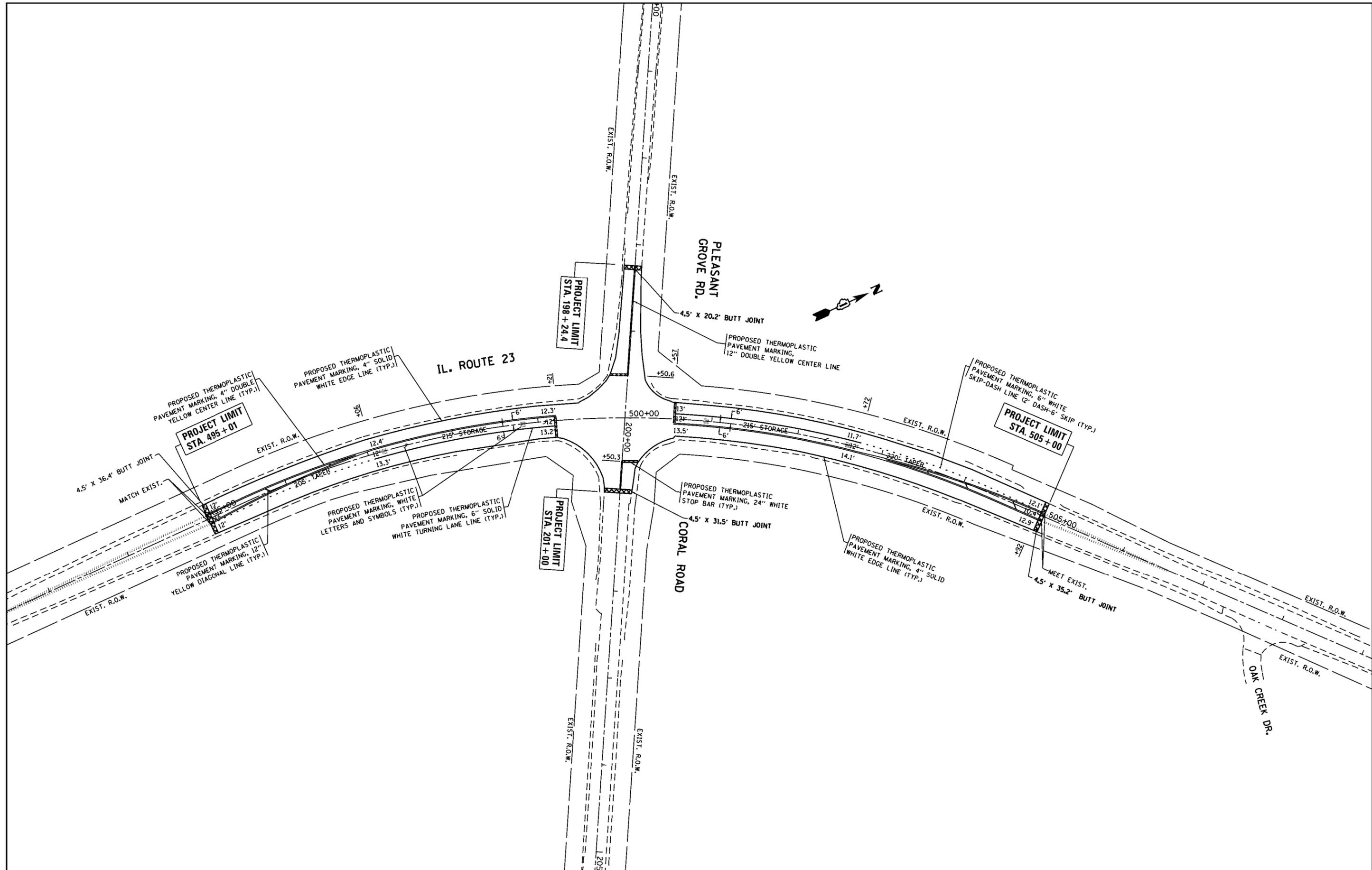
NOTE:

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SO. YD./ IN.

THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS / SBR PG 76 -22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64 -22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.

FOR USE OF RECYCLED MATERIALS SEE SPECIAL PROVISIONS.

QUALITY MANAGEMENT PROGRAM (QMP) IDENTIFIES THE PARTICULAR QUANTITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA.



FILE NAME =	USER NAME = gorenautob	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING PLAN IL. ROUTE 23 AT CORAL RD./PLEASANT GROVE RD.				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\IL084EBID\INTEG\illinois.gov\PI\DOT\Documents\IDOT Offices\District 1\Projects\PI25511\CAD\Drawings\PI25511-sht-pmk.dgn		CHECKED -	REVISED -		324	24N-2	McHENRY	30	8				
Default	PLOT SCALE = 100.0000' / 1in.	DATE -	REVISED -		CONTRACT NO. 60V05				ILLINOIS FED. AID PROJECT				
	PLOT DATE = 4/11/2017				SCALE: 1"=50'	SHEET	OF	SHEETS	STA.	TO	STA.		

TRAFFIC SIGNAL LEGEND

(NOT TO SCALE)

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

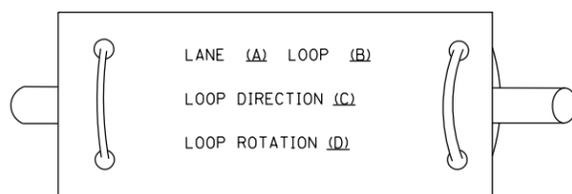
TS SHT NO. 1

FILE NAME = P125511-sh1-ts.dgn	USER NAME = poc1echn	DESIGNED - IP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS	F.A.P RTE. 324	SECTION 24N-2	COUNTY MCHENRY	TOTAL SHEETS 30	SHEET NO. 9
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED - LP	REVISED -	SCALE: NONE	SHEET 1 OF 7 SHEETS	TS-05		CONTRACT NO. 60V05		
	PLOT DATE = 3/21/2017	DATE - 9/29/2016	REVISED -	STA. TO STA.		ILLINOIS FED. AID PROJECT				

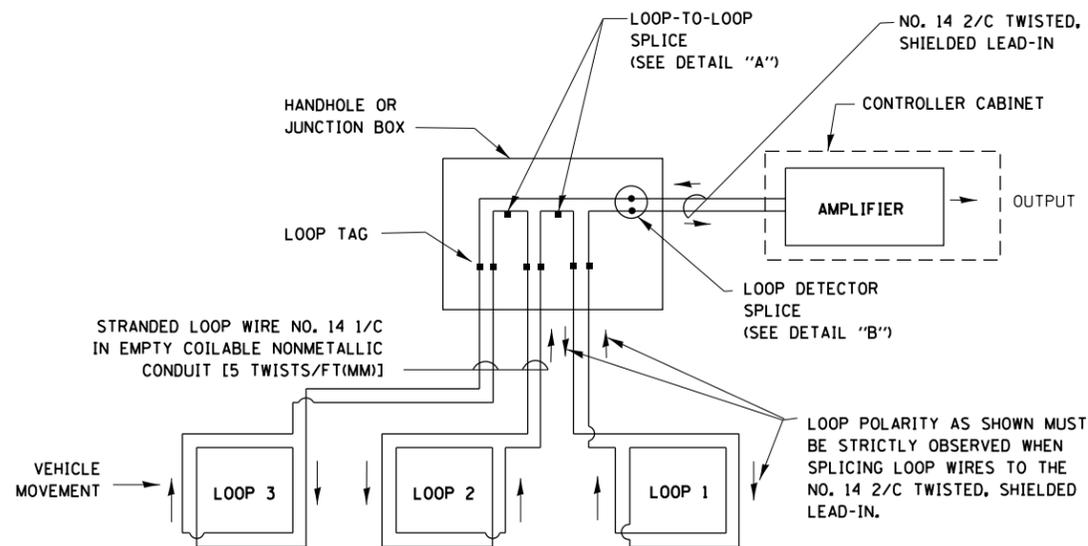
LOOP DETECTOR NOTES

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

LOOP LEAD-IN CABLE TAG

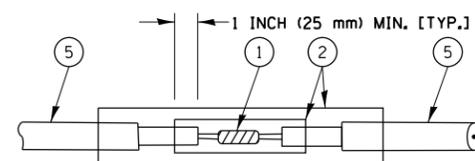


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

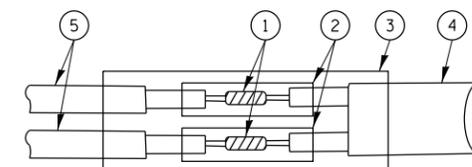


DETECTOR LOOP WIRING SCHEMATIC

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

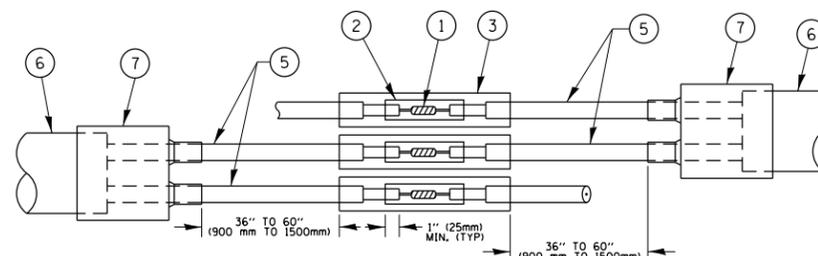


DETAIL "A"
LOOP-TO-LOOP SPLICE

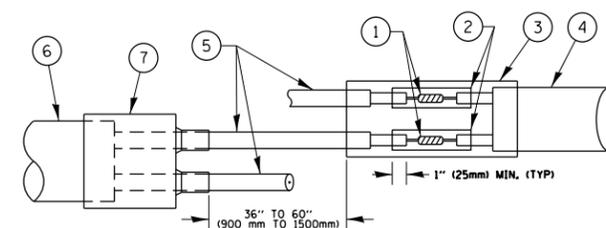


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

PRE-FORMED LOOP

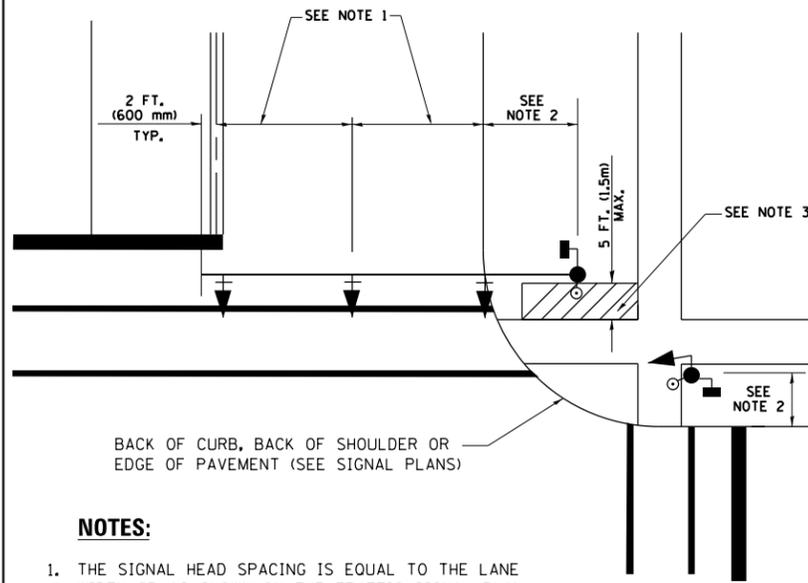
LOOP DETECTOR SPLICE

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

TS SHT NO. 2

FILE NAME =	USER NAME = pociechal	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\IL\084EBID\INTEG\illinois.gov\PIWIDOT\Documents\DOT Offices\District 1\Projects\P1255\DRAWING\Traffic\P125511-sht-ts.dgn		CHECKED -	REVISED -			324	24N-2	MCHENRY	30	10
PLOT SCALE = 100.0000' / in.		DATE -	REVISED -			TS-05		CONTRACT NO. 60V05		
Default		PLOT DATE = 3/21/2017	REVISED -			ILLINOIS FED. AID PROJECT				

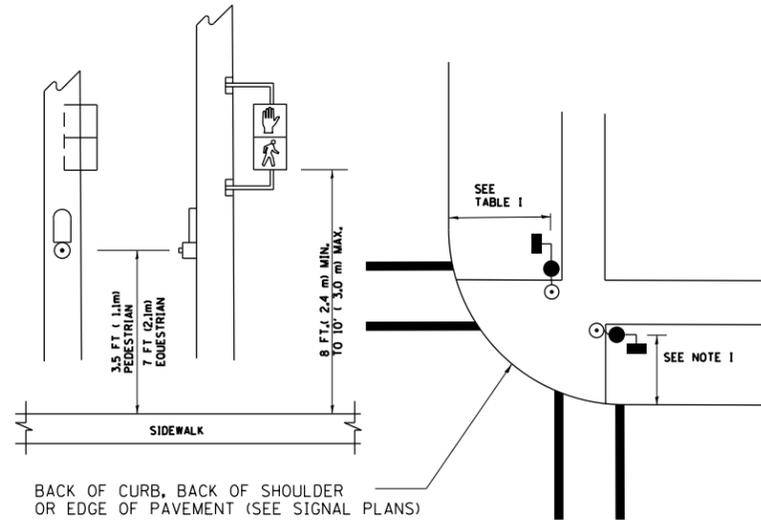
**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR
FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN
WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.**



NOTES:

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

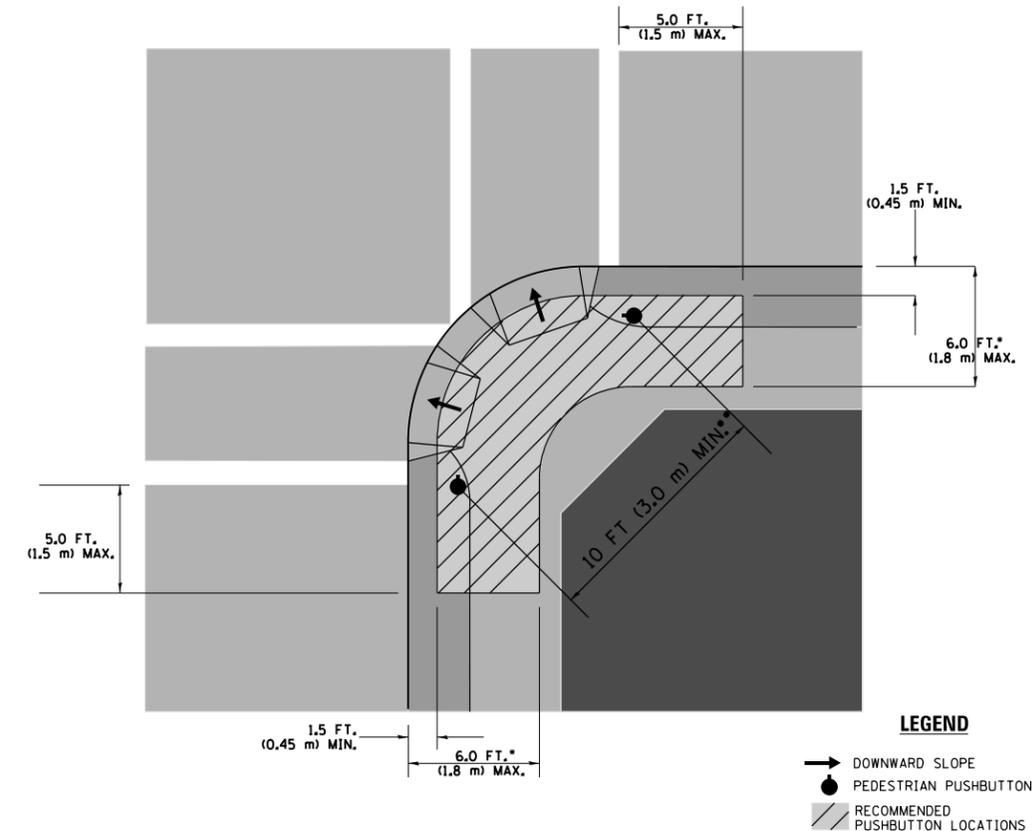
**PEDESTRIAN SIGNAL POST
AND
PEDESTRIAN PUSH BUTTON POST**



NOTES:

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

RECOMMENDED PUSHBUTTON LOCATIONS



LEGEND

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- ▨ RECOMMENDED PUSHBUTTON LOCATIONS

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

NOTES:

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

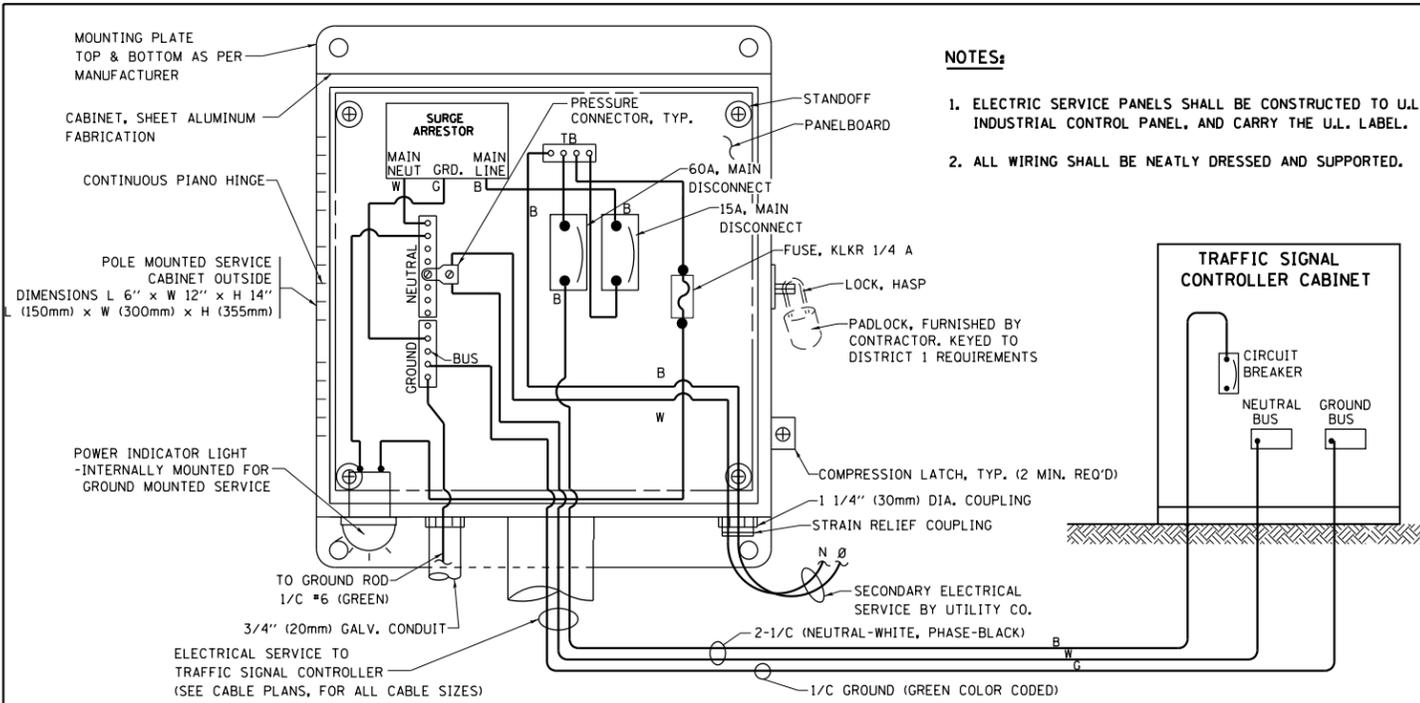
TRAFFIC SIGNAL EQUIPMENT OFFSET

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

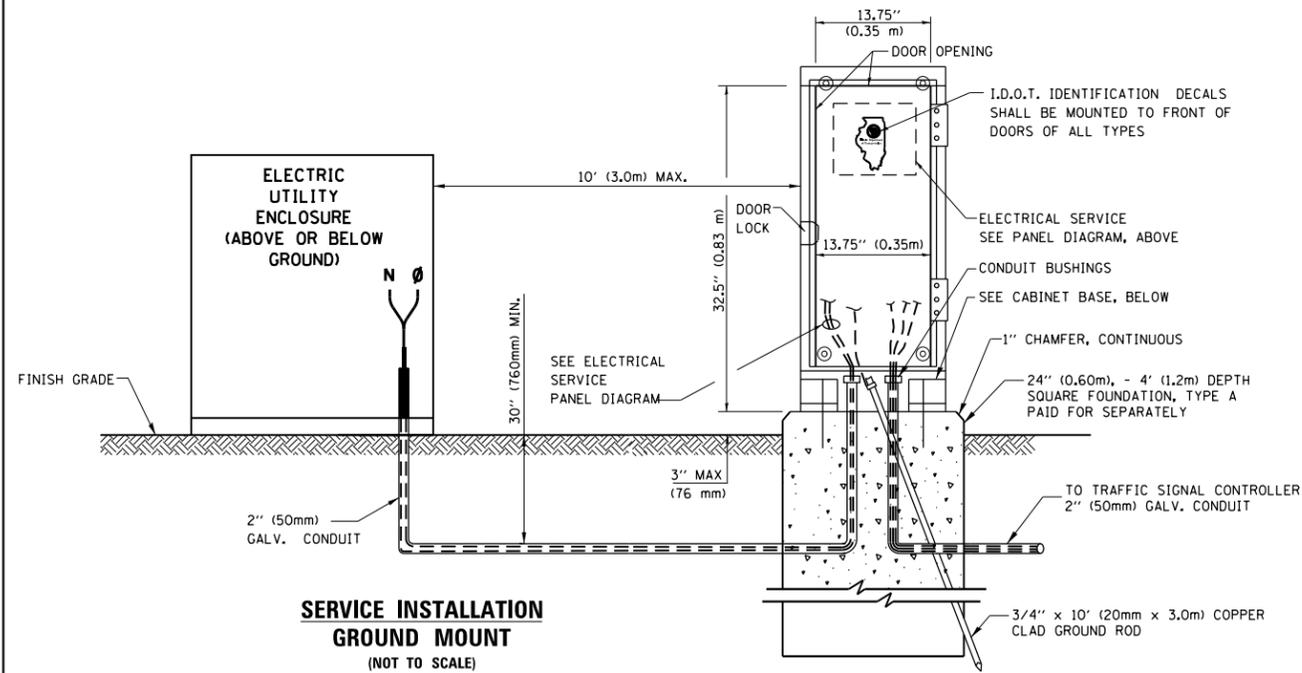
NOTES:

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

TS SHT NO. 3

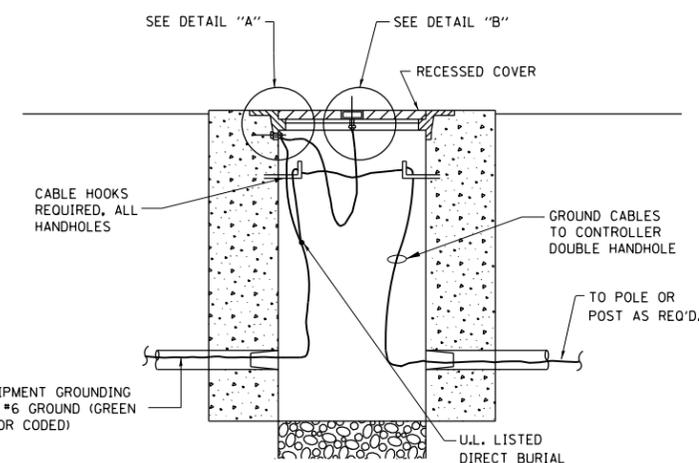
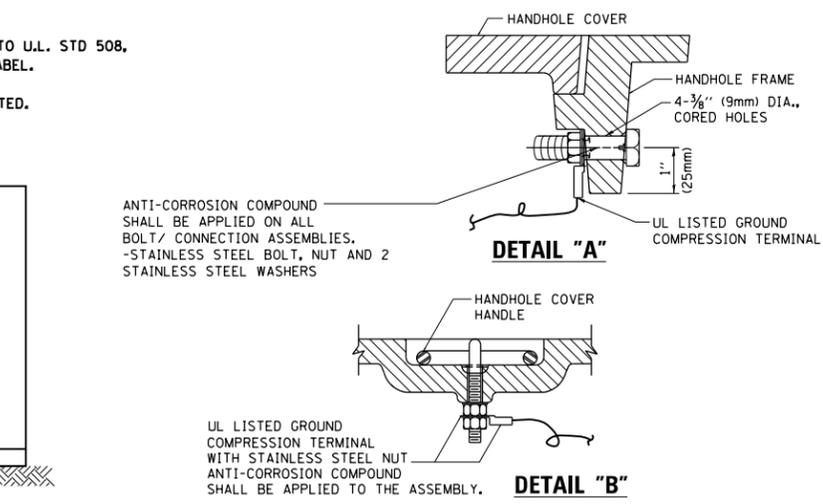
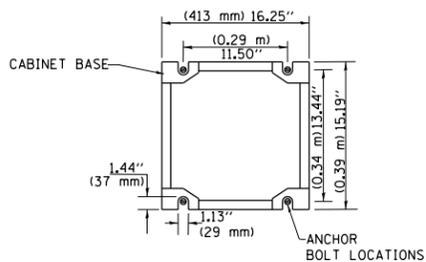


**ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
(NOT TO SCALE)**

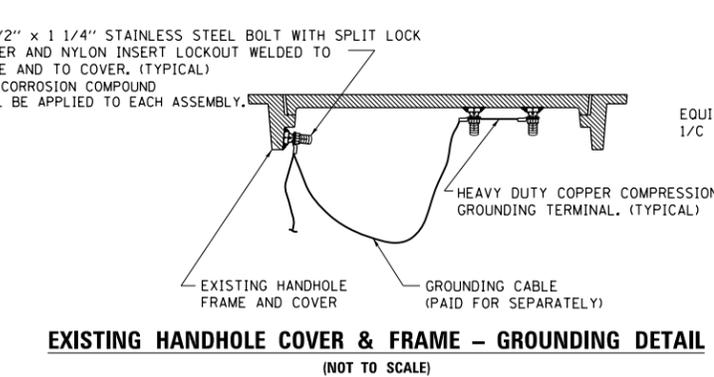


SERVICE INSTALLATION GROUND MOUNT (NOT TO SCALE)

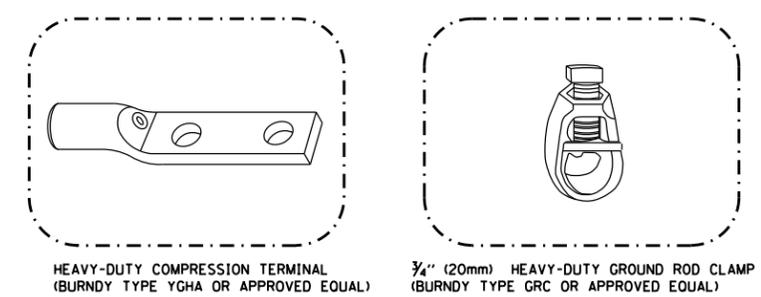
CABINET – BASE BOLT PATTERN (NOT TO SCALE)



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

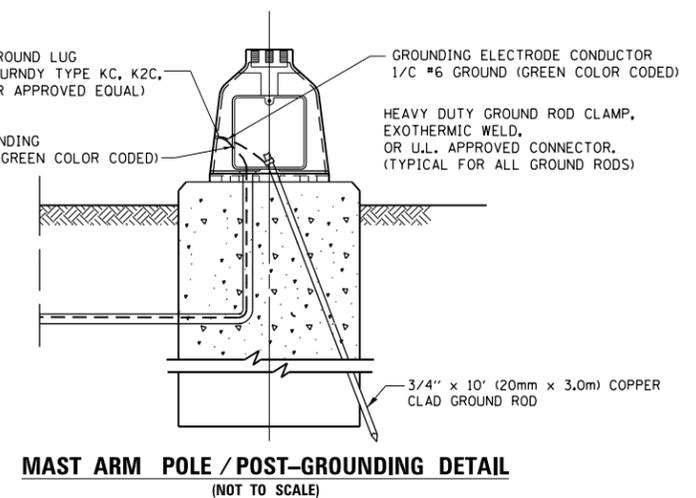


EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL (NOT TO SCALE)



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)

**NOTES:
GROUNDING SYSTEM**

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

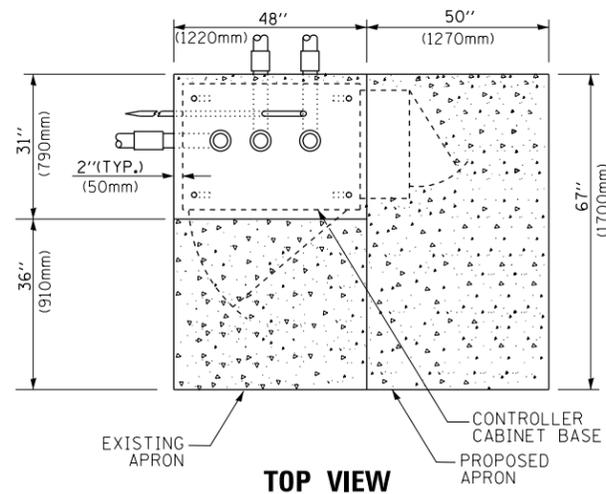
TS SHT NO. 4

FILE NAME =	USER NAME = pociechal	DESIGNED -	REVISED -
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	PLOT DATE = 3/21/2017	DATE -	REVISED -

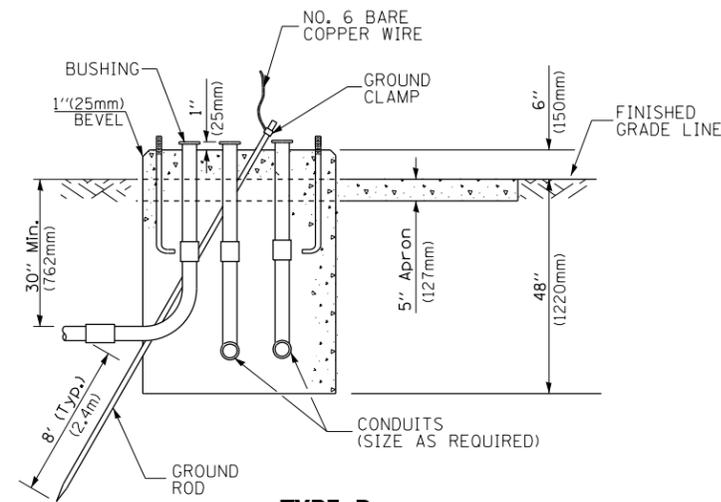
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE			
STANDARD TRAFFIC SIGNAL DESIGN DETAILS			
SCALE: NONE	SHEET 4	OF 7 SHEETS	STA. TO STA.

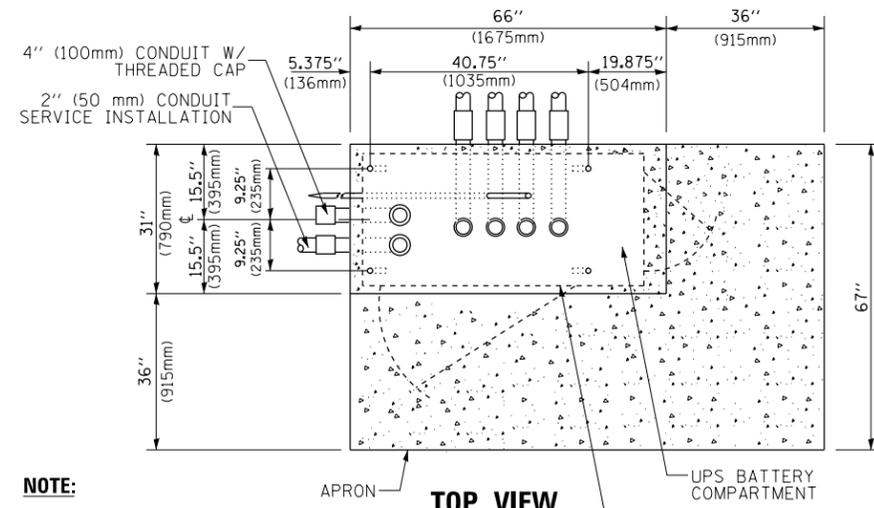
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	12
TS-05		CONTRACT NO. 60V05		
ILLINOIS FED. AID PROJECT				



TOP VIEW

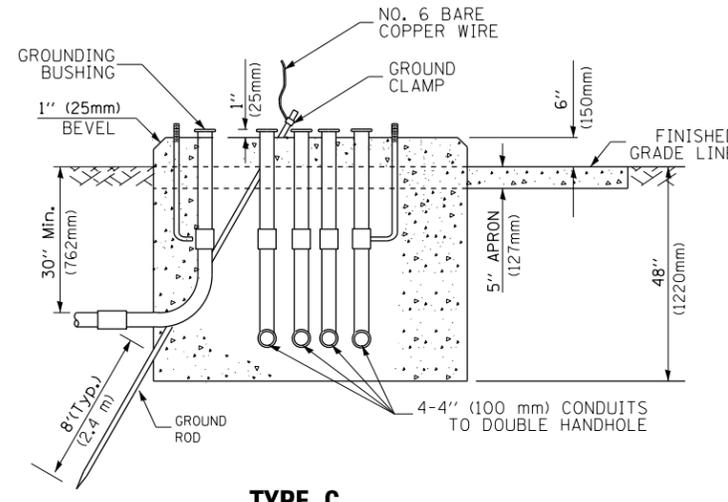


**TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET**

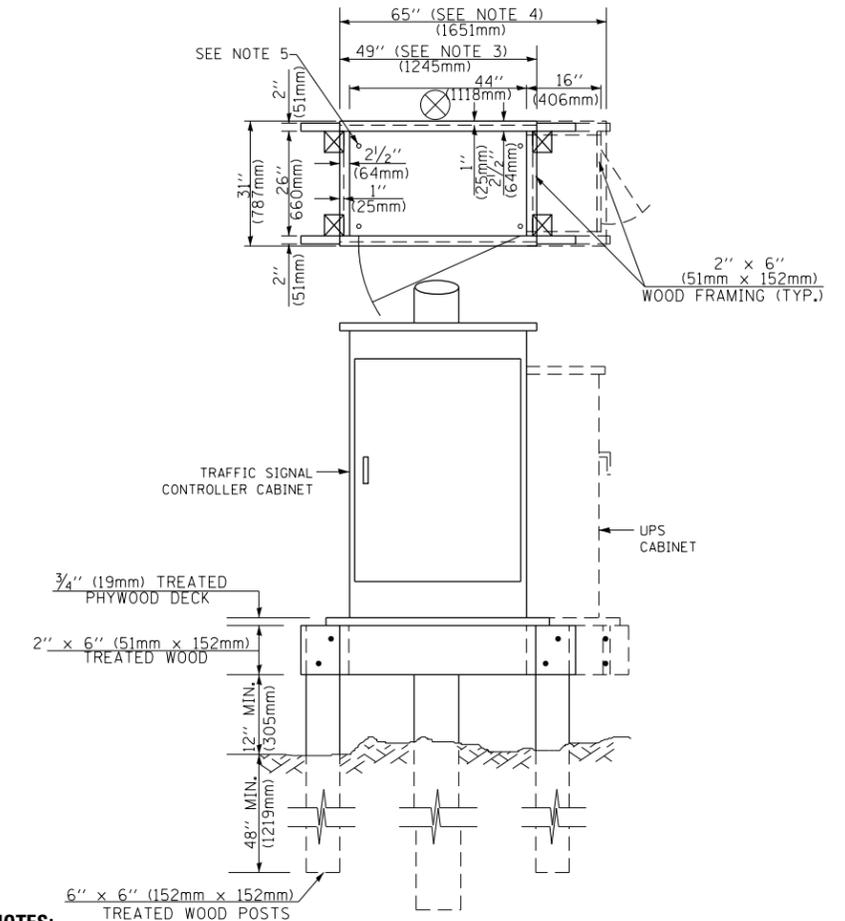


TOP VIEW

NOTE:
TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



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



NOTES:

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

**TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM**

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

CABLE SLACK

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

VERTICAL CABLE LENGTH

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

DEPTH OF FOUNDATION

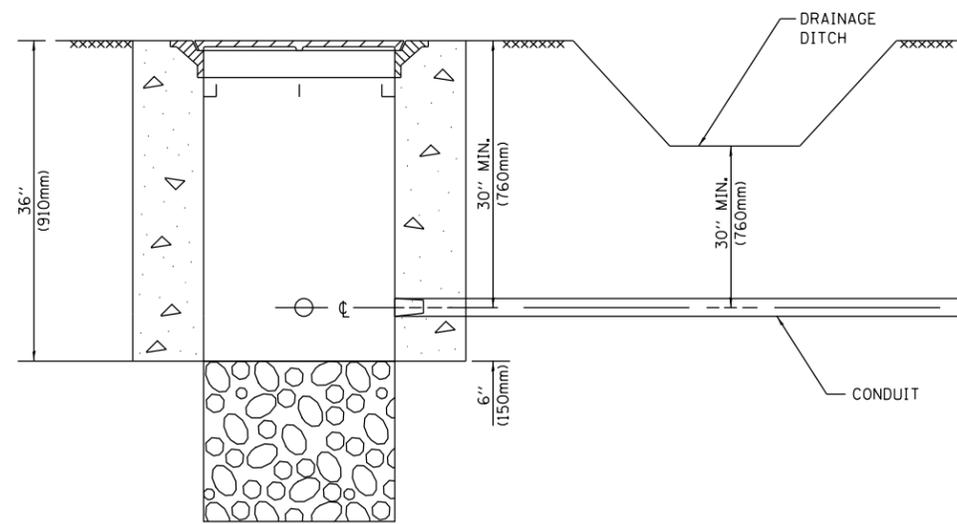
MAST ARM LENGTH	① FOUNDATION DEPTH	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF REBARS	SIZE OF REBARS
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and less than 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m) and up to 85' (25.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

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

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

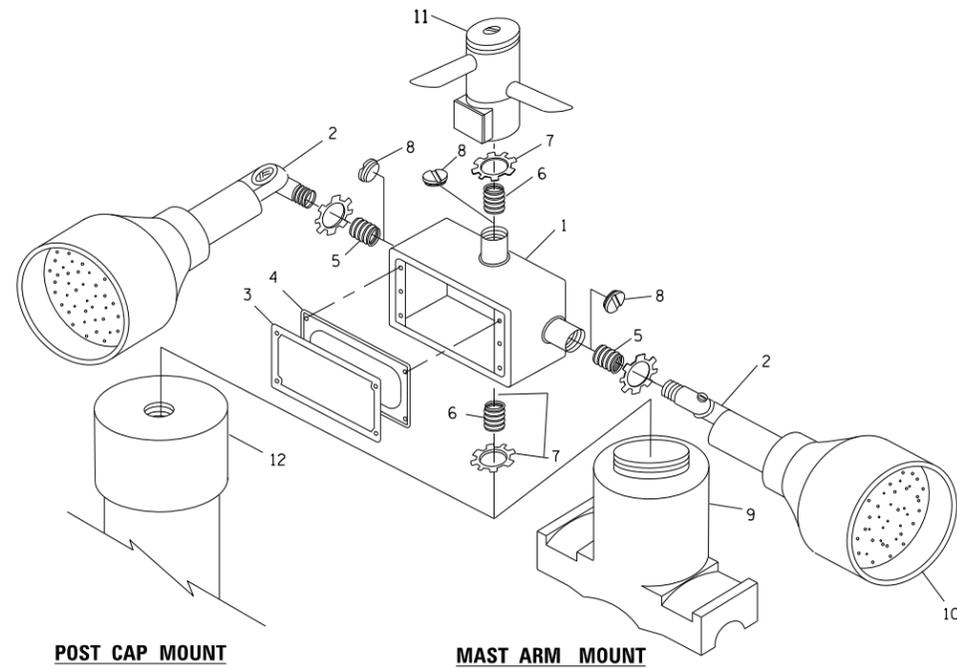
TS SHT NO. 5



NOTES:

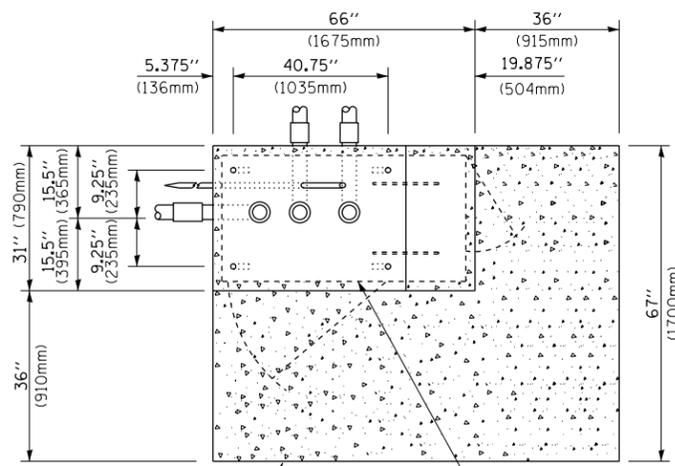
1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY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

HANDHOLE WITH MINIMUM CONDUIT DEPTH
(NOT TO SCALE)

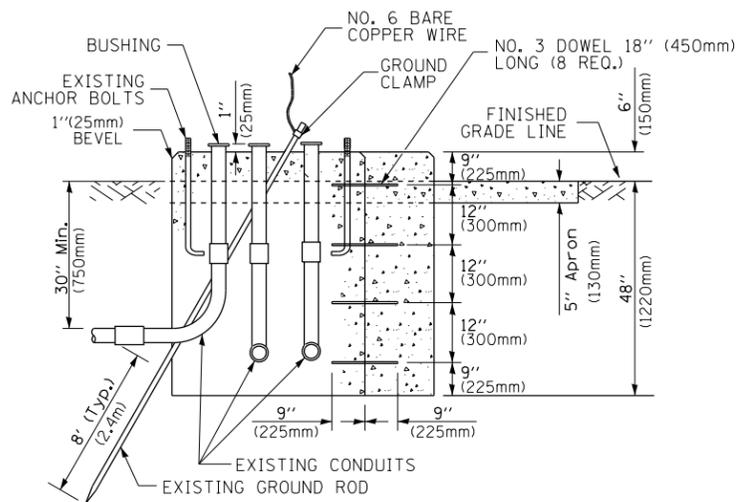


EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

TS SHT NO. 6



TOP VIEW
(NOT TO SCALE)

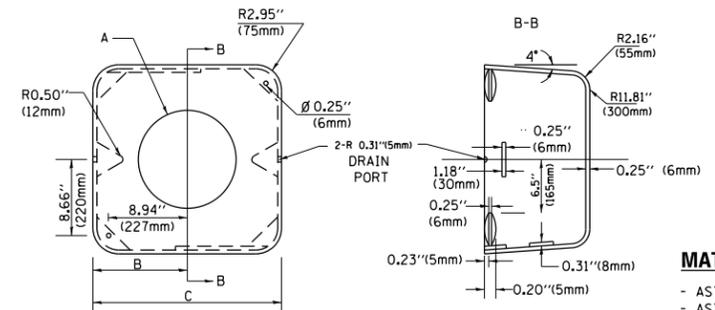


MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION
(NOT TO SCALE)

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

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



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

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

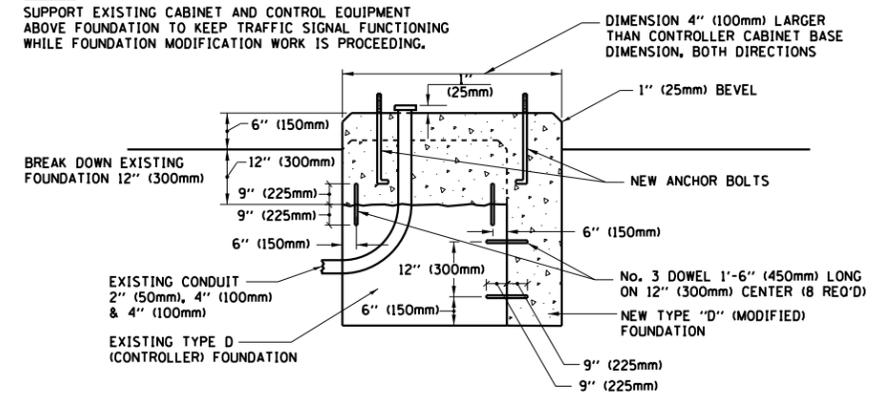
SHROUD

NOTES:

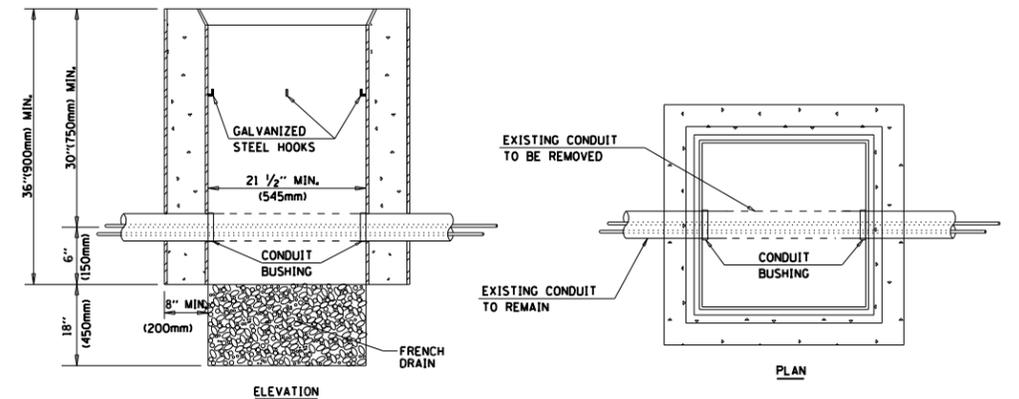
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

NOTE:

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



MODIFY EXISTING TYPE "D" FOUNDATION



NOTES:

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

HANDHOLE TO INTERCEPT EXISTING CONDUIT

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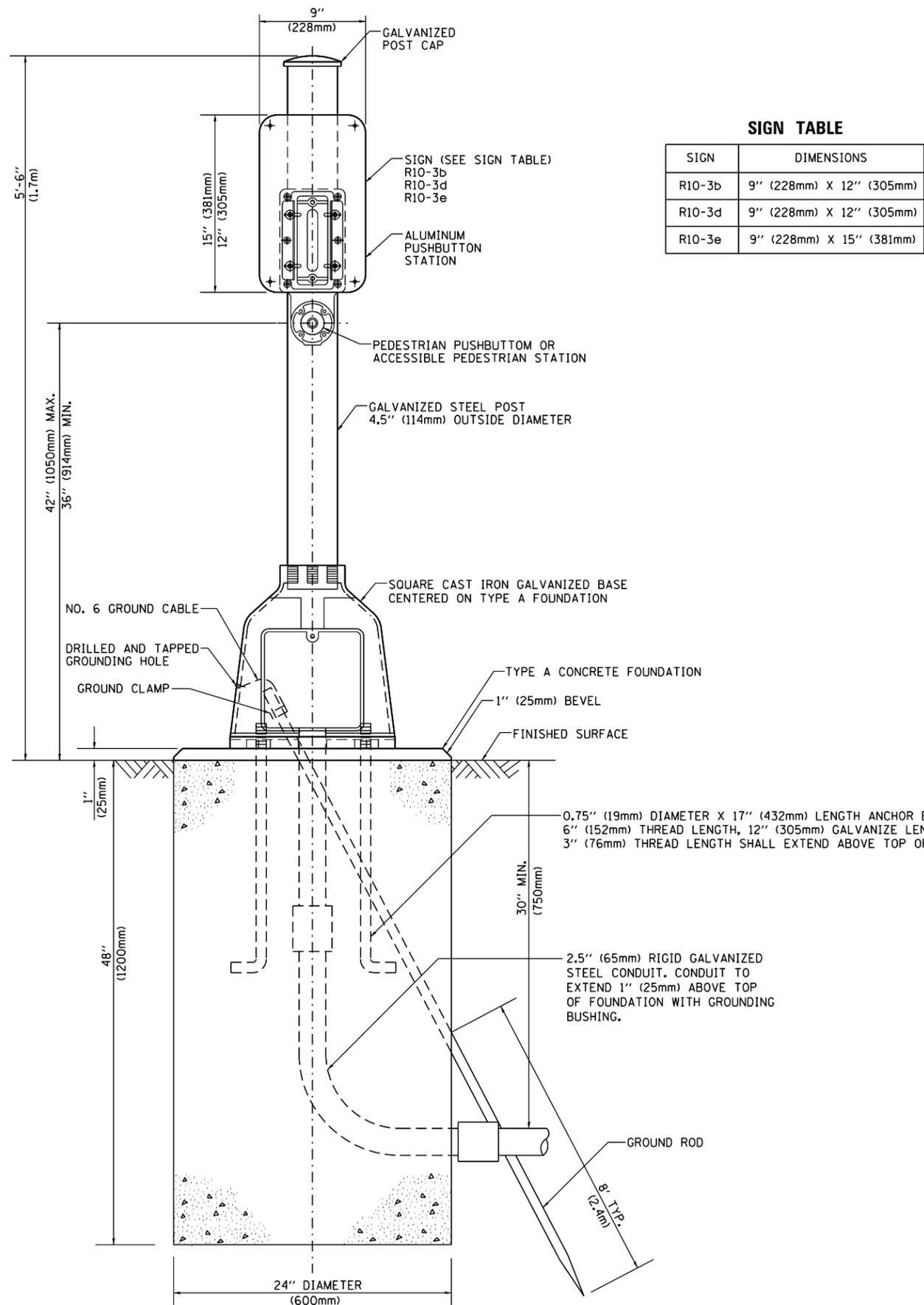
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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

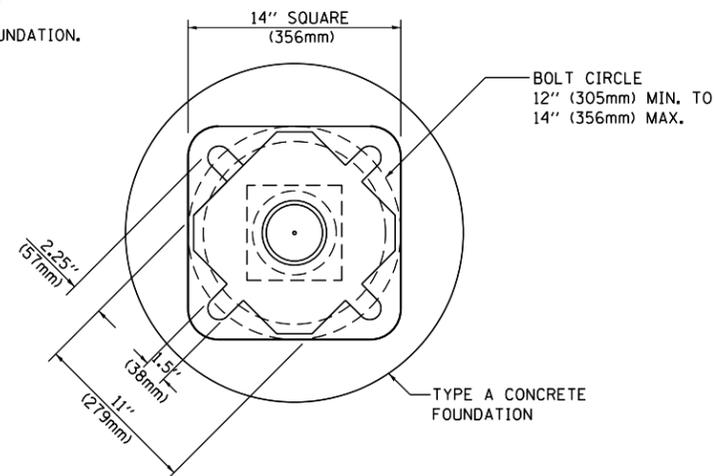
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	14
TS-05		CONTRACT NO. 60V05		
ILLINOIS FED. AID PROJECT				

TS SHT NO. 7



SIGN TABLE

SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

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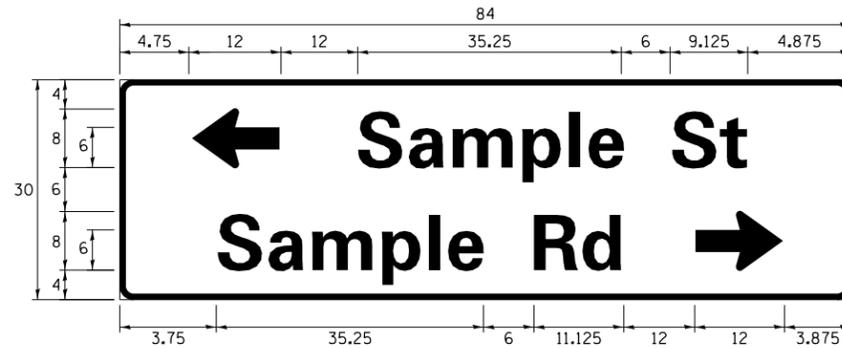
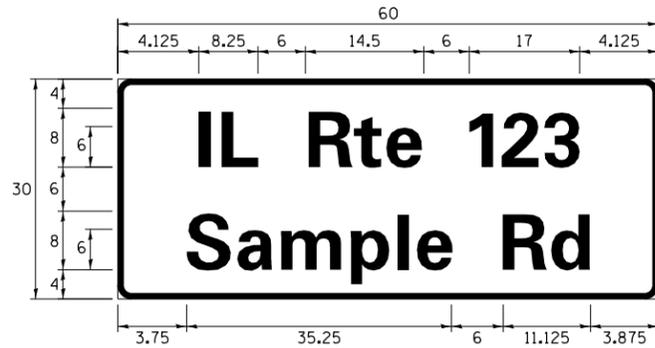
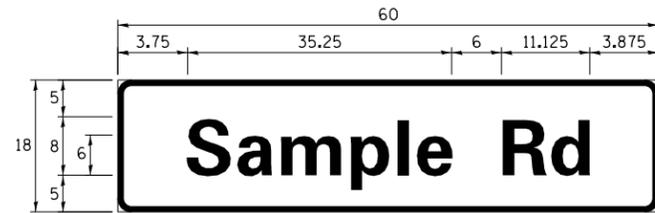
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	15
TS-05			CONTRACT NO. 60V05	
ILLINOIS FED. AID PROJECT				

SIGN PANEL – TYPE 1 OR TYPE 2



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

COMMON STREET NAME ABBREVIATIONS AND WIDTHS

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

GENERAL NOTES

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

LOCAL SUPPLIERS:

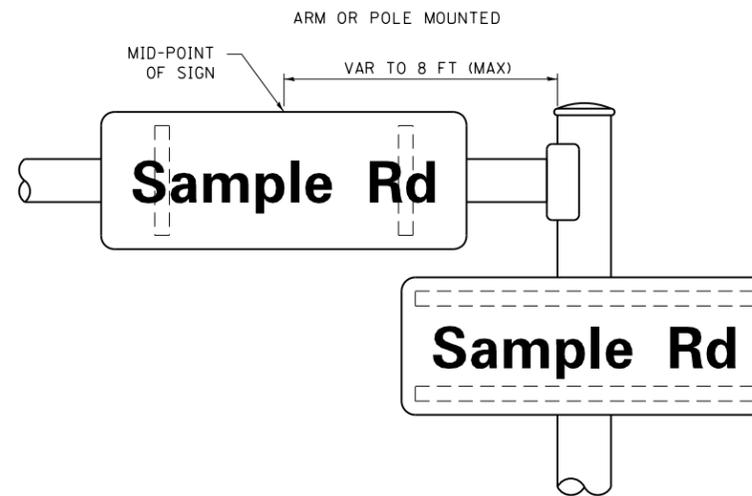
- J.O. HERBERT COMPANY, INC
MIDLOTHIAN, VA
- WESTERN REMAC, INC.
WOODRIDGE, IL

PARTS LISTING:

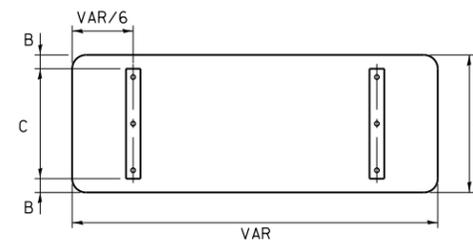
- SIGN CHANNEL PART *HPN053 (MED. CHANNEL)
SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3
SELF TAPPING WITH NEOPRENE WASHER
PART *HPN034 (UNIVERSAL)
BRACKETS CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

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

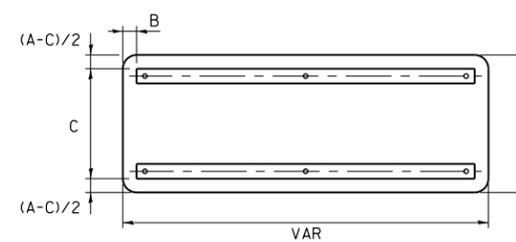
MOUNTING LOCATION



SUPPORTING CHANNELS



A	B	C
18"	2"	14"
30"	2"	24"



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

STANDARD ALPHABETS SPACING CHART

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

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

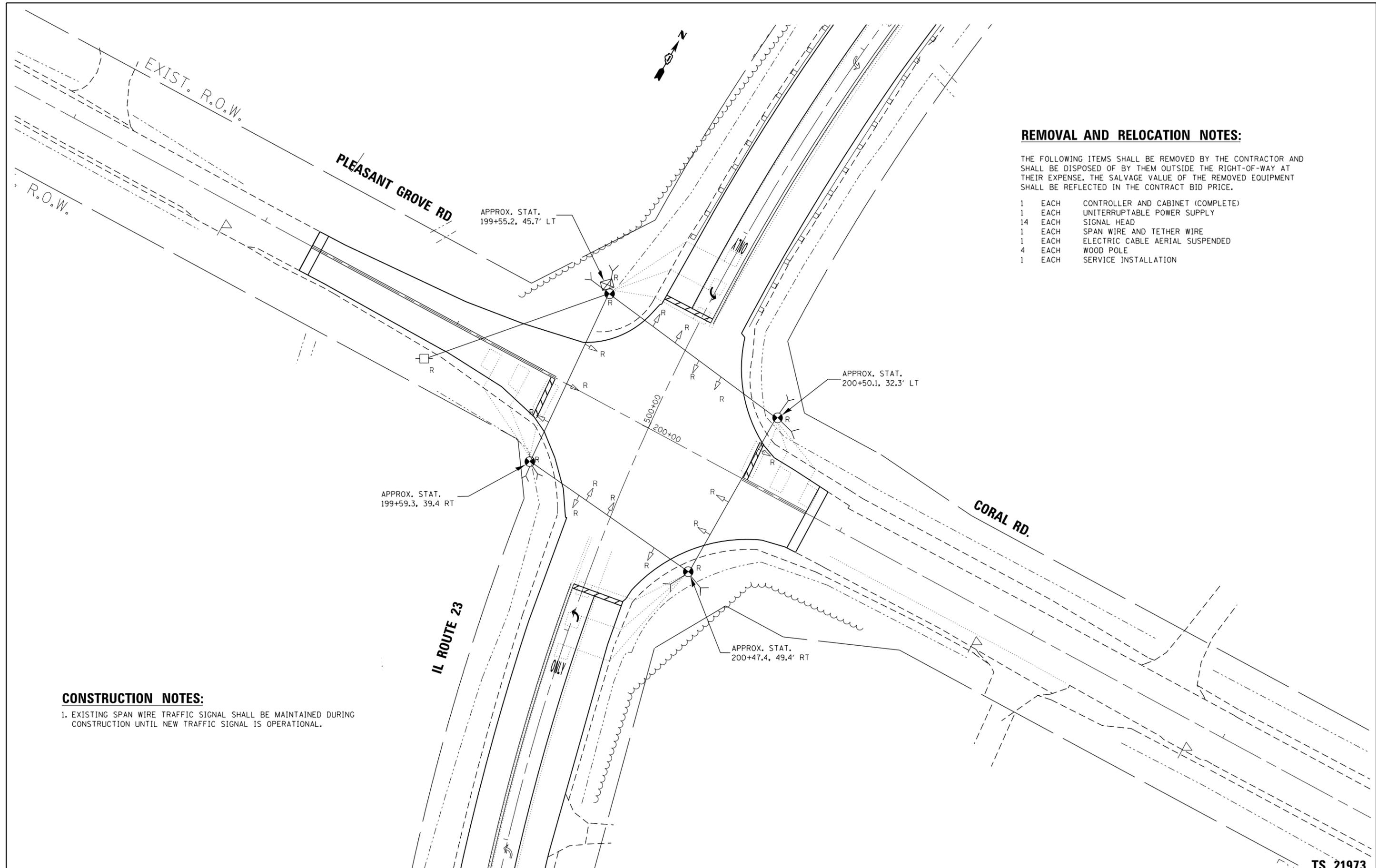
TS SHT NO. 8



REMOVAL AND RELOCATION NOTES:

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

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH UNINTERRUPTABLE POWER SUPPLY
- 14 EACH SIGNAL HEAD
- 1 EACH SPAN WIRE AND TETHER WIRE
- 1 EACH ELECTRIC CABLE AERIAL SUSPENDED
- 4 EACH WOOD POLE
- 1 EACH SERVICE INSTALLATION



CONSTRUCTION NOTES:

- 1. EXISTING SPAN WIRE TRAFFIC SIGNAL SHALL BE MAINTAINED DURING CONSTRUCTION UNTIL NEW TRAFFIC SIGNAL IS OPERATIONAL.

TS SHT NO. 9

TS 21973

FILE NAME =	USER NAME = poc1echal	DESIGNED - SS	REVISED - ZJ 3/17/2017
pw:\IL\084EBIDINTEG\illinois.gov\PWIDOT\Documents\IDOT Offices\District 1\Projects\PI25511\Traffic\PI25511-sht-ts.dgn		CHECKED -	REVISED -
Default	PLOT DATE = 3/21/2017	DATE - 6/1/2016	REVISED -

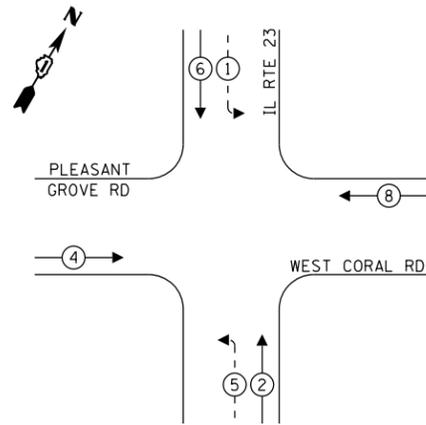
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SPAN WIRE TRAFFIC SIGNAL REMOVAL PLAN
IL RTE 23 AT CORAL RD/PLEASANT GROVE RD**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

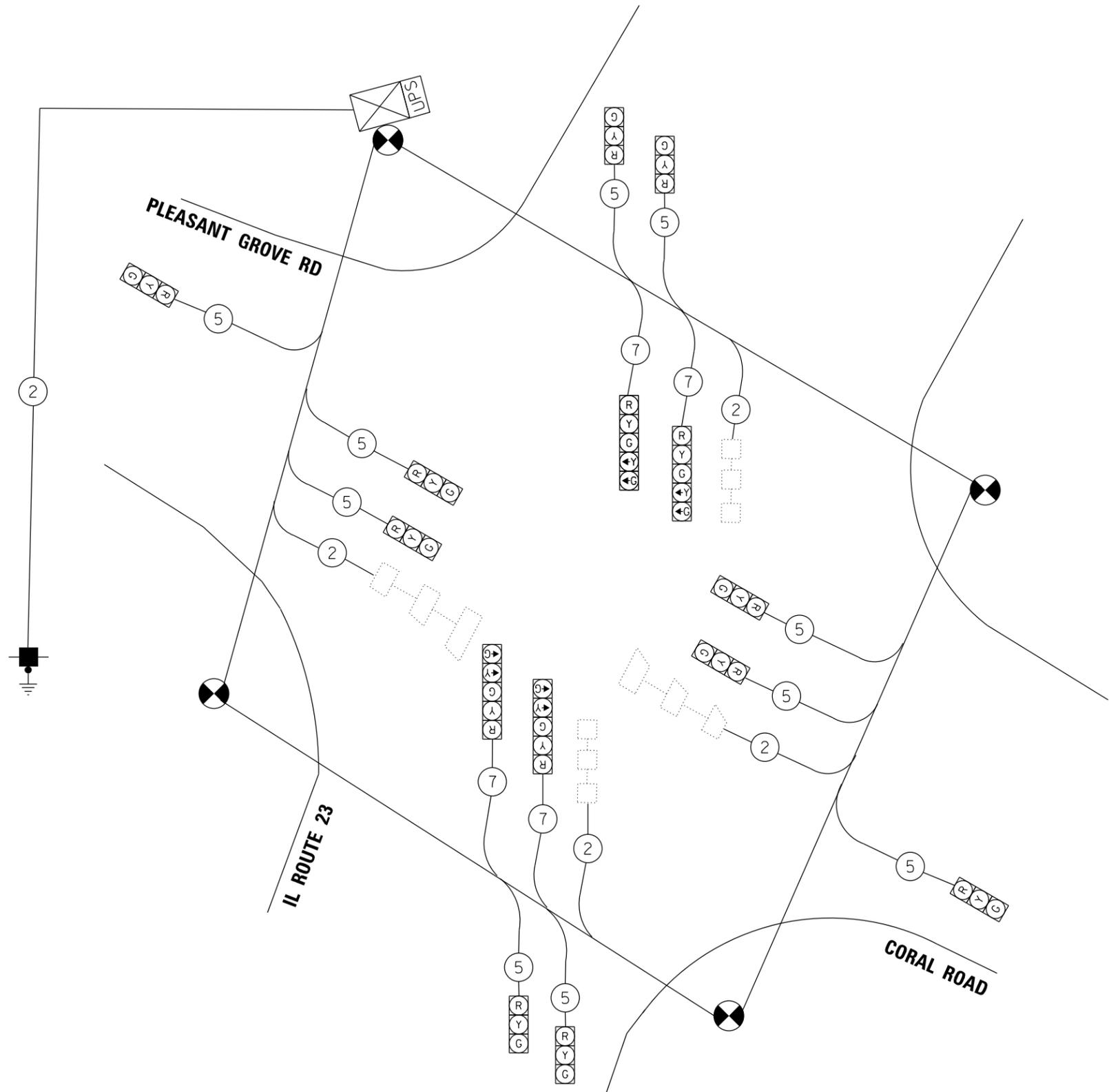
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	17
CONTRACT NO. 60V05				
ILLINOIS FED. AID PROJECT				

EXISTING CONTROLLER SEQUENCE



LEGEND:

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



CABLE PLAN

TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	14	11	50	77
(YELLOW)	14	20	5	14
(GREEN)	14	12	45	75.6
PERMISSIVE ARROW	8	10	10	8
PED. SIGNAL	-	-	-	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	-	-	-	-
BLANK-OUT SIGN	-	-	-	-
FLASHER	-	-	-	-
STREET NAME SIGN	-	-	-	-
LUMINAIRE	-	-	-	-
TOTAL =				299.6

ENERGY COSTS TO:

VILLAGE OF MARENGO
132 EAST PRARIE STREET
MARENGO, IL 60152

ENERGY SUPPLY: CONTACT: MIKE LENOX
PHONE: 815-490-2869
COMPANY: COMMONWEALTH EDISON
ACCOUNT NUMBER: ---

TS SHT NO. 10

FILE NAME =	USER NAME = pociechal	DESIGNED - SS	REVISED - ZJ 3/17/2017
pw:\IL\084EBIDINTEG\illinois.gov\PIDOT\Documents\DOT Offices\District 1\Projects\PI25511\Traffic\PI25511-sht-ts.dgn		CHECKED -	REVISED -
Default	PLOT DATE = 3/21/2017	DATE - 6/1/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

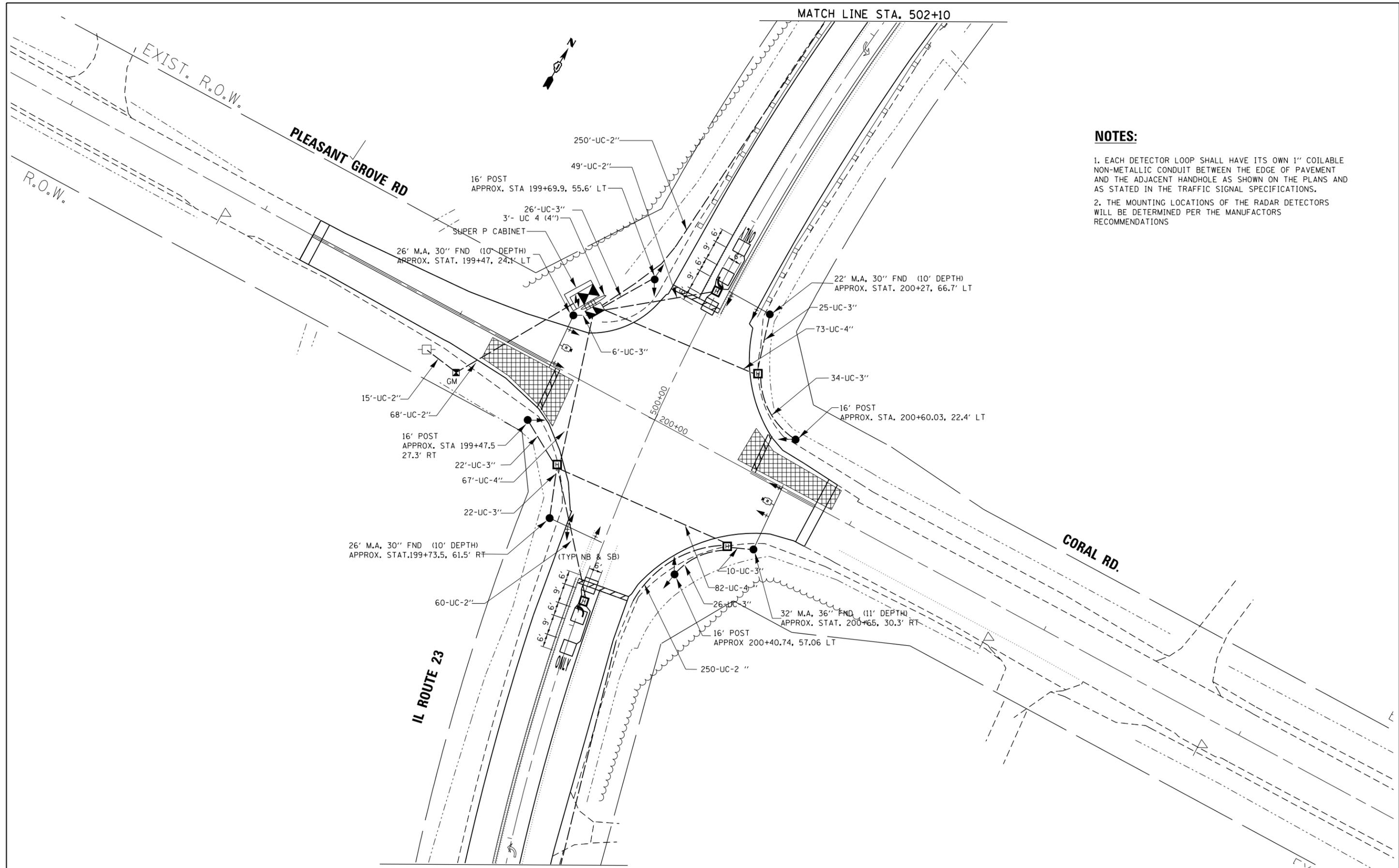
**SPAN WIRE CABLE PLAN, PHASE, DESIGNATION DIAGRAM
AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	18
			CONTRACT NO. 60V05	
ILLINOIS FED. AID PROJECT				

TS 21973

MATCH LINE STA. 502+10



NOTES:

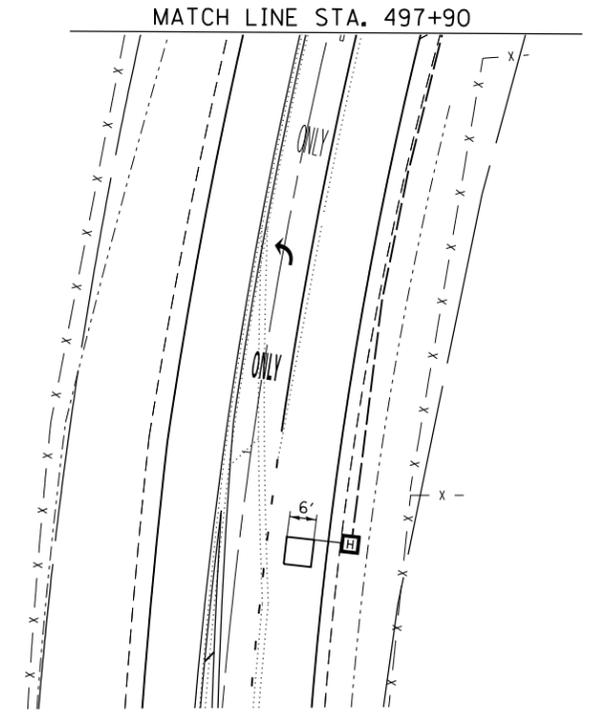
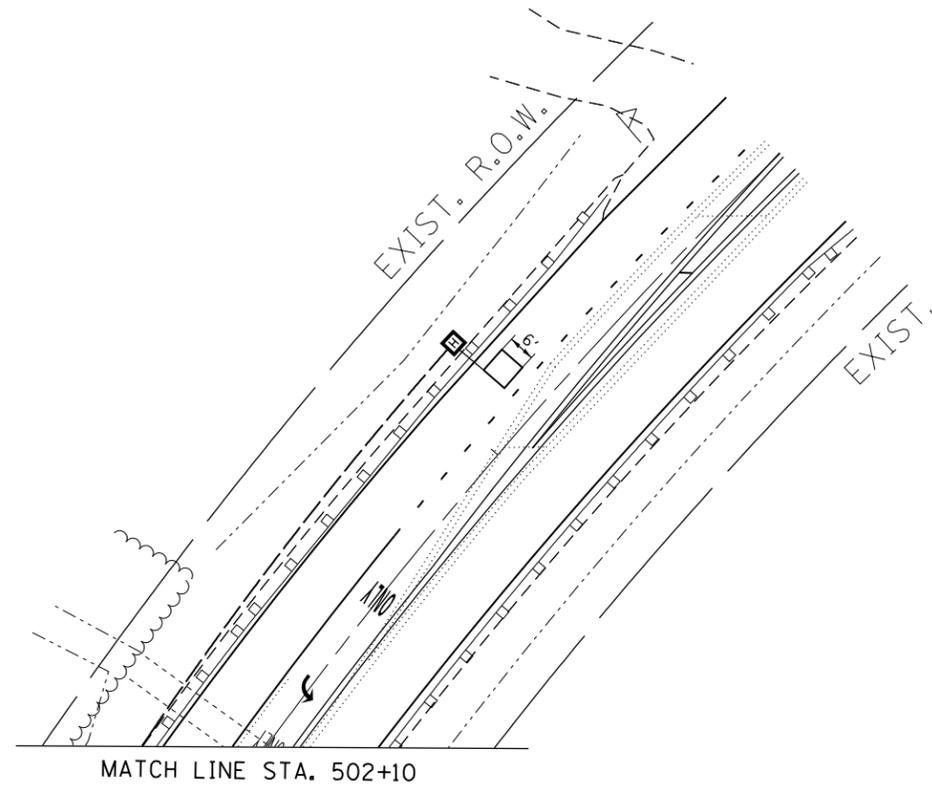
1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.
2. THE MOUNTING LOCATIONS OF THE RADAR DETECTORS WILL BE DETERMINED PER THE MANUFACTURERS RECOMMENDATIONS

TS SHT NO. 11

MATCH LINE STA. 497+90

TS 21973

FILE NAME = p:\IL\084EBID\INTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\PI25511\Traffic\PI25511-sht-ts.dgn	USER NAME = pociechal	DESIGNED - SS	REVISED - ZJ 3/17/2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC SIGNAL MODERNIZATION PLAN IL RTE 23 AT CORAL RD/PLEASANT GROVE RD (1 OF 2)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -			324	24N-2	MCHENRY	30	19
Default	PLOT DATE = 3/21/2017	DATE - 6/1/2016	REVISED -	SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.		CONTRACT NO. 60V05 ILLINOIS FED. AID PROJECT				



TS SHT NO. 12

TS 21973

FILE NAME =	USER NAME = poc1echal	DESIGNED - SS	REVISED - ZJ 3/17/2017
p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 1\Projects\PI25511\Traffic\PI25511-sht-ts.dgn		CHECKED -	REVISED -
Default	PLOT SCALE = 40.0000' / in.	DATE - 6/1/2016	REVISED -

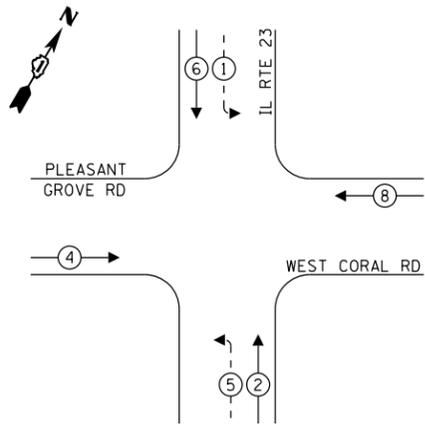
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODERNIZATION PLAN
IL RTE 23 AT CORAL RD/PLEASANT GROVE RD (2 OF 2)**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

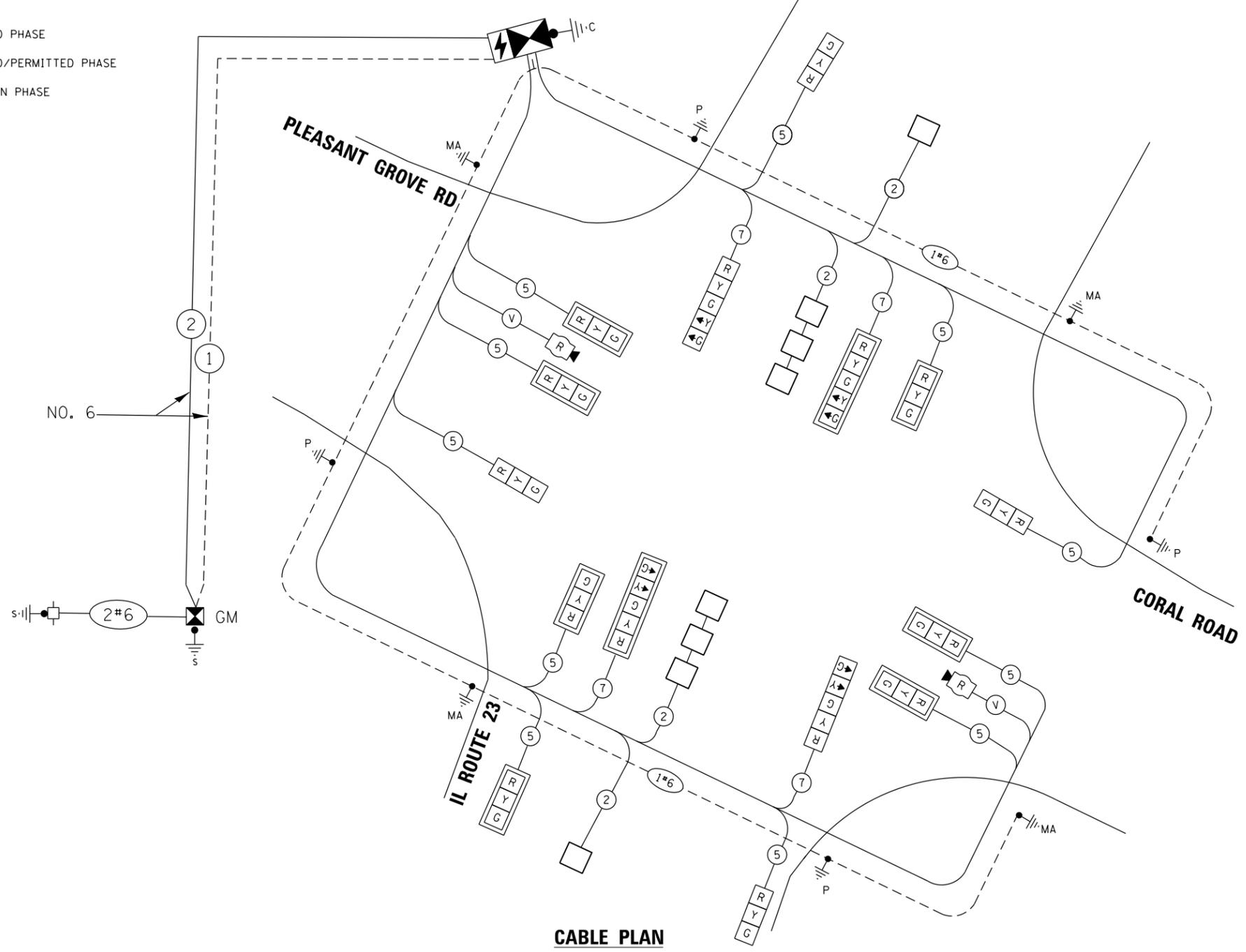
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	20
CONTRACT NO. 60V05				
ILLINOIS FED. AID PROJECT				

PROPOSED CONTROLLER SEQUENCE



LEGEND:

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



CABLE PLAN

TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	15	11	50	82.5
(YELLOW)	15	20	5	15
(GREEN)	15	12	45	81
PERMISSIVE ARROW	4	10	10	4
PED. SIGNAL	-	-	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	-	-	-	-
BLANK-OUT SIGN	-	-	-	-
FLASHER	-	-	-	-
STREET NAME SIGN	-	-	-	-
LUMINAIRE	-	-	-	-
TOTAL =				307.5

ENERGY COSTS TO:
 VILLAGE OF MARENGO
 132 EAST PRARIE STREET
 MARENGO, IL 60152
 ENERGY SUPPLY: CONTACT: MIKE LENOX
 PHONE: 815-490-2869
 COMPANY: COMMONWEALTH EDISON
 ACCOUNT NUMBER: ---

TS SHT NO. 13

FILE NAME =	USER NAME = pociechal	DESIGNED - SS	REVISED - ZJ 3/17/2017
pw\IL084EBIDINTEG\illinois.gov\PIDOT\Documents\DOT Offices\District 1\Projects\PI25511\Traffic\PI25511-sht-ts.dgn		CHECKED -	REVISED -
Default	PLOT SCALE = 40.0000' / in.	DATE - 6/1/2016	REVISED -
	PLOT DATE = 3/21/2017		

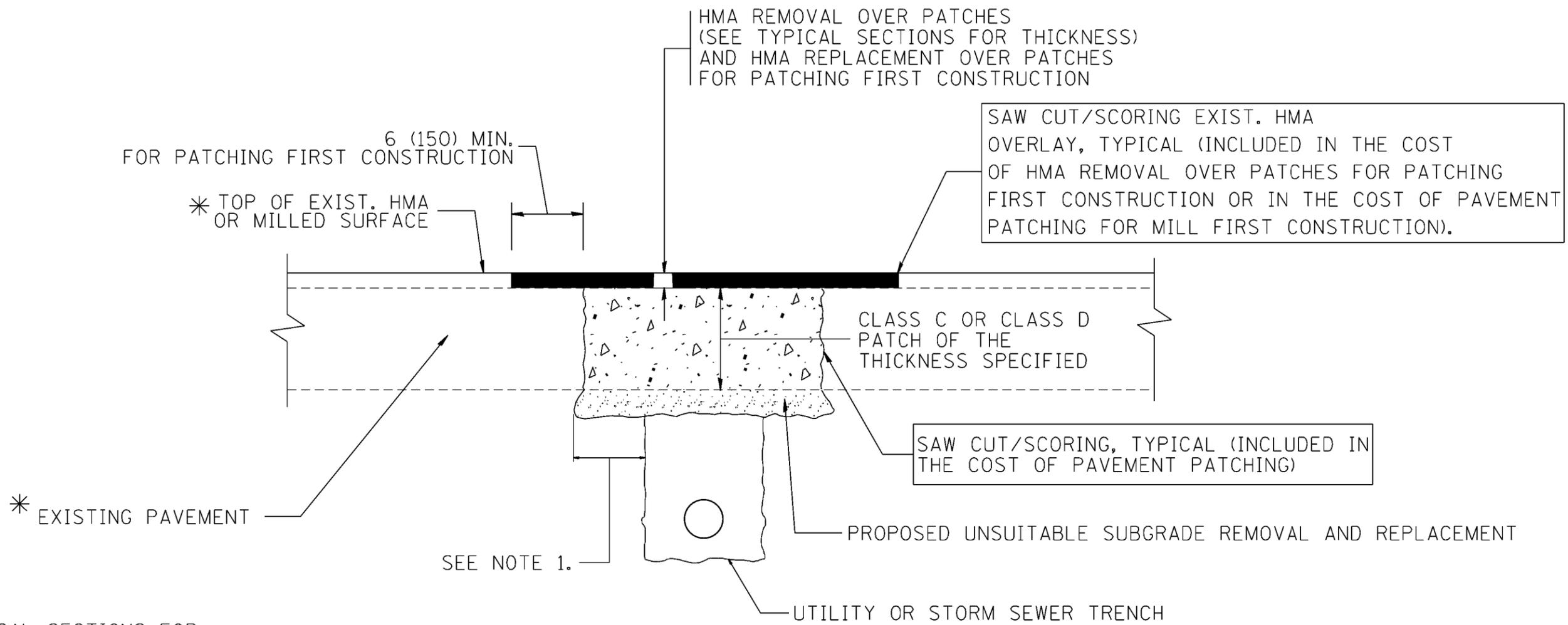
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**CABLE PLAN, PHASE DESIGNATION DIAGRAM
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	21
			CONTRACT NO. 60V05	
ILLINOIS FED. AID PROJECT				

TS 21973



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

NOTES:

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

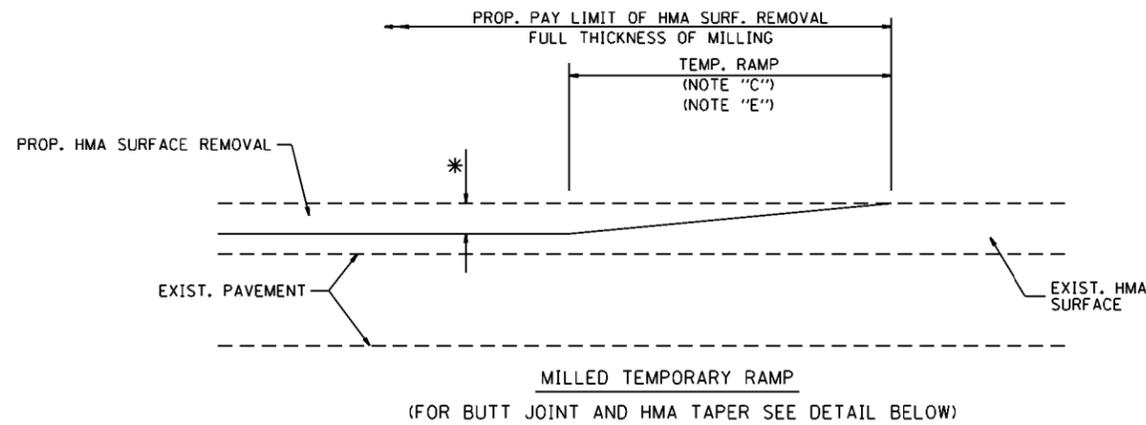
1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

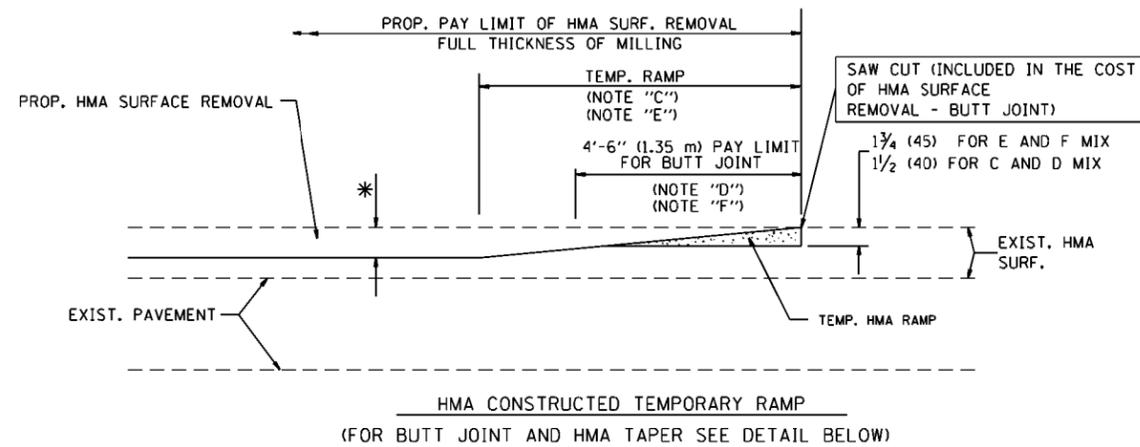
1. MILL HMA FIRST IF THERE IS AT LEAST 4 1/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

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

FILE NAME =	USER NAME = gorengetab	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT			F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\1\084EBID\INTEG\illinois.gov\FWIDOT\Documents\IDOT Offices\District 1\Projects\PI250\Drawings\Design\DistStd.dgn		REVISED - R. BORO 01-01-07	REVISED - R. BORO 09-04-07					324	24N-2	MCHENRY	30	23
PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - R. BORO 09-04-07	REVISED - K. ENG 10-27-08		BD400-04 (BD-22)			CONTRACT NO. 60V05				
PLOT DATE = 4/11/2017	DATE - 10-25-94	REVISED - K. ENG 10-27-08	SCALE: NONE		SHEET NO. 1	OF 1 SHEETS	STA.	TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

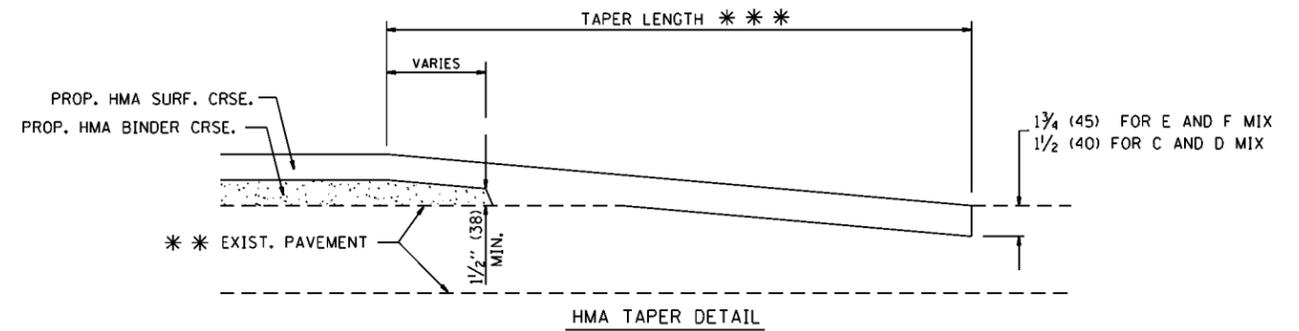
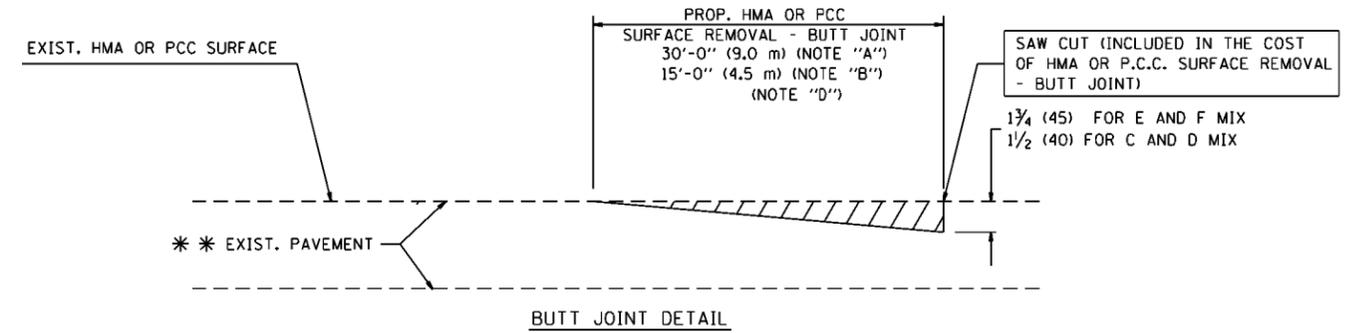


OPTION 1



OPTION 2

TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

*** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

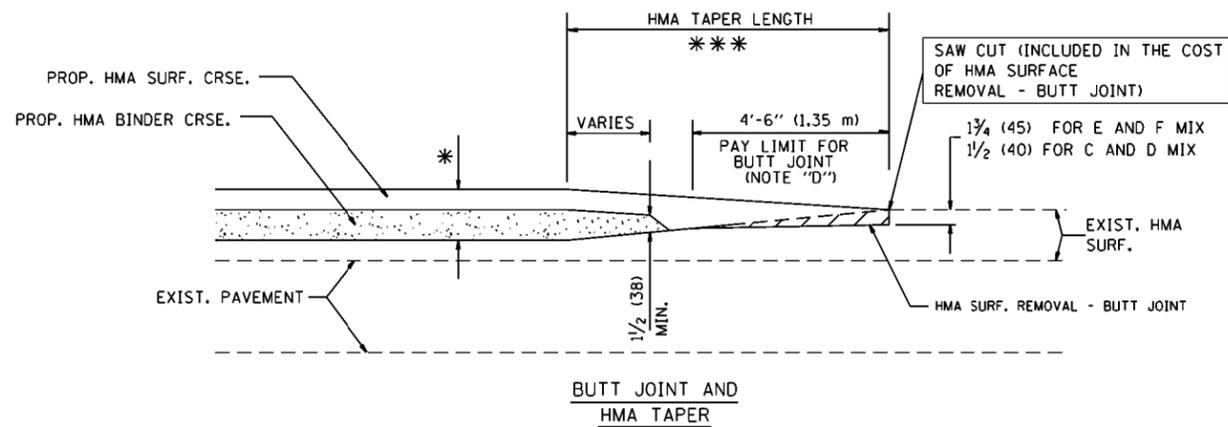
NOTES

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
 - B: MINOR SIDE ROADS.
 - C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
 - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
 - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
 - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
 - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- * SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- *** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

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



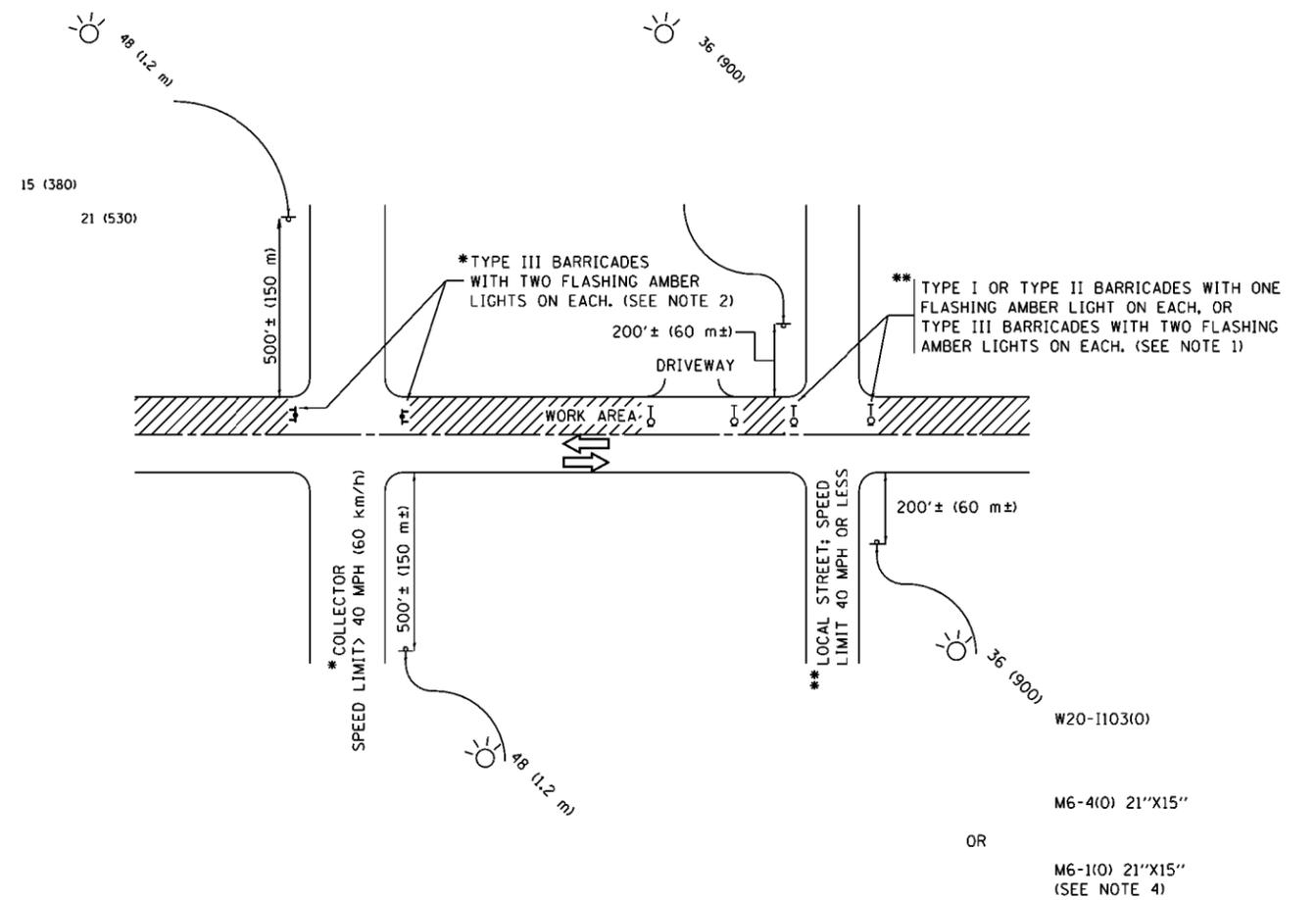
TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING

FILE NAME =	USER NAME = gorenautob	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
p:\IL\084EBID\INTEG\illinois.gov\FWIDOT\Documents\IDOT Offices\District 1\Projects\PI250\Drawings\Design\DistStd.dgn			REVISED - A. ABBAS 03-21-97
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 4/11/2017	DATE - 06-13-90	REVISED - R. BORO 01-01-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BUTT JOINT AND HMA TAPER DETAILS	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	24
BD400-05 BD32		CONTRACT NO. 60V05		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

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

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

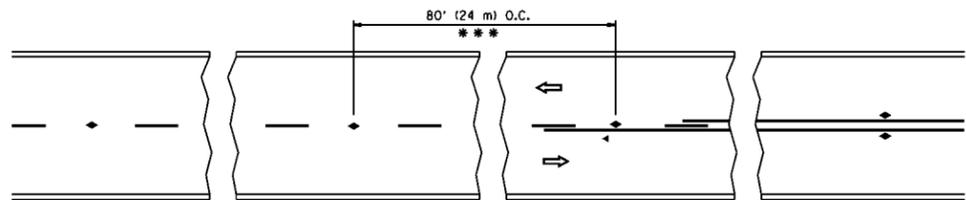
FILE NAME =	USER NAME = gorenautab	DESIGNED - L.H.A.	REVISED - A. HOUSEH 10-15-96
p:\IL\084EBID\INTEG\illinois.gov\FWIDOT\Documents\IDOT Offices\District 1\Projects\PI250\Drawings\Design\DistStd.dgn			REVISED - T. RAMMACHER 01-06-00
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - A. SCHUETZE 07-01-13
	PLOT DATE = 4/11/2017	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

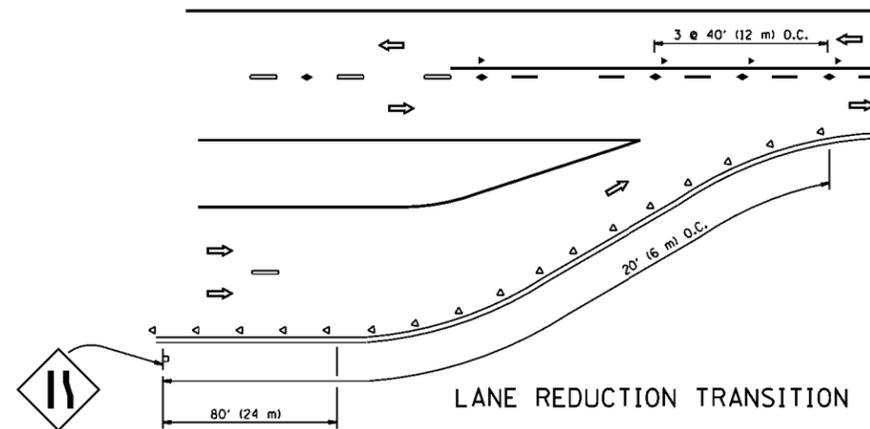
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	25
TC-10			CONTRACT NO. 60V05	
ILLINOIS FED. AID PROJECT				

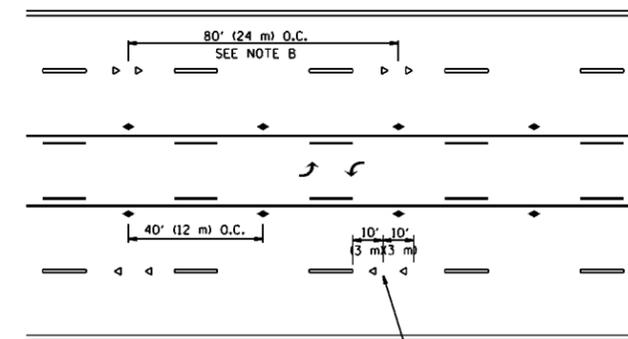


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

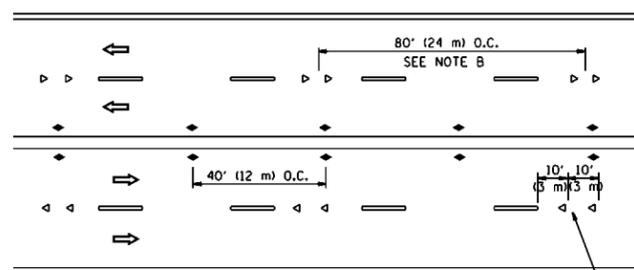
TWO-LANE/TWO-WAY



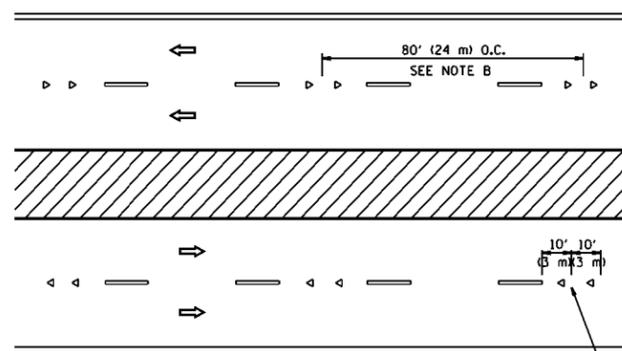
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

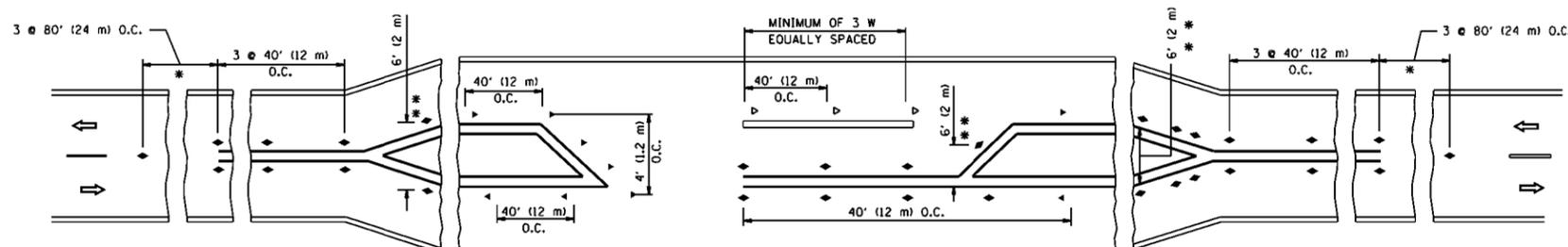
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

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

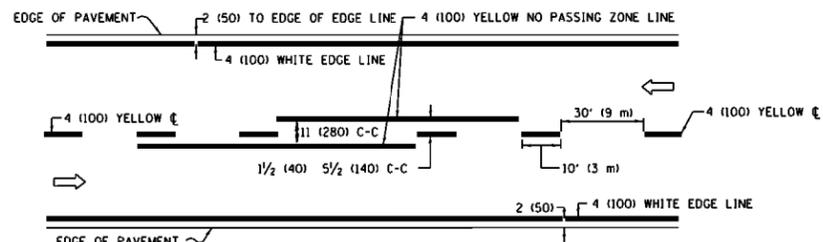
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p:\11\084EBID\INTEG\illinois.gov\FWIDOT\Documents\IDOT Offices\District 1\Projects\PI255\Drawings\Design\DistStd.dgn			REVISED - T. RAMMACHER 03-12-99
		CHECKED -	REVISED - T. RAMMACHER 01-06-00
		DATE -	REVISED - C. JUCCIUS 09-09-09

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

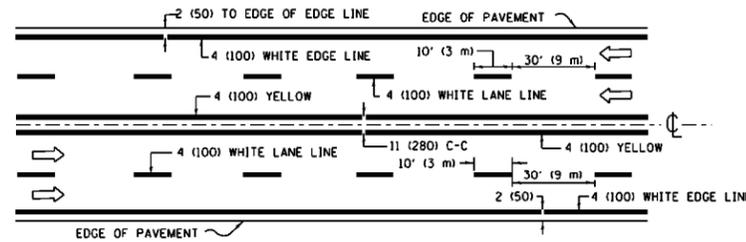
TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

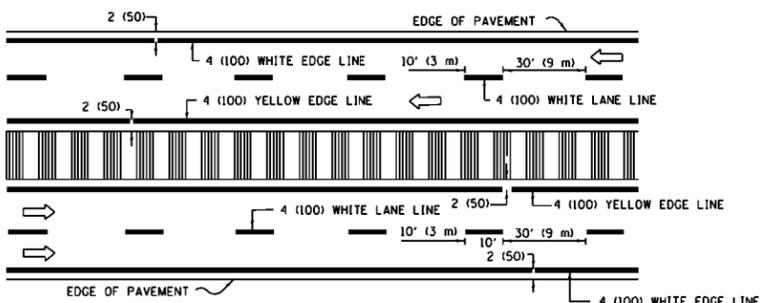
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	26
TC-11		CONTRACT NO. 60V05		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

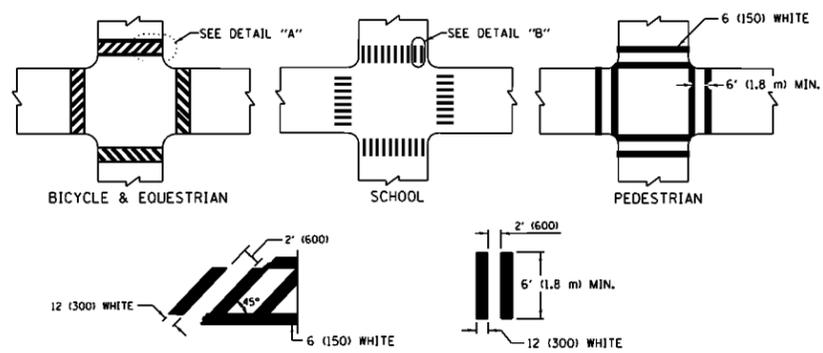


MULTI-LANE UNDIVIDED



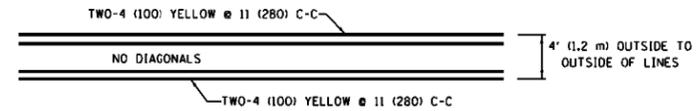
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

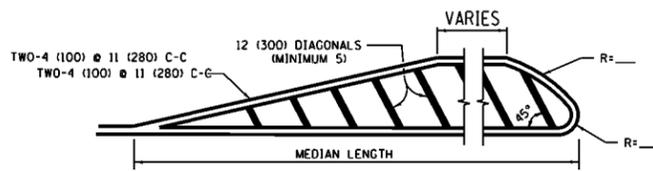


DETAIL "A" DETAIL "B" TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



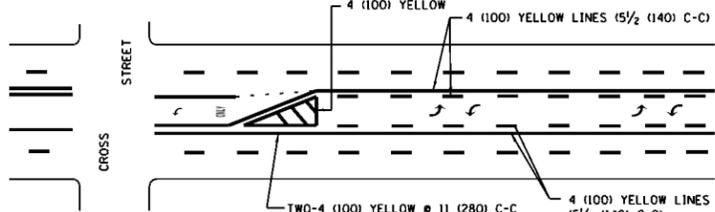
4' (1.2 m) WIDE MEDIANS ONLY



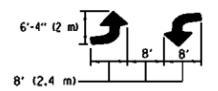
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

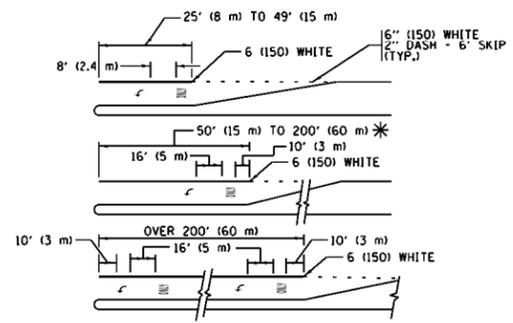
MEDIANS OVER 4' (1.2 m) WIDE



A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



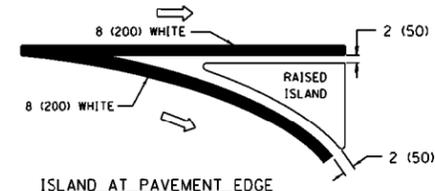
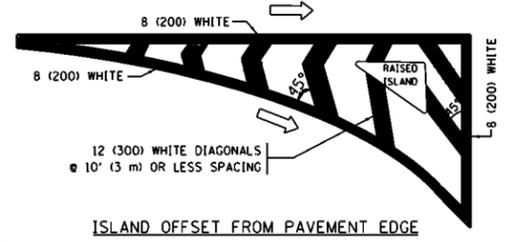
MEDIAN WITH TWO-WAY LEFT TURN LANE TYPICAL PAINTED MEDIAN MARKING



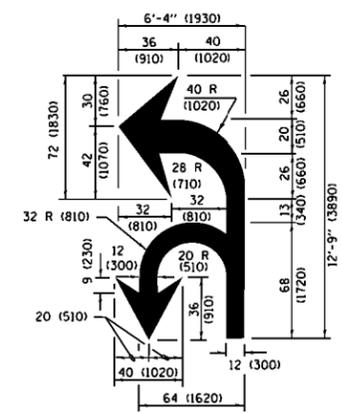
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) AREA = 20.8 SQ. FT. (1.9 m²)

* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

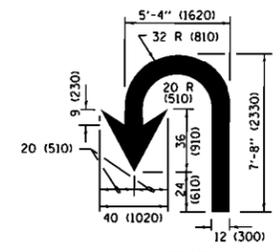
TYPICAL LEFT (OR RIGHT) TURN LANE TYPICAL TURN LANE MARKING



TYPICAL ISLAND MARKING



COMBINATION LEFT AND U-TURN



U-TURN

LANE REDUCTION TRANSITION

* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING /REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

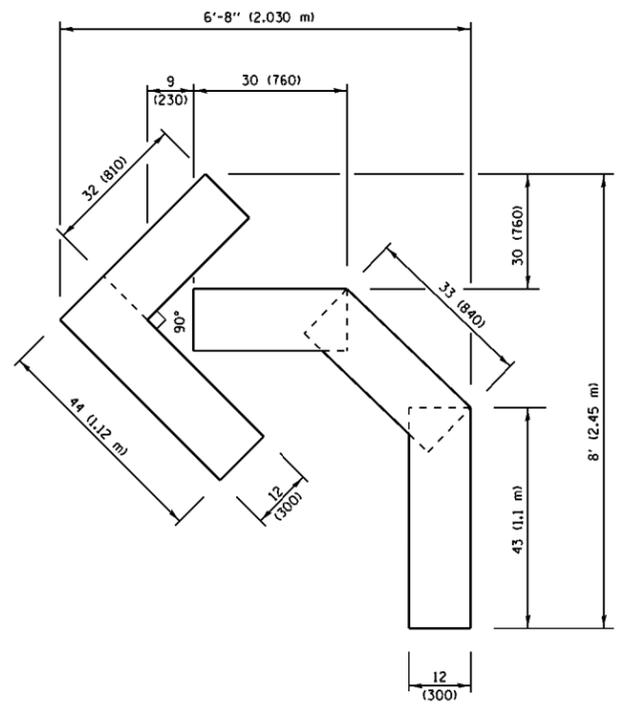
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = gorenautob	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09
pwi\IL084EBID\INTEG\11\roads.gov\PI\DOT\Documents\DOT Offices\District 1\Projects\PI25\084EBID\Design\DistStd.dgn			REVISED - C. JUCIUS 07-01-13
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - C. JUCIUS 12-21-15
	PLOT DATE = 4/11/2017	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16

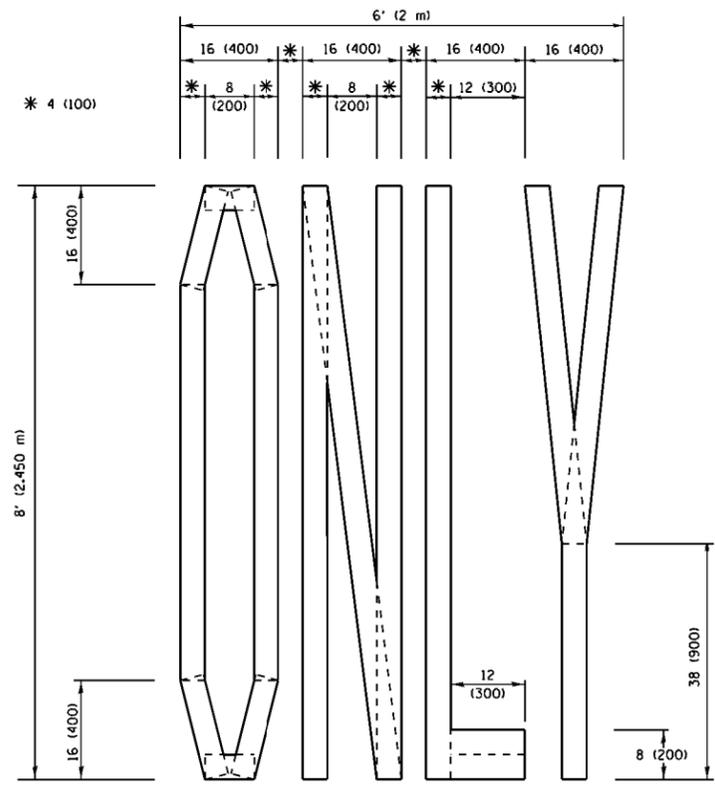
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE			
TYPICAL PAVEMENT MARKINGS			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

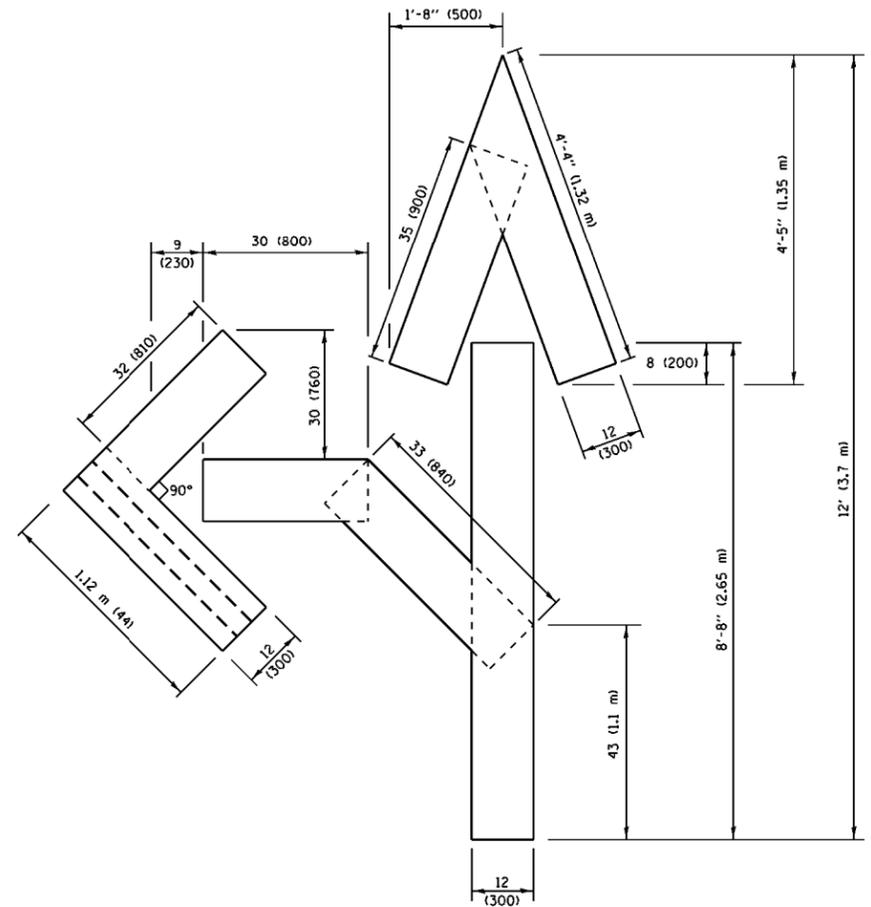
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	MCHENRY	30	27
TC-13		CONTRACT NO. 60V05		
ILLINOIS FED. AID PROJECT				



QUANTITY
 4 (100) LINE = 45.5 ft. (13.9 m)
 15.2 sq. ft. (1.41 sq. m)

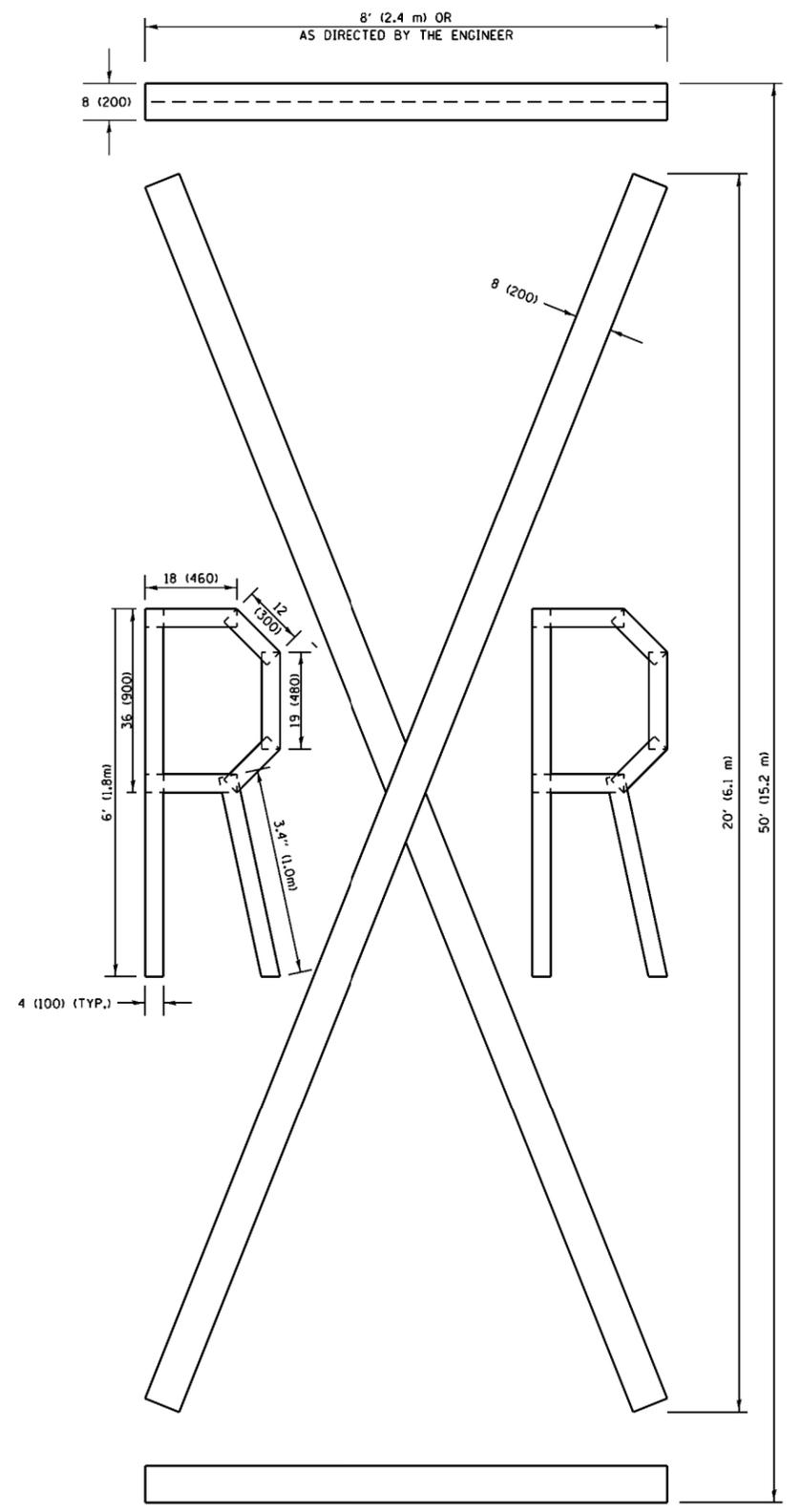


QUANTITY
 4 (100) LINE = 64.1 ft. (19.5 m)
 21.4 sq. ft. (1.99 sq. m)



QUANTITY
 4 (100) LINE = 82.5 ft. (25.1 m)
 27.5 sq. ft. (2.53 sq. m)

NOTE:
 ALL QUANTITIES OF PLACEMENT ARE REPRESENTED
 IN LINEAR FEET OF 4" LINES TO MATCH THE
 4" TEMPORARY TAPE PAY ITEM AND REPRESENTS
 THE TOTAL QUANTITY OF 4" TAPE REQUIRED.



QUANTITY
 4 (100) LINE = 225.9 ft. (68.9 m)
 75.3 sq. ft. (6.99 sq. m)

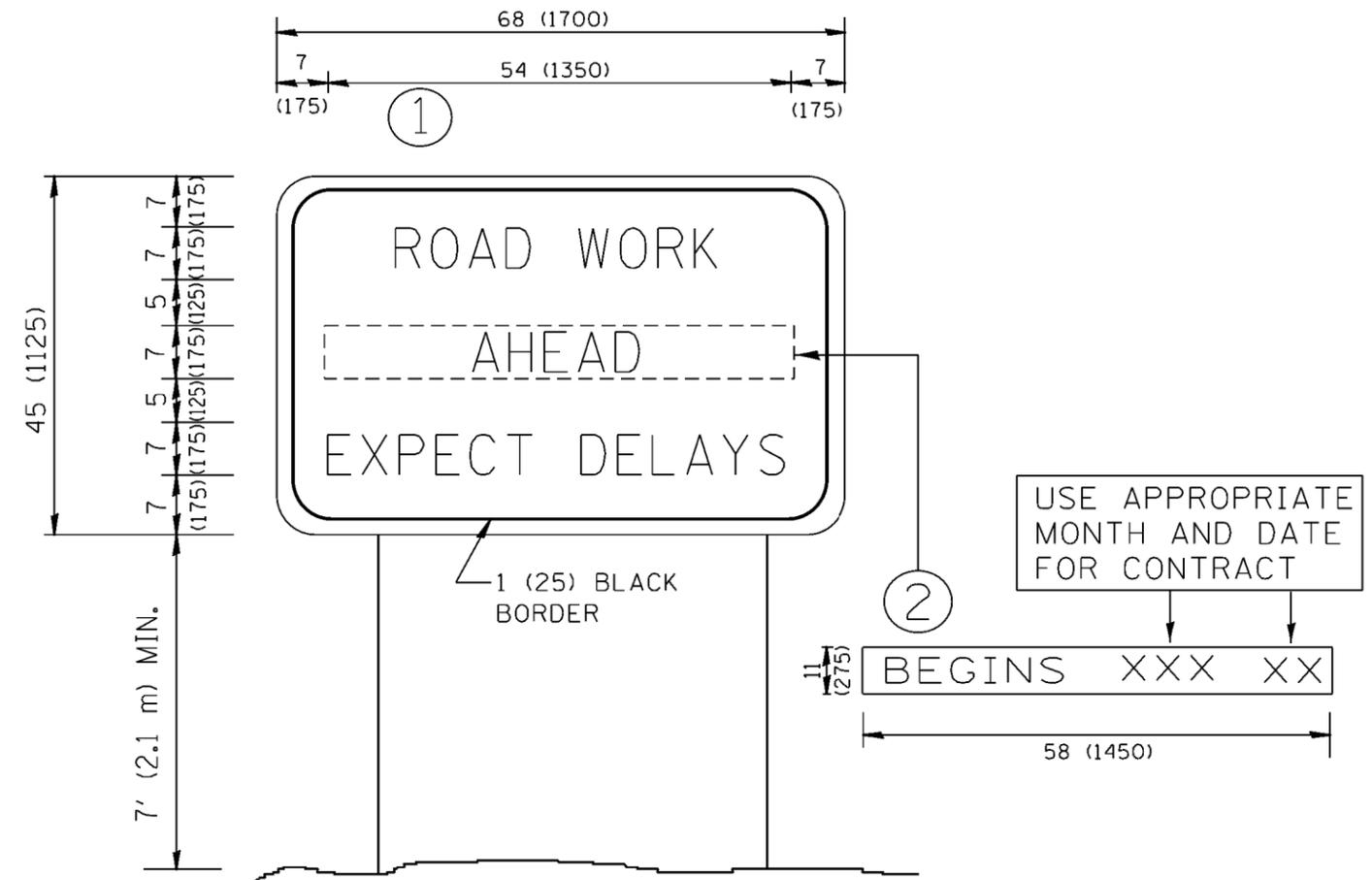
All dimensions are in inches (millimeters)
 unless otherwise shown.

FILE NAME =	USER NAME = gorenautab	DESIGNED -	REVISED - T. RAMMACHER 03-02-98
p:\1\084EBID\INTEG\illinois.gov\PWIDOT\Documents\IDOT Offices\District 1\Projects\PI250\Drawings\Design\DistStd.dgn			REVISED - E. GOMEZ 08-28-00
		CHECKED -	REVISED - E. GOMEZ 08-28-00
		DATE - 09-18-94	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	28
TC-16		CONTRACT NO. 60V05		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

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

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

FILE NAME =	USER NAME = gorengeautab	DESIGNED -	REVISED - R. MIRS 09-15-97
pw\l\084EBID\INTEG\illinois.gov\PWIDOT\Documents\IDOT Offices\District 1\Projects\PI250\Drawings\Design\DistStd.dgn			REVISED - R. MIRS 12-11-97
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 4/11/2017	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

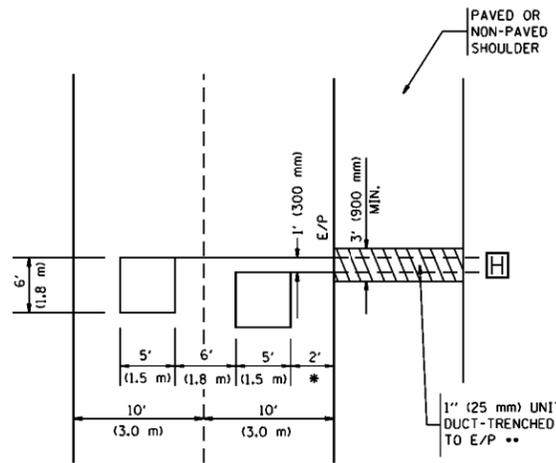
**ARTERIAL ROAD
INFORMATION SIGN**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24N-2	McHENRY	30	29
TC-22		CONTRACT NO. 60V05		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

LOOPS NEXT TO SHOULDERS

PROVIDE A PAVEMENT REPLACEMENT NOTE WHICH SHOULD EQUAL 3' (900 mm) X WIDTH OF PAVED SHOULDER.



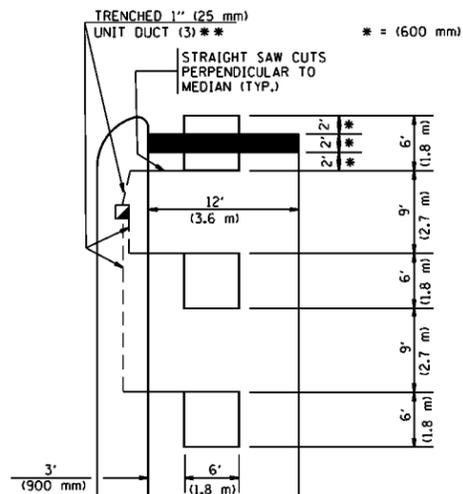
* = (600 mm)

** UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

**LEFT TURN LANES WITH MEDIANS
VOLUME DENSITY ("FAR OUT" DETECTION)
ON SAME APPROACH**

(PROTECTED / PERMITTED LEFT TURN PHASING)

HANDHOLE LOCATION MAY VARY DEPENDING ON GEOMETRICS AND DESIGN OF TRAFFIC SIGNALS. HEAVY-DUTY HANDHOLES TO BE USED WHEN THE MEDIAN IS MOUNTABLE. REFER TO STANDARD 814001 TO ENSURE THAT HANDHOLE FITS IN MEDIAN.

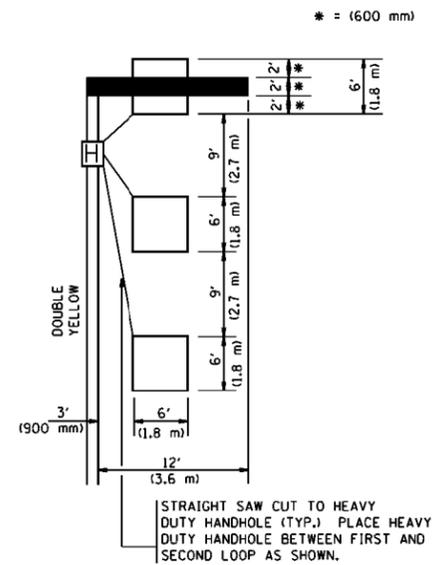


** UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**LEFT TURN LANES WITHOUT MEDIANS
VOLUME DENSITY ("FAR OUT" DETECTION)
ON SAME APPROACH**

(PROTECTED / PERMITTED LEFT TURN PHASING)



NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

NOTES:

VEHICLES LOOP DETECTORS

- * ALL LEAD IN CABLE SHALL BE TWO CONDUCTOR NO. 14 TWISTED, SHIELDED.
- * EACH DETECTOR LOOP SHALL HAVE ITS OWN SAW CUT FROM THE LOOP TO THE EDGE OF PAVEMENT OR TO A HANDHOLE IN THE PAVEMENT.
- * EACH DETECTOR LOOP SHALL HAVE ITS OWN ONE INCH (25 mm) UNIT DUCT BETWEEN THE EDGE OF PAVEMENT AND THE FIRST HANDHOLE OR JUNCTION BOX. EACH UNIT DUCT RUN SHALL BE SHOWN ON THE PLANS BY THE DESIGNER, BUT SHALL NOT BE PAID FOR SEPARATELY. THIS ITEM IS INCIDENTAL TO THE PAY ITEM FOR DETECTOR LOOPS.
- * ONE DIMENSION OF ALL DETECTOR LOOPS SHALL BE SIX FEET (1.8 m)
- * EACH LANE OF NON-LOCKING, PRESENCE DETECTION AND EACH LANE OF A DOUBLE LEFT TURN LANE REQUIRES A SEPARATE INDUCTIVE LOOP DETECTOR AND LEAD IN CABLE.
- * WHEN NON-LOCKING, PRESENCE DETECTION IS USED, MORE THAN ONE LOOP PER LANE IS REQUIRED BEHIND THE STOP BAR (i.e. 1-1/2, 1-3/4, 2).
- * WHEN SYSTEM LOOPS ARE REQUIRED ON AN APPROACH OF AN INTERSECTION, THE LOOPS USED FOR VOLUME DENSITY AND INTERSECTION TIMING SHALL ALSO BE USED AS SYSTEM DETECTORS. EACH ONE OF THESE TYPE OF LOOPS REQUIRES A SEPARATE TWO CONDUCTOR NO. 14 TWISTED SHIELDED CABLE AND A SEPARATE INDUCTIVE LOOP DETECTOR WHEN NEW CONTROLLERS ARE UTILIZED. THE DESIGNER SHALL LABEL THESE TYPES OF LOOPS AS "INTERSECTION AND SAMPLING (SYSTEM) DETECTORS" ON THE SIGNAL LAYOUT, THE INTERCONNECT PLAN AND THE SYSTEM CABLE PLAN. WHEN AN EXISTING CONTROLLER IS UTILIZED FOR THIS TYPE OF DETECTION, THE PAY ITEM "INDUCTIVE LOOP DETECTOR WITH SYSTEM OUTPUT" SHOULD BE USED.

PLACEMENT OF DETECTORS

THE FOLLOWING FIGURES REPRESENT THE MOST COMMON DETECTOR LOOP LOCATIONS AND SIZES. ADJUSTMENTS WILL BE NECESSARY FOR SPECIFIC GEOMETRIC CONSIDERATIONS.

LOCATIONS AND DEMENSIONS OF DETECTOR LOOPS ARE REQUIRED ON ALL SIGNAL LAYOUT PLAN SHEETS.

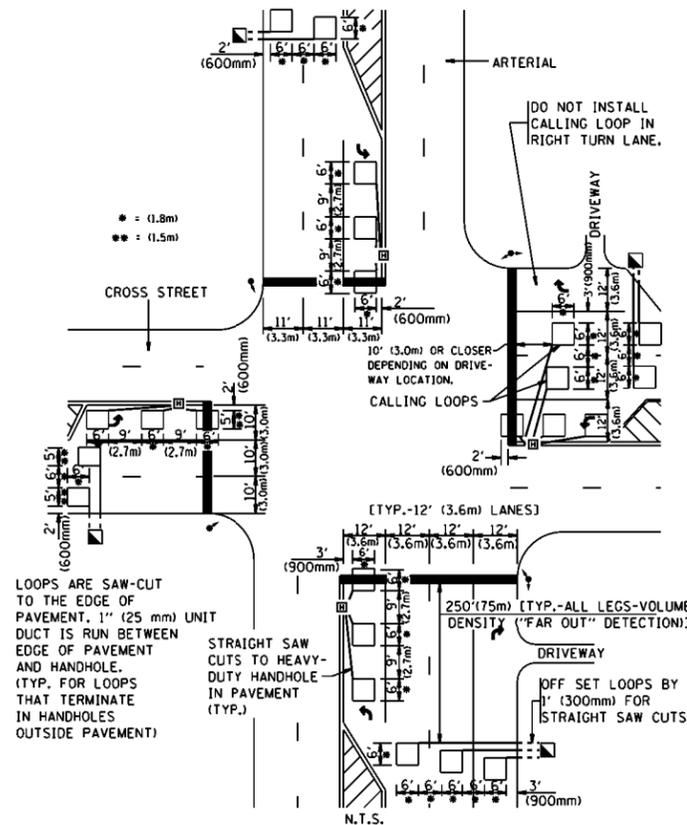
"FAR OUT" DETECTION REFERS TO LOCKING, PRESENCE TYPE DETECTION LOCATED IN THRU LANES, RIGHT TURN LANES, AND RIGHT TURN LANE TAPER AREAS (IF APPLICABLE), USUALLY 250' (75 m) IN ADVANCE OF STOP BARS. "UPTIGHT" DETECTION REFERS TO NON-LOCKING PRESENCE TYPE DETECTION LOCATED IN ALL LANES AND 10'-15' (3.0 m-4.5 m) BEHIND THE CROSSING STREET'S EDGE OF PAVEMENT EXTENDED.

NOTE:

ALL DETAILS AND NOTES SHOWN ARE FROM THE I.D.O.T. DISTRICT 1 TRAFFIC SIGNAL DESIGN GUIDELINES DATED JANUARY 1995

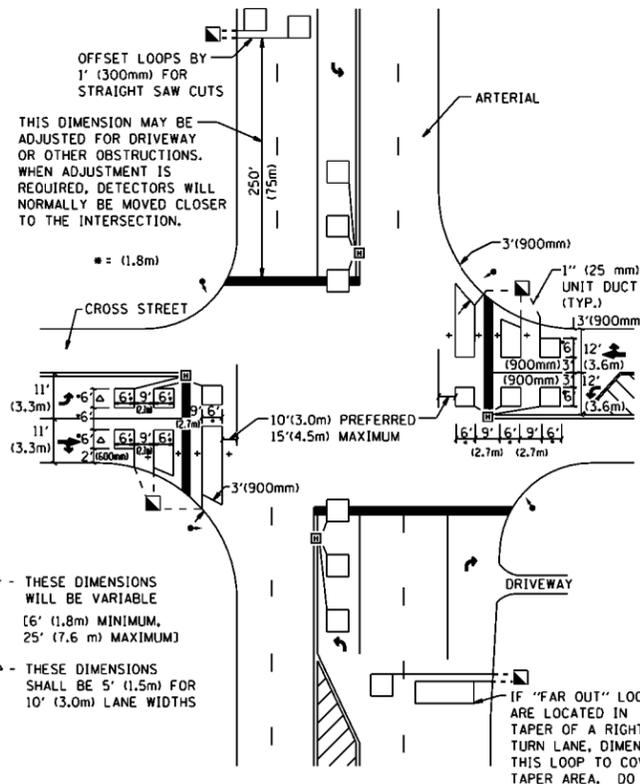
THIS DRAWING HAS BEEN PREPARED TO ASSIST THE RESIDENT ENGINEER FOR ALL ROADWAY RESURFACING OR S.M.A.R.T. PROJECTS WHERE THE DIMENSIONS ARE NOT SHOWN ON THE PLANS AND THE FINAL LOCATIONS FOR CROSSWALKS OR STOP BARS ARE NOT DETERMINED.

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)
CROSS STREET-VOLUME DENSITY ("FAR OUT" DETECTION)**



**DETAIL 1
N.T.S.**

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)
CROSS STREET-NON VOLUME DENSITY ("UPTIGHT" PRESENCE DETECTION)**



**DETAIL 2
N.T.S.**

FILE NAME =	USER NAME = gorenautob	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 - DETECTOR LOOP INSTALLATION		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pwi\IL084EBID\INTEG\11\inois.gov\PIWID01\Documents\IDOT Offices\District 1\Projects\PI250\DR\Note\Design\DistStd.dgn		CHECKED - R.K.F.	REVISED -		324	24N-2	McHENRY	30	30		
PLOT SCALE = 100.0000' / 1in.		DATE -	REVISED -		TS-07		CONTRACT NO. 60V05				
PLOT DATE = 4/11/2017					SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			