

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-RS	VARIOUS	38	1
CONTRACT NO. 62J14				

207

FOR INDEX OF SHEETS, SEE SHEET NO. 2

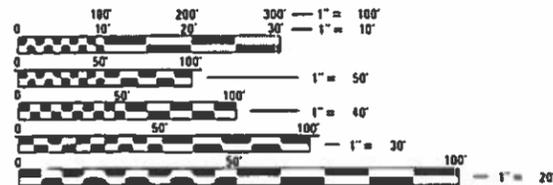
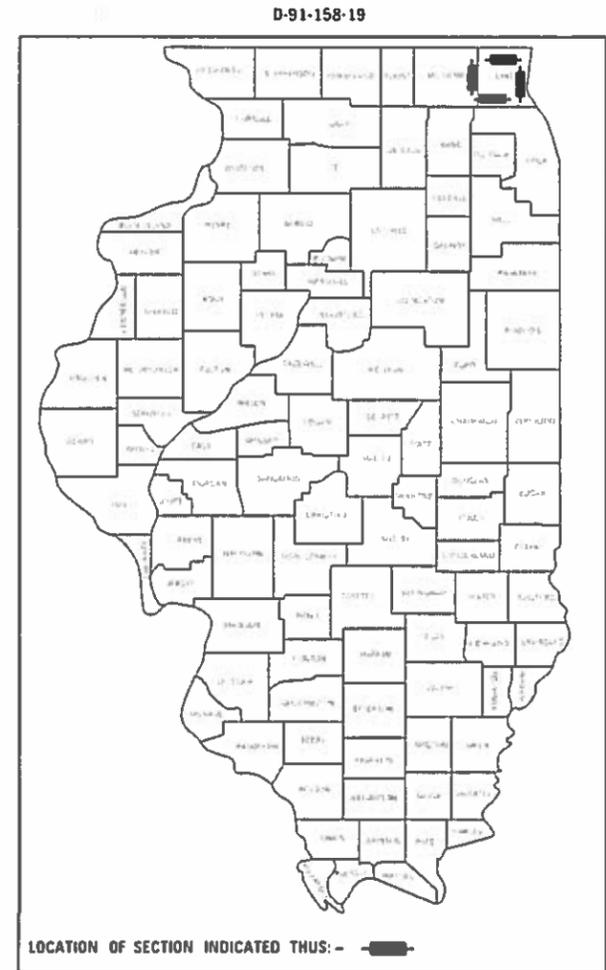
PROPOSED HIGHWAY PLANS

THIS PROJECT IS LOCATED IN:
 THE VILLAGE OF ANTIOCH
 THE VILLAGE OF BARRINGTON
 THE CITY OF CRYSTAL LAKE
 THE VILLAGE OF FOX RIVER GROVE
 THE VILLAGE OF LIBERTYVILLE
 THE CITY OF MCHENRY
 THE VILLAGE OF PRAIRIE GROVE
 THE VILLAGE OF RICHMOND
 THE VILLAGE OF RINGWOOD
 THE VILLAGE OF WADSWORTH
 THE CITY OF WAUKEGAN
 THE CITY OF ZION

VARIOUS ROUTES
 VARIOUS ROUTES IN LAKE AND MCHENRY COUNTIES
 SECTION: 2019-036-RS
 PATCHING (INTERMITTENT RESURFACING)
 LAKE, MCHENRY COUNTIES
 C-91-369-19

FOR TRAFFIC DATA SEE SHEET NO. 5

FOR GENERAL LOCATION MAP, SEE SHEET NO. 4



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: VESELIN VELICHKOV (847) 705-4432
 PROJECT MANAGER: FAWAD AQUEEL (847)705-4247

CONTRACT NO. 62J14

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUBMITTED March 29 2019

Anthony J. D'Angelo / *AS*
 REGIONAL ENGINEER

May 10 2019
Paul E. Chif
 ENGINEER OF DESIGN AND ENVIRONMENT

May 10 2019
Paul E. Chif
 DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION 3

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

STATE STANDARDS

GENERAL NOTES

<u>SHEET NO.</u>	<u>DESCRIPTION</u>	<u>STANDARD NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET	000001-07	TYPICAL SYMBOLS, ABBREVIATIONS AND PATTERNS
2	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES	701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
3	SUMMARY OF QUANTITIES	701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
4	GENERAL LOCATION MAP	701306-04	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS - DAY ONLY
5	ROUTE INFORMATION	701311-03	LANE CLOSURE 2L, 2W MOVING OPERATIONS - DAY ONLY
6	SUMMARY OF INTERMITTENT RESURFACING SCHEDULE	701336-07	LANE CLOSURE, 2L, 2W, WORK AREAS IN SERIES
7-29	INTERMITTENT RESURFACING SCHEDULE	701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS \geq 45 MPH TO 55 MPH
30	BUTT JOINT AND HMA TAPER DETAILS (BD-32)	701426-09	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATIONS, FOR SPEEDS \geq 45 MPH
31	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS AND DRIVEWAYS (TC-10)	701427-05	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS \leq 40 MPH
32	TYPICAL APPLICATIONS: RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT) (TC-11)	701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
33	DISTRICT ONE TYPICAL PAVEMENT MARKINGS (TC-13)	701502-09	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
34	TRAFFIC CONTROL AND PROTECTION OF TURN BAYS (TO REMAIN OPEN TO TRAFFIC) (TC-14)	701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
35	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING (TC-16)	701602-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
36	ARTERIAL ROAD INFORMATION SIGN (TC-22)	701606-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
37	STANDARD TRAFFIC SIGNAL DESIGN DETAILS (TS-05, SHEET 2 OF 7)	701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
38	DETECTOR LOOP INSTALLATION DETAIL FOR ROADWAY RESURFACING (TS-07)	701901-08	TRAFFIC CONTROL DEVICES

- 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 REQUIRED)
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE (OR TOLLWAY) PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT (OR ISTHA)
- 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 BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED 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 INTERMITTENT RESURFACING LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 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 ENGINEER SHALL CONTACT WALTER CZARNY, AREA TRAFFIC FIELD ENGINEER AT (847) 438-2300 MINIMUM OF TWO (2) WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
- 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.
- THE EXISTING ROADWAY TYPICAL SECTION IS ASSUMED TO HAVE A 3 INCH HOT-MIX ASPHALT OVERLAY ON TOP OF A TEN INCH CONCRETE BASE.
- ALL INTERMITTENT RESURFACING LOCATIONS SHOWN IN THE PLANS ARE TWO (2) INCH MILL AND RESURFACE ONLY. THE MINIMUM WIDTH FOR INTERMITTENT RESURFACING SHALL BE THREE (3) FEET.
- NO PATCHING OR RESURFACING IS TO BE DONE WITHIN FIFTY (50) FEET OF ANY RAILROAD CROSSING.
- THE COST OF ANY PARTIAL OR FULL DEPTH PATCHING REQUIRED AFTER THE REMOVAL OF THE EXISTING 2 INCH HOT-MIX ASPHALT SURFACE SHALL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
- ANY DETECTOR LOOPS DAMAGED BY MILLING SHALL BE REPLACED IN KINDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO QUANTIFY LOOP REPLACEMENTS NEEDED AND PROVIDE THE RESIDENT ENGINEER THIS INFORMATION PRIOR TO GRINDING OR REMOVAL.
- ALL LOOP DETECTOR LOCATIONS SHALL BE CURB MARKED BY THE CONTRACTOR PRIOR TO MILLING FOR THE PURPOSE OF REESTABLISHING DETECTOR LOOP LAYOUT AFTER THE RESURFACING IS COMPLETED.
- 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 45 MPH (80 KM/H) OR LESS AND 1 INCH (25 MM) WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (80 KM/H). WITH WRITTEN APPROVAL FROM THE RESIDENT ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM OF 1:3 (V:H).
- 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. ANY MILLED PAVEMENT IS TO BE RESURFACED BY THE END OF EACH DAY AND OPEN TO TRAFFIC.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		QUALITY MANAGEMENT PROGRAM (QMP)
MIXTURE TYPE	AIR VOIDS (%) @ N _{DES.}	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5MM), 2"	4% @ 70 GYR	QC / QA
QMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/QA)		

THE UNIT WEIGHT USED TO CALCULATE ALL HOT MIX ASPHALT SURFACE MIXTURES IS 112 LBS/SQ 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 QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE

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DRAWN -	REVISED -	VAR			2019-036-R5	LAKE, MCHENRY	38	2	
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PLOT DATE = 4/4/2019	DATE -	REVISED -			SCALE:	SHEET 1 OF 1 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT	

	SUMMARY - LAKE COUNTY ARTERIAL ROUTES	CITIES/VILLAGES	TOWNSHIPS	SPEED LIMIT	EXISTING ADT (YEAR)
LOC. 1	IL Route 173 (Grim Road to IL Route 45)	Antioch	Antioch	55 MPH	16,100 (2017)
LOC. 2	IL Route 14 (IL Route 22 to Hart Road)	Barrington / Fox River Grove	Cuba / Algonquin	55 MPH	26,200 (2017)
LOC. 3	IL Route 137 (Under the Peterson overpass in Libertyville)	Libertyville	Libertyville	45 MPH	5,700 (2015)
LOC. 4	IL Route 131 NB (Grand Ave. to Sunset Ave.)	Waukegan	Waukegan	45 MPH	27,400 (2017)
LOC. 5	IL Route 173 EB/WB (West of Greenbay Road to Des Plaines River)	Wadsworth / Zion	Newport / Benton	50 MPH	10,900 (2017)
LOC. 6	Frontage Road SB (Russell Road to Dead end)	Wadsworth	Newport	55 MPH	4,500 (2015)
LOC. 7	Old Skokie Road NB (Russell Road to Newport Fire Dept.)	Northbrook	Northfield	35 MPH	18,000 (2018)
LOC. 8	IL Route 31 (IL Route 12 to IL Route 120)	McHenry / Ringwood / Richmond	McHenry / Richmond	55 MPH	11,300 (2017)
LOC. 9	IL Route 31 (IL Route 120 to IL Route 176)	Crystal Lake / McHenry / Prairie Grove	Nunda/ McHenry	55 MPH	22,200 (2016)

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PLOT DATE = 4/4/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE INFORMATION			
VARIOUS ROUTES IN LAKE & MCHENRY COUNTIES			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-R5	LAKE, MCHENRY	38	5
CONTRACT NO. 62114				
ILLINOIS		FED. AID PROJECT		

	SUMMARY - LAKE COUNTY ARTERIAL ROUTES	CITIES/VILLAGES	TOWNSHIPS	SPEED LIMIT	EXISTING ADT (YEAR)
LOC. 1	IL Route 173 (Grim Road to IL Route 45)	Antioch	Antioch	55 MPH	16,100 (2017)
LOC. 2	IL Route 14 (IL Route 22 to Hart Road)	Barrington / Fox River Grove	Cuba / Algonquin	55 MPH	26,200 (2017)
LOC. 3	IL Route 137 (Under the Peterson overpass in Libertyville)	Libertyville	Libertyville	45 MPH	5,700 (2015)
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LOC. 8	IL Route 31 (IL Route 12 to IL Route 120)	McHenry / Ringwood / Richmond	McHenry / Richmond	55 MPH	11,300 (2017)
LOC. 9	IL Route 31 (IL Route 120 to IL Route 176)	Crystal Lake / McHenry / Prairie Grove	Nunda/ McHenry	55 MPH	22,200 (2016)

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PLOT DATE = 4/4/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE INFORMATION			
VARIOUS ROUTES IN LAKE & MCHENRY COUNTIES			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-R5	LAKE, MCHENRY	38	5
CONTRACT NO. 62114				
ILLINOIS		FED. AID PROJECT		

LOCATION NO. 7 (CONTINUED)

ROUTE: Old Skokie Rd

CROSS STREET		DIRECTION	LANE	PAVEMENT	PAVEMENT	REPAIR	REPAIR
FROM	TO	(EB/WB)	NO.	PATCH	PATCH	AREA	AREA
		(NB/SB)	(1, 2, 3)	WIDTH	LENGTH	(SQ.FT)	(SQ.YD)
State Line	41/94 Split	SB		12	25	300	33
		SB		12	25	300	33
		SB		12	25	300	33
		SB		12	25	300	33
		SB		12	25	300	33
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		SB		3	50	150	17
		41/94 Split	I-94	SB		12	6
SB				12	6	72	8
SB				12	6	72	8
SB				12	6	72	8
SB				12	6	72	8
SB				12	6	72	8
SB				12	6	72	8
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SB				12	6	72	8
SB				12	6	72	8
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SB				12	6	72	8
SB				12	6	72	8
41/94 Split	US 41			SB		12	6
		SB		12	6	72	8
		SB		12	6	72	8
		SB		12	6	72	8
		SB		12	6	72	8
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		SB		12	6	72	8
		SB		12	6	72	8
		SB		12	6	72	8
		SB		12	6	72	8

LOCATION NO. 7 (CONTINUED)

ROUTE: Old Skokie Rd

CROSS STREET		DIRECTION	LANE	PAVEMENT	PAVEMENT	REPAIR	REPAIR
FROM	TO	(EB/WB)	NO.	PATCH	PATCH	AREA	AREA
		(NB/SB)	(1, 2, 3)	WIDTH	LENGTH	(SQ.FT)	(SQ.YD)
41/94 Split	US 41	SB		12	6	72	8
		SB		12	6	72	8
		SB		12	6	72	8
		SB		12	6	72	8
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	12	144	16
		SB		12	25	300	33
		SB		12	25	300	33
		SB		12	25	300	33
		Cermak	41/94 Split	NB		12	6
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
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NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
Cermak	41/94 Split			NB		12	6
		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
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		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
		Cermak	41/94 Split	NB		12	6
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
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NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
NB				12	6	72	8
Cermak	41/94 Split			NB		12	6
		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
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		NB		12	6	72	8
		NB		12	6	72	8
		NB		12	6	72	8
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		NB		12	6	72	8
		NB		12	6	72	8

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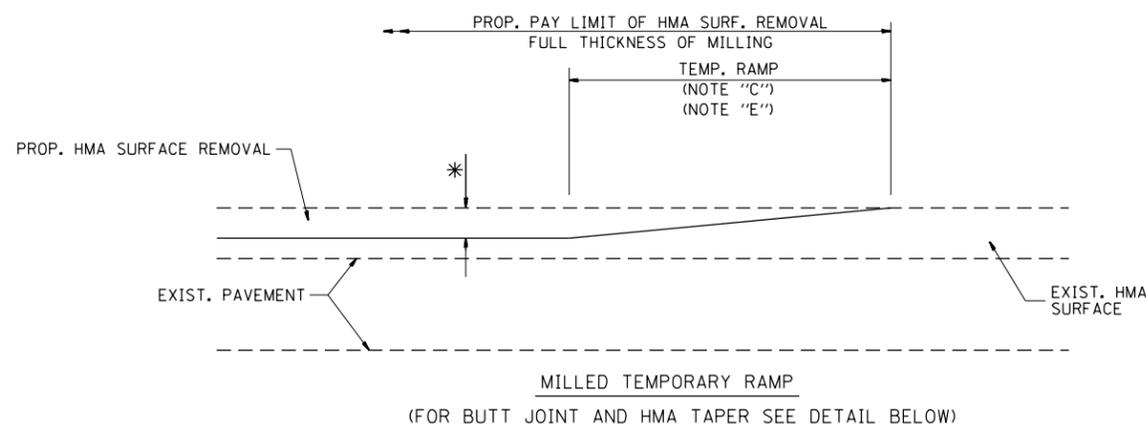
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 DATE: 4/4/2019

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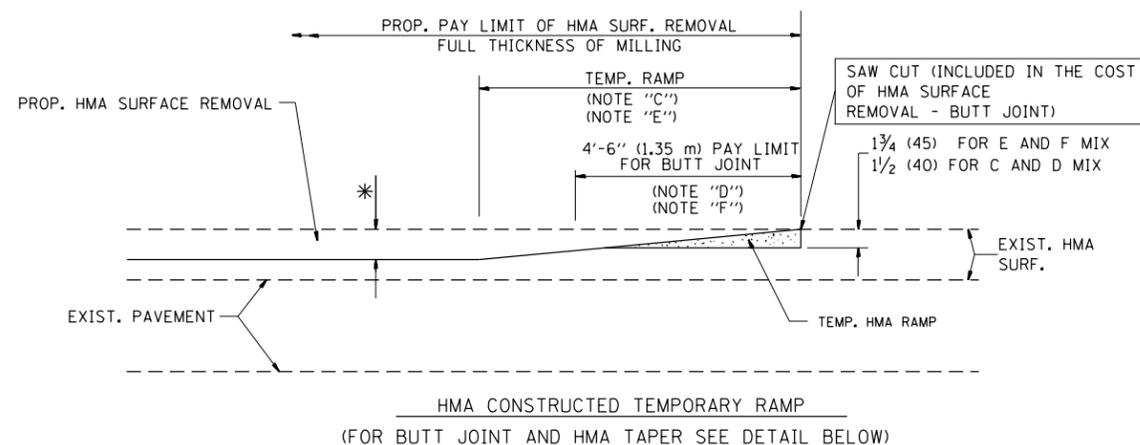
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

INTERMITTENT RESURFACING SCHEDULE			
LOCATION NO. 7			
SCALE:	SHEET	OF	SHEETS
	STA.	TO	STA.

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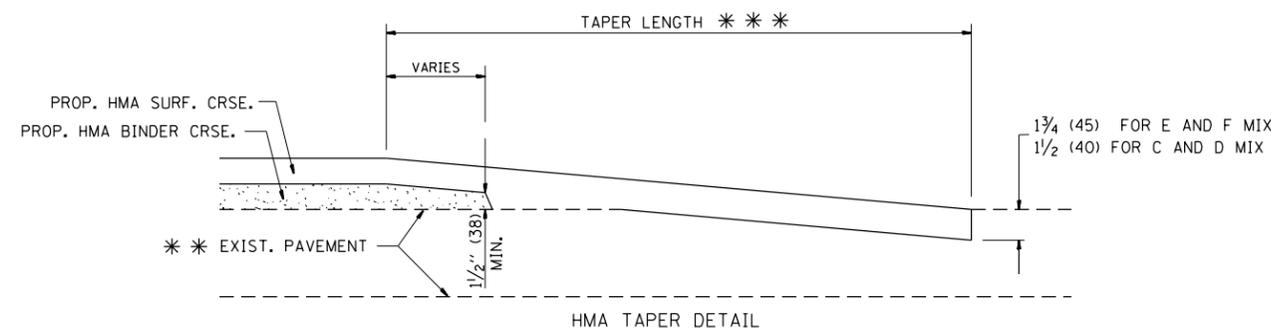
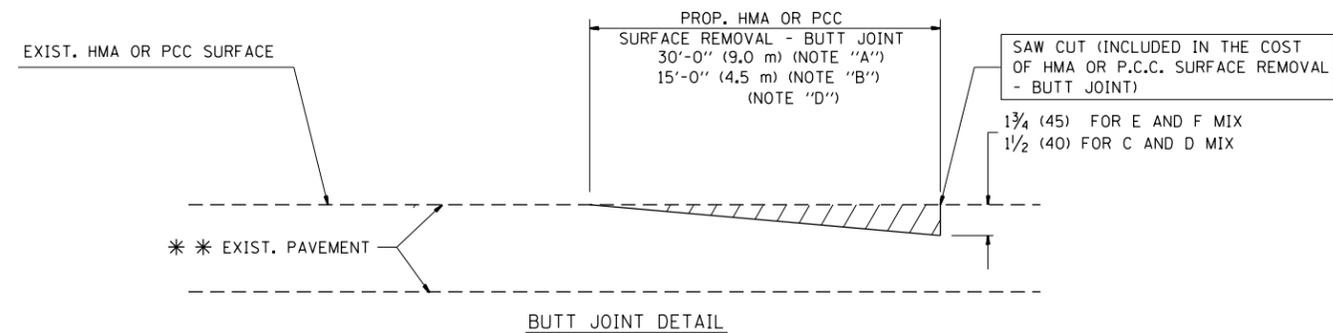


OPTION 1



OPTION 2

TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

* * PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

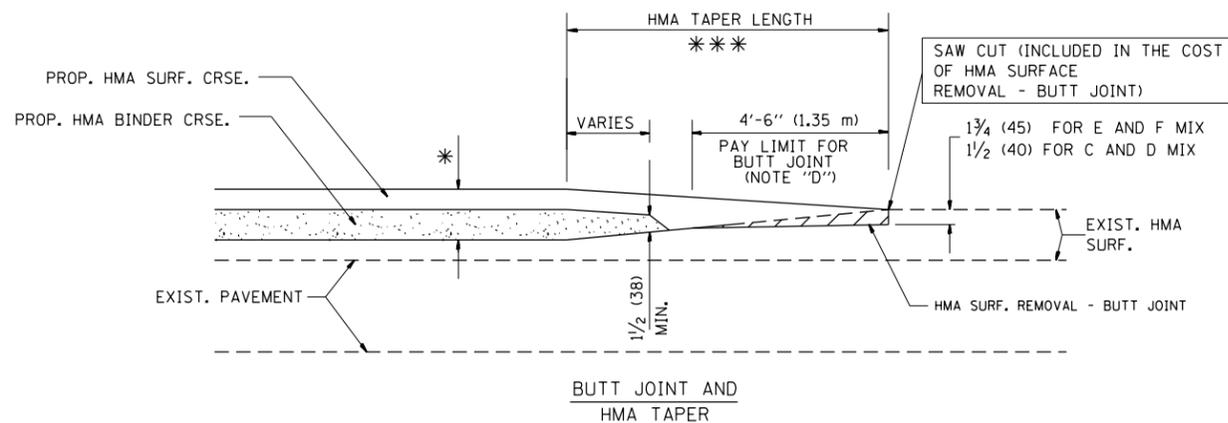
NOTES

- 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

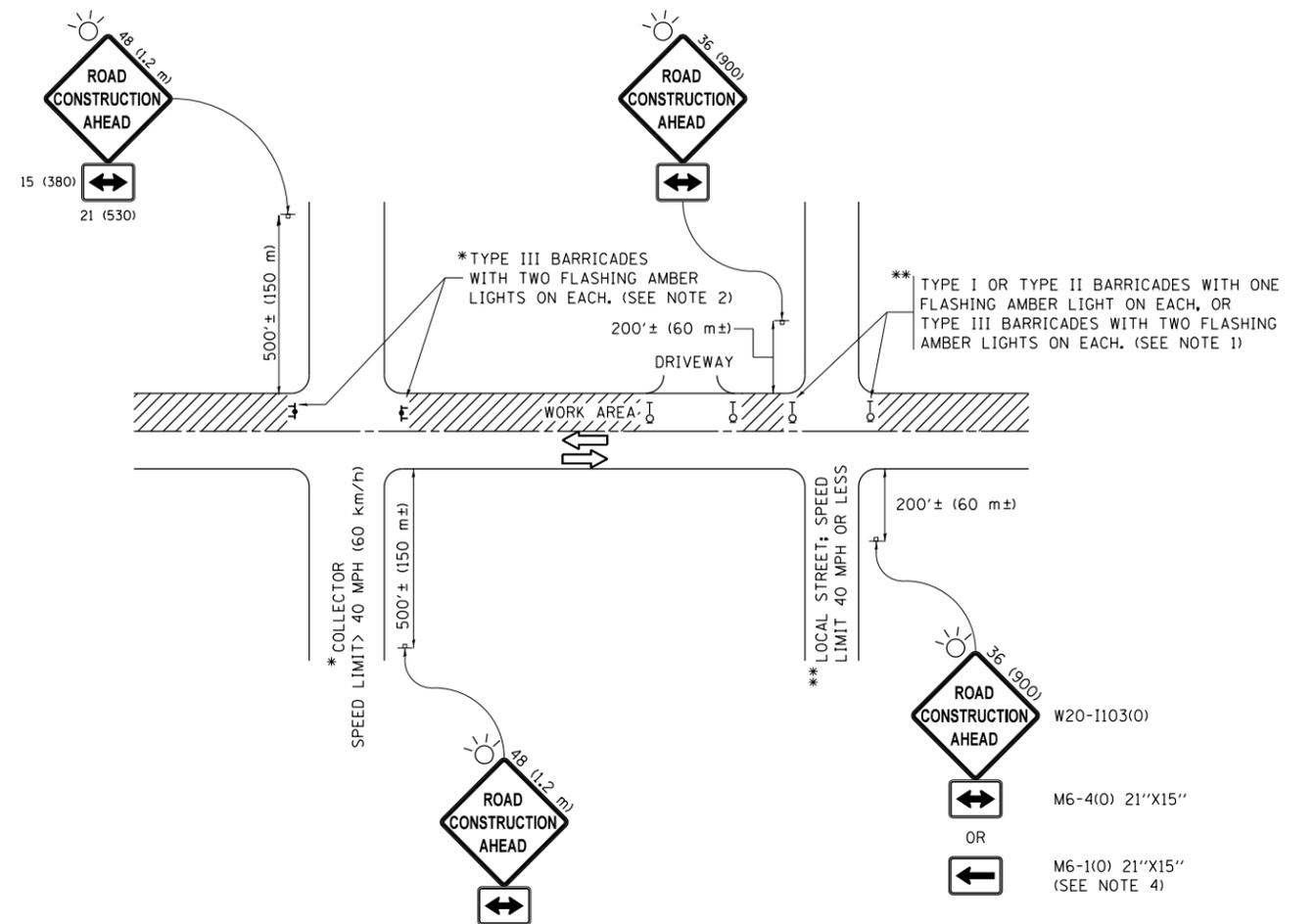
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	PLOT SCALE = 100.0000' / in.	DATE - 06-13-90	REVISED - R. BORO 01-01-07
	PLOT DATE = 4/4/2019		

**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. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-R5	LAKE, MCHENRY	38	30
BD400-05 BD32		CONTRACT NO. 62J14		
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.

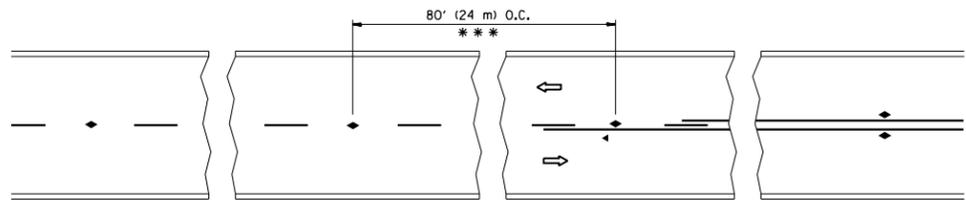
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pw\planroom.dot.illinois.gov\PIDOT\Documents\IDOT Offices\District 1\Projects\Design\Drawn\Design\2019\Patching\HMA\HMA-ART\REVISED-DISTRICT 1\A.MACHER 01-06-00			
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - A. SCHUETZE 07-01-13
	PLOT DATE = 4/4/2019	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**

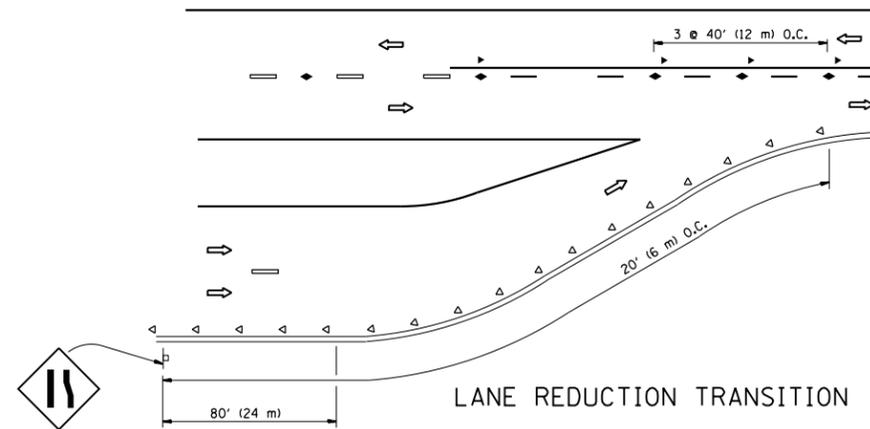
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10			CONTRACT NO. 62J14	
ILLINOIS FED. AID PROJECT				

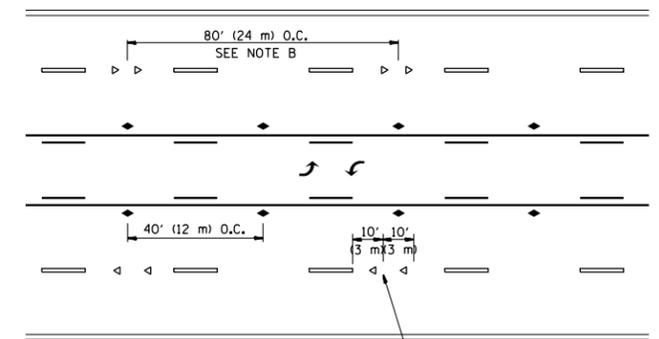


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

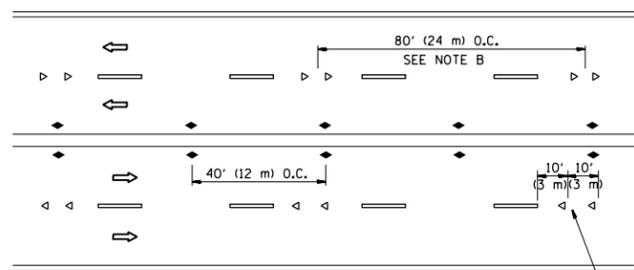
TWO-LANE/TWO-WAY



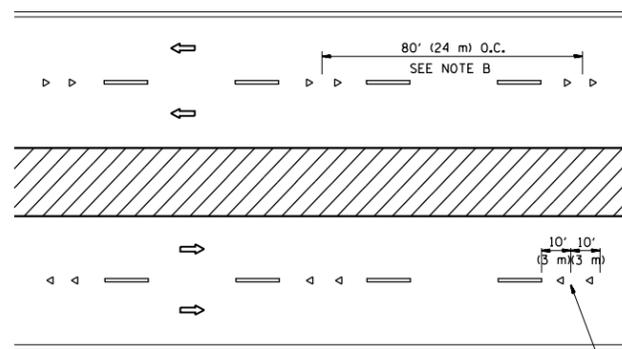
LANE REDUCTION TRANSITION



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

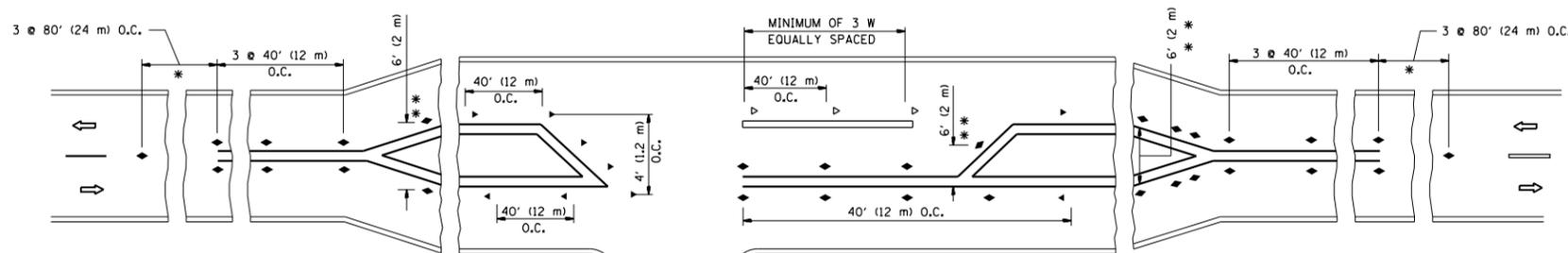
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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.

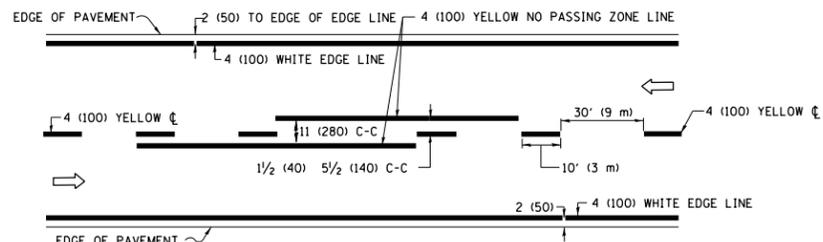
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = shironisb	DESIGNED -	REVISED - T. RAMMACHER 09-19-94
pw:\planroom.dot.illinois.gov\PIDOT\Documents\DOT Offices\District 1\Projects\Design\Design\2019\Patching\HMA\HMA-Art\REVISED-DIST-1-RAMMACHER 03-12-99		CHECKED -	REVISED - T. RAMMACHER 01-06-00
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	PLOT DATE = 4/4/2019		

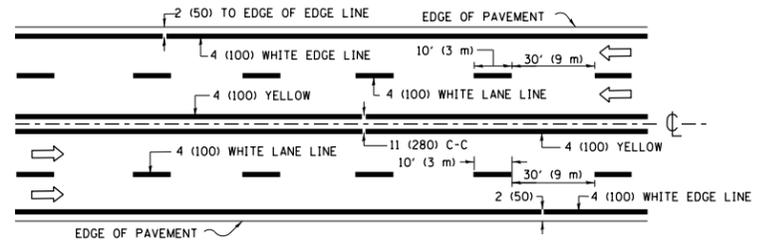
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

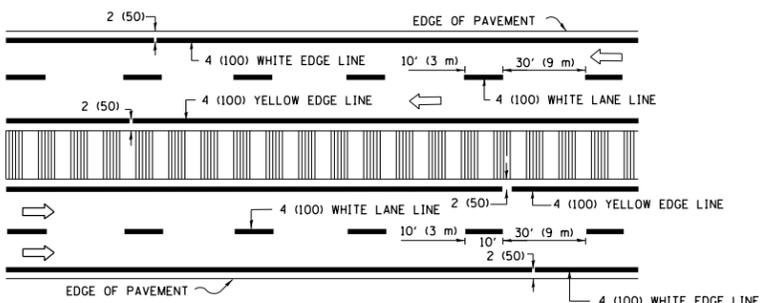
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-R5	LAKE, MCHENRY	38	32
TC-11		CONTRACT NO. 62J14		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

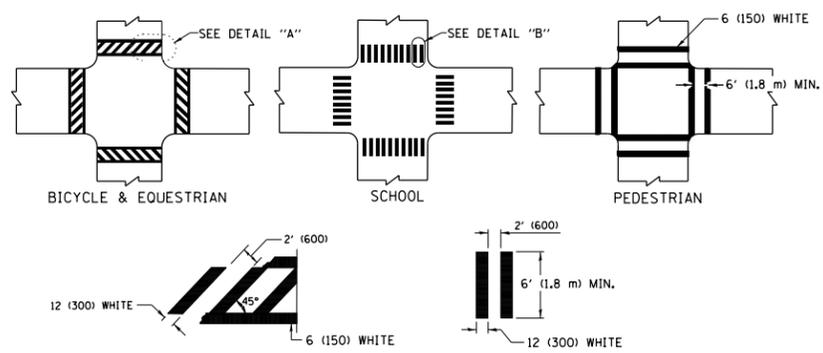


MULTI-LANE UNDIVIDED



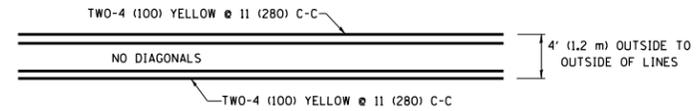
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

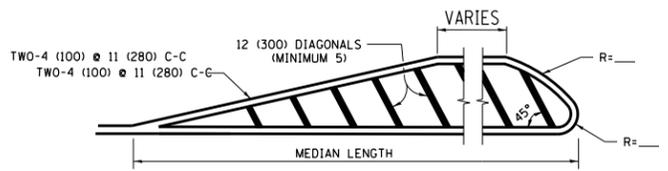


TYPICAL CROSSWALK MARKING

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

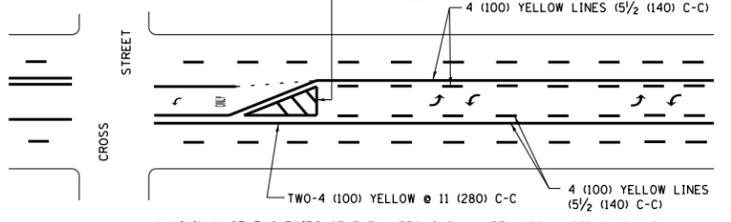


4' (1.2 m) WIDE MEDIANS ONLY



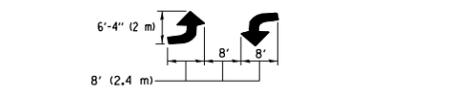
MEDIANS OVER 4' (1.2 m) WIDE

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))



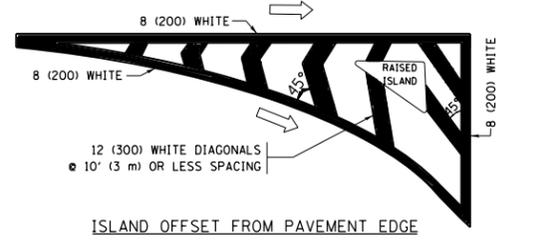
**MEDIAN WITH TWO-WAY LEFT TURN LANE
TYPICAL PAINTED MEDIAN MARKING**

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.

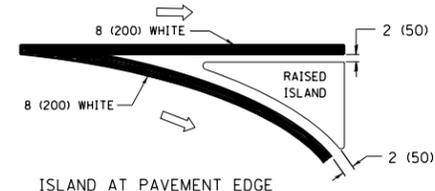


**TYPICAL LEFT (OR RIGHT) TURN LANE
TYPICAL TURN LANE MARKING**

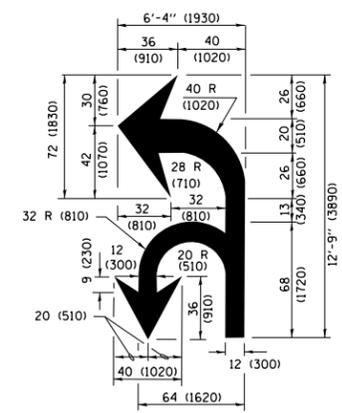
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".



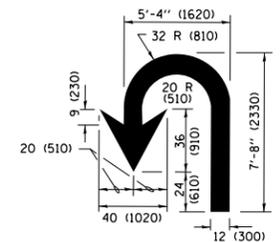
ISLAND OFFSET FROM PAVEMENT EDGE



**ISLAND AT PAVEMENT EDGE
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 1/2 (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 1/2 (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 = shiranisb	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09
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Default	PLOT SCALE = 100.0000' / in.	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16
	PLOT DATE = 4/4/2019		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-R5	LAKE, MCHENRY	38	33
TC-13		CONTRACT NO. 62J14		
ILLINOIS FED. AID PROJECT				

TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER

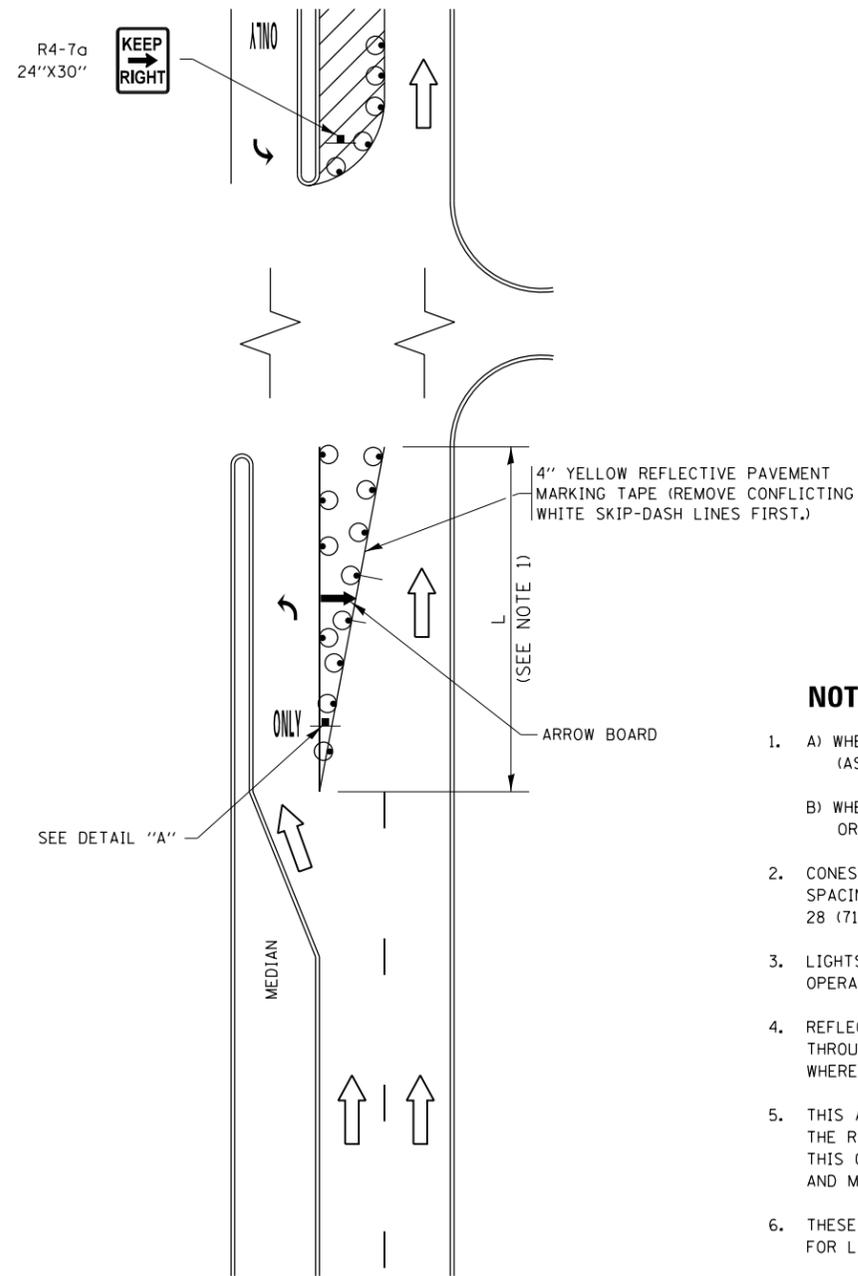


FIGURE 1

TURN BAY ENTRANCE WITHIN A LANE CLOSURE

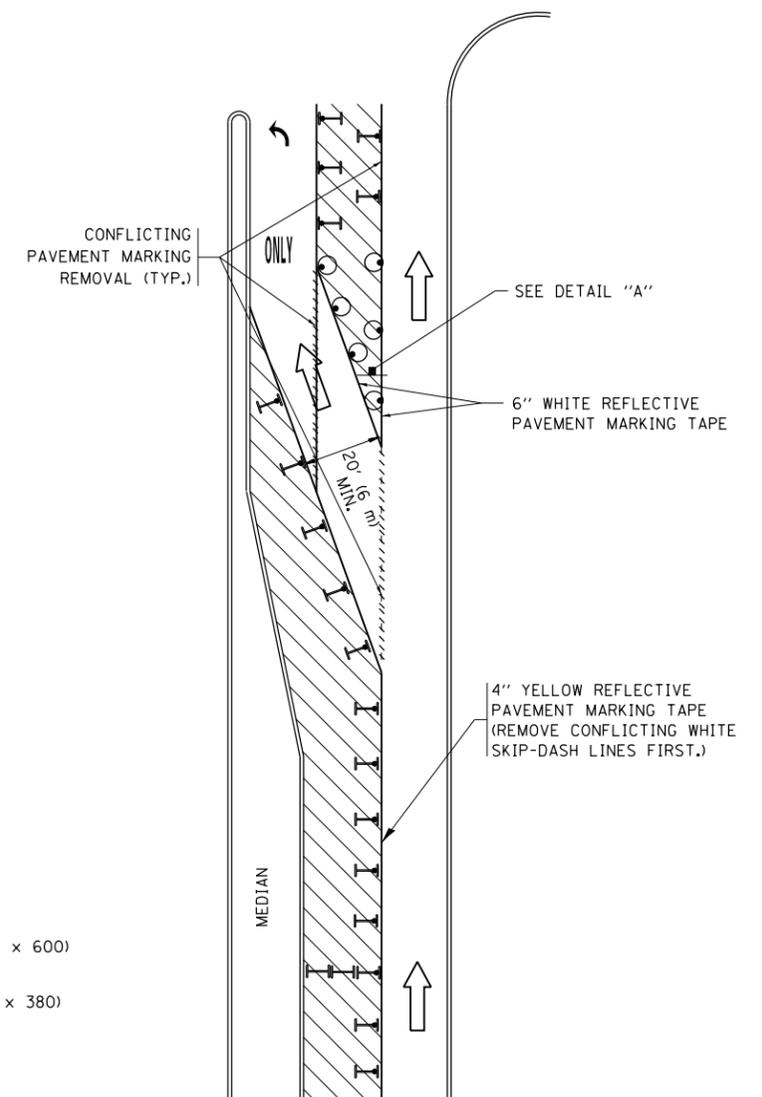
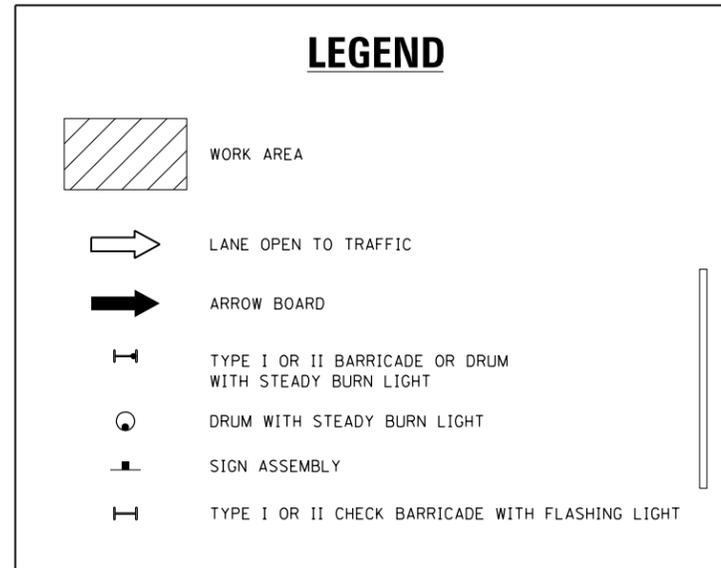
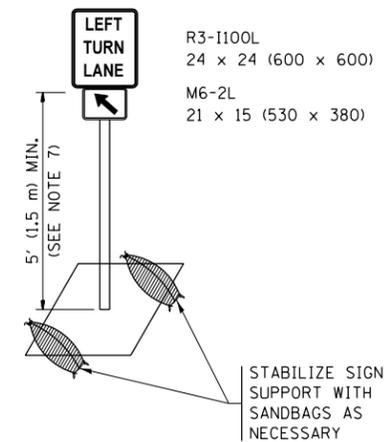


FIGURE 2



NOTES:

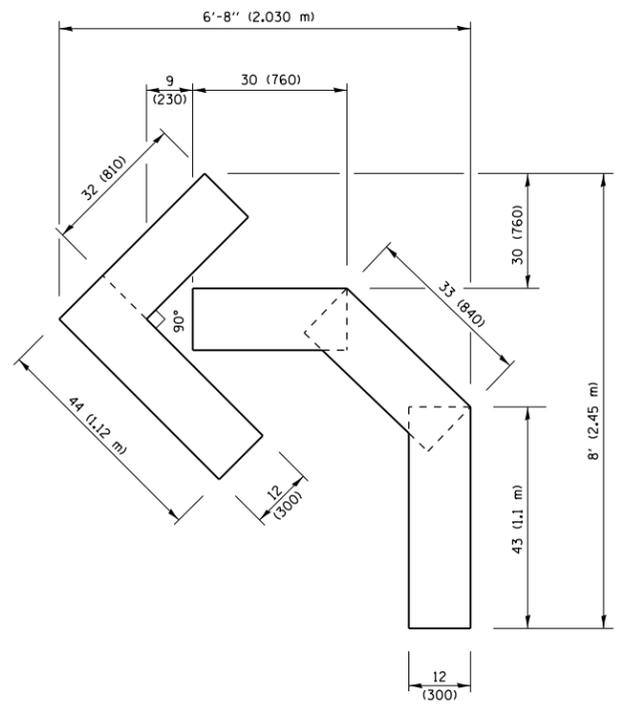
1. A) WHEN "L" IS \leq THE STORAGE LENGTH OF THE TURN LANE (AS SHOWN IN FIG. 1), USE FIGURE 1.
B) WHEN "L" IS $>$ THE STORAGE LENGTH OF THE TURN LANE OR THE TURN LANE IS WITHIN THE LANE CLOSURE, USE FIGURE 2.
2. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
3. LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
4. REFLECTIVE TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE BARRICADED AREAS OF EACH TURN BAY AS SHOWN WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN (14) DAYS.
5. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-1100R 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
6. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
7. THE SIGNS SHALL BE MOUNTED ABOVE THE BARRICADES/DRUMS ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 OR MASH PREQUIREMENTS.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.



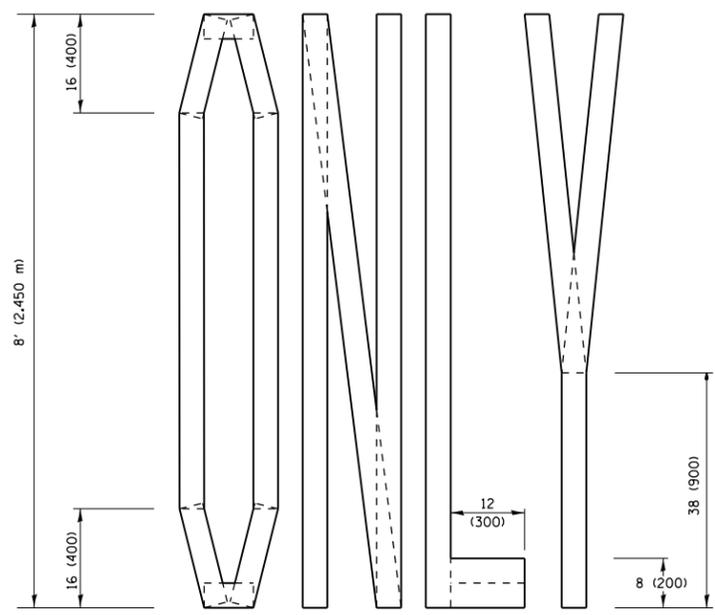
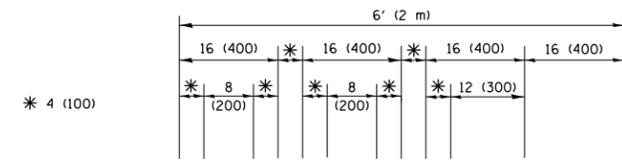
DETAIL A

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

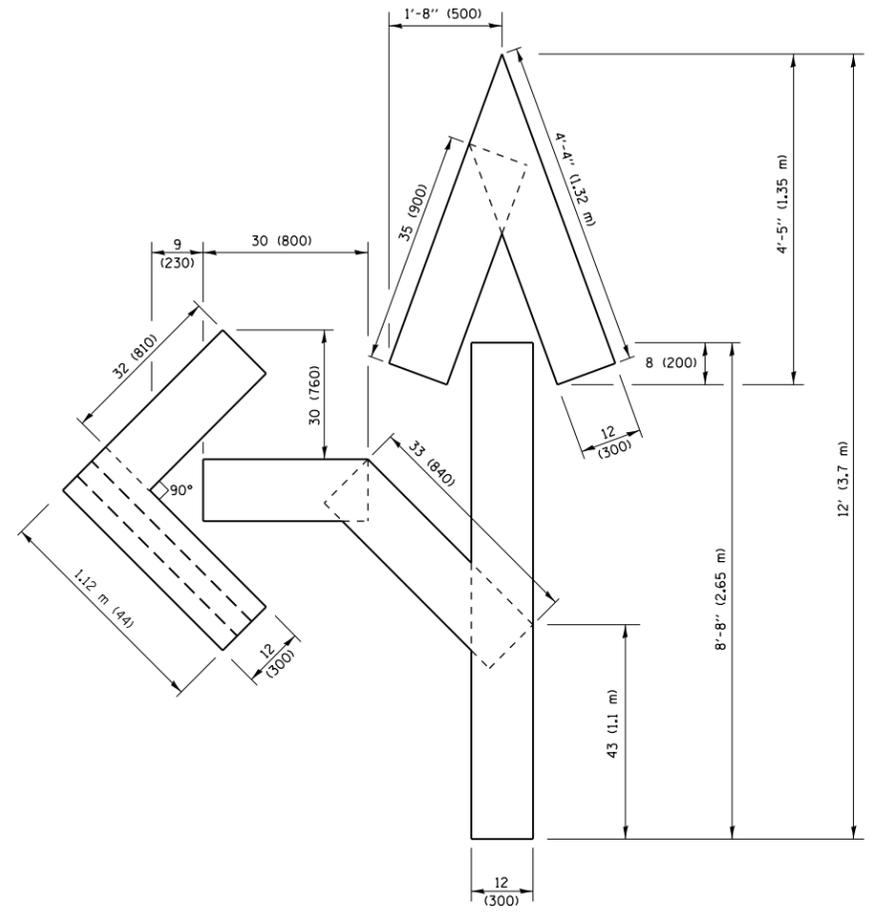
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pw\planroom.dot.illinois.gov\PIDOT\Documents\IDOT Offices\District 1\Projects\Design\REVISED Design\2019\HOUSEH-HA07-09	REVISED - A. HOUSEH 10-12-96	REVISED - A. SCHUETZE 07-01-13	REVISED - A. SCHUETZE 09-15-16			VAR	2019-036-R5	LAKE, MCHENRY	38	34
Default	PLOT SCALE = 100.0000' / in.	REVISED - T. RAMMACHER 01-06-00	REVISED -			TC-14		CONTRACT NO. 62J14		ILLINOIS FED. AID PROJECT



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

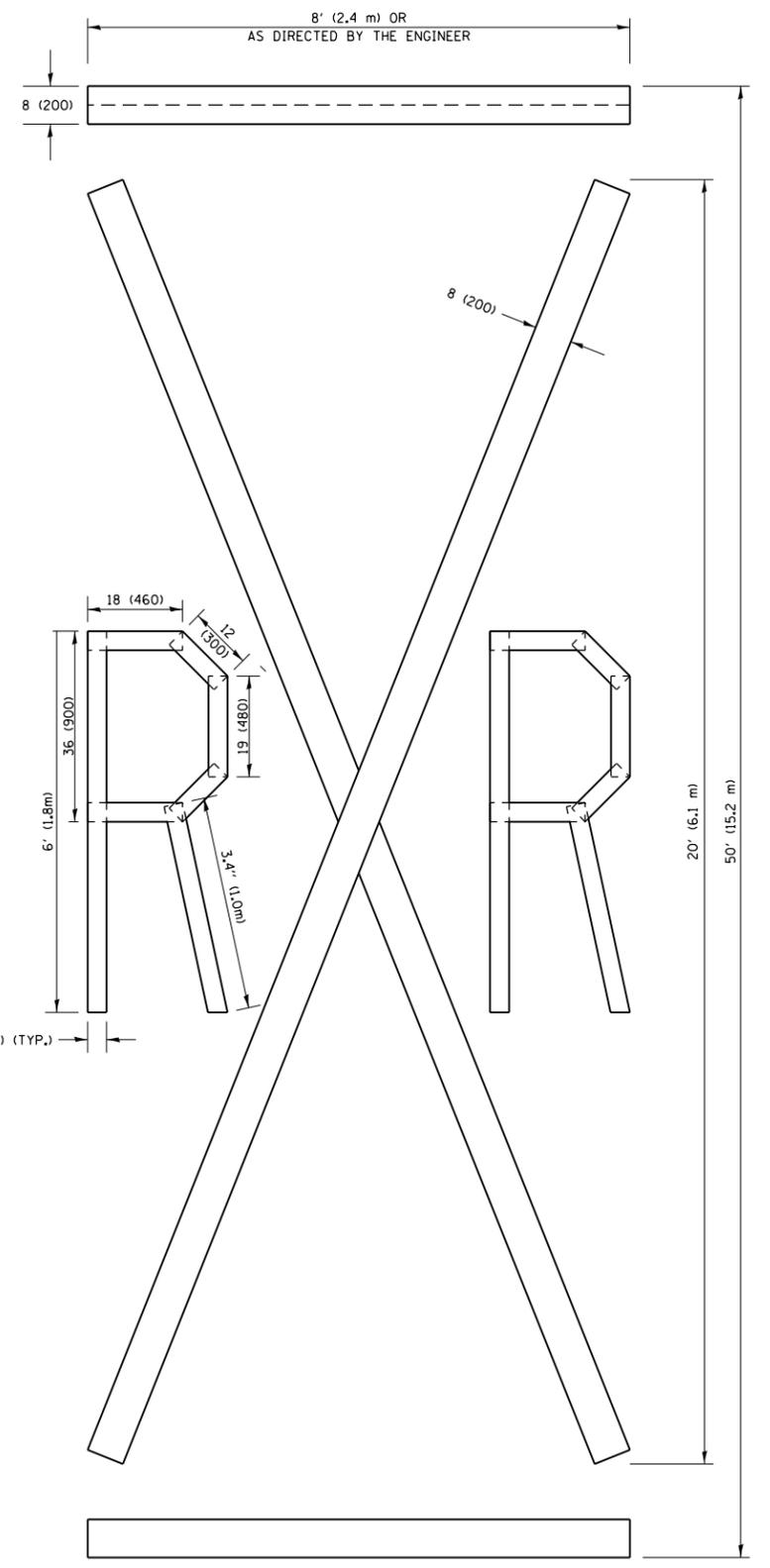


QUANTITY
 4 (100) LINE = 64.1 ft. (19.5 m)
 21.4 sq. ft. (1.99 sq. m)



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 = shironisb	DESIGNED -	REVISED -T. RAMMACHER 03-02-98
pw:\planroom.dot.illinois.gov\PIDOT\Documents\DOT Offices\District 1\Projects\Design\DRAWN\Design\2019\Patching\HMA\HMA-ART\REVISED-District 1\08-28-00		CHECKED -	REVISED -E. GOMEZ 08-28-00
	PLOT SCALE = 1/8" = 1' / in.	DATE -	REVISED -A. SCHUETZE 09-15-16
	PLOT DATE = 4/4/2019		

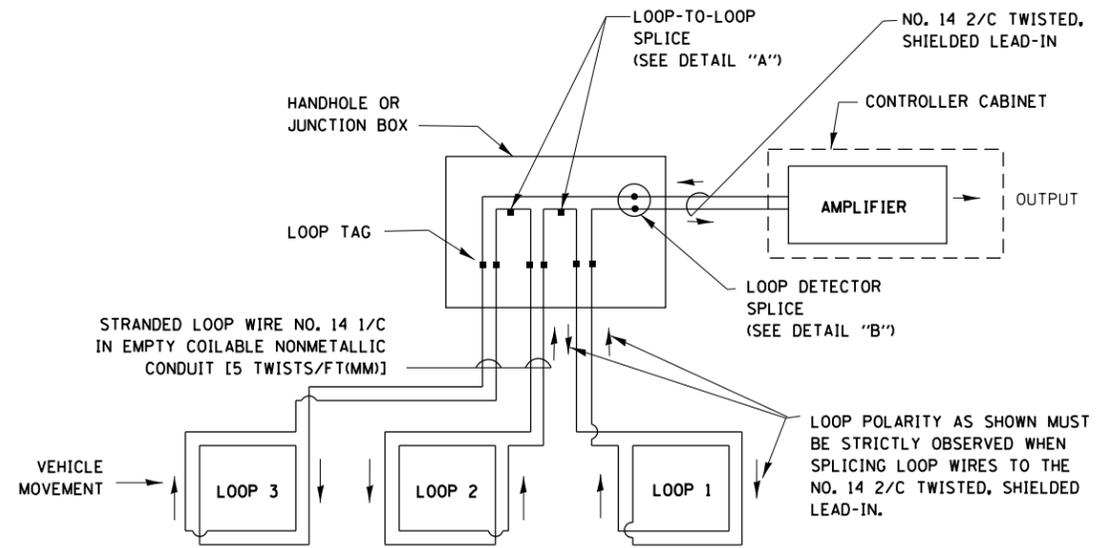
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-R5	LAKE, MCHENRY	38	35
TC-16		CONTRACT NO. 62J14		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

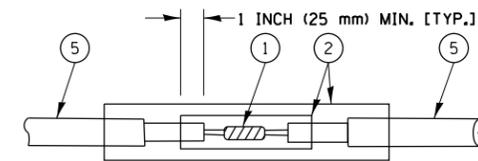
LOOP DETECTOR NOTES

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.

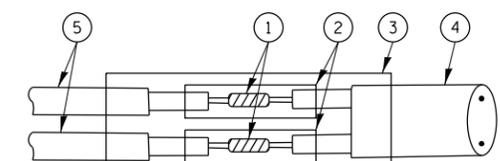


DETECTOR LOOP WIRING SCHEMATIC

- 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.



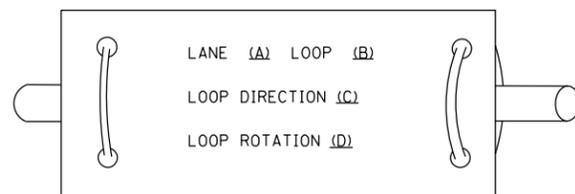
**DETAIL "A"
LOOP-TO-LOOP SPLICE**



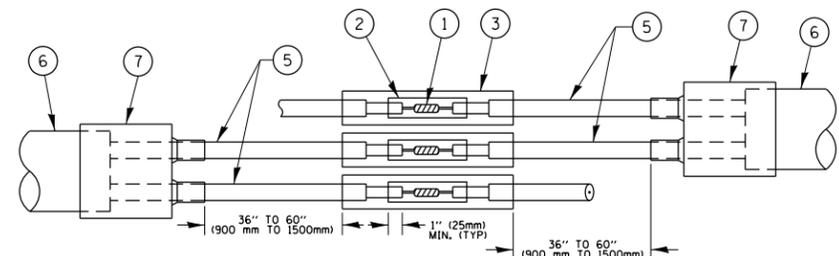
**DETAIL "B"
LOOP-TO-CONTROLLER SPLICE**

TYPE I LOOP

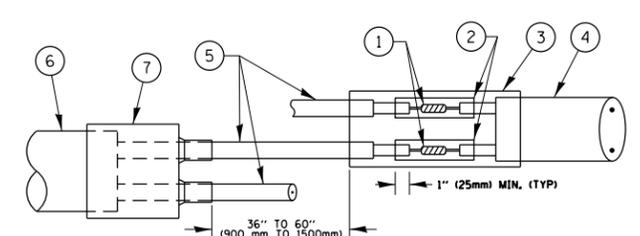
LOOP LEAD-IN CABLE TAG



- 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.



**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

FILE NAME =	USER NAME = shironisb	DESIGNED -	REVISED -
p:\planroom.dot.illinois.gov\PIDOT\Documents\DOT Offices\District 1\Projects\Design\DRAWN\Design\2019\Patching\HMA\HMA-REVISED-DistStd.dgn		CHECKED -	REVISED -
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	PLOT DATE = 4/4/2019		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

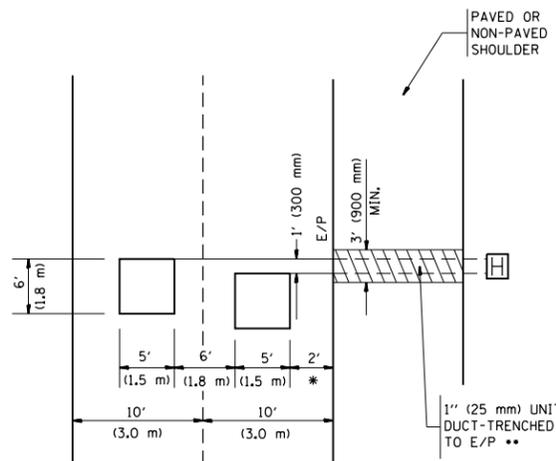
**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2019-036-R5	LAKE, MCHENRY	38	37
	TS-05	CONTRACT NO. 62J14		
ILLINOIS FED. AID PROJECT				

LOOPS NEXT TO SHOULDERS

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

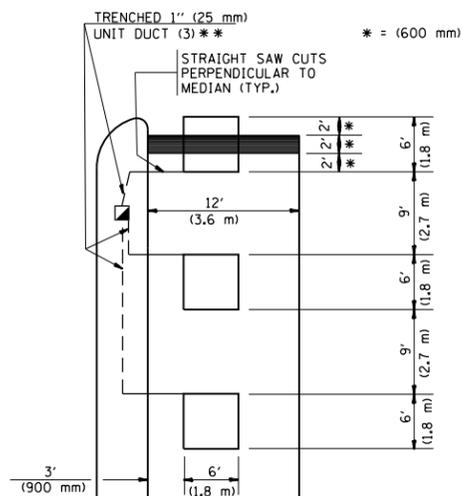


* = (600 mm)

** 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)**

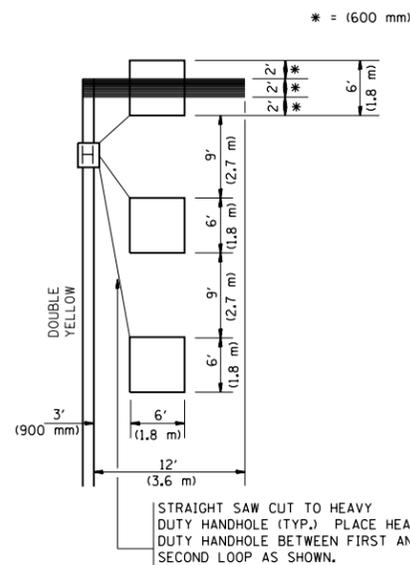
HANDHOLE LOCATION MAY VARY DEPENDING ON GEOMETRICS AND DESIGN OF TRAFFIC SIGNALS. HEAVY-DUTY HANDHOLES TO BE USED WHEN THE MEDIAN IS MOUNTABLE. REFER TO STANDARD 814001 TO ENSURE THAT HANDHOLE FITS IN MEDIAN.



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

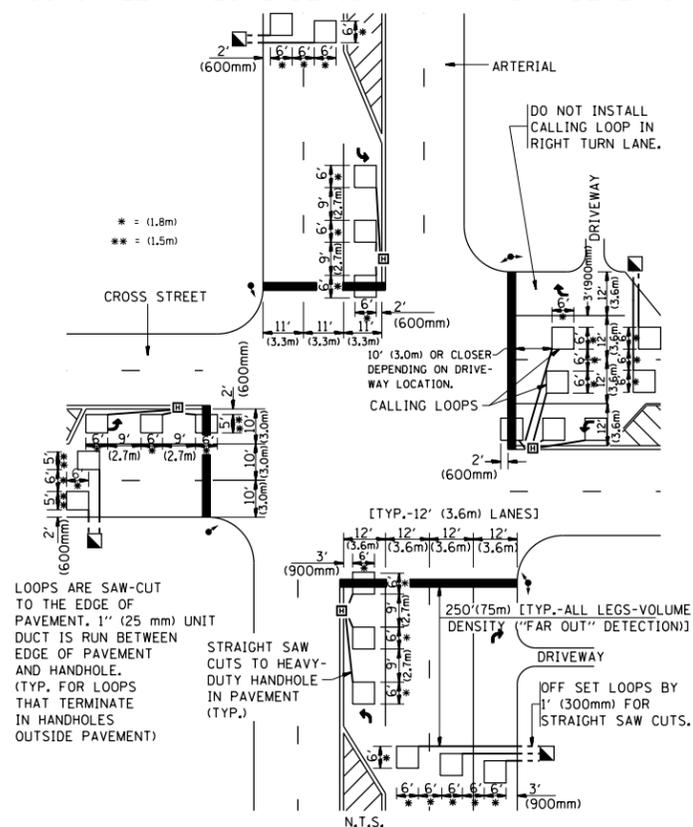
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

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



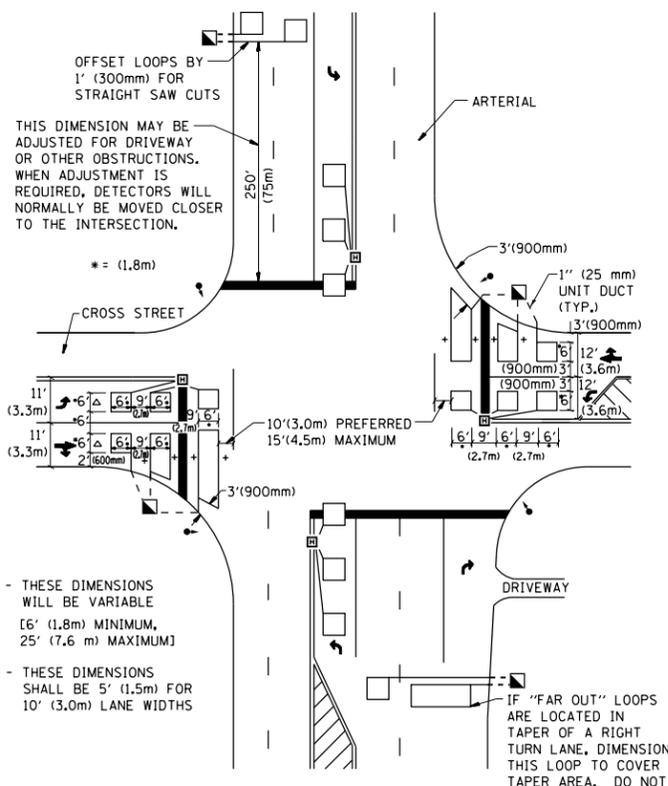
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**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.**

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.

FILE NAME =	USER NAME = shiranisb	DESIGNED -	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 - DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\planroom.dot.illinois.gov\PIDOT\Documents\1007 Offices\District 1\Projects\Design\DRAWN\Design\2019\Patching\HMA\HMA-REVISED-DistStd.dgn	CHECKED - R.K.F.	REVISIONS -	VAR					2019-036-R5	LAKE, MCHENRY	38	38	
PLOT SCALE = 100.0000' / 1in.	DATE -	REVISIONS -	TS-07					CONTRACT NO. 62J14				
PLOT DATE = 4/4/2019	DATE -	REVISIONS -	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT									
				SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.					