

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-RS&SW	COOK	24	1
		ILLINOIS	CONTRACT NO. 62P30	

D-91-190-21

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROJECT IS LOCATED IN:
VILLAGE OF MORTON GROVE
VILLAGE OF NILES

PROPOSED
HIGHWAY PLANS

F.A.U. ROUTE 2786 (LEHIGH AVE.)
OAKTON ST. TO TOUHY AVE.
SECTION: 2021-102-RS&SW
PROJECT: STP- 5UJG(656)
DESIGNED OVERLAY
COOK COUNTY

C-91-227-21

TRAFFIC DATA:

OAKTON ST. TO HOWARD ST: 5,600 ADT (2018)
HOWARD ST. TO TOUHY AVE: 7,600 ADT (2018)

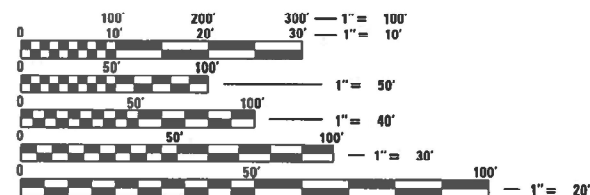
SPEED LIMIT = 35 MPH



LOCATION MAP
(NOT TO SCALE)

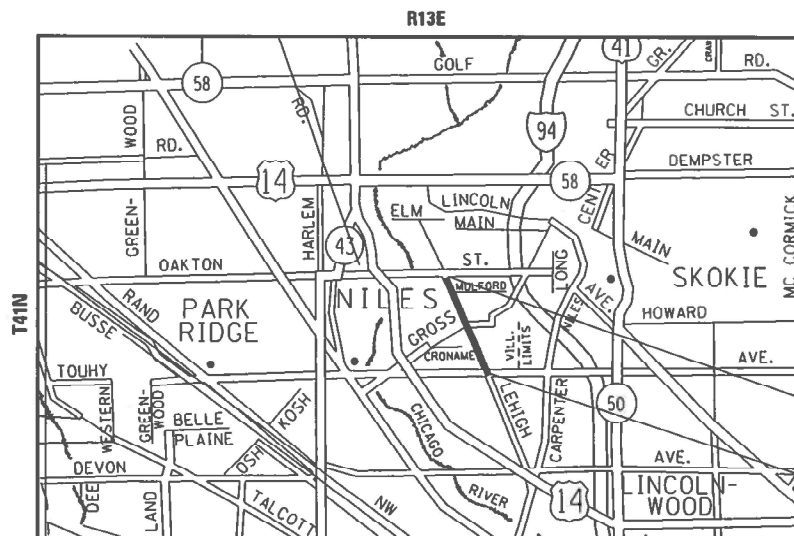
OMISSION:

STA. 40 + 99 TO STA 44 + 39



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

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



PROJECT BEGINS
STA. 15 + 95

PROJECT ENDS
STA. 70 + 95

NILES TOWNSHIP

GROSS LENGTH = 5,500 FT. = 1.04 MILE
NET LENGTH = 5,160 FT. = 0.98 MILE

PROJECT ENGINEER: DANIEL WILGREEN (847) 705-4240
PROJECT MANAGER: FAWAD AQUEEL (847) 705-4247

CONTRACT NO. 62P30

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED January 31 20 22
Gene Rios REGIONAL ENGINEER
March 25 2022
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT
March 23 2022
Stephen M. Loria DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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INDEX OF SHEETS

STATE STANDARDS

GENERAL NOTES:

SHEET NO.	DESCRIPTION:	STATE STANDARDS	GENERAL NOTES:
1	COVER SHEET	000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS	1. BEFORE STARTING ANY EXCAVATION THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES, (48 HOURS NOTIFICATION IS REQUIRED). 2. 10 FEET (3 METERS) TRANSITION SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURBS AND GUTTERS AND MEDIANS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED. 3. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE UTILITY COMPANIES AND THE VILLAGES OF MORTON GROVE AND NILES. 4. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT. 5. 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. 6. ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT. 7. ALL PAVEMENT PATCHING LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. 8. LOCATION OF COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT (OR COMBINATION CURB AND GUTTER (THE TYPE SPECIFIED ON THE PLANS)), WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. 9. DRAINAGE ADJUSTMENT OR RECONSTRUCTION LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. 10. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS. 11. FRAMES AND GRATES ADJUSTMENT OF PRIVATE UTILITIES WITHIN THE LIMITS OF THE IMPROVEMENT SHALL BE DONE BY THEIR RESPECTIVE OWNERS AND ARE NOT IN PART OF THIS CONTRACT. 12. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (RAISED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. 13. WHEN THE MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1/2 INCHES (40 mm) WHERE THE SPEED LIMIT IS 40 MPH (80 km/ 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 MACHINE IS SLOPED A MINIMUM (1:3). 14. THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK. 15. PERMANENT PAVEMENT MARKINGS SHALL BE THERMOPLASTIC (OF THE EXTRUDED TYPE) AND SHOULD BE PLACED IN ACCORDANCE WITH THE "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" DETAIL. (TC-13) 16. THE RESIDENT ENGINEER SHALL CONTACT PATRICE HARRIS, AREA TRAFFIC FIELD TECHNICIAN, VIA EMAIL AT PATRICE.HARRIS@ILLINOIS.GOV, A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS 17. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES DURING CONSTRUCTION. 18. THE CONTRACTOR MUST USE EXTREME CARE AND CAUTION WHEN MILLING AND PAVING THE PAVEMENT NEAR RR CROSSING SO AS TO AVOID ACCIDENTLY HITTING ANY RR WARNING DEVICES WITH ANY CONSTRUCTION EQUIPMENT (I.E., DUMP TRUCKS OR MILLING MACHINES). 19. ALL MILLED SURFACES SHALL BE AT UNIFORM CROSS SLOPE PER LANE AND FREE OF RIDGES BETWEEN PASSES. ANY DEVIATIONS SHALL BE CORRECTED AT NO COST TO THE DEPARTMENT. 20. TEMPORARY PAVEMENT MARKING, TYPE III TAPE SHALL BE USED FOR SHORT TERM PAVEMENT MARKINGS ON ALL FINAL SURFACES. 21. THE CONTRACTOR SHALL NOT STORE OR PARK ANY HEAVY EQUIPMENT OR VEHICLES INSIDE THE RAILROAD RIGHT OF WAY.
2	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES	442201-03 CLASS C AND D PATCHES	
3-4	SUMMARY OF QUANTITIES	482011-03 HMA SHLD. STRIPS/SHLDS. WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS	
5	EXISTING AND PROPOSED TYPICAL SECTIONS	604001-05 FRAME AND LIDS, TYPE 1	
6-8	PROPOSED ROADWAY AND PAVEMENT MARKING PLANS	604086-05 FRAME AND GRATE, TYPE 23	
9-11	DETECTOR LOOP PLANS	606001-08 CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER	
12	DETAILS FOR FRAMES AND LIDS ADJUSTMENTS WITH MILLING (BD-08)	701006-05 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE	
13	PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT (BD-22)	701011-04 OFF-ROAD OPERATIONS, 2L, 2W, DAY ONLY	
14	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT (BD-24)	701101-05 OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE	
15	BUTT JOINT AND HMA TAPER DETAILS (BD-32)	701301-04 LANE CLOSURE, 2L, 2W, SHORT TERM OPERATIONS	
16	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)	701311-03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS, DAY ONLY	
17	TYPICAL APPLICATION FOR RAISED REFLECTIVE PAVEMENT MARKERS (TC-11)	701427-05 LANE CLOSURE, MULTILANE INTERMITTENT OR MOVING OPERFOR SPEEDS <= 40 MPH	
18	DISTRICT ONE TYPICAL PAVEMENT MARKINGS (TC-13)	701501-06 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED	
19	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TC-14)	701502-09 URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE	
20	SHORT-TERM PAVEMENT MARKING LETTERS AND SYMBOLS (TC-16)	701606-10 URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN	
21	ARTERIAL ROAD INFORMATION SIGNING (TC-22)	701701-10 URBAN LANE CLOSURE, MULTILANE INTERSECTION	
22	SUPPLEMENTAL SIGNING AND PAVEMENT MARKING TREATMENT FOR RAILROAD CRSSINGS (TC-23)	701901-08 TRAFFIC CONTROL DEVICES	
23	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS (TS-05) (SHEET 2)	780001-05 TYPICAL PAVEMENT MARKINGS	
24	DISTRICT ONE - DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING (TS-07)	886001-01 DETECTOR LOOP INSTALLATIONS 886006-01 TYPICAL LAYOUTS FOR DETECTION LOOPS	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES
LEHIGH AVE. - OAKTON ST. TO TOUHY AVE.**

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	2
				CONTRACT NO. 62P30
		ILLINOIS	FED. AID PROJECT	

SCALE: SHEET OF SHEETS STA. TO STA.

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	0005 80% FED 20% STATE	0005 100% STATE				
			URBAN						
21101615	TOPSOIL FURNISH AND PLACE, 4"	SO YD	45	45					
25200110	SODDING, SALT TOLERANT	SO YD	45	45					
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	14169	14169					
40600370	LONGITUDINAL JOINT SEALANT	FOOT	9652	9652					
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	32	32					
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	160	160					
40601005	HOT-MIX ASPHALT REPLACEMENT OVER PATCHES	TON	301	301					
40602985	HOT-MIX ASPHALT BINDER COURSE, IL-9.5, N70	TON	2351	2351					
40604062	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N70	TON	2058	2058					
42001300	PROTECTIVE COAT	SO YD	67	67					
44000164	HOT-MIX ASPHALT SURFACE REMOVAL, 3 3/4"	SO YD	20991	20991					
44002220	HOT-MIX ASPHALT REMOVAL OVER PATCHES, 5"	SO YD	1073	1073					
44201729	CLASS D PATCHES, TYPE II, 7 INCH	SO YD	200	200					

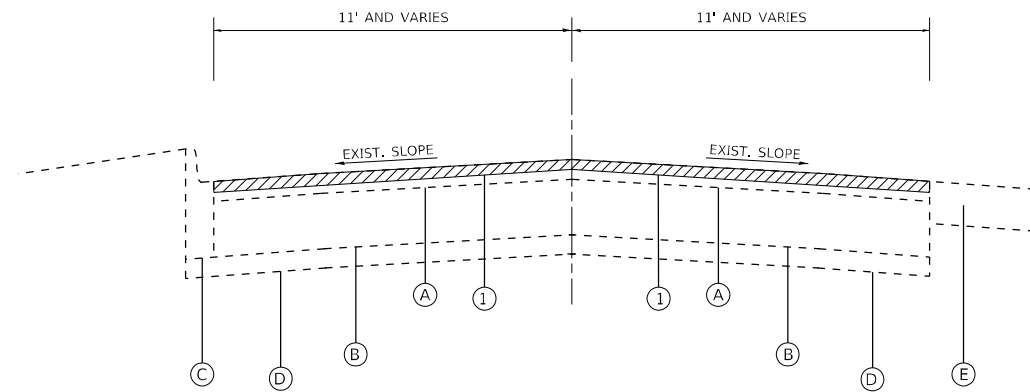
SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	0005 80% FED 20% STATE	0005 100% STATE				
			URBAN						
44201733	CLASS D PATCHES, TYPE III, 7 INCH	SO YD	190	190					
44201735	CLASS D PATCHES, TYPE IV, 7 INCH	SO YD	95	95					
44201789	CLASS D PATCHES, TYPE II, 12 INCH	SO YD	200	200					
44201794	CLASS D PATCHES, TYPE III, 12 INCH	SO YD	155	155					
44201796	CLASS D PATCHES, TYPE IV, 12 INCH	SO YD	95	95					
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	25	25					
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	10	10					
60300305	FRAMES AND LIDS TO BE ADJUSTED	EACH	5	5					
60406100	FRAMES AND LIDS, TYPE 1, CLOSED LID	EACH	4	4					
67100100	MOBILIZATION	L SUM	1	1					
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	1					
70102622	TRAFFIC CONTROL AND PROTECTION, STANDARD 701502	L SUM	1	1					
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1					

* = SPECIALTY ITEMS

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					*	SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					*
CODE NO	ITEM	UNIT		0005 80% FED 20% STATE	0005 100% STATE						CODE NO	ITEM		UNIT	0005 80% FED 20% STATE	0005 100% STATE			
			URBAN																
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1					*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	266	266					
70300100	SHORT TERM PAVEMENT MARKING	FOOT	8511	8511						78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	266	266					
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	3542	3542						78300202	PAVEMENT MARKING REMOVAL - WATER BLASTING	SO FT	4421	4421					
70300211	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS - PAINT	SO FT	268	268					*	88600600	DETECTOR LOOP REPLACEMENT	FOOT	228	228					
70300221	TEMPORARY PAVEMENT MARKING - LINE 4" - PAINT	FOOT	8524	8524						X2020110	GRADING AND SHAPING SHOULDERS	UNIT	10	10					
70300241	TEMPORARY PAVEMENT MARKING - LINE 6" - PAINT	FOOT	2058	2058						X4400501	COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT LESS THAN OR EQUAL TO 10 FEET	FOOT	100	100					
70300261	TEMPORARY PAVEMENT MARKING - LINE 12" - PAINT	FOOT	107	107						X5537800	STORM SEWERS TO BE CLEANED 12"	FOOT	150	150					
70300281	TEMPORARY PAVEMENT MARKING - LINE 24" - PAINT	FOOT	88	88						X6030310	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	11	11					
70306120	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE III TAPE	FOOT	2113	2113						X6700407	ENGINEER'S FIELD OFFICE, TYPE A (D1)	CAL MO	6	6					
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	268	268						Z0004562	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	100	100					
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	8524	8524						Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	10	10					
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	2058	2058						Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	51.4	51.4					
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	107	107															
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	88	88															

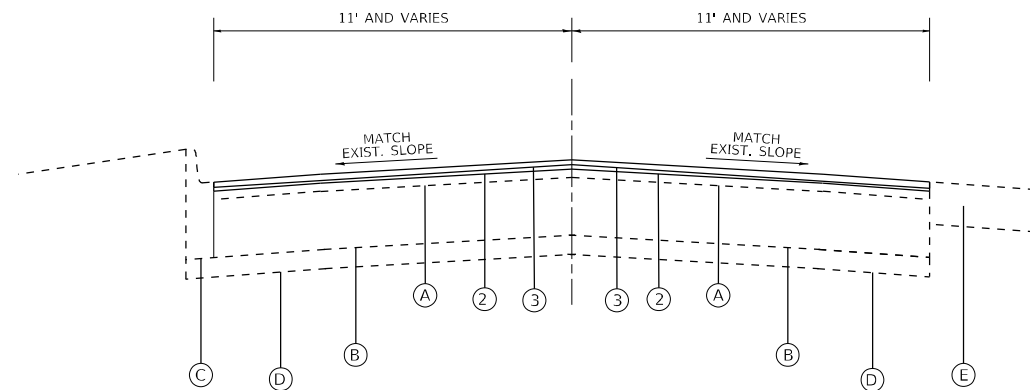
* = SPECIALTY ITEMS

LEHIGH AVE



EXISTING TYPICAL SECTION
 STA. 15+95 TO STA. 40+99
 STA. 44+39 TO STA. 70+95

LEHIGH AVE



PROPOSED TYPICAL SECTION
 STA. 15+95 TO STA. 40+99
 STA. 44+39 TO STA. 70+95

LEGEND - EXISTING:

- (A) HOT-MIX ASPHALT PAVEMENT, +/- 5"
- (B) PORTLAND-CEMENT CONCRETE PAVEMENT, +/- 7"-12"
- (C) COMBINATION CONCRETE CURB & GUTTER, B-6.24
- (D) STABILIZED SUB-BASE
- (E) DRIVEWAY

LEGEND - PROPOSED

- (1) HOT-MIX ASPHALT SURFACE REMOVAL, 3.75"
- (2) HOT-MIX ASPHALT BINDER COURSE, IL-9.5, N70 2"
- (3) HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N70 1.75"

NOTES:

1. THE CONTRACTOR SHALL PATCH FIRST BEFORE MILLING.
2. THE LONGITUDINAL JOINT SEALANT SHALL BE PLACED OVER HMA BINDER IL-9.5 N70.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		QUALITY MANAGEMENT PROGRAM (QMP)
MIXTURE TYPE	AIR VOIDS @ Ndes	
DESIGNED OVERLAY		
HOT-MIX ASPHALT BINDER COURSE, IL-9.5, N70 2"	4.0% AT 70 GYR	QCP
HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N70 1.75"	4.0% AT 70 GYR	QCP
PATCHING		
CLASS D PATCHES (HMA BINDER IL-19 mm)	4.0% AT 70 GYR	QC/QA
HOT-MIX ASPHALT REPLACEMENT OVER PATCHES (HMA BINDER IL-19 mm)	4.0% AT 70 GYR	QC/QA
QMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/QA); QUALITY CONTROL FOR PERFORMANCE (QCP); PAY FOR PERFORMANCE (PFP)		

QMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/QA); QUALITY CONTROL FOR PERFORMANCE (QCP); PAY FOR PERFORMANCE (PFP)

NOTE 1: THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.

NOTE 2: 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 RECLAIMED MATERIALS SPECIFICATIONS.

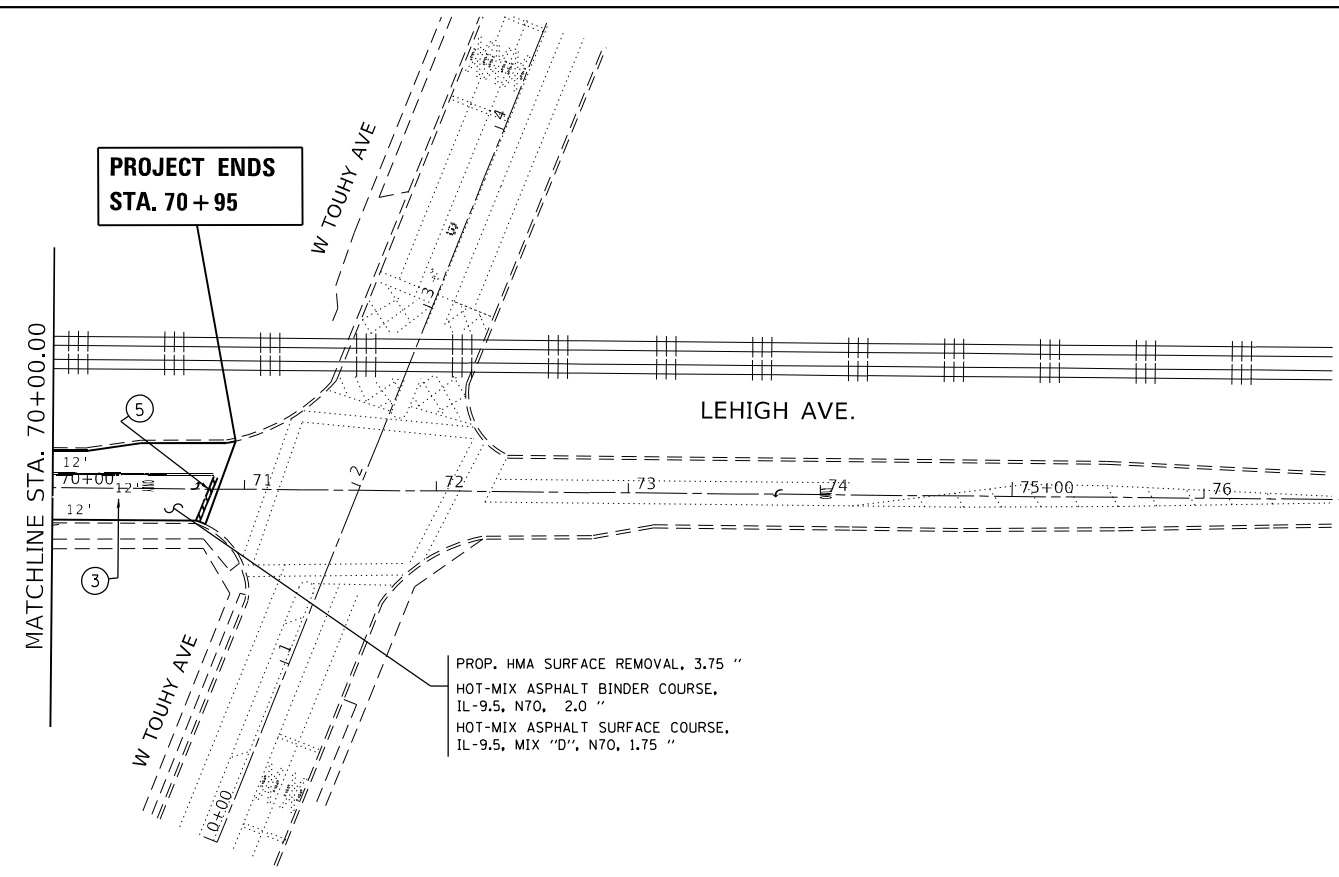
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PLOT DATE = 2/4/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

EXISTING AND PROPOSED TYPICAL SECTIONS			
LEHIGH AVE. - OAKTON ST. TO TOUHY AVE.			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	5
CONTRACT NO. 62P30				
ILLINOIS FED. AID PROJECT				



- ① THERMOPLASTIC PAVEMENT MARKING, 4" SKIP-DASH WHITE LANE LINE, 10' DASH - 30' SKIP (TYP.)
- ② THERMOPLASTIC PAVEMENT MARKING, 4" DOUBLE SOLID YELLOW CENTERLINE, 2 @ 11" C-C (TYP.)
- ③ THERMOPLASTIC PAVEMENT MARKING, 6" SOLID WHITE TURN LANE LINE (TYP.)
- ④ THERMOPLASTIC PAVEMENT MARKING, 6" DOTTED WHITE LINE, 2' DASH - 6' SKIP (TYP.)
- ⑤ THERMOPLASTIC PAVEMENT MARKING, 24" SOLID WHITE STOP BAR (TYP.)
- ⑥ THERMOPLASTIC PAVEMENT MARKING, 12" SOLID YELLOW DIAGONAL LINE (TYP.) (5 minimum)
- ⑦ THERMOPLASTIC PAVEMENT MARKING, LETTERS & SYMBOLS, SOLID WHITE (TYP.)
- ⑧ THERMOPLASTIC PAVEMENT MARKING, 4" SOLID WHITE EDGE LINE (TYP.)
- ⑨ THERMOPLASTIC PAVEMENT MARKING, 4" SKIP-DASH YELLOW LINE, 10' DASH - 30' SKIP (TYP.)

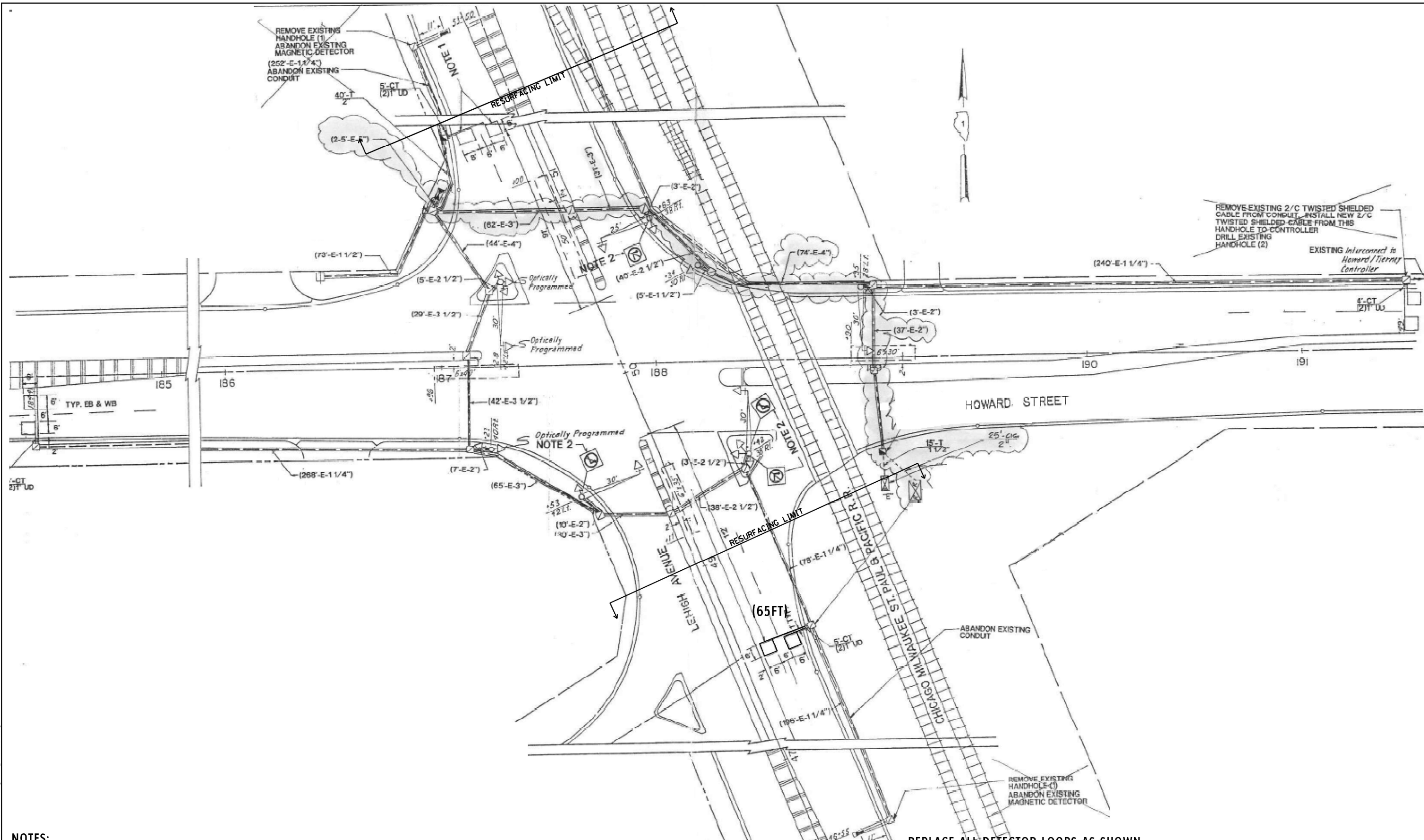
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PLOT DATE = 2/4/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ROADWAY AND PAVEMENT MARKING PLANS LEHIGH AVE. - OAKTON ST. TO TOUHY AVE.			
SCALE: 1"=50'	SHEET 3	OF 3	SHEETS
STA. 70+00.00	TO STA. 76+00.00		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	8
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62P30	



NOTES:

- 1.- WORK SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISION, DETECTOR LOOP REPLACEMENT AND/OR INSTALLATION (ROADWAY GRINDING, RESURFACING & PATCHING OPERATIONS).
- 2.- THIS PLAN IS FOR THE SOLE PURPOSE OF DETECTOR LOOP REPLACEMENT.

REPLACE ALL DETECTOR LOOPS AS SHOWN (WITHIN THE RESURFACING LIMITS)

CODE	ITEM	QUANTITY	UNIT
88600600	DETECTOR LOOP REPLACEMENT	65	FOOT

TS#5335

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	DRAWN - Gonzalo Meza	REVISED -
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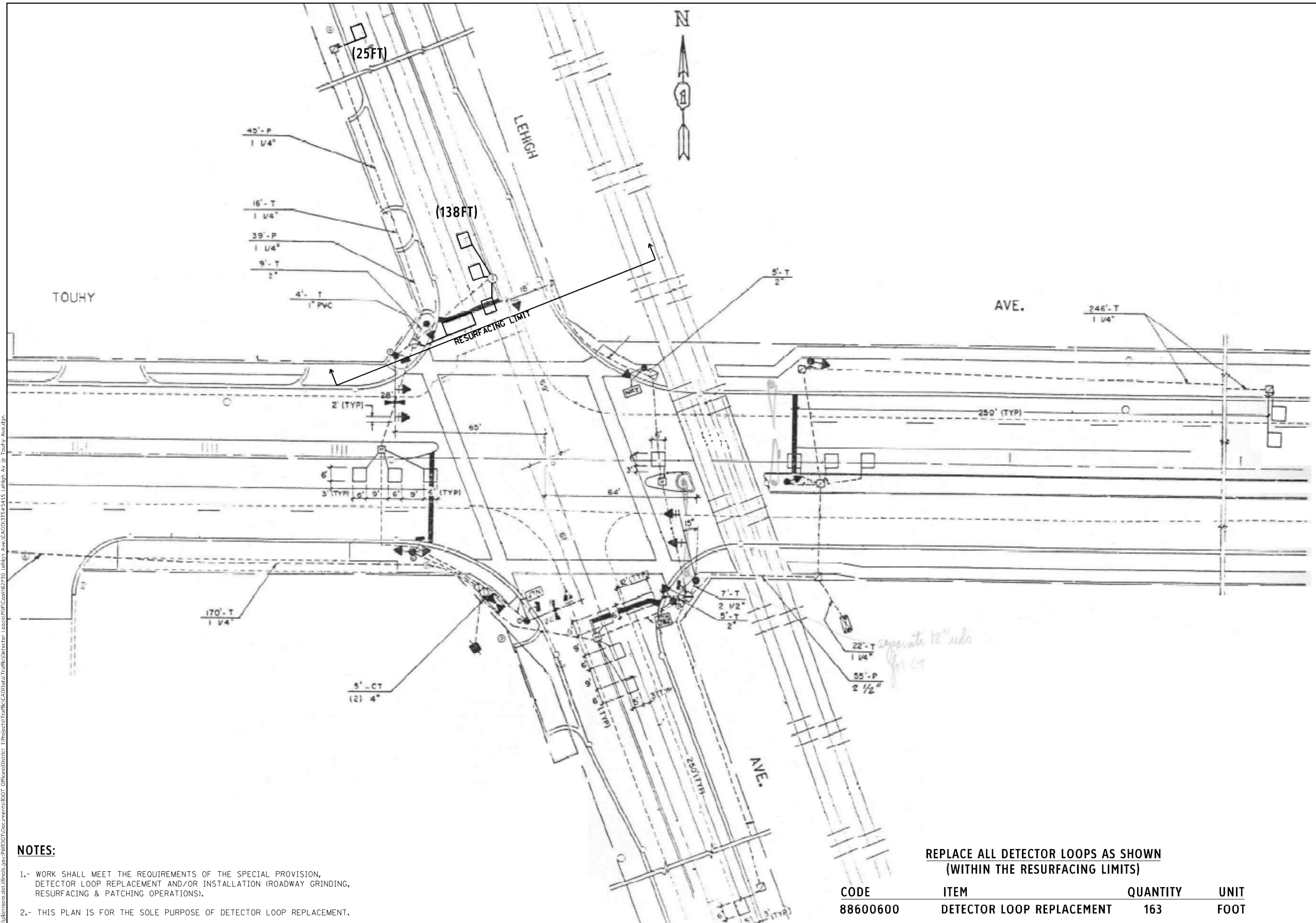
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETECTOR LOOP REPLACEMENT PLAN
LEHIGH AVE. AT HOWARD STREET**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	10
			CONTRACT NO. 62P30	
ILLINOIS FED. AID PROJECT				

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NOTES:

- 1.- WORK SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISION, DETECTOR LOOP REPLACEMENT AND/OR INSTALLATION (ROADWAY GRINDING, RESURFACING & PATCHING OPERATIONS).
- 2.- THIS PLAN IS FOR THE SOLE PURPOSE OF DETECTOR LOOP REPLACEMENT.

REPLACE ALL DETECTOR LOOPS AS SHOWN (WITHIN THE RESURFACING LIMITS)

CODE	ITEM	QUANTITY	UNIT
88600600	DETECTOR LOOP REPLACEMENT	163	FOOT

TS#5455

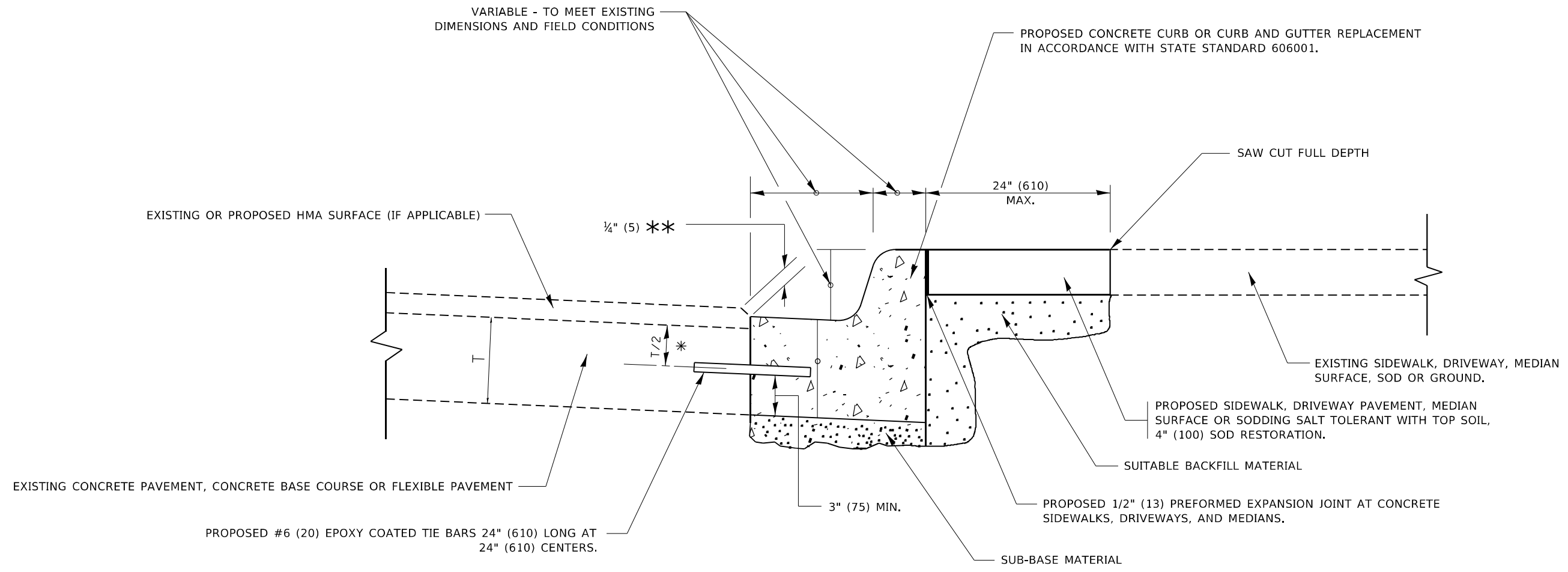
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	DRAWN - Gonzalo Meza	REVISED -
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PLOT DATE = 6/22/2021	DATE - 06/21/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETECTOR LOOP REPLACEMENT PLAN
LEHIGH AVE. AT TOUHY AVE.**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	11
			CONTRACT NO. 62P30	
ILLINOIS FED. AID PROJECT				



- * 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.
- ** IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

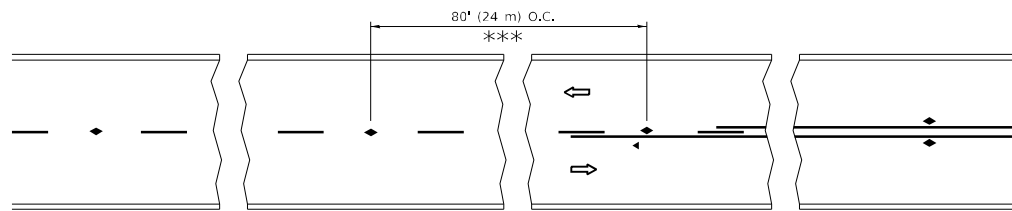
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	DRAWN -	REVISED - M. GOMEZ 01-22-01
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

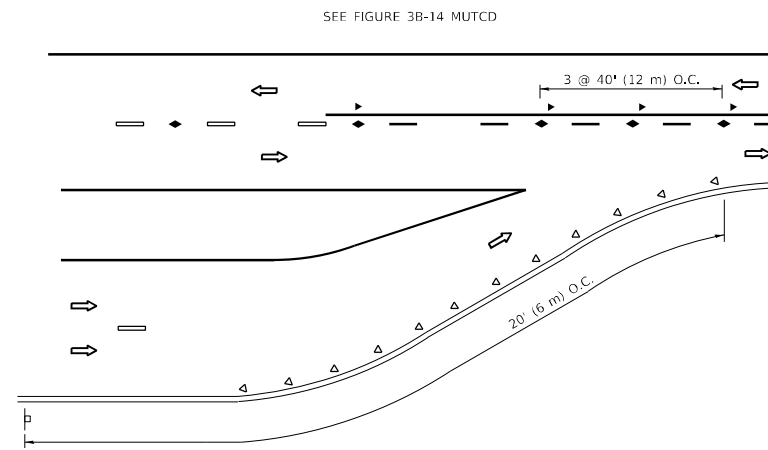
CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT			
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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BD600-06 (BD-24)			CONTRACT NO. 62P30	
ILLINOIS FED. AID PROJECT				

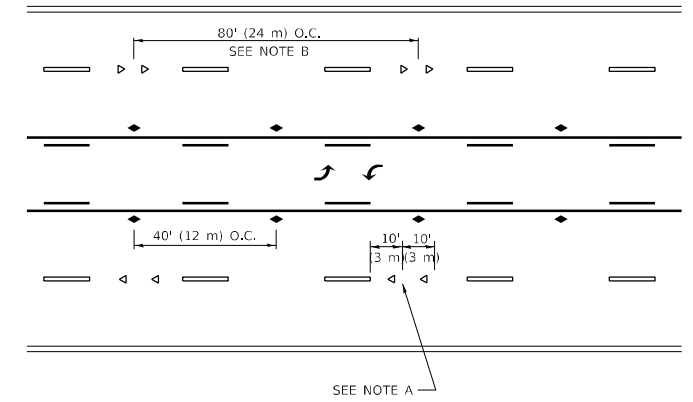


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

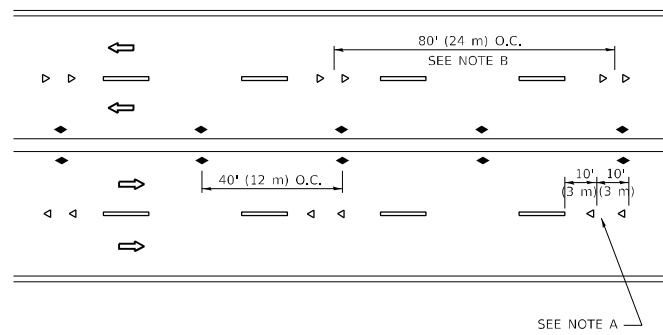
TWO-LANE/TWO-WAY



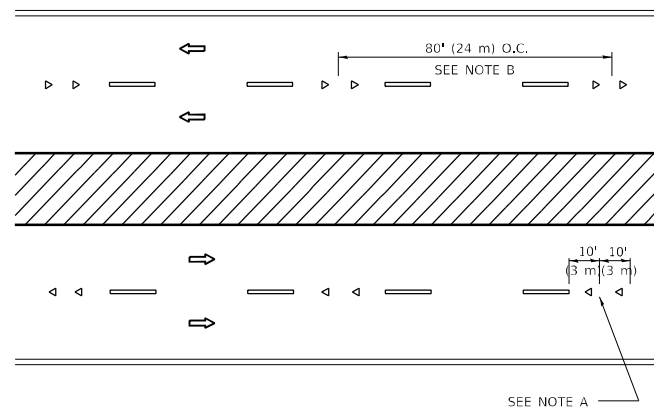
LANE REDUCTION TRANSITION



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.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

SYMBOLS

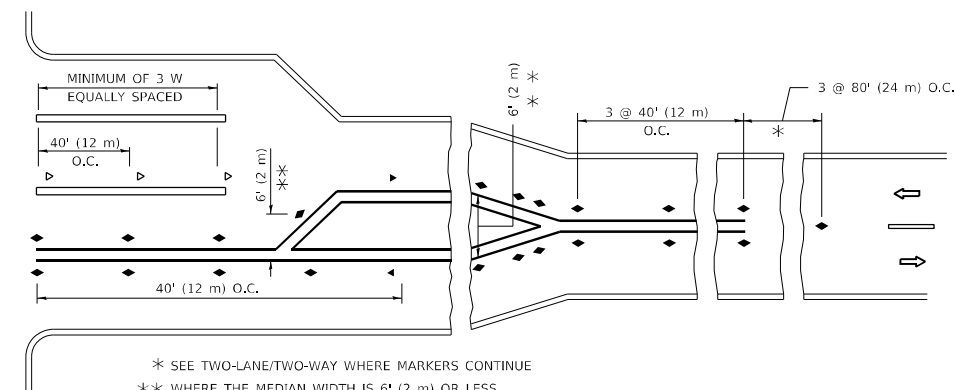
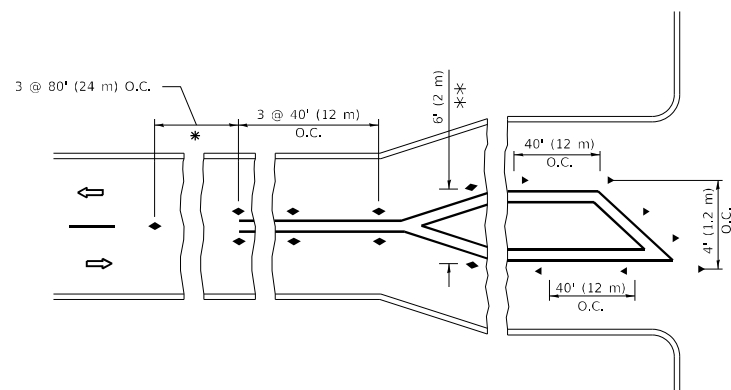
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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.



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

TURN LANES

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

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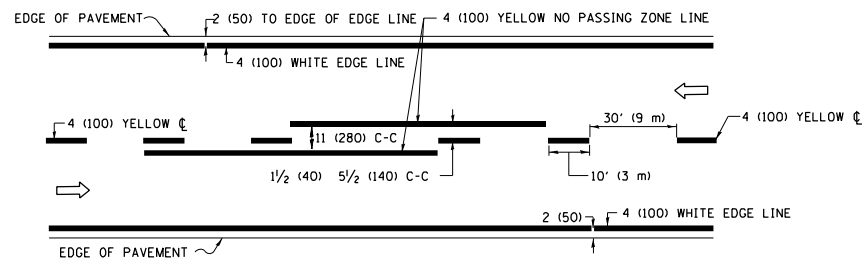
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

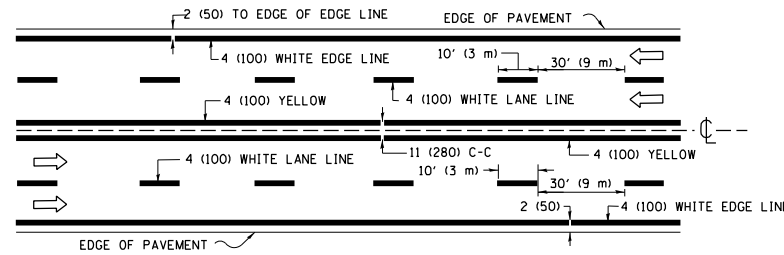
**TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)**

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

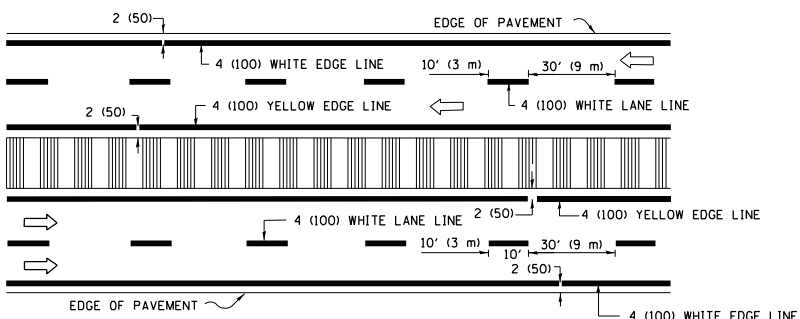
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	17
TC-11		CONTRACT NO. 62P30		
ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

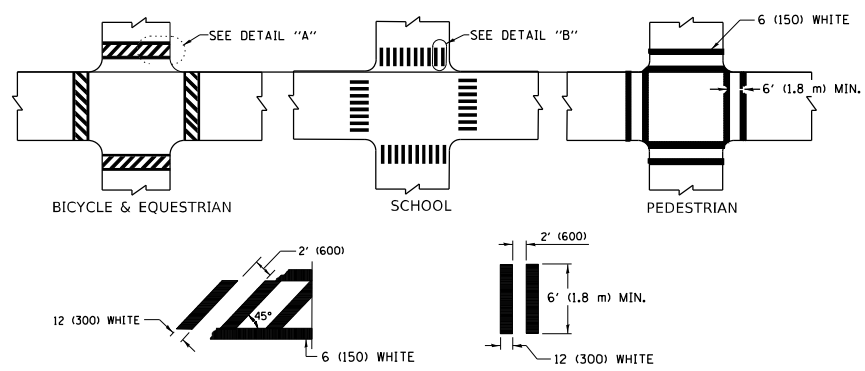


MULTI-LANE UNDIVIDED



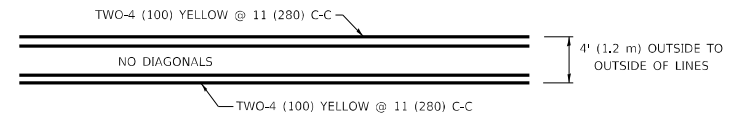
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

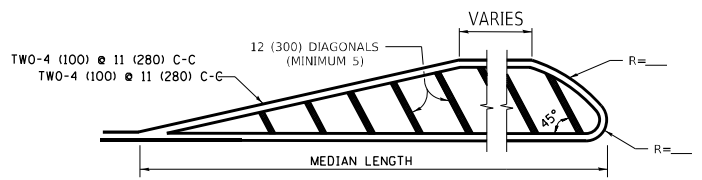


TYPICAL CROSSWALK MARKING

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



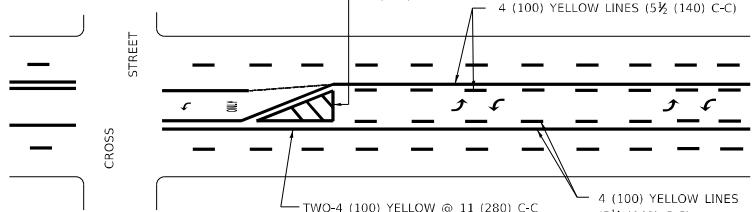
4' (1.2 m) WIDE MEDIANS ONLY



MEDIANS OVER 4' (1.2 m) WIDE

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

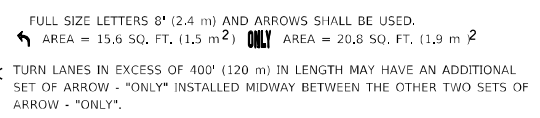
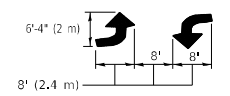
DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))



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.

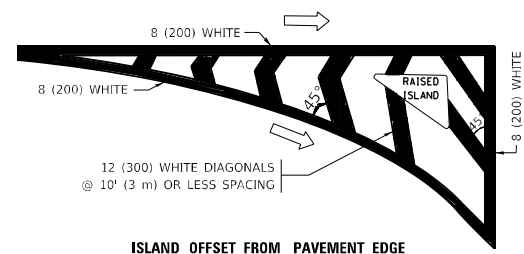


TYPICAL LEFT (OR RIGHT) TURN LANE

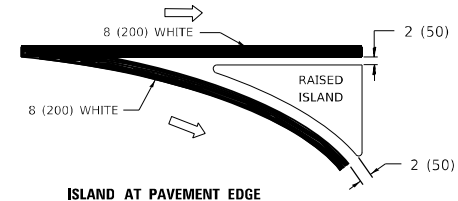
TYPICAL TURN LANE MARKING

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)

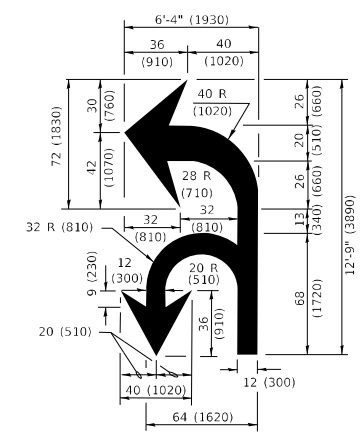
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".



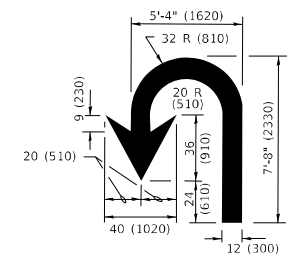
ISLAND OFFSET FROM PAVEMENT EDGE



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 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.

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PLOT DATE = 2/2/2022	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 2 SHEETS	STA. TO STA.
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	18
TC-13		CONTRACT NO. 62P30		
ILLINOIS FED. AID PROJECT				

TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER

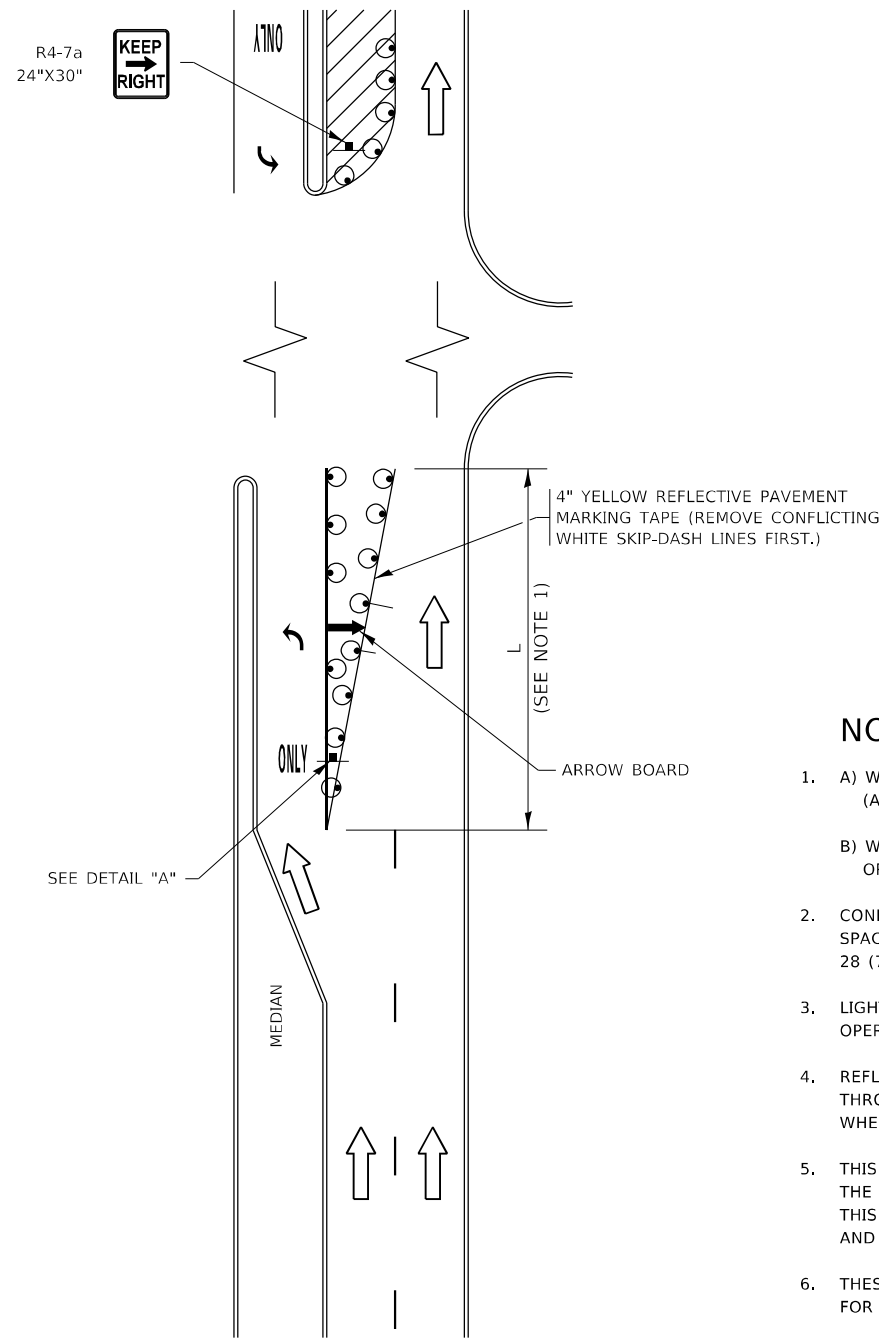


FIGURE 1

TURN BAY ENTRANCE WITHIN A LANE CLOSURE

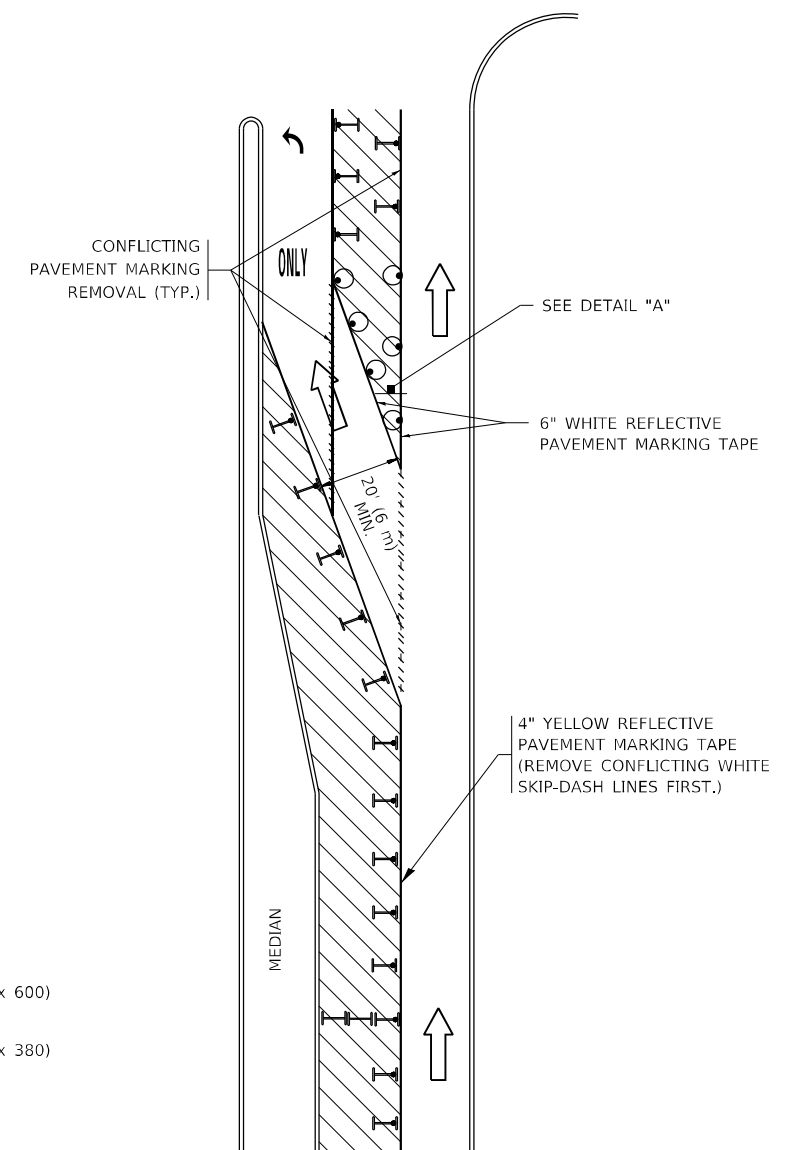


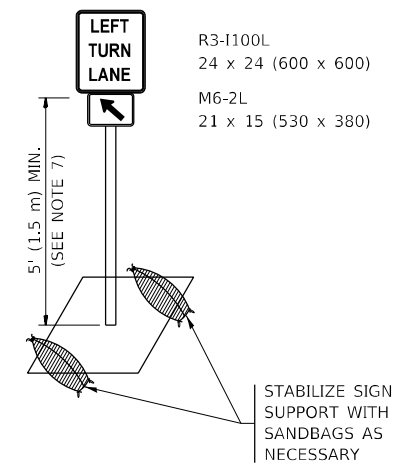
FIGURE 2

LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- ARROW BOARD
- TYPE I OR II BARRICADE OR DRUM WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- SIGN ASSEMBLY
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

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 REQUIREMENTS.
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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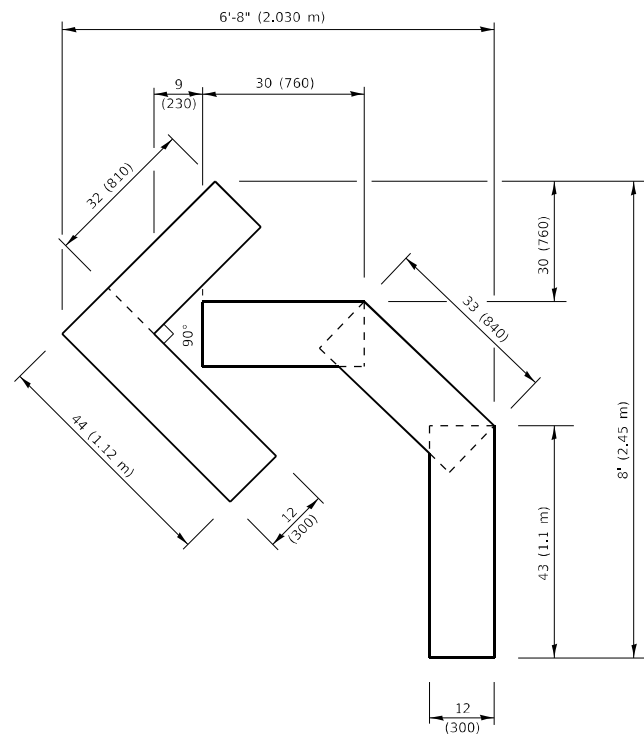
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PLOT DATE = 2/2/2022	DATE - T. RAMMACHER 01-06-00	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS
(TO REMAIN OPEN TO TRAFFIC)**

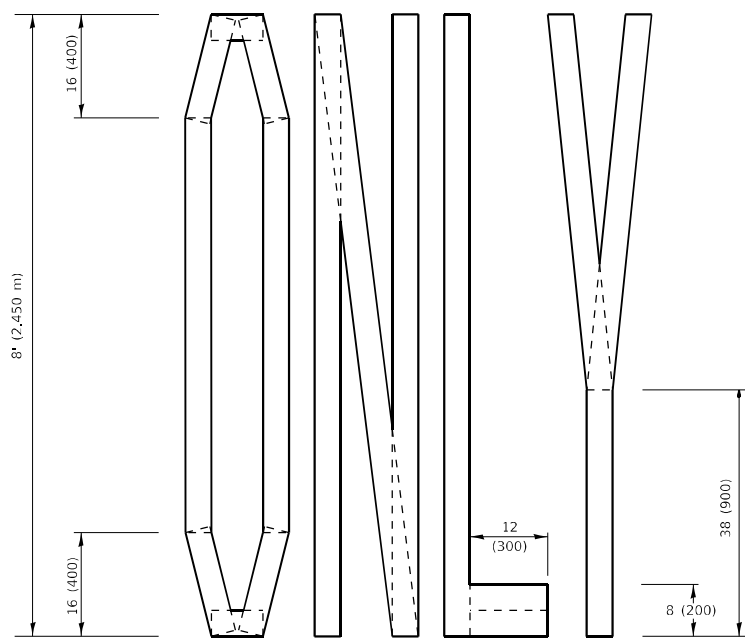
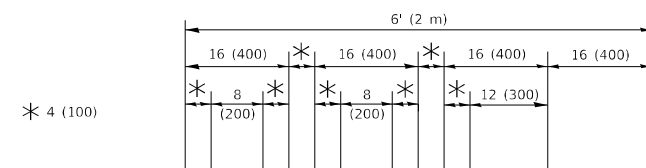
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TC-14		CONTRACT NO. 62P30		
ILLINOIS FED. AID PROJECT				



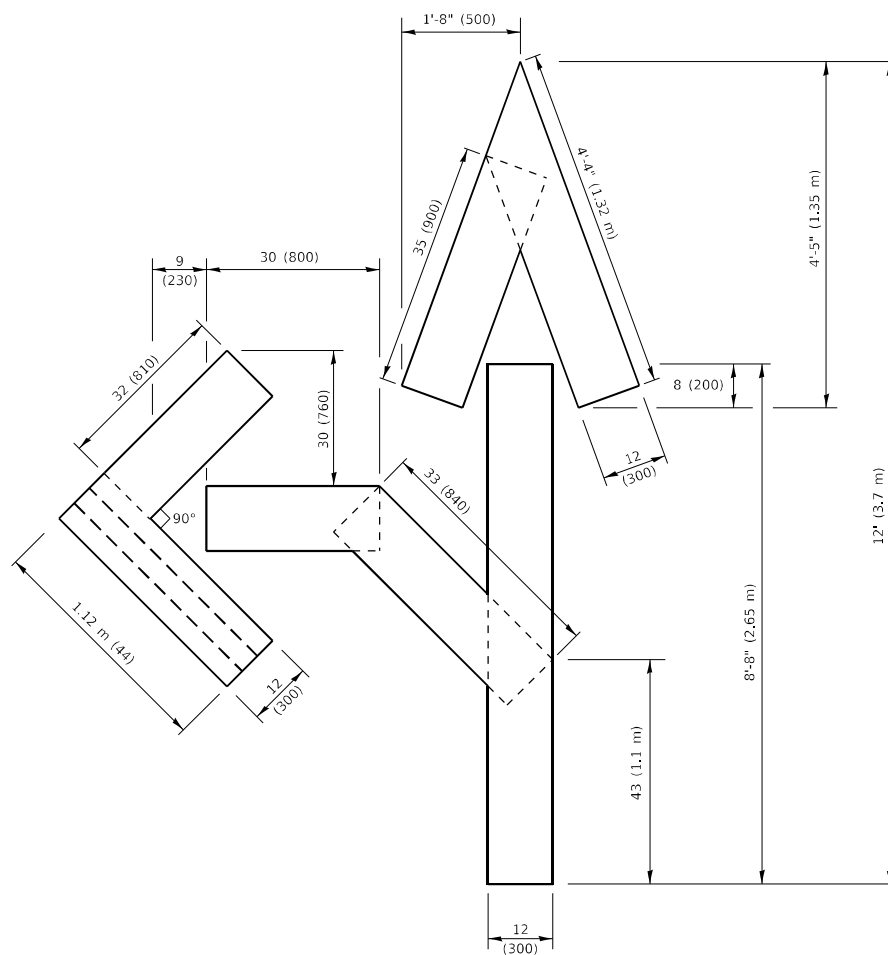
QUANTITY

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)

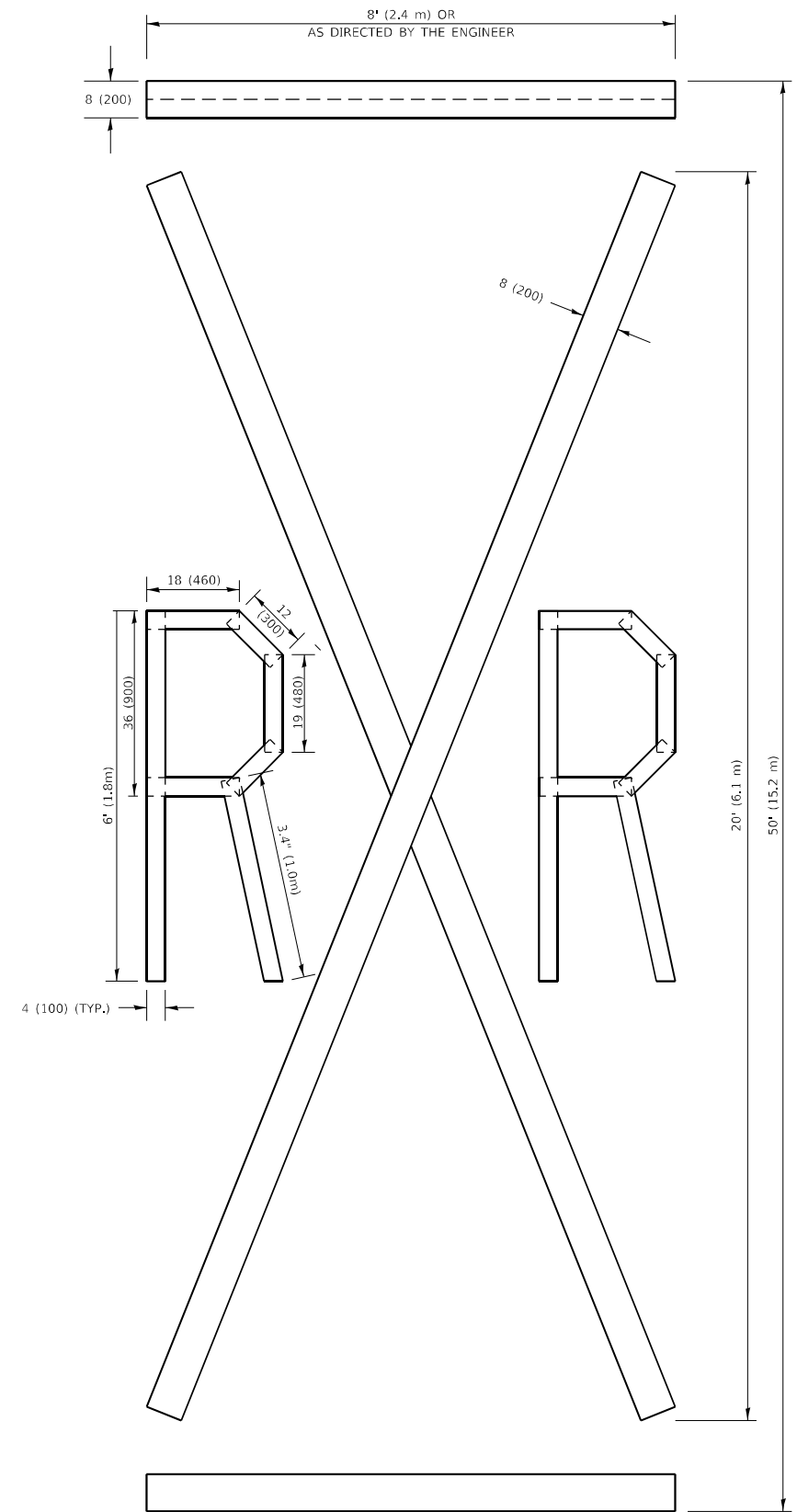


QUANTITY

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.

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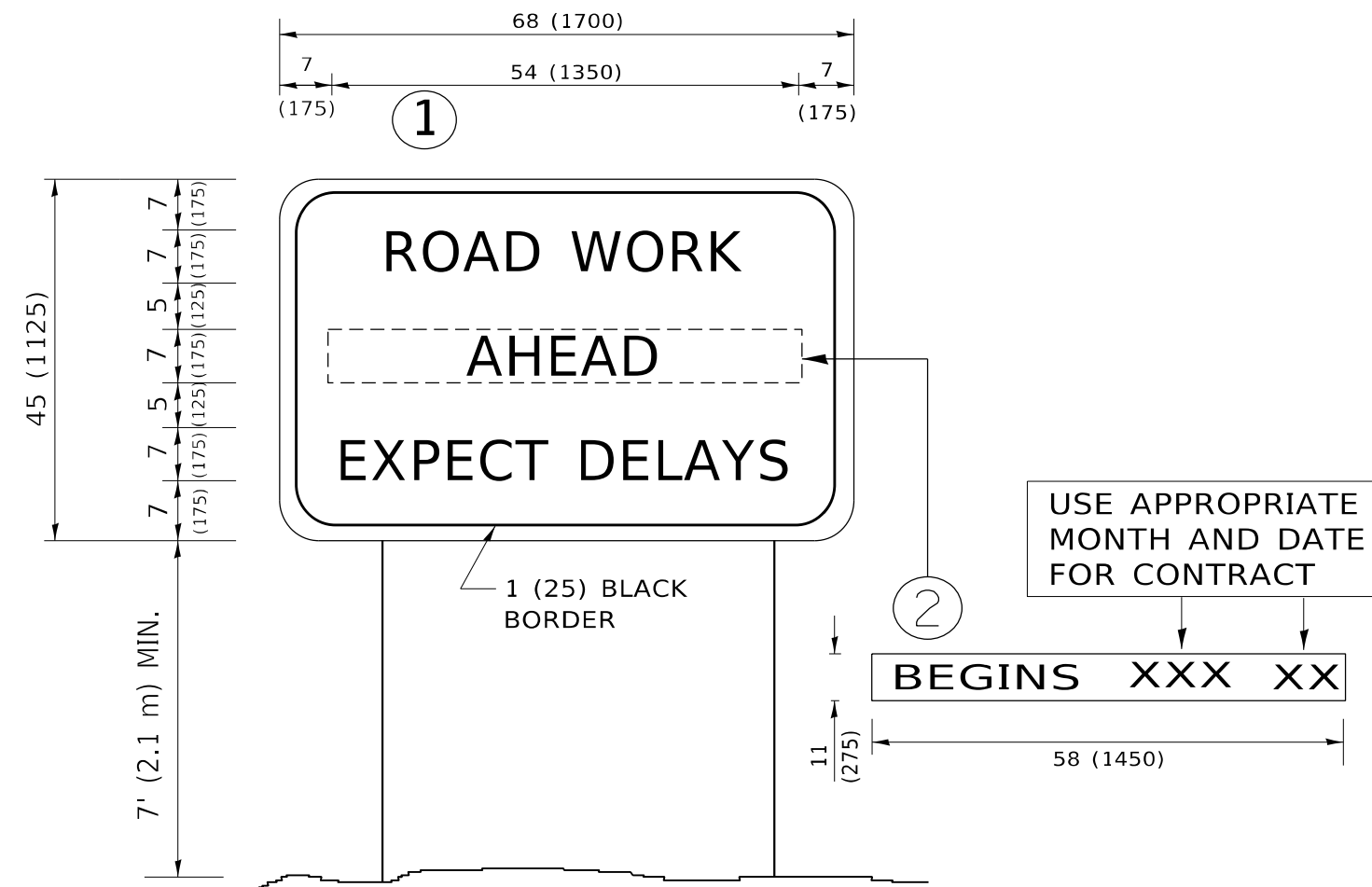
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PLOT DATE = 2/2/2022	CHECKED -	REVISED - E. GOMEZ 08-28-00
	DATE - 09-18-94	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	20
TC-16		CONTRACT NO. 62P30		
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.

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	DRAWN -	REVISED - R. MIRS 12-11-97
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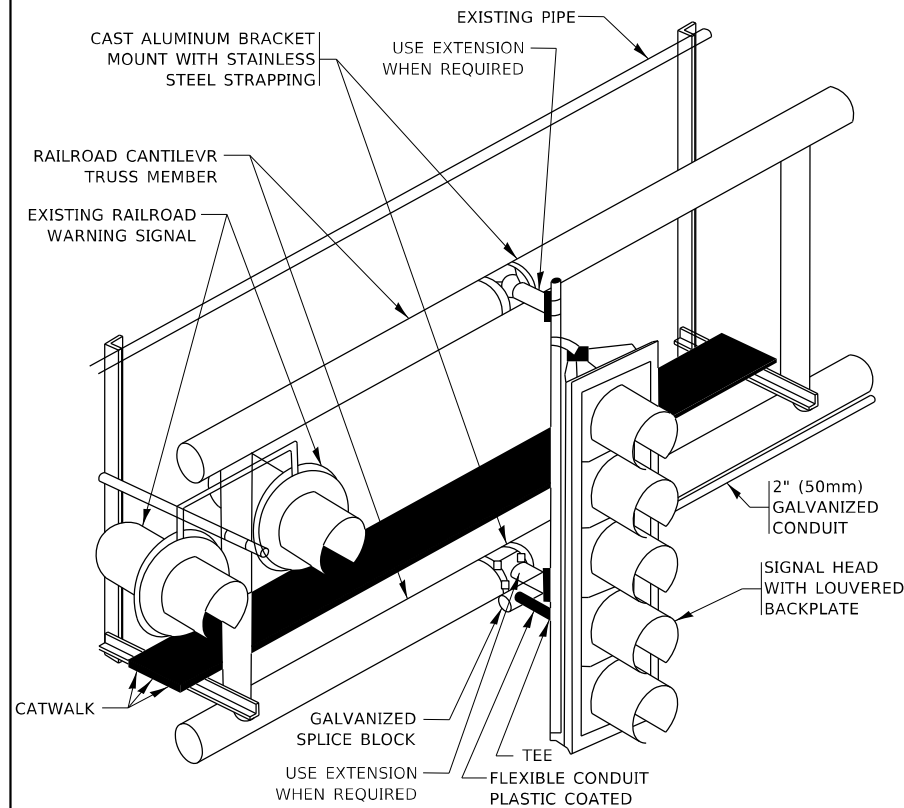
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD
INFORMATION SIGN**

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	21
TC-22			CONTRACT NO. 62P30	
ILLINOIS FED. AID PROJECT				

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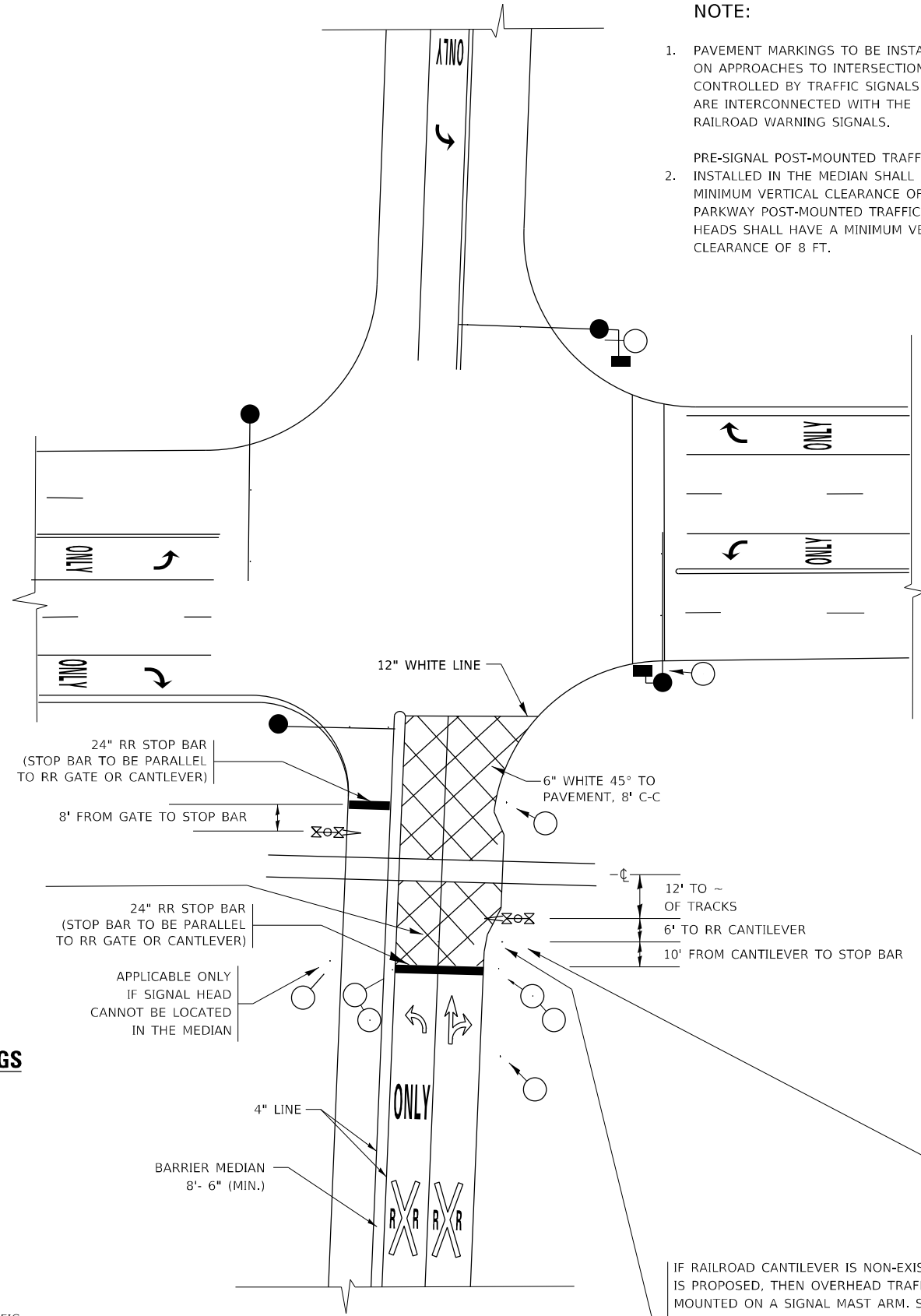
RAILROAD CANTILEVER SIGNAL HEAD MOUNTING
 USE NON-CONDUCTIVE SPACERS BETWEEN THE TRAFFIC SIGNAL EQUIPMENT AND THE RAILROAD CANTILEVER TO PREVENT DISSIMILAR METAL CORROSION
 N.T.S.

SIGNING AND PAVEMENT MARKING AT RAILROAD CROSSINGS

SIGNING AND PAVEMENT MARKING TRAFFIC CONTROL STANDARD (TC-23) HAS BEEN DEVELOPED IN CONSULTATION WITH THE ILLINOIS COMMERCE COMMISSION AND THE U.S. DEPARTMENT OF TRANSPORTATION'S GRADE CROSSING SAFETY TASK FORCE. THIS STANDARD PROVIDES INFORMATION ON UPDATES TO THE PAVEMENT MARKING AND SIGNING DETAILS IN ORDER TO INCORPORATE CHANGES ADOPTED IN THE 2009 NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE (MUTCD). THESE NEW DETAILS HAVE BEEN STUDIED AND TESTED BY THE DEPARTMENT AND ACCEPTED BY THE ILLINOIS COMMERCE COMMISSION.

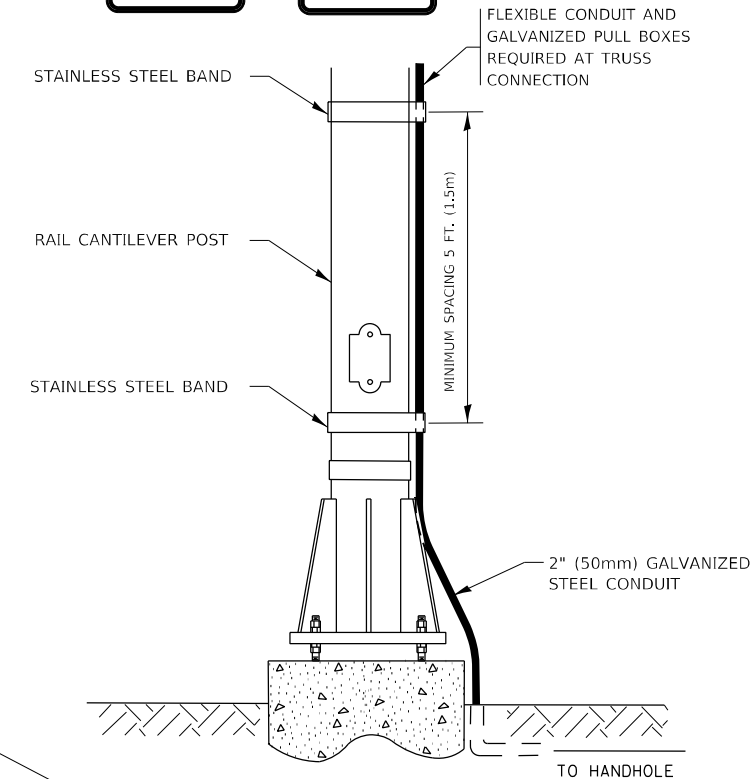
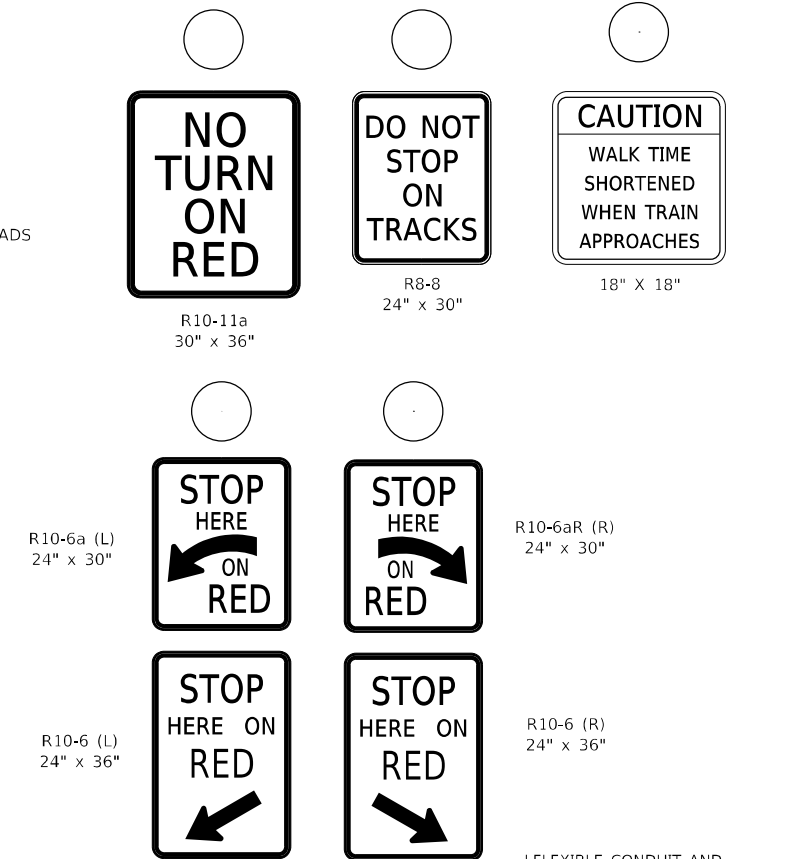
THIS APPLIES TO PROJECTS WHICH INCLUDE RAILROAD INTERCONNECTED TRAFFIC SIGNALS, WITH OR WITHOUT PRE-SIGNALS. THIS STANDARD ALSO APPLIES TO NON-SIGNALIZED INTERSECTIONS THAT ARE WITHIN 81 FEET OF A RAILROAD GRADE CROSSING. THE ILLINOIS SUPPLEMENT TO THE MUTCD SHOULD BE CONSULTED FOR ADDITIONAL INFORMATION ON SIGN REQUIREMENTS AT NON-SIGNALIZED INTERSECTIONS NEAR RAILROAD GRADE CROSSINGS.

THESE DETAILS WILL BE INCLUDED IN A FUTURE UPDATE TO THE BUREAU OF OPERATIONS TRAFFIC POLICIES AND PROCEDURES MANUAL.



SIGNALIZED INTERSECTION WITH NEAR-SIDE TRAFFIC SIGNAL

- NOTE:**
- PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
 - PRE-SIGNAL POST-MOUNTED TRAFFIC SIGNAL HEADS INSTALLED IN THE MEDIAN SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 4.5 FT. PARKWAY POST-MOUNTED TRAFFIC SIGNAL HEADS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 8 FT.



SIGNAL CONDUIT CONNECTION TO RAIL CANTILEVER DETAIL

USE NON-CONDUCTIVE SPACERS BETWEEN THE TRAFFIC SIGNAL EQUIPMENT AND THE RAILROAD CANTILEVER TO PREVENT DISSIMILAR METAL CORROSION.

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

IF RAILROAD CANTILEVER IS NON-EXISTANT AND NONE IS PROPOSED, THEN OVERHEAD TRAFFIC SIGNAL TO BE MOUNTED ON A SIGNAL MAST ARM. SIGNAL MAST ARM AND SIGNAL HEADS SHALL BE INSTALLED AS CLOSE AS PRACTICABLE TO THE RAILROAD TRACKS WITHOUT OBSTRUCTING ANY RAILROAD WARNING DEVICES. SIGNAL MAST ARM SHALL BE AT LEAST 12 FT. FROM NEAREST RAIL.

USER NAME = tarq/m	DESIGNED -	REVISED - 02-25-11
	DRAWN -	REVISED - 04-26-12
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED - A.R. 07-11-16
PLOT DATE = 2/2/2022	DATE -	REVISED - D.G. 8-22-19

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TYPICAL SUPPLEMENTAL SIGNING AND PAVEMENT MARKING
TREATMENT FOR RAILROAD CROSSINGS**

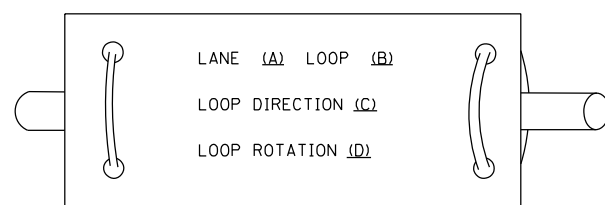
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-23			CONTRACT NO. 62P30	
ILLINOIS		FED. AID PROJECT		

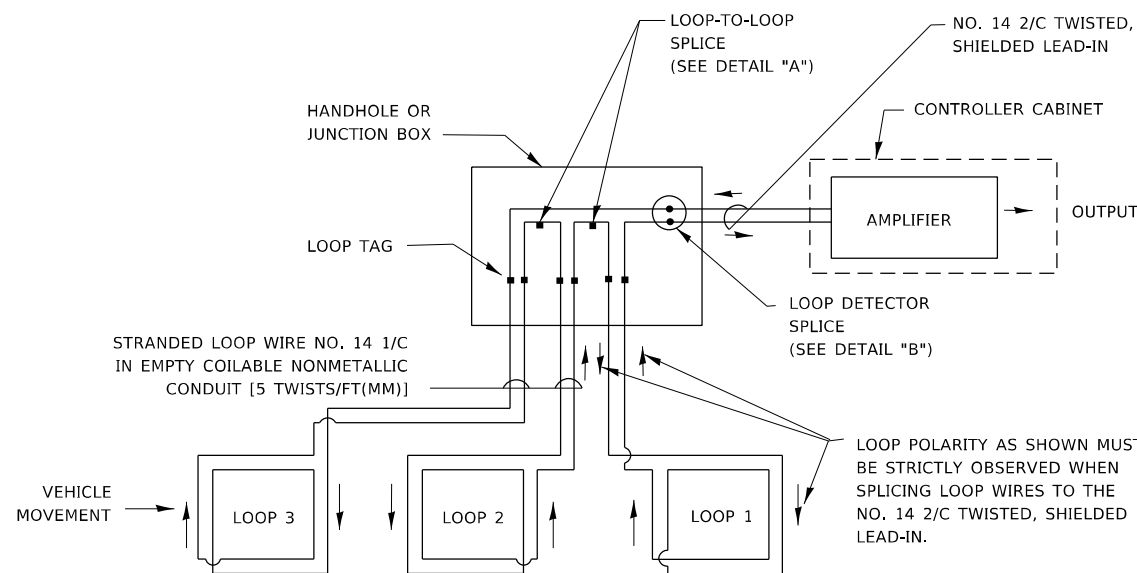
LOOP DETECTOR NOTES

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

LOOP LEAD-IN CABLE TAG

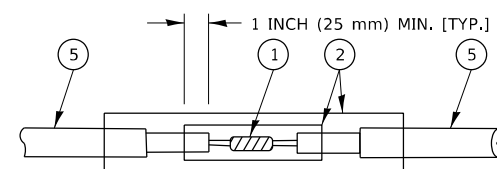


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

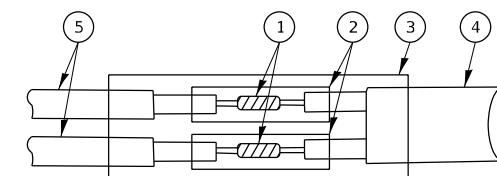


DETECTOR LOOP WIRING SCHEMATIC

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

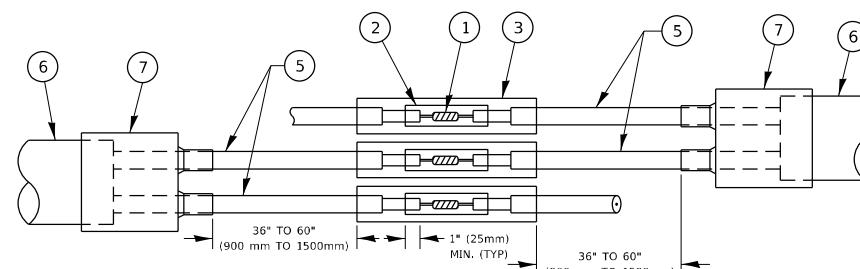


DETAIL "A"
LOOP-TO-LOOP SPLICE

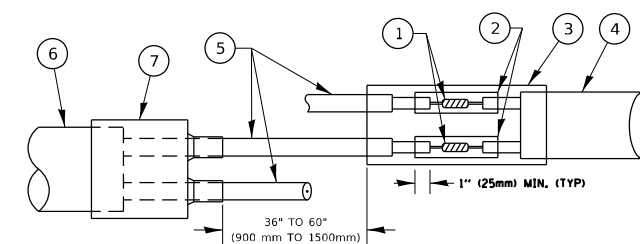


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

PREFORMED LOOP

LOOP DETECTOR SPLICE

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

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	DRAWN -	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

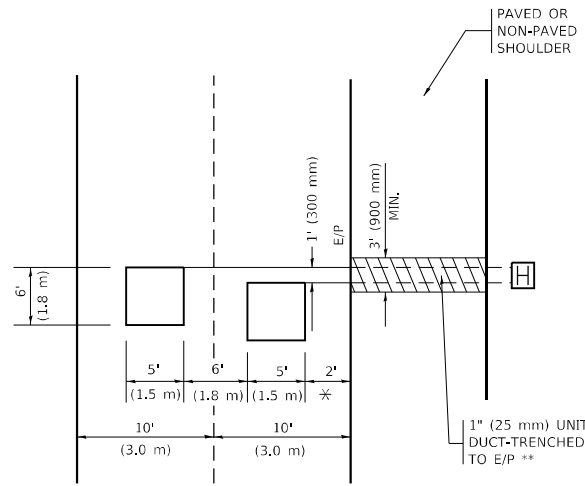
**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

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

F.A.U. RTE. 2786	SECTION 2021-102-R5&SW	COUNTY COOK	TOTAL SHEETS 24	SHEET NO. 23
TS-05		CONTRACT NO. 62P30		
ILLINOIS		FED. AID PROJECT		

LOOPS NEXT TO SHOULDERS

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

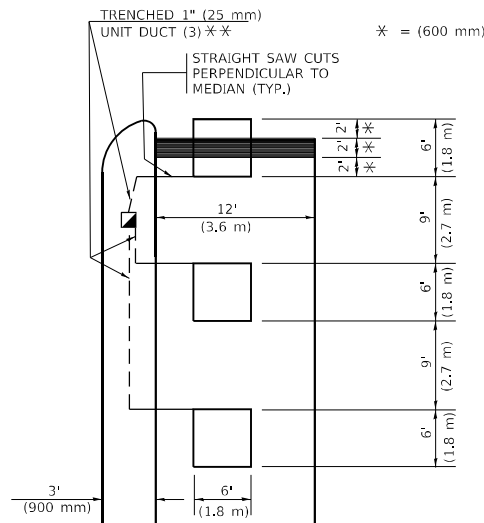


* = (600 mm)

** 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)

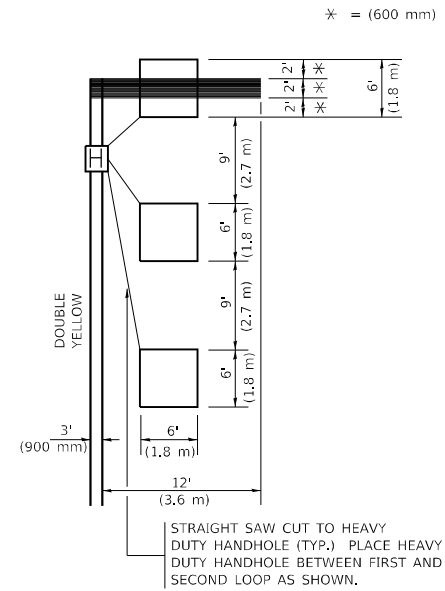
HANDHOLE LOCATION MAY VARY DEPENDING ON GEOMETRICS AND DESIGN OF TRAFFIC SIGNALS. HEAVY-DUTY HANDHOLES TO BE USED WHEN THE MEDIAN IS MOUNTABLE. REFER TO STANDARD 814001 TO ENSURE THAT HANDHOLE FITS IN MEDIAN.



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

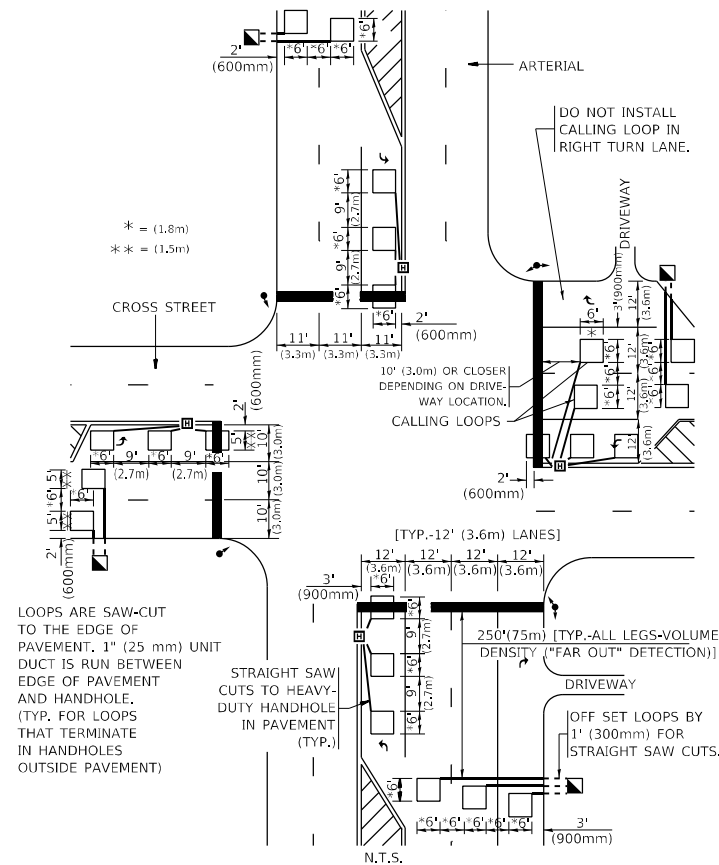
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

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



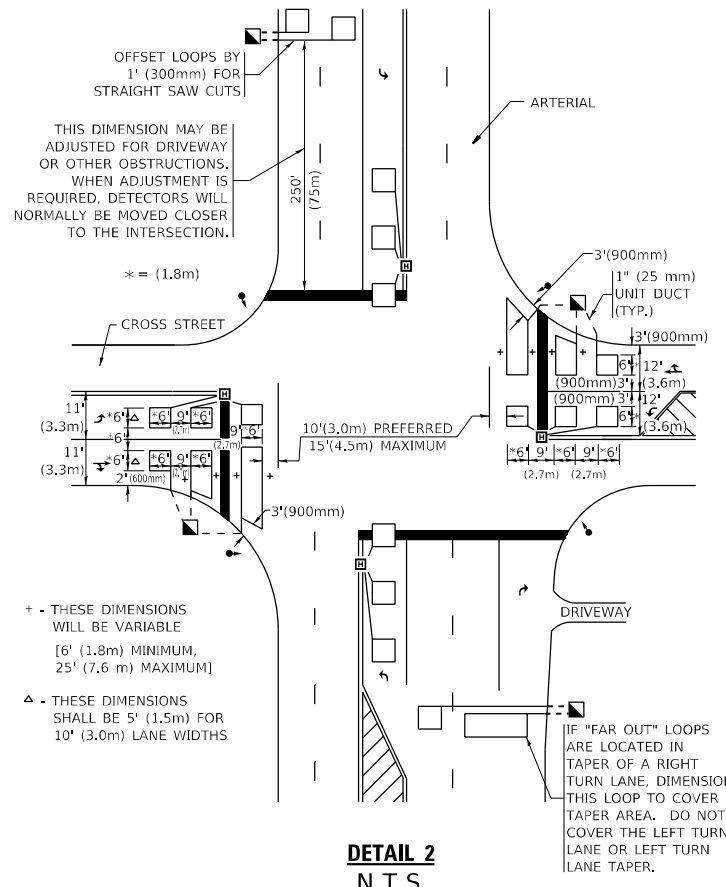
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)
CROSS STREET-NON 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 SEPARATLY. 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.

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PLOT DATE = 2/2/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 - DETECTOR LOOP INSTALLATION			
DETAILS FOR ROADWAY RESURFACING			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2786	2021-102-R5&SW	COOK	24	24
TS-07		CONTRACT NO. 62P30		
ILLINOIS FED. AID PROJECT				