

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	MCHENRY	29	1
FED. ROAD DIST. NO. 1	ILLINOIS	CONTRACT NO. 62905		

29+1=30

D-91-109-05

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED HIGHWAY PLANS**

F.A.P. ROUTE 335 : IL 176

IL 31 TO FOX RIVER

SECTION: 146RS-3

RESURFACING (MAINTENANCE)

PROJECT: *ESP-0335(011)*

MCHENRY COUNTY

C-91-109-05

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROJECT LOCATED IN THE CITY OF CRYSTAL LAKE AND VILLAGE OF PRAIRIE GROVE.



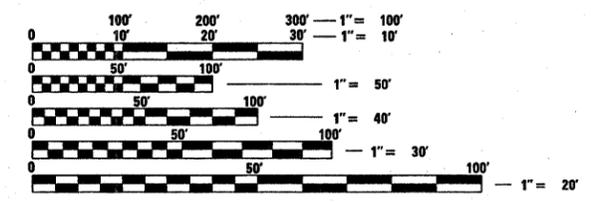
PROJECT BEGINS:  
STATION: 24+58

PROJECT ENDS:  
STATION: 230+83

TRAFFIC DATA

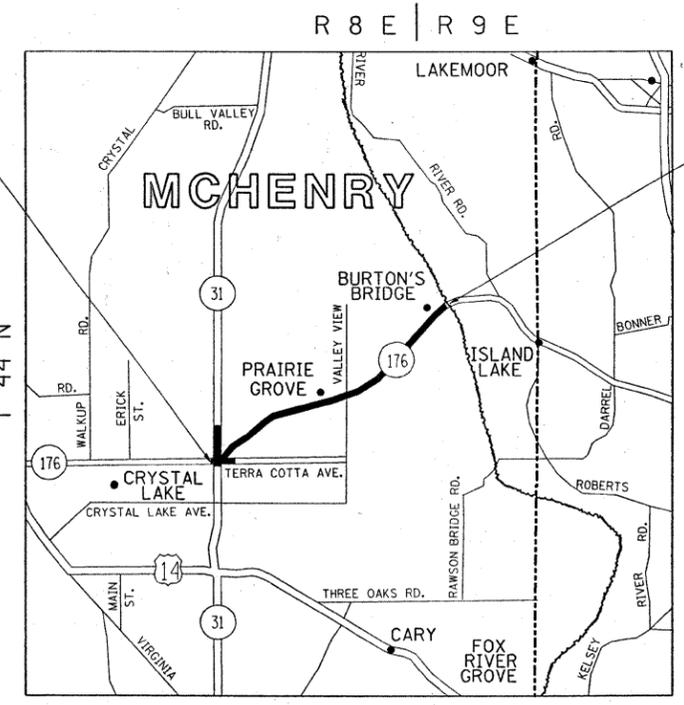
IL 31  
2007 ADT= 26,200  
POSTED SPEED= 40 MPH

IL 176  
2007 ADT= 16,100  
POSTED SPEED= 40-50 MPH



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



NUNDA TOWNSHIP

GROSS AND NET LENGTH OF PROJECT = 20,625 FEET (3.91 MILES)

PROJECT ENGINEER: JENPAI CHANG (847) 705-4432  
PROJECT MANAGER: KEN ENG

CONTRACT NO. 62905

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED JANUARY 12, 20 09

*Diana M. O'Hara*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 13, 20 09  
*Charles J. Ingersoll*  
ENGINEER OF DESIGN AND ENVIRONMENT

March 13, 20 09  
*Christine M. Reed*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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	TITLE SHEET	000001-05	TYPICAL SYMBOLS, ABBREVIATIONS AND PATTERNS
2	INDEX OF SHEETS, STATE STANDARDS & GENERAL NOTES	442201-03	CLASS C AND D PATCHES
3-4	SUMMARY OF QUANTITIES	604036-02	GRATE TYPE B
5-7	EXISTING AND PROPOSED TYPICAL SECTIONS	606001-04	CONCRETE CURB AND COMBINATION CONCRETE CURB AND GUTTER
8-16	ROADWAY AND PAVEMENT MARKING PLANS	701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 4.5 M (15') TO 600 MM (24") FROM PAVEMENT EDGE
17-18	DETECTOR LOOP REPLACEMENT PLANS	701011-02	OFF-ROAD MOVING OPERATIONS, 2L, 2W DAY ONLY
18A	DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING	701201-03	LANE CLOSURE, 2L, 2W, DAY ONLY, ON-ROAD TO 600 MM (24") OFF-ROAD
19	PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT	701306-02	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS - DAY ONLY
20	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT	701501-05	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
21	BUTT JOINT AND HMA TAPER	701701-00	URBAN LANE CLOSURE, MULTILANE INTERSECTION
22	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS AND DRIVEWAYS	701901-01	TRAFFIC CONTROL DEVICES
23	TYPICAL APPLICATIONS: RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)	886001-01	DETECTOR LOOP INSTALLATION
24	DISTRICT ONE TYPICAL PAVEMENT MARKINGS	886006-01	TYPICAL LAYOUT FOR DETECTION LOOPS
25	TRAFFIC CONTROL AND PROTECTION OF TURN BAYS (TO REMAIN OPEN TO TRAFFIC)		
26	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING		
27	ARTERIAL INFORMATION SIGNING		
28	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN		
29	DISTRICT 1 DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING		

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 SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE CITY OF CRYSTAL LAKE AND VILLAGE OF PRAIRIE GROVE.

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

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT) IN ACCORDANCE WITH THE "BUTT JOINT AND HMA TAPER DETAILS" SHEET INCLUDED IN THE PLANS UNLESS OTHERWISE SPECIFIED.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC, THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES WHERE THE SPEED LIMIT IS 45 MPH OR LESS, AND 1 INCH WHERE THE SPEED LIMIT IS OVER 45 MPH. WITH WRITTEN APPROVAL FROM THE RESIDENT ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM OF 1:3 (V:H).

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

LOCATIONS OF DITCH GRADING AND SHAPING TO BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER.

ALL PAVEMENT PATCHING AND CURB AND GUTTER REMOVAL AND REPLACEMENT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER.

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 RESIDENT ENGINEER SHALL VERIFY LOCATIONS OF ALL EXISTING PAVEMENT MARKINGS PRIOR TO MILLING OR RESURFACING.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE INSTALLATION OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.

THE RESIDENT ENGINEER SHALL CONTACT MS. DEBBIE HANLON, AREA TRAFFIC FIELD ENGINEER, AT (847).438-2300 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF FINAL PAVEMENT MARKINGS.

FILE NAME =	USER NAME = wilgreendp	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 176 (IL 31 TO FOX RIVER) INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\puidot\wilgreendp\dms89645\design.ea.dgn	design.ea.dgn	DRAWN -	REVISED -		335	146RS-3	MCHENRY	29	2			
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	REVISED -		CONTRACT NO. 62905							
PLOT DATE = 1/13/2009	DATE -	REVISED -	REVISED -		SCALE:	SHEET NO. 2 OF 31 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	MCHENRY	29	3
FED. ROAD DIST. NO. 1		ILLINOIS	HIGHWAY PROJECT	

CONTRACT NO. 62905

SUMMARY OF QUANTITIES			URBAN 100% FED.		CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	ROADWAY I000					
20201006	GRADING AND SHAPING SHOULDERS	UNIT	400	400					
21400100	GRADING AND SHAPING DITCHES	FOOT	1000	1000					
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	63	63					
40600300	AGGREGATE (PRIME COAT)	TON	156	156					
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	39	39					
40600895	CONSTRUCTING TEST STRIP	EACH	2	2					
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	296	296					
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	5708	5708					
40603595	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90	TON	946	946					
42001300	PROTECTIVE COAT	SQ YD	560	560					
44000158	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"	SQ YD	67950	67950					
44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SQ YD	9650	9650					
44001700	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	2500	2500					
44002224	HOT-MIX ASPHALT REMOVAL OVER PATCHES, 6"	SQ YD	681	681					
44201785	CLASS D PATCHES, TYPE I, 12 INCH	SQ YD	6	6					
44201789	CLASS D PATCHES, TYPE II, 12 INCH	SQ YD	404	404					
44201794	CLASS D PATCHES, TYPE III, 12 INCH	SQ YD	35	35					
44201796	CLASS D PATCHES, TYPE IV, 12 INCH	SQ YD	160	160					
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	6002	6002					
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	3	3					
60300305	FRAMES AND LIDS TO BE ADJUSTED	EACH	1	1					
60300310	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	2	2					
60402210	GRATES, TYPE 8	EACH	1	1					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6					
67100100	MOBILIZATION	L SUM	1	1					

SUMMARY OF QUANTITIES			URBAN 100% FED.		CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	ROADWAY I000					
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1					
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1					
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	1					
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1					
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	4300	4300					
70300210	TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	570	570					
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	85200	85200					
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	2160	2160					
70300250	TEMPORARY PAVEMENT MARKING - LINE 8"	FOOT	135	135					
70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	1300	1300					
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	380	380					
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1434	1434					
*78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	610	610					
*78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	85200	85200					
*78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	2160	2160					
*78000500	THERMOPLASTIC PAVEMENT MARKING - LINE 8"	FOOT	135	135					
*78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	1300	1300					
*78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	380	380					
*78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	642	642					
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	642	642					
*88600600	DETECTOR LOOP REPLACEMENT	FOOT	2150	2150					

\* SPECIALTY ITEMS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUMMARY OF QUANTITIES

PLOT DATE: 1/13/2009

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	MCHENRY	29	4
FED. ROAD DIST. NO. 1		ILLINOIS	HIGHWAY PROJECT	

CONTRACT NO. 62905

SUMMARY OF QUANTITIES			URBAN 100% FED. TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		ROADWAY 1000				
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	128.5	128.5				
X4067107	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	3056	3056				
X8950210	REBUILD EXISTING HANDHOLE TO HEAVY-DUTY HANDHOLE	EACH	1	1				
NP Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	12	12				
© Z0076600	TRAINEES	HOUR	500	500				

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT	TOTAL QUANTITIES					

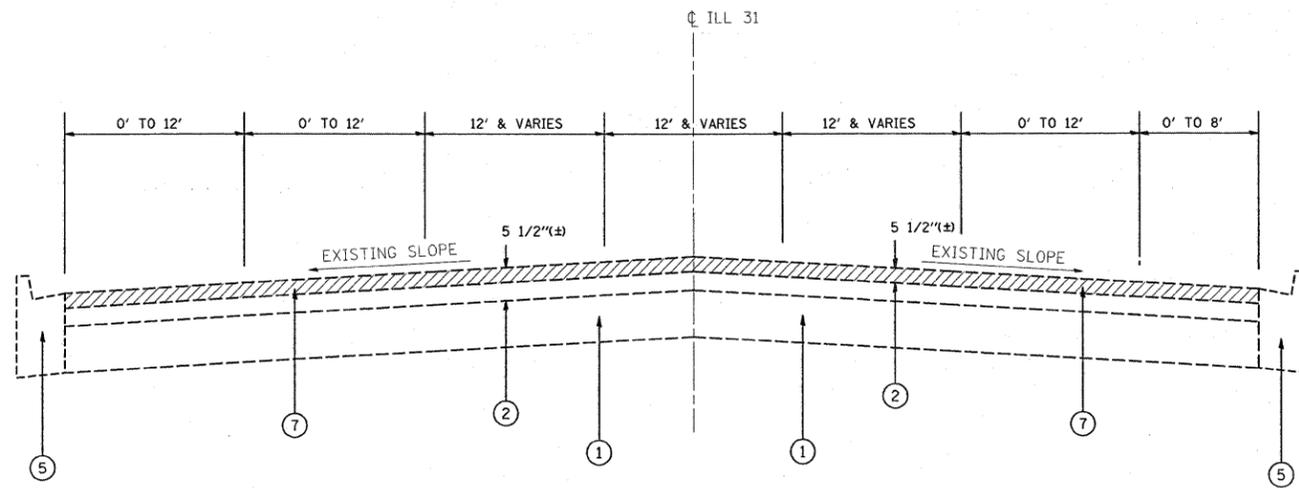
NP= Non-participating  
 \* SPECIALTY ITEMS  
 © Y080

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SUMMARY OF QUANTITIES

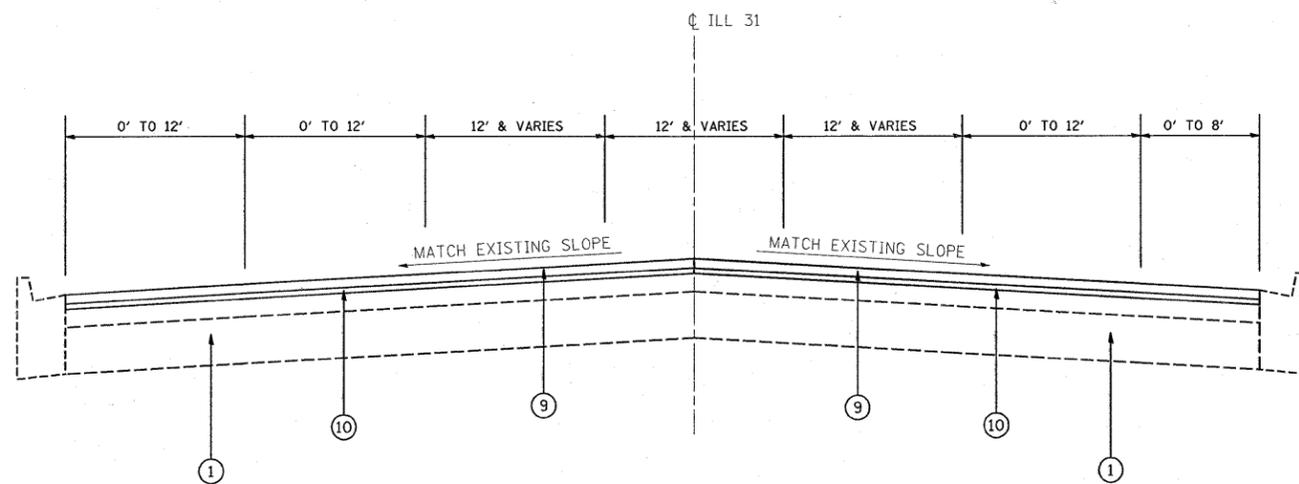
PLOT DATE: 1/13/2009

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EXISTING TYPICAL SECTION  
ILL RTE. 31

STATION:  
16+27 TO 26+22



PROPOSED TYPICAL SECTION  
ILL RTE. 31

STATION:  
16+27 TO 26+22

LEGEND



REMOVAL

- ① EXISTING PCC BASE COURSE, 9''(±)
- ② EXISTING HOT-MIX ASPHALT SURFACE COURSE (BEFORE MILLING), 5 1/2''(±)
- ③ EXISTING HOT-MIX ASPHALT SHOULDER, 8''
- ④ EXISTING AGGREGATE SHOULDER, 6''
- ⑤ EXISTING CONCRETE CURB & GUTTER\*
- ⑥ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL - 2 1/4''  
(3 1/4''(±) OF HOT-MIX ASPHALT TO REMAIN)
- ⑦ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL - 2 1/2''  
(3''(±) OF HOT-MIX ASPHALT TO REMAIN)
- ⑧ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1 1/2''
- ⑨ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90, 1 3/4''
- ⑩ PROPOSED POLYMERIZED LEVELING BINDER (MM), IL-4.75, N50, 3/4''
- ⑪ PROPOSED AGGREGATE WEDGE SHOULDER, TYPE B
- ⑫ PROPOSED GRADING AND SHAPING SHOULDERS

NOTE:

- \* 1. NO CURB & GUTTER FROM STA. 21+19 TO 26+22 LT. AND 22+30 TO 26+22 RT.
- 2. ALL HMA SHOULDERS TO BE MILLED AND RESURFACED
- 3. HMA SURFACE REMOVAL TO BE DONE PRIOR TO PAVEMENT PATCHING

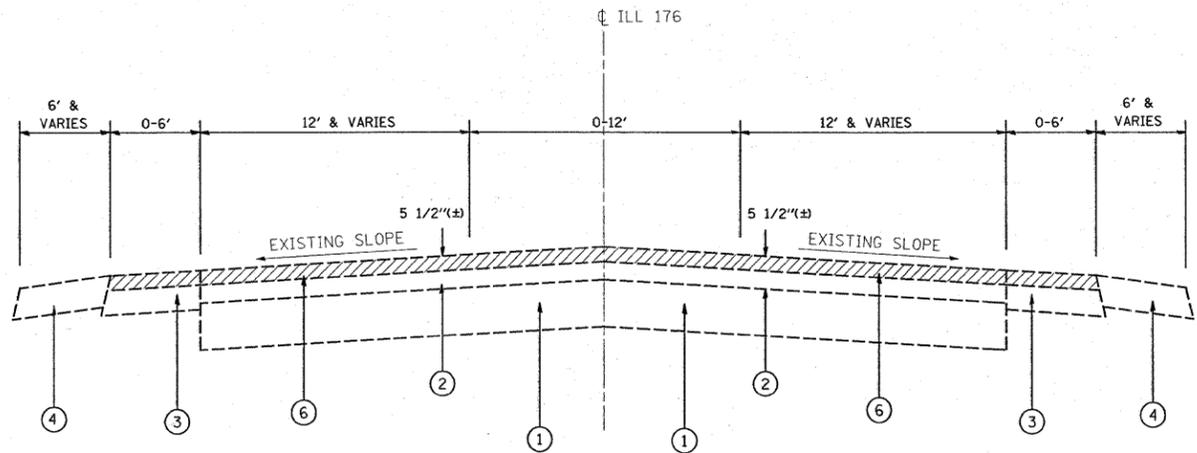
HOT-MIX ASPHALT MIXTURE REQUIREMENTS

	MIXTURE USE	AC TYPE	AIR VOIDS (%)
ROADWAY AND SHOULDERS	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5 MM), 1 1/4''	PG 64-22	4% @ 70 GYR
	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 (IL 9.5 MM), 1 3/4''	SBS/SBR PG 70-22	4% @ 90 GYR
	POLYMERIZED LEVELING BINDER, (MM) IL-4.75, N50, 3/4''	SBS/SBR PG 76-28/-22	4% @ 50 GYR
PATCHES	CLASS D PATCHES, (BINDER IL-19.0 MM), 12''	PG 64-22 *	4% @ 70 GYR

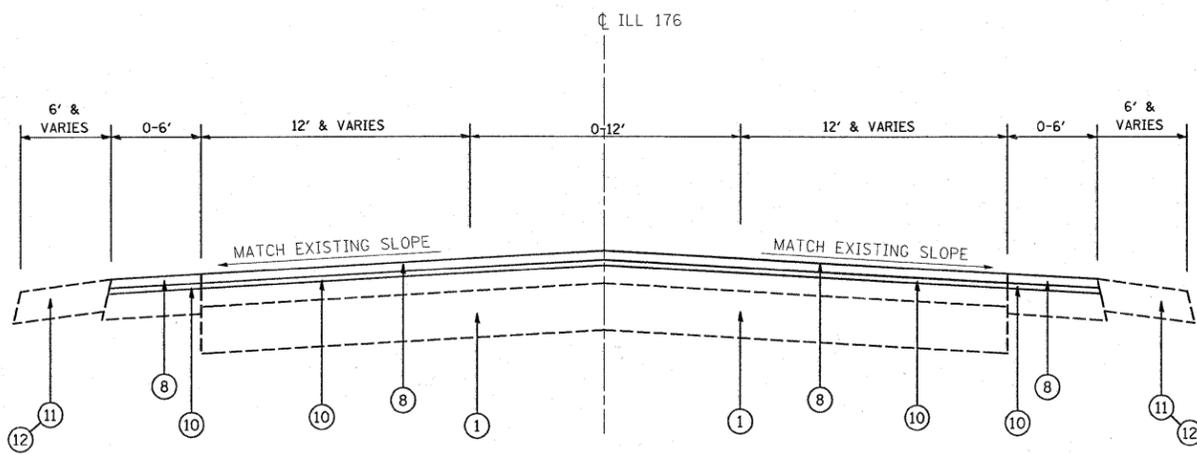
THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/SY/IN.

\* WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58-22



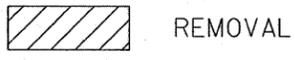


EXISTING TYPICAL SECTION  
ILL RTE. 176  
STATION:  
27+76 TO 230+83



PROPOSED TYPICAL SECTION  
ILL RTE. 176  
STATION:  
27+76 TO 230+83

LEGEND

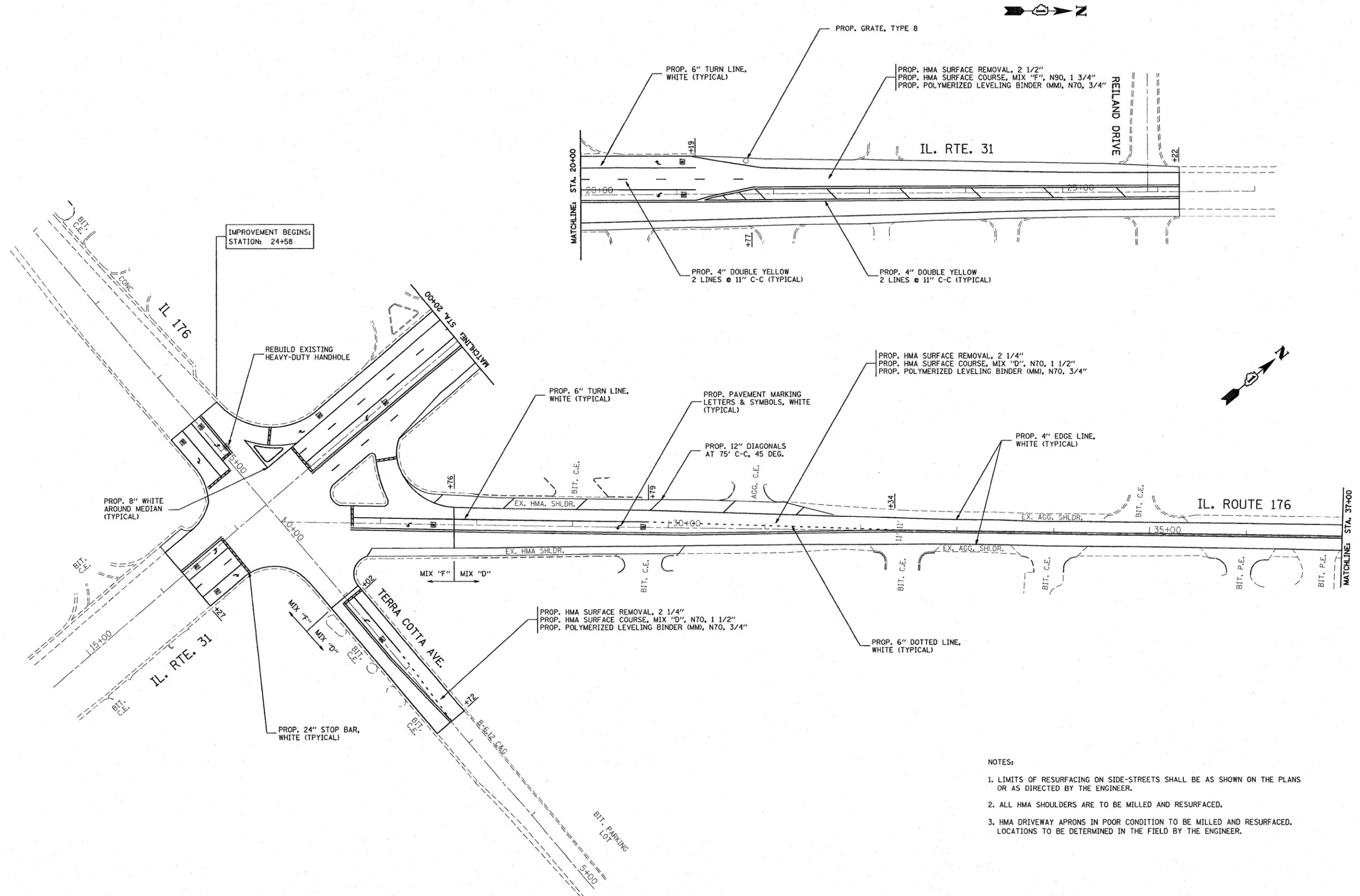


- ① EXISTING PCC BASE COURSE, 9''(±)
- ② EXISTING HOT-MIX ASPHALT SURFACE COURSE (BEFORE MILLING), 5 1/2''(±)
- ③ EXISTING HOT-MIX ASPHALT SHOULDER, 8''
- ④ EXISTING AGGREGATE SHOULDER, 6''
- ⑤ EXISTING CONCRETE CURB & GUTTER\*
- ⑥ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL - 2 1/4''  
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- ⑩ PROPOSED POLYMERIZED LEVELING BINDER (MM), IL-4.75, N50, 3/4''
- ⑪ PROPOSED AGGREGATE WEDGE SHOULDER, TYPE B
- ⑫ PROPOSED GRADING AND SHAPING SHOULDERS

NOTE:

1. RIGHT TURN LANE FROM STA. 79+72 TO 82+08 LT. AND STA. 184+13 TO 186+11 RT.
2. ALL HMA SHOULDERS TO BE MILLED AND RESURFACED
3. HMA SURFACE REMOVAL TO BE DONE PRIOR TO PAVEMENT PATCHING

FILE NAME = c:\p\work\FW100T\WILGREENDP\dms89645\design.dgn	USER NAME = wilgreendp	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 176 (IL 31 TO FOX RIVER) EXISTING AND PROPOSED TYPICAL SECTIONS</b>		F.A.P. RTE. 335	SECTION 146RS-3	COUNTY MCHENRY	TOTAL SHEETS 29	SHEET NO. 7		
	PLOT SCALE = 50.0000' / 1".	CHECKED -	REVISED -		SCALE:	SHEET NO. 3 OF 31 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
	PLOT DATE = 1/13/2009	DATE -	REVISED -										
	CONTRACT NO. 62905												



**NOTES:**

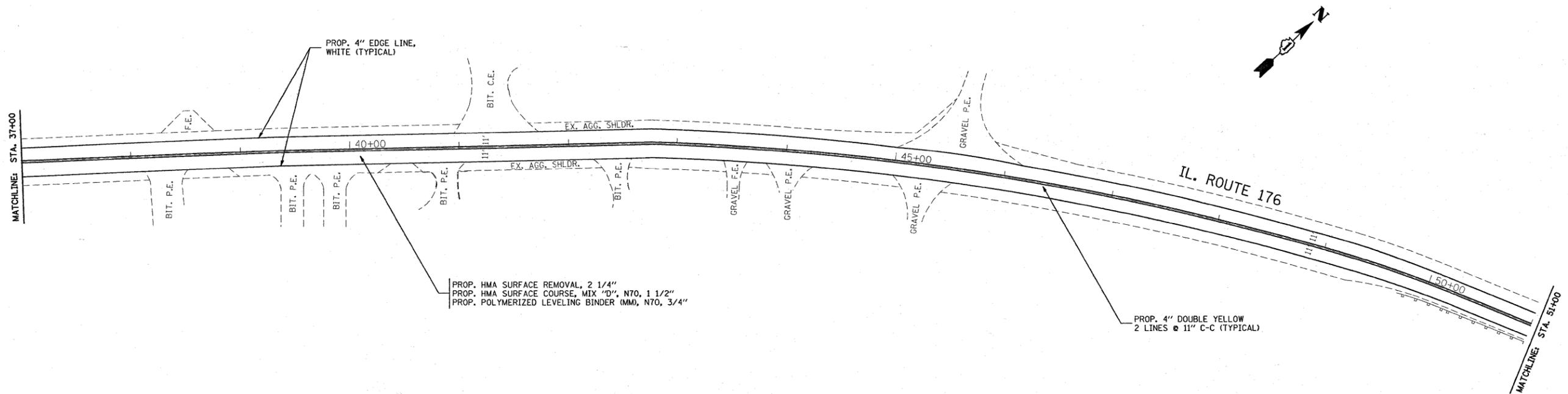
1. LIMITS OF RESURFACING ON SIDE-STREETS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. ALL HMA SHOULDERS ARE TO BE MILLED AND RESURFACED.
3. HMA DRIVEWAY APRONS IN POOR CONDITION TO BE MILLED AND RESURFACED. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

FILE NAME =	USER NAME = wjlgreendp	DESIGNED -	REVISED -
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PLOT SCALE = 50.0000' / 1" IN.		CHECKED -	REVISED -
PLOT DATE = 1/13/2009		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>IL 176 (IL 31 TO FOX RIVER) ROADWAY AND PAVEMENT MARKING PLAN</b>			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

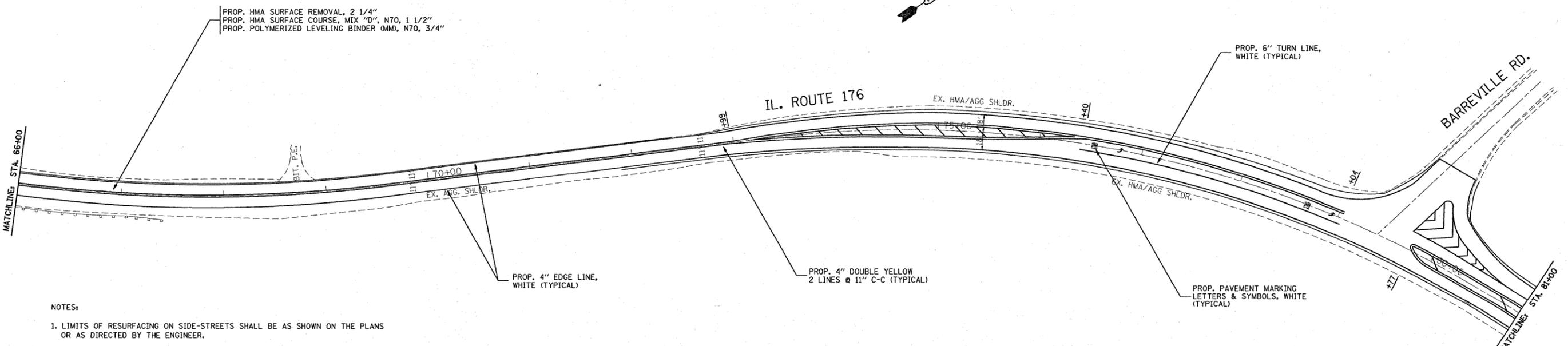
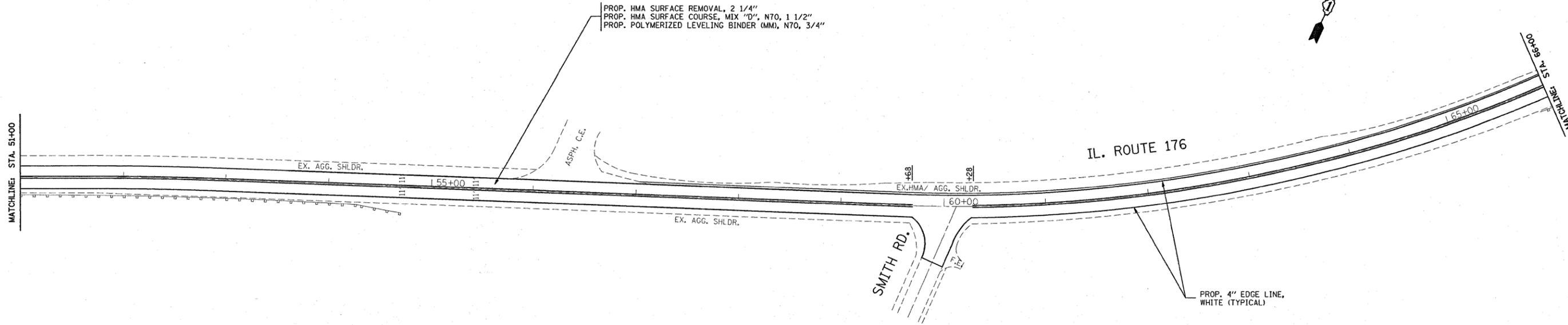
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	MCHENRY	29	8
CONTRACT NO. 62905				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



**NOTES:**

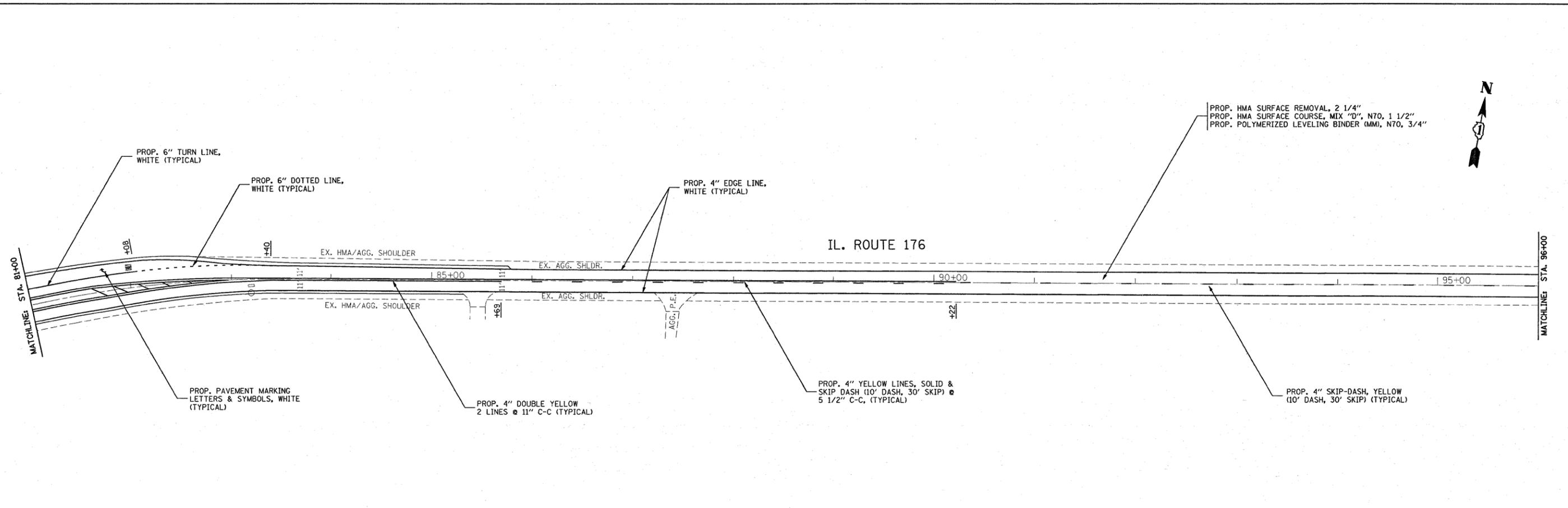
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ct:\pw\work\FWIDOT\WJLGREENDP\dms89645\design_ea.dgn	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -					335	146RS-3	MCHENRY	29	9
PLOT DATE = 1/13/2009	DATE -	CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT				
					CONTRACT NO. 62905							



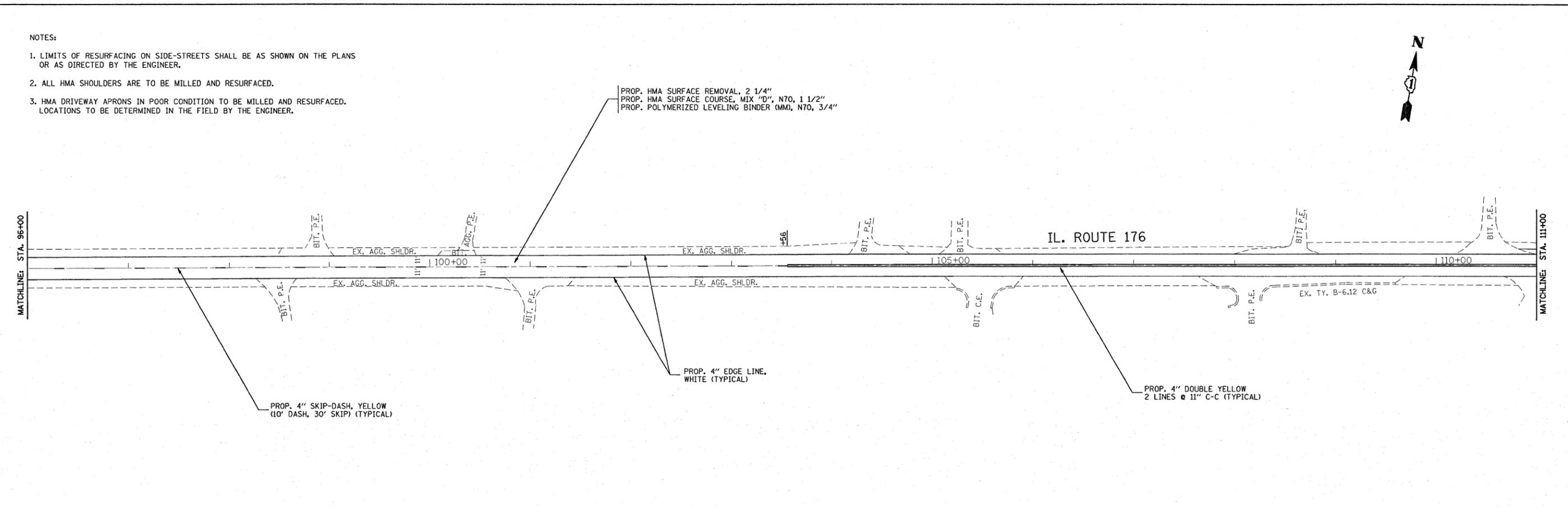
- NOTES:
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FILE NAME =	USER NAME = wjgreendp	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 176 (IL 31 TO FOX RIVER) ROADWAY AND PAVEMENT MARKING PLAN</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwork\pwidot\WJLGREENDP\dms89645\esign_ee.dgn	PLOT SCALE = 50,00000 ' / IN.	DRAWN -	REVISED -			335	146RS-3	MCHENRY	29	10	
PLOT DATE = 1/13/2009	DATE -	CHECKED -	REVISED -			SCALE: SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO. 62905			
						FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT					

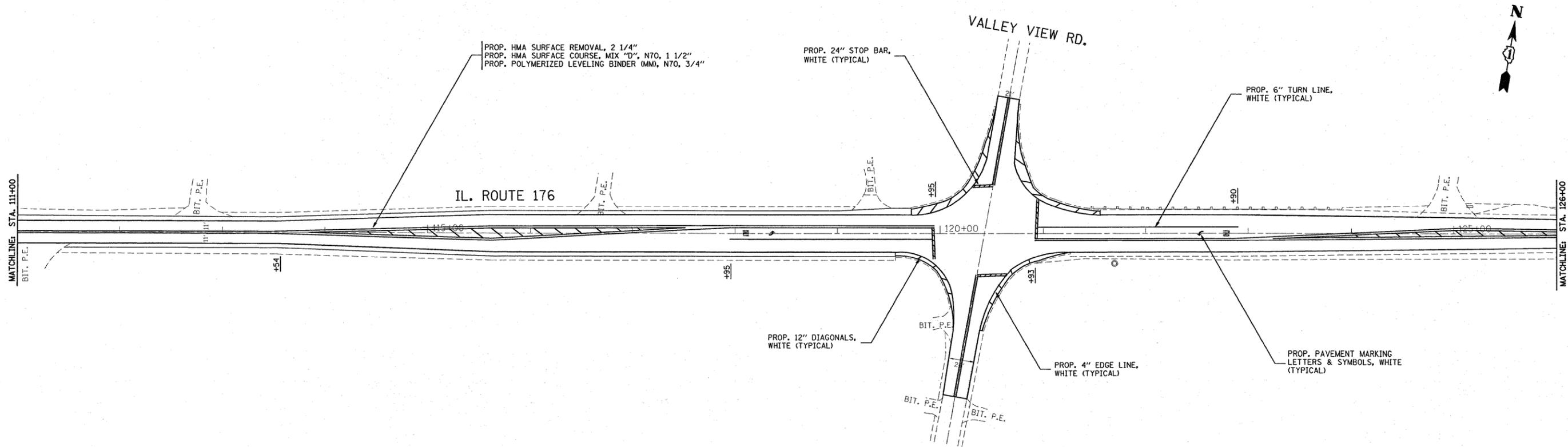


NOTES:

1. LIMITS OF RESURFACING ON SIDE-STREETS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. ALL HMA SHOULDERS ARE TO BE MILLED AND RESURFACED.
3. HMA DRIVEWAY APRONS IN POOR CONDITION TO BE MILLED AND RESURFACED. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

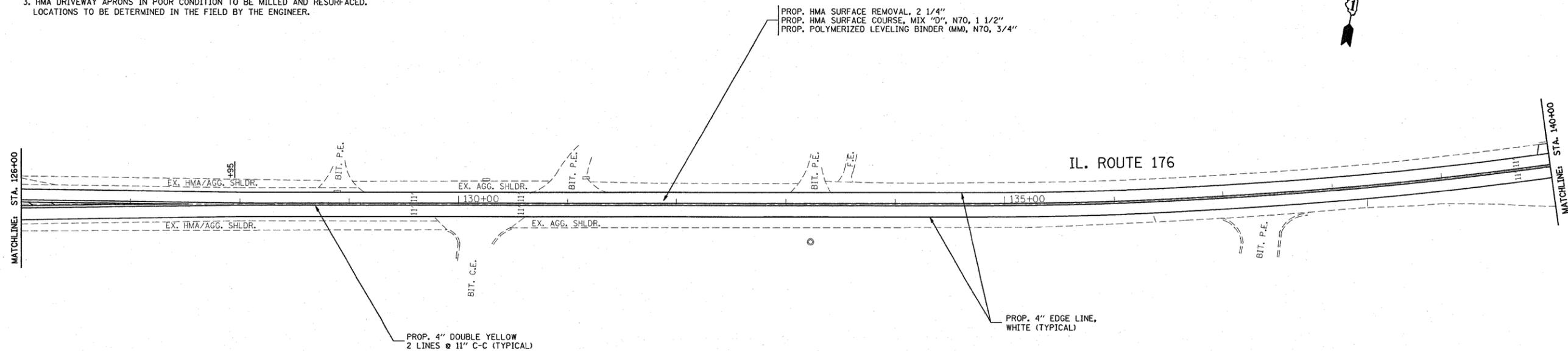


FILE NAME = c:\pwwork\pwwid\WILGREENDP\dms89645\design_oe.dgn	USER NAME = wilgreendp	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 176 (IL 31 TO FOX RIVER) ROADWAY AND PAVEMENT MARKING PLAN</b>			F.A.P. RTE. 335	SECTION 146RS-3	COUNTY MCHENRY	TOTAL SHEETS 29	SHEET NO. 11
	PLOT SCALE = 58.0000' / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 62905	
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		DATE -	REVISED -									

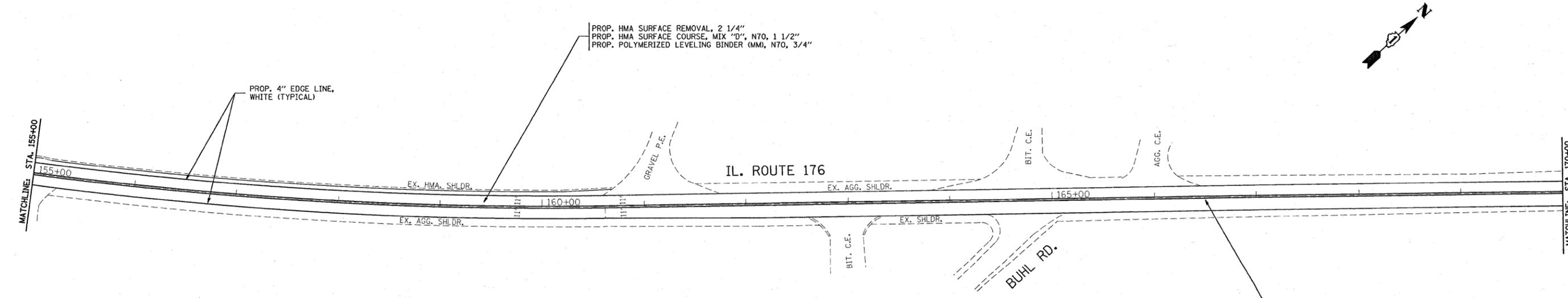
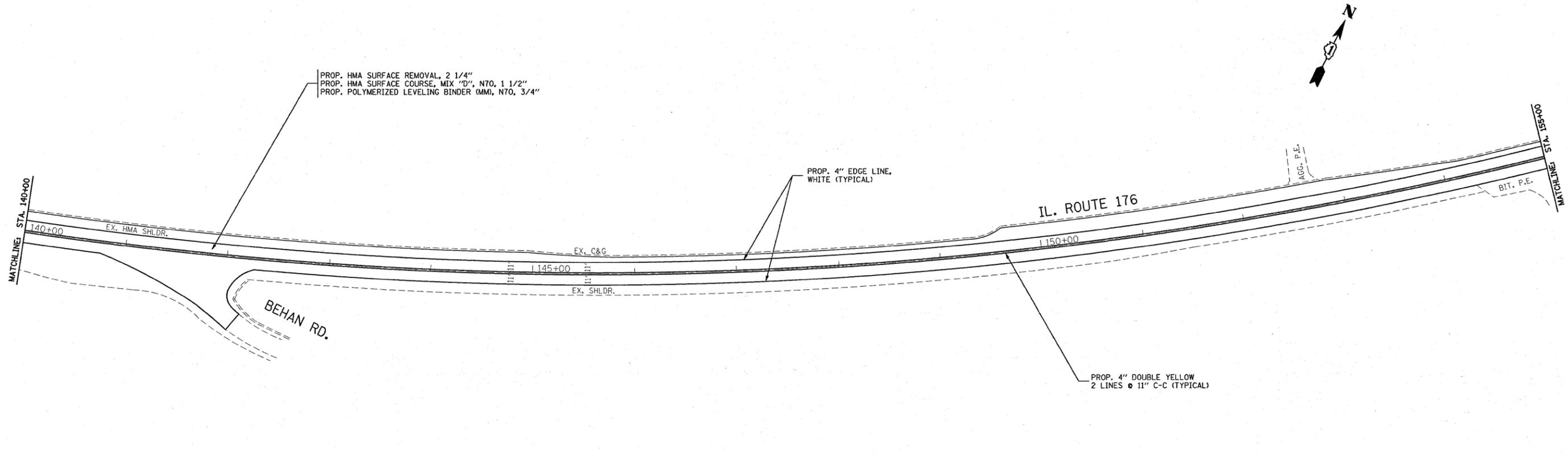


NOTES:

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2. ALL HMA SHOULDERS ARE TO BE MILLED AND RESURFACED.
3. HMA DRIVEWAY APRONS IN POOR CONDITION TO BE MILLED AND RESURFACED. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.



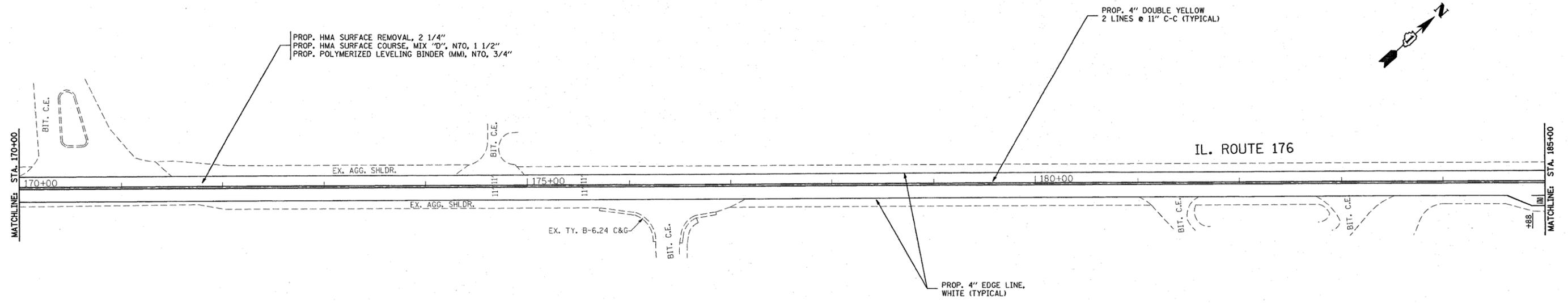
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en:\pwork\PWIDOT\WILGREENDP\dms89645\design_00.dgn	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -			335	146RS-3	MCHENRY	29	12	
PLOT DATE = 1/13/2009	DATE -	CHECKED -	REVISED -			SCALE: SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO. 62905			
						FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT					



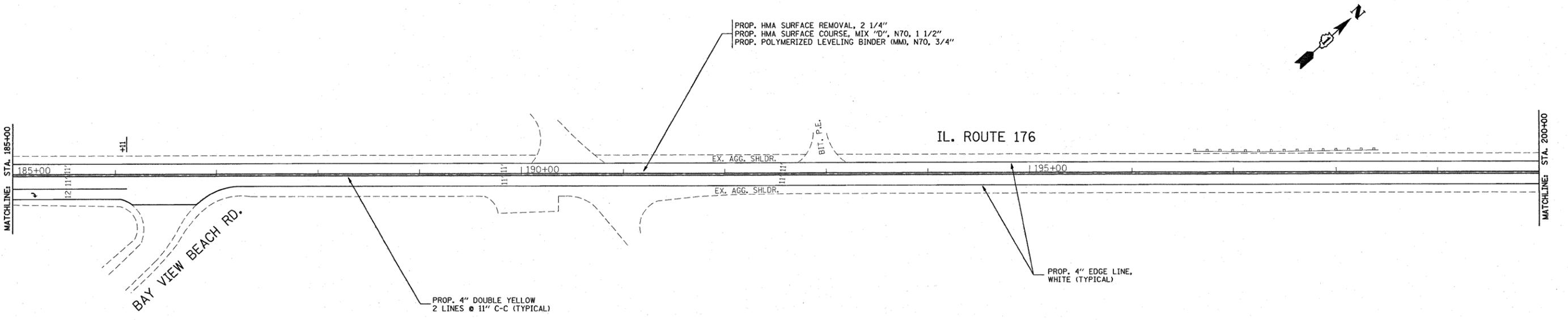
**NOTES:**

1. LIMITS OF RESURFACING ON SIDE-STREETS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. ALL HMA SHOULDERS ARE TO BE MILLED AND RESURFACED.
3. HMA DRIVEWAY APRONS IN POOR CONDITION TO BE MILLED AND RESURFACED. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

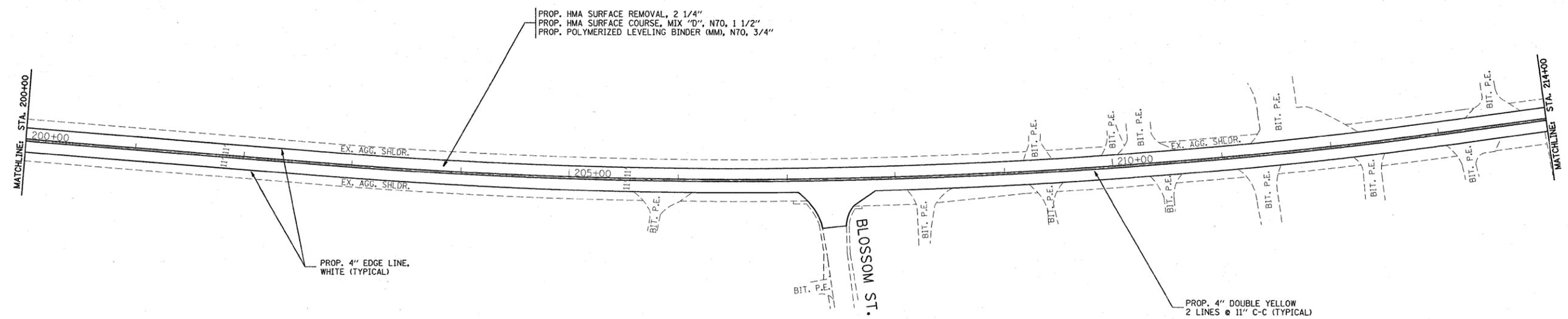
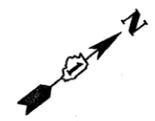
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c:\pwork\pwwdot\WILGREENDP\dms89645\design\aa.dgn	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 62905	
	PLOT DATE = 1/13/2009	CHECKED -	REVISED -								FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	
		DATE -	REVISED -									



- NOTES:
- LIMITS OF RESURFACING ON SIDE-STREETS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
  - ALL HMA SHOULDERS ARE TO BE MILLED AND RESURFACED.
  - HMA DRIVEWAY APRONS IN POOR CONDITION TO BE MILLED AND RESURFACED. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

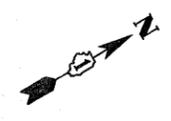
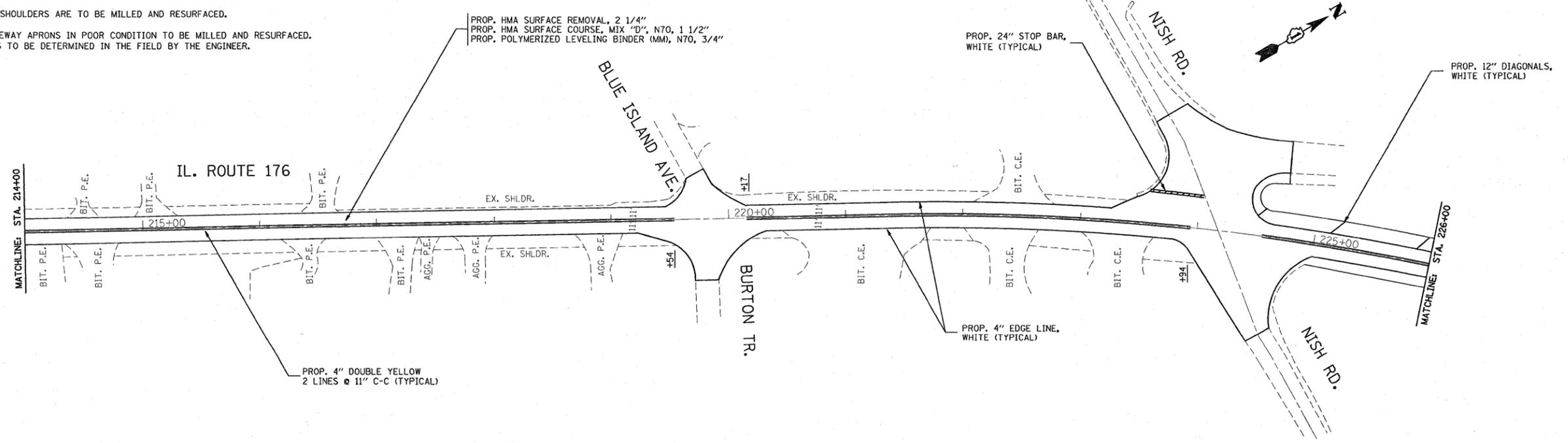


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c:\pwwork\FWIDDT\WILGREENDP\dms89645\design_aa.dgn	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -					335	146RS-3	MCHENRY	29	14
PLOT DATE = 1/13/2009	DATE -	CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO. 62905				
		DATE -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

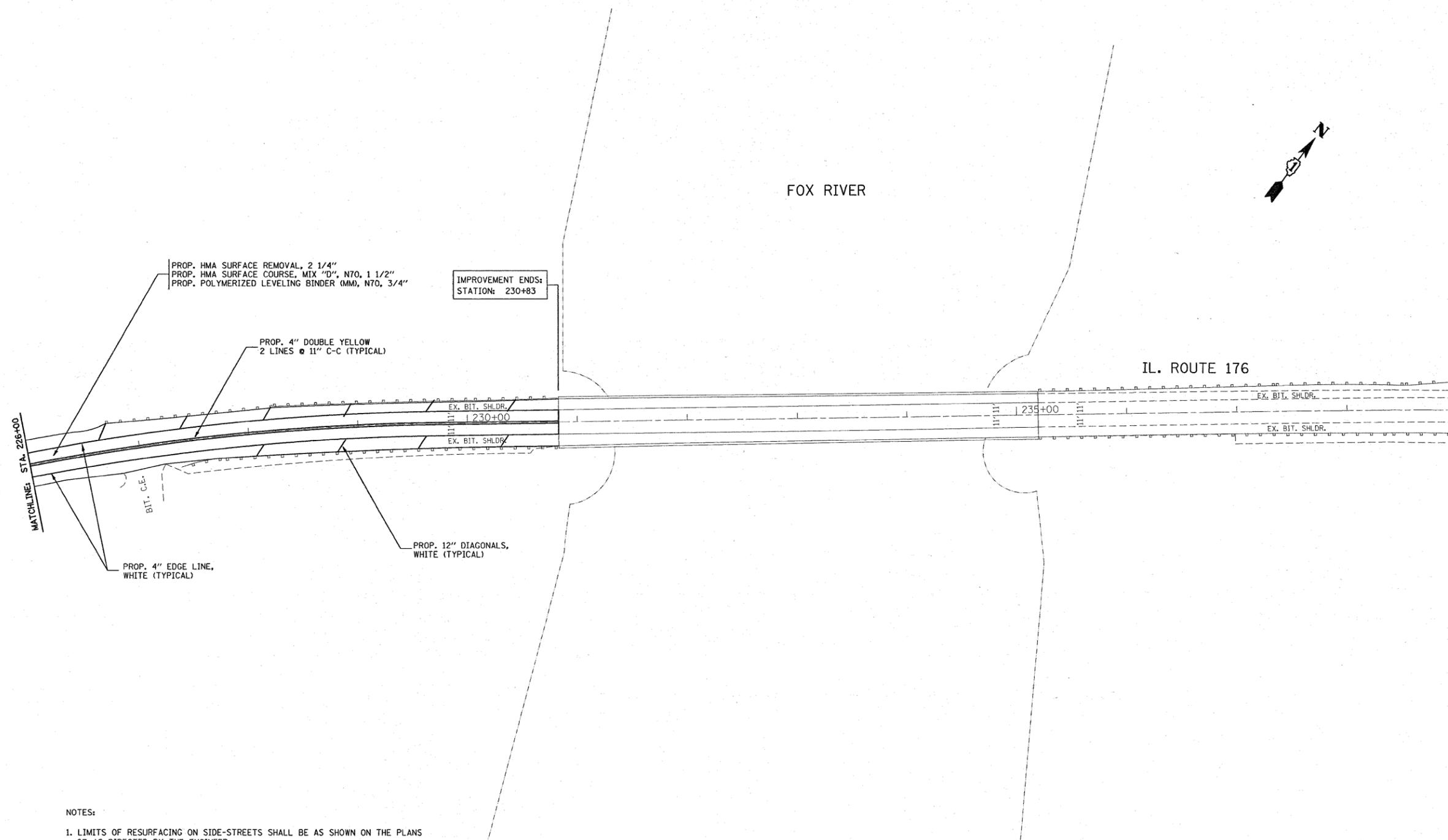


**NOTES:**

1. LIMITS OF RESURFACING ON SIDE-STREETS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. ALL HMA SHOULDERS ARE TO BE MILLED AND RESURFACED.
3. HMA DRIVEWAY APRONS IN POOR CONDITION TO BE MILLED AND RESURFACED. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.



FILE NAME = c:\pwork\pwork\wilgreendp\dms89645\design_aa.dgn	USER NAME = wilgreendp	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 176 (IL 31 TO FOX RIVER) ROADWAY AND PAVEMENT MARKING PLAN</b>				F.A.P. RTE. = 335	SECTION = 146RS-3	COUNTY = MCHENRY	TOTAL SHEETS = 29	SHEET NO. = 15	
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -						CONTRACT NO. 62905					
	PLOT DATE = 1/13/2009	DATE -	REVISED -						FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
									SCALE:	SHEET NO. OF SHEETS	STA. TO STA.			



- NOTES:
1. LIMITS OF RESURFACING ON SIDE-STREETS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
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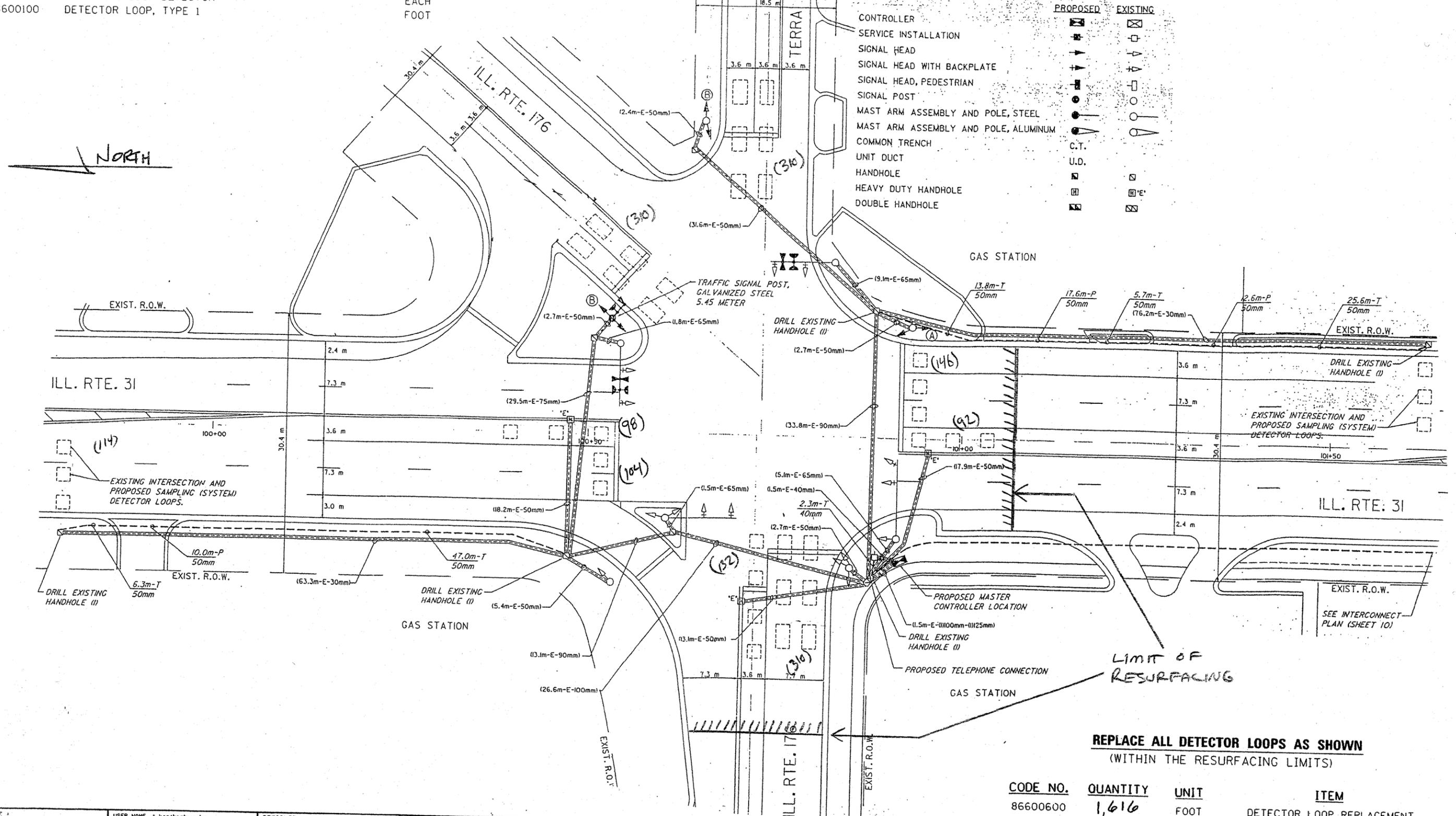
FILE NAME =	USER NAME = wilgreendp	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 176 (IL 31 TO FOX RIVER) ROADWAY AND PAVEMENT MARKING PLAN</b>			F.A.P. RTE. 335	SECTION 146RS-3	COUNTY MCHENRY	TOTAL SHEETS 29	SHEET NO. 16
c:\pwork\p\WIDOT\WILGREENDP\dms89645\design_00.dgn	PLOT SCALE = 50,0000' / IN.	DRAWN -	REVISED -					SCALE: SHEET NO. OF SHEETS STA. TO STA.			FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT	
	PLOT DATE = 1/13/2009	CHECKED -	REVISED -					CONTRACT NO. 62905				
		DATE -	REVISED -									

**RESURFACING - TRAFFIC SIGNAL SCHEDULE OF QUANTITIES**

The "Pay Items" below are paid separately as per the attached "Specification" for MAGNETIC DETECTOR REMOVAL AND DETECTOR LOOP INSTALLATION.

Code No.	Pay Item	Unit	Quantity
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	
88500100	INDUCTIVE LOOP DETECTOR	EACH	
88600100	DETECTOR LOOP, TYPE 1	FOOT	

**NOTE:**  
THIS PLAN IS FOR THE PURPOSE OF REPLACING THE DETECTOR LOOPS ONLY. ALL OTHER INFORMATION SHOWN IS NOT RELATED AND WILL BE DISREGARDED.



CODE NO.	QUANTITY	UNIT	ITEM
86600600	1,616	FOOT	DETECTOR LOOP REPLACEMENT

FILE NAME :	USER NAME :	DESIGNED :	REVISED :
PROJECTS\traffic\070027\us12.20.45.dgn	kanthaphixaybc	-	-
PLOT SCALE :	CHECKED :	REVISED :	REVISED :
40.0000 / IN.	-	-	-
PLOT DATE :	DATE :	REVISED :	REVISED :
2/29/2008	-	-	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DETECTOR LOOP REPLACEMENT  
ILL. RTE. 176 @ ILL. RTE. 31

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

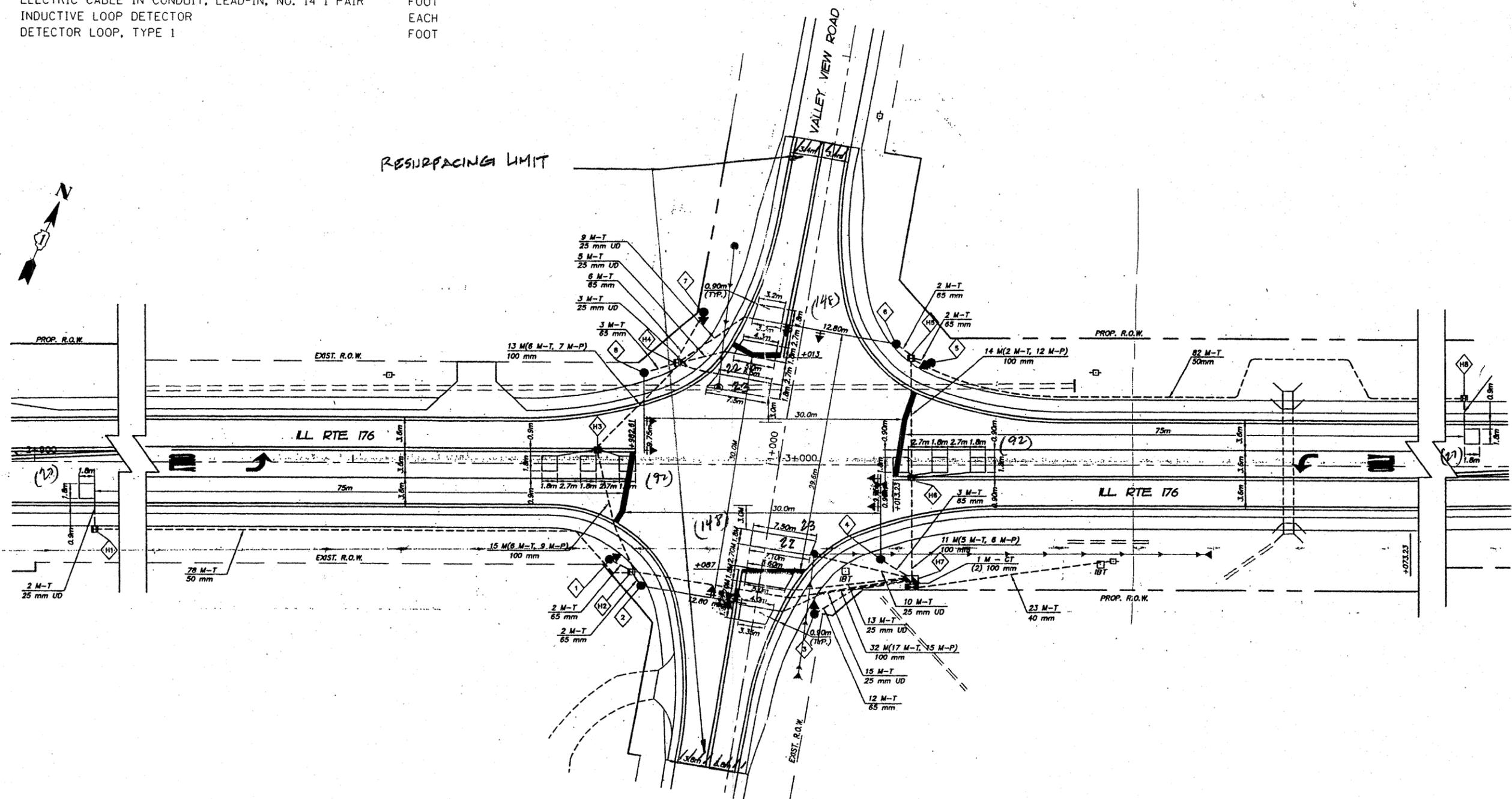
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	McHenry	29	17
CONTRACT NO. 62905			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

RESURFACING - TRAFFIC SIGNAL SCHEDULE OF QUANTITIES

The "Pay Items" below are paid separately as per the attached "Specification" for MAGNETIC DETECTOR REMOVAL AND DETECTOR LOOP INSTALLATION.

Code No.	Pay Item	Unit	Quantity
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	
88500100	INDUCTIVE LOOP DETECTOR	EACH	
88600100	DETECTOR LOOP, TYPE 1	FOOT	

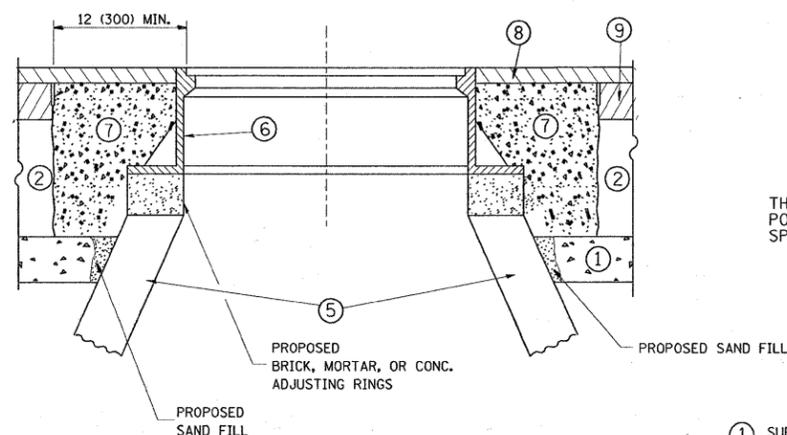
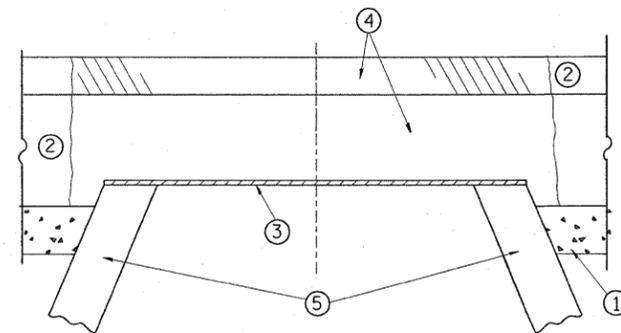
**NOTE:**  
THIS PLAN IS FOR THE PURPOSE OF REPLACING THE DETECTOR LOOPS ONLY. ALL OTHER INFORMATION SHOWN IS NOT RELATED AND WILL BE DISREGARDED.



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

CODE NO.	QUANTITY	UNIT	ITEM
86600600	534	FOOT	DETECTOR LOOP REPLACEMENT

FILE NAME : c:\projects\traffic\870027\us12.20.45.dwg	USER NAME : kanthaphixybc	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DETECTOR LOOP REPLACEMENT ILL. RTE. 176 @ VALLEY VIEW RD.</b>	F.A.P. RTE. 335	SECTION 146 RS-3	COUNTY McHenry	TOTAL SHEETS 29	SHEET NO. 18
PLOT SCALE : 40.0000 / IN.	CHECKED -	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 62905
PLOT DATE : 2/29/2008	DATE -	REVISED -								



**CONSTRUCTION PROCEDURES**

**STAGE 1 (BEFORE PAVEMENT MILLING)**

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1 1/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

**STAGE 2 (AFTER PAVEMENT MILLING)**

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS SI CONCRETE, OR HMA SURFACE COURSE OR HMA BINDER COURSE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS.

**LEGEND**

- ① SUB-BASE GRANULAR MATERIAL
- ② EXISTING PAVEMENT
- ③ 36 (900) DIAMETER METAL PLATE
- ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- ⑤ EXISTING STRUCTURE
- ⑥ FRAME AND LID (SEE NOTES)
- ⑦ CLASS SI CONCRETE, HMA SURFACE COURSE OR HMA BINDER COURSE
- ⑧ PROPOSED HMA SURFACE COURSE
- ⑨ PROPOSED HMA BINDER COURSE

**LOCATION OF STRUCTURES:**

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

**BASIS OF PAYMENT:** THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR "FRAMES AND LIDS TO BE ADJUSTED, SPECIAL"

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

**NOTES:**

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

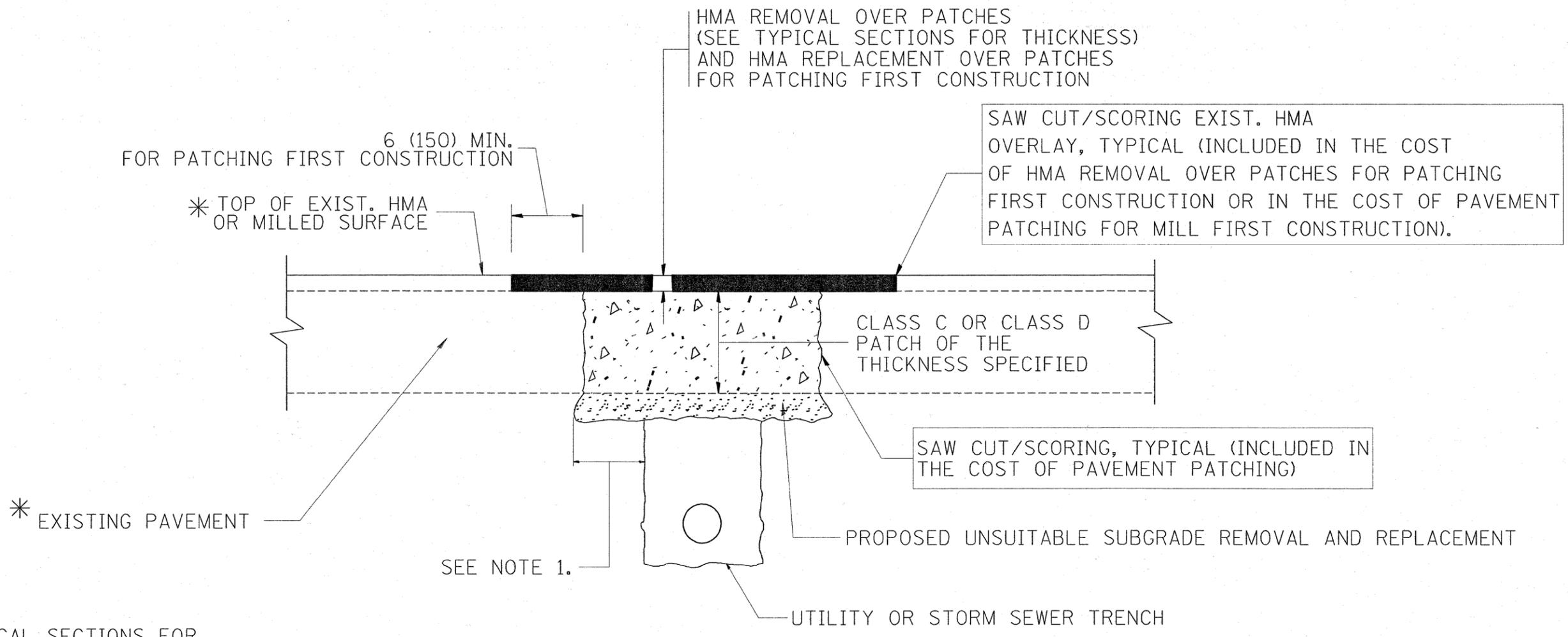
THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = wilgreendp	DESIGNED - R. SHAH	REVISED - R. SHAH 03-10-95	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\wilgreendp\dms89645\dms89645.dgn		DRAWN -	REVISED - A. ABBAS 03-21-97		335	146RS-3	MCHENRY	29	18A			
PLOT SCALE = 50.0000 "/ IN.		CHECKED -	REVISED - R. WIEDEMAN 05-14-04		<b>BD600-03 (BD-8)</b>			<b>CONTRACT NO. 62905</b>				
PLOT DATE = 1/13/2009		DATE - 10-25-94	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



\* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

**NOTES:**

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

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

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

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

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

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

FILE NAME =	USER NAME = wjgreendp	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pwork\PWIDOT\WJLGREENDP\dms89645\01stStd.dgn	DRAWN -	REVISED - R. BORO 01-01-07	REVISED - R. BORO 09-04-07			335	146RS-3	MCHENRY	29	19
PLOT SCALE = 50.0000 "/ IN.	CHECKED -	REVISED - R. BORO 09-04-07	REVISED - K. ENG 10-27-08			<b>BD400-04 (BD-22)</b>		CONTRACT NO. 62905		
PLOT DATE = 1/13/2009	DATE - 10-25-94	REVISED - K. ENG 10-27-08	SCALE: NONE			SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

VARIABLE - TO MEET EXISTING DIMENSIONS AND FIELD CONDITIONS (SEE NOTE ②)

PROP. CONC. CURB OR CURB AND GUTTER REPLACEMENT IN ACCORDANCE WITH STATE STANDARD 606001. (SEE NOTE ②)

SAW CUT FULL DEPTH - INCLUDED IN THE COST OF SIDEWALK, DRIVEWAY OR MEDIAN SURFACE REMOVAL PAY ITEM.

SEE STATE STANDARD 606001

18" (450) MAX.

EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

1/4" (5) \*\*

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE OR GROUND.

PROPOSED SIDEWALK, DRIVEWAY PAVEMENT, MEDIAN SURFACE OR SALT TOLERANT SOD AND TOP SOIL, 4" (100) SOD RESTORATION (SEE NOTE ①).

EXISTING CONCRETE PAVEMENT, CONCRETE BASE COURSE OR FLEXIBLE PAVEMENT

3" (75) MIN.

SUITABLE BACKFILL MATERIAL (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT)

PROPOSED 3/4" (20) PREFORMED EXPANSION JOINT AT CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIANS. (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.)

\* 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.

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SALT TOLERANT SOD AND TOP SOIL, 4" (100) RESTORATION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

② CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

③ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

④ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑤ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑥ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

⑦ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

UNSUITABLE SUB-BASE MATERIAL TO BE REMOVED, IF DIRECTED BY THE ENGINEER, SHALL BE REPLACED WITH EITHER SUB-BASE GRANULAR MATERIAL, TYPE B OR ADDITIONAL THICKNESS OF CONCRETE.

REMOVAL AND REPLACEMENT 4" (100) OR LESS IS INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

REMOVAL AND REPLACEMENT IN EXCESS OF 4" (100) WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USUABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

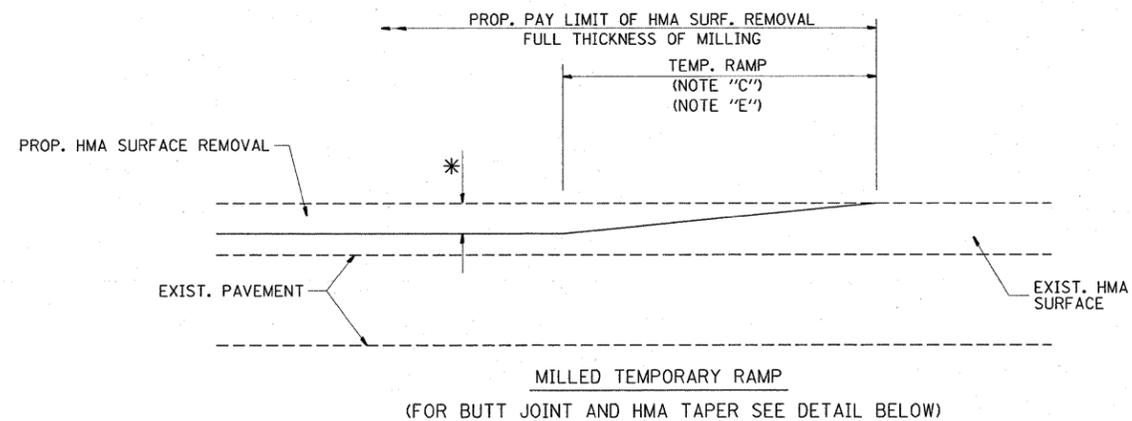
**BASIS OF PAYMENT:**

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

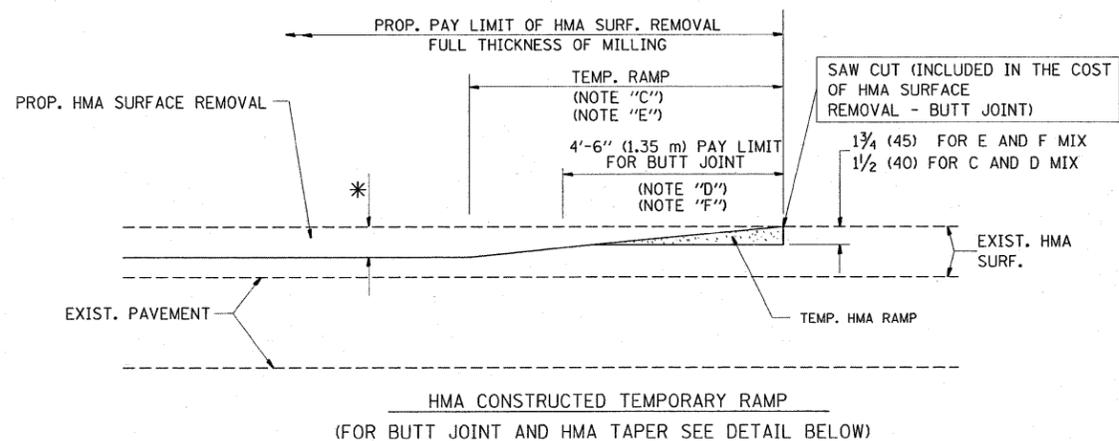
# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

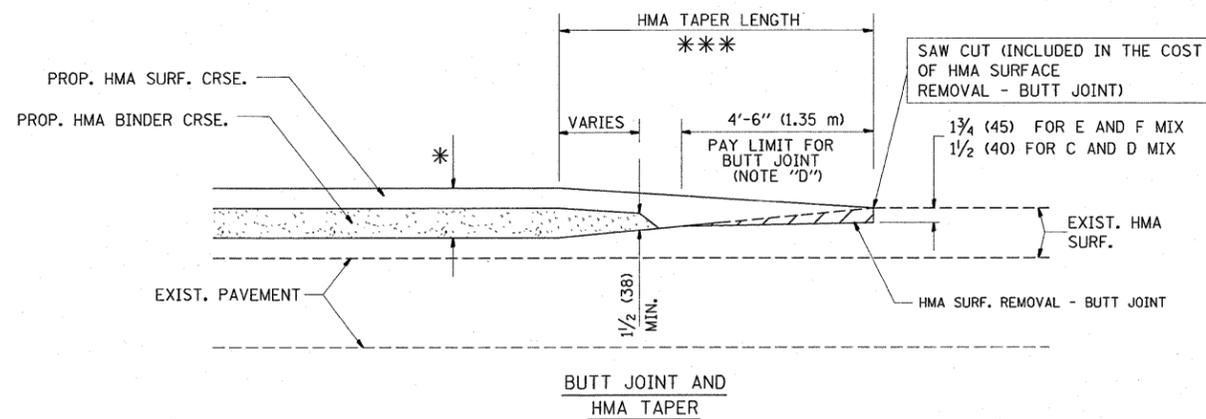
FILE NAME =	USER NAME = wilgreendp	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
\\dst\inf\fs2\users\wilgreendp\Desktop\1176 (IL 31 to Fox River) Details\bd24.dgn	176 (IL 31 to Fox River) Details\bd24.dgn	DRAWN -	REVISED - A. ABBAS 03-21-97		335	146RS-3	MCHENRY	29	20			
PLOT SCALE = 50.000' / IN.		CHECKED -	REVISED - M. GOMEZ 01-22-01		<b>BD600-06 (BD-24)</b>			<b>CONTRACT NO. 62905</b>				
PLOT DATE = 1/13/2009		DATE - 03-11-94	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 22 OF 31 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



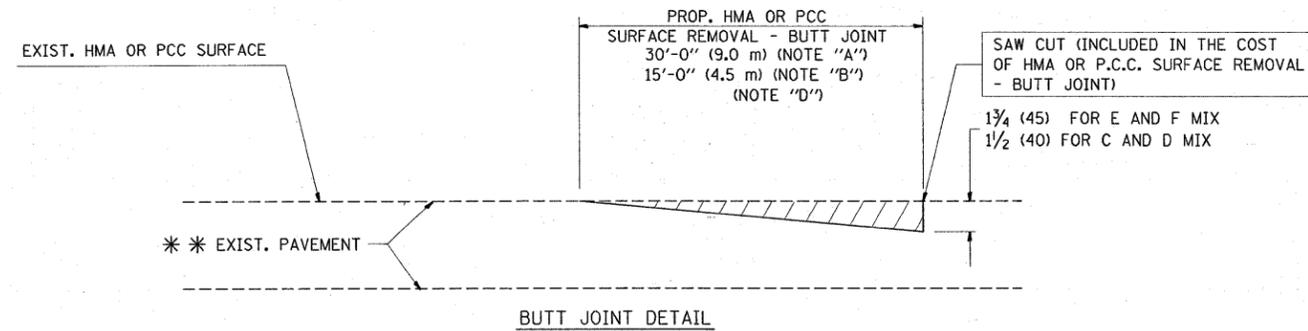
**OPTION 1**



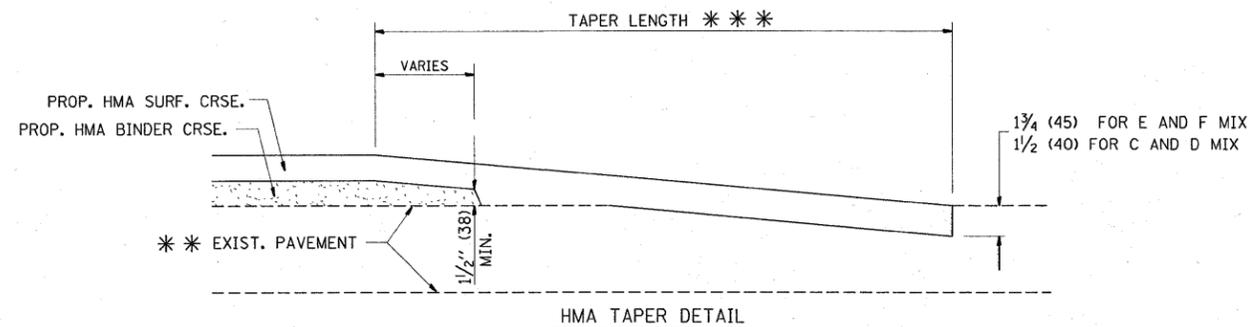
**OPTION 2**  
**TYPICAL TEMPORARY RAMP**



**TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING**



**BUTT JOINT DETAIL**



**HMA TAPER DETAIL**

**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.

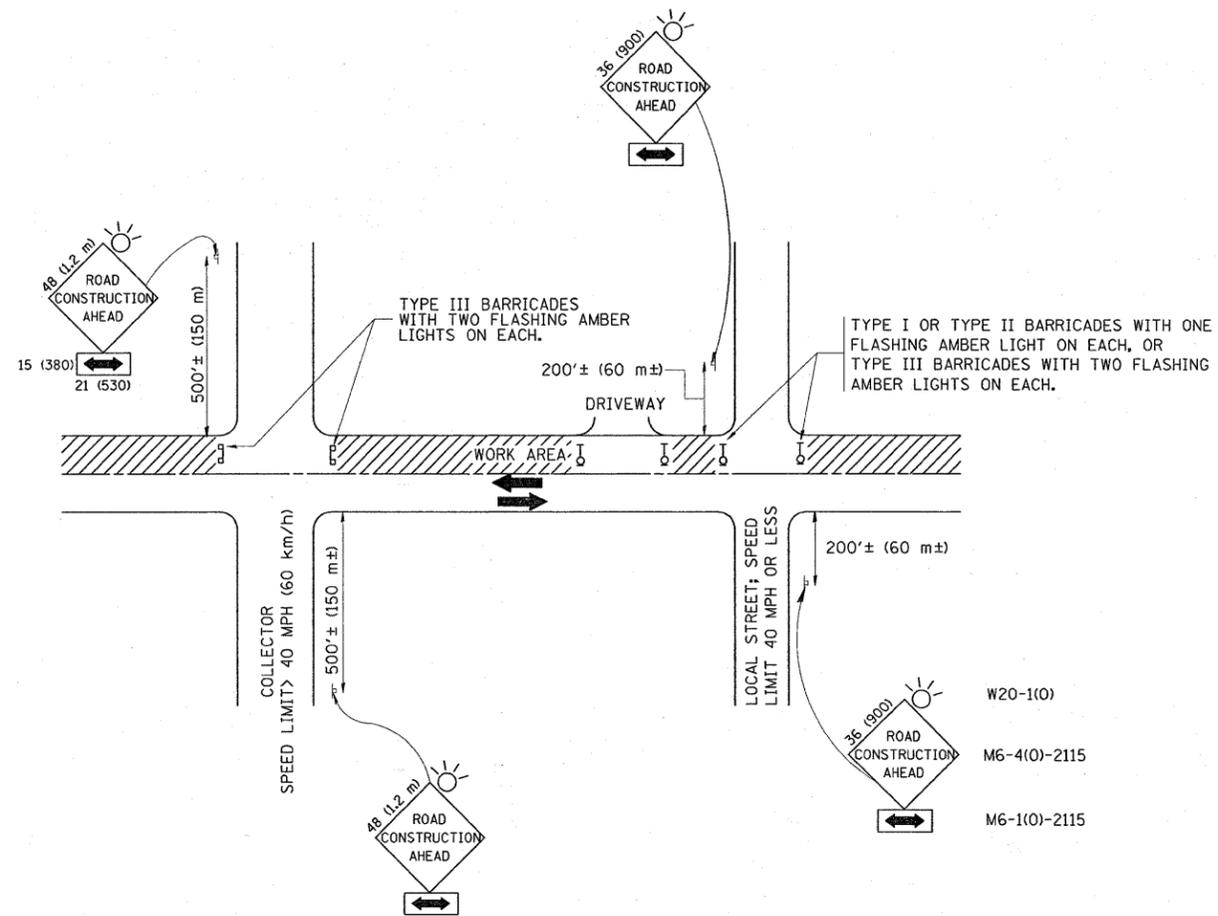
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\\dstintfs2\users\wjgreendp\Desktop\1176 (IL 31 to Fox River) Details\bd32.dgn		DRAWN -	REVISED - A. ABBAS 03-21-97
PLOT SCALE = 49.9999 / IN.		CHECKED -	REVISED - M. GOMEZ 04-06-01
PLOT DATE = 1/13/2009		DATE - 06-13-90	REVISED - R. BORO 01-01-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BUTT JOINT AND  
HMA TAPER DETAILS**

SCALE: NONE SHEET NO. 23 OF 31 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	MCHENRY	29	21
BD400-05 BD32			CONTRACT NO. 62905	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
    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 AND FLAG 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. 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).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:
 

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
  - C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
  - D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

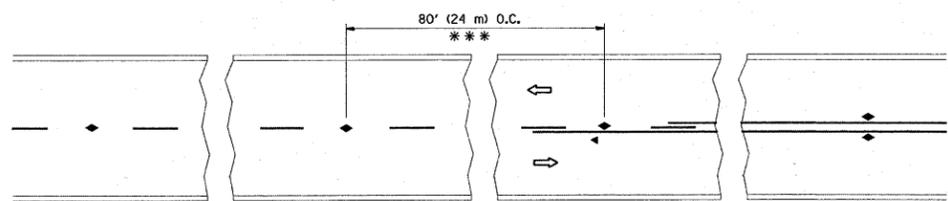
FILE NAME =	USER NAME = wilgreendp	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
\\dvs1\ntfs2\users\wilgreendp\Desktop\1176 (IL 31 to Fox River) Details\tc10.dgn		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50,000 / / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/13/2009	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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

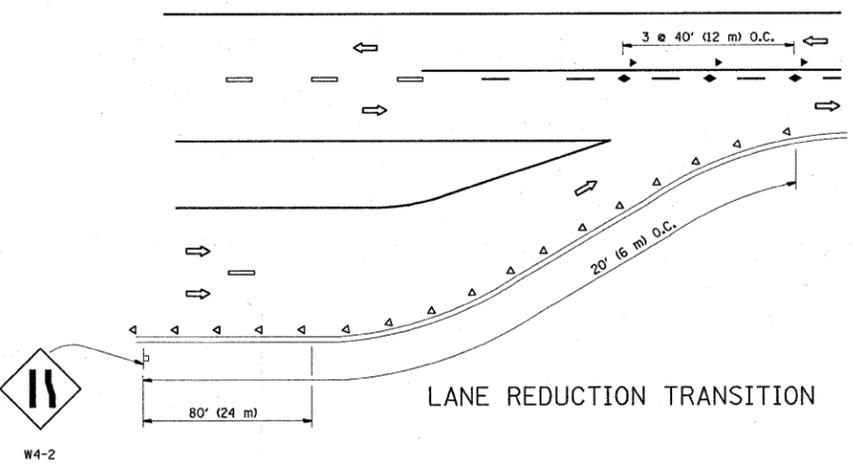
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335	146RS-3	MCHENRY	29	22
TC-10			CONTRACT NO. 62905	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

SCALE: NONE SHEET NO. 24 OF 31 SHEETS STA. TO STA.

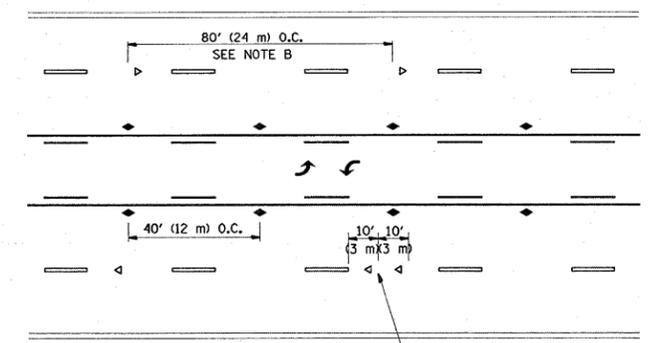


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

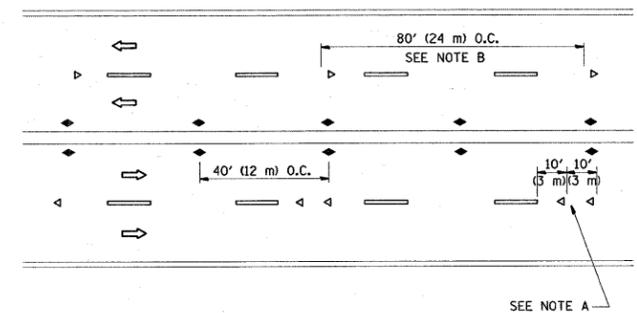
TWO-LANE/TWO-WAY



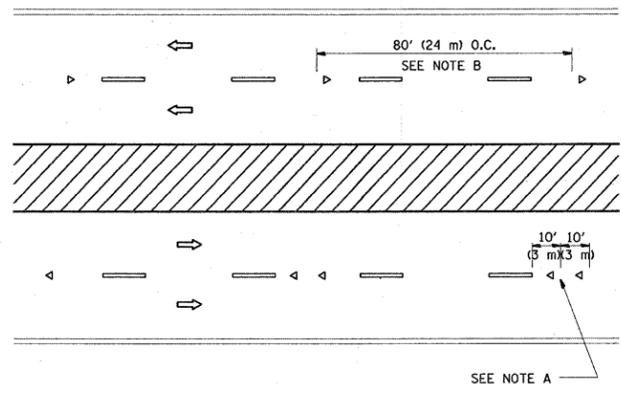
LANE REDUCTION TRANSITION



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

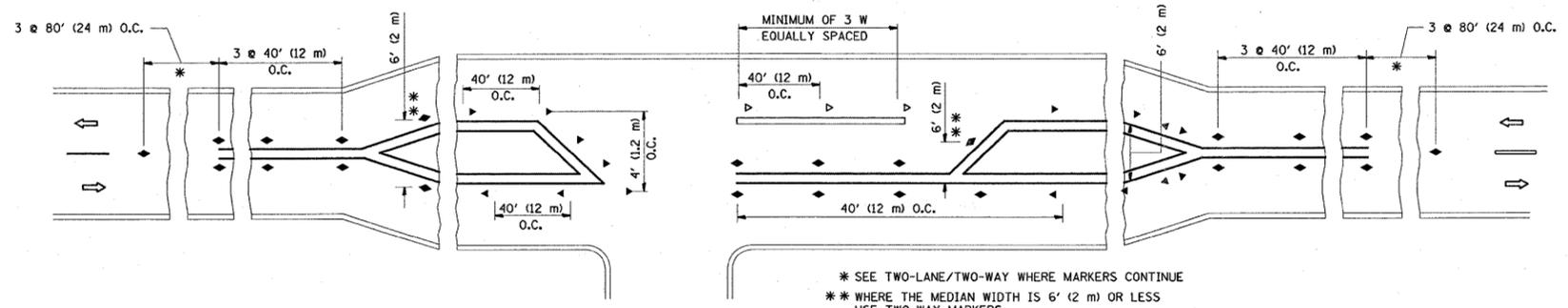
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- 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.
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

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 SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

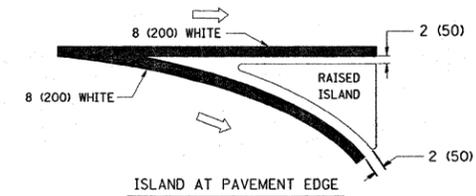
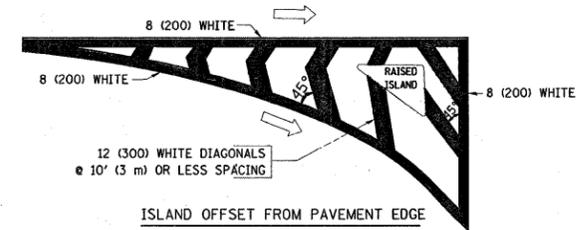
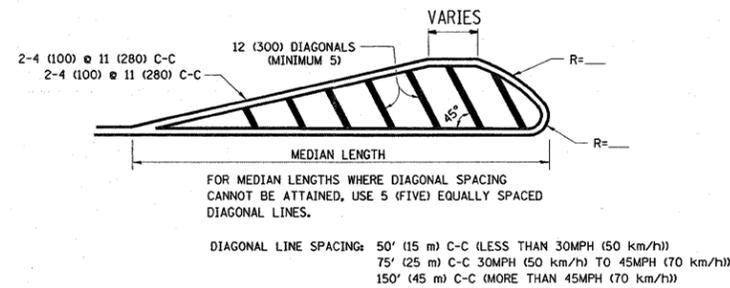
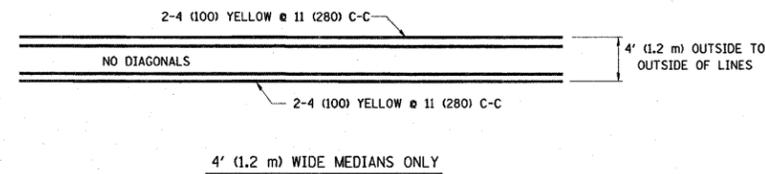
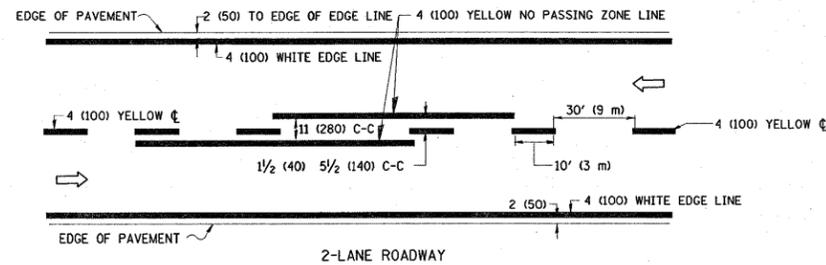


LEFT TURN

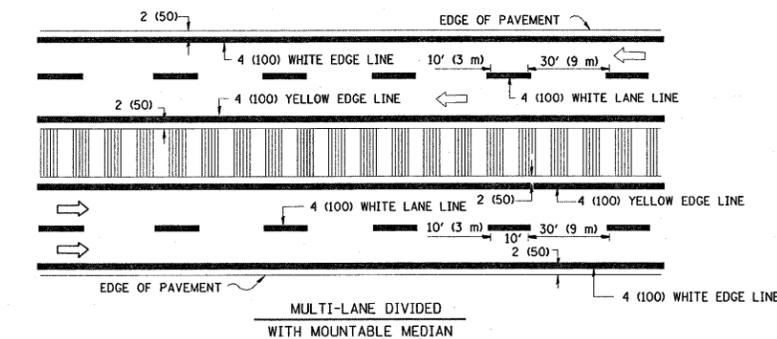
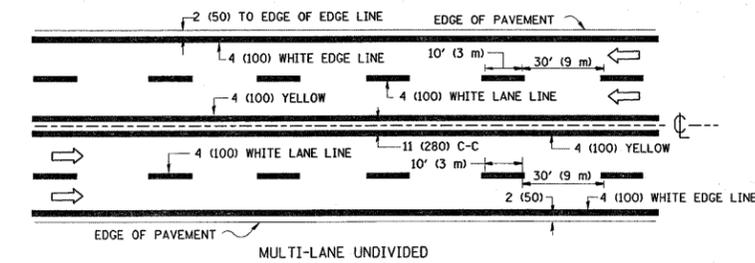
\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

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

FILE NAME =	USER NAME = wjgreendp	DESIGNED -	REVISED - T. RAMMACHER 09-19-94	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL APPLICATIONS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
\\dist\infos2\users\wjgreendp\Desktop\1176 (IL 31 to Fox River) Details\1011.dgn		DRAWN -	REVISED - T. RAMMACHER 03-12-99		<b>RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)</b>			335	146RS-3	MCHENRY	29	23
PLOT SCALE = 50,000' / IN.		CHECKED -	REVISED - T. RAMMACHER 01-06-00		SCALE: NONE	SHEET NO. 25 OF 31 SHEETS	STA.	TO STA.	<b>TC-11</b>		<b>CONTRACT NO. 62905</b>	
PLOT DATE = 1/13/2009		DATE -	REVISED -		FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT							

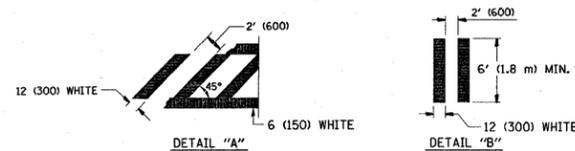
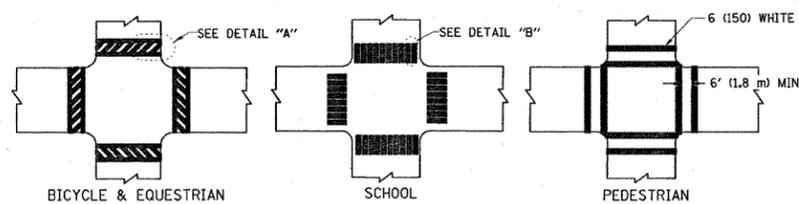


TYPICAL ISLAND MARKING

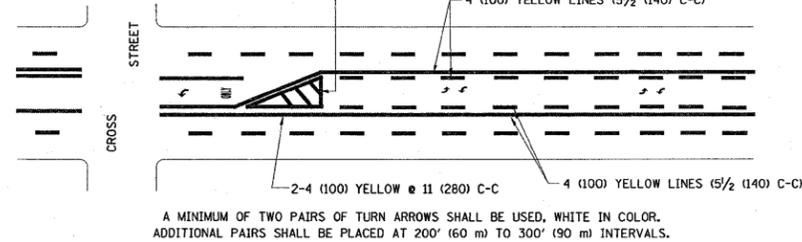


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

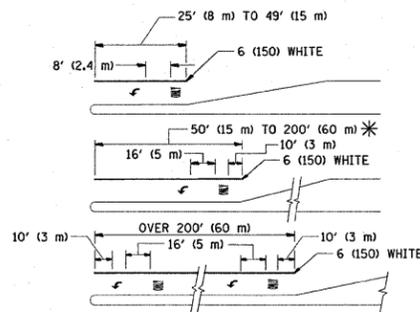


TYPICAL CROSSWALK MARKING



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
\* AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

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

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING

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	4 (100)	SOLID	YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100)	SKIP-DASH	WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
LANE LINES	5 (125) ON FREEWAYS	SKIP-DASH	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 MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
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	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
TWO WAY LEFT TURN MARKING	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	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°	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LANE 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 <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS	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))

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.

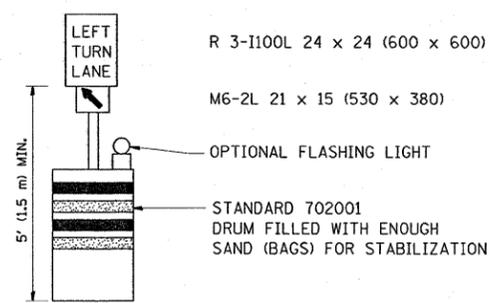
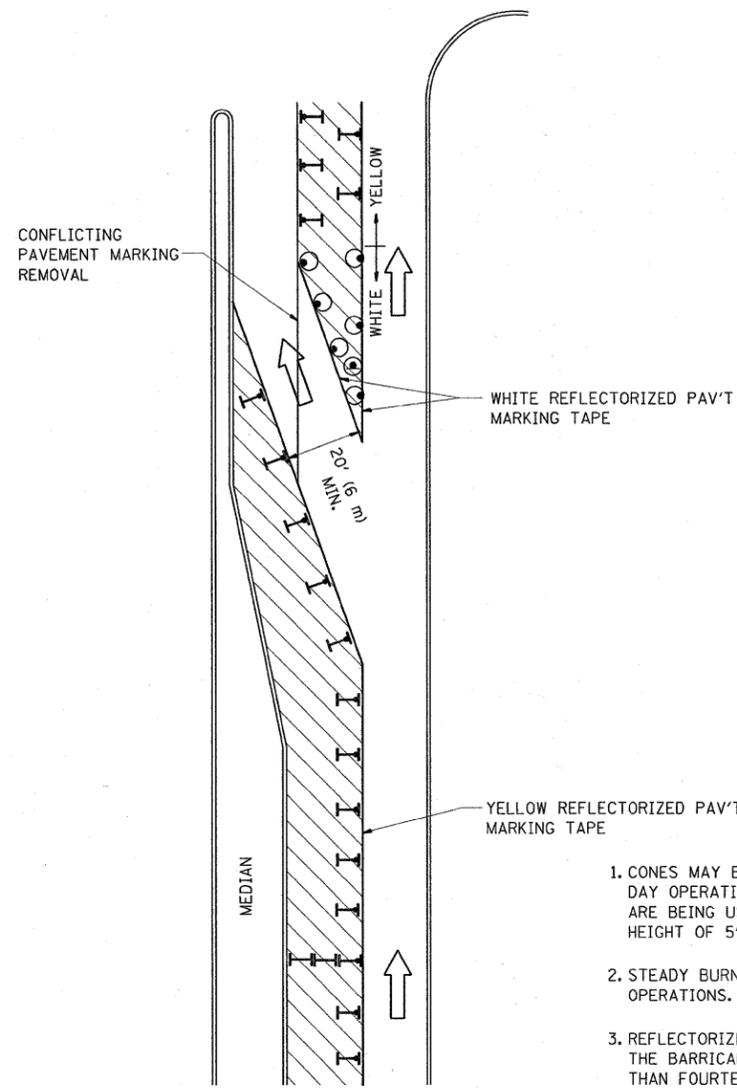
FILE NAME =	USER NAME = wlgreendp	DESIGNED - EVERS	REVISED - T. RAMMACHER 10-27-94
\\dist\infos2\users\wlgreendp\Desktop\1176 (IL 31 to Fox River) Details\c13.dgn		DRAWN -	REVISED - A. HOUSEH 10-09-96
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED - A. HOUSEH 10-17-96
	PLOT DATE = 1/13/2009	DATE - 03-19-90	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
TYPICAL PAVEMENT MARKINGS

SCALE: NONE SHEET NO. 26 OF 31 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	MCHENRY	29	24
TC-13			CONTRACT NO. 62905	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**GENERAL NOTES**

1. 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. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. 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" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM BT 725 IS REQUIRED.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

**LEGEND**

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

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

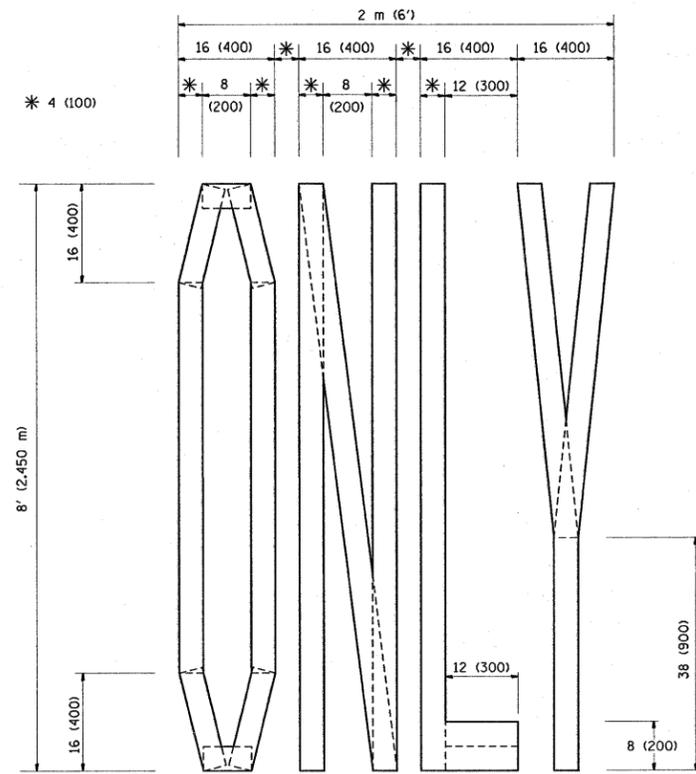
FILE NAME =	USER NAME = wjgreendp	DESIGNED -	REVISED -T. RAMMACHER 09-08-94
\\dist\ntfs2\users\wjgreendp\Desktop\1176 (IL 31 to Fox River) Details\14.dgn		DRAWN -	REVISED - A. HOUSEH 11-07-95
PLOT SCALE = 49.9999' / IN.		CHECKED -	REVISED - A. HOUSEH 10-12-96
PLOT DATE = 1/13/2009		DATE -	REVISED -T. RAMMACHER 01-06-00

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

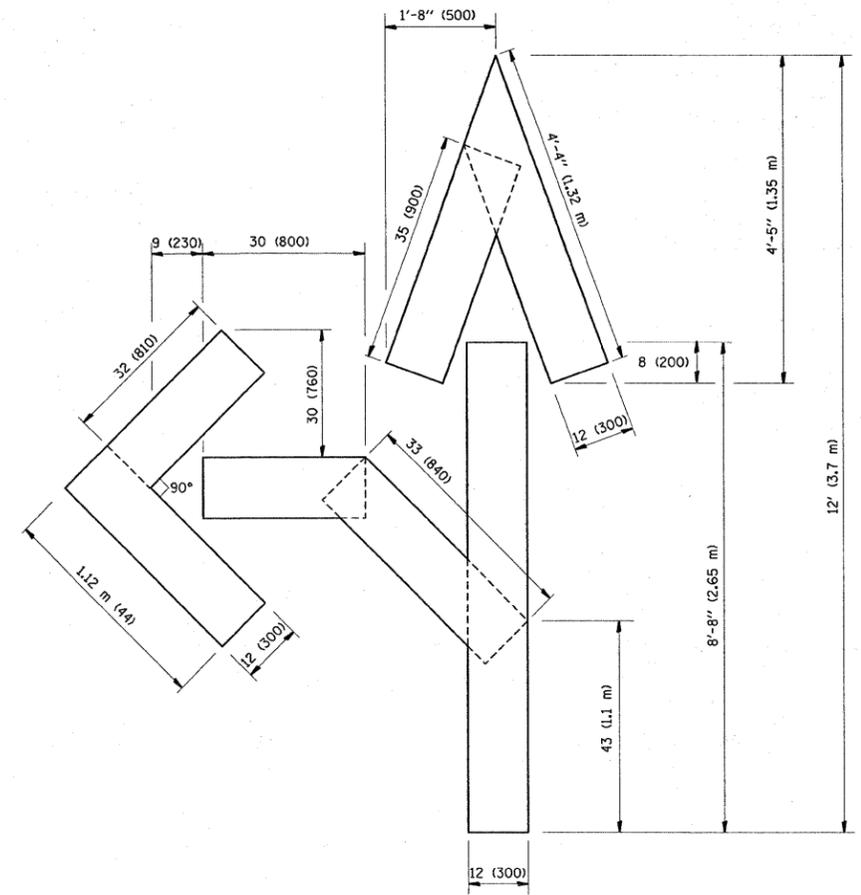
**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS  
(TO REMAIN OPEN TO TRAFFIC)**

SCALE: NONE SHEET NO. 27 OF 31 SHEETS STA. TO STA.

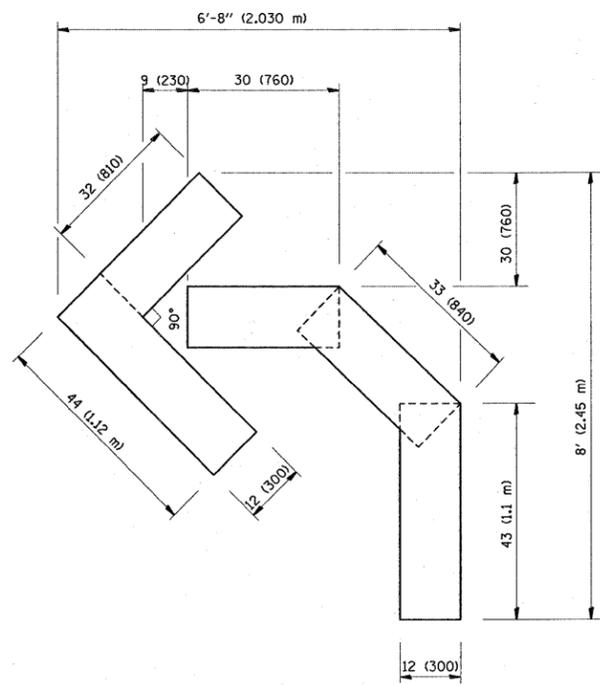
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
335	146RS-3	MCHENRY	29	25
<b>TC-14</b>			<b>CONTRACT NO. 62905</b>	
<small>FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT</small>				



QUANTITY  
 4 (100) LINE = 64.1 ft. (19.7 m)  
 21.1 sq. ft. (1.97 sq. m)



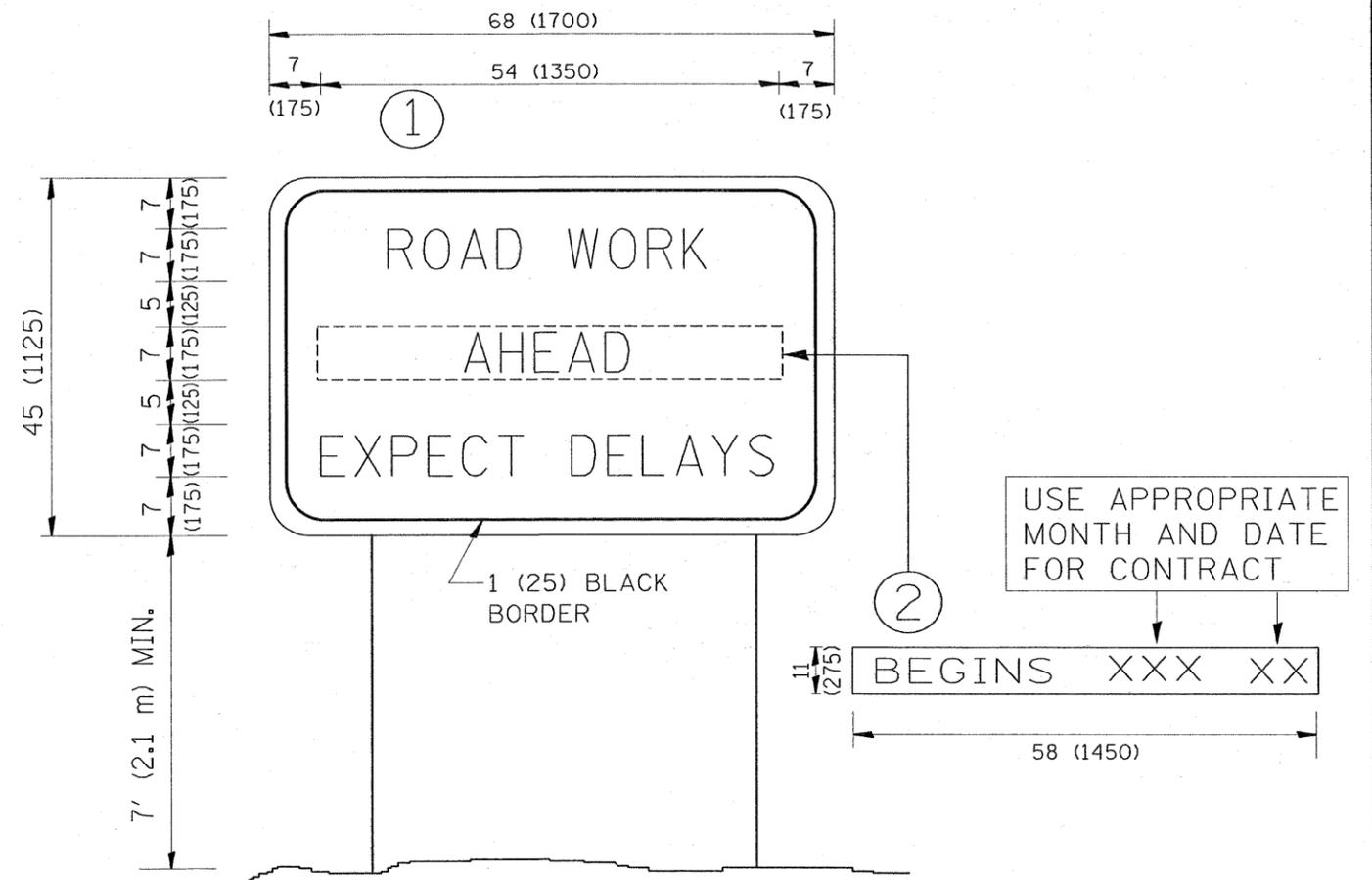
QUANTITY  
 4 (100) LINE = 82.5 ft. (25.3 m)  
 27.5 sq. ft. (2.53 sq. m)



QUANTITY  
 4 (100) LINE = 45.5 ft. (13.9 m)  
 15.2 sq. ft. (1.39 sq. m)

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

FILE NAME =	USER NAME = wjgreendp	DESIGNED -	REVISED - T. RAMMACHER 06-05-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING</b>			F.A.P. RTE. 335	SECTION 146RS-3	COUNTY MCHENRY	TOTAL SHEETS 29	SHEET NO. 26
\\dist\infos2\users\wjgreendp\Desktop\1176 (IL 31 to Fox River) Details\1016.dgn		DRAWN -	REVISED - T. RAMMACHER 11-04-97		SCALE: NONE	SHEET NO. 28 OF 31 SHEETS	STA.	TO STA.	<b>TC-16</b>		CONTRACT NO. 62905	
PLOT SCALE = 49.9999' / IN.		CHECKED -	REVISED - T. RAMMACHER 03-02-98		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
PLOT DATE = 1/13/2009		DATE - 09-18-94	REVISED - E. GOMEZ 08-28-00									



**NOTES:**

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

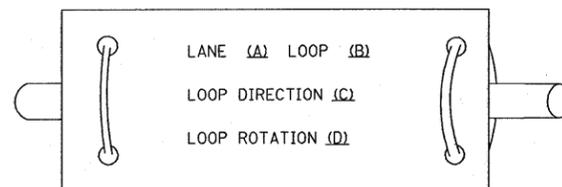
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = wilgreendp	DESIGNED -	REVISED - R. MIRS 09-15-97	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ARTERIAL ROAD INFORMATION SIGN</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
\\ds1ntrfs2\users\wilgreendp\Desktop\1176 (IL 31 to Fox River) Details\tc22.dgn	DRAWN -	REVISED - R. MIRS 12-11-97	335			146RS-3	MCHENRY	29	27	
PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99	<b>TC-22</b>			CONTRACT NO. 62905				
PLOT DATE = 1/13/2009	DATE -	REVISED - C. JUCIUS 01-31-07	SCALE: NONE			SHEET NO. 29 OF 31 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT	

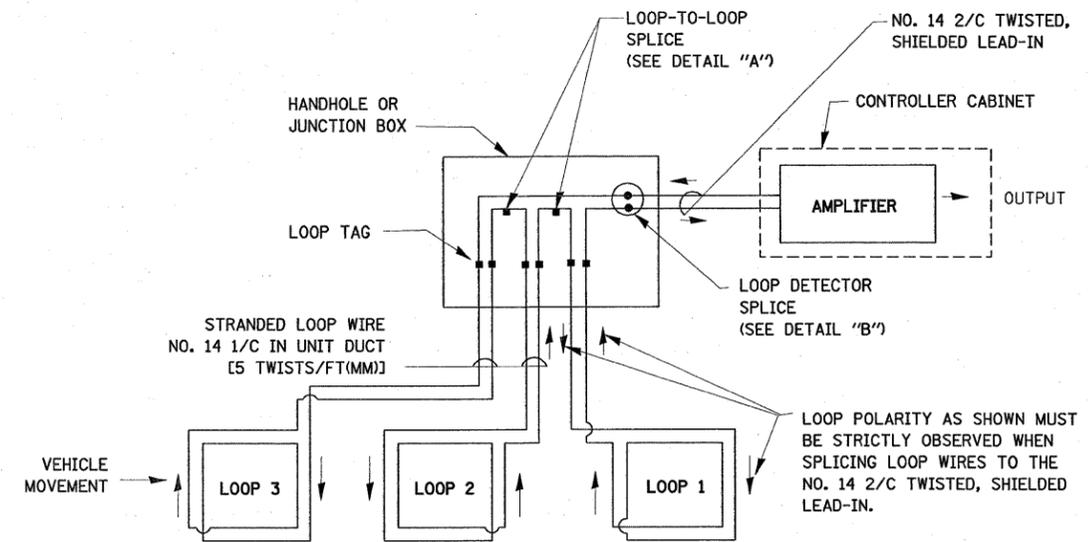
## LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT 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

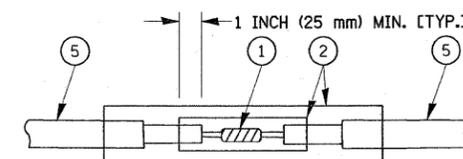


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

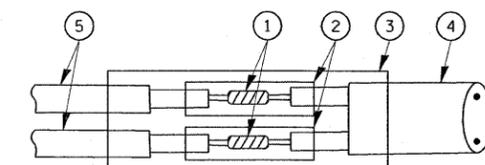


### DETECTOR LOOP WIRING SCHEMATIC

- 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

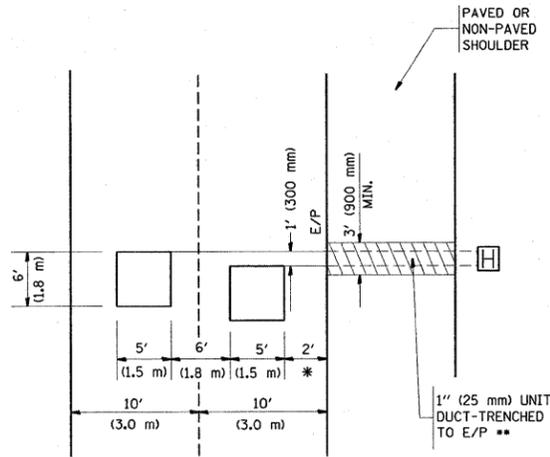
### LOOP DETECTOR SPLICE

- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 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.

FILE NAME =	USER NAME = wjgreendp	DESIGNED - D.A.D.	REVISED - 11-12-01	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>			F.A.P. RTE. 335	SECTION 146RS-3	COUNTY MCHENRY	TOTAL SHEETS 29	SHEET NO. 28
\\distintfs2\users\wjgreendp\Desktop\1176 (IL 31 to Fox River) Details\ts05.dgn	DRAWN - R.W.P.	CHECKED - D.A.Z.	REVISED - BUR. TRAFFIC 01-01-02		SCALE: NONE	SHEET NO. 30 OF 31 SHEETS	STA.	TO STA.	<b>TS-05</b>		CONTRACT NO. 62905	
PLOT SCALE = 50,0000' / IN.	DATE - 05-30-00	REVISED -			FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT							
PLOT DATE = 1/13/2009												

**LOOPS NEXT TO SHOULDERS**

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

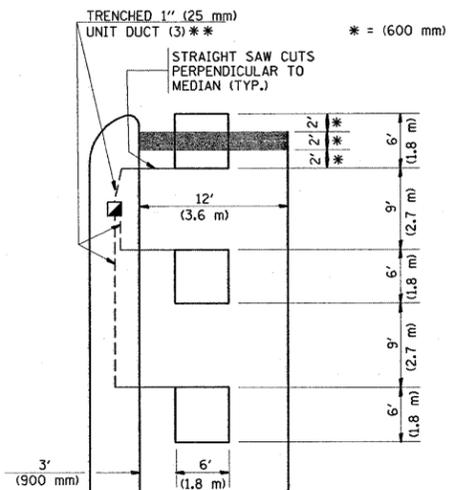


\* = (600 mm)

\*\* 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.

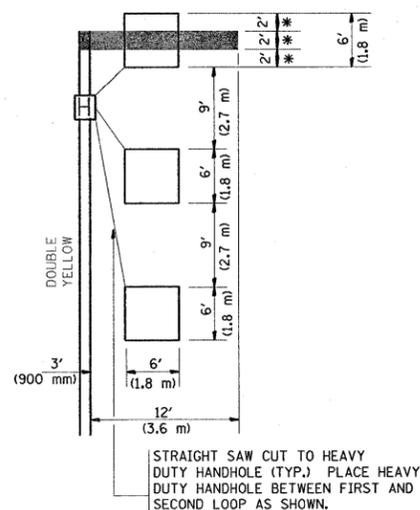


\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

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

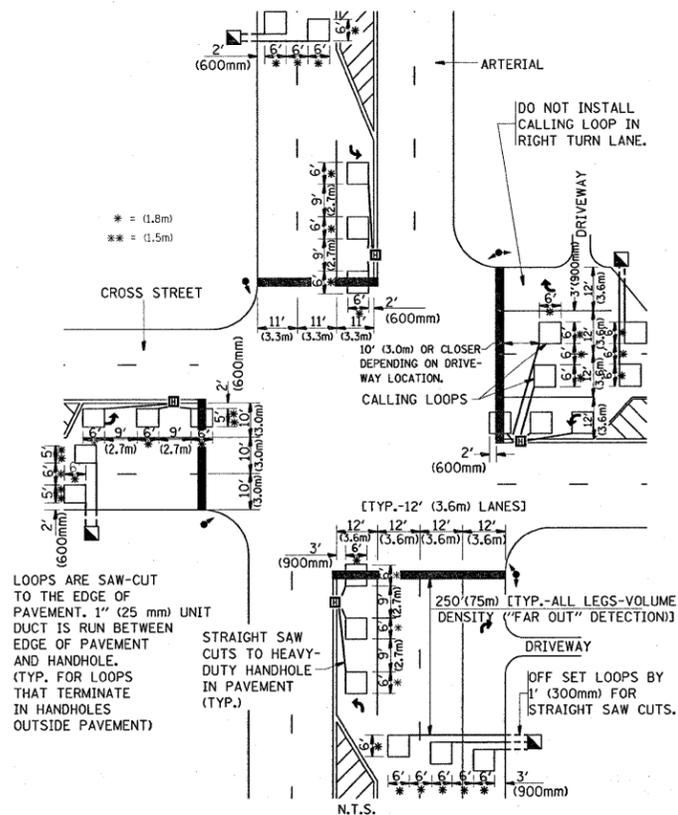
**LEFT TURN LANES WITHOUT MEDIANS  
VOLUME DENSITY ("FAR OUT" DETECTION)  
ON SAME APPROACH  
(PROTECTED / PERMITTED LEFT TURN PHASING)**

\* = (600 mm)



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)**

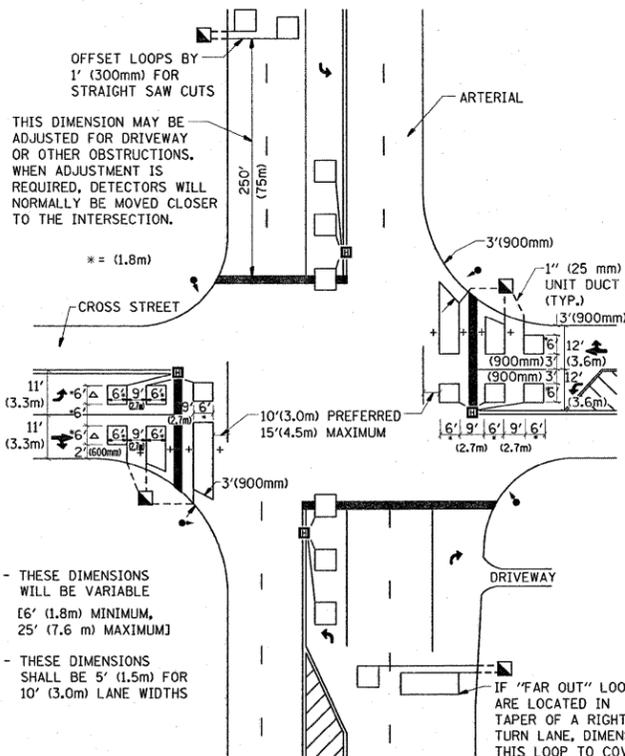


LOOPS ARE SAW-CUT TO THE EDGE OF PAVEMENT. 1" (25 mm) UNIT DUCT IS RUN BETWEEN EDGE OF PAVEMENT AND HANDHOLE. (TYP. FOR LOOPS THAT TERMINATE IN HANDHOLES OUTSIDE PAVEMENT)

STRAIGHT SAW CUTS TO HEAVY-DUTY HANDHOLE IN PAVEMENT (TYP.)

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

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



+ - THESE DIMENSIONS WILL BE VARIABLE [6' (1.8m) MINIMUM, 25' (7.6 m) MAXIMUM]

△ - THESE DIMENSIONS SHALL BE 5' (1.5m) FOR 10' (3.0m) LANE WIDTHS

**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 = \\dist1\ntf2\users\w1greendp\Desktop\1176 (IL 31 to Fox River) Details\ts07.dgn	USER NAME = w1greendp	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT 1 - DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING</b>			F.A.P. RTE. 335	SECTION 146RS-3	COUNTY MCHENRY	TOTAL SHEETS 29	SHEET NO. 29
PLOT SCALE = 1/13/2009	PLOT DATE = 1/13/2009	DRAWN -	REVISED -		SCALE: NONE	SHEET NO. 31 OF 31 SHEETS	STA. TO STA.	<b>TS-07</b>				
		CHECKED - R.K.F.	REVISED -		CONTRACT NO. 62905							
		DATE -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							