	STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	24493	1	1

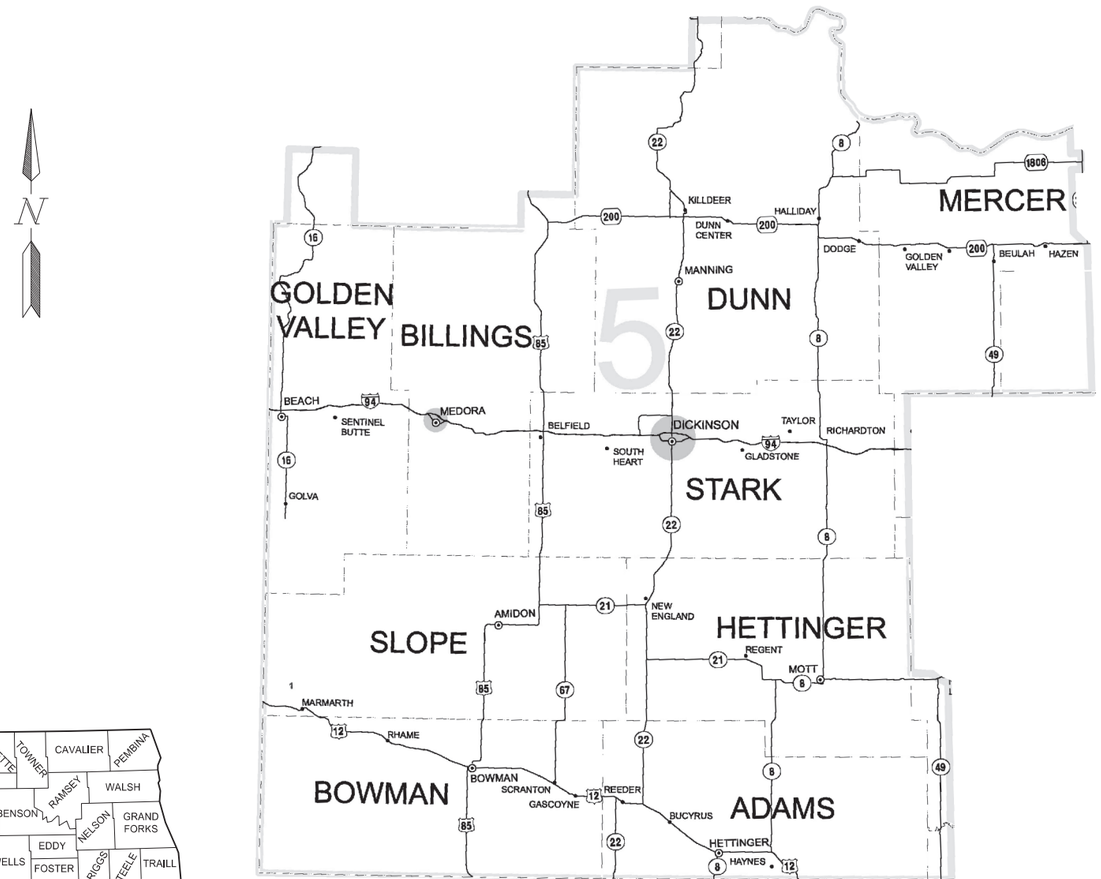
NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

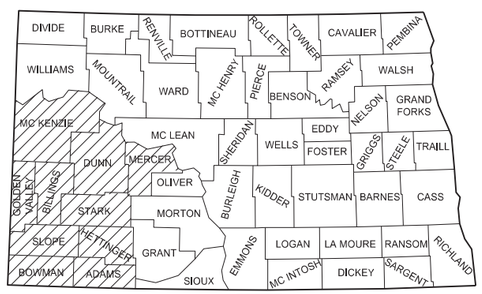
HES-5-999(037)

Adams, Billings, Bowman, Dunn, Golden Valley,
Hettinger, Mercer, McKenzie, Slope & Stark Counties
Pavement Marking

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2024
Supplemental Specifications	NONE

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
HES-5-999(037) \ PAVEMENT MARKING	N/A	N/A





STATE COUNTY MAP

DESIGNER Denis Oyugi
DESIGNER Bonnie Brown
DESIGNER

ND DEPARTMENT OF TRANSPORTATION
DICKINSON DISTRICT

Robert Rayhorn
01/09/25

NDDOT DICKINSON DISTRICT

REGISTERED PROFESSIONAL ENGINEER
JASON R. FISCHER
PE-6865
DATE 01/07/25
NORTH DAKOTA

1/6/2025 2:11:10 PM doyugi R:\project\50999000.037\District\dgn\2025 District Striping\001TS_001_Titlesheet.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	2	1

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PLAN SECTIONS

LIST OF STANDARD DRAWINGS

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	6	1

NOTES

762-P01 PAVEMENT MARKING: Centerline striping through urban areas include but are not limited to these mainline markings; centerline, channel line, crosswalk, stop bar, railroad crossing, and turn arrows. Do not stripe any markings on side streets.

762-P02 PAVEMENT MARKING INSTALLATION: Include the Centerline Skips, Centerline Barriers, 10’ or 2’ Skip lines and Edgelines as shown in Section 120 under the bid item PAVEMENT MK INSTALLATION – 6IN.

The engineer will measure and pay for this item in miles.

762-P03 PAVEMENT MARKING PAINTED 6IN LINE: Include the 6IN Crosswalk lines as shown in Section 120 under the bid item PAVEMENT MK PAINTED 6IN LINE.

The engineer will measure and pay for this item in linear feet.

762-050 PAVEMENT MARKING: If the Engineer and Contractor agree, plan quantity will be used as the measurement for payment for pavement marking items.

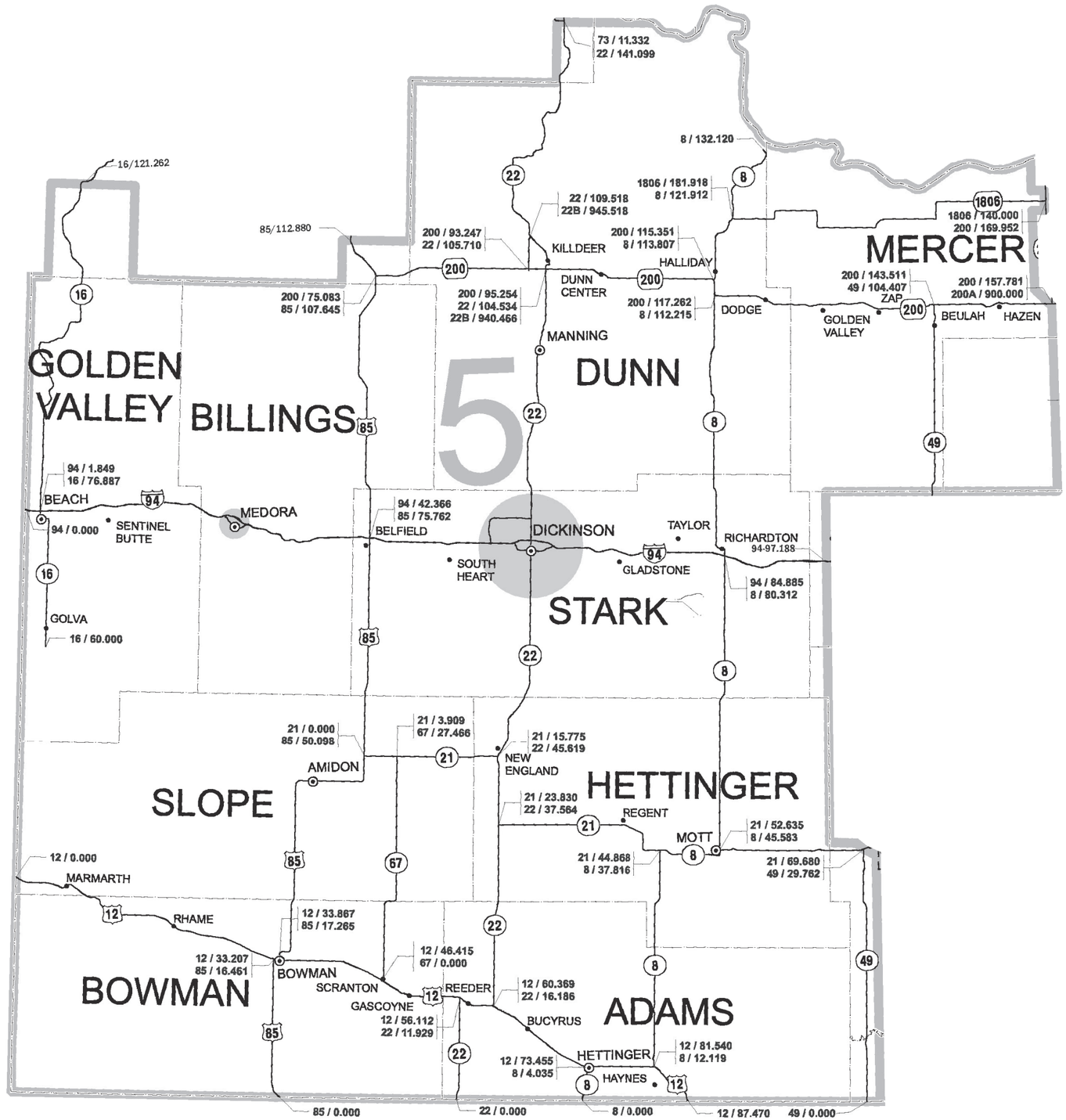
REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

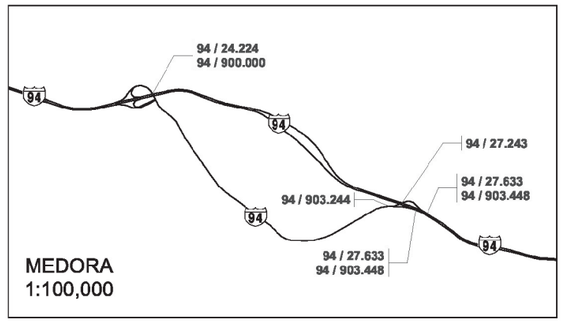
ESTIMATE OF QUANTITIES

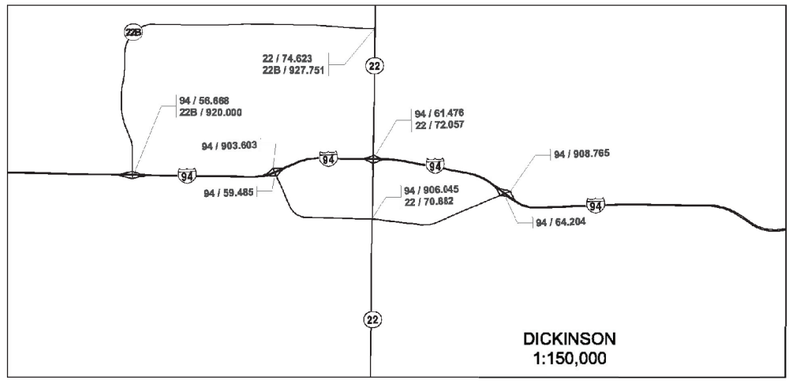
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	8	1

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
103	0100	CONTRACT BOND	L SUM	1	1
702	0100	MOBILIZATION	L SUM	1	1
762	0103	PVMT MK PAINTED-MESSAGE	SF	3,444	3,444
762	0109	PVMT MK INSTALLATION - 6IN	MILE	1,457	1,457
762	1106	PVMT MK PAINTED 6IN LINE	LF	90	90
762	1108	PVMT MK PAINTED 8IN LINE	LF	1,257	1,257
762	1112	PVMT MK PAINTED 12IN LINE	LF	21,716	21,716
762	1124	PVMT MK PAINTED 24IN LINE	LF	5,074	5,074

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	11	1







REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

District Map with Reference Points

Pavement Marking

State & US Highways

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	11	2

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
ND 8	12.119	N	ND 8 & ND 12 (E JCT)	Paint	16
ND 8	37.816	S	ND 8 & ND 21 (W JCT)	Paint	13
ND 8	45.583	S	ND 8 & ND 21 (E JCT)	Paint	18
ND 8	45.583	W	ND 8 & ND 21 (E JCT)	Paint	20
ND 8	45.583	N	ND 8 & ND 21 (E JCT)	Paint	20
ND 8	67.646	E	ND 8 & 50 ST SW	Paint	13
ND 8	81.05	S	ND 8 & OLD HWY 10 (E JCT)	Paint	15
ND 8	81.05	E	ND 8 & OLD HWY 10 (E JCT)	Paint	15
ND 8	81.05	N	ND 8 & OLD HWY 10 (E JCT)	Paint	15
ND 8	82.41	N	ND 8 & OLD HWY 10 (W JCT)	Paint	14
ND 8	82.41	S	ND 8 & OLD HWY 10 (W JCT)	Paint	19
ND 8	88.69	E	ND 8 & 30th ST SW	Paint	13
ND 8	112.22	S	ND 8 & HWY 200 (E JCT)	Paint	16
ND 8	113.81	N	ND 8 & HWY 200 (W JCT)	Paint	18

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
US 12	5.704	S	US 12 & CAMP COOK RD	Paint	30
US 12	7.001	N	US 12 & 76 ST SW	Paint	20
US 12	20.685	N	US 12 & MAIN ST (RHAME)	Paint	28
US 12	20.685	S	US 12 & MAIN ST (RHAME)	Paint	28
US 12	32.325	N	US 12 & INDUSTRIAL AVE	Paint	13
	32.705	N	US 12 & 11 AVE SW	Paint	14
US 12	33.14	N	US 12 & 11 AVE S	Paint	18

STOP BAR LOCATIONS

US 12	33.25	S	US 12 & Weigh Station (West Exit)	Paint	23
US 12	33.33	S	US 12 & Weigh Station (East Exit)	Paint	40
US 12	43.325	S	US 12 & 136 AVE SW	Paint	30
US 12//ND 67	46.529	S	Scranton Ramp (US 12)	Paint	35
US 12//ND 67	46.529	E	Scranton Ramp (ND 67)	Paint	28
US 12	50.11	N	US 12 & MAIN ST (GASCOYNE)	Paint	15
US 12	50.11	S	US 12 & MAIN ST (GASCOYNE)	Paint	20
US 12	57.314	N	US 12 & 15 ST NW	Paint	23
US 12	57.314	S	US 12 & 15 ST NW	Paint	23
US 12	60.369	SE	US 12 & ND 22 (W JCT)	Paint	29
US 12	65.179	N	US 12 & 8 ST NW	Paint	18
US 12	65.179	S	US 12 & 8 ST NW	Paint	23
US 12	74.544	N	US 12 & 2 ST E	Paint	18
US 12	74.544	S	US 12 & 2 ST E	Paint	16
US 12	81.540	S	US 12 & ND 8 (9 ST SE)	Paint	13
US 12	86.378	W	US 12 & 4 AVE SE	Paint	11
US 12	86.378	E	US 12 & 4 AVE SE	Paint	13

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
ND 16	74.678	W	ND 16 & MAIN ST	Paint	20
ND 16	75.025	S	ND 16 & OLD HWY 10	Paint	16
ND 16	76.020	E	ND 16 & 4 ST NW	Paint	22
ND 16	76.020	N	ND 16 & 4 ST NW	Paint	21
ND 16	76.587	W	ND 16 & VISITOR AREA	Paint	15
ND 16	76.667	W	ND 16 & VISITOR AREA	Paint	15

Pavement Marking

Highway Paint

Stop Bar Locations

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	11	3

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
ND 21	0.000	E	ND 21 & US 85	Paint	12
ND 21	15.775	W	ND 21 & ND 22 (W JCT)	Paint	13
ND 21	23.830	E	ND 21 & ND 22 (E JCT)	Paint	12
ND 21	38.283	N	ND 21 & 102½ AVE SW	Paint	12
ND 21	38.283	S	ND 21 & 102½ AVE SW	Paint	12
ND 21	52.635	E	ND 8 & ND 21 (E JCT)	Paint	12

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
ND 49	29.76	S	ND 49 & ND 21 (S JCT)	Paint	20

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
ND 22	11.91	S	ND 22 & US 12 (W JCT)	Paint	15
ND 22	16.19	N	ND 22 & US 12 (E JCT)	Paint	94
ND 22	37.56	W	ND 22 & ND 21 (E JCT - Westside)	Paint	15
ND 22	45.66	E	ND 22 & ND 21 (W JCT - Eastside)	Paint	18
ND 22	46.108	W	ND 22 & ELEVATOR RD	Paint	21
ND 22	46.380	W	ND 22 & 6 ST E	Paint	12
ND 22	46.505	W	ND 22 & 8 ST	Paint	39
ND 22	46.505	E	ND 22 & 8 ST	Paint	16
ND 22	46.840	W	ND 22 & 12 ST E	Paint	26
ND 22	46.840	E	ND 22 & 12 ST E (60 ST SW)	Paint	26
ND 22	46.93	W	ND 22 & 12 S DR	Paint	28

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
US 85	5.336	E	US 85 & 97 ST SW	Paint	18
US 85	16.421	E	Weigh Station (South Exit US 85)	Paint	16
US 85	16.460	S	US 85 & US 12 (W JCT)	Paint	47
US 85	17.265	N	US 85 & US 12 (E JCT)	Paint	41
US 85	18.281	W	US 85 & 6 ST NE	Paint	16
US 85	21.29	E	US 85 & 83 ST SW	Paint	17
US 85	39.395	W	US 85 & 64 ST SW	Paint	23
US 85	73.335	W	US 85 & 38 ST SW	Paint	12
US 85	75.336	W	US 85 & CO 10	Paint	13
US 85	75.336	E	US 85 & CO 10	Paint	13

Pavement Marking

Highway Paint

Stop Bar Locations

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	11	4

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
ND 200	108.560	S	ND 200 & 94 AVE SW	Paint	21
ND 200	115.127	N	ND 200 & 84 AVE SW	Paint	13
ND 200	129.847	S	ND 200 & CO 7	Paint	14
ND 200	130.345	N	ND 200 & CO 5	Paint	15
ND 200	130.345	S	ND 200 & CO 5	Paint	15
ND 200	136.447	N	ND 200 & CO 13	Paint	16
ND 200	136.447	S	ND 200 & CO 13	Paint	13
ND 200	137.317	S	ND 200 & 67 AVE SW	Paint	11

STOP BAR LOCATIONS

Highway	RP	Quadrant	Intersection	Pavement Marking Type	PVMT MK PAINTED 24IN LINE (LF)
ND 1806	140.00	W	ND 1806 & ND 200	Paint	14
ND 1806	154.83	W	ND 1806 & CO 21	Paint	14
ND 1806	161.279	N	ND 1806 & BEAVER BAY RD	Paint	18
ND 1806	162.417	S	ND 1806 & CO 13	Paint	20
ND 1806	166.274	S	ND 1806 & CO 11 (W JCT)	Paint	15
ND 1806	172.066	N	ND 1806 & CO 5	Paint	32
ND 1806	181.905	E	ND 1806 & ND 8 JCT	Paint	39

STOP & AHEAD LOCATIONS

HIGHWAY	RP	STOP (sf)	AHEAD (sf)	QUANTITY (sf)	PAVEMENT MARKING TYPE
ND 8	12.422	22	30	52	PAINT
ND 8	45.492	22	30	52	PAINT
ND 8	80.875	22	30	52	PAINT
ND 8	82.678	22	30	52	PAINT

STOP & AHEAD LOCATIONS

HIGHWAY	RP	STOP (sf)	AHEAD (sf)	QUANTITY (sf)	PAVEMENT MARKING TYPE
ND 16	74.797	22	30	52	PAINT

STOP & AHEAD LOCATIONS

HIGHWAY	RP	STOP (sf)	AHEAD (sf)	QUANTITY (sf)	PAVEMENT MARKING TYPE
ND 21	15.466	22	30	52	PAINT
ND 21	24.117	22	30	52	PAINT

STOP & AHEAD LOCATIONS

HIGHWAY	RP	STOP (sf)	AHEAD (sf)	QUANTITY (sf)	PAVEMENT MARKING TYPE
ND 22	11.653	22	30	52	PAINT
ND 22	16.485	22	30	52	PAINT

STOP & AHEAD LOCATIONS

HIGHWAY	RP	STOP (sf)	AHEAD (sf)	QUANTITY (sf)	PAVEMENT MARKING TYPE
ND 49	29.459	22	30	52	PAINT

STOP & AHEAD LOCATIONS

HIGHWAY	RP	STOP (sf)	AHEAD (sf)	QUANTITY (sf)	PAVEMENT MARKING TYPE
US 85	16.161	22	30	52	PAINT

Pavement Marking

Highway Paint

Stop Bar & Stop Ahead Locations

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	11	5

DROP ARROW LOCATIONS

HIGHWAY	RP	DIRECTION	PVMT MK MESSAGE 41 SF	PAVEMENT MARKING TYPE
ND 200	129.207	EAST	41	PAINT
ND 200	129.323	EAST	41	PAINT

CHEVRON (3 LINES) LOCATIONS

HIGHWAY	RPs	PVMT MK12 IN YELLOW(LF)	PVMT MK 8IN YELLOW (LF)	PAVEMENT MARK TYPE
ND 12	33.136		41	PAINT
ND 12	33.151		47	PAINT
ND 12	33.596		39	PAINT
ND 12	33.669		40	PAINT
ND 12	34.186		44	PAINT
ND 12	34.300		51	PAINT
ND 12	34.414		51	PAINT
ND 12	60.389	57		PAINT

CHEVRON (3 LINES) LOCATIONS

HIGHWAY	RPs	PVMT MK 12IN YELLOW (LF)	PVMT MK 8IN YELLOW (LF)	PAVEMENT MARKING TYPE
ND 22	37.564	39		PAINT
ND 22	45.631	39		PAINT
ND 22	46.113	38		PAINT
ND 22	47.028	37		PAINT

CHEVRON (3 LINES) LOCATIONS

HIGHWAY	RPs	PVMT MK 12IN YELLOW (LF)	PVMT MK 8IN YELLOW (LF)	PAVEMENT MARKING TYPE
ND 49	102.732	130		PAINT
ND 49	102.954	68		PAINT
ND 49	103.136	63		PAINT
ND 49	103.363	69		PAINT
ND 49	103.805	59		PAINT

CHEVRON (3 LINES) LOCATIONS

HIGHWAY	RPs	PVMT MK 12IN YELLOW	PVMT MK 8IN YELLOW (LF)	PAVEMENT MARKING TYPE
US 85	50.091	45		PAINT
US 85	75.314		51	PAINT
US 85	75.574		68	PAINT
US 85	75.675		51	PAINT

CHEVRON (3 LINES) LOCATIONS

HIGHWAY	RPs	PVMT KK 12 IN YELLOW(LF)	PVMT MK 8IN YELLOW (LF)	PAVEMENT MARK TYPE
ND 200	117.190	46		PAINT

Pavement Marking

Highway Paint

Drop Arrow & Chevron Locations

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	11	6

CROSSWALK LINES					
HIGHWAY	RP	QUADRANT	PVMT MK 24 IN LINE (LF)	PVMT Mk 6 IN LINE (LF)	PAVEMENT MARK TYPE
ND 8	45.596	N		90	PAINT
ND 8	45.663	S	60		PAINT
ND 8	45.833	N	60		PAINT
ND 8	45.833	S	60		PAINT

CROSSWALK LINES					
HIGHWAY	RP	QUADRANT	PVMT MK 24 IN LINE (LF)	PVMT Mk 6 IN LINE (LF)	PAVEMENT MARK TYPE
US 12	6.125	E	80		PAINT
US 12	6.181	W	80		PAINT
US 12	6.201	E	80		PAINT
US 12	6.258	W	80		PAINT
US 12	73.637	W	72		PAINT
US 12	73.707	W	72		PAINT
US 12	73.707	E	72		PAINT
US 12	73.779	W	72		PAINT
US 12	73.779	E	72		PAINT
US 12	73.851	W	72		PAINT
US 12	73.851	E	72		PAINT
US 12	73.921	W	72		PAINT
US 12	73.921	E	72		PAINT
US 12	73.991	W	72		PAINT
US 12	73.991	E	72		PAINT
US 12	74.059	W	72		PAINT
US 12	74.059	E	72		PAINT

CROSSWALK LINES					
HIGHWAY	RP	QUADRANT	PVMT MK 24 IN LINE (LF)	PVMT Mk 6 IN LINE (LF)	PAVEMENT MARK TYPE
ND 16	75.937	E	72		PAINT
ND 16	75.937	W	72		PAINT
ND 16	76.189	N	90		PAINT
ND 16	76.583	W	60		PAINT
ND 16	76.663	W	60		PAINT

CROSSWALK LINES					
HIGHWAY	RP	QUADRANT	PVMT MK 24 IN LINE (LF)	PVMT Mk 6 IN LINE (LF)	PAVEMENT MARK TYPE
ND 49	102.065	N	60		PAINT

CROSSWALK LINES					
HIGHWAY	RP	QUADRANT	PVMT MK 24 IN LINE (LF)	PVMT Mk 6 IN LINE (LF)	PAVEMENT MARK TYPE
US 85	17.435	N	72		PAINT
US 85	17.505	S	72		PAINT
US 85	17.575	N	72		PAINT
US 85	17.645	S	72		PAINT
US 85	17.645	N	72		PAINT
US 85	17.70	S	72		PAINT
US 85	17.915	N	60		PAINT

Pavement Marking

Highway Paint

Crosswalk Locations

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	11	7

CORNER FAN LOCATIONS				
HIGHWAY	RP	QUADRANT	PVMT MK 8IN WHITE (LF)	PAVEMENT MARK TYPE
ND 8	12.119	N	37	PAINT

CORNER FAN LOCATIONS				
HIGHWAY	RP	QUADRANT	PVMT MK 8IN WHITE (LF)	PAVEMENT MARK TYPE
US 12	32.325	N	44	PAINT
US 12	32.711	N	39	PAINT

CORNER FAN LOCATIONS				
HIGHWAY	RP	QUADRANT	PVMT MK 8IN WHITE (LF)	PAVEMENT MARK TYPE
ND 21	0.000	E	37	PAINT
ND 21	15.775	W	86	PAINT
ND 21	23.83	E	95	PAINT
ND 21	38.283	N	25	PAINT
ND 21	38.283	S	63	PAINT

CORNER FAN LOCATIONS				
HIGHWAY	RP	QUADRANT	PVMT MK 8IN WHITE (LF)	PAVEMENT MARK TYPE
US 85	73.334	W	41	PAINT
US 85	75.334	E	75	PAINT
US 85	75.334	W	95	PAINT

CORNER FAN LOCATIONS				
HIGHWAY	RP	QUADRANT	PVMT MK 8IN WHITE (LF)	PAVEMENT MARK TYPE
ND 200	75.083	E	137	PAINT

Pavement Marking

Highway Paint

Corner Fan Locations

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	120	1

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND 8	0.000	4.035	DO NOT STRIPE - 2025 SEAL COAT PROJECT																		
ND 8*	12.119	37.816	32,453	43,053		271,360			37			29						22	30		
ND 8	37.816	45.583	8,729	28,655		82.093						38						22	30		
ND 8	45.583	64.920	24,710	23,850		198,591						33								180	90
ND 8	64.920	81.745	20,197	46,306		172,767						45						22	30		
ND 8	81.745	112.215	38,644	59,822		321,763				771		62	48	48				22	30		
ND 8	113.807	115.000	883	6,853		12,513						18									
ND 8	115.000	124.200	11,405	27,488		97,152															
ND 8 Reserv.	124.200	131.918	TERO HIGHWAY - DO NOT STRIPE																		

* Corner Fans 8 IN line S end

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	12 IN	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
US 12	0.000	20.514	25,352	29,975		216,628						50								320	
US 12*	20.514	34.175	16,501	30,419	38	140,744		167	83	2,207		101	32	656							
	Weigh Station @ Bowman					1,570				245		63									
US 12	34.175	46.515	15,667	22,160		130,310		146		1,119		30	80	64							
	Ramp at Scranton			1,447		1,679				85		63	32	32							
US 12	46.535	54.130	9,398	16,489		80,203				385		35		48							
US 12	54.130	73.389	24,935	15,798		203,375				1141	57	116	48	48							
US 12	73.389	87.470	16,905	27,361		141,071						71								936	

*10' or 2' Skip Lines half in yellow & half in white

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND 16	60.000	75.450	18,770	25,742		163,152						36						22	30		
ND 16	75.450	76.023	0	5,111		0						22								144	
ND 16	76.023	76.887	0	8,416		7,265				125		21	32							90	
	Visitor Center @ Beach											30								120	
ND 16	76.887	95.658	23,439	40,440		197,926															
ND 16	95.658	121.262	29,825	55,804		270,378															

Pavement Marking

Highway Paint

State & US Highways

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	120	2

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (SF)	6" Lines (LF)
ND 21*	0.000	15.775	19,837	34,468		166,584			123			25						22	30		
ND 21**	23.830	44.868	26,222	41,119		222,161			183			36						22	30		
ND 21	52.635	69.680	20,622	59,194		179,995						12									

* Corner Fans 8 IN line E & W ends

** Corner Fans at Jct ND 22 & 102 1/2 Ave SW Regent

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND22 B	919.438	919.98	EPOXY SEGMENT. DO NOT STRIPE																		
ND22 B	919.98	921.193																			
ND22 B	921.193	925.755																			
ND22 B	925.755	927.731																			
ND22 B	940.575	945.385	EPOXY SEGMENT. DO NOT STRIPE																		

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND 22	0.000	11.918	14,842	27,968		125,970						15						22	30		
ND 22	16.186	47.359	37,223	116,255		329,187				4282	153	295	144	192				22	30		
ND 22	47.359	69.577	DO NOT STRIPE - 2025 SEAL COAT PROJECT																		
ND 22	74.175	77.911	EPOXY SEGMENT. DO NOT STRIPE																		
ND 22	77.911	91.439																			
ND 22	91.439	104.410																			
ND 22	104.410	940.618	ROUND ABOUT INLAY. DO NOT STRIPE																		
ND 22	105.710	109.518																			
ND 22	109.491	118.930	EPOXY SEGMENT. DO NOT STRIPE																		
ND 22	118.930	126.789																			
ND 22 Res	126.789	141.099	TERO HIGHWAYS - DO NOT STRIPE																		

Pavement Marking

Highway Paint

State & US Highways

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DENIS M. OYUGI
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	120	3

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND 49 Res	0.000	7.354	TERO HIGHWAY. DO NOT STRIPE																		
ND 49	7.354	19..057	15,000	24,996		123,584															
ND 49	19.057	29.752	13,205	26,257		112,939						20						22	30		
ND 49	82.332	101.770	EPOXY SEGMENT. DO NOT STRIPE																		
ND 49	101.770	104.281		31,891	30	26,368				3,934	389		256	320	54					60	
ND 49	104.281	104.420	EPOXY SEGMENT. DO NOT STRIPE																		

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND 67	0.000	-0.280	DO NOT STRIPE - 2025 SEAL COAT PROJECT																		
ND 67	0.000	16.188																			
ND 67*	16.188	27.466																			

* Corner Fan 8 IN line N end

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
US 85	0.000	16.461	21,251	20,486		173,828						81						22	30		
US 85	17.265	19.748	1,745	10,930		19,388						57								492	
US 85	19.748	41.108	27,193	35,133		225,562						40									
US 85	41.108	57.103	20,316	9,878		168,907				660	45			48							
US 85	57.103	74.678	23,064	5,528		185,592			41	581		12	48								
US 85	74.678	75.860	0	11,711		12,482		170	170	1,811		26	96	240							
US 85	75.860	90.728	EPOXY SEGMENT. DO NOT STRIPE																		
US 85	90.728	102.020																			
US 85	102.020	113.035																			

Pavement Marking

Highway Paint

State & US Highways

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	120	4

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND 200	75.083	93.199							137												
ND 200	93.199	93.359	ROUND ABOUT INLAY. DO NOT STRIPE																		
ND 200	93.359	95.134	EPOXY SEGMENT. DO NOT STRIPE																		
ND 200	95.134	95.366	ROUND ABOUT INLAY. DO NOT STRIPE																		
ND 200	95.366	102.537	EPOXY SEGMENT. DO NOT STRIPE																		
ND 200	102.537	117.462	18,161	58,650		157,608				1695	46	34	112	48							
ND 200	117.462	124.027	7,719	18,902		69,326															
ND 200	124.027	143.390	23,039	67,600	499	204,473						84				82					
ND 200	143.390	143.615	EPOXY SEGMENT. DO NOT STRIPE																		
ND 200	143.615	157.781																			

ROUTE	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
ND 1806	140.000	154.82	17,840	49,706		156,499						14									
ND 1806	154.820	162.388	9,111	25,634		79,918						32									
ND 1806	162.388	181.918	23,162	71,101		206,237						106									

ROUTE MEDORA	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Barrier	10' or 2' Skip Lines	Edgeline		8" Chevron	8" Corner Fan	12" Channel	12" Chevron	24" Stop Bar	Pavement Marking Painted -Message (White)								
													Rt. Arrow	Lt. Arrow	Thru/Lt Arrow	Drop Arrow	Only	Stop	Ahead	Crosswalks	
			Yellow	Yellow	White	White	Yellow	Yellow	White	White	White	Yellow	White	16 SF each	16 SF each	27 SF each	41 SF each	22 SF each	22 SF each	30 SF each	Continental (LF)	6" Lines (LF)
I-94 Loop*	900.093	901.415	989	6938		13960															
I-94 Loop	901.415	902.035	INLAY SEGMENT. DO NOT STRIPE																		
I-94 Loop**	902.035	903.247	743	8,723		12,799															

* Measured from N end Andrews Creek Bridge

** Measured to double yellow split at ramps

Pavement Marking

Highway Paint

State & US Highways

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	120	5

Eastbound I-94

			Paint								Epoxy														Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	8" Chevron	24" Stop Bar	Rt. Arrow 16 SF each	Lt. Arrow 16 SF each	Directional Arrow 29 SF each	Wrong Way Arrow 24 SF each	Thru Arrow 12 SF each	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar
			Yellow	White	Yellow	White	White	Yellow	White	White	Yellow	White	Yellow	White	White	Yellow	White	Yellow	White	White	White	White	White	White	Yellow	White	Yellow	White	White	Yellow	White	White
mainline[A]	0.000	11.700	DO NOT STRIPE																													
weigh station[B, C]			DO NOT STRIPE																													
exit 1, off ramp										81																						
exit 1, on ramp			DO NOT STRIPE																													
exit 7, off ramp										54																						
exit 7, on ramp			DO NOT STRIPE																													
exit 7, crossroads					1,154		1,154																									
exit 10, off ramp			DO NOT STRIPE																													
exit 10, on ramp			DO NOT STRIPE																													
exit 10, crossroads					1,280		1,280																									

A - Centerline skips are grooved

B - Weigh Station painted edgeline is on concrete ramp areas

C - Weigh Station epoxy edgeline white includes parking lines, 6 @ 65' ea

			Paint								Epoxy														Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	8" Chevron	24" Stop Bar	Rt. Arrow 16 SF each	Lt. Arrow 16 SF each	Directional Arrow 29 SF each	Wrong Way Arrow 24 SF each	Thru Arrow 12 SF each	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar
			Yellow	White	Yellow	White	White	Yellow	White	White	Yellow	White	Yellow	White	White	Yellow	White	Yellow	White	White	White	White	White	White	Yellow	White	Yellow	White	White	Yellow	White	White
mainline	71.104	80.000				745	42,755	46,744	991																							
exit 72, off ramp							2,034	1,120	299	74																						
exit 72, on ramp							2,115	1,036	197																							
exit 72, crossroads					1,266		1,266																									
exit 78, off ramp							1,781	861	301	92																						
exit 78, on ramp							1,978	902	197																							
exit 78, crossroads					737		737																									

			Paint								Epoxy														Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	8" Chevron	24" Stop Bar	Rt. Arrow 16 SF each	Lt. Arrow 16 SF each	Directional Arrow 29 SF each	Wrong Way Arrow 24 SF each	Thru Arrow 12 SF each	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar
			Yellow	White	Yellow	White	White	Yellow	White	White	Yellow	White	Yellow	White	White	Yellow	White	Yellow	White	White	White	White	White	White	Yellow	White	Yellow	White	White	Yellow	White	White
mainline	80.000	88.000	DO NOT STRIPE																													
exit 84, off ramp																																
exit 84, on ramp																																

			Paint								Epoxy														Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	8" Chevron	24" Stop Bar	Rt. Arrow 16 SF each	Lt. Arrow 16 SF each	Directional Arrow 29 SF each	Wrong Way Arrow 24 SF each	Thru Arrow 12 SF each	Centerline Skips	Centerline Skips	Barrier Line	2' or 10' Skip Lines	Edgeline		12" Channel	24" Stop Bar
			Yellow	White	Yellow	White	White	Yellow	White	White	Yellow	White	Yellow	White	White	Yellow	White	Yellow	White	White	White	White	White	White	Yellow	White	Yellow	White	White	Yellow	White	White
mainline[A]	88.000	97.188	DO NOT STRIPE																													
exit 90, off ramp							1,055	1,153		74																						
exit 90, on ramp							1,197	1168																								
exit 90, crossroads					1,028		1,028																									
exit 97, off ramp							1,157	1,359		67																						

A - All mainline is grooved

Interchange Asphalt Areas Only

Pavement Marking

I-94 Eastbound

State & US Highways

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	120	6

Westbound I-94			Paint										Epoxy										Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White
mainline[A]	0	11.7	DO NOT STRIPE																											
exit 1, off ramp										86																				
exit 1, on ramp			DO NOT STRIPE																											
exit 7, off ramp										81																				
exit 7, on ramp			DO NOT STRIPE																											
exit 7, crossroads					1,272		1,272																							
exit 10, off ramp										93																				
exit 10, on ramp			DO NOT STRIPE																											
exit 10, crossroads					970		970																							

			Paint										Epoxy										Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White
mainline	53.107	65.128	DO NOT STRIPE																											
exit 56, off ramp																														
exit 56, on ramp																														
exit 59, off ramp																														
exit 59, on ramp																														
exit 61, off ramp							742	737			32	32																		
exit 61, on ramp							776	780																						
exit 64, off ramp			DO NOT STRIPE																											
exit 64, on ramp							1,019	1,009																						

Stripe Asphalt portion of ramp only.

			Paint										Epoxy										Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White
mainline	65.128	88	DO NOT STRIPE																											
exit 72, off ramp[A]							1,121	1,086		82																				
exit 72, on ramp[A]							956	972																						
exit 72, crossroads[A]					1,274		1,274																							
exit 78, off ramp[A]							948	942		122																				
exit 78, on ramp[A]							974	968																						
exit 78, crossroads[A]					1,191		1,191																							
exit 84, off ramp			DO NOT STRIPE																											
exit 84, on ramp																														

A - Paint on Interchange Asphalt Areas Only

			Paint										Epoxy										Inlaid							
Description	From Ref. Point	To Ref. Point	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White	Rt. Arrow 16 SF each White	Lt. Arrow 16 SF each White	Centerline Skips Yellow	Centerline Skips White	Barrier Line Yellow	2' or 10' Skip Lines White	Edgeline White	Edgeline Yellow	12" Channel White	24" Stop Bar White
mainline[A]	88	97.188	DO NOT STRIPE																											
exit 90, off ramp[A]							1,087	1,080		74																				
exit 90, on ramp [A]							1,228	1,208																						
exit 90, crossroads					1,020		1,020																							
exit 97, on ramp [A]							1,012	1,012																						

A - Paint on Interchange Asphalt Areas Only

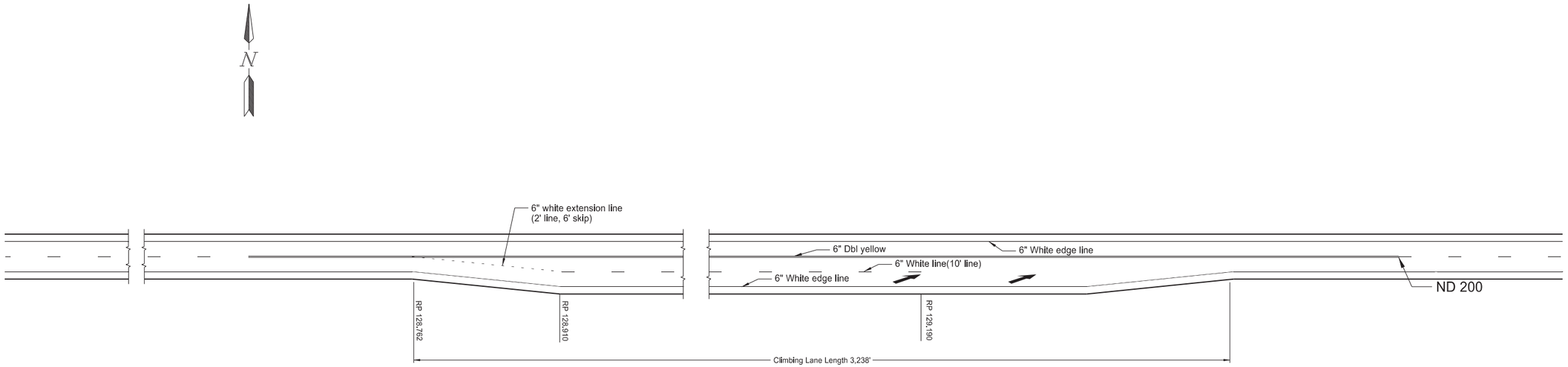
Pavement Marking

I-94 Westbound

State & US Highways

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-5-999(037)	120	7



Note:

Install the following missing pavement markings as detailed above;

2 ft Skip line from RP 128.762 to RP 128.910.

10 ft Skip line from RP 128.910 to RP 129.190

Quantities are included in Section 120, Sheet 4

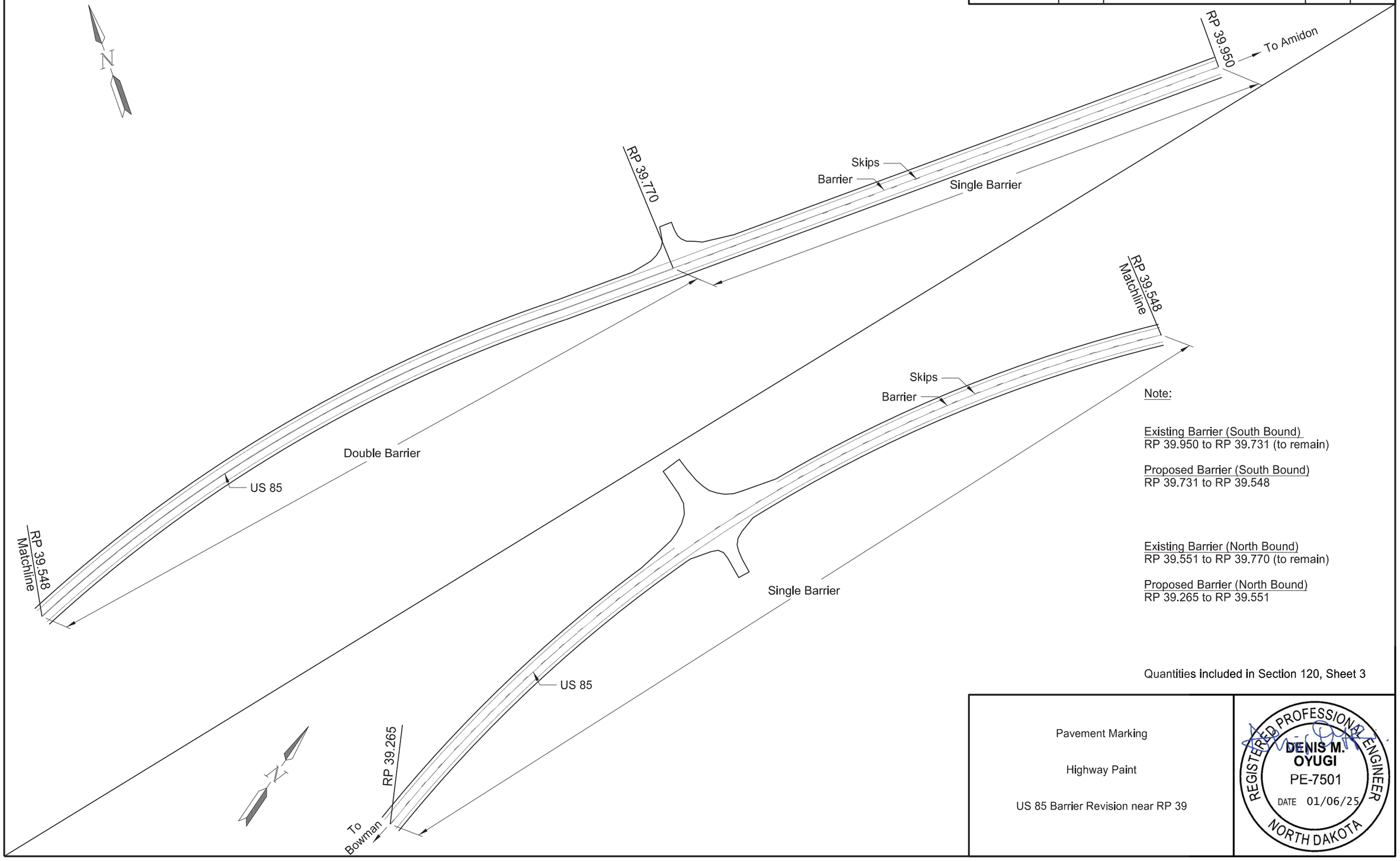
Pavement Marking

Highway Paint

ND 200 Climbing Lane

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HES-5-999(037)	120	8



Note:

Existing Barrier (South Bound)
RP 39.950 to RP 39.731 (to remain)

Proposed Barrier (South Bound)
RP 39.731 to RP 39.548

Existing Barrier (North Bound)
RP 39.551 to RP 39.770 (to remain)

Proposed Barrier (North Bound)
RP 39.265 to RP 39.551

Quantities included in Section 120, Sheet 3

Pavement Marking

Highway Paint

US 85 Barrier Revision near RP 39

REGISTERED PROFESSIONAL ENGINEER
DENIS M. OYUGI
PE-7501
DATE 01/06/25
NORTH DAKOTA

1/6/2025 3:00:28 PM doyugi R:\project\50999000.037\District\dgn\2025 District Striping\120MK_008_LPvmt.dgn

NDDOT ABBREVIATIONS

D-101-1

?	This is a special text character used in the labeling of existing features. It indicates a feature that has an unknown characteristic, potentially based on: lack of description, location accuracy or purpose.
Abn	abandoned
Abut	abutment
Adj	adjusted
Aggr	aggregate
Ahd	ahead
ARV	air release valve
Align	alignment
Al	alley
Alt	alternate
Alum	aluminum
ADA	Americans with Disabilities Act
&	and
Appr	approach
Approx	approximate
ACP	asbestos cement pipe
Asph	asphalt
AC	asphalt cement
Assmd	assumed
@	at
Atten	attenuation
ATR	automatic traffic recorder
Ave	Avenue
Avg	average
ADT	average daily traffic
Bk	back
BF	back face
Balc	balcony
B Wire	barbed wire
Barr	barricade
Btry	battery
BI	beehive inlet
Beg	begin
BG	below grade
BM	bench mark
Bkwy	bikeway
Bit	bituminous
Blk	block
BH	bore hole
Bot	bottom
Blvd	Boulevard
Bndry	boundary
Brkwy	breakaway
Br	bridge
Bldg	building
Bus.	business
BV	butterfly valve
Byp	bypass
C Gdrl	cable guardrail
Calc	calculate
CIP	cast iron pipe
CB	catch basin
CRS	cationic rapid setting
C Gd	cattle guard
C To C	center to center
CL or ℄	centerline
Ch	chain
Chnlk	chain-link
Ch Blk	channel block
Ch Ch	channel change
Chk	check
Chsld	chiseled
Cir	circle
Cl	class
Clnt	clean-out
Clr	clear
Cl&gr	clearing & grubbing
Comb.	combination
Coml	commercial
Compr	compression
CADD	computer aided drafting & design
Conc	concrete
CECB	concrete erosion control blanket
Cond	conductor
Const	construction
Cont	continuous
CSB	continuous split barrel sample
Contr	contraction
Contr	contractor
CP	control point
Coord	coordinate
Cor	corner
Corr	corrected
CAES	corrugated aluminum end section
CAP	corrugated aluminum pipe
CMES	corrugated metal end section
CMP	corrugated metal pipe
CPVCP	corrugated poly-vinyl chloride pipe
CSES	corrugated steel end section
CSFES	corrugated steel flared end section
CSP	corrugated steel pipe
CSTES	corrugated steel traversable end section
Co	County
Crse	course
Ct	Court
Xarm	cross arm
Xbuck	cross buck
Xsec	cross sections
Xing	crossing
Xrd	crossroad
Crn	crown
Culv	culvert
C&G	curb & gutter
CI	curb inlet
CR	curb ramp
C	cut
Dd Ld	dead load
Defl	deflection
Defm	deformed
Dlnt	delineate
Dlntr	delineator
Depr	depression
Desc	description
Det	detail
DWP	detectable warning panel
Dtr	detour
Dia or ø	diameter
Dir	direction
Dist	distance
DM	disturbed material
DB	ditch block
DG	ditch grade
Dbl	double
Dn	down
Dwg	drawing
Dr	drive
Drwy	driveway
DI	drop inlet
D	dry density
Ea	each
Esmt	easement
E	East
EB	Eastbound
Elast	elastomeric
EL	electric locker
E Mtr	electric meter
Elec	electric/al
EDM	electronic distance meter
Elev or El	elevation
Ellipt	elliptical
Emb	embankment
Emuls	emulsion/emulsified
ES	end section
Engr	engineer
ESS	environmental sensor station
Eq	equal
Evgr	evergreen
Exc	excavation
Exst	existing
Exp	expansion
Expy	Expressway
E	external of curve
Extru	extruded
FOS	factor of safety
Fed	Federal
FP	feed point
Fn	fence
Fn P	fence post
FO	fiber optic
FD	field drive
F	fill
FAA	fine aggregate angularity
FH	fire hydrant
Fl	flange
Flrd	flared
FES	flared end section
F Bcn	flashing beacon
FA	flight auger sample
FL	flow line
Ftg	footing
FM	force main
Fnd	found
Fdn	foundation
Frac	fractional
Frwy	freeway
Frt	front
FF	front face
F Disp	fuel dispenser
FFP	fuel filler pipes
FLS	fuel leak sensor
Furn	furnish/ed

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KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA
08/16/22

NDDOT ABBREVIATIONS

D-101-2

Galv	galvanized
Gar	garage
Gs L	gas line
G Reg	gas line regulator
GMV	gas main valve
G Mtr	gas meter
GSV	gas service valve
GVP	gas vent pipe
GV	gate valve
Ga	gauge
Gov	government
Grd	graded/grade
Grnd	ground
GWM	ground water monitor
Gdrl	guardrail
Gtr	gutter
H Plg	H piling
Hdwl	headwall
Ht	height
Hel	helical
HDPE	high density polyethylene
HM	high mast
HP	high pressure
HPS	high pressure sodium
HTCG	high tension cable guardrail
Hwy	highway
Hor	horizontal
HBP	hot bituminous pavement
HMA	hot mix asphalt
Hyd	hydrant
Ph	hydrogen ion content
Id	identification
Incl	inclinometer tube
IMH	inlet manhole
ID	inside diameter
Inst	instrument
Intchg	interchange
Intmdt	intermediate
Intscn	intersection
Inv	invert
IP	iron pipe
Jt	joint
Jct	junction
Ln	lane
Lg	large
Lat	latitude
Lt	left
Lens	lenses
Lvl	level
Lvlng	leveling
Lht	light
LP	light pole
Ltg	lighting
Liq	liquid
LL	liquid limit
Loc	location
Long.	longitude
Lp	loop
LD	loop detector
Lum	luminaire
Mb	mailbox
ML	main line
MH	manhole
Mkd	marked
Mkr	marker
Mkg	marking
MA	mast arm
Matl	material
Max	maximum
MC	meander corner
Meas	measure
Mdn	median
MD	median drain
MC	medium curing
MGS	Midwest Guardrail System
MM	mile marker
MP	mile post
Min	minimum
Misc	miscellaneous
Mon	monument
Mnd	mound
Mtbl	mountable
Mtd	mounted
Mtg	mounting
Mk	muck
Neop	neoprene
Ntwk	network
N	North
NE	North East
NW	North West
NB	Northbound
No. or #	number
Obsc	obscure(d)
Ocpd	occupied
Ocpy	occupy
O/s	offset
OC	on center
C	one dimensional consolidation
OC	organic content
Orig	original
O To O	out to out
OD	outside diameter
OH	overhead
PMT	pad mounted transformer
Pg	pages
Pntd	painted
Pr	pair
Pnl	panel
Pk	park
PSD	passing sight distance
Pvmt	pavement
Ped	pedestal
Ped	pedestrian
PPP	pedestrian pushbutton post
Pen.	penetration
Perf	perforated
Per.	perimeter
Perm	permanent
PL	pipeline
Pl	place
P&P	plan & profile
PL	plastic limit
Pl or ℄	plate
Pt	point
PE	polyethylene
PVC	polyvinyl chloride
PCC	Portland Cement concrete
PP	power pole
Preempt	preemption
Prefab	prefabricated
Prfmd or Pref	preformed
Prep	preperation
Press.	pressure
PRV	pressure relief valve
Prestr	prestressed
Pvt	private
PD	private drive
Prod.	production/produce
Prog	programmed
Prop.	property
Prop Ln	property line
Ppsd	proposed
PB	pull box
Qty	quantity
Qtr	quarter
Rad or R	radius
RR	railroad
Rlwy	railway
Rsd	raised
RC	rapid curing
Rec	record
Rcy	recycle
RAP	recycled asphalt pavement
RPCC	recycled portland cement concrete
Ref	reference
R Mkr	reference marker
RM	reference monument
RP	reference point
Refl	reflectorized
RCB	reinforced concrete box
RCES	reinforced concrete end section
RCFES	reinforced concrete flared end section
RCP	reinforced concrete pipe
RCPS	reinforced concrete pipe sewer
RCTES	reinforced concrete traversable end section
Reinf	reinforcement
Res	reservation
Res	residence
Ret	retaining
Rev	reverse
Rt	right
R/W	right of way
Riv	river
Rd	road
Rdbd	road bed
Rdwy	roadway
RWIS	roadway weather information system
Rk	rock
Rt	route

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KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA
08/16/22

NDDOT ABBREVIATIONS

Salv	salvage(d)
San	sanitary sewer line
Sec	section
SL	section line
Sep	separation
Seq	sequence
Serv	service
Sht	sheet
Shtng	sheeting
Shldr	shoulder
Sw or Sdwk	sidewalk
SD	sight distance
SN	sign number
Sig	signal
Sgl	single
SRCP	slotted reinforced concrete pipe
SC	slow curing
SS	slow setting
Sm	small
S	South
SE	South East
SW	South West
SB	Southbound
Sp	spaces
Spcl	special
SA	special assembly
SP	special provisions
G	specific gravity
Spk	spike
SB	split barrel sample
SH	sprinkler head
SV	sprinkler valve
Sq	square
Stk	stake
Std	standard
N	standard penetration test
Std Specs	standard specifications
Stm L	steam line
SEC	steel encased concrete
SMA	stone matrix asphalt
SSD	stopping sight distance
SD	storm drain
St	street
SPP	structural plate pipe
SPPA	structural plate pipe arch
Str	structure
Subd	subdivision
Sub	subgrade
Sub Prep	subgrade preperation
Ss	subsoil
SS	supplement specification
Supp	supplemental
Surf	surfacing
Surv	survey
Sym	symmetrical

Tel	telephone
Tel B	Telephone Booth
Tel P	telephone pole
Tv	television
Temp	temperature
Temp	temporary
TBM	temporary bench mark
T	thinwall tube sample
Ts	topsoil
Traf	traffic
TSCB	traffic signal control box
Tr	trail
Transf	transformer
Trans	transition
TT	transmission tower
TES	traversable end section
Trans	transverse
Trtd	treated
Trmt	treatment
Qc	triaxial compression
TERO	tribal employment rights ordinance
Tpl	triple
Typ	typical
Qu	unconfined compressive strength
Ugrnd	underground
Util	utility
VG	valley gutter
Vap	vapor
Vert	vertical
VCP	vitrified clay pipe
Vol	volume
VSFS	vehicle speed feedback sign
Wkwy	walkway
W	water content
WGV	water gate valve
WL	water line
WM	water main
WMV	water main valve
W Mtr	water meter
WSV	water service valve
WW	water well
Wrng	wearing
WIM	weigh in motion
W	west
WB	westbound
Wrng	wiring
W/	with
W/o	without
WC	witness corner

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PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA
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NDDOT ABBREVIATIONS

MEASUREMENTS

ac	acres
A	ampere
Bd Ft	board feet
Cd	candela
cm	centimeter
C	coulomb
CF	cubic feet
m3	cubic meter
m3/s	cubic meters per second
CY	cubic yard
CY/mi	cubic yards per mile
D or Deg	degree
F	Fahrenheit
F	farad
ft	feet/foot
Gal	gallon
G	giga
Ha	hectare
H	henry
Hz	hertz
hr	hour(s)
in	inch
J	joule
K	kelvin
kN	kilo newton
kPa	kilo pascal
kg	kilogram
kg/m3	kilogram per cubic meter
km	kilometer
K	Kip(s)
LF	linear foot
L	litre
Lm	lumen
L sum	lump sum
Lx	lux
M Hr	man hour
M	mega
m	meter
m/s	meters per second
mi	mile
mL	milliliter
mm	millimeter
mm/hr	millimeters per hour
n	nano
N	newton
Pa	pascal
lb	pounds
sec	seconds
S	siemens
SF	square feet
km2	square kilometer
m2	square meter
SY	square yard
Sta Yd	station yards
SI	Systems International
T	tesla
T/mi	tons per mile
V	volt
W	watt
Wb	weber

SURVEY DESCRIPTIONS

Az	azimuth
Bs	backsight
Brg	bearing
BP Cap	blue plastic cap
BS	both sides
BC	brass cap
CS	curve to spiral
Eq	equation
E	external of curve
FS	far side
FB	field book
Fs	foresight
Geod	geodetic
GIS	Geographical Information System
GPS	Global Positioning System
HI	height of instrument
IM	iron monument
I Pn	iron pin
LS	Land Surveyor (licensed)
LSIT	Land Surveyor In Training
L	length of curve
LC	long chord
LB	level book
Mer	meridian
M	mid ordinate of curve
NGS	National Geodetic Survey
NS	near side
Obsn	observation
Off Loc	office location
OP Cap	orange plastic cap
PK	Parker-Kalon nail
P Cap	plastic cap
PP Cap	pink plastic cap
PCC	point of compound curve
PC	point of curve
PI	point of intersection
PRC	point of reverse curvature
PT	point of tangent
POC	point on curve
POT	point on tangent
RTP	random traverse point
Rge	range
RP Cap	red plastic cap
SC	spiral to curve
ST	spiral to tangent
Sta	station
SE	superelevation
Tan	tangent
T	tangent (semi)
TS	tangent to spiral
Twp	township
TB	transit book
TP	traverse point
TP	turning point
USC&G	US Coast & Geodetic Survey
USGS	US Geologic Survey
VC	vertical curve
WGS	World Geodetic System
YP Cap	yellow plastic cap
Z	zenith

SOIL TYPES

Cl	clay
Cl F	clay fill
Cl Hvy	clay heavy
Cl Lm	clay loam
Co S	coal slack
C Gr	coarse gravel
CS	coarse sand
FS	fine sand
Gr	gravel
Lig Co	lignite coal
Lig Sl	lignite slack
Lm	loam
Rk	rock
Sd	sand
Sdy Cl	sandy clay
Sdy Cl Lm	sandy clay loam
Sdy Fl	sandy fill
Sdy Lm	sandy loam
Sc	scoria
Sh	shale
Si Cl	silt clay
Si Cl Lm	silty clay loam
Si Lm	silty loam

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KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA
12 18 2020

NDDOT UTILITY COMPANY AND ORGANIZATION ABBREVIATIONS

D-101-10

702COM	702 Communications
ACCENT	Accent Communications
AGASSIZ WU	Agassiz Water Users Incorporated
AGC	Assiociated General Contractors of America
ALL PL	Alliance Pipeline
ALL SEAS WU	All Seasons Water Users Association
AMOCO PI	Amoco Pipeline Company
AMRDA HESS	Amerada Hess Corporation
AT&T	AT&T Corporation
B PAW	Bear Paw Energy Incorporated
BAKER ELEC	Baker Electric
BASIN ELEC	Basin Electric Cooperative Incorporated
BEK TEL	Bek Communications Cooperative
BELLE PL	Belle Fourche Pipeline Company
BLM	Bureau of Land Management
BNSF	Burlington Northern Santa Fe Railway
BOEING	Boeing
BRNS RWD	Barnes Rural Water District
BURK-DIV ELEC	Burke-Divide Electric Cooperative
BURL WU	Burleigh Water Users
CABLE ONE	Cable One
CABLE SERV	Cable Services
CAP ELEC	Capital Electric Cooperative Incorporat
CASS CO ELEC	Cass County Electric Cooperative
CASS RWU	Cass Rural Water Users Incorporated
CAV ELEC	Cavalier Rural Electric Cooperative
CBLCOM	Cablecom Of Fargo
CENEX PL	Cenex Pipeline
CENT PL WATER DIST	Central Pipe Line Water District
CENT PWR ELEC	Central Power Electric Cooperative
CENTURYLINK	CenturyLink
COE	Corps of Engineers
CONS TEL	Consolidated Telephone
CONT RES	Continental Resource Inc
CPR	Canadian Pacific Railway
D O E	Department Of Energy
DAK CARR	Dakota Carrier Network
DAK CENT TEL	Dakota Central Telephone
DAK RWD	Dakota Rural Water District
DGC	Dakota Gasification Company
DICKEY R NET	Dickey Rural Networks
DICKEY RWU	Dickey Rural Water Users Association
DICKEY TEL	Dickey Telephone
DNRR	Dakota Northern Railroad
DOME PL	Dome Pipeline Company
DVELEC	Dakota Valley Electric Cooperative
DVMW	Dakota, Missouri Valley & Western
ENBRDG	Enbridge Pipelines Incorporated
ENVENTIS	Enventis Telephone
EQUINOR	Equinor Pipeline
FALK MNG	Falkirk Mining Company
FHWA	Federal Highway Administration
G FKS-TRL WD	Grand Forks-traill Water District
GETTY TRD & TRAN	Getty Trading & Transportation
GLDN W ELEC	Golden West Electric Cooperative
GRGS CO TEL	Griggs County Telephone
GTR RAMSEY WD	Greater Ramsey Water District
GT PLNS NAT GAS	Great Plains Natural Gas Company
HALS TEL	Halstad Telephone Company
IDEA1	Idea1
INT-COMM TEL	Inter-Community Telephone Company
KANEB PL	Kaneb Pipeline Company
KEM ELEC	Kem Electric Cooperative Incorporated
KOCH GATH SYS	Koch Gathering Systems Incorporated
LKHD PL	Lakehead Pipeline Company
LNGDN RWU	Langdon Rural Water Users Incorporated
LWR YELL R ELEC	Lower Yellowstone Rural Electric
MCKNZ CON	McKenzie Consolidated Telcom
MCKNZ ELEC	McKenzie Electric Cooperative
MCKNZ WRD	McKenzie County Water Resource District
MCLEOD	McLeod USA
MCLN ELEC	McLean Electric Cooperative
MCLN-SHRDN R WAT	McLean-Sheridan Rural Water
MDU	Montana-dakota Utilities
MIDCO	MidContinent Communications
MIDSTATE TEL	Midstate Telephone Company
MINOT CABLE	Minot Cable Television
MINOT TEL	Minot Telephone Company
MISS VALL COMM	Missouri Valley Communications
MISS W W S	Missouri West Water System
MNKOTA PWR	Minnkota Power
MOR-GRAN-SOU ELEC	Mor-gran-sou Electric Cooperative
MOUNT-WILLI ELEC	Mountrail-williams Electric Cooperative
MRE LBTY TEL	Moore & Liberty Telephone
MUNICIPAL	City Water And Sewer
MUNICIPAL	City Of '.....'
N CENT ELEC	North Central Electric Cooperative
N VALL W DIST	North Valley Water District
ND PKS & REC	North Dakota Parks And Recreation
ND TEL	North Dakota Telephone Company
NDDOT	North Dakota Department of Transportation
NDSU SOIL SCI DEPT	NDSU Soil Science Department
NEMONT TEL	Nemont Telephone
NODAK R ELEC	Nodak Rural Electric Cooperative
NOON FRMS TEL	Noonan Farmers Telephone Company
NPR	Northern Plains Railroad
NSP	Northern States Power
NTH PRAIR RW	Northern Prairie Rural Water Association
NTHN BRDR PL	Northern Border Pipeline
NTHN PLNS ELEC	Northern Plains Electric Cooperative Incorporated
NTHWSTRN REF	Northwestern Refinery Company
NW COMM	Northwest Communication Cooperation
NWRWD	Northwest Rural Water District
ONEOK	Oneok gas
OSHA	Occupational Safety and Health Administration
OTTR TL PWR	Otter Tail Power Company
PAAP	Plains All American Pipeline
P L E M	Prairielands Energy Marketing
POLAR COM	Polar Communications
PVT ELEC	Private Electric
QWEST	Qwest Communications
R&T W SUPPLY	R & T Water Supply Association
RED RIV COMM	Red River Rural Communications
RESVTN TEL	Reservation Telephone
ROBRTS TEL	Roberts Company Telephone
R-RIDER ELEC	Roughrider Electric Cooperative
RRVW	Red River Valley & Western Railroad
S CENT REG WD	South Central Regional Water District
S E W U	South East Water Users Incorporated
SCOTT CABLE	Scott Cable Television Dickinson
SHERDN ELEC	Sheridan Electric Cooperative
SHEYN VLY ELEC	Sheyenne Valley Electric Cooperative
SKYTECH	Skyland Technologies Incorporated
SLOPE ELEC	Slope Electric Cooperative Incorporated
SOURIS RIV TELCOM	Souris River Telecommunications
ST WAT COMM	State Water Commission
STATE LN WATER	State Line Water Cooperative
STER ENG	Sterling Energy
STUT RWU	Stutsman Rural Water Users
SW PL PRJ	Southwest Pipeline Project
T M C	Turtle Mountain Communications
TCI	TCI of North Dakota
TESORO HGH PLNS PL	Tesoro High Plains Pipeline
TRI-CNTY WU	Tri-County Water Users Incorporated
TRL CO RWU	Traill County Rural Water Users
UNTD TEL	United Telephone
UPPR SOUR WUA	Upper Souris Water Users Association
US SPRINT	U.S. Sprint
USAF MSL CABLE	U.S.A.F. Missile Cable
USFWS	US Fish and Wildlife Service
USW COMM	U.S. West Communications
VRNDRY ELEC	Verendrye Electric Cooperative
W RIV TEL	West River Telephone Incorporated
WAPA	Western Area Power Administration
WAWSA	Western Area Water Supply Authority
WEB	W. E. B. Water Development Association
WILLI RWA	Williams Rural Water Association
WILSTN BAS PL	Williston Basin Interstate Pipeline Company
WLSH RWD	Walsh Water Rural Water District
WOLVRTN TEL	Wolverton Telephone
XLENER	Xcel Energy
YSVR	Yellowstone Valley Railroad

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KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA

08/16/22

LINE STYLES

D-101-20

Existing Topography

- Existing Ground Void
- Existing Cemetary Boundary
- Existing Box Culvert Bridge
- Existing Concrete Surface
- Existing Drainage Structure
- Existing Gravel Surface
- Existing Riprap
- Existing Dirt Surface
- Existing Asphalt Surface
- Existing Tie Point Line
- Existing Railroad Centerline
- Existing Guardrail Cable
- Existing Guardrail Metal
- Existing Edge of Water
- Existing Fence
- Existing Railroad
- Existing Field Line
- Exst Flow
- Existing Curb
- Existing Valley Gutter
- Existing Driveway Gutter
- Existing Curb and Gutter
- Existing Mountable Curb and Gutter

- Existing 3-Cable w Posts
- Site Boundary
- Existing Berm, Dike, Pit, or Earth Dam
- Existing Ditch Block
- Existing Tree Boundary
- Existing Brush or Shrub Boundary
- Existing Retaining Wall
- Existing Planter or Wall
- Existing W-Beam Guardrail with Posts
- Existing Railroad Switch
- Gravel Pit - Borrow Area
- Existing Wet Area-Vegetation Break
- Existing High Tension Cable Guardrail
- Existing High Tension Cable Guardrail with Posts

Proposed Topography

- 3-Cable w Posts
- Flow
- Fence
- Remove Line
- Wall
- Retaining Wall (Plan View)
- W-Beam w Posts
- High Tension Cable Guardrail with Posts

Existing Utilities

- Existing Electrical
- Existing Fiber Optic Line
- Existing TV Fiber Optic
- Existing Gas Pipe
- Existing Overhead Utility Line
- Existing Power
- Existing Fuel Pipeline
- Existing Undefined Above Ground Pipe Line
- Existing Sanitary Sewer
- Existing Sanitary Force Main
- Existing Storm Drain
- Existing Storm Drain Force Main
- Existing Culvert
- Existing Telephone Line
- Existing TV Line
- Existing Water or Steam Line
- Existing Under Drain
- Existing Slotted Drain
- Existing Conduit
- Existing Conductor
- Existing Down Guy Wire Down Guy
- Existing Underground Vault or Lift Station

Proposed Utilities

- 24 Inch Pipe
- Reinforced Concrete Pipe
- Under Drain
- Edge Drain

Traffic Utilities

- Conductor
- Fiber Optic
- Existing Loop Detector
- Existing Double Micro Loop Detector
- Micro Loop Detector Double
- Existing Micro Loop Detector
- Micro Loop Detector
- Signal Head with Mast Arm
- Existing Signal Head with Mast Arm

Sign Structures

- Existing Overhead Sign Structure
- Existing Overhead Sign Structure Cantilever
- Overhead Sign Structure Cantilever

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KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA

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LINE STYLES

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Right Of Way

- Easement
- Existing Easement
- Right of Way
- Existing Right of Way
- Existing Right of Way Railroad
- Existing Right of Way Not State Owned
- Existing Government Lot Line
- Existing Adjacent Block Lines
- Existing Adjacent Lot Lines
- Existing Adjacent Property Line
- Existing Adjacent Subdivision Lines
- Sight Distance Triangle Line
- Dimension Leader

Boundary Control

- Existing City Corporate Limits or Reservation Boundary
- Existing State or International Line
- Existing Township
- Existing County
- Existing Section Line
- Existing Quarter Section Line
- Existing Sixteenth Section Line
- Existing Centerline
- Tangent Line

Cross Sections and Typicals

- Existing Ground
- Existing Topsoil (Cross Section View)
- Existing Ground Void (Not Surveyed) (void — void — void — v)
- Existing Concrete
- Existing Aggregate (Cross Section View)
- Existing Curb and Gutter (Cross Section View)
- Existing Asphalt (Cross Section View)
- Existing Reinforcement Rebar

Geotechnical

- Geotextile Fabric Type D (D — D)
- Geogrid (Geo — Geo)
- Geotextile Fabric Type R (R — R)
- Geotextile Fabric Type R1 (R — R)
- Geotextile Fabric Type RR (RR — RR)
- Geotextile Fabric Type S (S — S)
- Subgrade Reinforcement

Countours

- Failure Line
- Depression Contours
- Supplemental Contour

Profile

- Subgrade, Subcut or Ditch Grade
- Topsoil Profile

Striping

- Centerline Pavement Marking
- Barrier with Centerline Pavement Marking
- Barrier Pavement Marking
- Stripe 4 IN Dotted Extension White
- Stripe 8 IN Dotted Extension White
- Stripe 8 IN Lane Drop

Pavement Joints

- Doweled Joint
- Tie Bar 30 Inch 4 Foot Center to Center
- Tie Bar 18 Inch 3 Foot Center to Center
- Tie Bar at Random Spacing

Bridge Details

- Small Hidden Object
- Large Hidden Object
- Phantom Object
- Existing Conditions Object
- Centerline Main
- Centerline Secondary
- Excavation Limits
- Proposed Ground
- Sheet Piling

Erosion Control

- Limits of Const Transition Line
- Bale Check
- Rock Check
- Floating Silt Curtain (S — S)
- Silt Fence (SF — SF)
- Excavation Limits
- Fiber Rolls

Environmental

- Wetland Mitigation
- Existing Wetland Easement USFWS
- Existing Wetland Jurisdictional
- Existing Wetland
- Tree Row

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PE-4683
ENGINEER
NORTH DAKOTA

12 18 2020

SYMBOLS

D-101-30

- North Arrow (Half Scale)
- Alignment Data Point
- Alignment Monument
- Spot Elevation
- Existing Miscellaneous Spot
- Existing Access Control Arrow
- Existing Benchmark
- Reset USGS Marker
- Iron Monument Found
- Iron Pin R/W Monument
- Property Corner
- Iron Pin Reference Monument
- Right of Way Marker (Exst, Ppsd, Reset)
- Existing Federal Reference Corner
- Existing Section Corner (Full, Quarter, Sixteenth, Meander)
- Existing Witness Corner
- Existing Control Point (CP, GPS-RTK, TRI)
- Existing Traverse PI Aerial Panel
- Existing Reference Marker Point NGS
- Existing EFB Misc
- Existing Bush or Shrub
- Existing Large Evergreen Tree
- Existing Small Evergreen Tree
- Existing Large Tree
- Existing Small Tree
- Existing Tree Trunk
- Cairn or Stone Circle
- Existing Artifact
- Existing Satellite Dish
- Existing Weather Station
- Existing Windmill or Tower
- Reinforced Pavement
- CSB — Continuous Split Barrel Sample
- FA — Flight Auger Sample
- SB — Split Barrel Sample
- T — Thinwall Tube Sample
- N — Standard Penetration Test
- Incl — Inclinometer Tube
- Excavation Unit
- Existing Ground Water Well Bore Hole

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

KIRK J. HOFF
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NORTH DAKOTA
12 18 2020

SYMBOLS

D-101-31

- Flexible Delineator
- Flexible Delineator Type A (Exst, Ppsd)
- Flexible Delineator Type B (Exst, Ppsd)
- Flexible Delineator Type C (Exst, Ppsd)
- Flexible Delineator Type D (Exst, Ppsd)
- Flexible Delineator Type E (Exst, Ppsd)
- Delineator Type A (Exst, Ppsd, Diamond Grade-Reset)
- Delineator Type B (Exst, Ppsd, Diamond Grade-Reset)
- Delineator Type C (Exst, Ppsd, Diamond Grade)
- Delineator Type D (Exst, Ppsd, Diamond Grade)
- Delineator Type E (Exst, Ppsd, Diamond Grade)
- Barricade (Type I, Type II, Type III}
- Arrow Panel (Caution Mode, Double Direction, Left Directional, Right Directional, Sequencing, Truck Mounted)
- Attenuation Device
- Truck Mounted Attenuator
- Delineator Drums
- Flagger
- Tubular Marker
- Traffic Cone
- Back to Back Vertical Panel Sign

- Highway Sign (Exst, Ppsd)
- Mile Post Type A (Exst-Ppsd-Reset)
- Mile Post Type B (Exst, Ppsd)
- Mile Post Type C (Exst, Ppsd)
- Object Marker Type I (Exst, Ppsd)
- Object Marker Type II (Exst, Ppsd)
- Object Marker Type III (Exst, Ppsd)
- Existing Reference Marker
- Road Closure Gate 18 Ft (Exst, Ppsd)
- Road Closure Gate 28 Ft (Exst, Ppsd)
- Road Closure Gate 40 Ft (Exst, Ppsd)
- Existing Railroad Battery Box
- Existing RR Profile Spot
- Existing Railroad Crossbuck
- Existing Railroad Frog
- Existing Mailbox (Private, Federal)

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

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PE-4683
ENGINEER
NORTH DAKOTA
Kirk J Hoff
12 18 2020

SYMBOLS

D-101-32

- Existing Luminaire
- Luminaire LED
- Existing Light Standard Luminaire
- Relocate Light Standard
- Light Standard Light LED Luminaire
- Light Standard 35 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 50 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 70 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 100 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 150 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 200 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 250 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 310 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 400 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 700 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 1000 Watt High Pressure Sodium Vapor Luminaire
- Emergency Vehicle Detector
- Video Detection Camera

- High Mast Light Standard 3 Luminaire (Exst, Ppsd)
- High Mast Light Standard 4 Luminaire (Exst, Ppsd)
- High Mast Light Standard 5 Luminaire (Exst, Ppsd)
- High Mast Light Standard 6 Luminaire (Exst, Ppsd)
- High Mast Light Standard 7 Luminaire (Exst, Ppsd)
- High Mast Light Standard 8 Luminaire (Exst, Ppsd)
- High Mast Light Standard 9 Luminaire (Exst, Ppsd)
- High Mast Light Standard 10 Luminaire (Exst, Ppsd)
- Overhead Sign Structure Load Center (Exst, Ppsd)
- Traffic Signal Controller (Exst, Ppsd)
- Pad Mounted Traffic Signal Controller (Exst, Ppsd)
- Flashing Beacon (Exst, Ppsd)
- Concrete Foundation (Exst, Ppsd)
- Pipe Mounted Flasher (Exst, Ppsd)
- Pad Mounted Feed Point (Exst, Ppsd)
- Pipe Mounted Feed Point with Pad (Exst, Ppsd)
- Pole Mounted Feed Point (Exst, Ppsd)
- Junction Box (Exst, Ppsd)
- Existing Pedestrian Head with Number
- Existing Signal Head
- Pole Mounted Head
- Existing Lighting Standard Pole

- Existing Traffic Signal Standard
- Pull Box (Exst-Ppsd-Undefined)
- Intelligent Transportation Pull Box (Exst, Ppsd)
- Transformer (Exst, Ppsd)
- Power Pole (Exst-Ppsd-with Transformer)
- Wood Pole (Exst, Ppsd)
- Pedestrian Push Button Post (Exst, Ppsd)
- Existing Pole
- Existing Telephone Pole
- Existing Post
- Connection Conductor (Ground, Neutral, Phase 1, Phase 2)

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

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SYMBOLS

D-101-33

Existing Manhole (Electrical, Gas, Telephone)

Water Manhole (Exst, Exst with Valve)

Sanitary Sewer Manhole (Exst, Ppsd, Exst with Valve)

Sanitary Force Main Manhole (Exst, Ppsd, Exst with Valve)

Storm Drain Manhole (Exst, Ppsd, Exst with Inlet, Ppsd with Inlet)

Force Main Storm Drain Manhole (Exst, Exst with Valve)

Manhole (Ppsd, Ppsd 48 Inch, Exst Undefined)

Existing Water Appurtenance

Sprinkler Head (Exst, Ppsd)

Fire Hydrant (Exst, Ppsd)

Cleanout (Exst Sanitary, Underdrain)

Existing Catch Basin Inlet (Round, Square)

Existing Curb Inlet (Round, Square)

Existing Slotted Reinforced Concrete Pipe

Catch Basin (Riser 30 Inch, Beehive, Type A)

Inlet Mountable Curb (Type A, Type B)

Inlet Saddle Base (Type 1, Type 2)

Inlet Special (Catch Basin, Type 1, Type A)

Inlet (Tee, Type 1, Type 2, Type 2 Double)

Median Drain

Headwall (Exst, Ppsd, Ppsd Single with Vegitation Barrier, Ppsd Double with Vegitation Barrier)

Cap or Stub
Exst Gas, Exst Sanitary, Exst Storm Drain, Ppsd Storm Drain, Exst Water

Existing Pedestal
Electrical, Telephone, Fiber Optic Telephone, TV, Fiber Optic TV, Undefined

Existing Pipe Vent
Gas, Fuel, Sanitary, Storm Drain, Water, Undefined

Valve
Exst Gas, Exst Water, Ppsd Water, Exst Undefined

Pump
Sanitary, Storm Drain, Exst Water

Corrugated Metal End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)

Reinforced Concrete End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)

Existing Utility Marker

Existing Meter

Existing Fuel Dispensers

Existing Fuel Filler Pipes

Existing Fuel Leak Sensors

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions Sheet added - Continued from D-101-32

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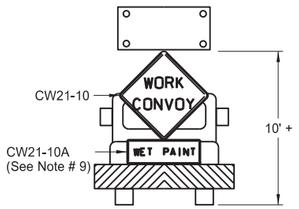
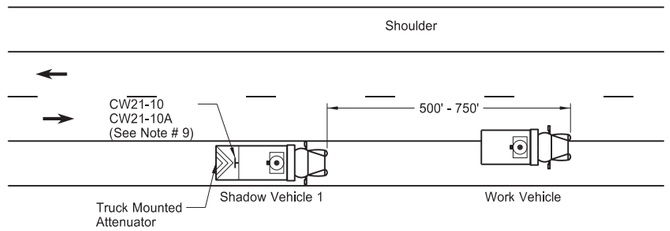
PE-4683
ENGINEER
NORTH DAKOTA
12 18 2020

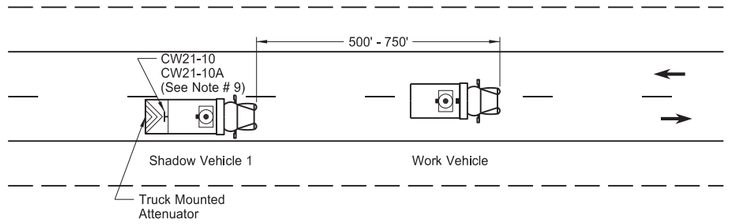
MOBILE OPERATION
(PAVEMENT MARKING)



Typical Shadow Vehicle 1
Two-Way Roaday

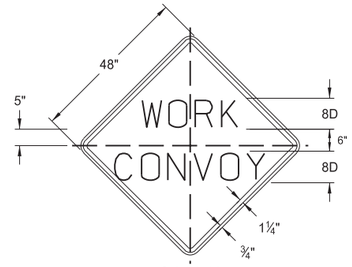


Two-Way Roadway with Paved Shoulders

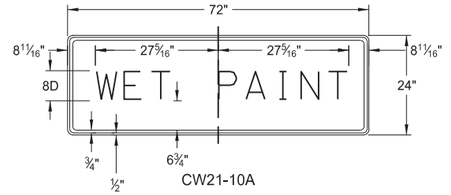


Two-Way Roadway without Paved Shoulders

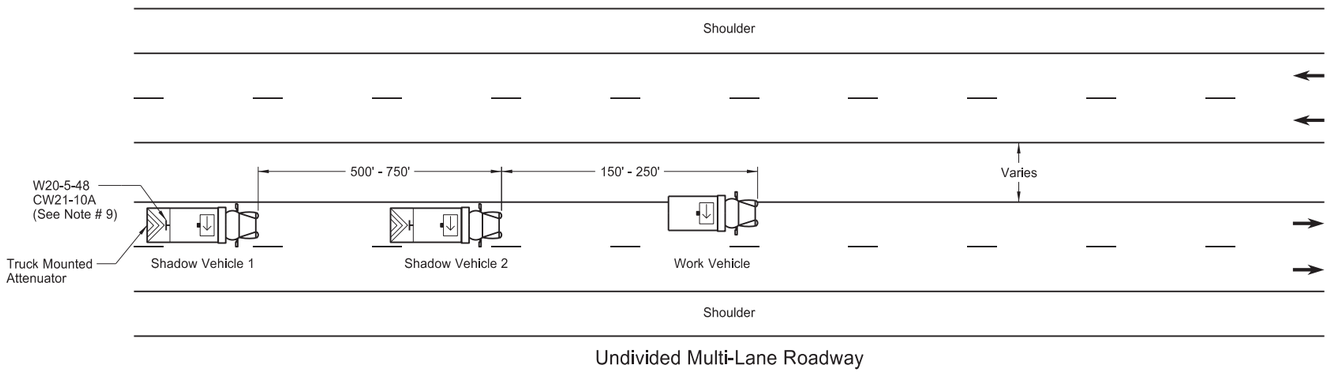
Sign Details



CW21-10

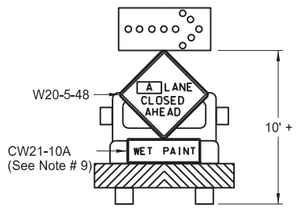


CW21-10A



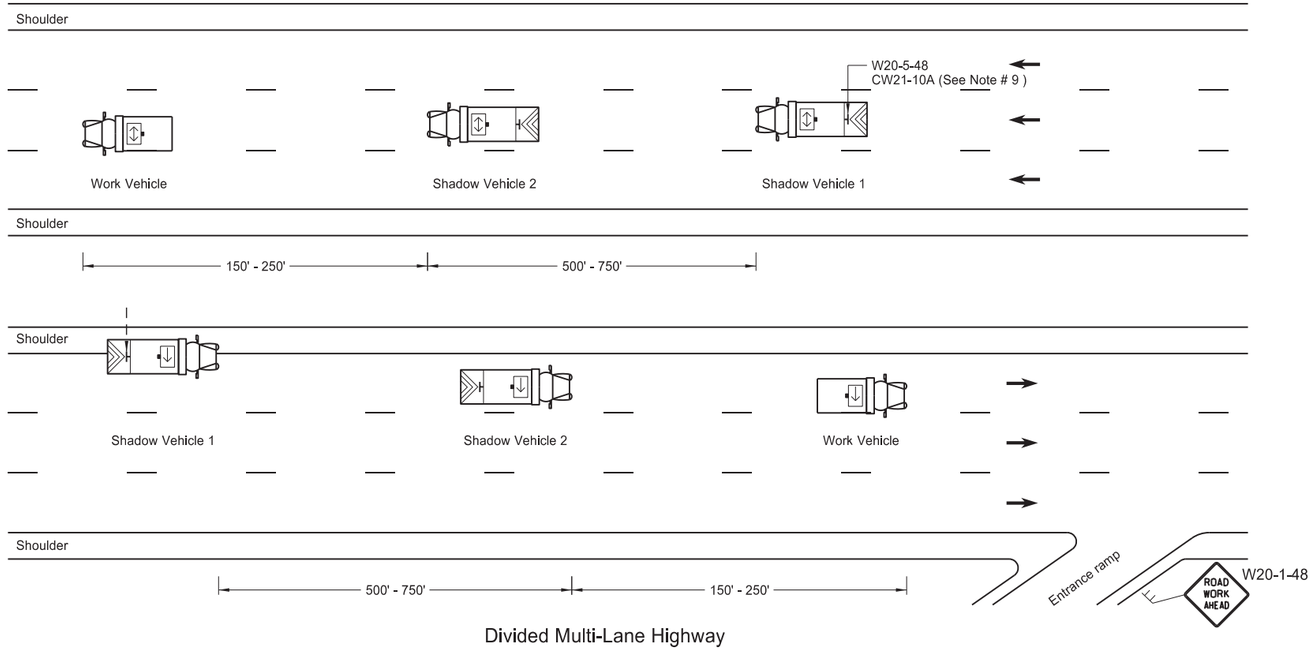
Undivided Multi-Lane Roadway

Notes
1. Use additional vehicles you choose to be in the convoy with truck mounted attenuators, at your own expense.
2. Display yellow rotating beacons or stobe lights on shadow and work vehicles, unless otherwise stated in the plans.
3. Use Type B or Type C flashing arrow panels controlled from inside the vehicle.
4. Provide each vehicle with two-way electronic communication capability.
5. Move shadow vehicle 1 first to shadow other convoy vehicles when convoy changes lane.
6. Vary vehicle spacing between shadow vehicle 1 and shadow vehicle 2 based on sight distance restrictions. Motorists approaching the work convoy need to see trail vehicle in time to slow down and/or change lanes as they approach shadow vehicle.
7. Sign Colors
   Letters = Black
   Border = Black
   Background = Orange
8. As an option, use shadow vehicle 2 the paint tender vehicle.
9. Use sign CW21-10A only during painting operation.
10. Pull over work and shadow vehicles periodically to allow motor vehicle traffic to pass on two lane - two way roadways.



Typical Shadow Vehicle 1 & 2
Multi-Lane Highways

A = Left Right Center



Divided Multi-Lane Highway

KEY

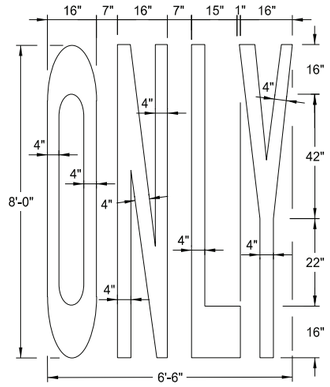
- Sign
- Truck mounted attenuator
- Flashing arrow panels:
  - Right directional
  - Left directional
  - Double arrow directional
  - Caution Mode

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
6-18-14	Removed shadow vehicle 2 on two lane roadways
9-27-17	Updated to active voice
11-08-19	Changed Standard Heading

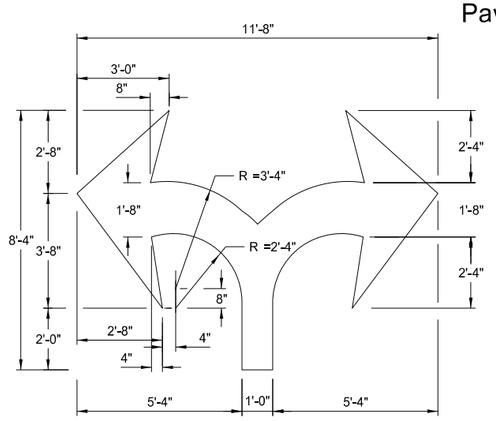
This document was originally issued and sealed by Kirk J Hoff, Registration Number PE-4683, on 11/08/19 and the original document is stored at the North Dakota Department of Transportation

Pavement Marking Message Details

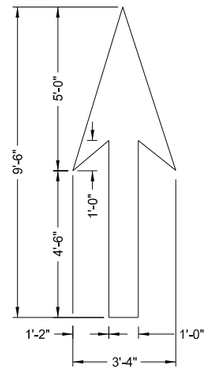
D-762-1



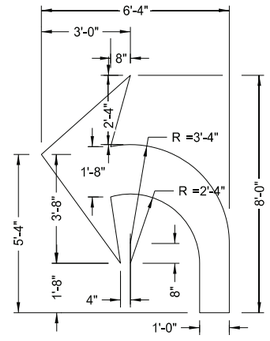
22 S. F.



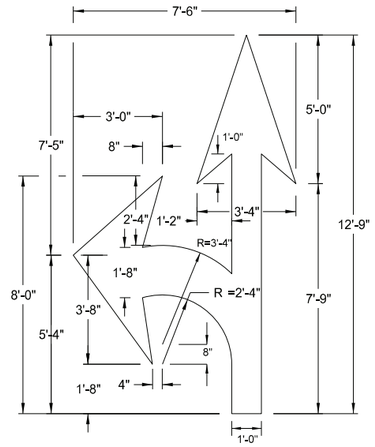
29 S. F.



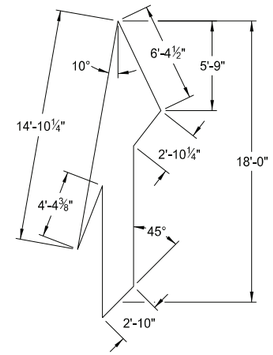
12 S. F.



16 S. F.

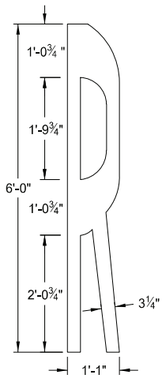


27 S. F.

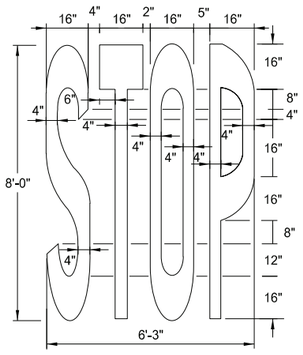


41 S. F.

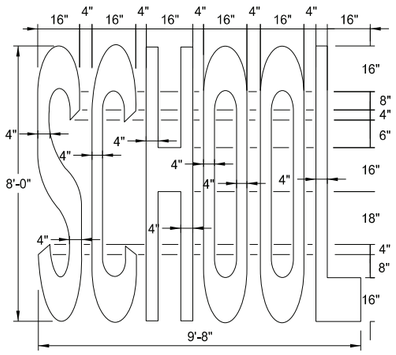
Note: Rotate merge arrow 20° from edge of roadway.



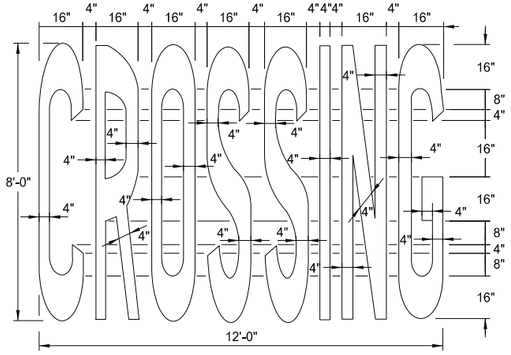
4 S. F.



22 S. F.



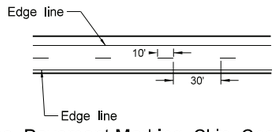
34.5 S. F.



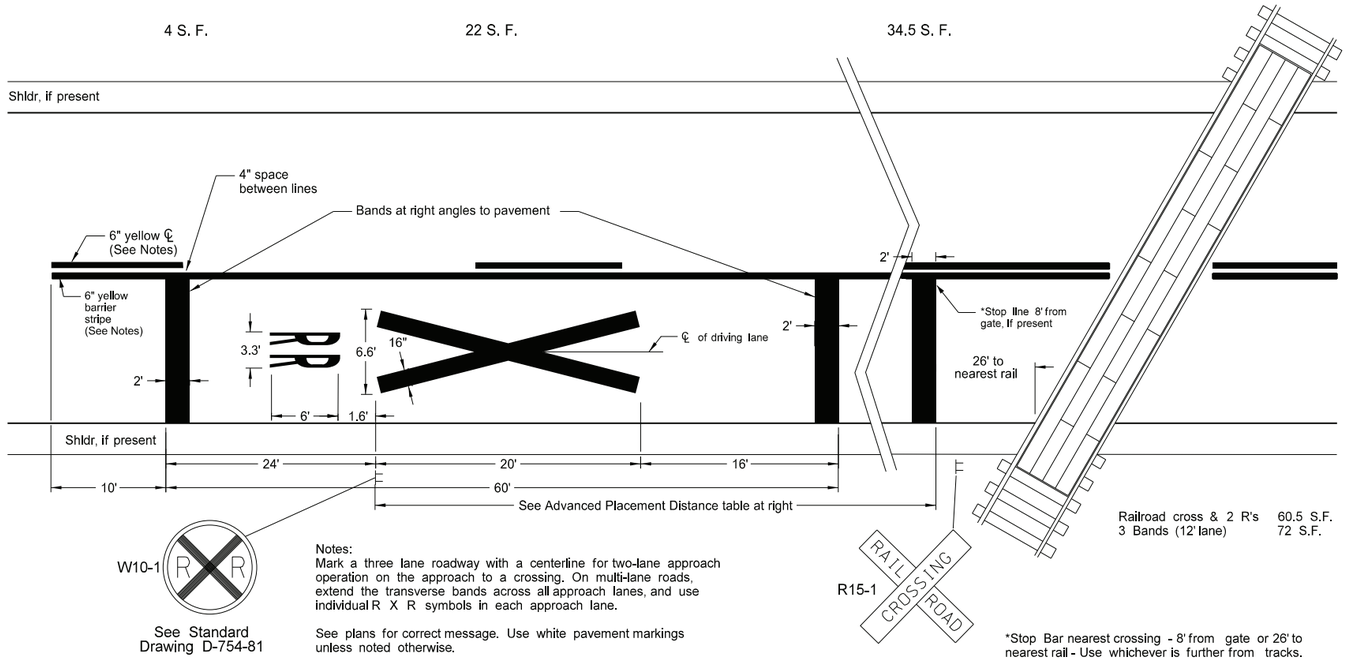
46 S. F.

Speed Limit	Chevron Width	Chevron Spacing 45° to Traffic
0-25 mph	8"	5'
30-40 mph	8"	15'
45 mph and above	12"	25'

Chevron Crosshatching Table



Centerline Pavement Marking Skip Spacing Detail

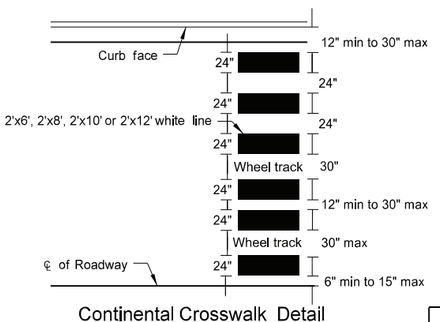


Notes:
Mark a three lane roadway with a centerline for two-lane approach operation on the approach to a crossing. On multi-lane roads, extend the transverse bands across all approach lanes, and use individual R X R symbols in each approach lane.

See plans for correct message. Use white pavement markings unless noted otherwise.

Railroad cross & 2 R's 60.5 S.F.
3 Bands (12' lane) 72 S.F.

*Stop Bar nearest crossing - 8' from gate or 26' to nearest rail - Use whichever is further from tracks.



Continental Crosswalk Detail

Advance Placement Distance for Railroad Warning Signs	
Posted or 85th Percentile Speed	Advance Distance
20 mph	min. 100 ft
25 mph	min. 100 ft
30 mph	min. 100 ft
35 mph	min. 100 ft
40 mph	125 ft
45 mph	175 ft
50 mph	250 ft
55 mph	325 ft
60 mph	400 ft
65 mph	475 ft
70 mph	550 ft

NOTES:

1. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
2. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

12-6-11

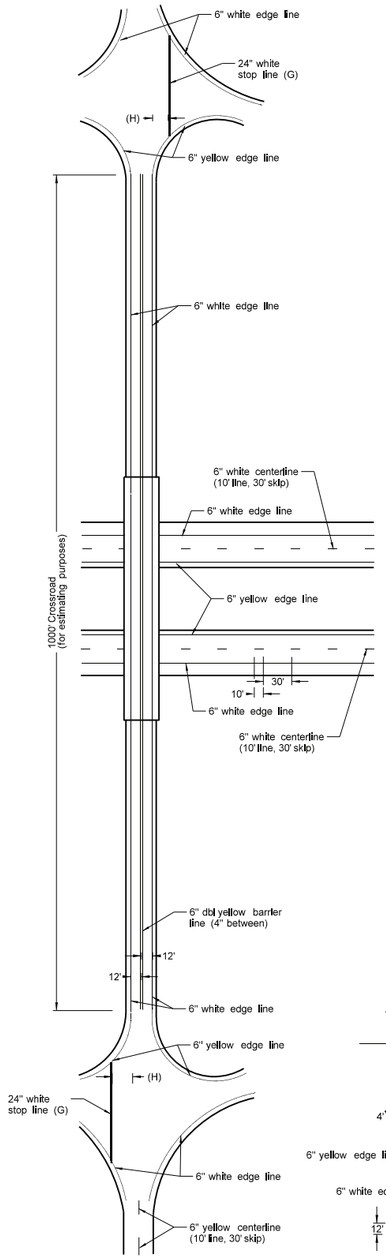
REVISIONS

DATE	CHANGE
10-17-17	Updated to active voice.
08-27-19	New Design Engineer PE Stamp.
01-28-2020	Revised min Stop Bar distance to rail.
11-22-2023	Revised pavement marking widths.

KIRK J. HOFF REGISTERED PROFESSIONAL PE-4683 11/22/23 ENGINEER NORTH DAKOTA

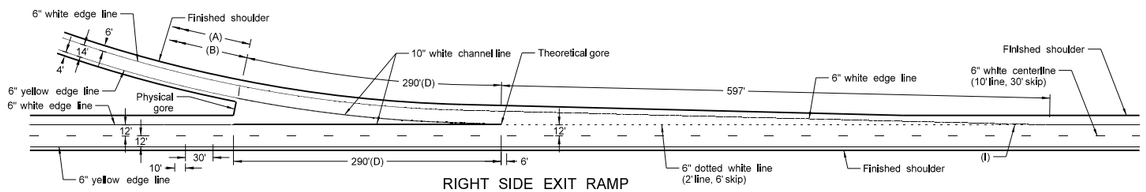
INTERSTATE PAVEMENT MARKING
4 LANE DIVIDED HIGHWAY

D-762-2

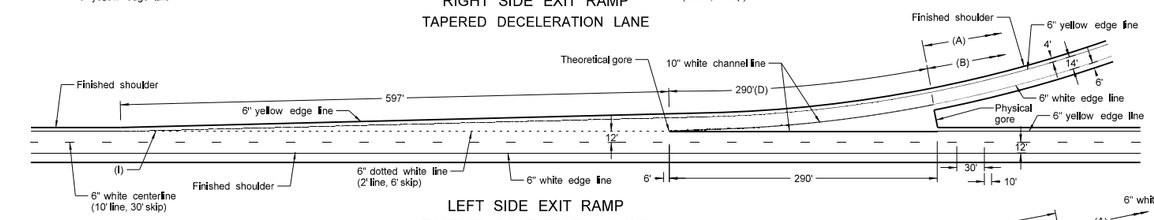


CROSS-ROAD & STRUCTURE

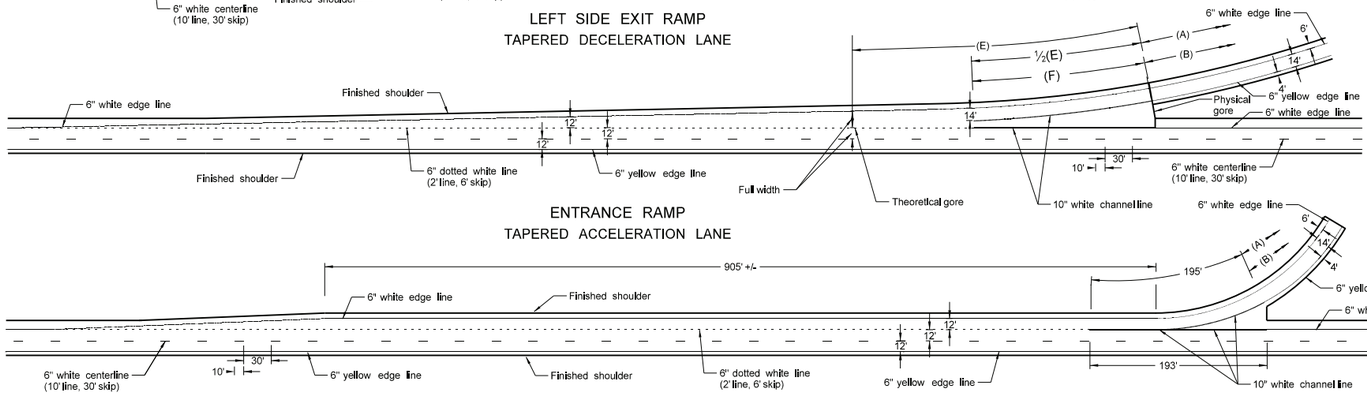
Engineer will determine length striped.



RIGHT SIDE EXIT RAMP
TAPERED DECELERATION LANE

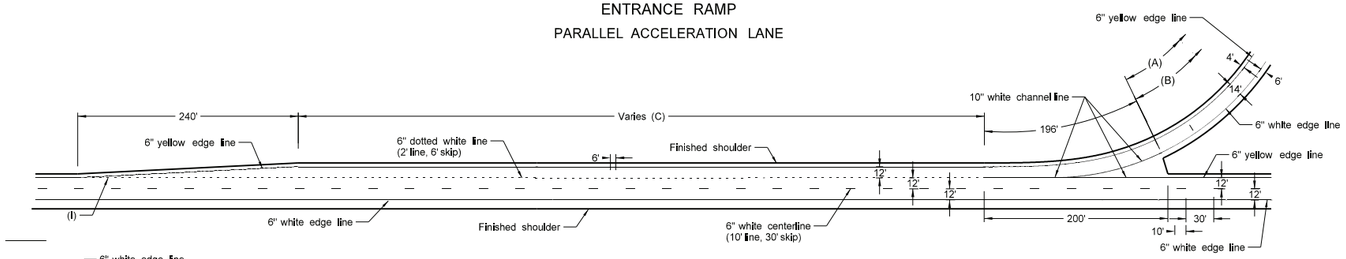


LEFT SIDE EXIT RAMP
TAPERED DECELERATION LANE

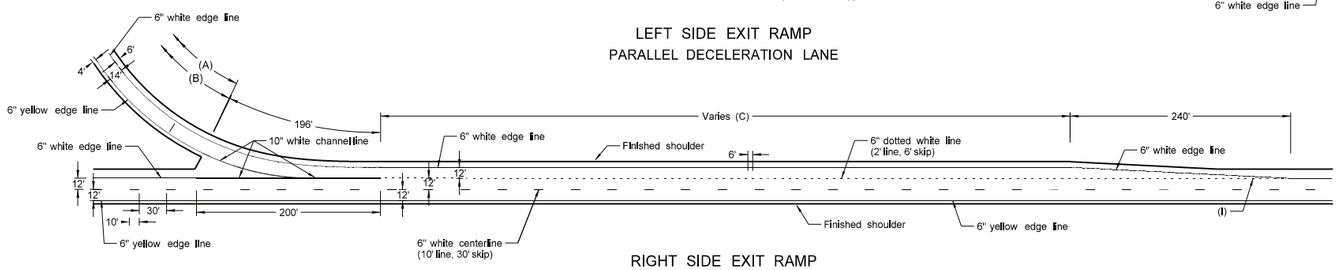


ENTRANCE RAMP
TAPERED ACCELERATION LANE

ENTRANCE RAMP
PARALLEL ACCELERATION LANE



LEFT SIDE EXIT RAMP
PARALLEL DECELERATION LANE



RIGHT SIDE EXIT RAMP
PARALLEL DECELERATION LANE

NOTE:

(A) Normal width white edge line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.

Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.

(B) Normal width yellow edge line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.

Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.

(C) Assume "varies" equals 790' for purpose of estimate. Place pavement marking from beginning of taper to the 10" line.
(D) Beginning of physical gore to theoretical gore.
(E) If the distace is less than 350' extend the 10" channel line to the theoretical gore, otherwise use 195'.
(F) Use 195' for estimating purposes.
(G) Not required for gravel surface crossroad approaches.
(H) 4' minimum, 15' maximum from nearest edge of intersection traveled way.
(I) Extend dotted line until it touches the edgeline.

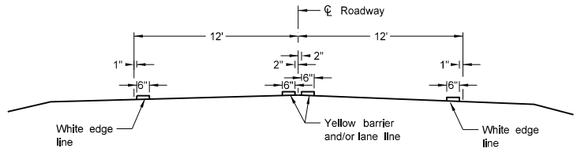
BASIS OF ESTIMATE		
LOCATION	ITEM	
Right or Left Side Exit Ramp TAPERED	10" White channel line	580 LF
	24" White stop line	60 LF
	6" White dotted line	148 LF
	6" White edge line	1115 LF
	6" Yellow edge line	1075 LF
Entrance Ramp TAPERED	10" White channel line	390 LF
	6" White dotted line	258 LF
	6" White edge line	1270 LF
	6" Yellow edge line	1075 LF
Right or Left Side Exit Ramp PARALLEL	10" White channel line	396 LF
	24" White stop line	60 LF
	6" White dotted line (C)	258 LF
	6" White edge line	1115 LF
	6" Yellow edge line	1075 LF
Entrance Ramp PARALLEL	10" White channel line	388 LF
	6" White dotted line	283 LF
	6" White edge line	1275 LF
	6" Yellow edge line	1075 LF
Main Line (Both Roadways)	6" White lane line, 10' line, 30' skip	2640 LF/MI
	6" White edge line	10,560 LF/MI
	6" Yellow edge line	10,560 LF/MI
Cross Road	6" White edge line	2000 LF
	6" Dbl yellow barrier line (4" between)	2000 LF

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-3-11	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice
10-25-19	Replaced 2' Max dim with Note (I)
11-05-21	Revised labels
11-22-23	Revised pavement marking widths

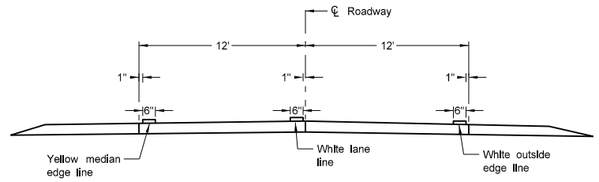
KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
11/22/23
ENGINEER
NORTH DAKOTA

PAVEMENT MARKING

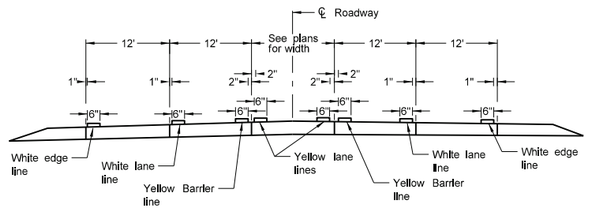
D-762-4



Two Lane Two Way
RURAL ROADWAY



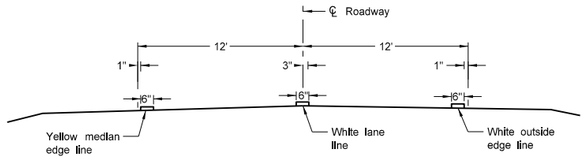
Two Lane Roadway
INTERSTATE HIGHWAY
Concrete Section



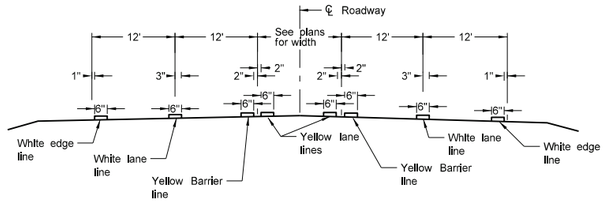
RURAL FIVE LANE ROADWAY
Concrete Section

NOTES:

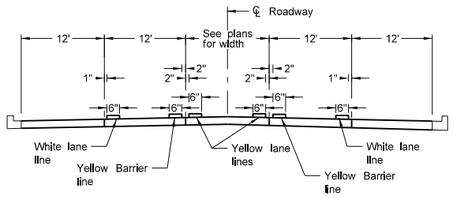
1. Continue edge lines through private drives and field drives. Break edge lines for intersections.
2. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph,
3. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.



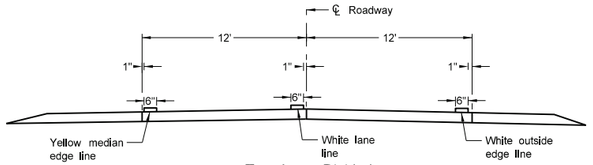
Two Lane Divided
Rural Roadway
PRIMARY HIGHWAY
Asphalt Section



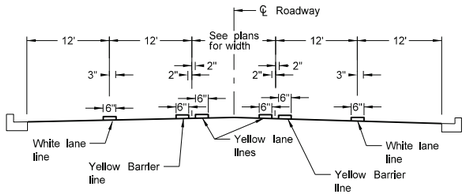
RURAL FIVE LANE ROADWAY
Asphalt Section



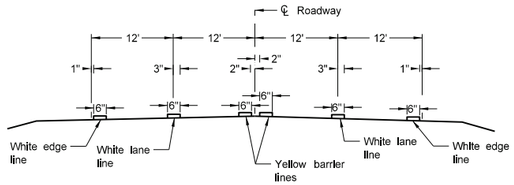
URBAN FIVE LANE SECTION
Concrete Section



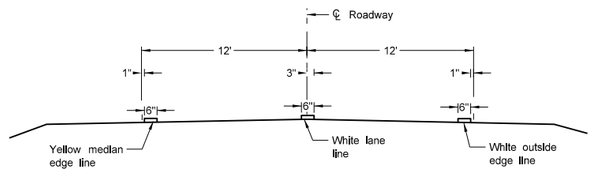
Two Lane Divided
Rural Roadway
PRIMARY HIGHWAY
Concrete Section



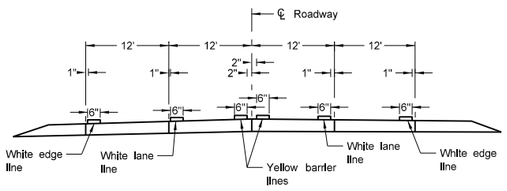
URBAN FIVE LANE SECTION
Asphalt Section



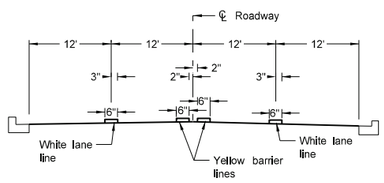
RURAL FOUR LANE ROADWAY
Asphalt Section



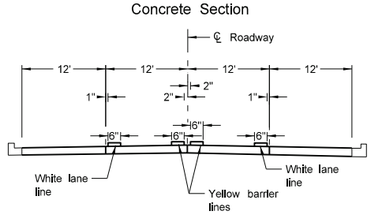
Two Lane Roadway
INTERSTATE HIGHWAY
Asphalt Section



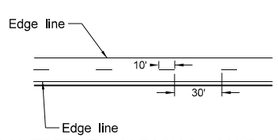
RURAL FOUR LANE ROADWAY
Concrete Section



URBAN FOUR LANE SECTION
Asphalt Section



URBAN FOUR LANE SECTION
Concrete Section



CENTERLINE PAVEMENT MARKING SKIP SPACING DETAIL

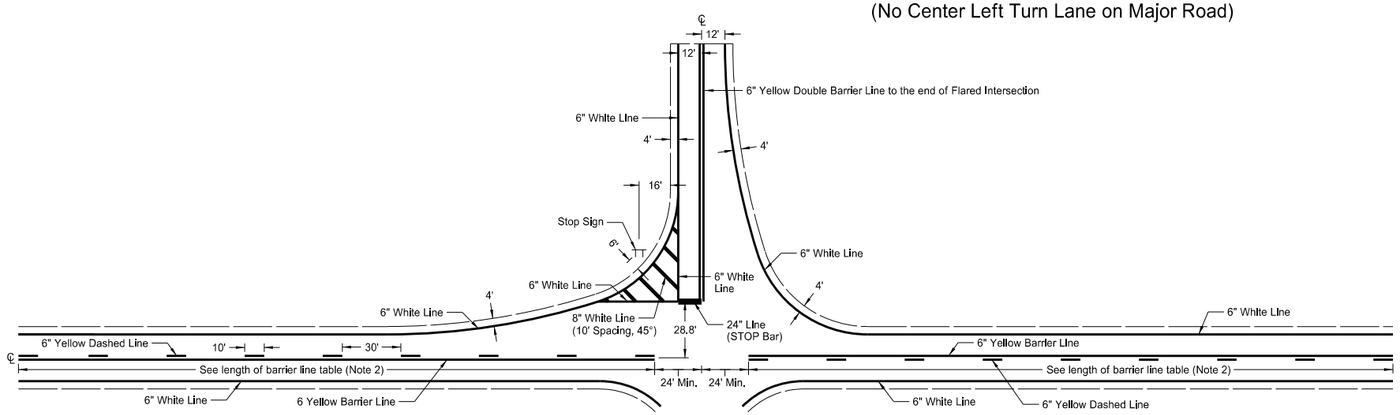
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
12-1-10	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice.
08-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.

KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
11/22/23
ENGINEER
NORTH DAKOTA

PAVEMENT MARKING FOR STANDARD 90 DEGREE FLARED INTERSECTION

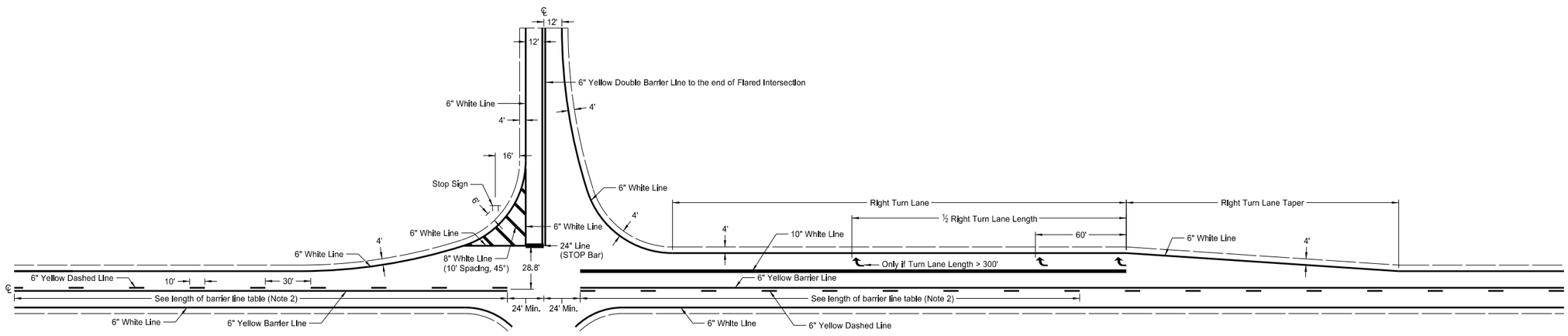
D-762-5

(No Center Left Turn Lane on Major Road)



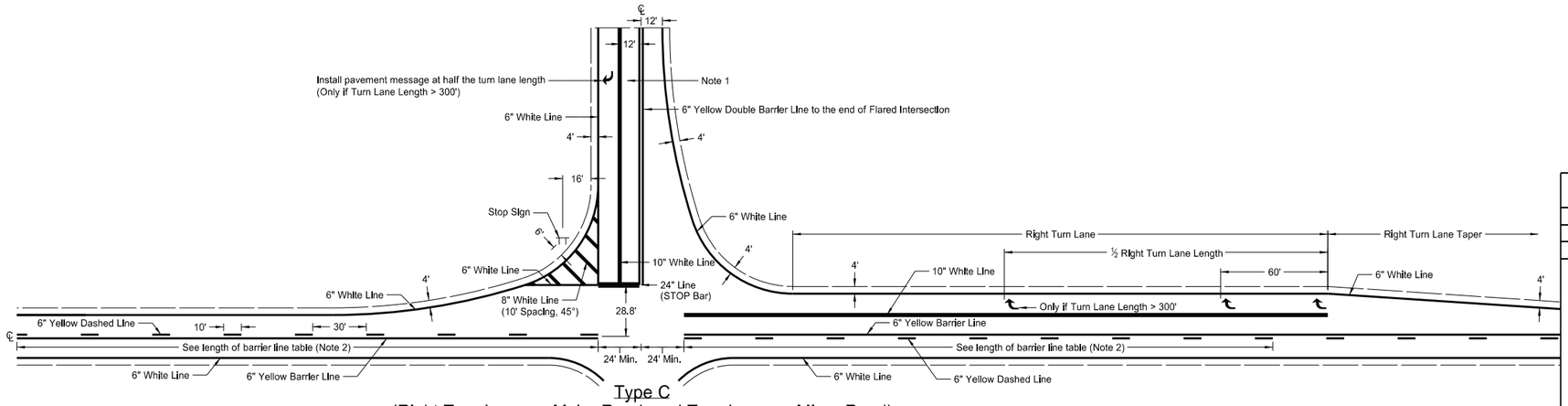
Type A

(No turn lanes present)



Type B

(Right Turn Lane on Major Road)



Type C

(Right Turn Lane on Major Road, and Turn Lane on Minor Road)

Notes

1. At "T" intersections (3-leg), additionally install left turn pavement marking message arrow.
2. The barrier lines have variable distances dependent on speed limit. Obtain barrier line length from table below (stopping sight distance.)
3. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
4. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40.
5. Wide line - 8 inches wide if 4 inch normal width lines are used and 10 inches wide if 6 inch normal width lines are used.

Table for Length of Barrier Line									
Speed Limit (mph)	30	35	40	45	50	55	60	65	70
Minimum Length	200'	250'	305'	360'	425'	495'	570'	645'	730'

6" Marking

8" Marking

10" Marking

24" Marking

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

3-29-16

REVISIONS

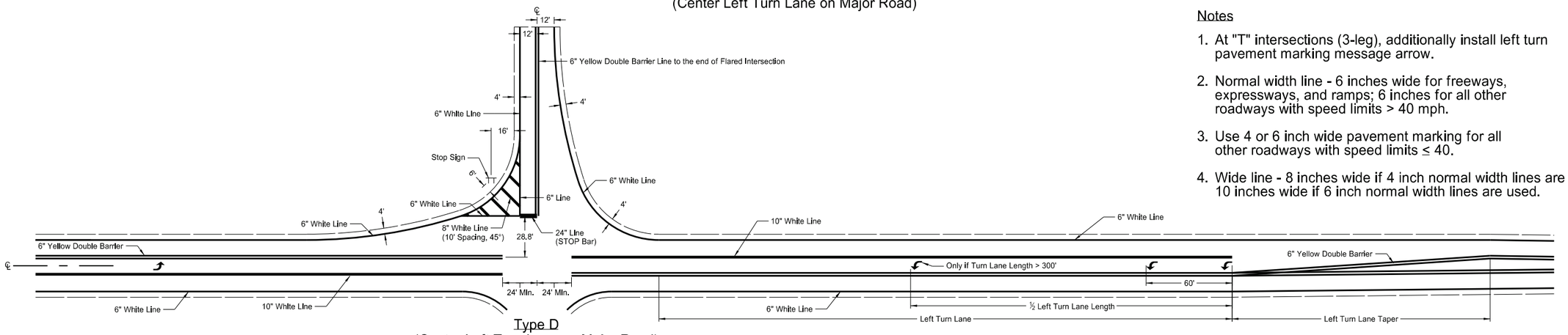
DATE	CHANGE
8-17-17	Updated note & dimensioning.
8-30-18	Corrected pvmt mkg placement.
8-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.

KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
11/22/23
ENGINEER
NORTH DAKOTA

PAVEMENT MARKING FOR STANDARD 90 DEGREE FLARED INTERSECTION

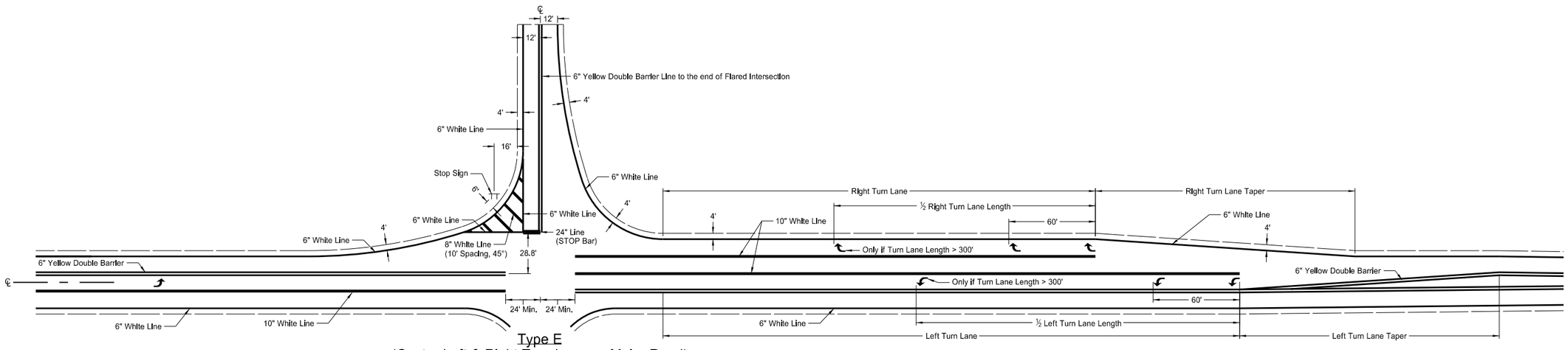
D-762-6

(Center Left Turn Lane on Major Road)



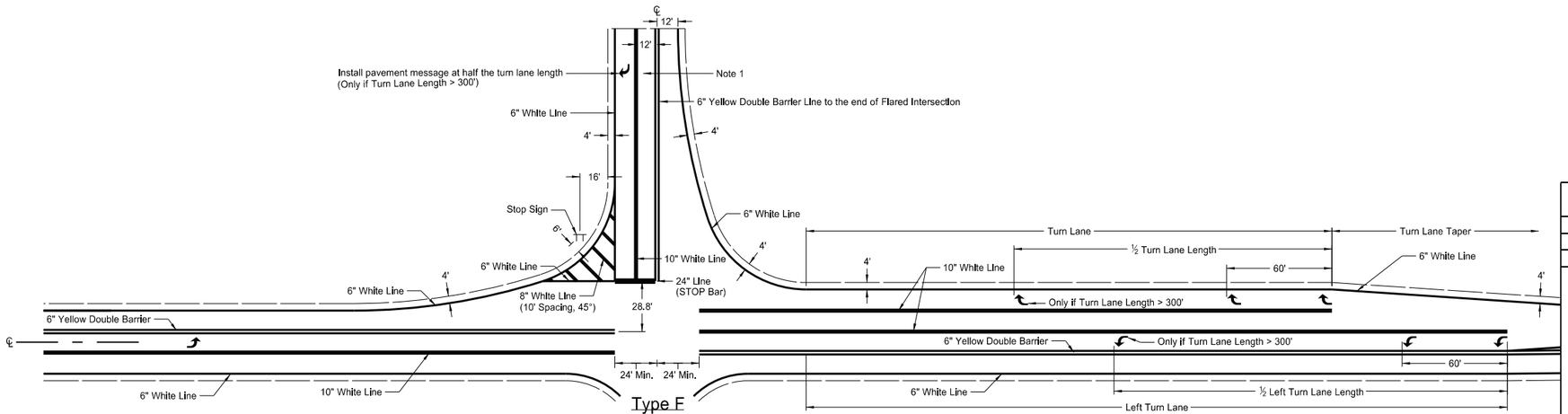
Type D

(Center Left Turn Lane on Major Road)



Type E

(Center Left & Right Turn Lane on Major Road)



Type F

(Center Left & Right Turn Lane on Major road, and Turn Lane on Minor Road)

Notes

1. At "T" intersections (3-leg), additionally install left turn pavement marking message arrow.
2. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
3. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40.
4. Wide line - 8 inches wide if 4 inch normal width lines are used and 10 inches wide if 6 inch normal width lines are used.

6" Marking

8" Marking

10" Marking

24" Marking

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

3-29-16

REVISIONS

DATE	CHANGE
8-17-17	Updated dimensioning.
8-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.

KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
11/22/23
ENGINEER
NORTH DAKOTA