

LAX
PROJECT ID:
WITH: N/A

5880-00-67

COUNTY:
JUNEAU

MAY 2022
ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Gross Sections

TOTAL SHEETS = 78



DESIGN DESIGNATION 5880-00-37

A.A.D.T.	2026	=	3,700
A.A.D.T.	2042	=	4,000
D.H.V.		=	11.4%
D.D.		=	60/40
T.		=	12.4 %
DESIGN SPEED		=	60 MPH
ESALS		=	960,000

BEGIN PROJECT
 STA 202+75
 X: 510409.2105
 Y: 124632.0127

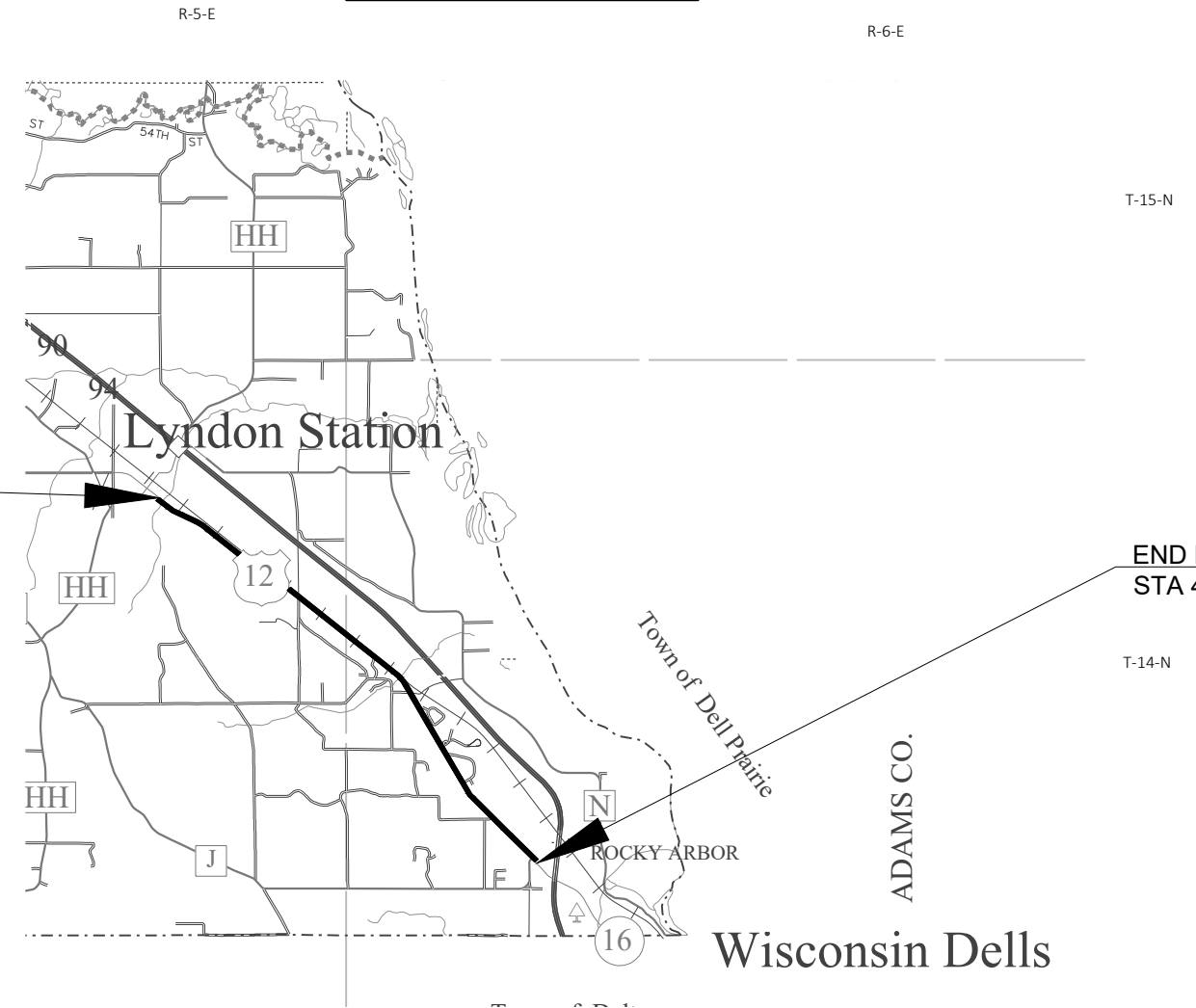
CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 PLAN OF PROPOSED IMPROVEMENT
 MAUSTON - WISCONSIN DELLS
 MEADOW LANE TO 0.07 MI E OF CTH J
 USH 12
 JUNEAU COUNTY

STATE PROJECT NUMBER
5880-00-67



LAYOUT
 SCALE 0 1 MI
 TOTAL NET LENGTH OF CENTERLINE = 5.626 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISOCRS), JUNEAU COUNTY NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012.) GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5880-00-67	WISC 2022403	1

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

PREPARED BY	Surveyor	WISDOT
Designer	KATHLEEN KLUDY P.E.	
Project Manager	PAUL M VALENTI P.E.	
Regional Examiner	SW REGION	
Regional Supervisor	REINY YANHKE P.E.	

APPROVED FOR THE DEPARTMENT
 DATE: 03/07/2022

 (Signature)

E

STANDARD ABBREVIATIONS

AC	ACRE	LC.	LONG CHORD
AGG	AGGREGATE	LS	LUMP SUM
<	ANGLE	M.P.	MARKER POST
AE, AEW	APRON ENDWALL	MGAL	1000 GALLONS
ASPH.	ASPHALTIC	N.C.	NORMAL CROWN
A.D.T.	AVERAGE DAILY TRAFFIC	N	NORTH
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC	NB	NORTHBOUND
B.F.	BACK FACE	NOR	NORMAL
BM	BENCHMARK	NO.	NUMBER
BTWN	BETWEEN	PAV'T	PAVEMENT
CTR.	CENTER	P.L.E.	PERMANENT LIMITED EASEMENT
C/L	CENTER LINE	P.C.	POINT OF CURVATURE
Δ	CENTRAL ANGLE OR DELTA	P.I.	POINT OF INTERSECTION
C.E.	COMMERCIAL ENTRANCE	P.T.	POINT OF TANGENCY
CONST.	CONSTRUCTION	PCC	PORTLAND CEMENT CONCRETE
CMCP	CORRUGATED METAL CULVERT PIPE	P.E.	PRIVATE ENTRANCE
CMP	CORRUGATED METAL PIPE	PGL	PROFILE GRADE LINE
CO.	COUNTY	P.L.	PROPERTY LINE
CTH	COUNTY TRUNK HIGHWAY	R	RADIUS OR RANGE
CR.	CREEK	R/L	REFERENCE LINE
CABC	CRUSHED AGGREGATE BASE COURSE	R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
CY	CUBIC YARD	REQ'D	REQUIRED
CP	CONTROL POINT OR CULVERT PIPE	RT	RIGHT
C&G	CURB AND GUTTER	R.H.F.	RIGHT HAND FORWARD
D	DEGREE OF CURVE	R/W	RIGHT OF WAY
D.H.V.	DESIGN HOURLY VOLUME	RD.	ROAD
DIA.	DIAMETER	SHLD.	SHOULDER(S)
D.D.	DIRECTIONAL DISTRIBUTION	SHR.	SHRINKAGE
DISCH.	DISCHARGE	S	SOUTH
DMS	DYNAMIC MESSAGE SIGN	SB	SOUTHBOUND
EA	EACH	S.F.	SQUARE FOOT (FEET)
E	EAST	SDD	STANDARD DETAIL DRAWING(S)
EB	EASTBOUND	STH	STATE TRUNK HIGHWAY
ELEC.	ELECTRIC(A)L, ELEC. CABLE	STA.	STATION
EL., ELEV.	ELEVATION	S.E.	SUPERELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	S/L	SURVEY LINE
EXC.	EXCAVATION	SYM	SYMMETRICAL
EXIST	EXISTING	T.	PERCENT TRUCKS
F.F.	FACE TO FACE	TEL.	TELEPHONE
FERT.	FERTILIZER	TEMP.	TEMPORARY
F.E.	FIELD ENTRANCE	T.L.E.	TEMPORARY LIMITED EASEMENT
F/L, F.L.	FLOW LINE	T.O.C.	TOP OF CURB
GALV.	GALVANIZE	TYP	TYPICAL
H.S.	HIGH STRENGTH	UNCL.	UNCLASSIFIED
CWT	HUNDRED WEIGHT	U.G.	UNDERGROUND (CABLE)
INL	INLET	VAR	VARIABLE
INTER.	INTERSECTION	V.C.	VERTICAL CURVE
IH	INTERSTATE HIGHWAY	V.P.C.	VERTICAL POINT OF CURVATURE
JT.	JOINT	V.P.I.	VERTICAL POINT OF INTERSECTION
LT	LEFT	V.P.T.	VERTICAL POINT OF TANGENCY
L.H.F.	LEFT HAND FORWARD	Wt.	WEIGHT
L.	LENGTH OF CURVE	W	WEST
L.F.	LINEAR FOOT(FEET)	WB	WESTBOUND

GENERAL NOTES

- THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
 - APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED PAVEMENT SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA
 - HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
 - THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE
 - CONTRACTOR TO PROTECT GEODETIC SURVEY CONTROL STATIONS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM GEODETIC SURVEY CONTROL STATIONS.
 - ENSURE THAT GEODETIC SURVEY CONTROL STATIONS ARE NOT DISTURBED, BUMPED OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF GEODETIC SURVEY CONTROL STATIONS ARE DISTURBED, BUMPED OR MOVED DURING CONSTRUCTION OPERATIONS.
- JACOB ROCKWEILER, P.E., WISCONSIN HEIGHT MODERNIZATION PROGRAM MANAGER WITH WISCONSIN DEPARTMENT OF TRANSPORTATION WHOSE PHONE NUMBER IS (608) 516-6362 AND EMAIL IS JACOB.ROCKWEILER@DOT.WI.GOV.
- EXACT LOCATIONS FOR REMOVING DISTRESSED PAVEMENT MILLING SHALL BE DETERMINED BY ENGINEER IN THE FIELD.

DNR LIAISON

KAREN KALVELAGE
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
WISCONSIN DEPT. OF NATURAL RESOURCES
3550 MORMON COULEE RD
LA CROSSE, WI 54601
(608) 785-9115
KAREN.KALVELAGE@WISCONSIN.GOV

DESIGN CONTACTS

PAUL VALENTI
PROJECT MANAGER
WISDOT SW REGION - LA CROSSE
3550 MORMON COULEE RD
LA CROSSE, WI 54601
(608) 785-9053
PAUL.VALENTI@DOT.WI.GOV

KATHLEEN KLUDY
PROJECT DESIGNER
WISDOT SW REGION - LA CROSSE
3550 MORMON COULEE RD
LA CROSSE, WI 54601
(608) 785-9948
KATHLEEN.KLUDY@DOT.WI.GOV

TRAVIS MIKSHOWSKY
SOILS/MATERIALS ENGINEER
WISDOT SW REGION - LA CROSSE
3550 MORMON COULEE RD
LA CROSSE, WI 54601
(608) 792-1310
TRAVIS.MILSHOWSKY@DOT.WI.GOV



UTILITY CONTACTS

DOUG VOSBERG
ATC MANAGEMENT, INC - ELECTRICITY-TRANSMISSION
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
(608) 877-7650
dvosberg@atcinc.com

TYLER DONOVAN
ALLIANT ENERGY - GAS/PETROLEUM
338 E STATE ROAD
MAUSTON, WI 53948
(608) 847-1302
tylerdonovan@alliantenergy.com

TYLER DONOVAN
ALLIANT ENERGY - ELECTRICITY
338 E STATE ROAD
MAUSTON, WI 53948
(608) 847-1302
tylerdonovan@alliantenergy.com

STEVE KLICKO
LYNDON STATION MUN WATER UTILITY - WATER
116 LEMONWEIR STREET
P.O. Box 408
LYNDON STATION, WI 53944-0408
(608) 495-0740
publicworks@lyndonstation-wi.com

BRYON JOHNSON
FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
P.O. BOX 537
RIPON, WI 54971
(435) 623-6651
B.Johnson@mscon.com

MATT RIGGS
OAKDALE ELECTRIC COOPERATIVE - ELECTRICITY
P.O. BOX 40
OAKDALE, WI 54649-0128
(608) 372-8828
mriggs@oakdalerec.com

LEGEND

MB PORTABLE CHANGEABLE MESSAGE BOARD

END CONSTRUCTION
STA 1+45.85"A"
MATCH EXISTING
SAW CUT REQ'D

ROADWORK
STARTING
XX/XX/XX

MB

BEGIN PROJECT
STA. 202+75
MATCH EXISTING
SAWING ASPHALT REQ'D- INCIDENTAL TO REMOVING ASPHALT BUTT JOINTS
REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D

BEGIN 2" REMOVING ASPHALTIC SURFACE MILLING
AND PAVING 2" HMA PAVEMENT 4 MT 58-28 S PLACED IN A SINGLE LIFT

RAILROAD CROSSING
390 788F

INDUSTRIAL AVENUE
PINE ST
EAST ST

AMHERST RD

KOVAL RD
SOUTHERN RD

REST HAVEN RD

DEES RD
DEES RD/ 63RD ST

ARBOR LAKE RD N

ARBOR LAKE RD E

420

430

440

450

460

470

ENVIRONMENTALLY SENSITIVE AREA. UN-CATALOGUED
BURIAL SITES. THIS ARE SHOULD NOT BE USED FOR
BORROW OR WASTE DISPOSAL, OR FOR THE USE OF
STAGING OF PERSONNEL, EQUIPMENT AND/OR SUPPLIES.

ROADWORK
STARTING
XX/XX/XX

MB

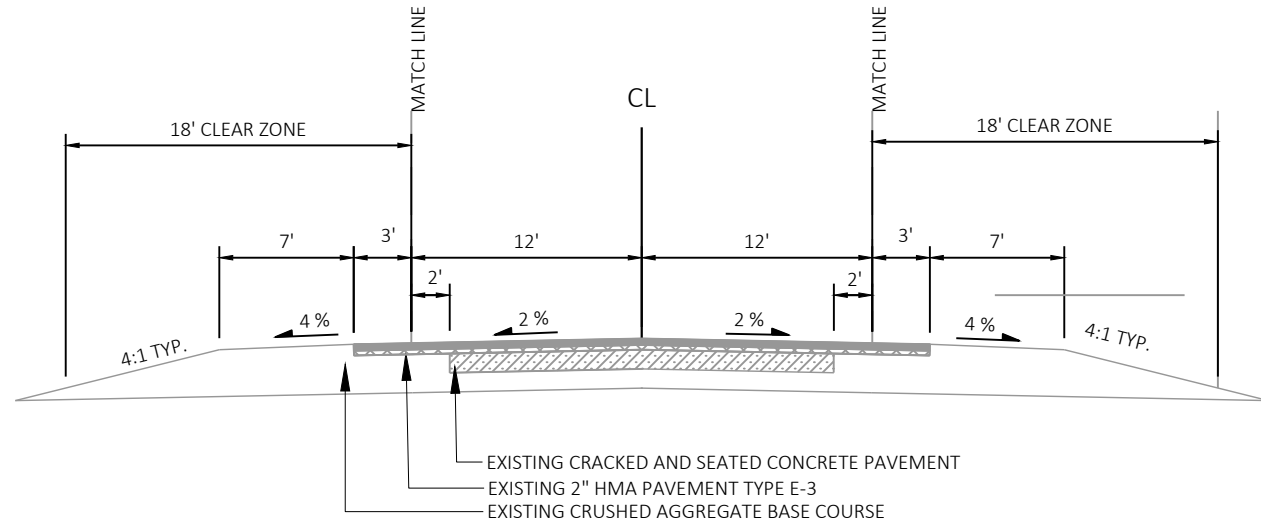
ENVIRONMENTALLY SENSITIVE AREA. UN-CATALOGUED
BURIAL SITES. THIS ARE SHOULD NOT BE USED FOR
BORROW OR WASTE DISPOSAL, OR FOR THE USE OF
STAGING OF PERSONNEL, EQUIPMENT AND/OR SUPPLIES.

DEES RD
DEES RD/ 63RD ST
ARBOR LAKE RD N
ARBOR LAKE RD E
OAKGLEN CIRCLE
OAKGLEN LANE
ARROWHEAD RD

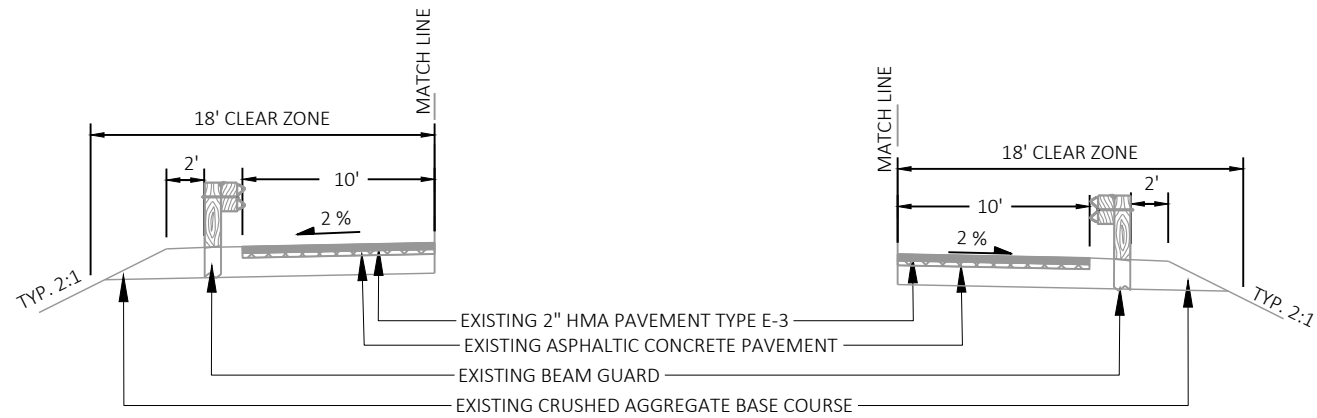
END PROJECT
STA 499+81

MATCH EXISTING
SAWING ASPHALT REQ'D- INCIDENTAL TO REMOVING ASPHALT BUTT JOINTS
REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D

END 2" REMOVING ASPHALTIC SURFACE (MILLING)
AND PAVING 2" HMA PAVEMENT 4 MT 58-28 S (SINGLE LIFT)

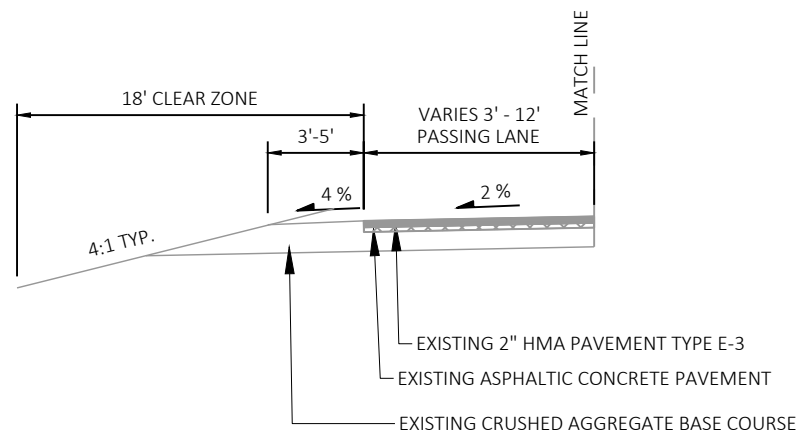


EXISTING TYPICAL SECTION
STA 202+75 - 499+81

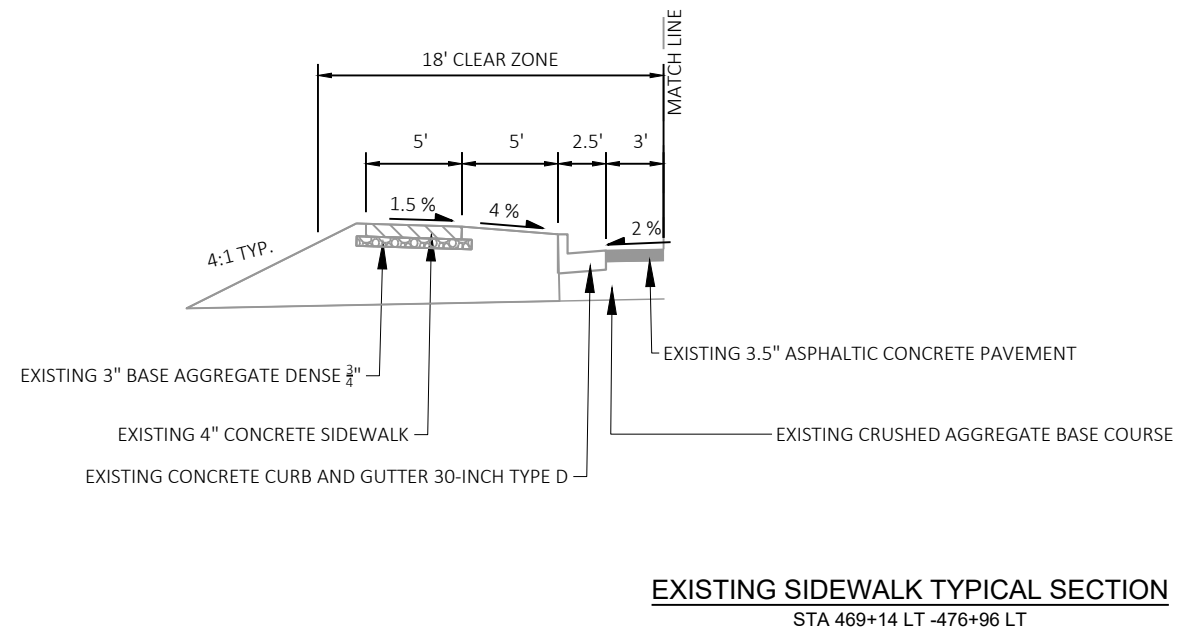
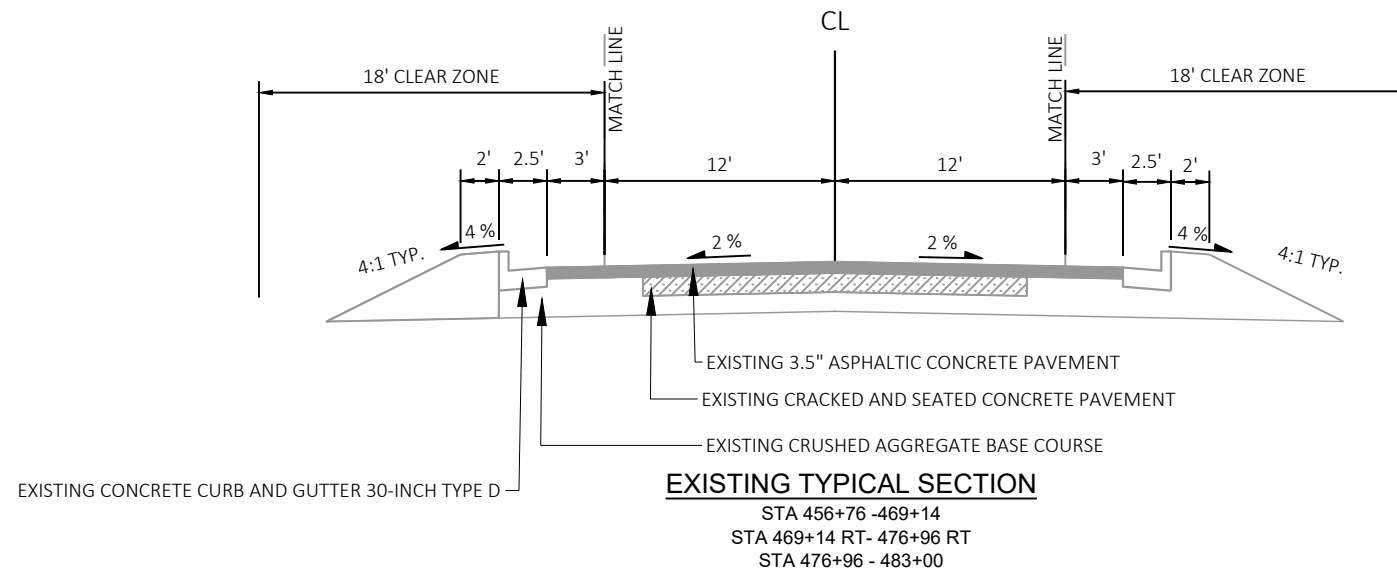


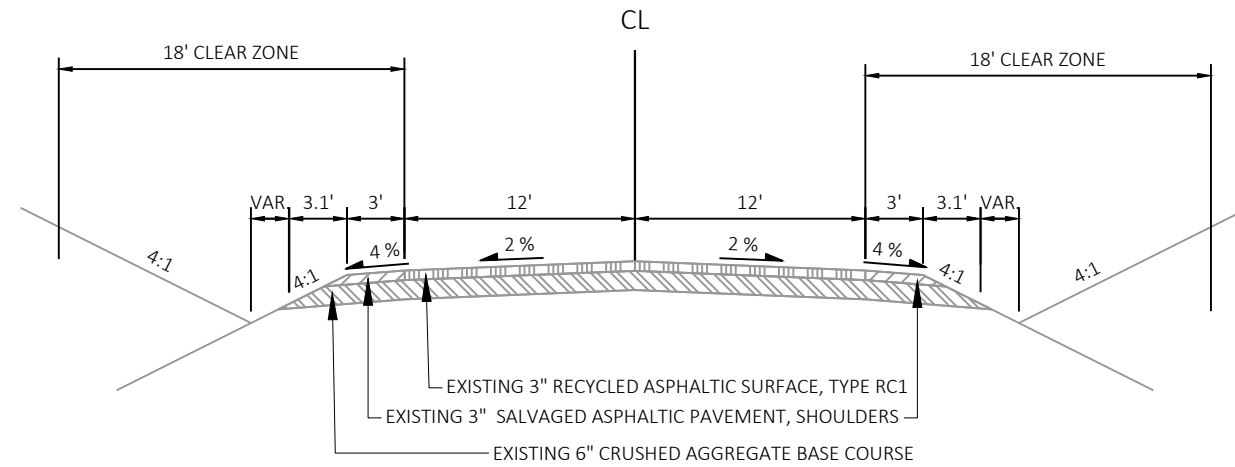
EXISTING TYPICAL SECTION BEAM GUARD LT SECTIONS
STA 367+30 LT - 371+10 LT
STA 406+74 LT - 409+04 LT

EXISTING TYPICAL SECTION BEAM GUARD RT SECTIONS
STA 367+11 RT - 370+36 RT
STA 407+60 RT - 409+82 RT



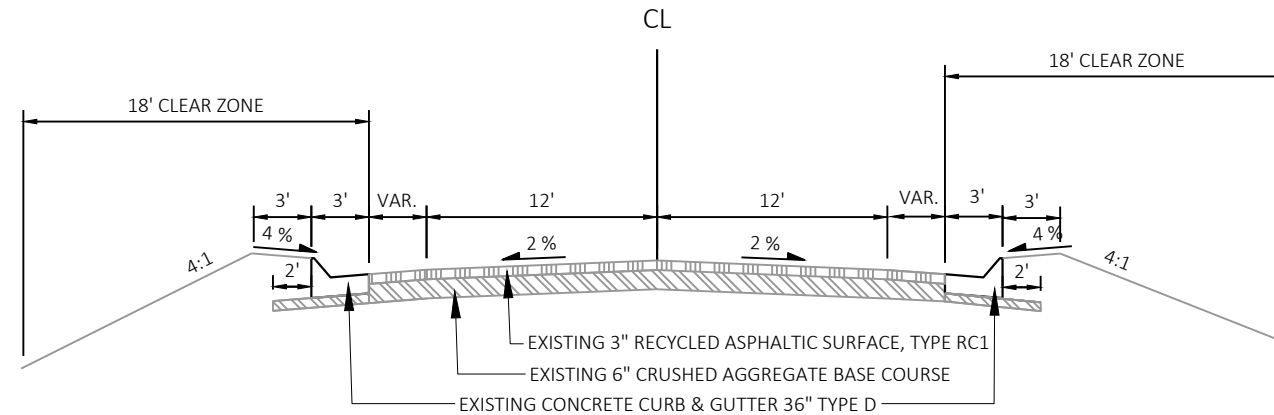
EXISTING TYPICAL SECTION PASSING LANE
STA 494+00 LT - 499+81 LT





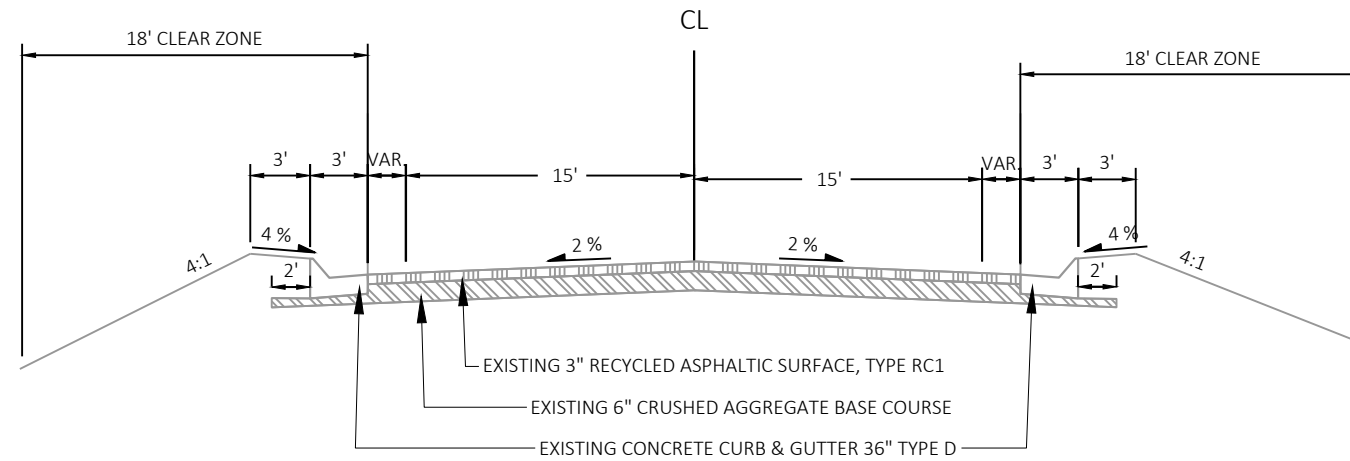
EXISTING SIDE ROAD TYPICAL SECTION

- INDUSTRIAL AVENUE
- AMHERST COURT
- KOVAL ROAD
- SOUTHERN ROAD
- RESTHAVEN ROAD
- DEES ROAD
- DEES ROAD/ 63RD STREET
- OAK CIRCLE WEST



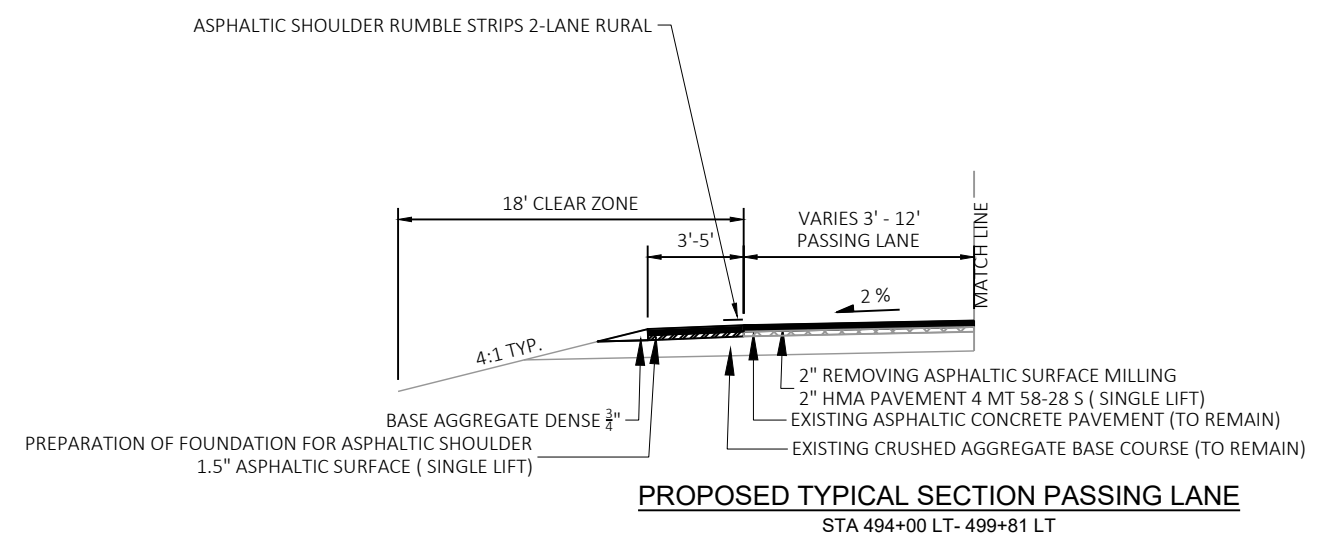
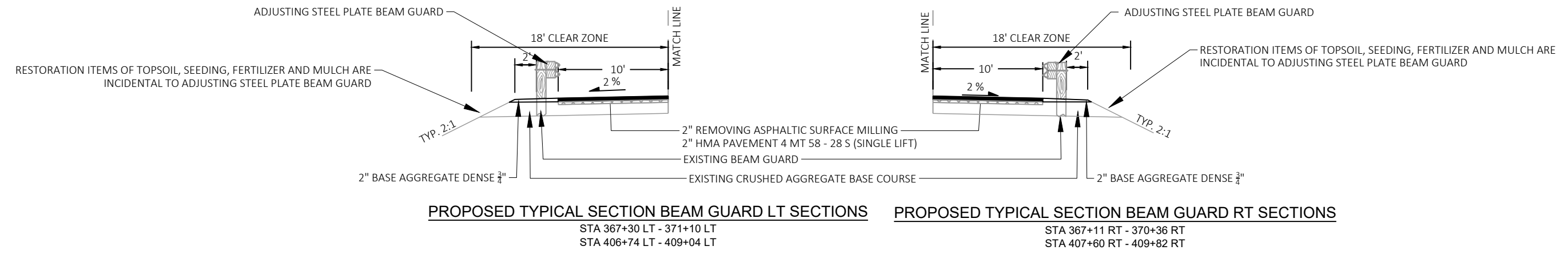
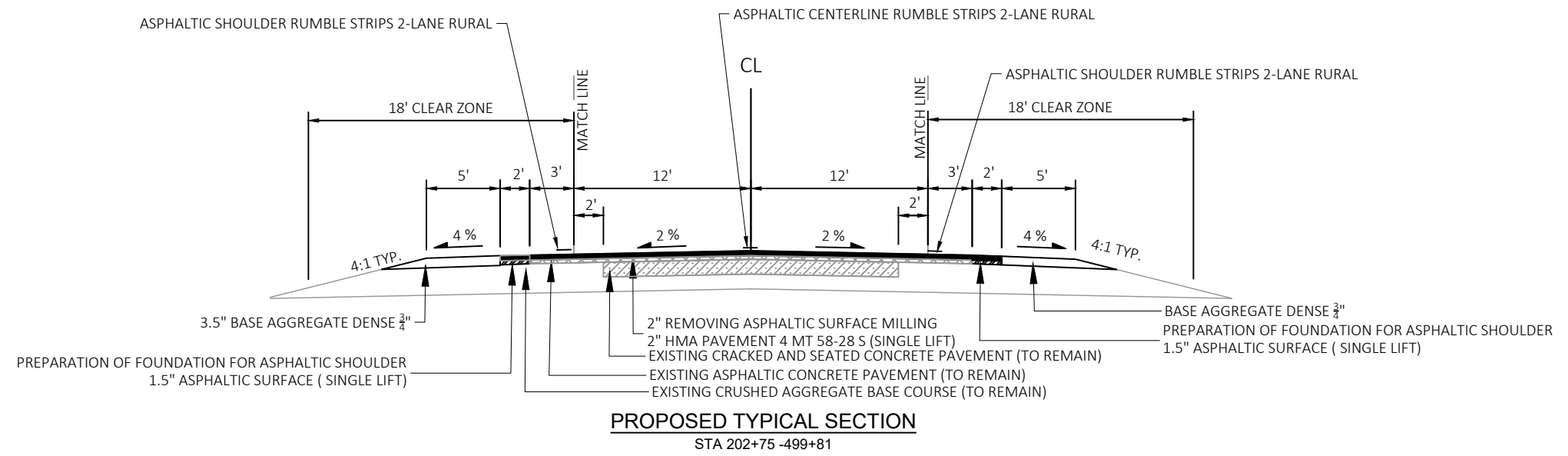
EXISTING SIDE ROAD TYPICAL SECTION

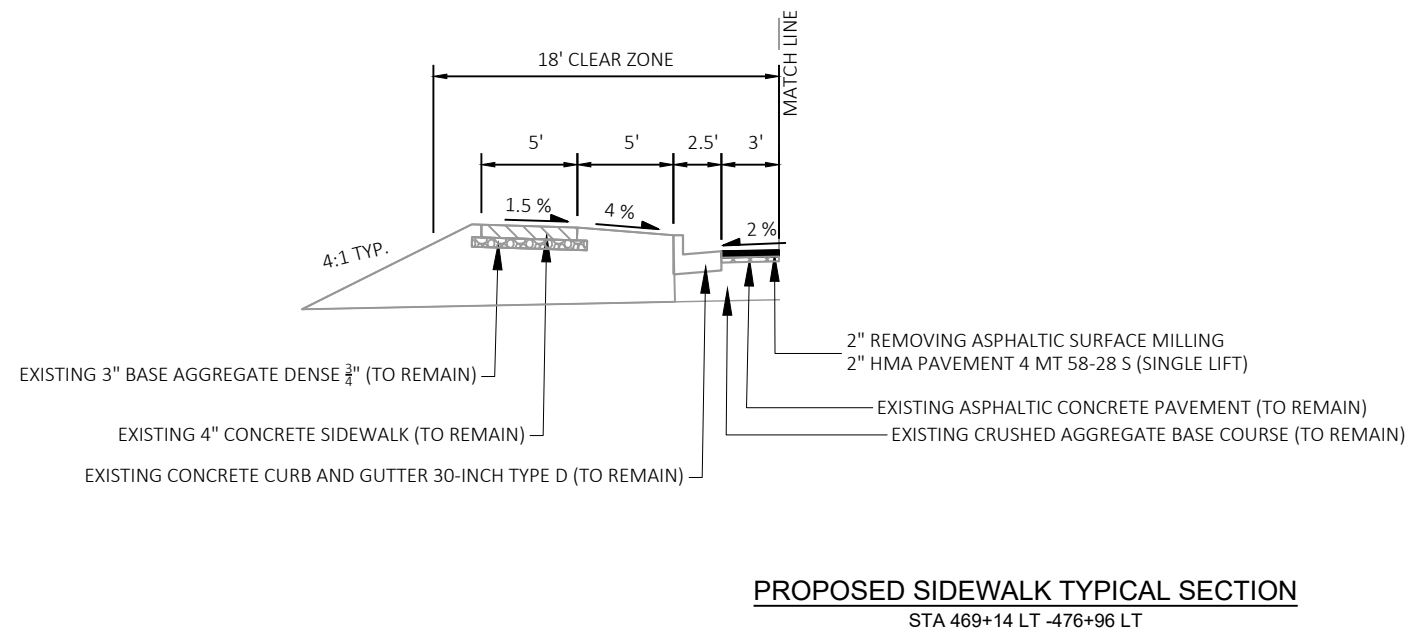
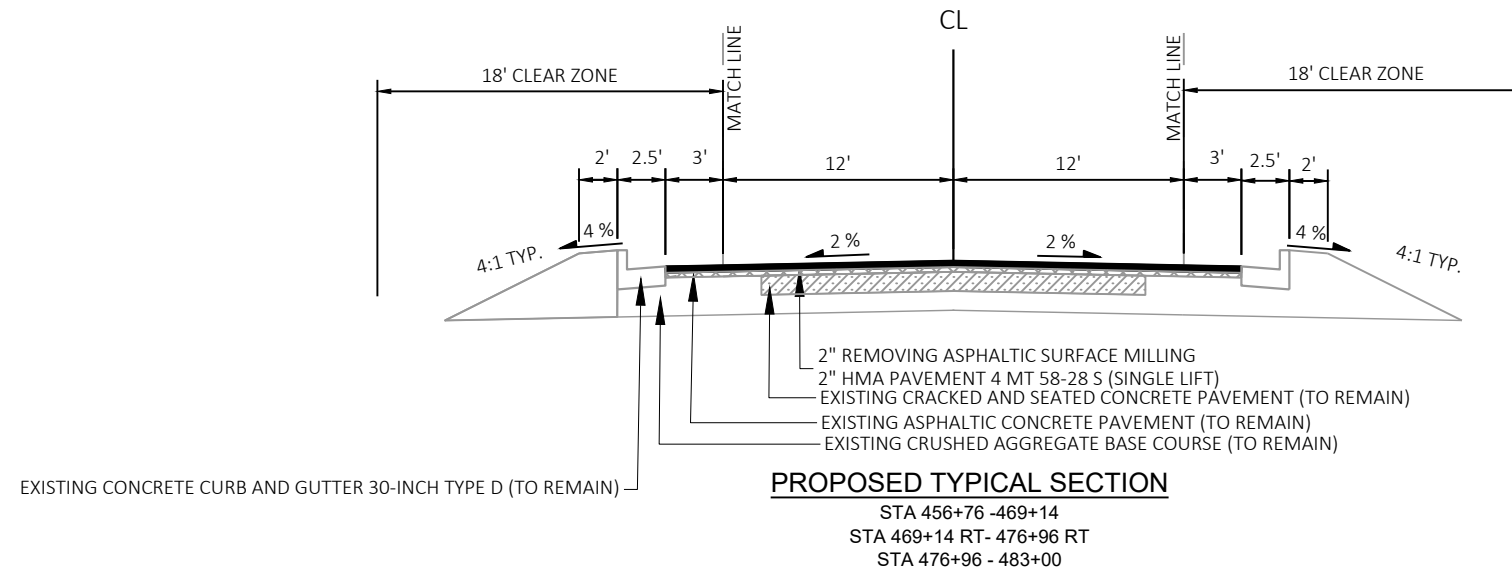
- AMHERST ROAD
- KOVAL ROAD
- DEES RD
- DEES ROAD/63RD STREET
- ARBOR LAKE N
- ARBOR LAKE EAST
- OAK CIRCLE EAST
- ARROWHEAD ROAD

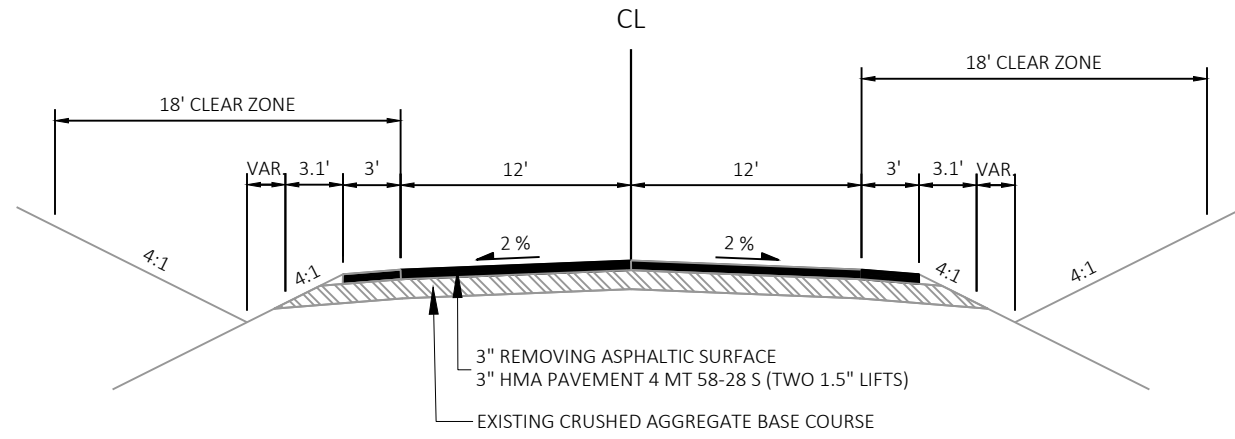


EXISTING SIDE ROAD TYPICAL SECTION

CTH J

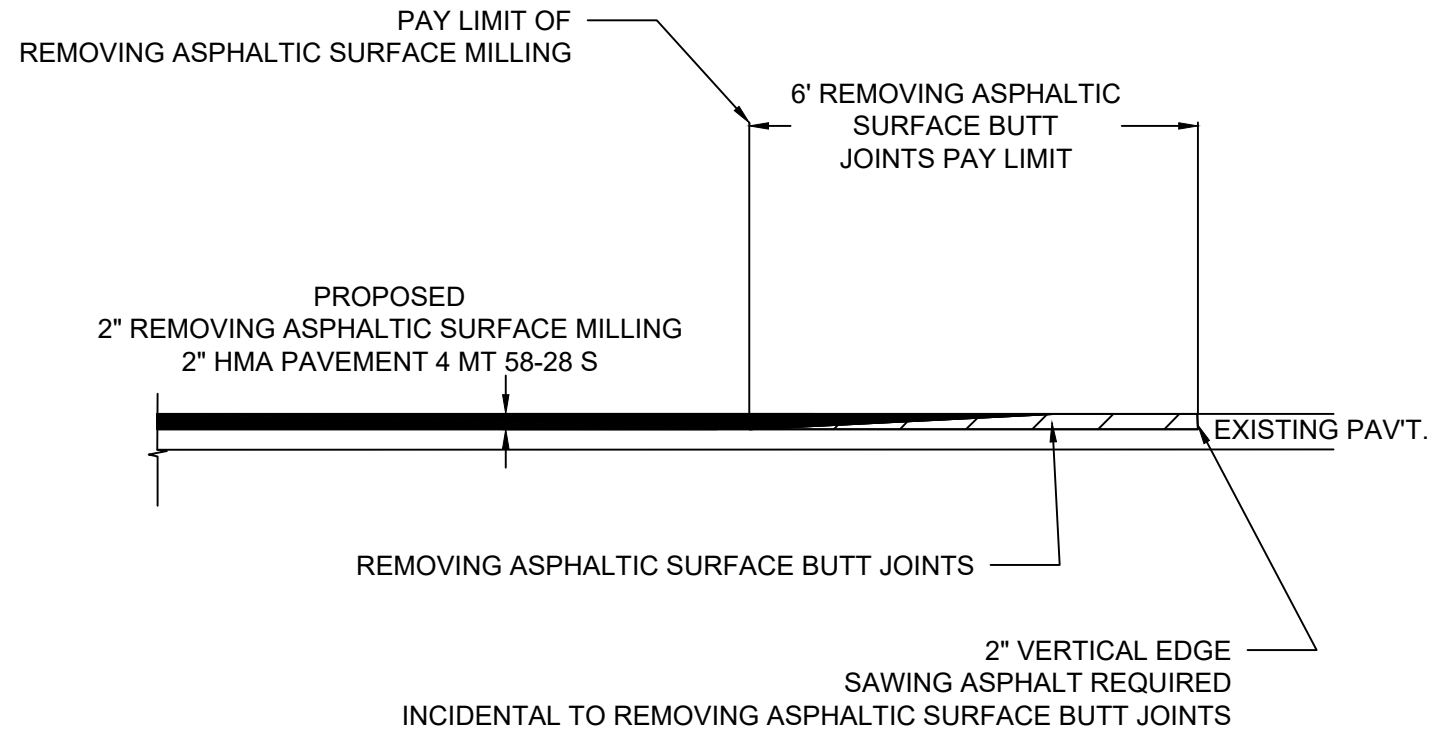




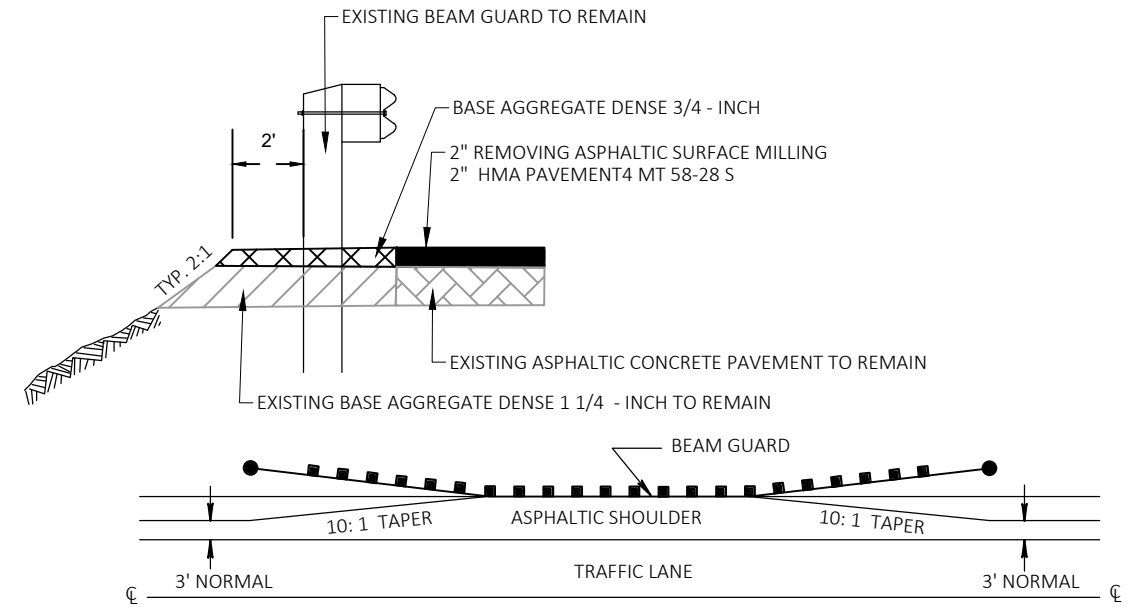


PROPOSED SIDE ROAD TYPICAL SECTION

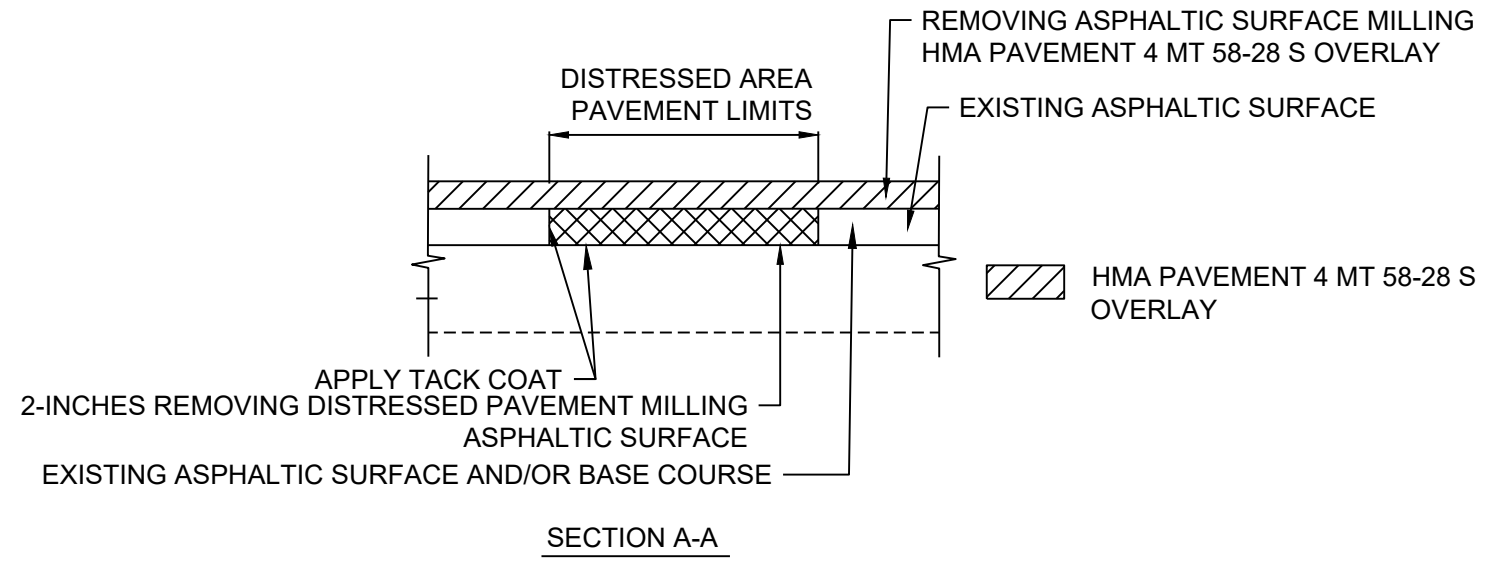
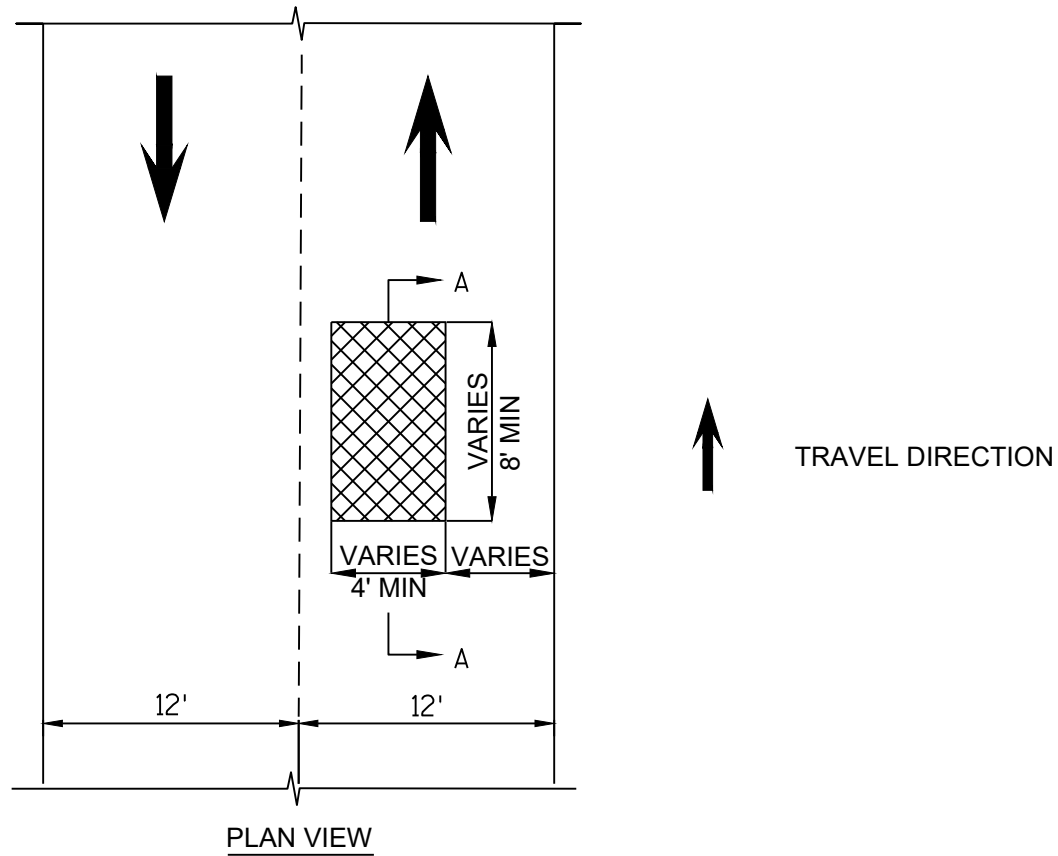
INDUSTRIAL AVENUE



REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

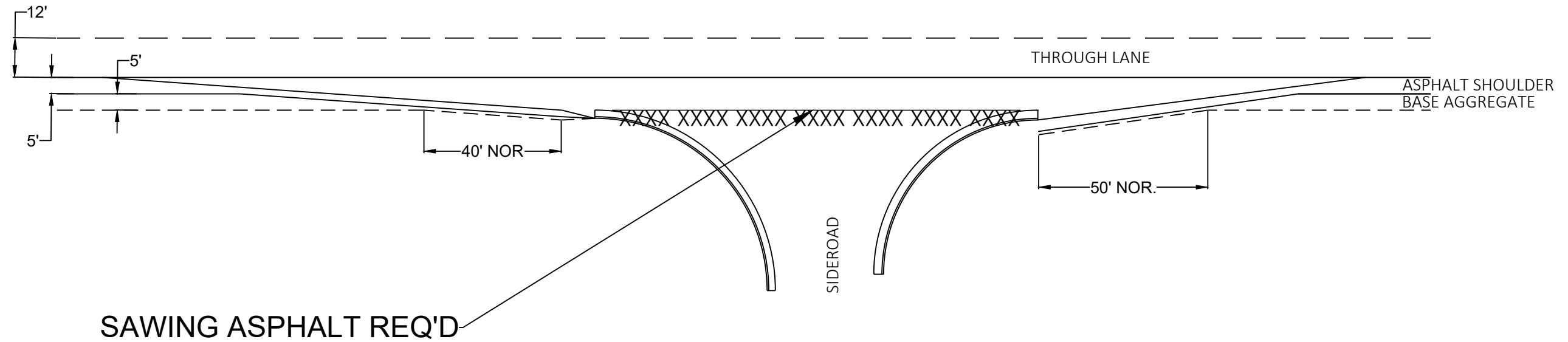


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

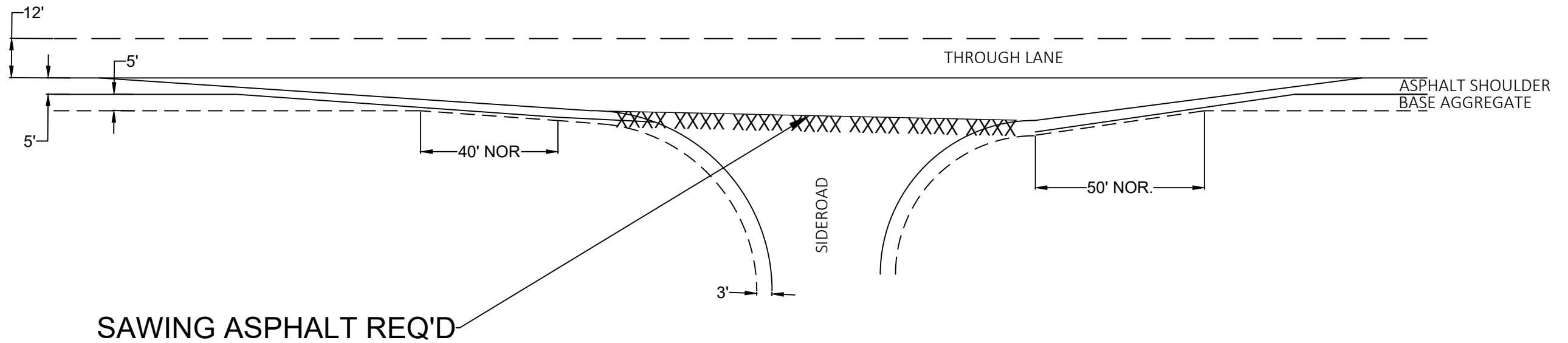


EXACT LOCATION AND LIMITS OF REMOVING DISTRESSED PAVEMENT MILLING TO BE DETERMINED BY THE ENGINEER IN THE FIELD

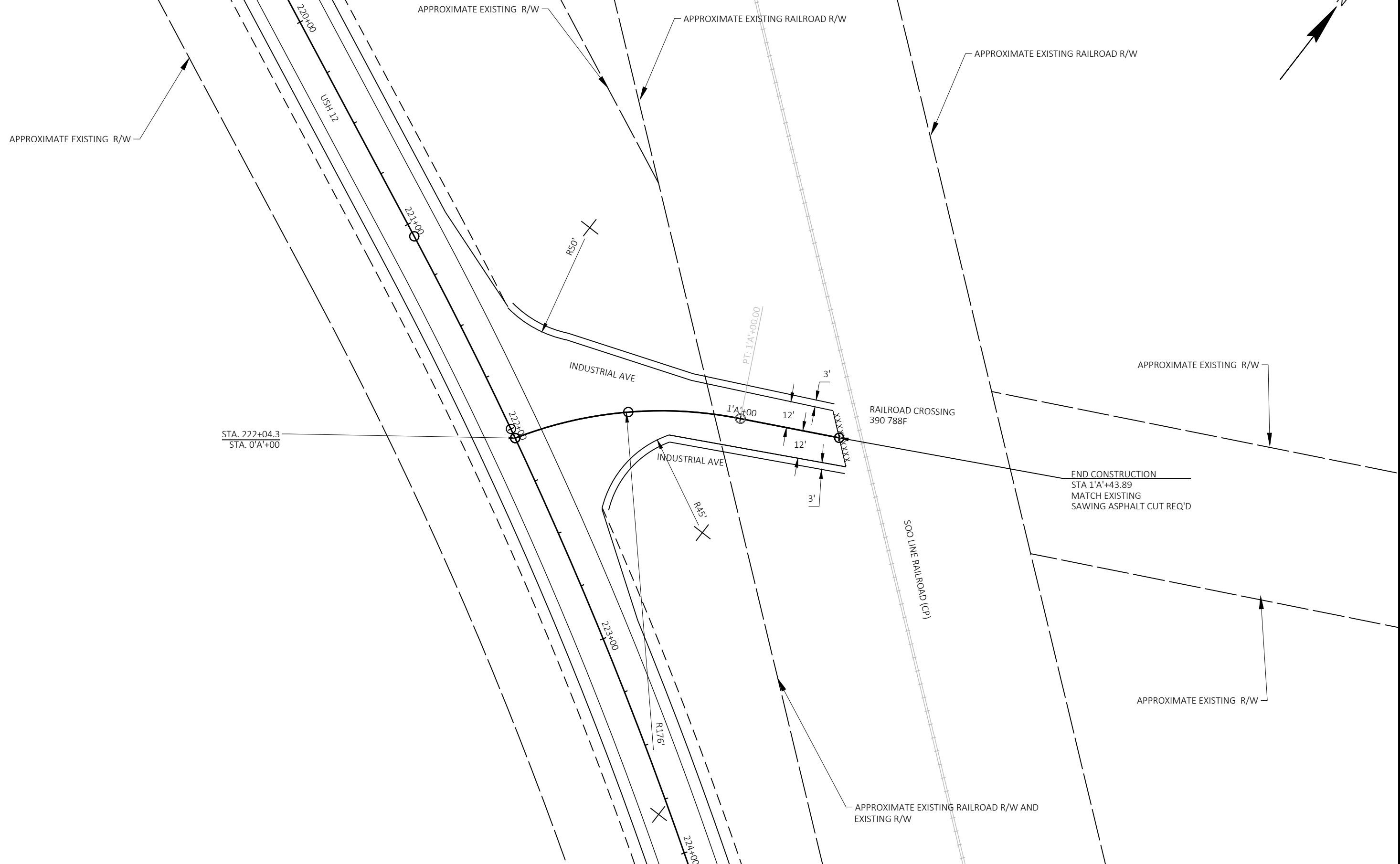
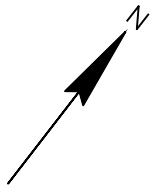
REMOVING DISTRESSED PAVEMENT MILLING



SIDEROAD WITH CURB AND GUTTER DETAIL



SIDEROAD WITHOUT CURB AND GUTTER DETAIL



PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	INDUSTRIAL AVENUE	SHEET	E
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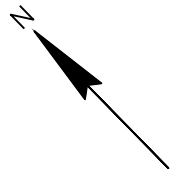
STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

- 15C8-A PAVEMENT MARKING, LONGITUDINAL MARKING (MAINLINE)
- 15C8-C PAVEMENT MARKING (TURN LANES)
- 15C35 PAVEMENT MARKING

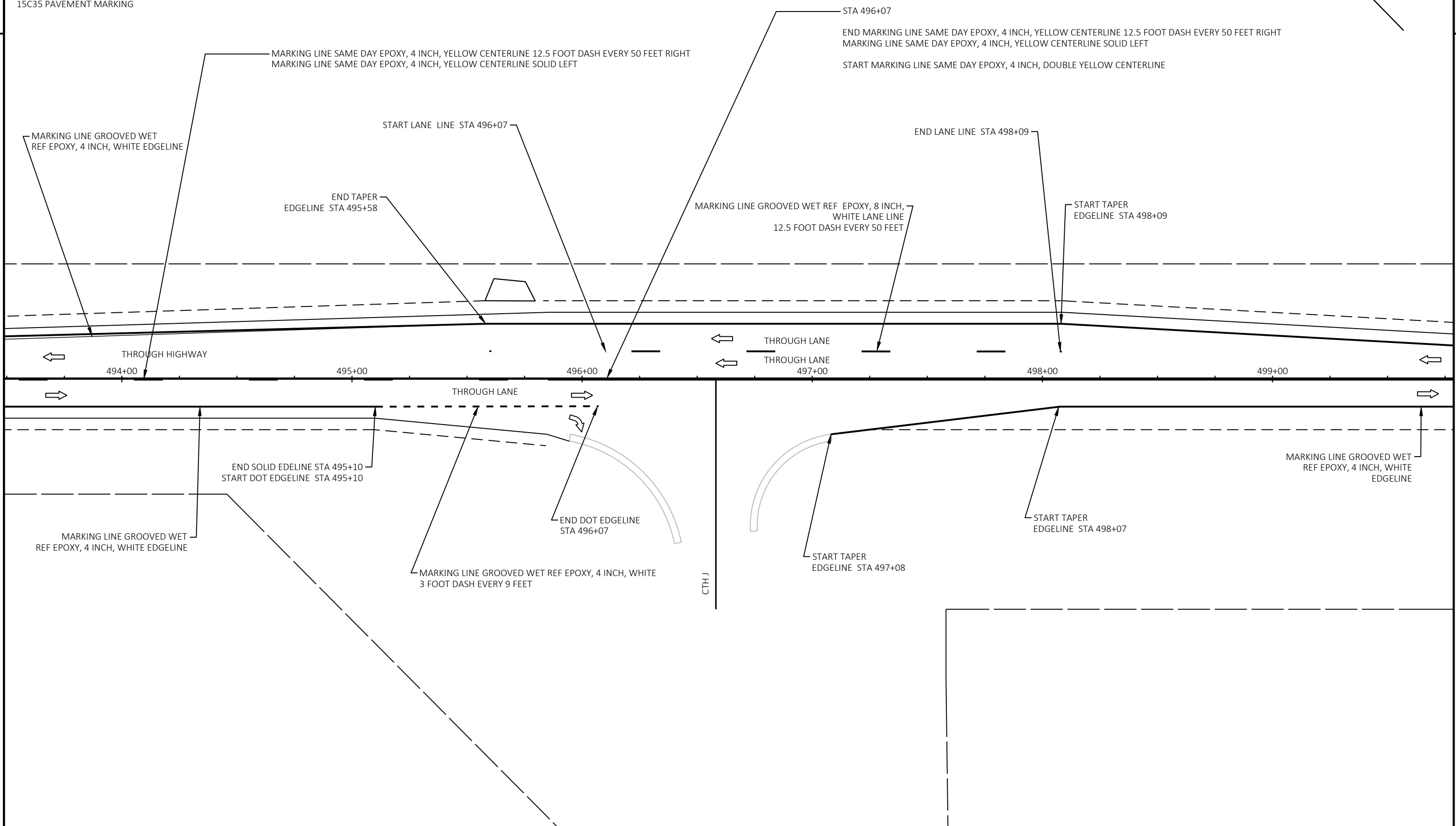
LEGEND

➡ DIRECTION OF TRAFFIC



2

2



PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PAVEMENT MARKING	SHEET	E
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Estimate Of Quantities

5880-00-67

Line	Item	Item Description	Unit	Total	Qty
0002	204.0110	Removing Asphaltic Surface	SY	1,401.000	1,401.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	40.000	40.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	103,571.000	103,571.000
0008	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 5880-00-67	LS	1.000	1.000
0010	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	241.000	241.000
0012	213.0100	Finishing Roadway (project) 01. 5880-00-67	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,648.000	4,648.000
0016	450.4000	HMA Cold Weather Paving	TON	6,600.000	6,600.000
0018	455.0605	Tack Coat	GAL	7,950.000	7,950.000
0020	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0022	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0024	460.2000	Incentive Density HMA Pavement	DOL	2,730.000	2,730.000
0026	460.2005	Incentive Density PWL HMA Pavement	DOL	8,950.000	8,950.000
0028	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	11,885.000	11,885.000
0030	460.2010	Incentive Air Voids HMA Pavement	DOL	12,500.000	12,500.000
0032	460.6224	HMA Pavement 4 MT 58-28 S	TON	13,209.000	13,209.000
0034	465.0105	Asphaltic Surface	TON	2,232.000	2,232.000
0036	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	103.000	103.000
0038	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	36,403.000	36,403.000
0040	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	21,353.000	21,353.000
0042	614.0400	Adjusting Steel Plate Beam Guard	LF	1,171.000	1,171.000
0044	614.0950	Replacing Guardrail Posts and Blocks	EACH	18.000	18.000
0046	614.0951	Replacing Guardrail Rail and Hardware	LF	119.000	119.000
0048	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5880-00-67	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	73.000	73.000
0054	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	13.000	13.000
0056	638.2102	Moving Signs Type II	EACH	13.000	13.000
0058	638.3000	Removing Small Sign Supports	EACH	13.000	13.000
0060	642.5001	Field Office Type B	EACH	1.000	1.000
0062	643.0300	Traffic Control Drums	DAY	1,050.000	1,050.000
0064	643.0900	Traffic Control Signs	DAY	625.000	625.000
0066	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0068	643.5000	Traffic Control	EACH	1.000	1.000
0070	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	57,668.000	57,668.000
0072	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	200.000	200.000
0074	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	32,176.000	32,176.000
0076	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	5,616.000	5,616.000
0078	646.6468	Cold Weather Marking Epoxy 8-Inch	LF	50.000	50.000
0080	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	60.000	60.000
0082	648.0100	Locating No-Passing Zones	MI	5.600	5.600
0084	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	30,045.000	30,045.000
0086	650.8000	Construction Staking Resurfacing Reference	LF	29,706.000	29,706.000
0088	650.9910	Construction Staking Supplemental Control (project) 01. 5880-00-67	LS	1.000	1.000
0090	690.0150	Sawing Asphalt	LF	1,692.000	1,692.000
0092	740.0440	Incentive IRI Ride	DOL	2,240.000	2,240.000
0094	801.0117	Railroad Flagging Reimbursement	DOL	2,400.000	2,400.000
0096	SPV.0060	Special 01. Verify Landmark Reference Monuments	EACH	1.000	1.000
0098	SPV.0060	Special 02. Landmark Reference Monuments	EACH	1.000	1.000

Estimate Of Quantities

					5880-00-67
0100	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	10,426.000	10,426.000

3

204.0115

204.0115
REMOVING
ASPHALTIC
SURFACE BUTT
JOINTS

CATEGORY	STATION	TO	STATION	LOCATION	SY	REMARKS
0010	202+75	-	202+81	CL	20	
0010	499+75	-	499+81	CL	20	
TOTAL 0010					40	

211.0400

211.0400
PREPARE
FOUNDATION
FOR ASPHALTIC
SHOULDERS

CATEGORY	STATION	TO	STATION	LOCATION	STA	REMARKS
0020	202+75	-	221+52	LT	8	**
0020	202+75	-	244+06	RT	17	**
0020	222+40	-	293+87	LT	29	**
0020	245+10	-	278+22	RT	14	**
0020	279+00	-	294+62	RT	7	**
0020	294+98	-	377+09	LT	33	**
0020	295+53	-	349+51	RT	22	**
0020	350+35	-	376+61	RT	11	**
0020	377+96	-	395+77	LT	8	**
0020	377+52	-	463+10	RT	35	**
0020	396+64	-	413+35	LT	7	**
0020	414+10	-	418+48	LT	2	**
0020	419+28	-	456+76	LT	8	**
0020	438+16	-	499+81	LT	25	**
0020	483+00	-	499+81	LT	7	**
0020	483+00	-	496+00	RT	6	**
0020	497+00	-	499+81	RT	2	**
TOTAL 0020					241	

PROJECT TOTAL 241

** 2 FT HSIP PORTION OF SHOULDER.

305.0110

*
305.0110
BASE
AGGREGATE
DENSE 3/4-INCH

624.0100

WATER
MGAL

CATEGORY	STATION	TO	STATION	LOCATION	TON	WATER MGAL	REMARKS
0020	202+75	-	221+52	LT	122	3	SHOULDER
0020	202+75	-	213+22	RT	68	1	SHOULDER
0020	213+75	-	244+06	RT	200	4	SHOULDER
0020	222+40	-	293+87	LT	466	9	SHOULDER
0020	245+10	-	278+22	RT	216	4	SHOULDER
0020	279+00	-	294+62	RT	102	2	SHOULDER
0020	294+98	-	377+09	LT	536	11	SHOULDER
0020	295+53	-	349+51	RT	352	7	SHOULDER
0020	350+35	-	376+61	RT	171	4	SHOULDER
0020	377+96	-	395+77	LT	116	3	SHOULDER
0020	377+52	-	463+10	RT	560	11	SHOULDER
0020	396+64	-	413+35	LT	109	2	SHOULDER
0020	414+10	-	418+48	LT	29	1	SHOULDER
0020	419+28	-	437+29	LT	118	3	SHOULDER
0020	438+16	-	456+78	LT	122	3	SHOULDER
0020	483+00	-	499+81	LT	110	2	SHOULDER
0020	483+00	-	496+00	RT	85	2	SHOULDER
0020	497+00	-	499+81	RT	19	1	SHOULDER
TOTAL 0020					3,501	73	

NOTE: ITEM 305.0110 BASE AGGREGATE DENSE 3/4 - INCH TON QUANTITIES CAN ALSO BE FOUND UNDER DRIVEWAY SUMMARY.

3

DRIVEWAY SUMMARY

CATEGORY	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	REMARKS	FIRE NUMBER
0010	218+60	RT	42		5	P.E. ASPH.	541
0010	222+04	LT	481			INDUSTRIAL AVE	
0010	225+75	RT		19		P.E. AGG	
0010	226+80	RT		19		P.E. AGG	
0010	230+60	RT	33		4	P.E. ASPH.	
0010	237+47	RT		19		P.E. AGG	
0010	251+10	RT		45		P.E. AGG	811
0010	254+31	RT		45		P.E. AGG	821
0010	263+15	RT		58		P.E. AGG	
0010	270+93	RT		20		P.E. AGG	N1681
0010	280+00	RT		24		P.E. AGG	N1629
0010	283+48	RT		19		P.E. AGG	N1599
0010	284+92	RT		19		P.E. AGG	N1595
0010	286+36	RT	88		10	P.E. ASPH.	N1591
0010	289+22	RT		19		P.E. AGG	N1585
0010	290+96	RT	40		4	P.E. ASPH.	N1575
0010	294+00	RT		19		P.E. AGG	N1565
0010	305+35	RT	38		4	P.E. ASPH.	N1475
0010	313+50	RT		19		F.E. AGG	
0010	316+24	LT		27		P.E. AGG	N1440
0010	316+50	RT		19		F.E. AGG	
0010	320+22	RT	20		2	P.E. ASPH.	N1443
0010	325+25	RT	31		3	C.E. ASPH.	N1405
0010	326+55	RT	40		5	C.E. ASPH.	
0010	338+57	RT		19		P.E. AGG	N1319
0010	343+19	RT		19		P.E. AGG	N1311
0010	346+00	RT	37		4	P.E. ASPH.	N1295
0010	348+43	LT		16		F.E. AGG	
0010	354+61	RT		44		C.E. AGG	N1245
0010	356+43	LT		16		F.E. AGG	
0010	356+50	RT		56		C.E. AGG	N1243
0010	357+87	RT		19		P.E. AGG	N1235
0010	364+19	LT		16		P.E. AGG	
0010	374+94	RT		22		P.E. AGG	N1175
0010	379+68	LT	60		7	P.E. ASPH.	N1126
0010	380+25	RT		22		P.E. AGG	N1127
0010	384+09	RT	45		5	C.E. ASPH.	N1095
0010	385+93	RT	39		4	C.E. ASPH.	
0010	394+53	LT	41		5	P.E. ASPH.	N1030
0010	396+10	RT		28		C.E. AGG	N1005
0010	399+25	RT	48		5	C.E. ASPH.	
0010	416+66	RT	59		7	C.E. ASPH.	N881
0010	422+75	RT		19		P.E. AGG	N783
0010	424+25	LT		45		P.E. AGG	N782
0010	428+74	RT		24		P.E. AGG	N781
0010	428+92	LT	54		6	P.E. ASPH.	N780
SUBTOTAL 1			1,196	755	80		

NOTE: ADDITIONAL AMOUNTS OF ITEM 305.0110 BASE AGGREGATE DENSE 3/4 - INCH TON QUANTITIES CAN ALSO BE FOUND UNDER ITEM 305.0110 BASE AGGREGATE DENSE 3/4 - INCH TON.

DRIVEWAY SUMMARY CONT.

CATEGORY	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	REMARKS	FIRE NUMBER
0010	431+25	RT	34		4	P.E. ASPH.	N773
0010	431+64	LT		23		P.E. AGG	N770
0010	432+50	RT		19		P.E. AGG	N769
0010	434+30	RT		23		P.E. AGG	N759
0010	435+16	LT		28		P.E. AGG	N758
0010	436+44	RT		31		P.E. AGG	N735
0010	442+37	LT		22		P.E. AGG	N714
0010	443+98	LT		22		P.E. AGG	N702
0010	444+12	RT		19		P.E. AGG	N705
0010	447+72	RT	56		6	C.E. ASPH.	N701
0010	449+24	LT		26		P.E. AGG	N682
0010	451+71	LT		28		P.E. AGG	N680
0010	452+34	RT	115		13	C.E. ASPH.	
0010	452+75	LT		27		P.E. AGG	N678
0010	455+30	LT		24		P.E. AGG	N676
0010	487+00	RT		84		C.E. AGG	N469
0010	498+69	LT		16		P.E. AGG	
			205	392	23		
SUBTOTAL 1			1,196	755	80		
SUBTOTAL 2			205	392	23		
TOTAL 0010			1,401	1,147	103		

NOTE: ADDITIONAL AMOUNTS OF ITEM 305.0110 BASE AGGREGATE DENSE 3/4 - INCH TON QUANTITIES CAN ALSO BE FOUND UNDER ITEM 305.0110 BASE AGGREGATE DENSE 3/4 - INCH TON.

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ASPHALT SUMMARY

ASPHALT SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	REMARKS
0010	202+75	-	499+81	CL	79,216	5,545	8,950		THROUGH LANES
0010	202+75	-	221+52	LT	626	44	71		SHOULDER
0010	202+75	-	244+06	RT	1,377	96	154		SHOULDER
0010	222+40	-	293+87	LT	2,383	167	267		SHOULDER
0010	245+10	-	278+22	RT	1,104	77	124		SHOULDER
0010	279+00	-	294+62	RT	521	36	59		SHOULDER
0010	294+98	-	377+09	LT	2,737	192	307		SHOULDER
0010	295+53	-	349+51	RT	1,800	126	201		SHOULDER
0010	350+35	-	365+12	RT	492	35	55		SHOULDER
0010	365+12	-	370+36	RT	247	17	28		BEAMGUARD AREA
0010	365+16	-	371+08	LT	312	22	35		BEAMGUARD AREA
0010	370+36	-	376+61	RT		15	23		SHOULDER
0010	371+08	-	377+09	LT	200	14	22		SHOULDER
0010	377+52	-	463+10	RT	2,853	200	320		SHOULDER
0010	377+96	-	395+77	LT	594	42	67		SHOULDER
0010	396+64	-	406+74	LT	337	39	63		SHOULDER
0010	406+74	-	409+02	LT	254	18	28		BEAMGUARD AREA
0010	407+60	-	409+84	RT	249	18	28		BEAMGUARD AREA
0010	409+02	-	413+35	LT	144	10	16		SHOULDER
0010	409+84	-	463+10	RT	1,775	124	199		SHOULDER
0010	414+10	-	418+48	LT	146	10	16		SHOULDER
0010	419+28	-	437+29	LT	600	42	68		SHOULDER
0010	438+16	-	499+81	LT	2,055	144	230		SHOULDER
0010	464+10	-	496+00	RT	1,063	74	120		SHOULDER
0010	492+34	-	495+92	RT	367	26	42		RIGHT TURN LANE
0010	494+00	-	499+81	LT	695	49	79		PASSING LANE
0010	497+00	-	499+81	RT	94	7	11		SHOULDER
0010	213+22	-	213+75	RT	64	4	7		PINE ST
0010	221+38	-	222+35	LT		34	55		INDUSTRIAL AVE
0010	244+02	-	245+09	RT	111	8	12		EAST ST
0010	277+22	-	278+07	RT	86	6	10		AMHERST RD
0010	294+62	-	295+53	RT	83	6	10		SOUTHERN RD
0010	293+87	-	294+95	LT	108	8	12		KOVAL RD
0010	349+52	-	350+32	RT	129	9	15		REST HAVEN RD
0010	376+61	-	377+52	RT	102	7	11		DEES RD
0010	377+09	-	377+96	LT	91	6	11		DEES RD
0010	395+77	-	396+64	LT	78	5	9		ARBOR LAKE RD N
0010	413+35	-	414+06	LT	77	5	9		ARBOR LAKE RD E
0010	418+48	-	419+21	LT	63	4	7		OAKGLEN CIRCLE
0010	437+29	-	438+16	LT	95	7	11		OAKGLEN LANE
0010	463+07	-	464+18	RT	91	6	10		ARROWHEAD RD
0010	495+94	-	497+08	RT	152	11	17		CTH J
0010	202+75	-	499+81	CL				1,169	DISTRESSED PAVEMENT AREAS
TOTAL 0010					103,571	7,315	11,789	1,169	

CATEGORY	STATION	TO	STATION	LOCATION	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	REMARKS
0020	202+75	-	221+52	LT		21	47	35	**
0020	202+75	-	244+06	RT		46	103	77	**
0020	222+40	-	293+87	LT		79	178	133	**
0020	245+10	-	278+22	RT		37	82	62	**
0020	279+00	-	294+62	RT		17	39	29	**
0020	294+98	-	377+09	LT		91	204	153	**
0020	295+53	-	349+51	RT		60	134	101	**
0020	350+35	-	376+61	RT		29	65	49	**
0020	377+52	-	457+76	RT		89	200	150	**
0020	377+96	-	395+77	LT		20	44	33	**
0020	396+64	-	413+35	LT		19	42	31	**
0020	414+10	-	418+48	LT		5	11	8	**
0020	419+28	-	437+29	LT		20	45	34	**
0020	438+16	-	457+76	LT		69	153	115	**
0020	483+00	-	499+81	LT		15	33	24	**
0020	483+00	-	496+00	RT		15	33	24	**
0020	497+00	-	499+81	RT		3	7	5	**
TOTAL 0020					0	635	1,420	1,063	
PROJECT TOTAL					103,571	7,950	13,209	2,232	

**PAVED SHOULDER WIDENING

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PERCENT WITHIN LIMITS SUMMARY

CATEGORY	STATION TO	STATION	LOCATION	460.0105.S	460.0110.S	REMARKS
				HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH	
0010	202+75	- 499+81		1	1	
TOTAL 0010				1	1	

PWL MIXTURE USE TABLE

LOCATION	STATION TO	STATION	LOCATION	MIXTURE USE:	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:		COMMENTS	
									MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE		
DRIVING LANE	202+75	- 499+81	CL	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	8,950	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005		
3 FOOT SHOULDER	TOTAL LENGTH 56,088 FT			UPPER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	2,393	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE		
SHOULDER WIDENING	TOTAL LENGTH 58,149 FT			UPPER LAYER	ASPHALTIC SURFACE	4 MT 58-28 S	710	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE		
SHOULDER WIDENING	TOTAL LENGTH 58,149 FT			LOWER LAYER	BASE COURSE	ASPHALTIC SURFACE	710	2"	QMP PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION		
BEAMGUARD SHOULDER AREA	TOTAL LENGTH 1,568 FT			UPPER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	119	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE		
SIDELINE INTERSECTIONS	492+34	-	495+92	RT	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	327	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE	RIGHT TURN LANE PASSING LANE PINE ST INDUSTRIAL AVE EAST ST AMHERST RD SOUTHERN RD KOVAL RD REST HAVEN RD DEES RD DEES RD ARBOR LAKE RD N ARBOR LAKE RD E OAKGLEN CIRCLE OAKGLEN LANE ARROWHEAD RD CTH J
	494+00	-	499+81	LT								
	213+22	-	213+75	RT								
	221+38	-	222+35	LT								
	244+02	-	245+09	RT								
	277+22	-	278+07	RT								
	294+62	-	295+53	RT								
	293+87	-	294+95	LT								
	349+52	-	350+32	RT								
	376+61	-	377+52	RT								
	377+09	-	377+96	LT								
	395+77	-	396+64	LT								
	413+35	-	414+06	LT								
	418+48	-	419+21	LT								
437+29	-	438+16	LT									
463+07	-	464+18	RT									
495+94	-	497+08	RT									

PROJECT NO: 5880-00-67

HWY: USH 12

COUNTY: JUNEAU

MISCELLANEOUS QUANTITIES

SHEET

E

465.0425

465.0425 CONTINUED

465.0475

465.0425
ASPHALTIC
SHOULDER
RUMBLE STRIPS
2-LANE RURAL

465.0425
ASPHALTIC
SHOULDER
RUMBLE STRIPS
2-LANE RURAL

465.0475
ASPHALT
CENTERLINE
RUMBLE STRIPS
2-LANE RURAL

CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0020	202+75	-	221+00	LT	1,460	
0020	203+50	-	212+25	RT	700	
0020	214+75	-	218+25	RT	280	
0020	219+10	-	225+25	RT	492	
0020	223+50	-	292+75	LT	5,540	
0020	227+25	-	243+25	RT	1,280	
0020	246+25	-	250+75	RT	360	
0020	251+75	-	253+50	RT	140	
0020	254+75	-	270+25	RT	1,240	
0020	271+00	-	277+50	RT	520	
0020	280+50	-	283+00	RT	200	
0020	283+75	-	284+50	RT	60	
0020	285+25	-	285+75	RT	40	
0020	287+00	-	288+75	RT	140	
0020	289+50	-	290+25	RT	60	
0020	291+50	-	293+75	RT	180	
0020	295+75	-	315+75	LT	1,600	
0020	296+50	-	319+75	RT	1,860	
0020	316+75	-	363+75	LT	3,760	
0020	320+75	-	324+10	RT	268	
0020	327+25	-	328+50	RT	100	
0020	329+50	-	338+00	RT	680	
0020	339+00	-	342+75	RT	300	
0020	343+50	-	345+50	RT	160	
0020	346+50	-	348+50	RT	160	
0020	350+35	-	376+61	RT	2,101	
0020	351+50	-	353+25	RT	140	
0020	358+25	-	375+75	RT	1,400	
0020	364+50	-	376+00	LT	920	
0020	378+65	-	379+75	RT	88	
0020	380+25	-	394+00	LT	1,100	
0020	381+75	-	382+25	RT	40	
0020	386+50	-	387+00	RT	40	
0020	387+75	-	394+75	RT	560	
0020	397+45	-	412+25	LT	1,184	
SUBTOTAL 1					29,153	

CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0020	396+75	-	398+00	RT	100	
0020	400+00	-	415+25	RT	1,220	
0020	415+00	-	417+50	LT	200	
0020	417+25	-	422+25	RT	400	
0020	420+00	-	423+50	LT	280	
0020	423+00	-	428+25	RT	420	
0020	424+75	-	428+25	LT	280	
0020	429+25	-	431+25	LT	160	
0020	429+00	-	430+90	RT	152	
0020	432+00	-	434+75	LT	220	
0020	432+75	-	434+00	RT	100	
0020	434+75	-	435+90	RT	92	
0020	435+55	-	436+25	LT	56	
0020	436+75	-	443+75	RT	560	
0020	438+75	-	442+00	LT	260	
0020	442+75	-	443+75	LT	80	
0020	444+50	-	448+75	LT	340	
0020	444+50	-	446+00	RT	120	
0020	448+50	-	450+75	RT	180	
0020	449+50	-	451+25	LT	140	
0020	453+25	-	459+10	RT	468	
0020	453+25	-	454+75	LT	120	
0020	455+75	-	457+50	LT	140	
0020	488+00	-	495+00	RT	700	
0020	496+00	-	499+81	LT	381	
0020	499+00	-	499+81	RT	81	
SUBTOTAL 2					7,250	
SUBTOTAL 1					29,153	
SUBTOTAL 2					7,250	
TOTAL 0020					36,403	

CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	202+75	-	211+53	CL	878	
0010	215+53	-	220+04	CL	451	
0010	224+04	-	242+48	CL	1,844	
0010	246+48	-	276+75	CL	3,027	
0010	280+75	-	292+75	CL	1,200	
0010	296+75	-	347+75	CL	5,100	
0020	351+75	-	353+60	CL	185	
0020	357+75	-	375+25	CL	1,750	
0020	379+25	-	383+00	CL	375	
0020	386+90	-	394+25	CL	735	
0020	400+25	-	411+72	CL	1,147	
0020	415+72	-	416+89	CL	117	
0020	420+87	-	435+75	CL	1,488	
0020	439+75	-	451+34	CL	1,159	
0020	453+34	-	460+50	CL	716	
0020	483+00	-	486+00	CL	300	
0020	487+00	-	494+50	CL	750	
0020	498+50	-	499+81	CL	131	
TOTAL 0010					21,353	

ADJUSTING BEAM GUARD SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	614.0400			614.0950			614.0951			
					ADJUSTING	REPLACING	REPLACING	ADJUSTING	REPLACING	ADJUSTING	REPLACING	REPLACING	ADJUSTING	REPLACING
					STEEL PLATE	GUARDRAIL	GUARDRAIL	STEEL PLATE	POSTS AND	GUARDRAIL	STEEL PLATE	POSTS AND	GUARDRAIL	STEEL PLATE
					BEAM GUARD	BLOCKS	BLOCKS	BEAM GUARD	BLOCKS	AND HARDWARE	BEAM GUARD	BLOCKS	AND HARDWARE	BEAM GUARD
					LF	EACH	LF	LF	EACH	LF	LF	EACH	LF	REMARKS
0010	367+00	-	370+36	RT	336	5	34							*
0010	367+25	-	371+08	LT	383	6	39							*
0010	406+74	-	409+02	LT	228	4	23							*
0010	407+60	-	409+84	RT	224	3	23							*
TOTAL 0010					1,171	18	119							

* ITEM 614.0951 REPLACING GUARDRAIL RAIL AND HARDWARE IS UNDISTRIBUTED AND 10% OF OF ITEM 614.0400 ADJUSTING STEEL PLATE BEAM GUARD.

PROJECT NO: 5880-00-67

HWY: USH 12

COUNTY: JUNEAU

MISCELLANEOUS QUANTITIES

SHEET

E

MOVING SIGNS SUMMARY

CATEGORY	STATION TO STATION	LOCATION	634.0618 POSTS WOOD 4X6-INCH X 18- FT EACH	638.2102 MOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	202+75 - 499+81	USH 12	13	13	13
TOTAL 0010			13	13	13

643.0300

CATEGORY	SIDE ROAD	LOCATION	NO. DRUMS	643.0300 TRAFFIC CONTROL DRUMS DAY	REMARKS
0010	PINE ST	RT	10	70	*
0010	INDUSTRIAL AVE	LT	10	70	*
0010	EAST ST	RT	10	70	*
0010	AMHERST RD	RT	10	70	*
0010	SOUTHERN RD	RT	10	70	*
0010	KOVAL RD	LT	10	70	*
0010	REST HAVEN RD	RT	10	70	*
0010	DEES RD	RT	10	70	*
0010	DEES RD	LT	10	70	*
0010	ARBOR LAKE RD N	LT	10	70	*
0010	ARBOR LAKE RD E	LT	10	70	*
0010	OAKGLEN CIRCLE	LT	10	70	*
0010	OAKGLEN LANE	LT	10	70	*
0010	ARROWHEAD RD	RT	10	70	*
0010	CTH J	RT	10	70	*
*NOTE: THIS FOR THE PROTECTION OF CURB & GUTTER.			TOTAL 0010	1,050	

643.0900

CATEGORY	STATION TO STATION	LOCATION	643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
0010	202+75 - 499+81	USH 12 & SIDEROADS	625	
TOTAL 0010			625	

643.1050

CATEGORY	LOCATION	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS
0010	BEGIN PROJECT	14	
0010	END PROJECT	14	
TOTAL 0010			28

643.5000

CATEGORY	STATION TO STATION	LOCATION	643.5000 TRAFFIC CONTROL EACH	REMARKS
0010	202+75 - 499+81	CL	1	
TOTAL 0010			1	

MARKING LINE 4-INCH SUMMARY

CATEGORY	STATION TO STATION	LOCATION	646.1040 MARKING LINE GROOVED WET REF EPOXY 4- INCH LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH LF	REMARKS
0010	202+75 - 499+81	USH 12		32,176		30,045	YELLOW
0010	202+75 - 499+81	USH 12	57,668		3,605		WHITE
0010	202+75 - 499+81	USH 12			2,011		YELLOW
TOTAL 0010			57,668	32,176	5,616	30,045	

MARKING LINE 8-INCH SUMMARY

CATEGORY	STATION TO STATION	LOCATION	646.3040 MARKING LINE GROOVED WET REF EPOXY 8- INCH LF	646.6468 COLD WEATHER MARKING EPOXY 8-INCH LF	REMARKS
0010	493+92 - 495+92	RT	200	50	CTH J
TOTAL 0010			200	50	

646.7420

CATEGORY	STATION TO STATION	LOCATION	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	REMARKS
0010	469+14	USH 12	30	
0010	469+19	USH 12	30	
TOTAL 0010			60	

NOTE: STATIONS ARE APPROXIMATED. VERIFY IN FIELD

648.0100

CATEGORY	STATION TO STATION	LOCATION	648.0100 LOCATING NO- PASSING ZONES MI	REMARKS
0010	202+75 - 499+81	CL	5.6	
TOTAL 0010			5.6	

650.8000

650.8000
CONSTRUCTION
STAKING
RESURFACING
REFERENCE

CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	202+75 - 499+81	CL	29,706	
		TOTAL 0010	29,706	

650.9910.01

650.9910.01
CONSTRUCTION
STAKING
SUPPLEMENTAL
CONTROL
(PROJECT) (01.
5880-00-67)

CATEGORY	LOCATION	LS	REMARKS
0010	USH 12	1	
	TOTAL 0010	1	

LANDMARK REFERENCE MONUMENTS

SPV.0060.01 SPV.0060.02
SPECIAL (01. SPECIAL (02.
VERIFY LANDMARK
LANDMARK REFERENCE
REFERENCE MONUMENTS
MONUMENT) MODIFIED)

CATEGORY	STATION	LOCATION	EACH	EACH	REMARKS
0010	462+91.74	85.66' RT	1	1	
		TOTAL 0010	1	1	

NOTE: USE ITEM SPV.0060.02 IF LANDMARK REFERENCE MONUMENT CANNOT BE FOUND OR IS DAMAGE. DO NOT USE BOTH.

SPV.0180.01

SPV.0180.01
SPECIAL (01.
REMOVING
DISTRESSED
MILLING)

CATEGORY	STATION TO STATION	LOCATION	SY	REMARKS
0010	202+75 - 488+21	USH 12	10,426	*DISTRESSED PAVEMENT AREAS (10% OF TOTAL
		TOTAL 0010	10,426	

*PAVEMENT AREAS TO BE DETERMINED BY ENGINEER IN THE FIELD.

690.0150

690.0150
SAWING
ASPHALT

CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	213+22 - 213+75	RT	53	PINE ST
0010	218+60	RT	18	P. E. ASPH.
0010	221+38 - 222+35	LT	91	INDUSTRIAL AVE
0010	230+60	RT	13	P. E. ASPH.
0010	244+02 - 245+09	RT	107	EAST ST
0010	277+22 - 278+07	RT	85	AMHERST RD
0010	286+36	RT	43	P. E. ASPH.
0010	290+96	RT	13	P. E. ASPH.
0010	294+62 - 295+53	RT	91	SOUTHERN RD
0010	293+87 - 294+95	LT	108	KOVAL RD
0010	305+35	RT	13	P. E. ASPH.
0010	320+22	RT	13	P. E. ASPH.
0010	325+25	RT	13	C. E. ASPH.
0010	326+55	RT	13	C. E. ASPH.
0010	346+00	RT	13	P. E. ASPH.
0010	349+52 - 350+32	RT	85	REST HAVEN RD
0010	376+61 - 377+52	RT	88	DEES RD
0010	377+09 - 377+96	LT	82	DEES RD
0010	379+68	LT	28	P. E. ASPH.
0010	384+09	RT	15	C. E. ASPH.
0010	385+93	RT	13	C. E. ASPH.
0010	394+53	LT	16	P. E. ASPH.
0010	395+77 - 396+64	LT	85	ARBOR LAKE RD N
0010	399+25	RT	19	C. E. ASPH.
0010	413+35 - 414+06	LT	69	ARBOR LAKE RD E
0010	416+66	RT	23	C. E. ASPH.
0010	418+48 - 419+21	LT	74	OAKGLEN CIRCLE
0010	428+92	LT	13	P. E. ASPH.
0010	431+25	RT	19	P. E. ASPH.
0010	437+29 - 438+16	LT	87	OAKGLEN LANE
0010	447+72	RT	20	C. E. ASPH.
0010	452+34	RT	51	C. E. ASPH.
0010	463+07 - 464+18	RT	105	ARROWHEAD RD
0010	495+94 - 497+08	RT	113	CTH J
		TOTAL 0010	1,692	

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PROJECT NO: 5880-00-67

HWY: USH 12

COUNTY: JUNEAU

MISCELLANEOUS QUANTITIES

SHEET

E

STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

15C08-20A-C PAVEMENT MARKING, MAINLINE AND TURN LANES
 15C35-04A-C PAVEMENT MARKING

TRAFFIC CONTROL

15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS 45 M.P.H. OR GREATER, TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
 15C12-08 TRAFFIC CONTROL FOR LANE CLOSURE FOR LANE CLOSURE WITH FLAGGING OPERATIONS
 15C19-06A MOVING PAVEMENT MARKING OPERATIONS
 15D28-04 TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
 15D39-02 TRAFFIC CONTROL, FOR DROP-OFF SIGNING

RUMBLE STRIPS

13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
 13A11-03A-B 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING

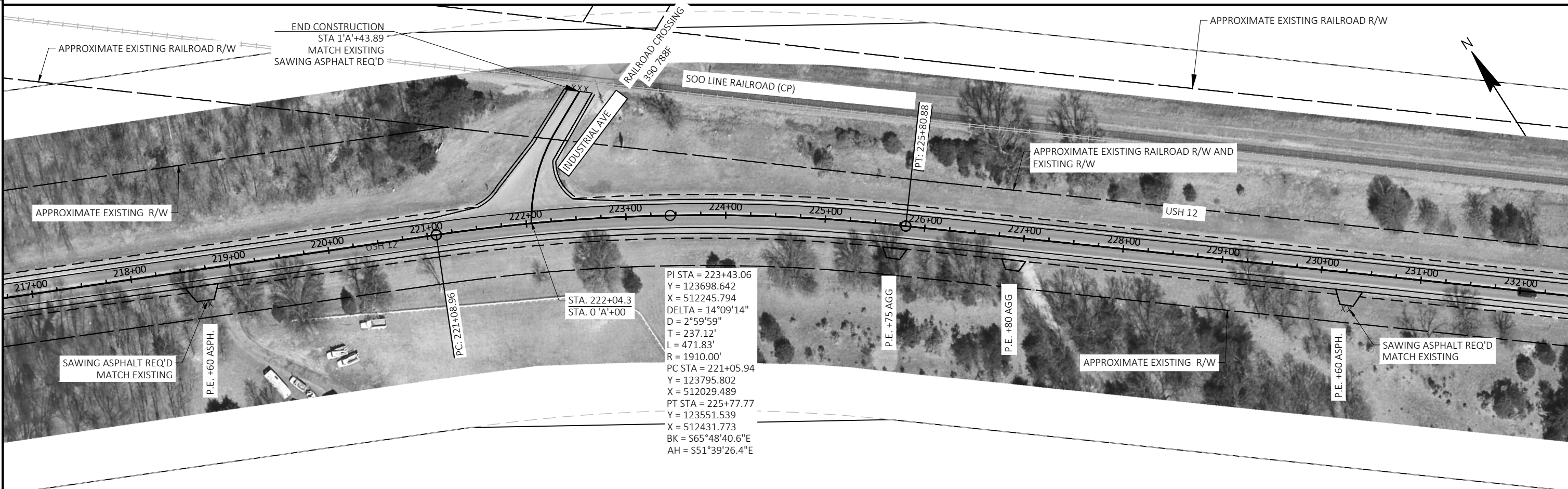
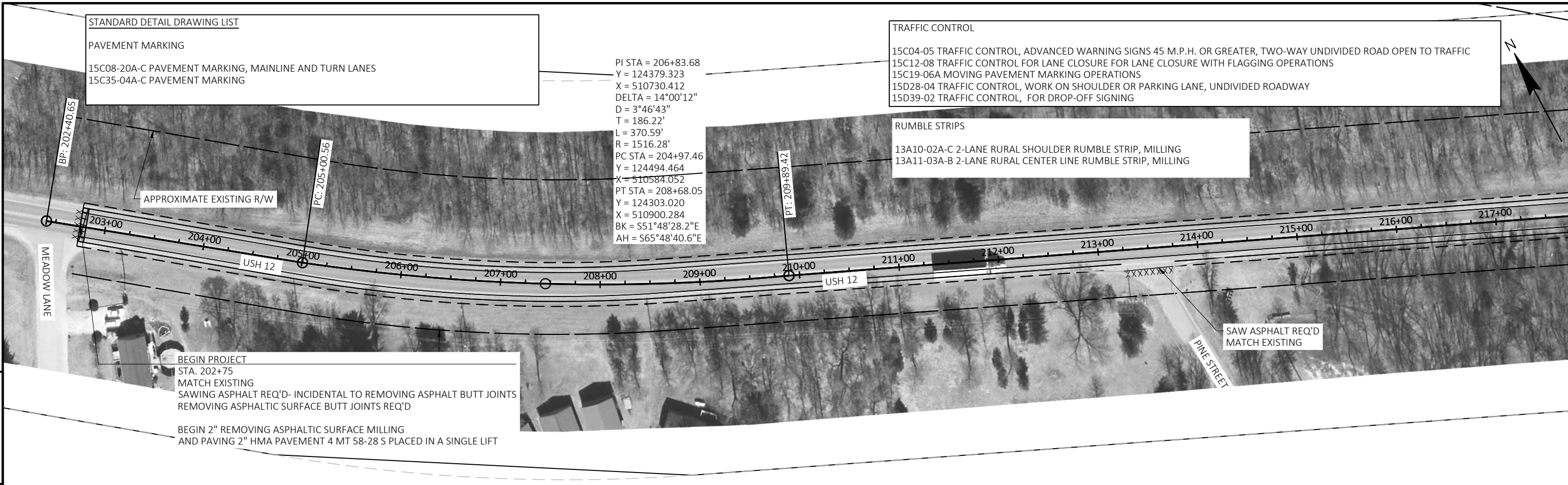
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 Y = 124379.323
 X = 510730.412
 DELTA = 14°00'12"
 D = 3°46'43"
 T = 186.22'
 L = 370.59'
 R = 1516.28'
 PC STA = 204+97.46
 Y = 124494.464
 X = 510584.052
 PT STA = 208+68.05
 Y = 124303.020
 X = 510900.284
 BK = S51°48'28.2"E
 AH = S65°48'40.6"E

BEGIN PROJECT

STA. 202+75
 MATCH EXISTING
 SAWING ASPHALT REQ'D- INCIDENTAL TO REMOVING ASPHALT BUTT JOINTS
 REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D

BEGIN 2" REMOVING ASPHALTIC SURFACE MILLING
 AND PAVING 2" HMA PAVEMENT 4 MT 58-28 S PLACED IN A SINGLE LIFT

END CONSTRUCTION
 STA 1'A'+43.89
 MATCH EXISTING
 SAWING ASPHALT REQ'D



PI STA = 223+43.06
 Y = 123698.642
 X = 512245.794
 DELTA = 14°09'14"
 D = 2°59'59"
 T = 237.12'
 L = 471.83'
 R = 1910.00'
 PC STA = 221+05.94
 Y = 123795.802
 X = 512029.489
 PT STA = 225+77.77
 Y = 123551.539
 X = 512431.773
 BK = S65°48'40.6"E
 AH = S51°39'26.4"E

PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

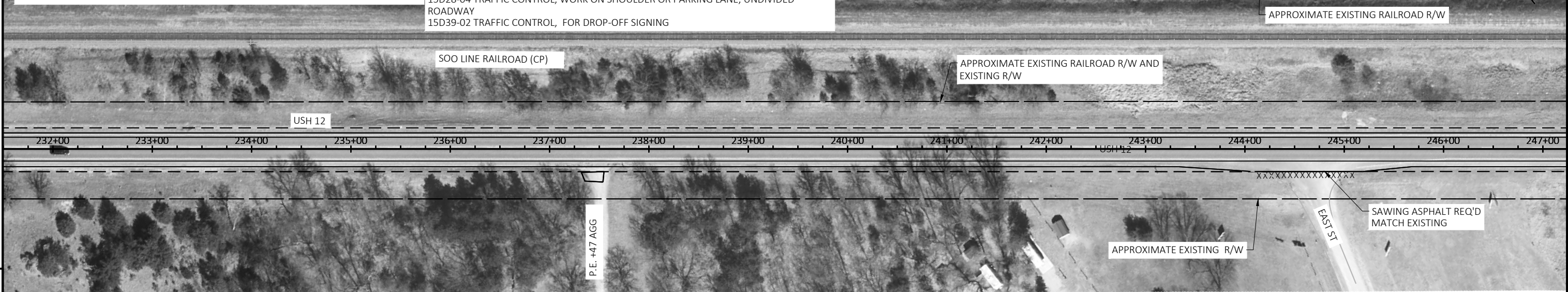
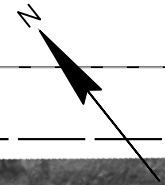
15C08- 20A-C PAVEMENT MARKING, MAINLINE AND TURN LANES
15C35- 04A-C PAVEMENT MARKING

TRAFFIC CONTROL

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15D39-02 TRAFFIC CONTROL, FOR DROP-OFF SIGNING

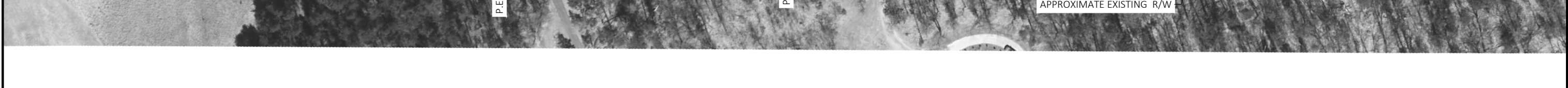
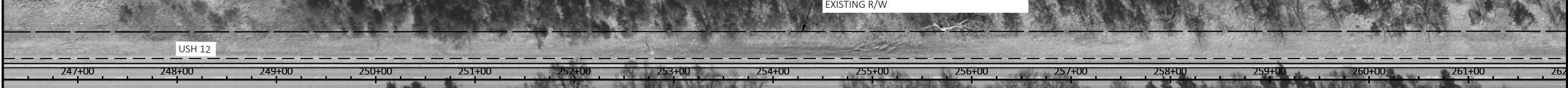
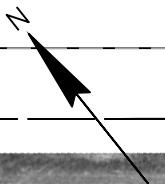
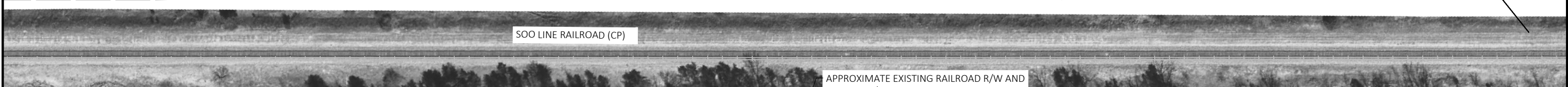
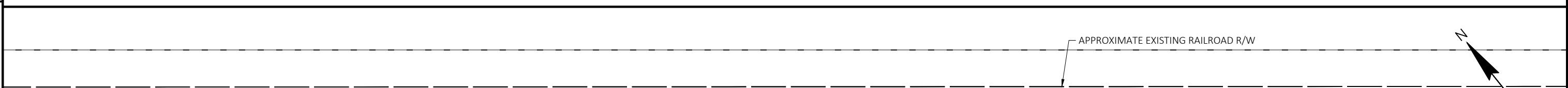
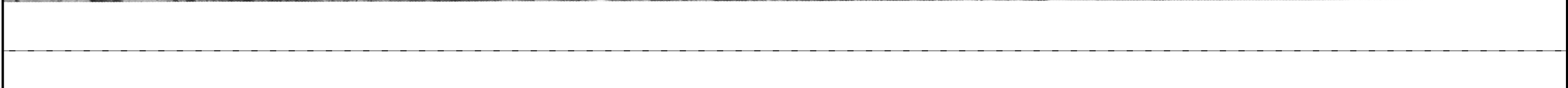
RUMBLE STRIPS

13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A-B 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING

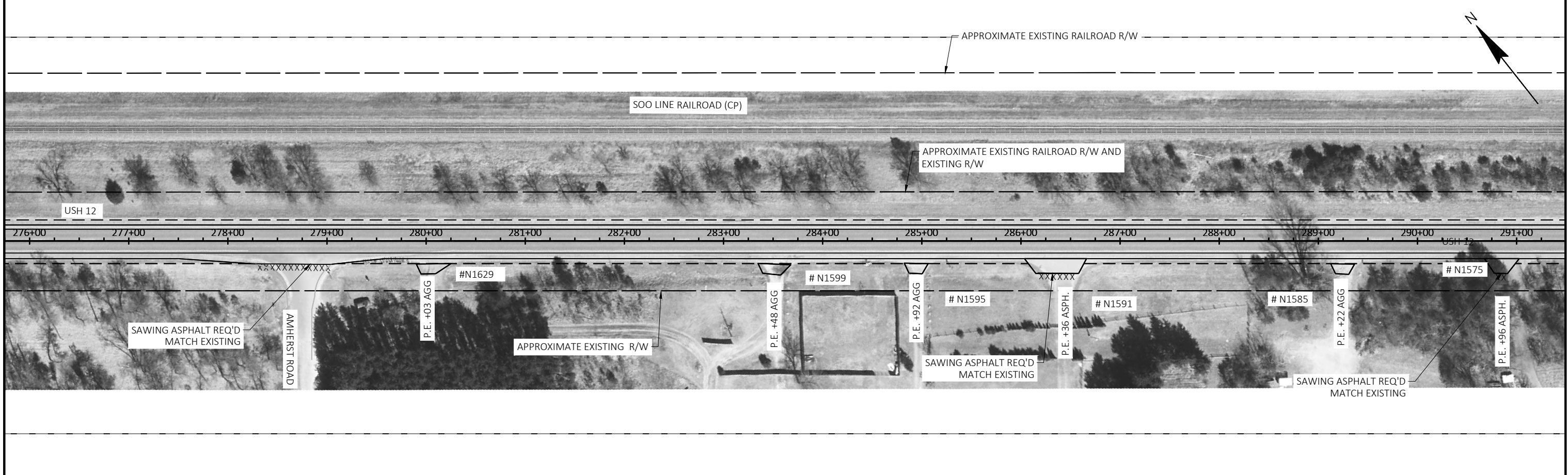
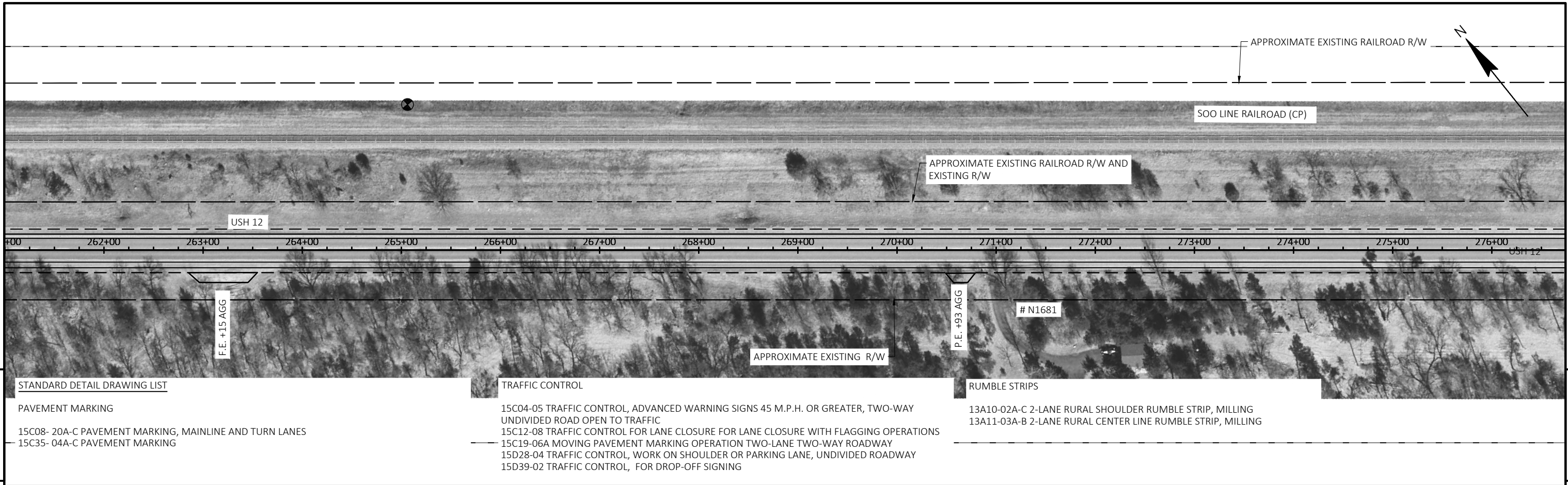


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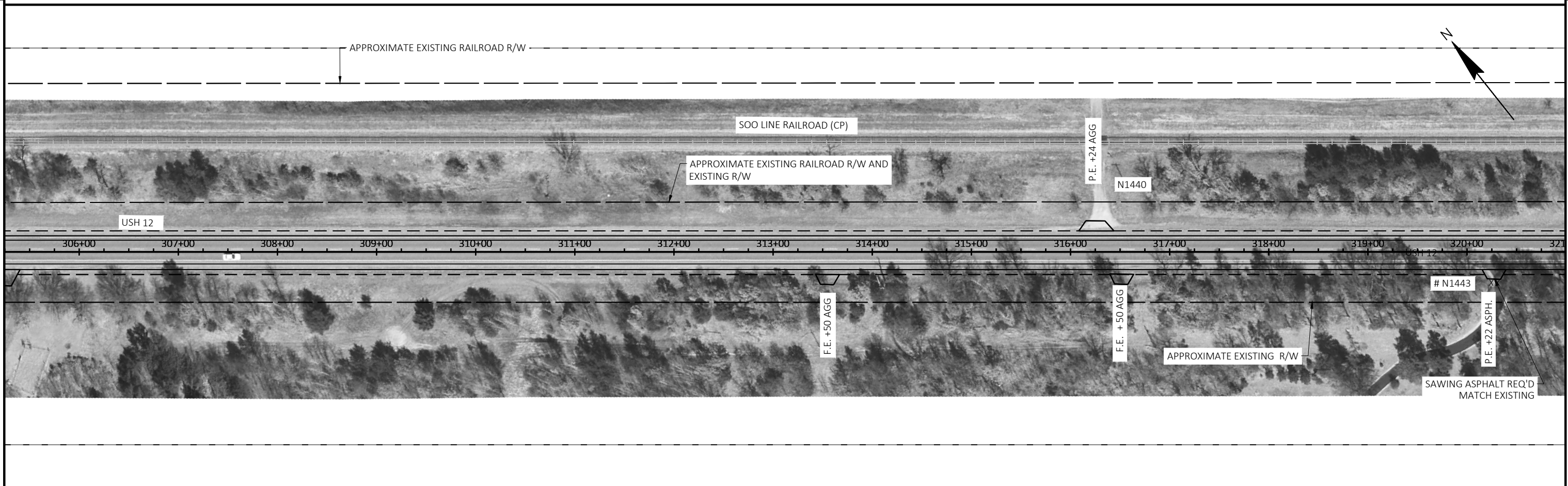
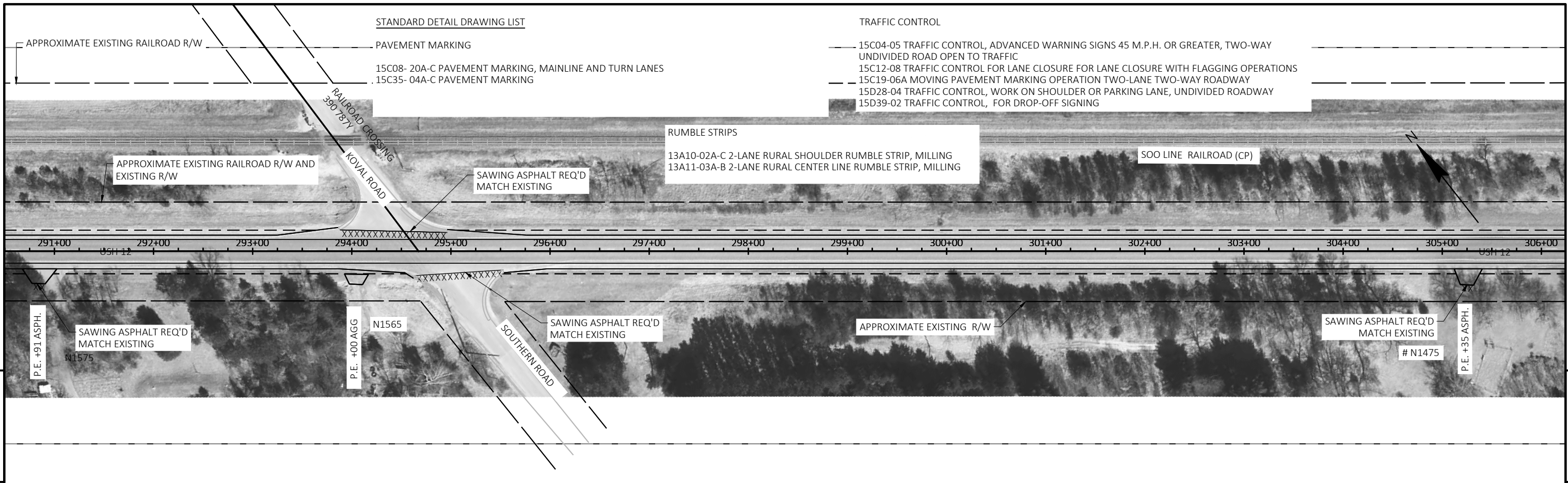
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PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

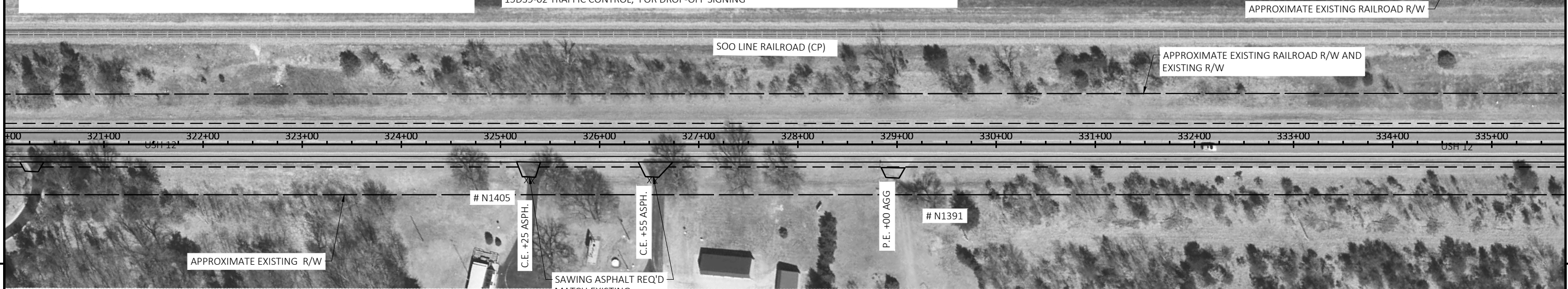
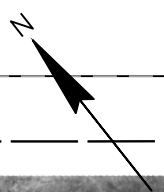
- 15C08- 20A-C PAVEMENT MARKING, MAINLINE AND TURN LANES
- 15C35- 04A-C PAVEMENT MARKING

TRAFFIC CONTROL

- 15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS 45 M.P.H. OR GREATER, TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
- 15C12-08 TRAFFIC CONTROL FOR LANE CLOSURE FOR LANE CLOSURE WITH FLAGGING OPERATIONS
- 15C19-06A MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
- 15D28-04 TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
- 15D39-02 TRAFFIC CONTROL, FOR DROP-OFF SIGNING

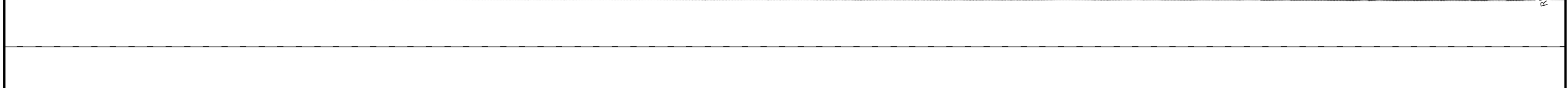
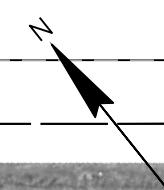
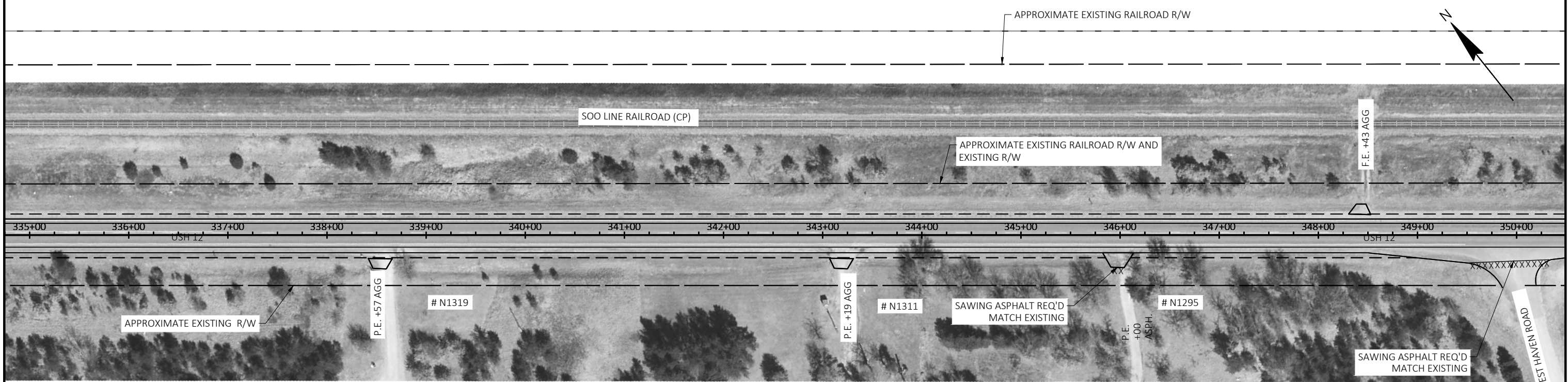
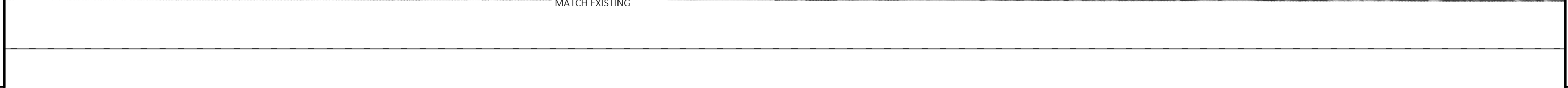
RUMBLE STRIPS

- 13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
- 13A11-03A-B 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING



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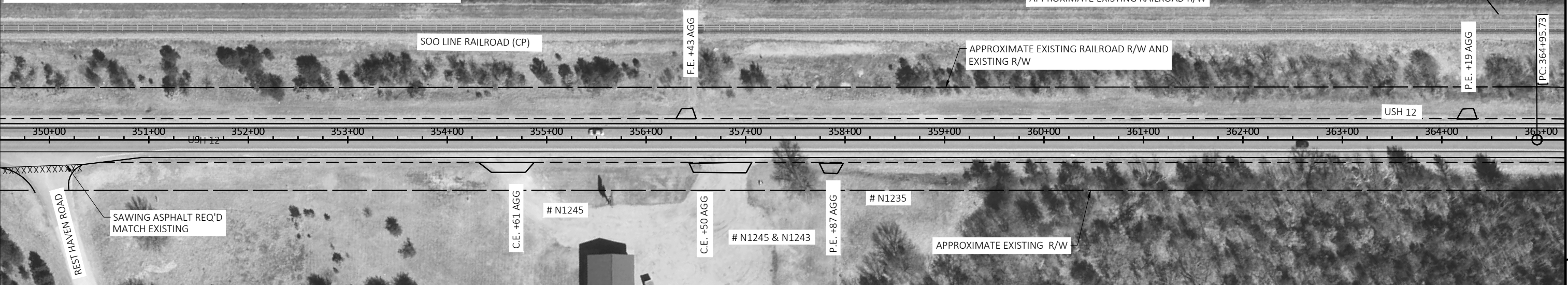
PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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STANDARD DETAIL DRAWING LIST

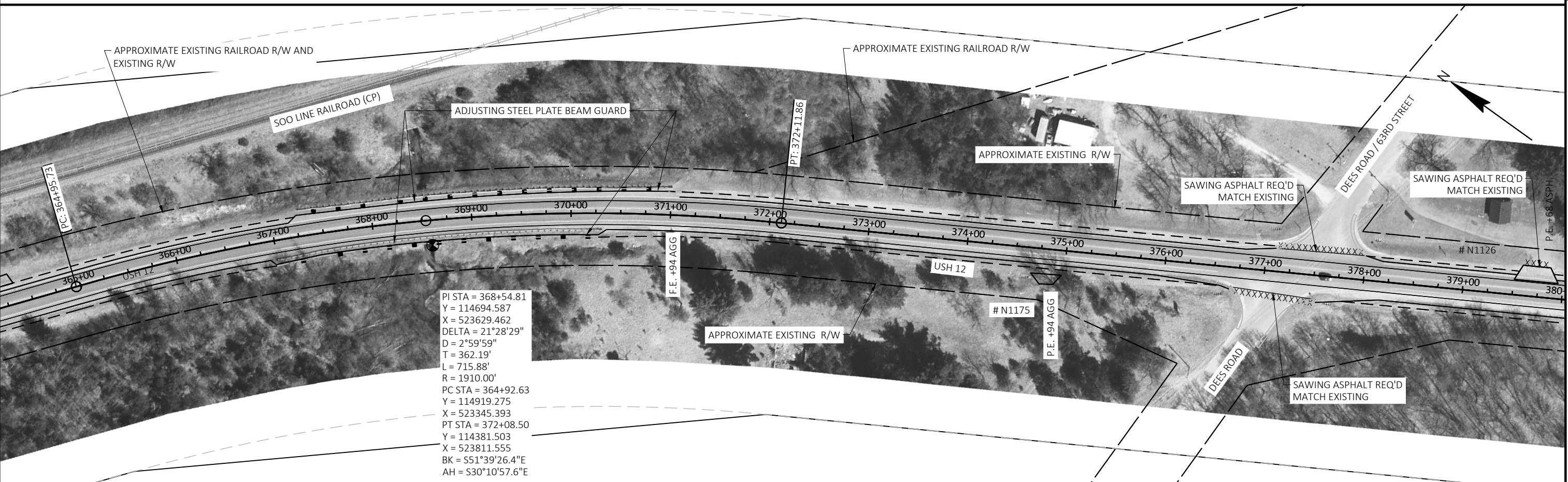
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RUMBLE STRIPS
 13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
 13A11-03A-B 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING



STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

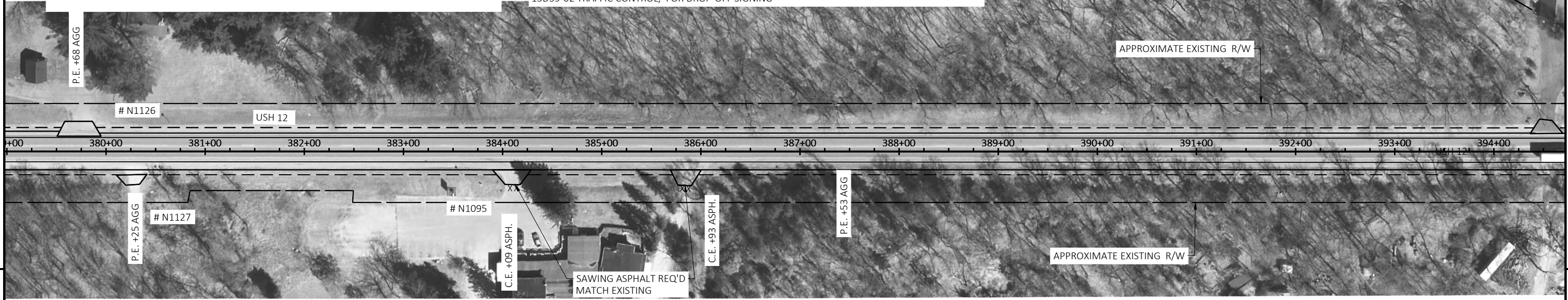
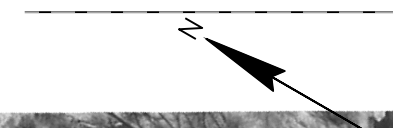
15C08- 20A-C PAVEMENT MARKING, MAINLINE AND TURN LANES
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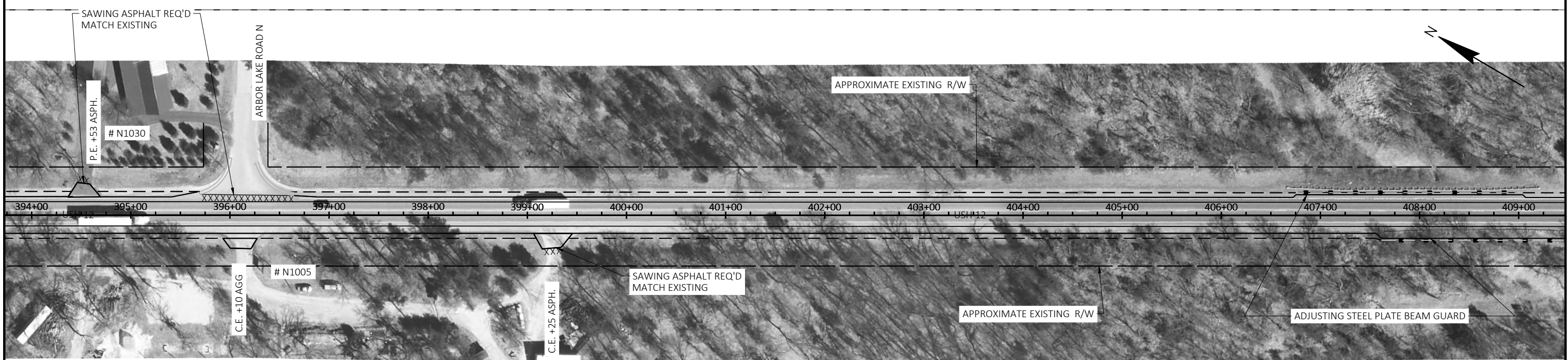
RUMBLE STRIPS

13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
 13A11-03A-B 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING



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PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

15C08-20A-C PAVEMENT MARKING, MAINLINE AND TURN LANES
 15C35-04A-C PAVEMENT MARKING

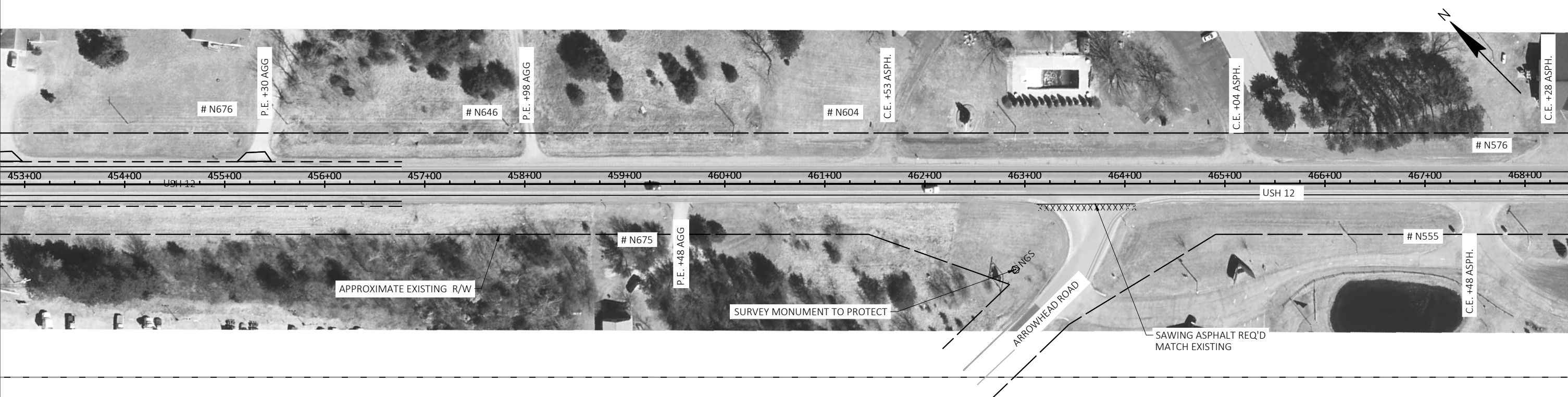
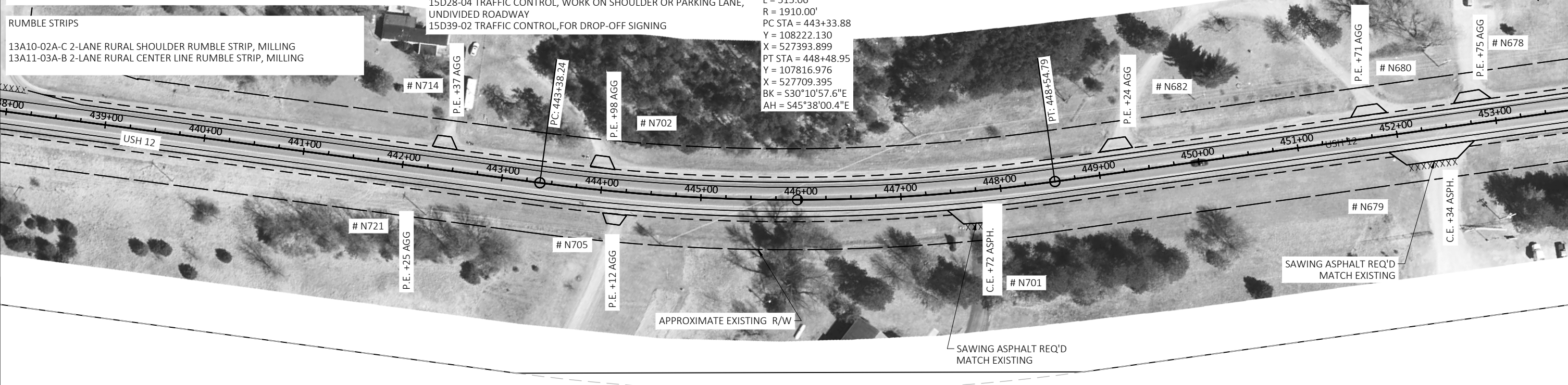
RUMBLE STRIPS

13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
 13A11-03A-B 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING

TRAFFIC CONTROL

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 15D28-04 TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
 15D39-02 TRAFFIC CONTROL, FOR DROP-OFF SIGNING

PI STA = 445+92.99
 Y = 107998.154
 X = 527524.166
 DELTA = 15°27'03"
 D = 2°59'59"
 T = 259.10'
 L = 515.06'
 R = 1910.00'
 PC STA = 443+33.88
 Y = 108222.130
 X = 527393.899
 PT STA = 448+48.95
 Y = 107816.976
 X = 527709.395
 BK = S30°10'57.6"E
 AH = S45°38'00.4"E



PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

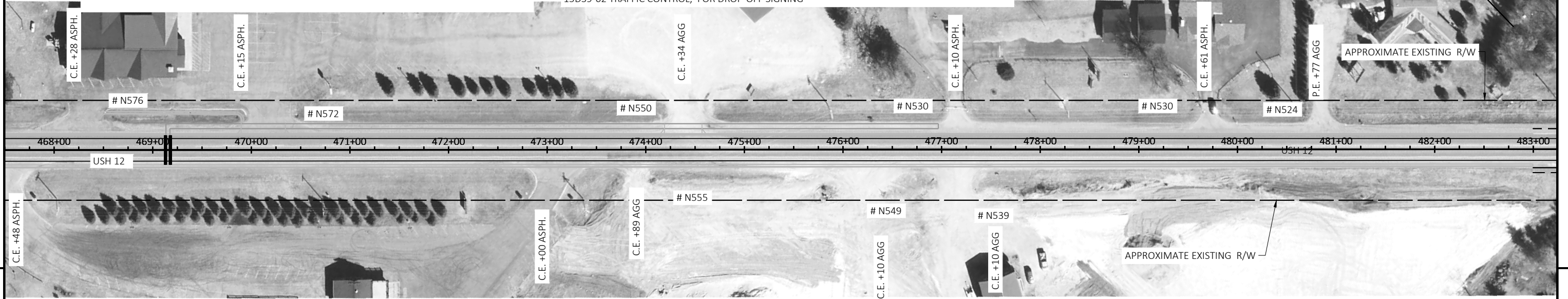
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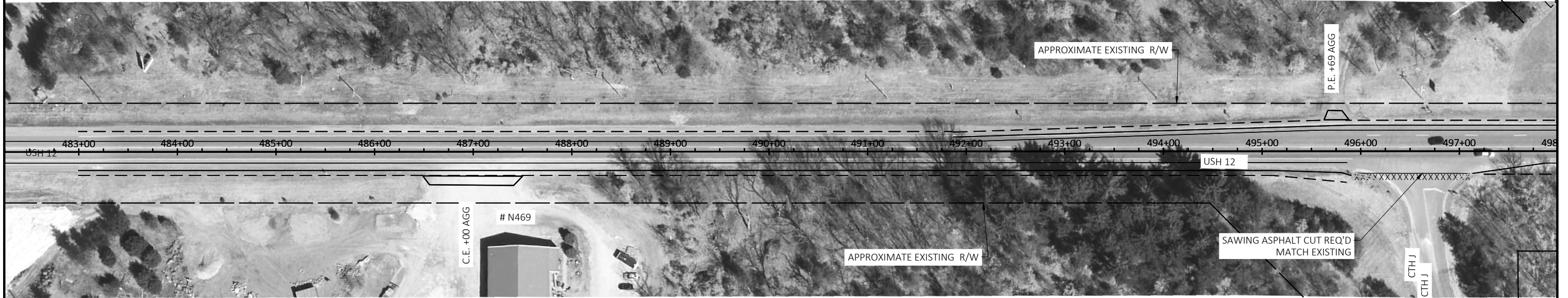
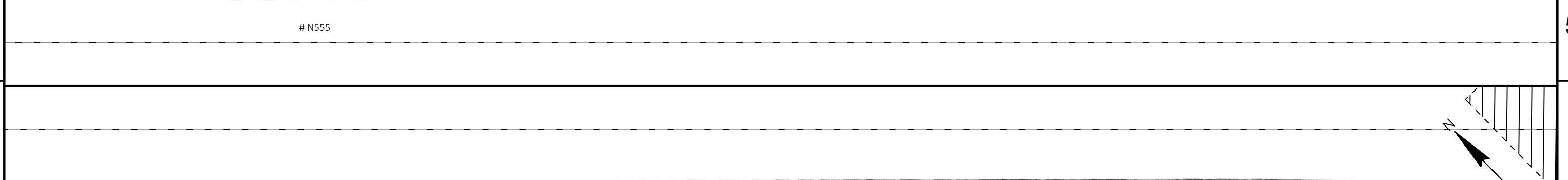
RUMBLE STRIPS

13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
 13A11-03A-B 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING

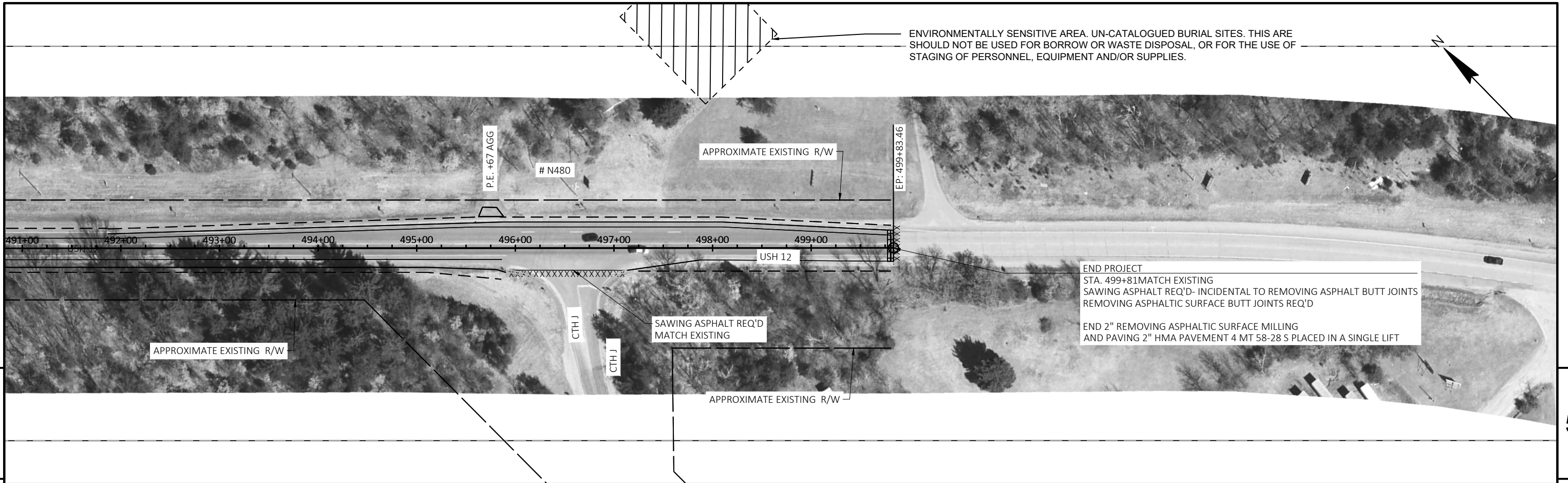


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5



PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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STANDARD DETAIL DRAWING LIST

PAVEMENT MARKING

- 15C08-20A-C PAVEMENT MARKING, MAINLINE AND TURN LANES
- 15C35-04A-C PAVEMENT MARKING

TRAFFIC CONTROL

- 15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS 45 M.P.H. OR GREATER, TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
- 15C12-08 TRAFFIC CONTROL FOR LANE CLOSURE FOR LANE CLOSURE WITH FLAGGING OPERATIONS
- 15C19-06A MOVING PAVEMENT MARKING OPERATIONS
- 15D28-04 TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
- 15D39-02 TRAFFIC CONTROL, FOR DROP-OFF SIGNING

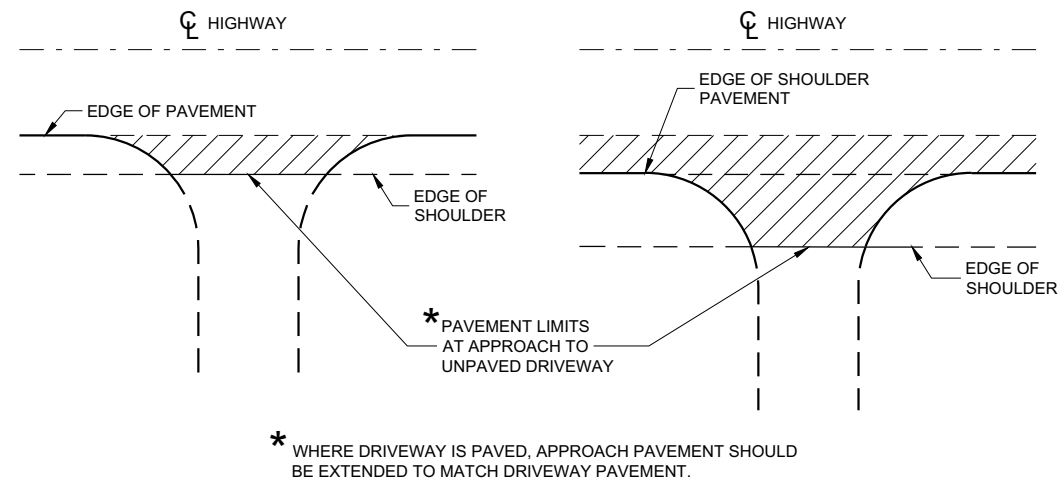
RUMBLE STRIPS

- 13A10-02A-C 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
- 13A11-03A-B 2-LANE CENTERLINE RUMBLE STRIP, MILLING

PROJECT NO: 5880-00-67	HWY: USH 12	COUNTY: JUNEAU	PLAN SHEETS	SHEET	E
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Standard Detail Drawing List

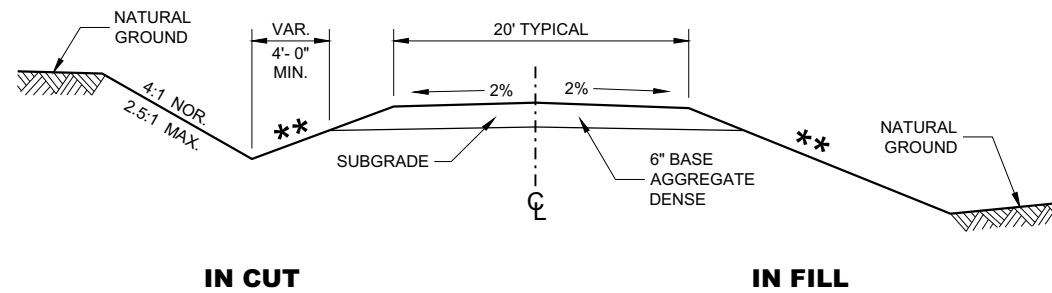
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-08	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15C35-04B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-04C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

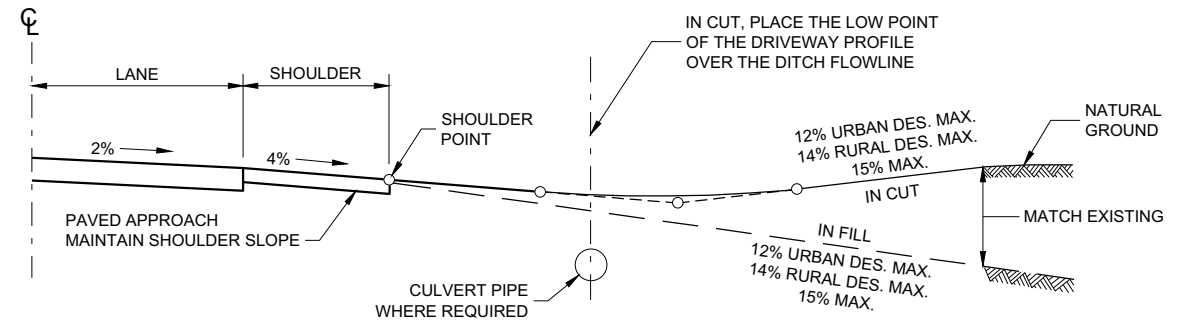
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



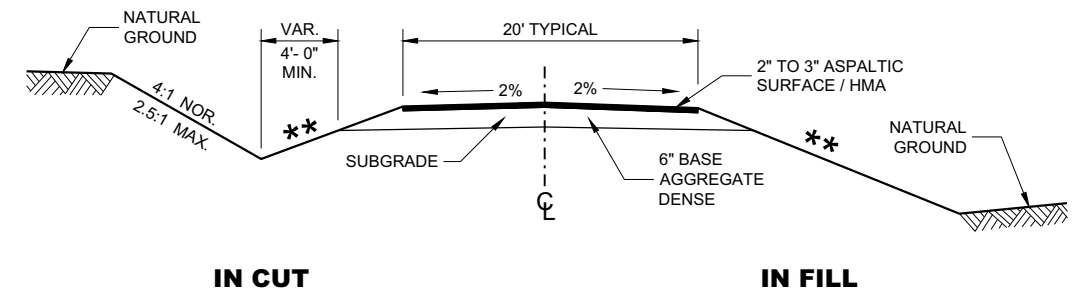
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



TYPICAL DRIVEWAY PROFILES

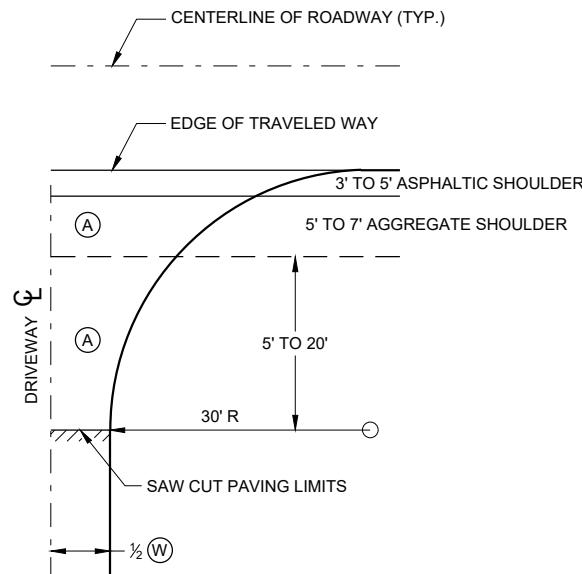


**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

DRIVEWAYS WITHOUT CURB AND GUTTER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

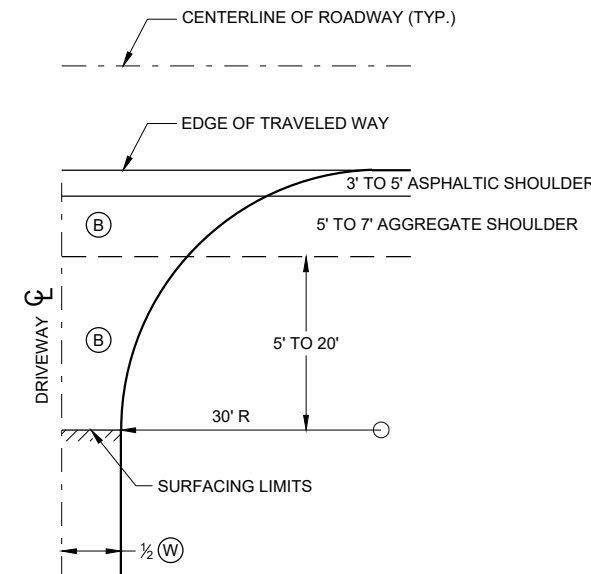
GENERAL NOTES

- ① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.

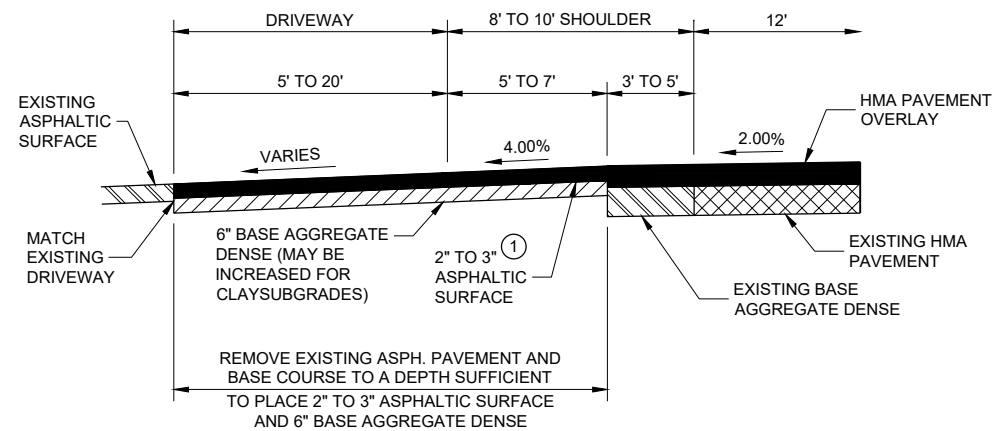


- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.

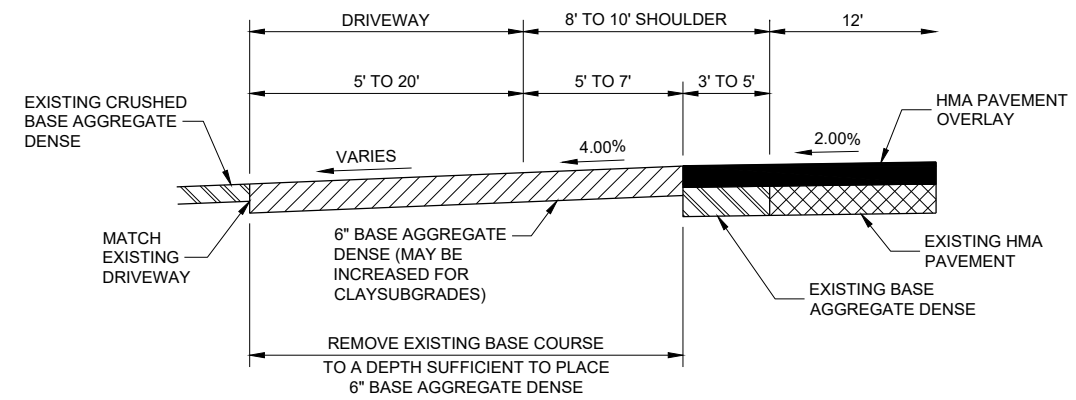
**PLAN VIEW
HALF SECTION**



**PLAN VIEW
HALF SECTION**



**PROFILE VIEW
RURAL ENTRANCE
WITH ASPHALTIC SURFACE
RESURFACING PROJECTS**



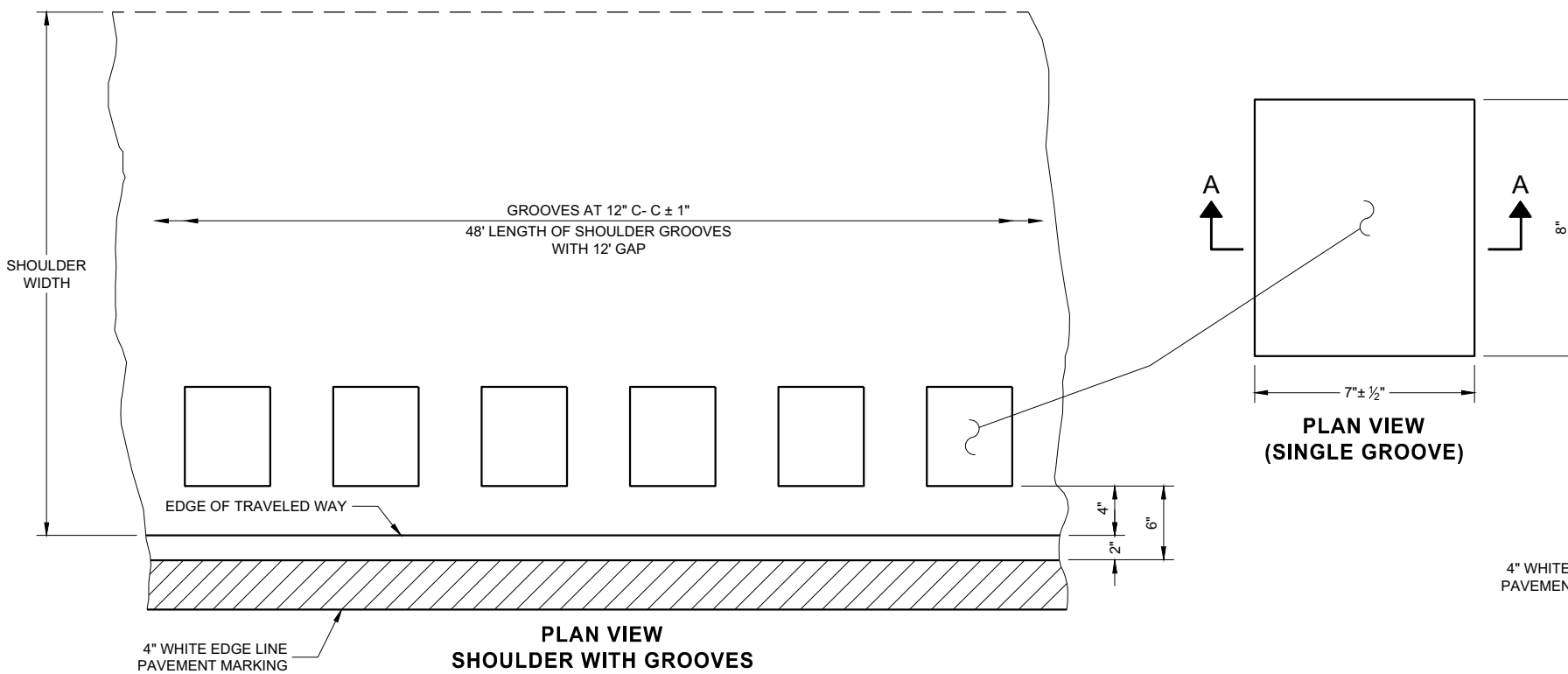
**PROFILE VIEW
RURAL ENTRANCE
WITH AGGREGATE SURFACE
6" BASE AGGREGATE DENSE
RESURFACING PROJECTS**

**DRIVEWAYS WITHOUT CURB
AND GUTTER RESURFACING
PROJECTS RURAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



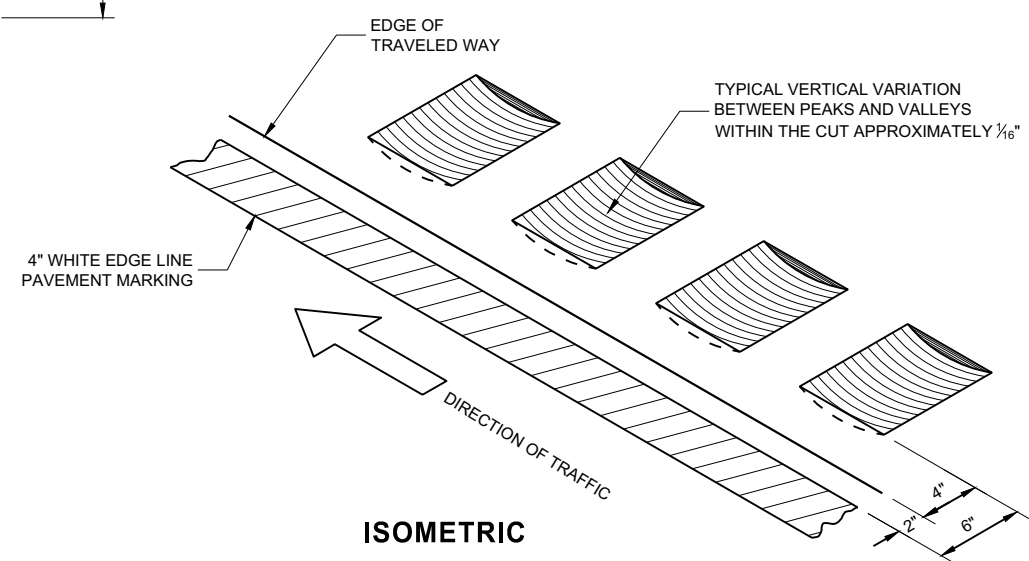
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

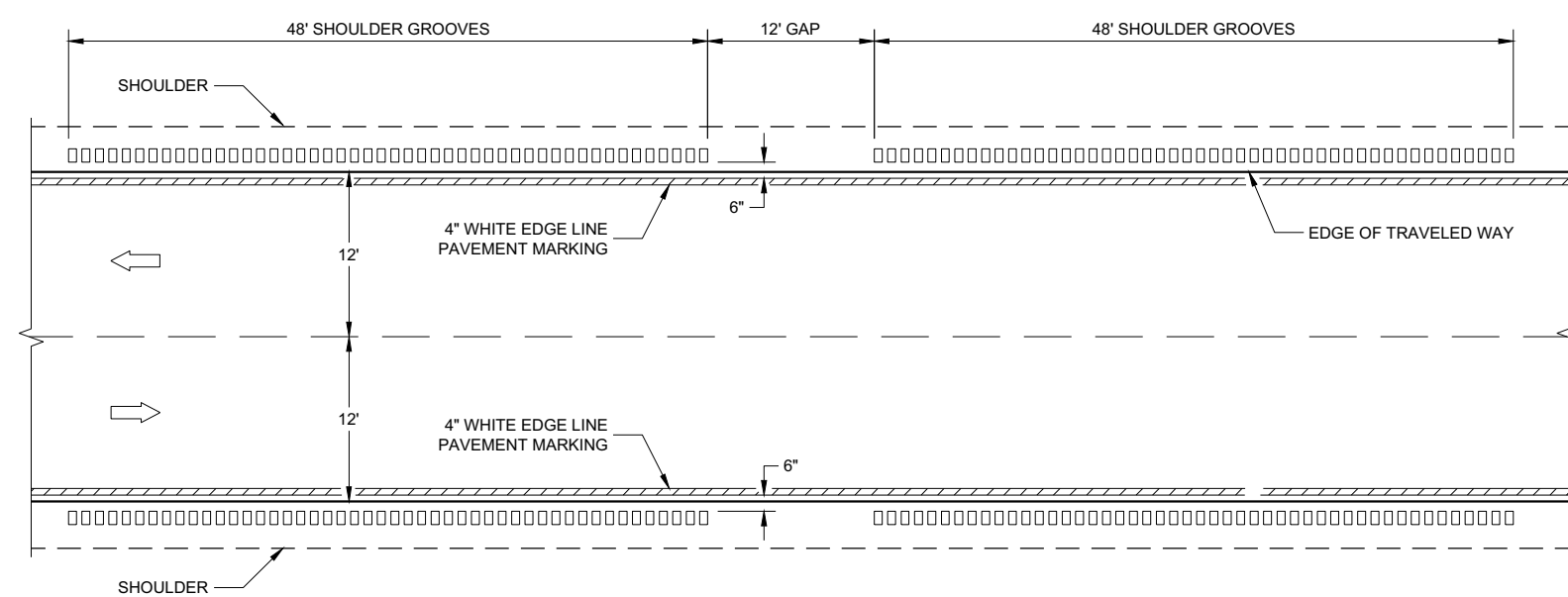
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

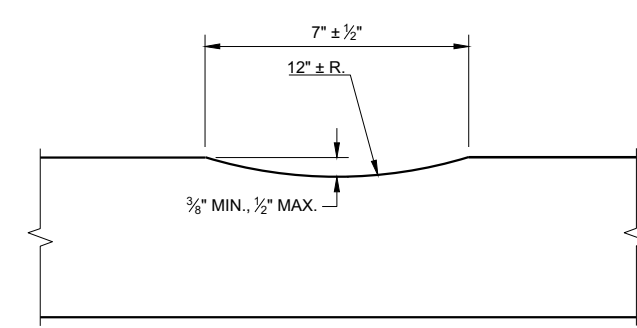
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



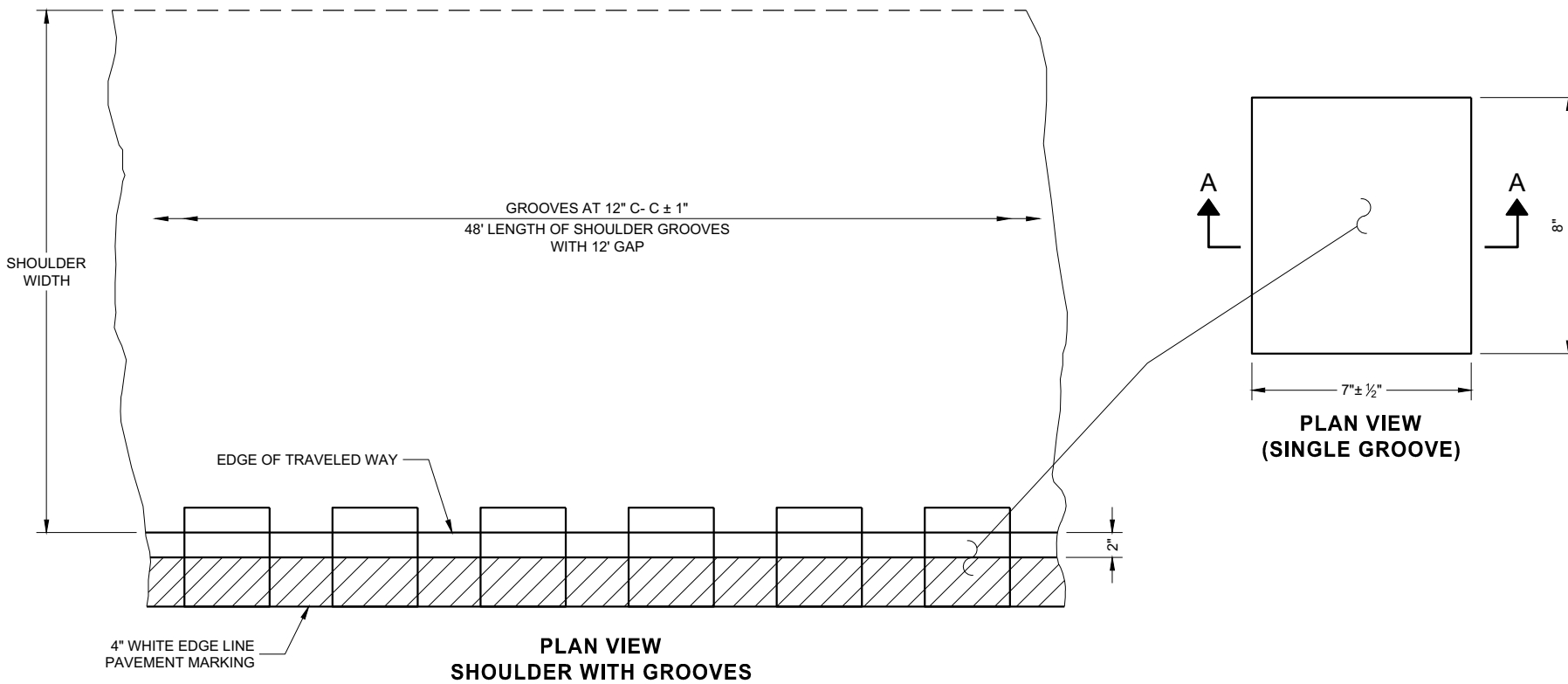
TYPE 1
2 - LANE SHOULDER RUMBLE STRIP



SECTION A - A

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

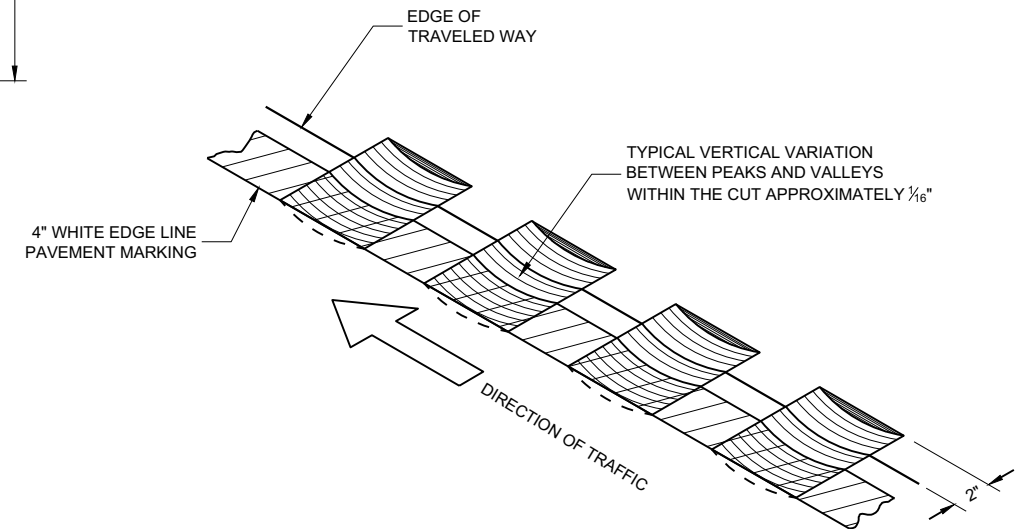
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

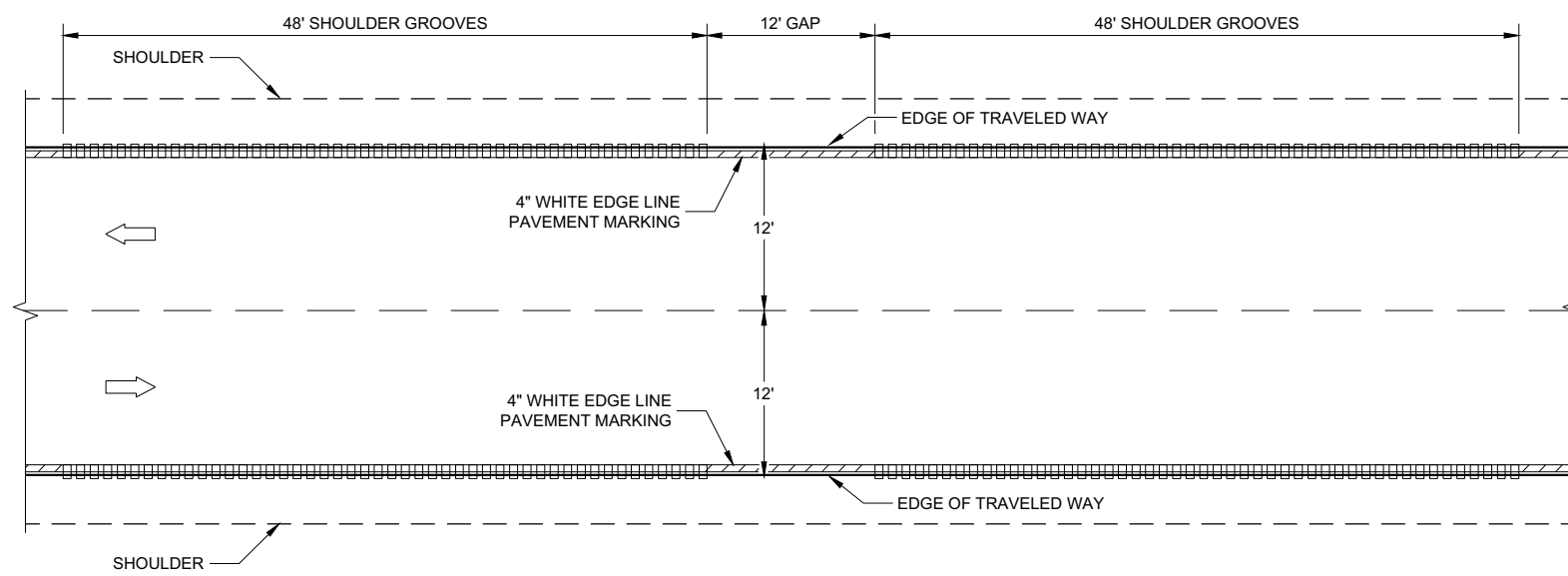
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

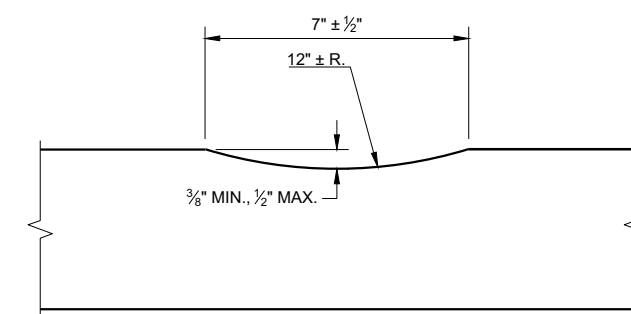


ISOMETRIC



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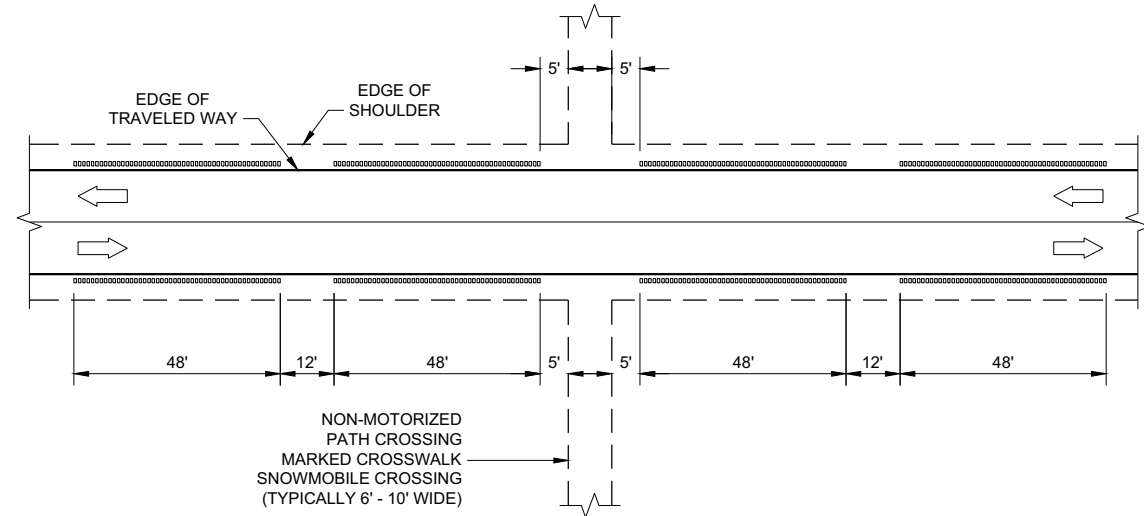
TYPE 2
2 - LANE SHOULDER RUMBLE STRIP



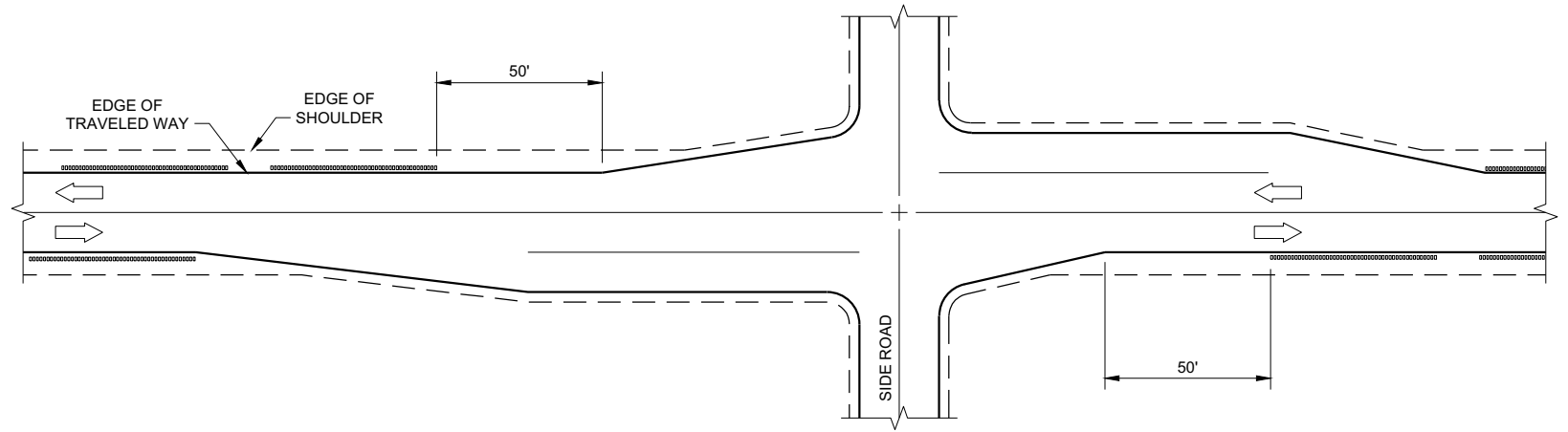
SECTION A - A

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

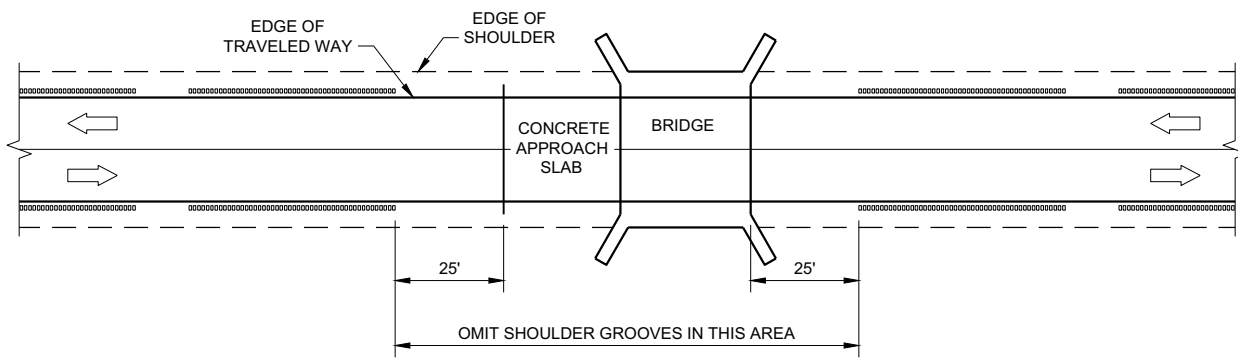
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



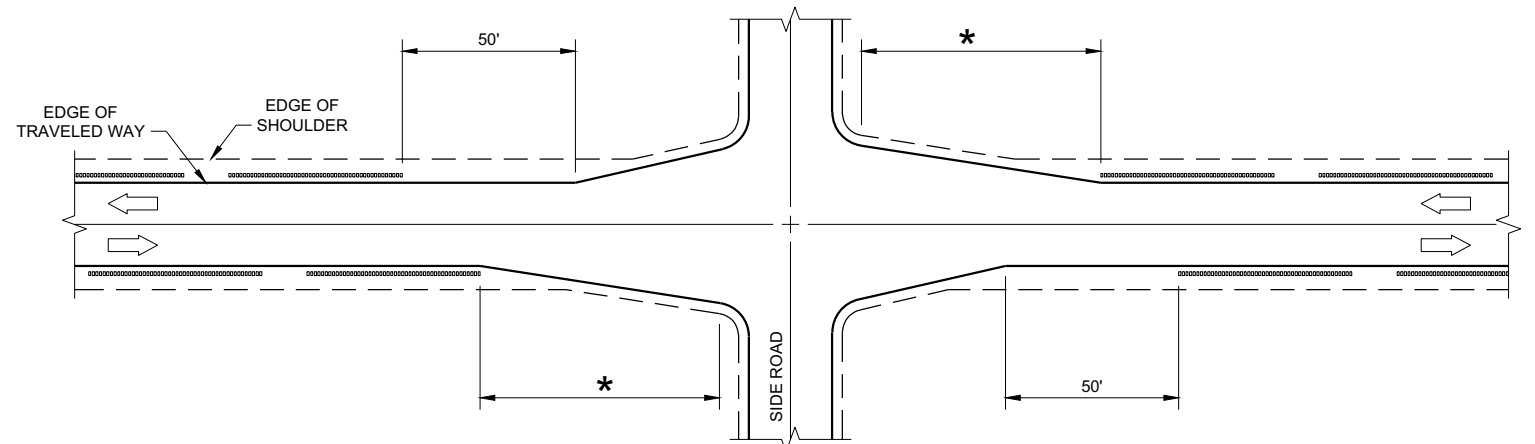
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

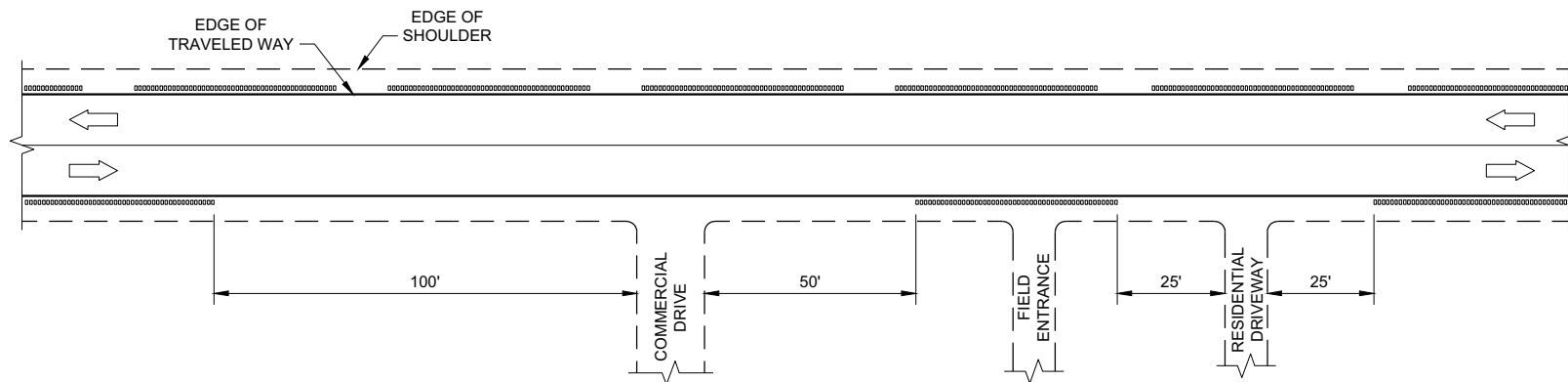


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



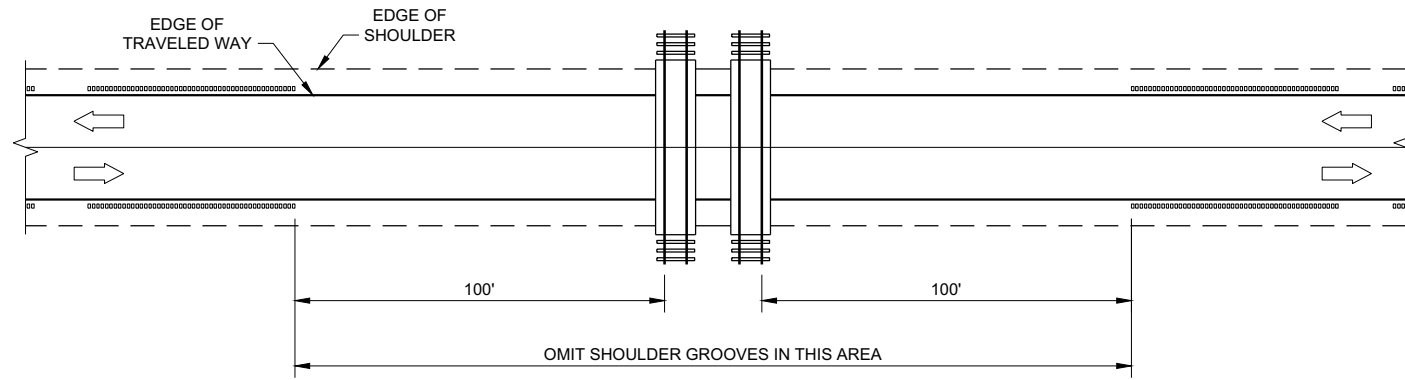
SHOULDER GROOVES AT DRIVEWAYS^①

GENERAL NOTES

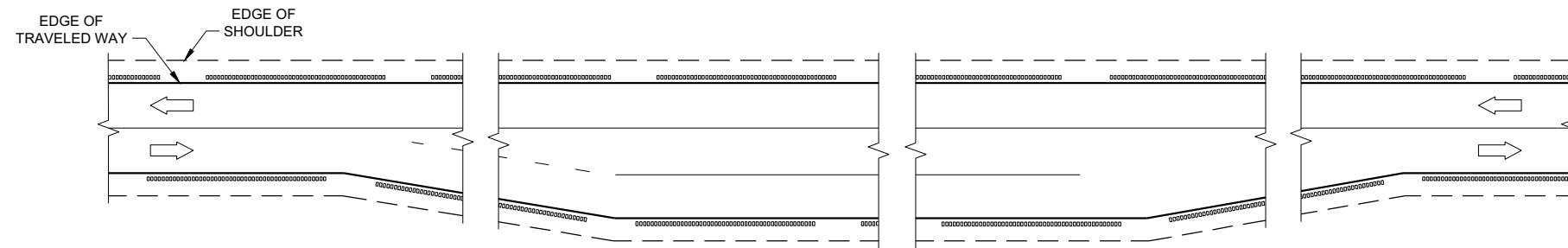
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

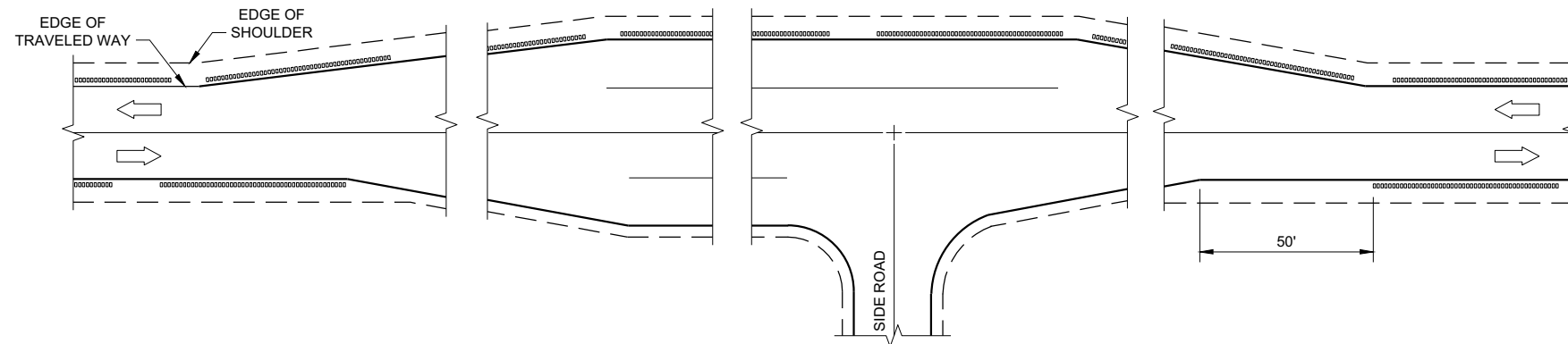
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

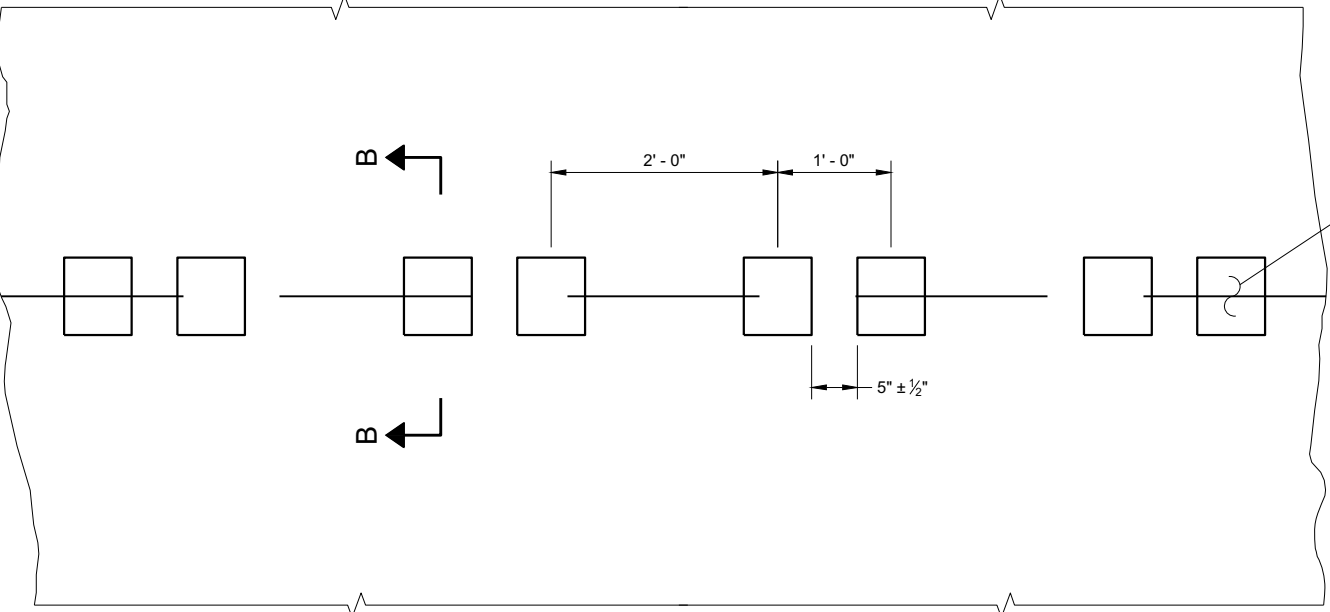
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

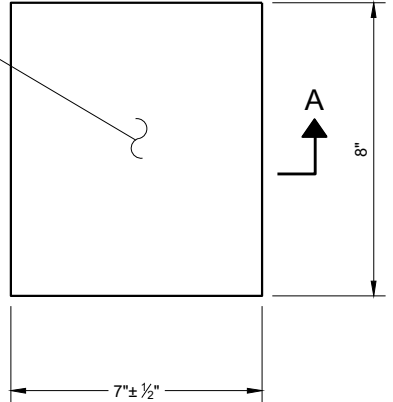
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

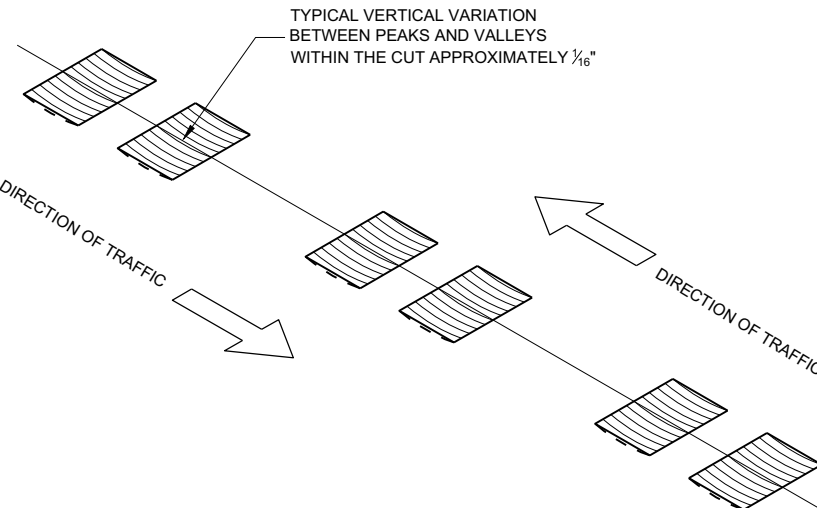
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



**PLAN VIEW
SHOULDER WITH GROOVES**

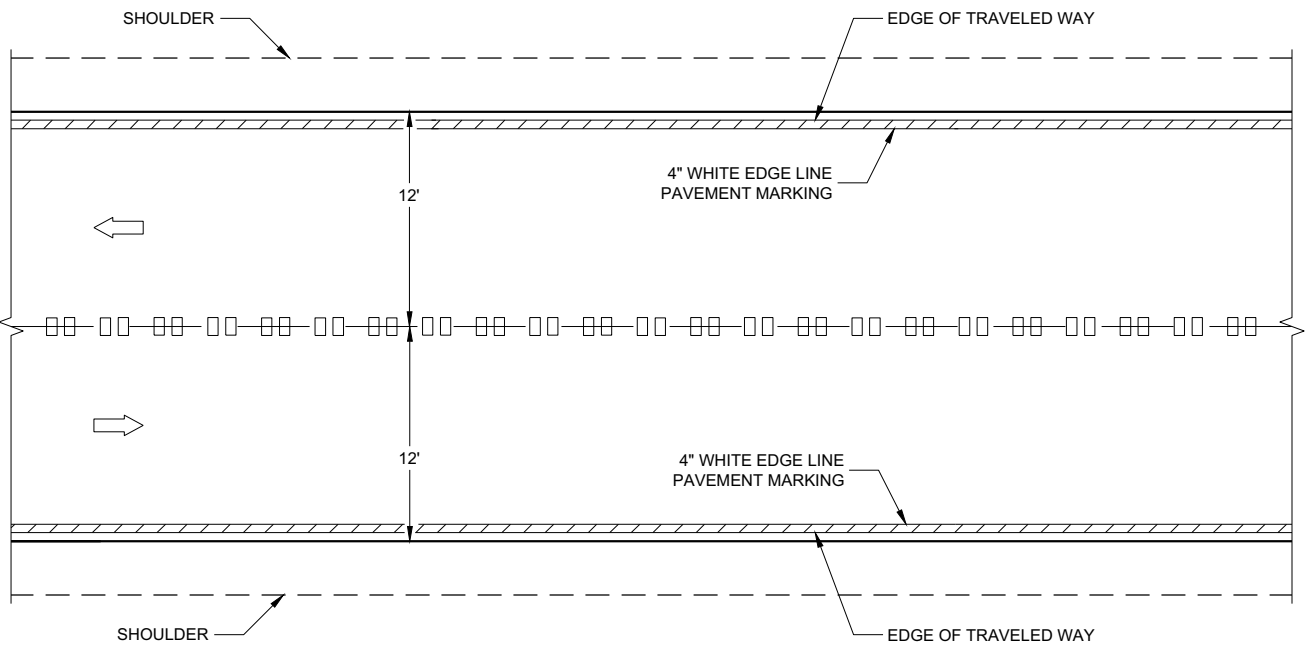


**PLAN VIEW
(SINGLE GROOVE)**

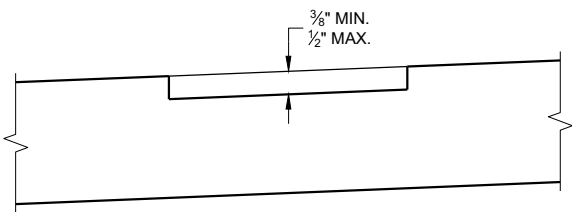


ISOMETRIC

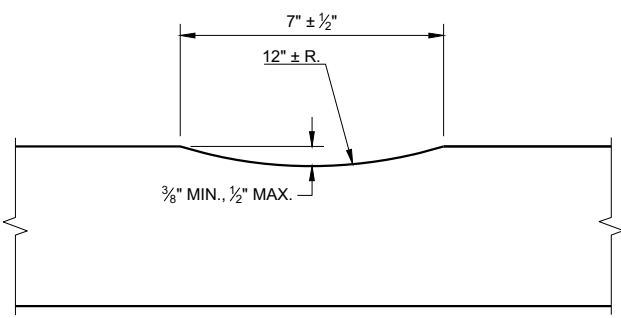
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



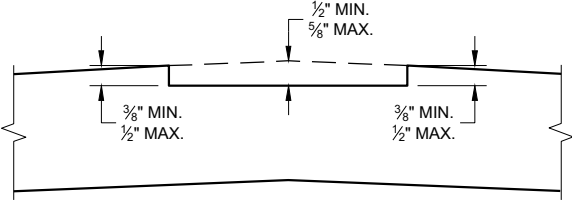
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



**SECTION B - B
SUPERELEVATED ROADWAY**



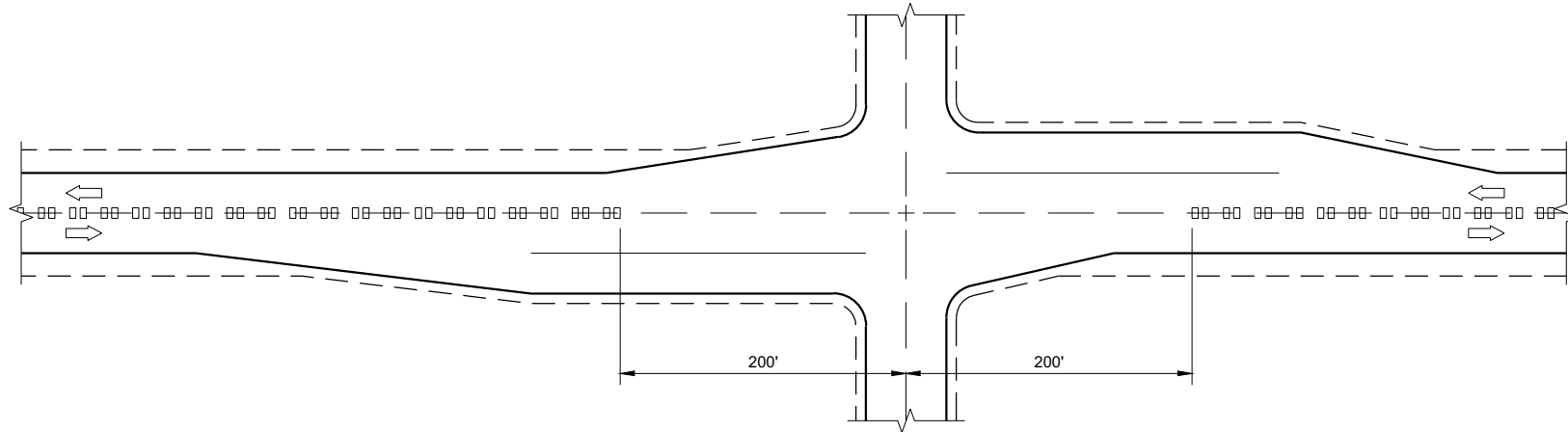
SECTION A - A



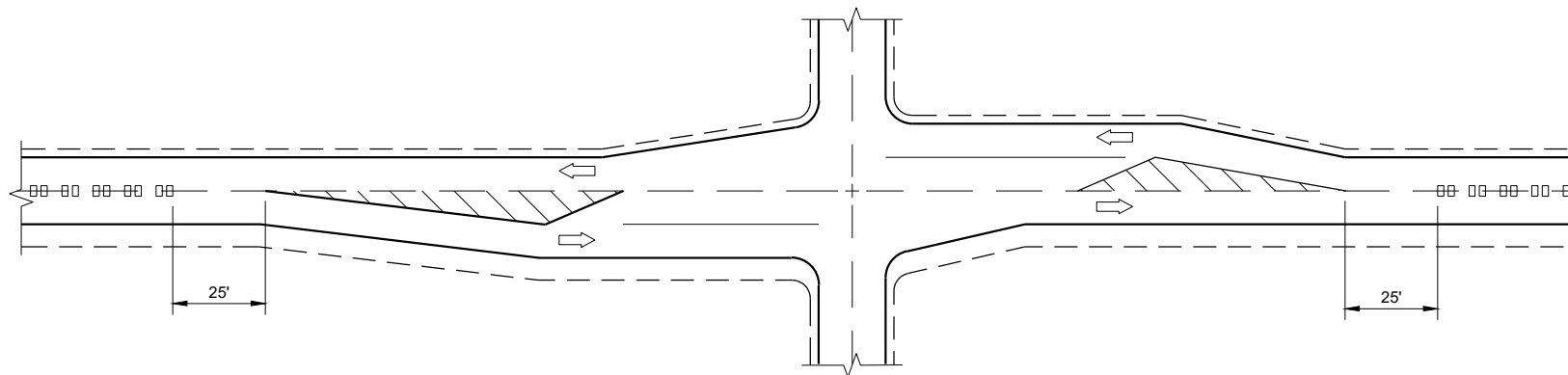
**SECTION B - B
CROWNED ROADWAY**

**2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING**

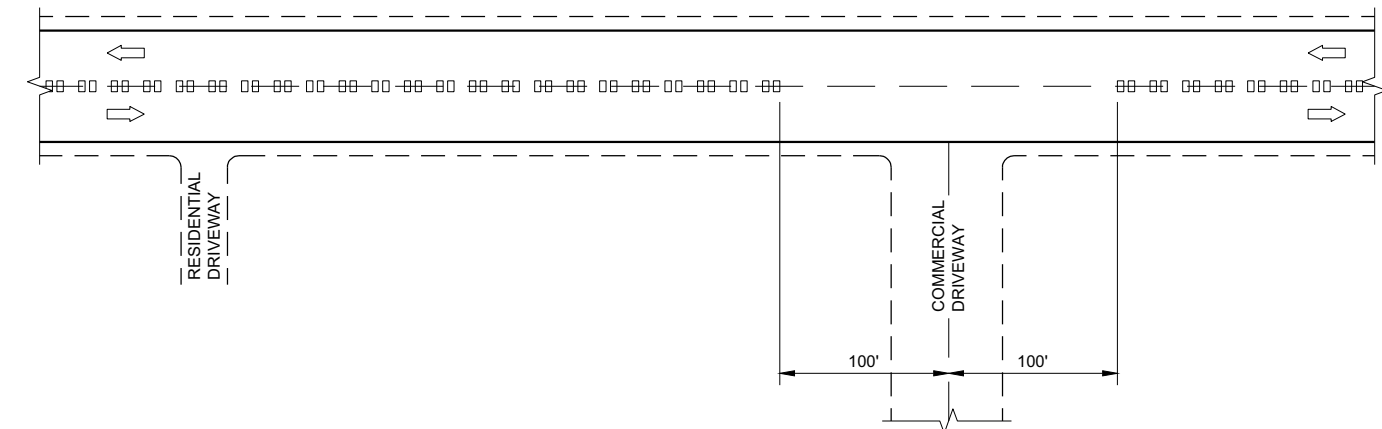
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



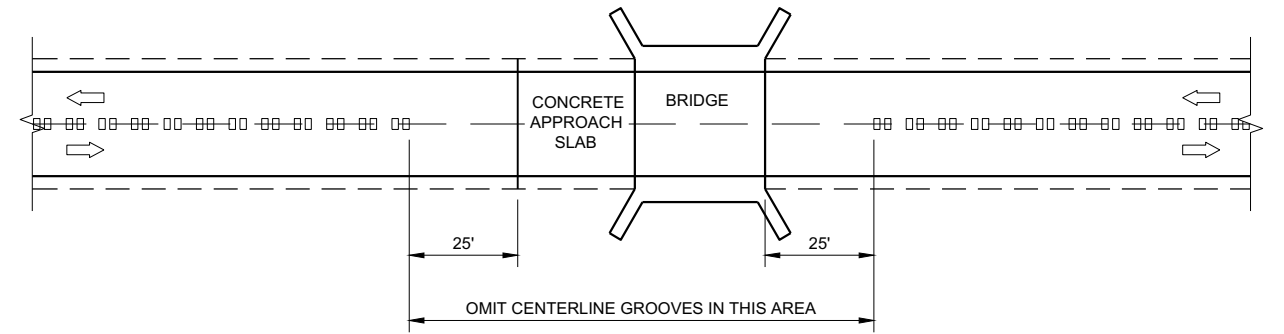
**CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)**



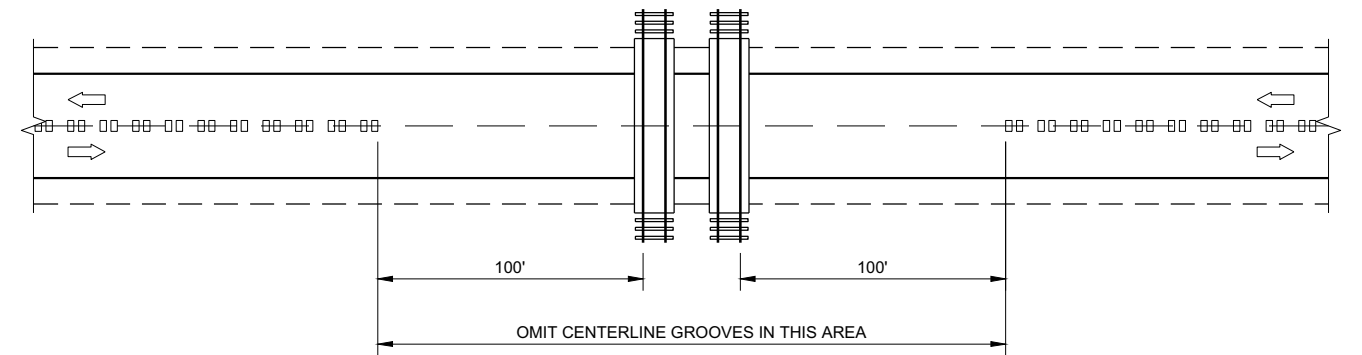
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

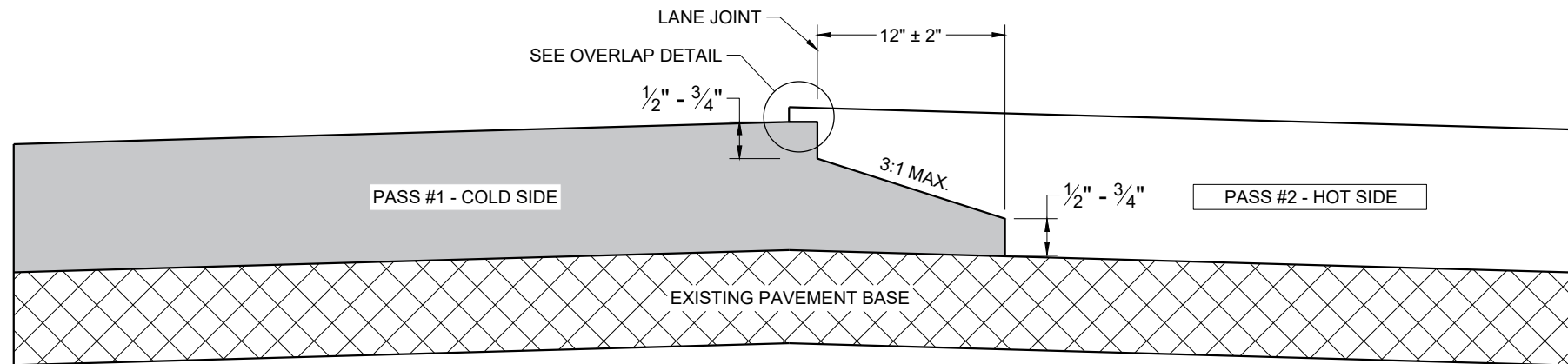
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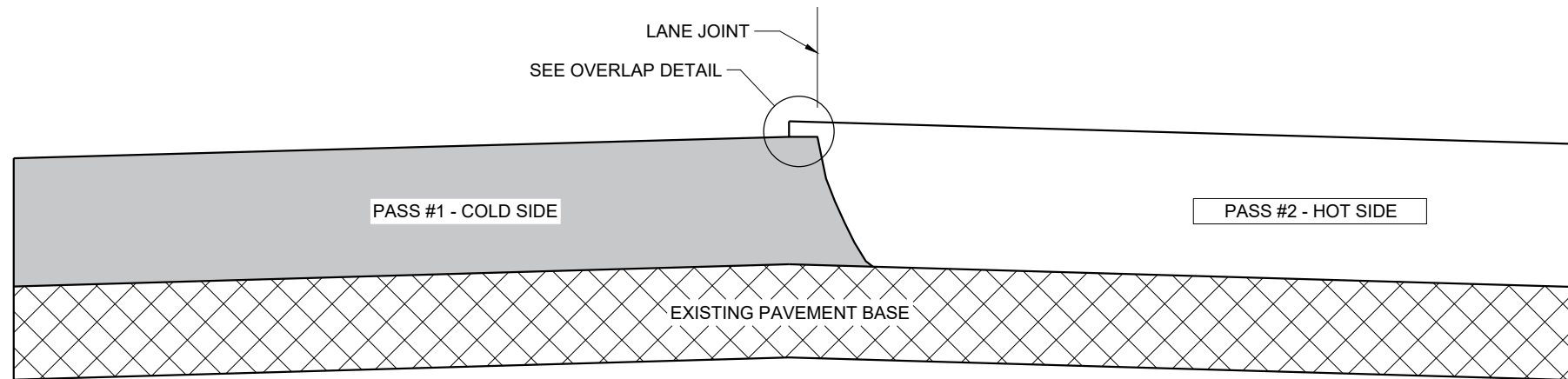
SDD 13A11 - 03b

SDD 13A11 - 03b

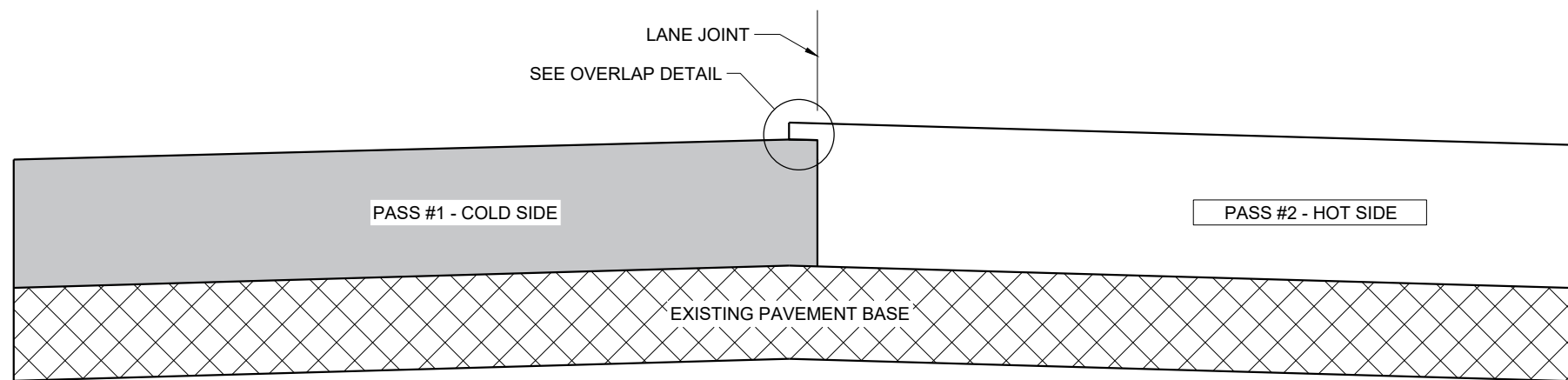
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 7/2018	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

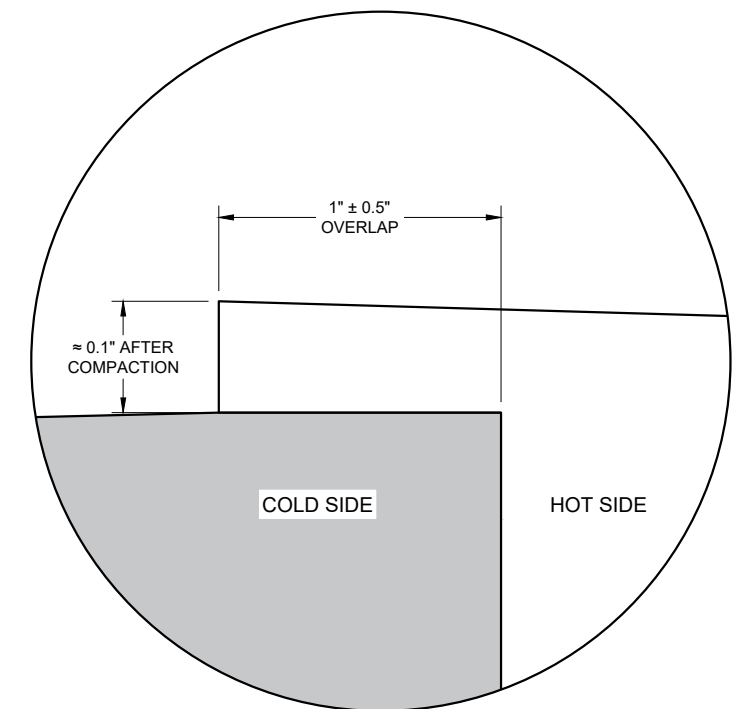
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

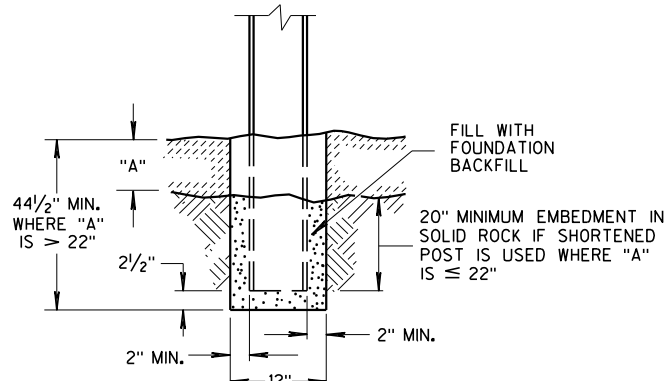
SDD 13C19 - 03

HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	

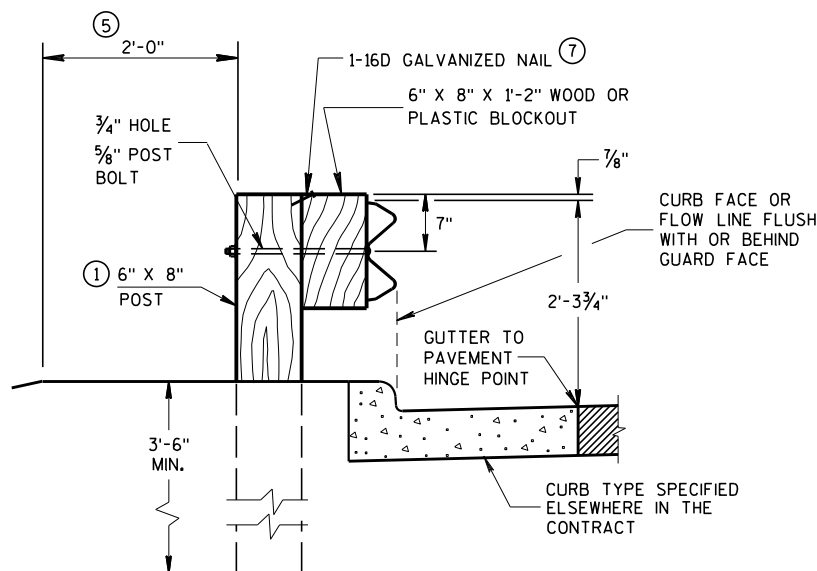
GENERAL NOTES

- ① W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
- ② USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
- ③ INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ④ USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- ⑤ IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- ⑥ IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.
- ⑦ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

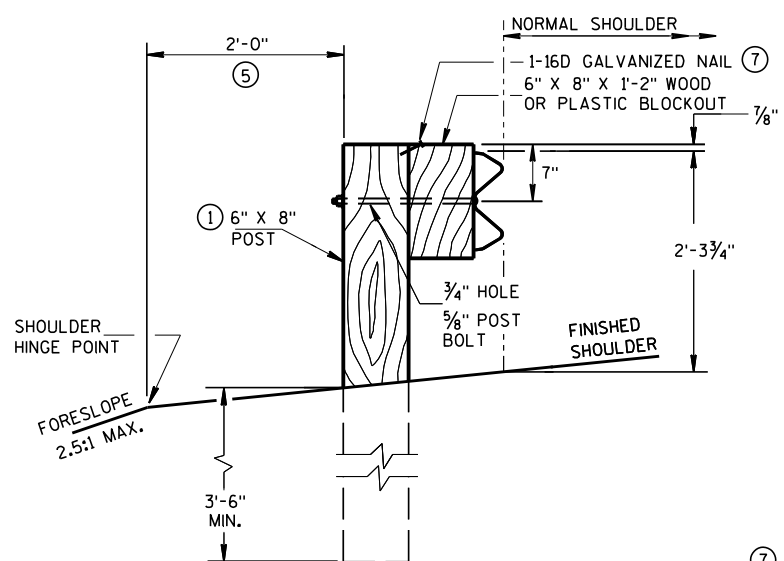
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



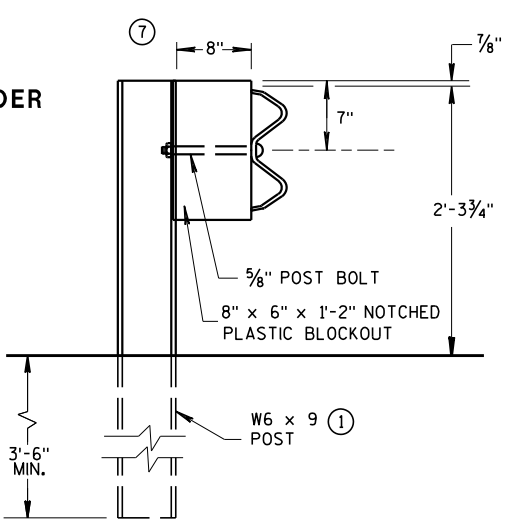
END VIEW SETTING STEEL OR WOOD POST IN ROCK ⑥



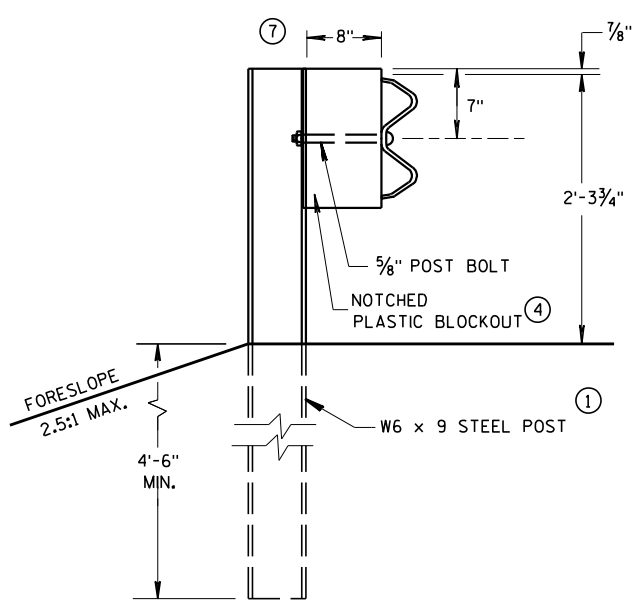
END VIEW LOCATED ALONG A CURBED ROADWAY



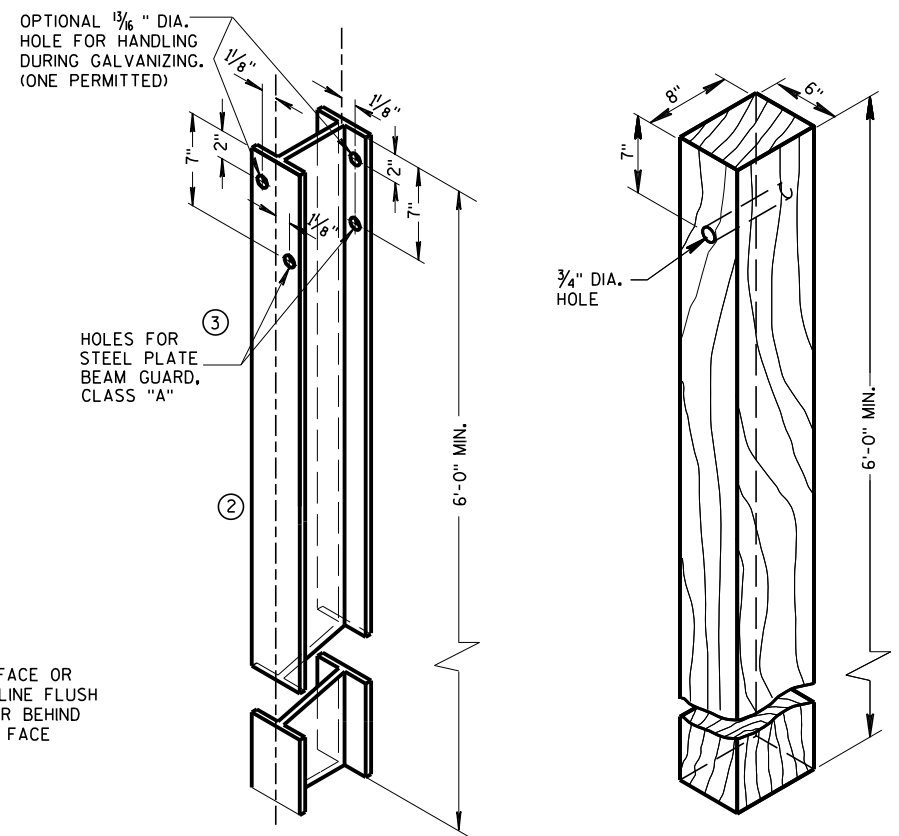
END VIEW LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



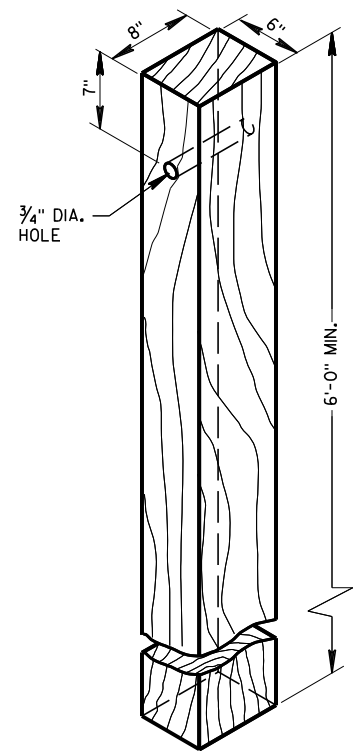
END VIEW STEEL POST & NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



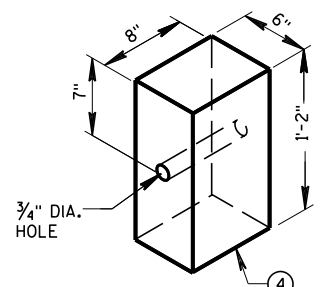
END VIEW LONGER POST AT HALF POST SPACING W BEAM (LHW)



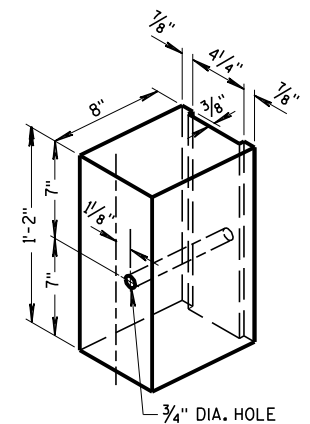
STEEL POST & HOLE PUNCHING DETAIL (W6 X 9) ①
ALL HOLES 3/8" DIAMETER EXCEPT AS NOTED



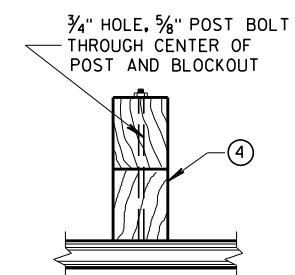
WOOD POST (6" X 8") NOMINAL



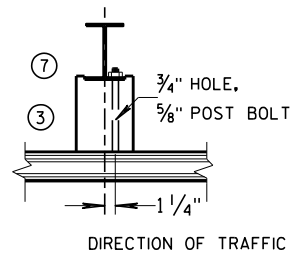
WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS ①



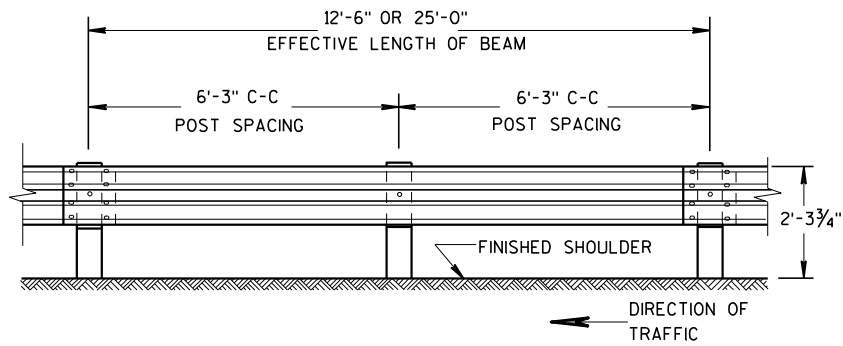
PLAN VIEW WOOD POST, BLOCKOUT & BEAM



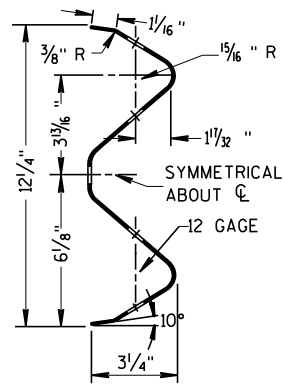
PLAN VIEW STEEL POST, NOTCHED PLASTIC BLOCKOUT & BEAM

STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS

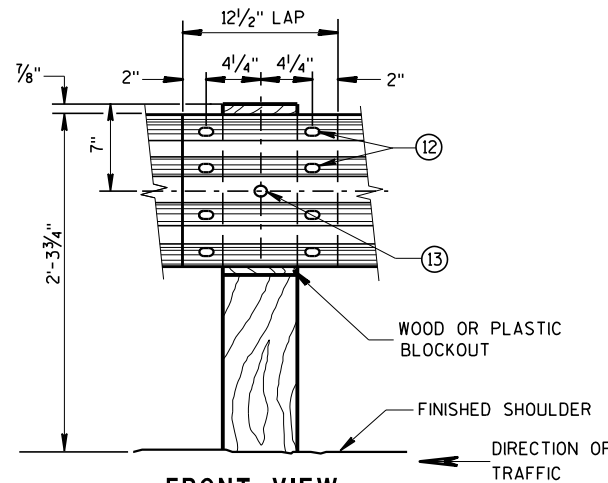
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



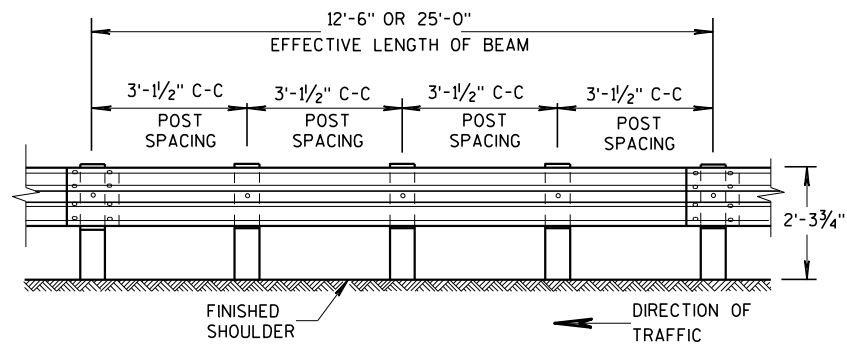
SECTION THRU W BEAM



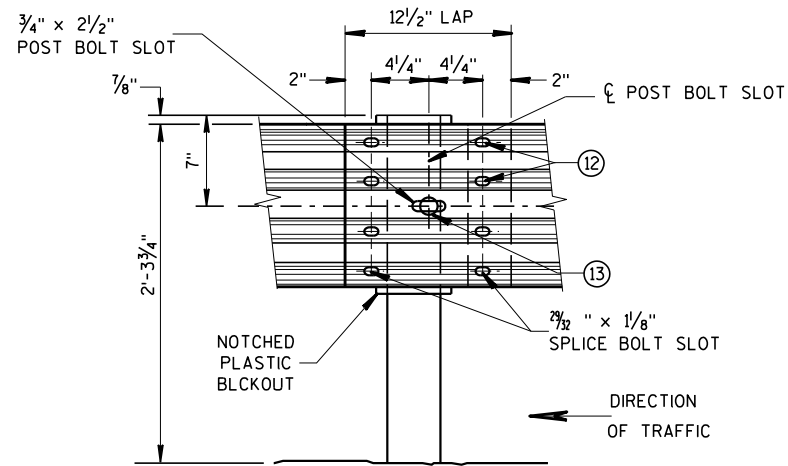
**FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL**

GENERAL NOTES

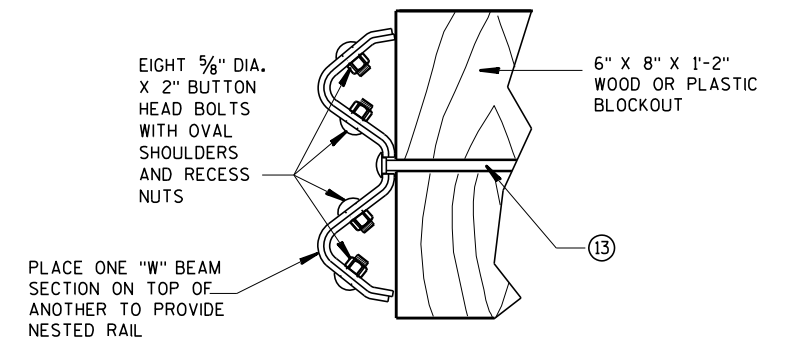
- FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
 - ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
 - ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



**FRONT VIEW
POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)**

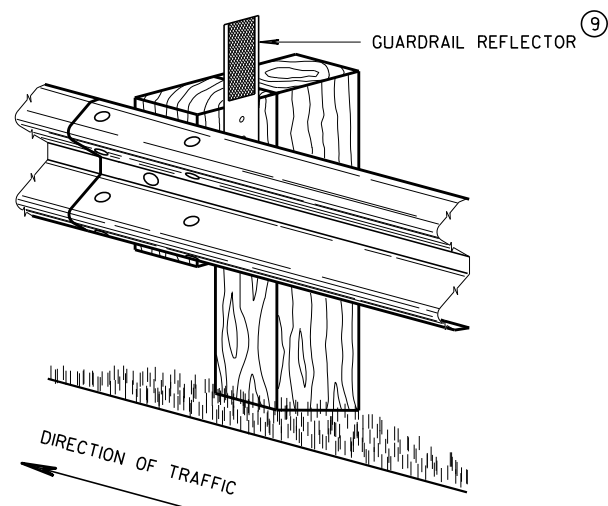


**FRONT VIEW
BEAM SPLICE AT STEEL POST
TYPICAL SPLICING DETAILS
OF STEEL PLATE BEAM GUARD**

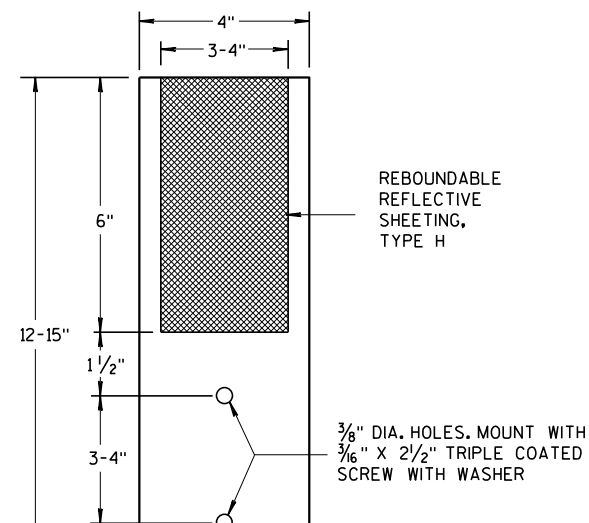


NESTED W BEAM (NW)
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUARDRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



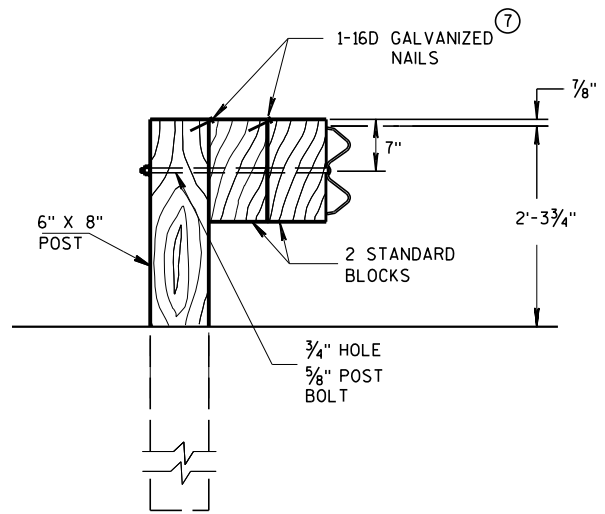
**4" X 12" GUARDRAIL REFLECTOR DETAIL
AND TYPICAL INSTALLATION ***



4" x 12" GUARDRAIL REFLECTOR

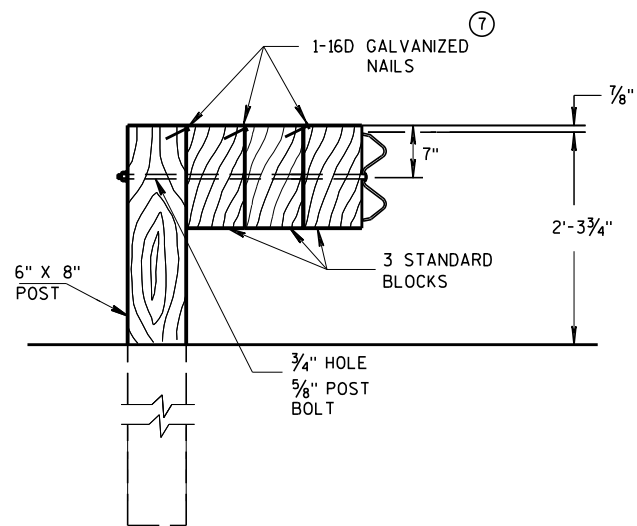
**STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

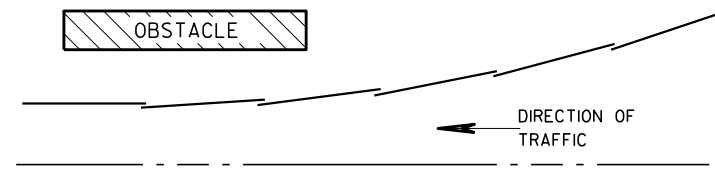


DETAIL FOR TRIPLE BLOCKS

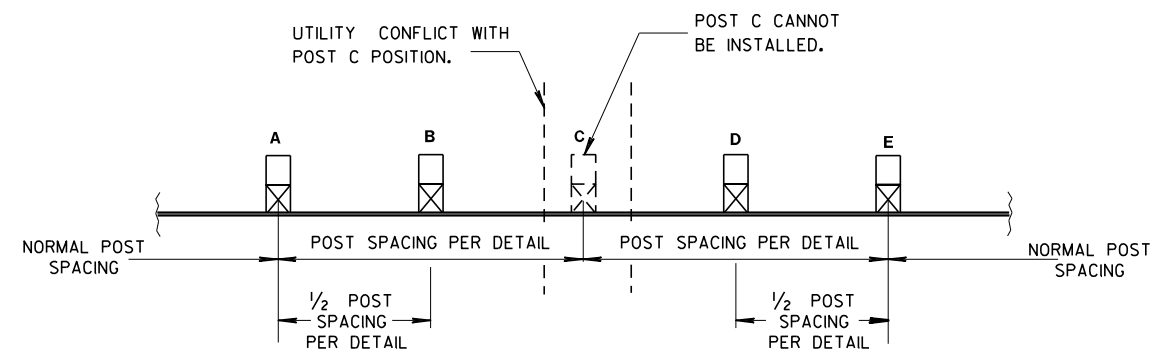
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



**PLAN VIEW
BEAM LAPPING DETAIL**

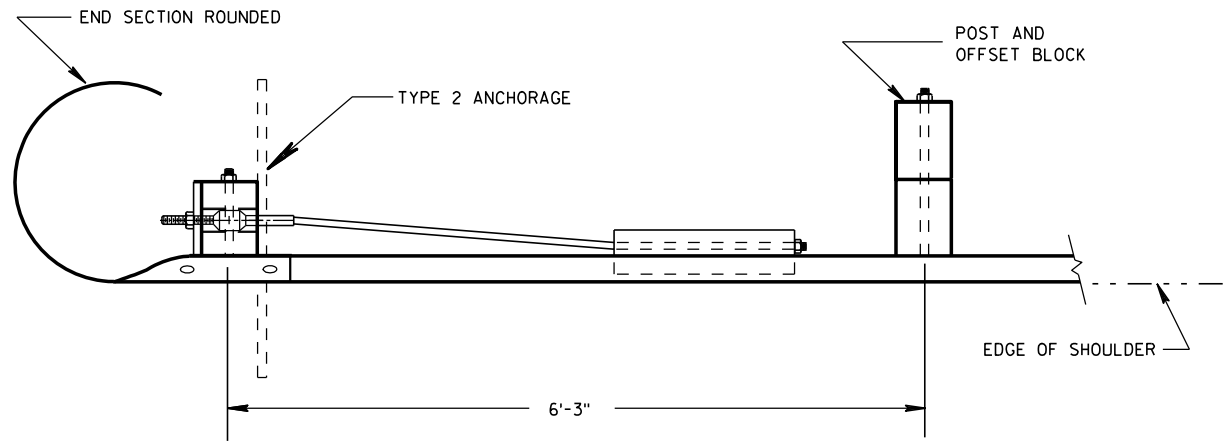


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

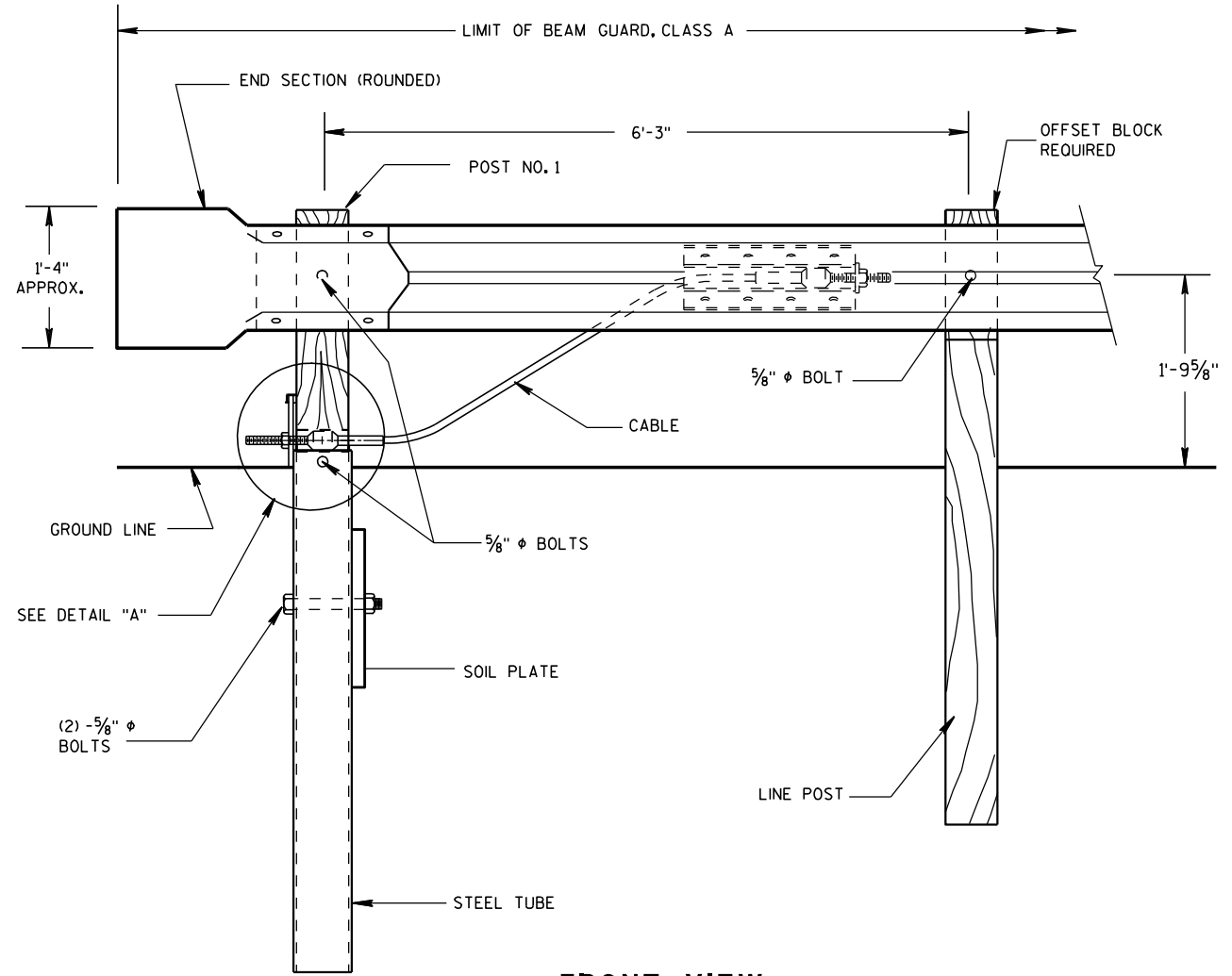
**STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

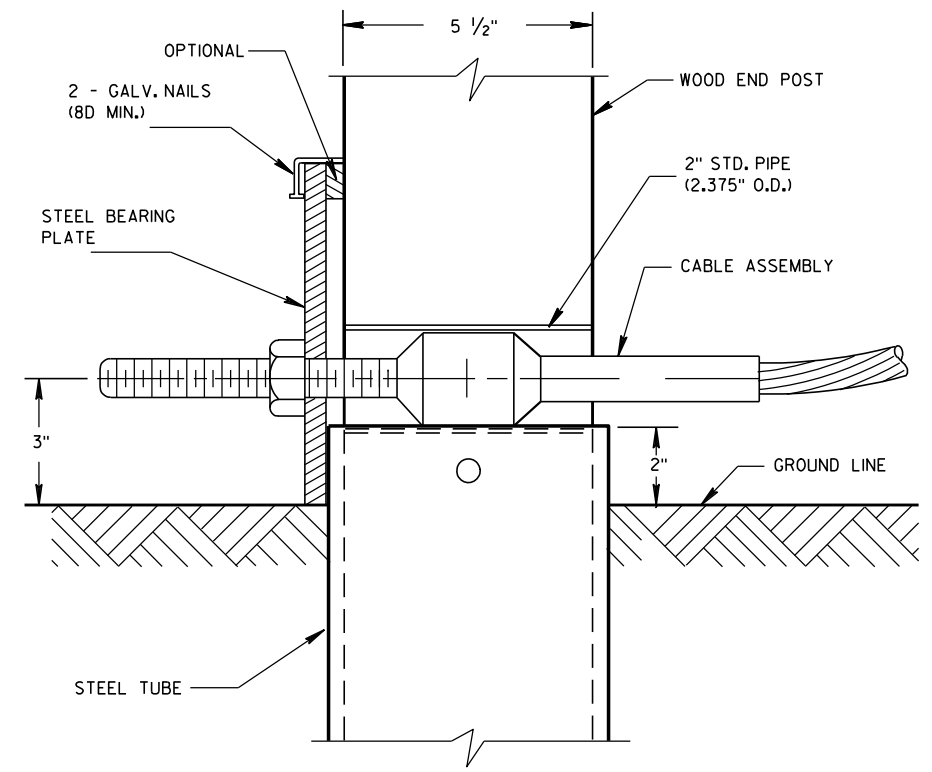


PLAN VIEW

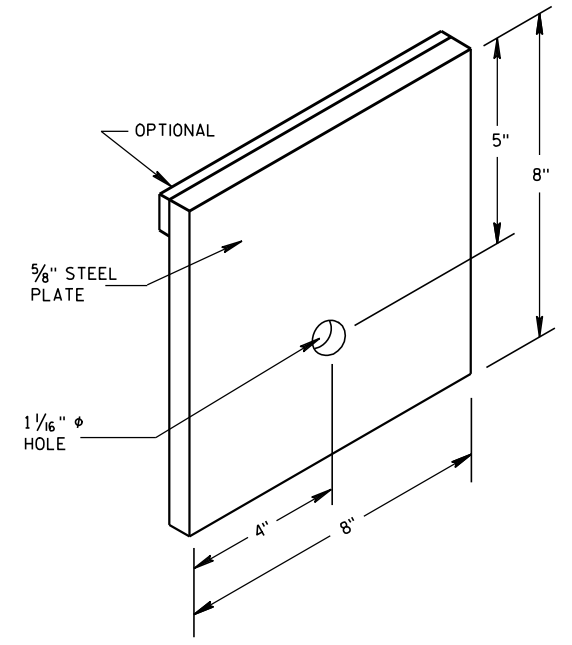


FRONT VIEW

END TREATMENT WITH TYPE 2 ANCHORAGE
(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



DETAIL "A"
POST NO. 1



STEEL BEARING PLATE

**ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2**

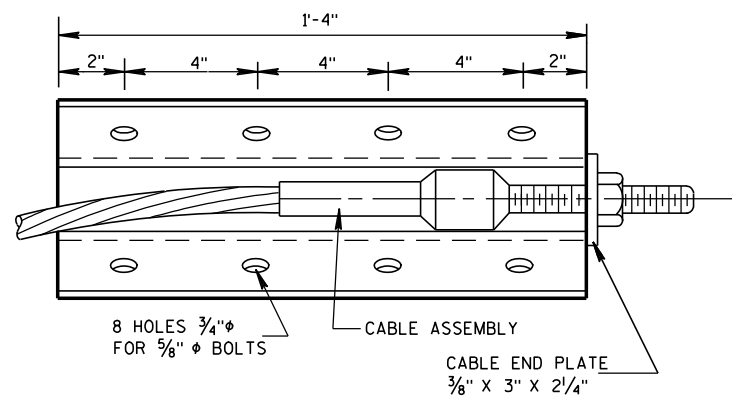
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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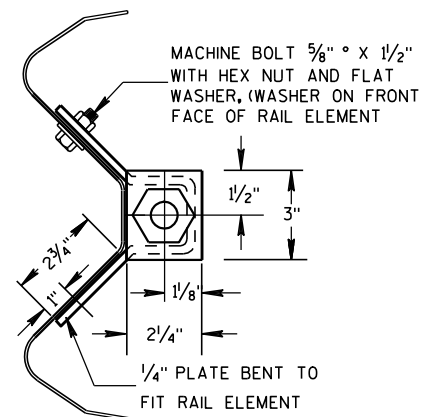
S.D.D. 14 B 16-4a

S.D.D. 14 B 16-4a

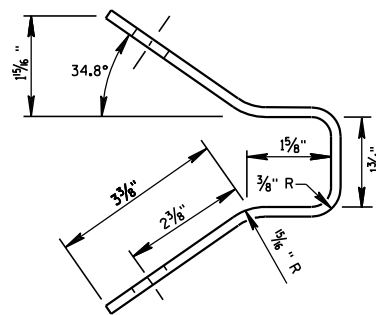


FRONT VIEW

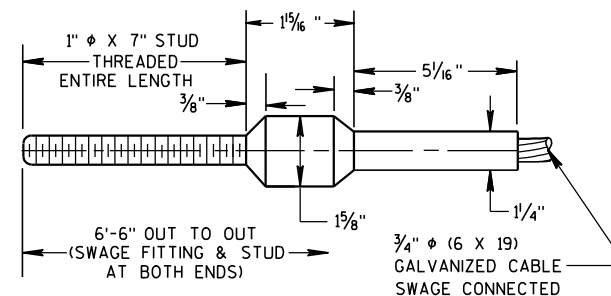
ANCHOR PLATE DETAIL



END VIEW



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP A MINIMUM BREAKING STRENGTH OF 40,000 LB (TIGHTEN UNTIL TAUT)

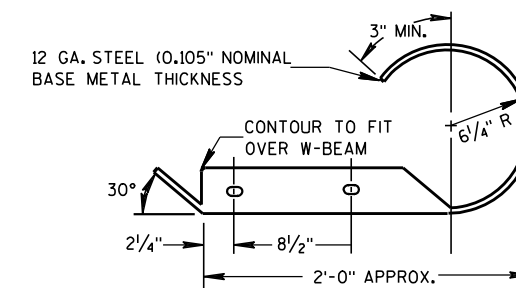
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

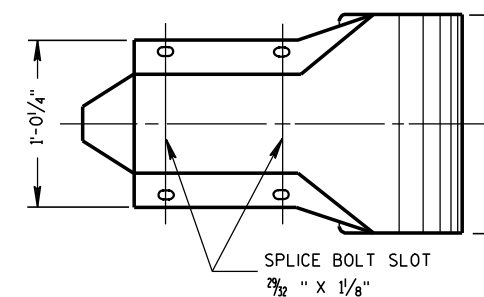
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

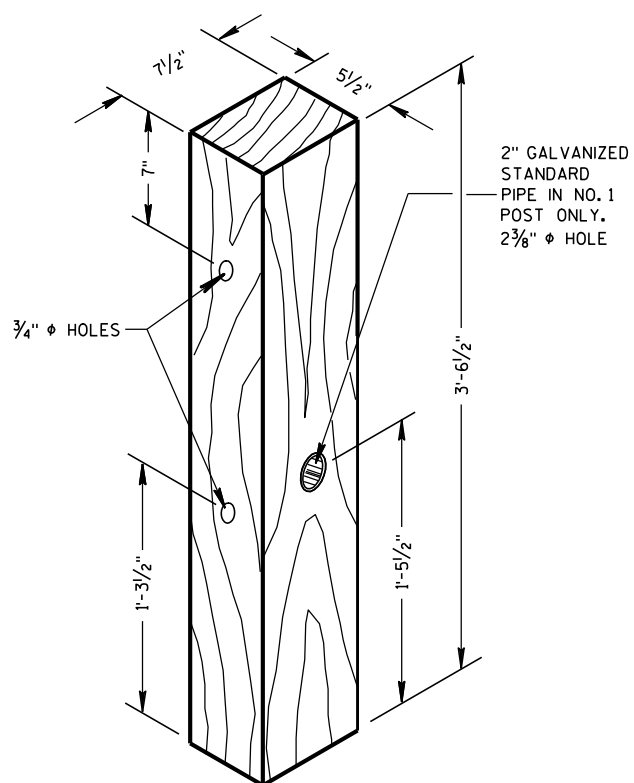
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE, WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



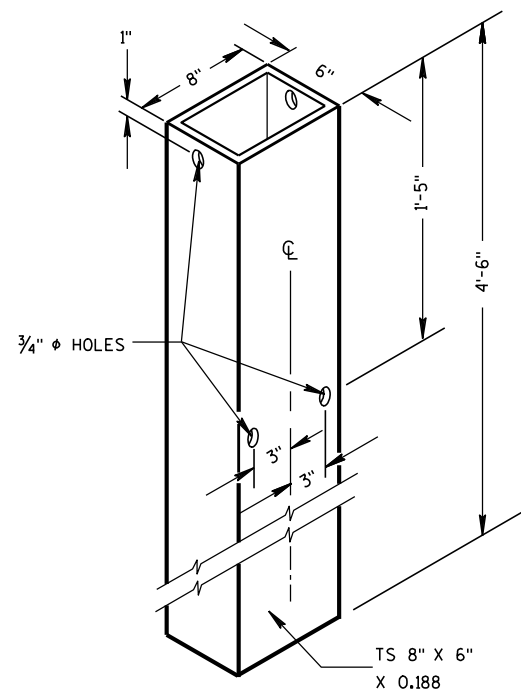
PLAN VIEW



FRONT VIEW
W BEAM END SECTION ROUNDED

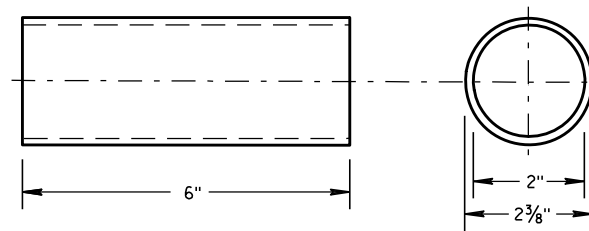


WOOD BREAKAWAY POST



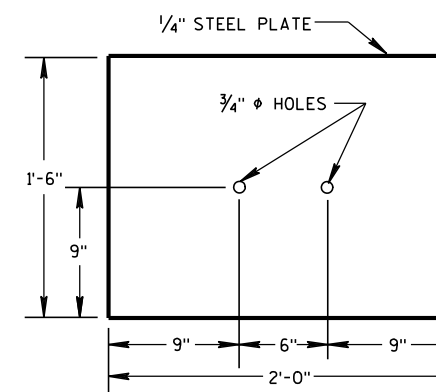
STEEL TUBE

STEEL TUBE SHALL CONFORM TO REQUIREMENTS OF ASTM A500



BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



SOIL PLATE

ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED
8/21/2007 DATE /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

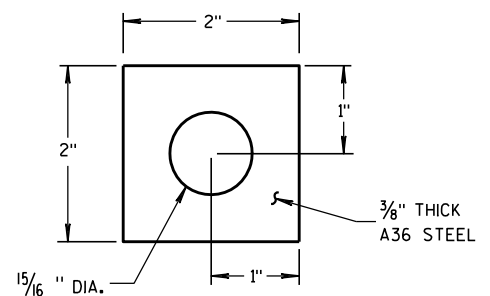
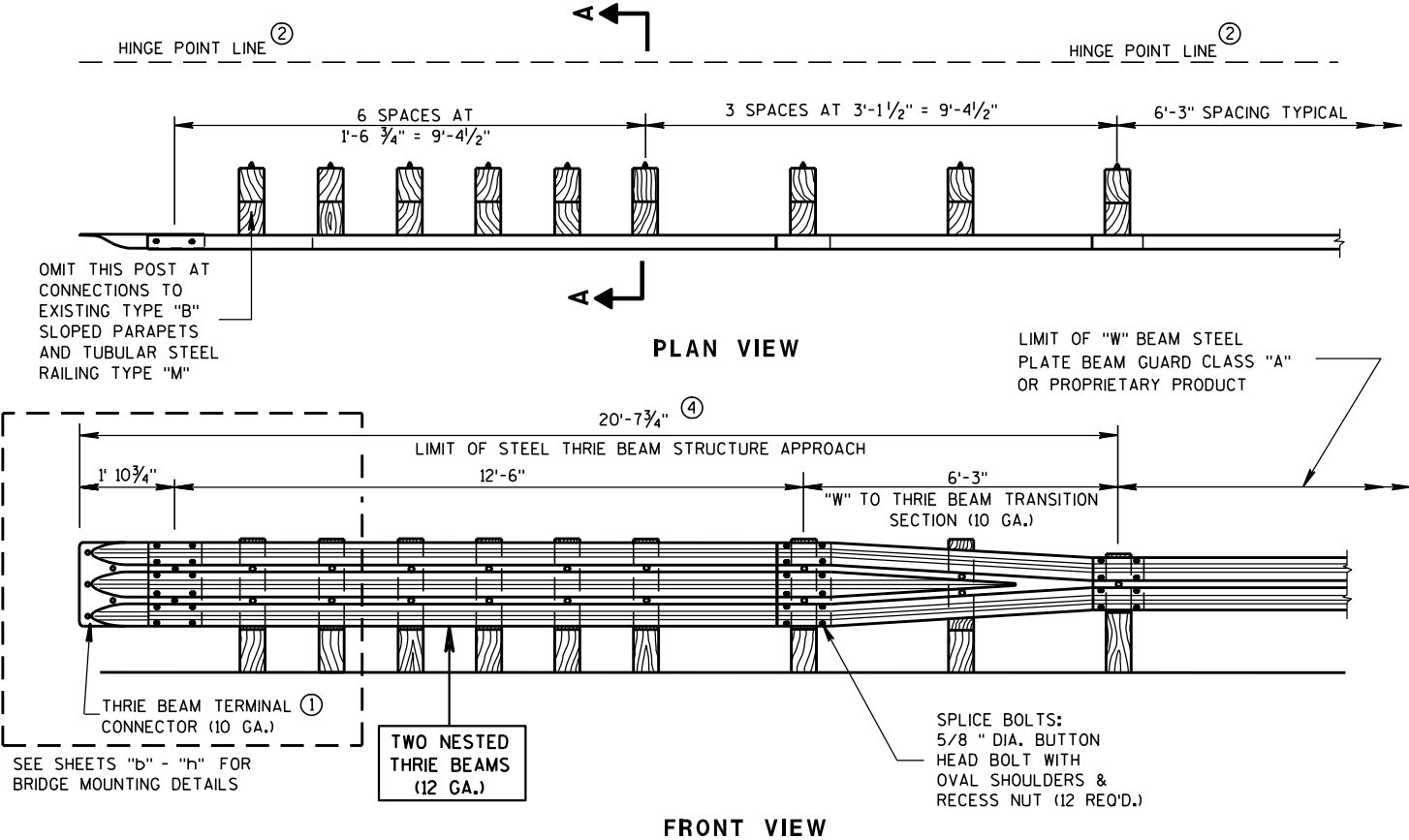
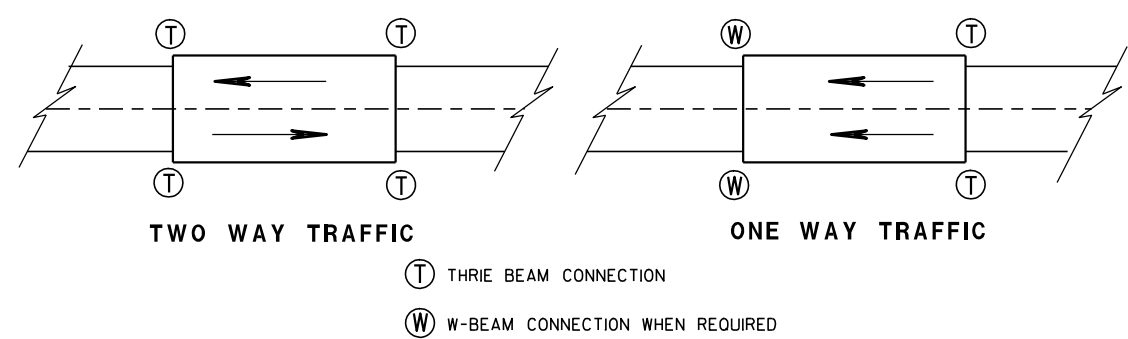


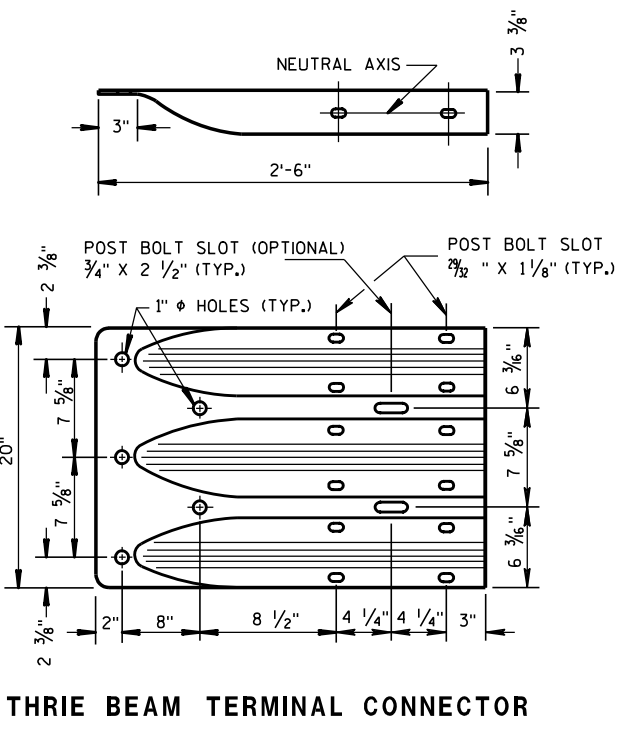
PLATE WASHER DETAIL

GENERAL NOTES

- BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS, DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".
- DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.
- IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.
- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- ③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.

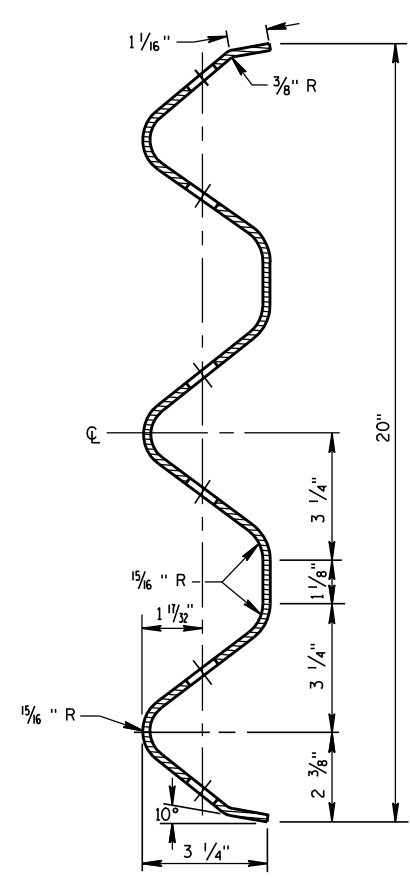


TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

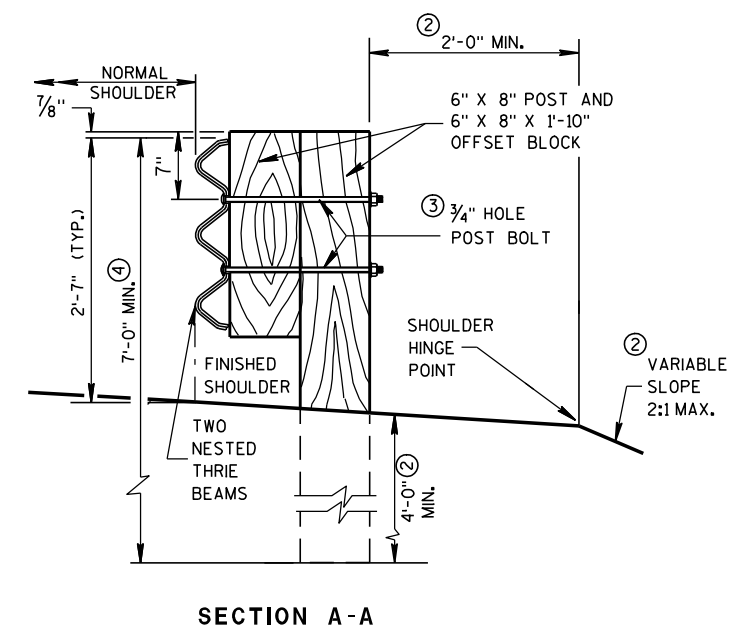


THRIE BEAM TERMINAL CONNECTOR

THRIE BEAM SPLICE

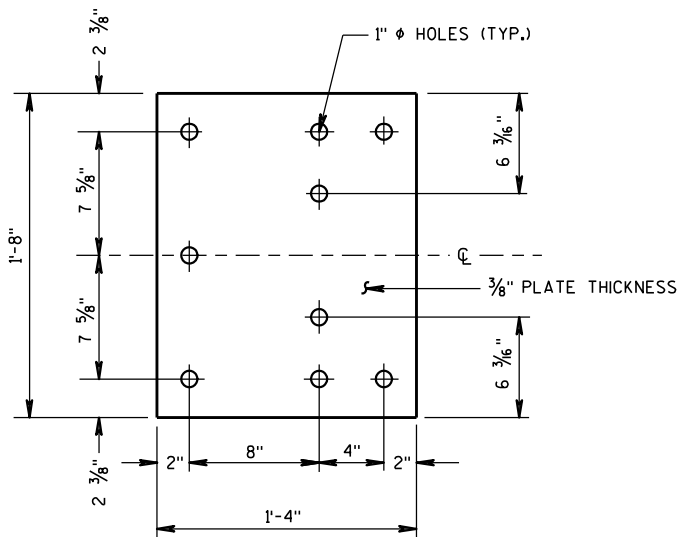


SECTION THRU THRIE BEAM RAIL ELEMENT

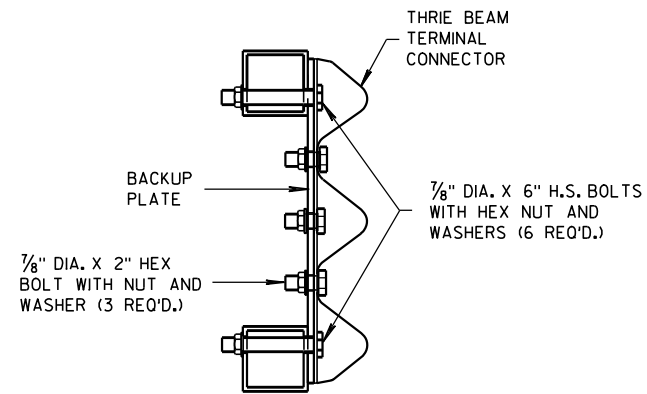


SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



BACK-UP PLATE DETAIL

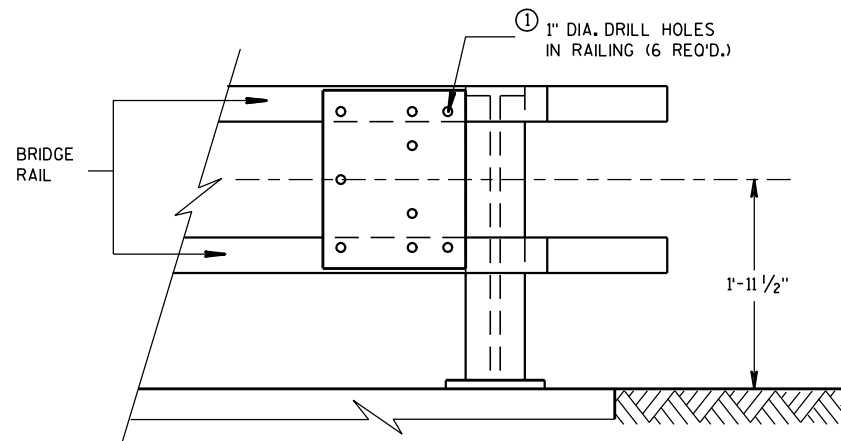


SECTION G-G

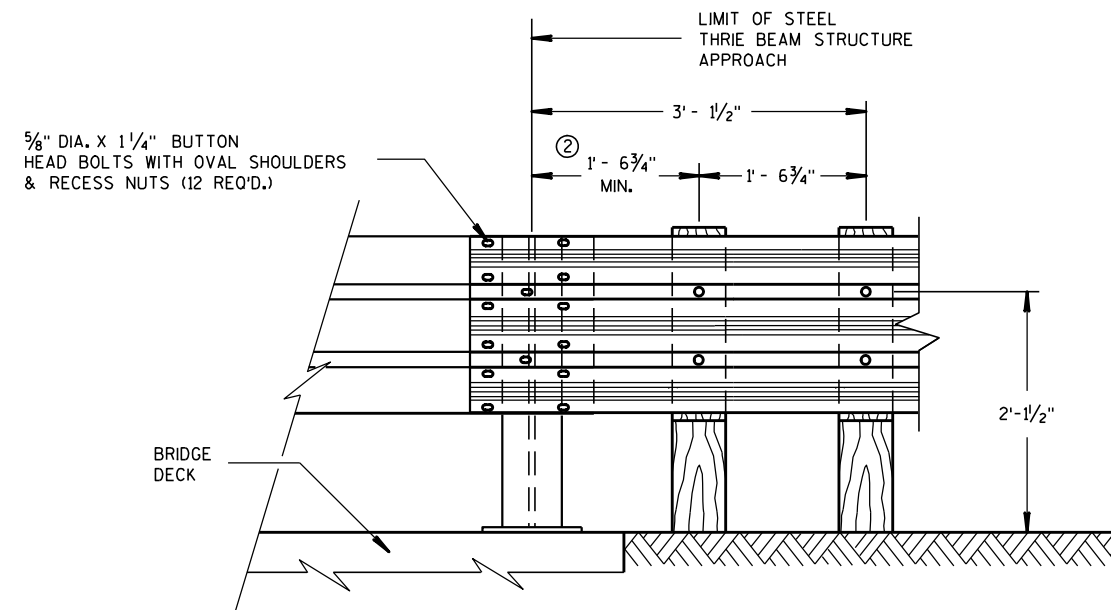
GENERAL NOTES

BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

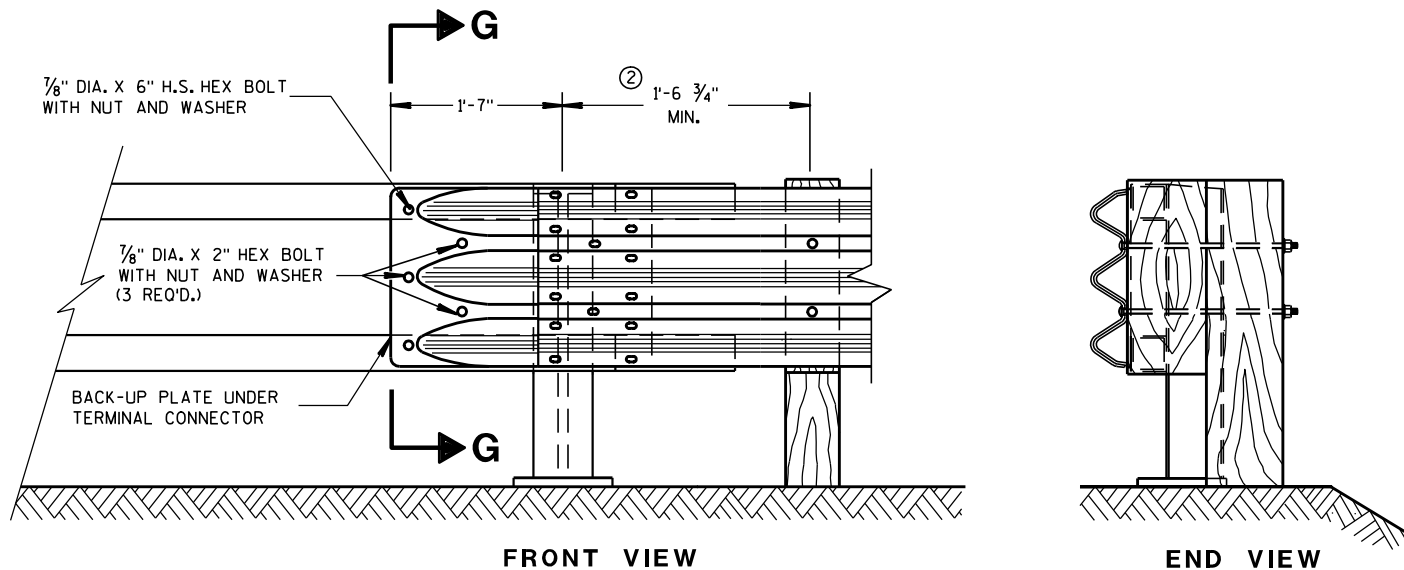
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



**FRONT VIEW
THRIE BEAM CONNECTION TO
STEEL RAILING TYPE "W"**



FRONT VIEW

END VIEW

**THRIE BEAM CONNECTION TO
TUBULAR RAILING TYPE "F"**

6

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S.D.D. 14 B 20-11e

S.D.D. 14 B 20-11e

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6 1/2"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

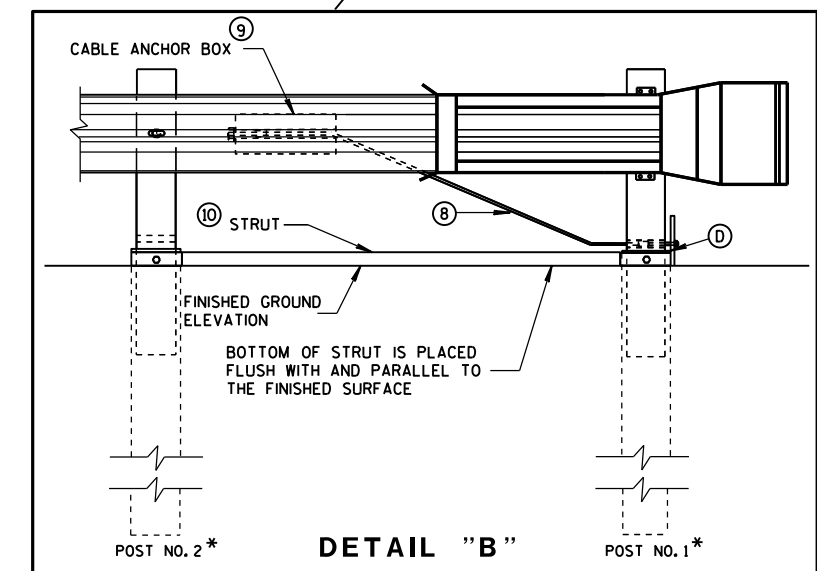
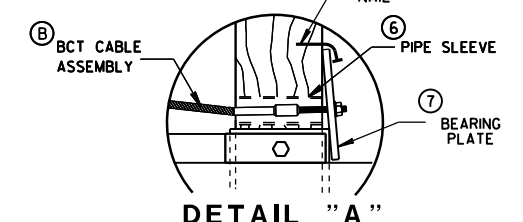
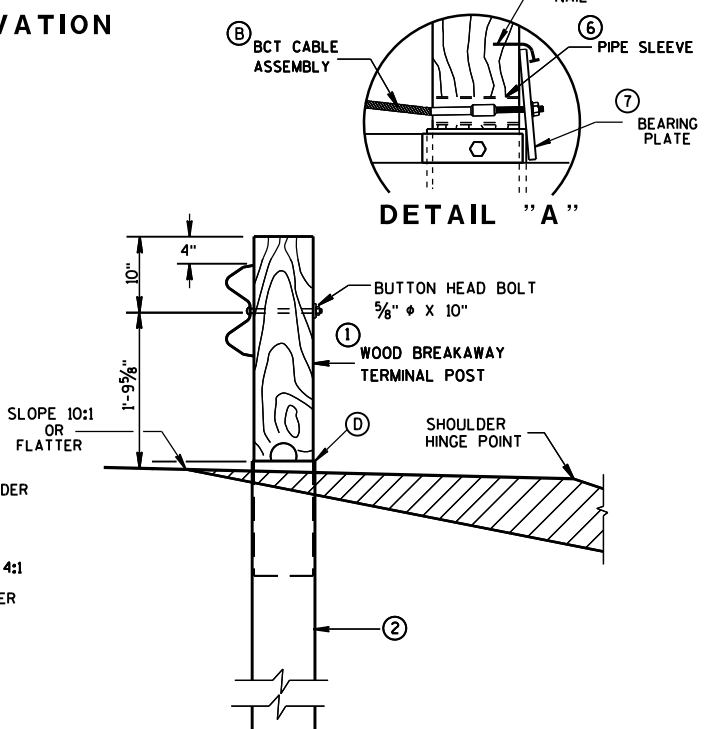
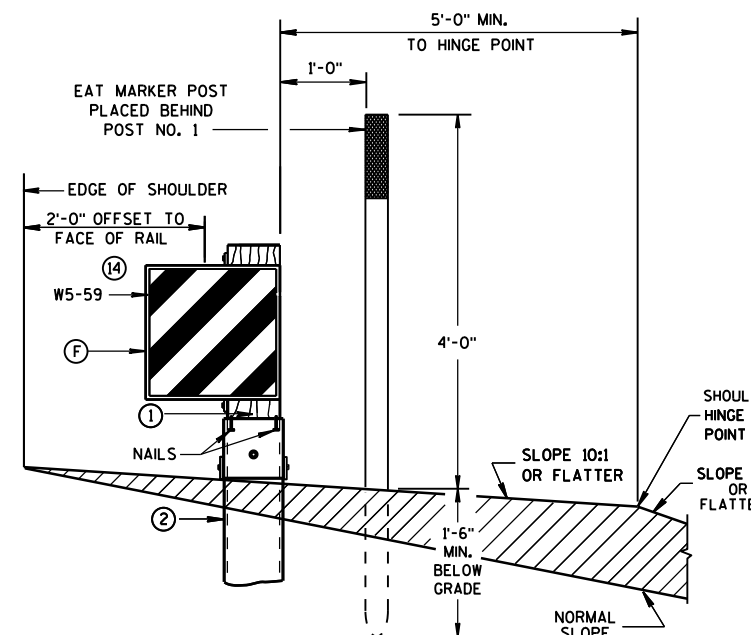
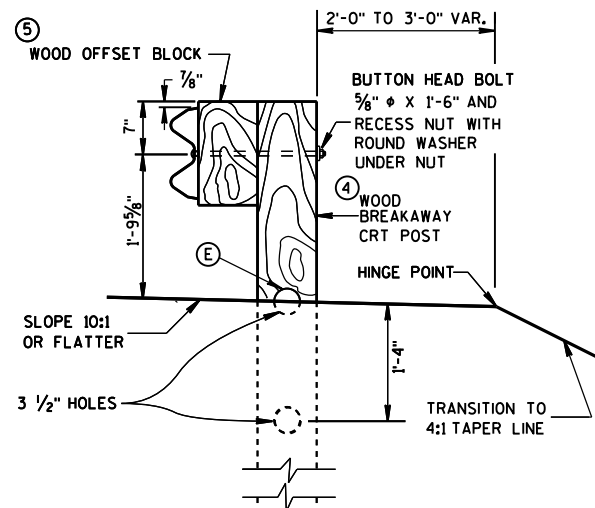
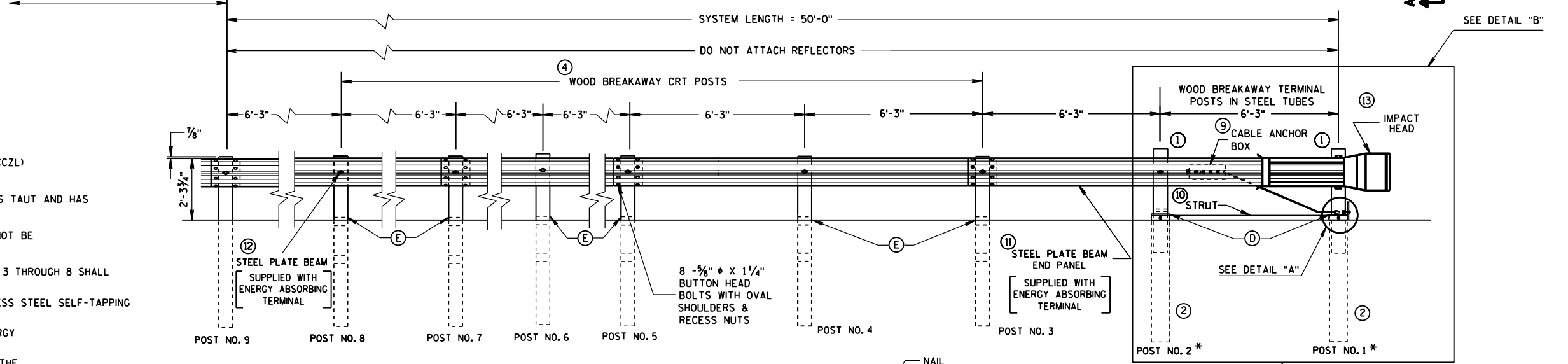
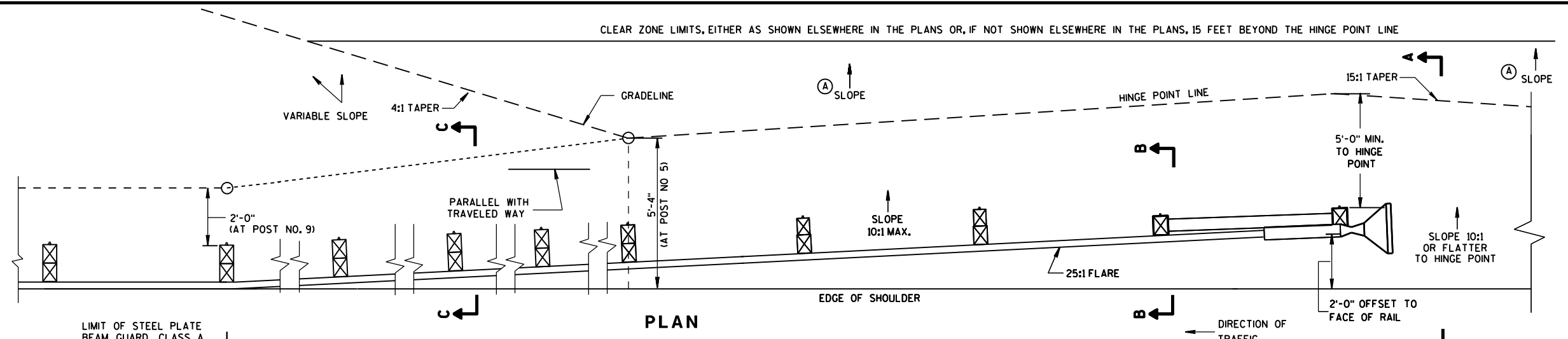
GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE 3/4" ABOVE THE FINISHED GROUND LINE.
- (F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

*DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.



**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

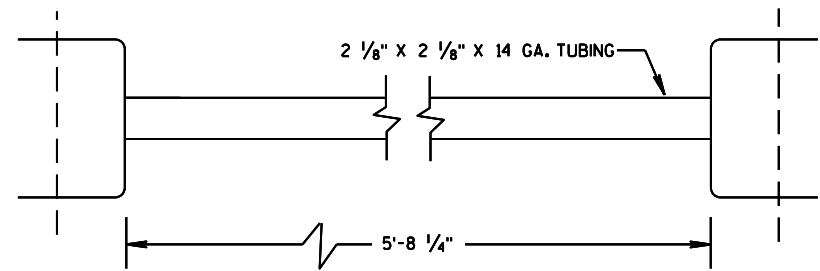
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

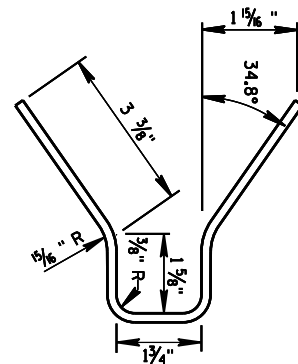
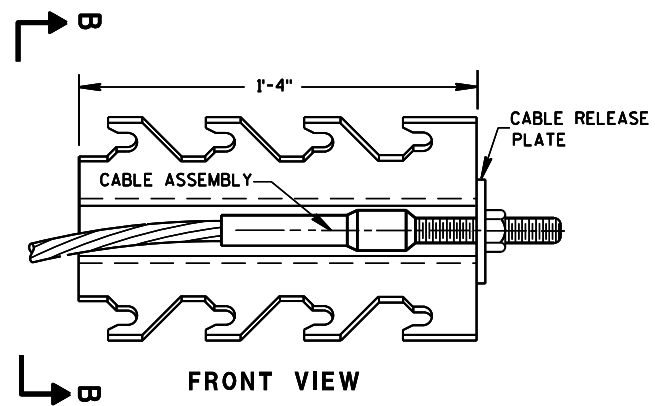
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S.D.D. 14 B 24-9a

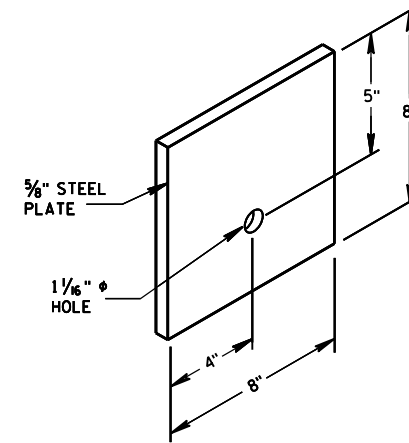
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



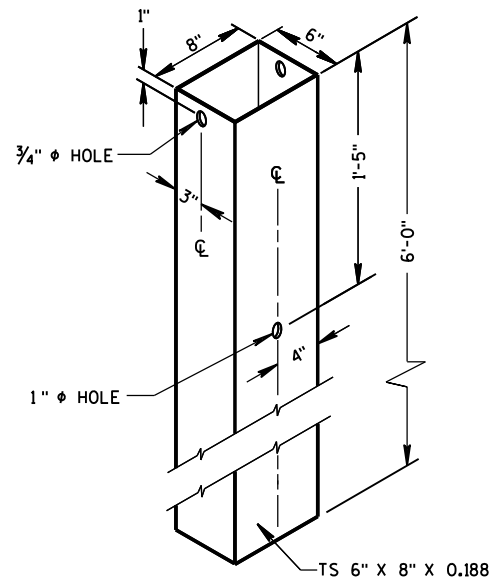
⑨ CABLE ANCHOR BOX



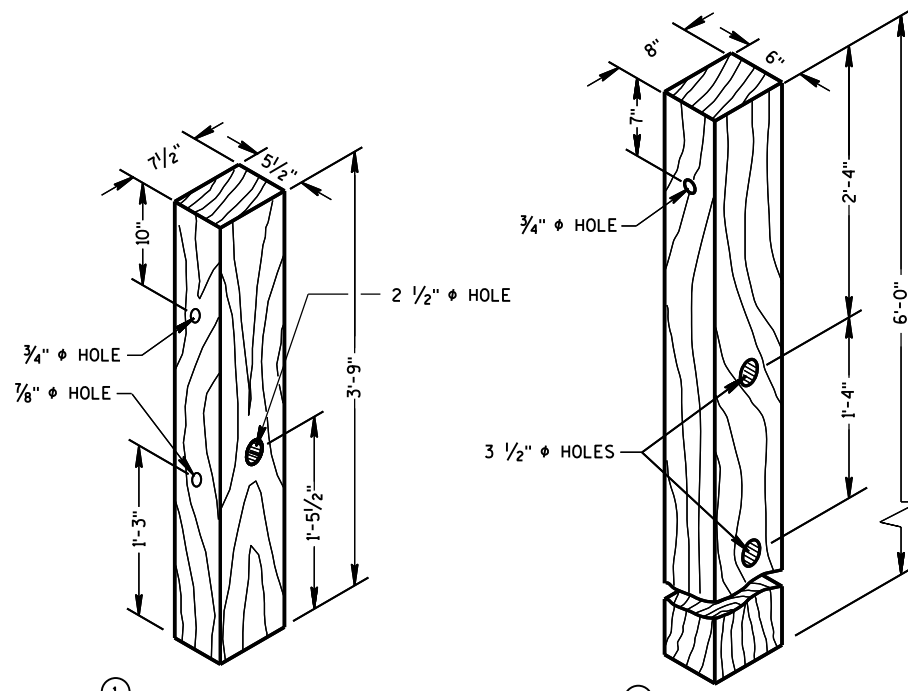
⑦ STEEL BEARING PLATE

6

6



② **72" STEEL TUBE**
(POSTS NO. 1-2)



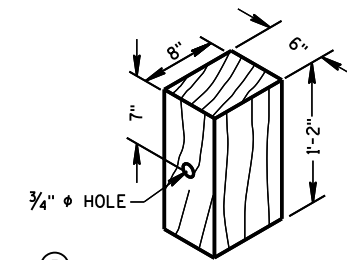
① **TERMINAL POST**

④ **CRT POST**
(POSTS NO'S 5-8)

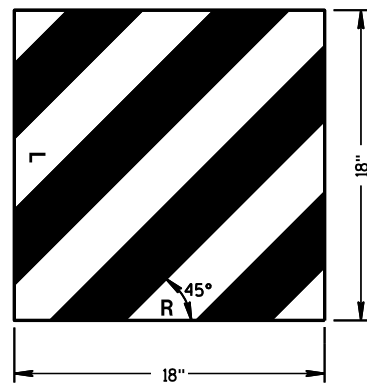
WOOD BREAKAWAY POSTS

GENERAL NOTES

WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

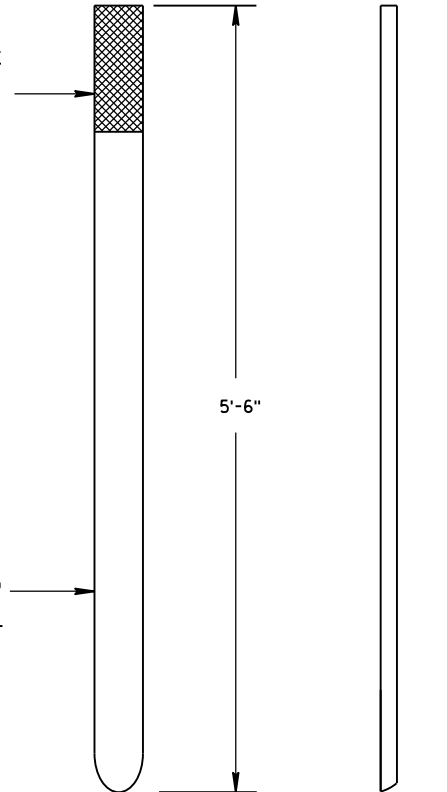


⑤ **WOOD OFFSET BLOCK**
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ **REFLECTIVE SHEETING DETAILS**

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



E.A.T. MARKER
POST (YELLOW)
SEE APPROVED
PRODUCTS LIST

FRONT VIEW SIDE VIEW

E.A.T. MARKER POST

**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

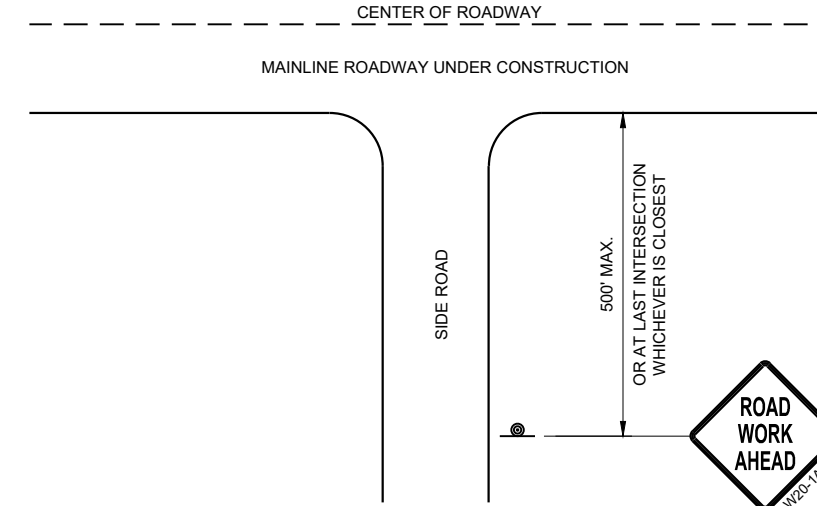
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

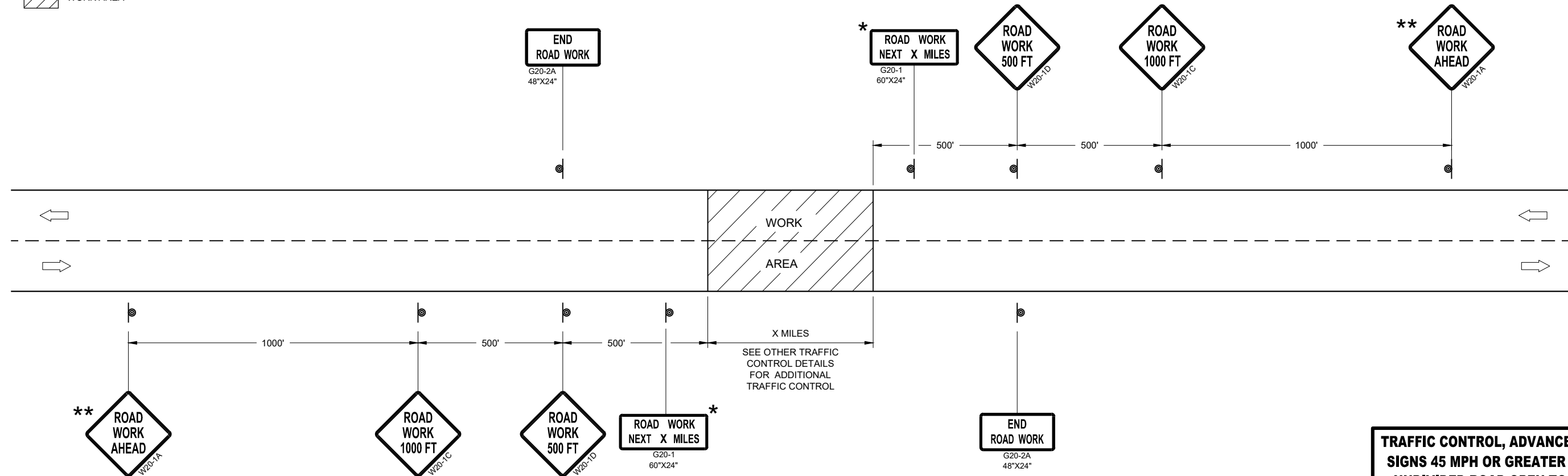
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL



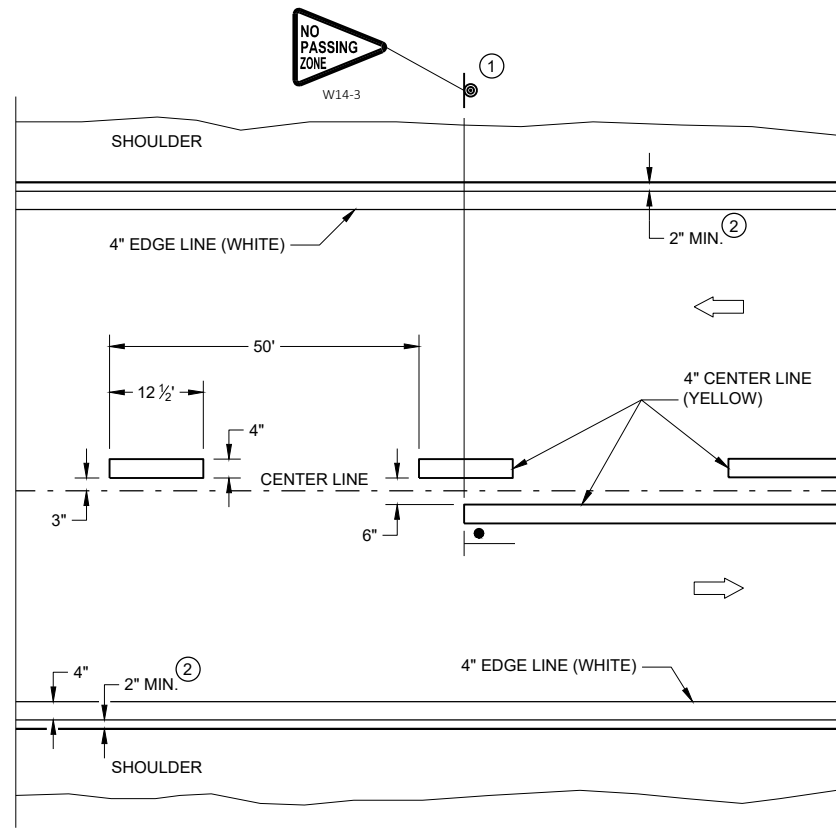
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

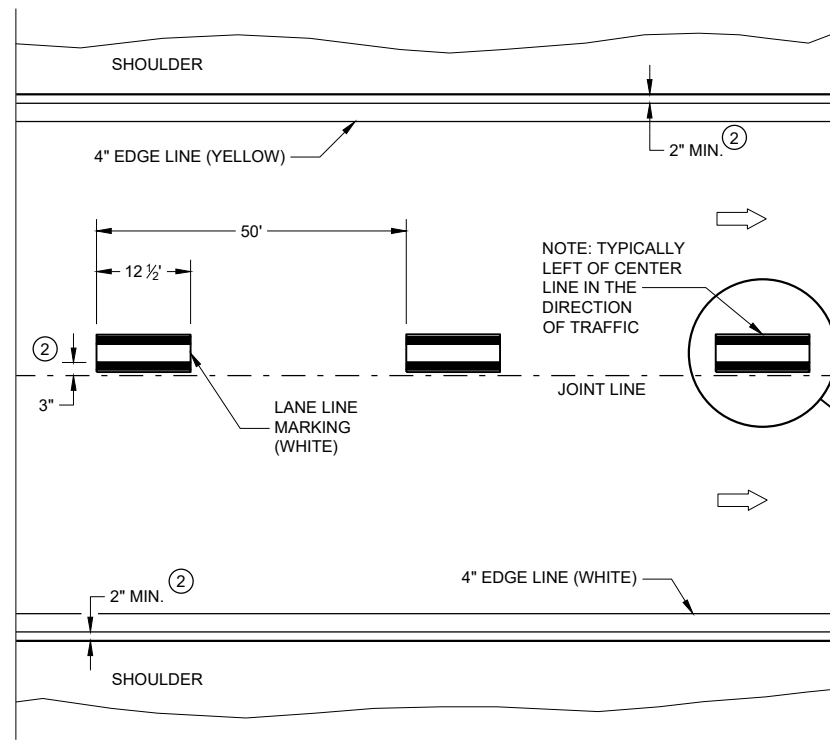
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE July 2018 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

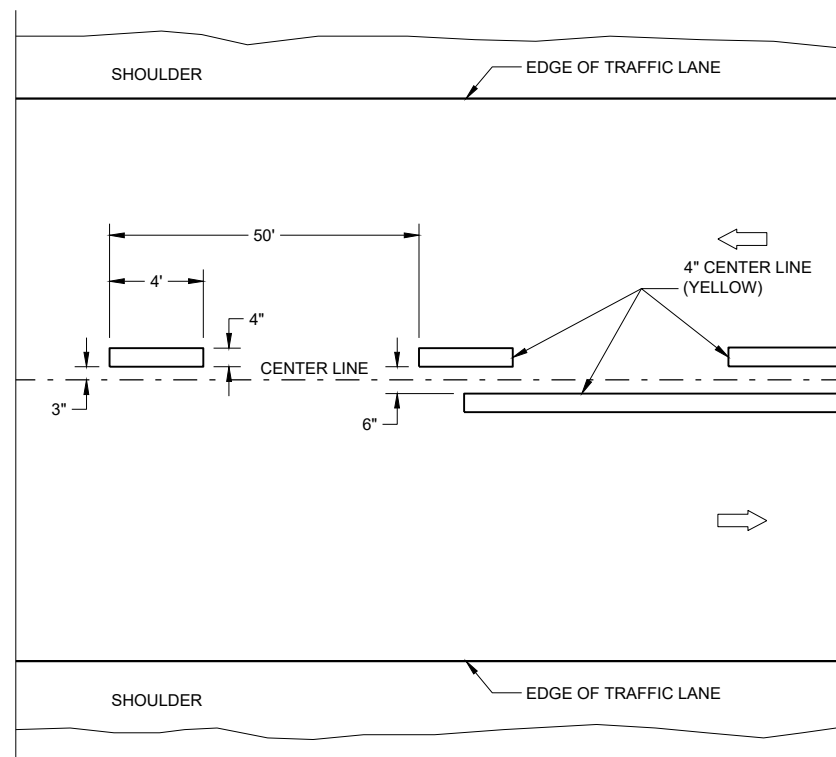


TWO WAY TRAFFIC

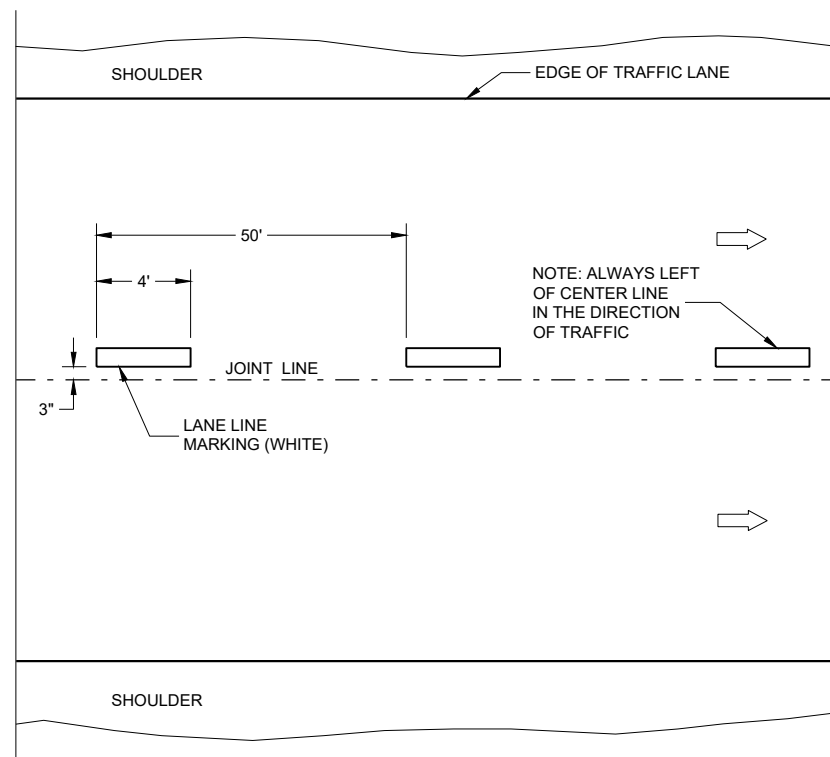


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

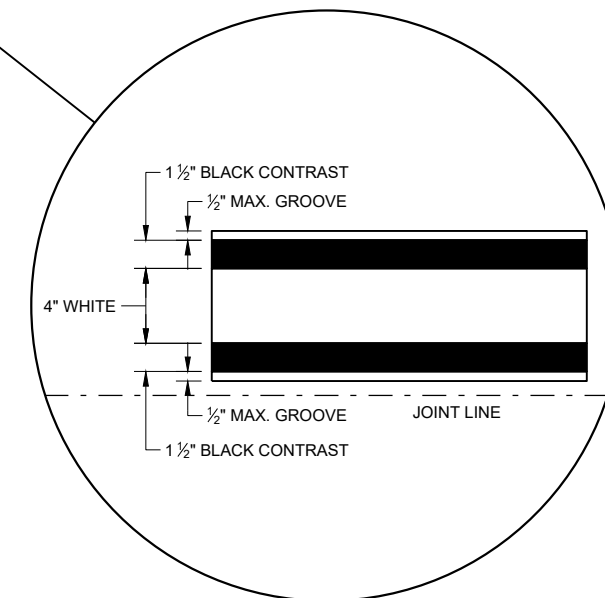
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

- |• "T" MARKING
- ⊙ SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

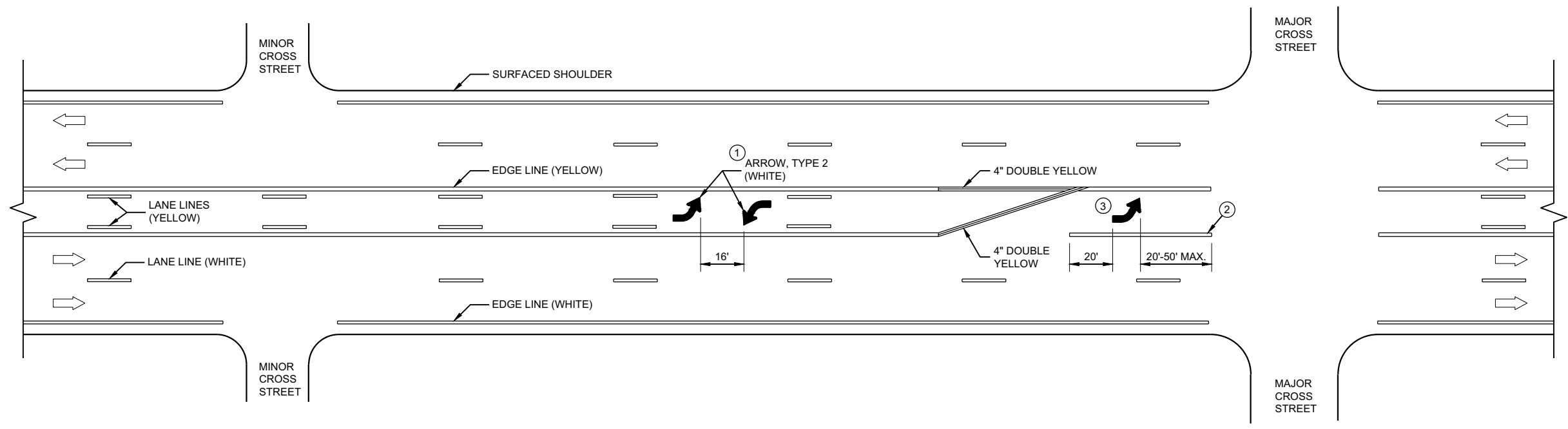
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Matthew Rauch
DATE STATEWIDE SIGNING AND MARKING
ENGINEER

GENERAL NOTES

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 8" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

➡ DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

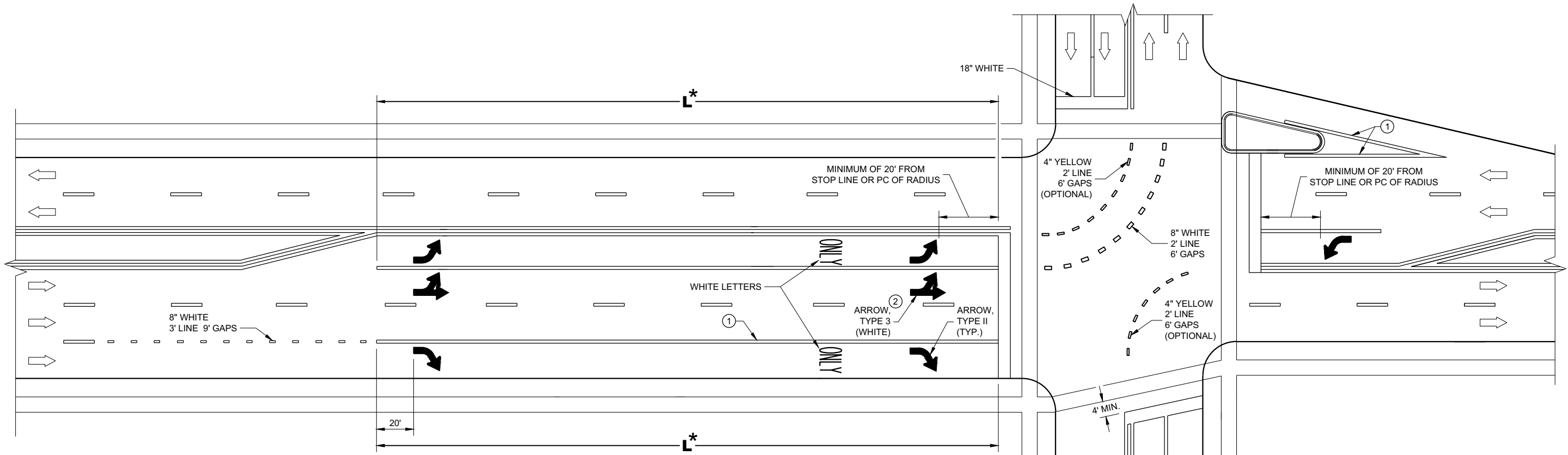
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SDD 15C08 - 20b

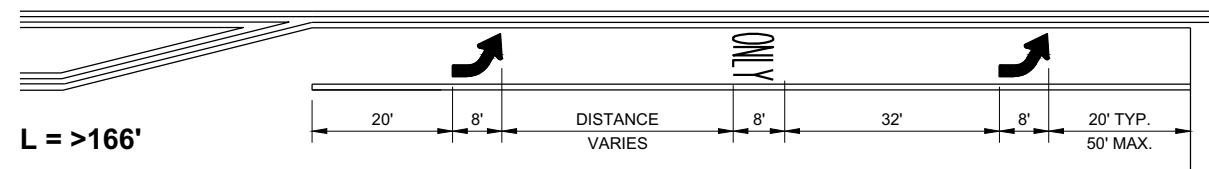
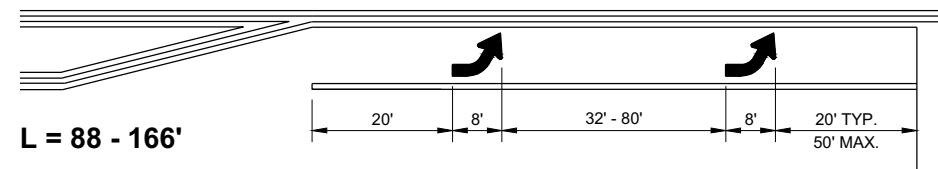
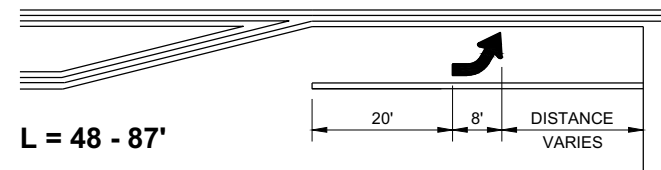
SDD 15C08 - 20b

<p>PAVEMENT MARKING (TURN LANES)</p>
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>



TURN LANE OPTIONS

LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



*(SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

GENERAL NOTES

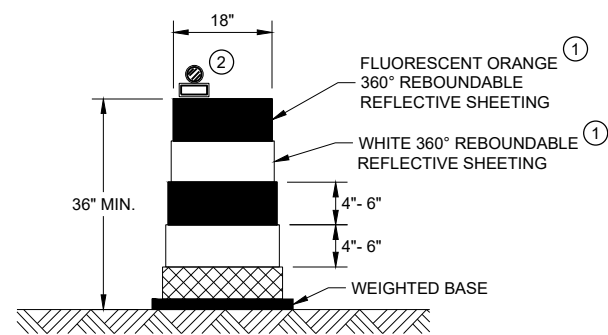
- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

➡ DIRECTION OF TRAFFIC

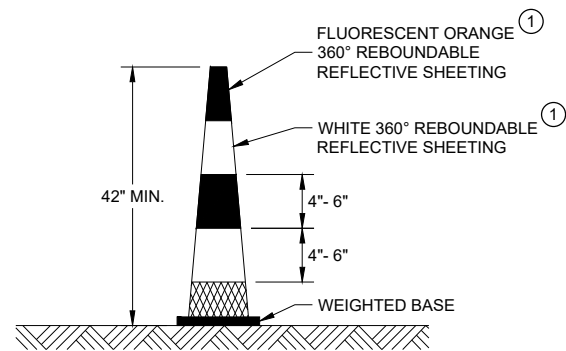
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

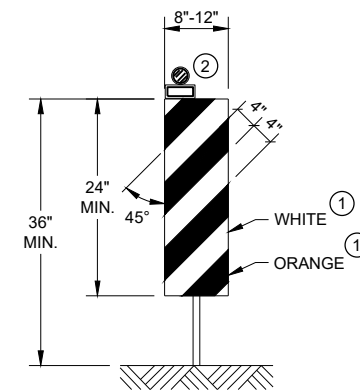


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

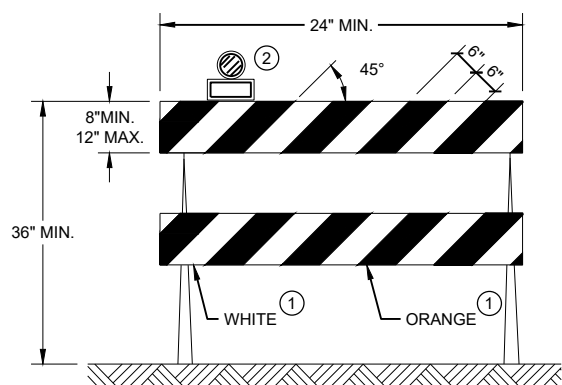


VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.

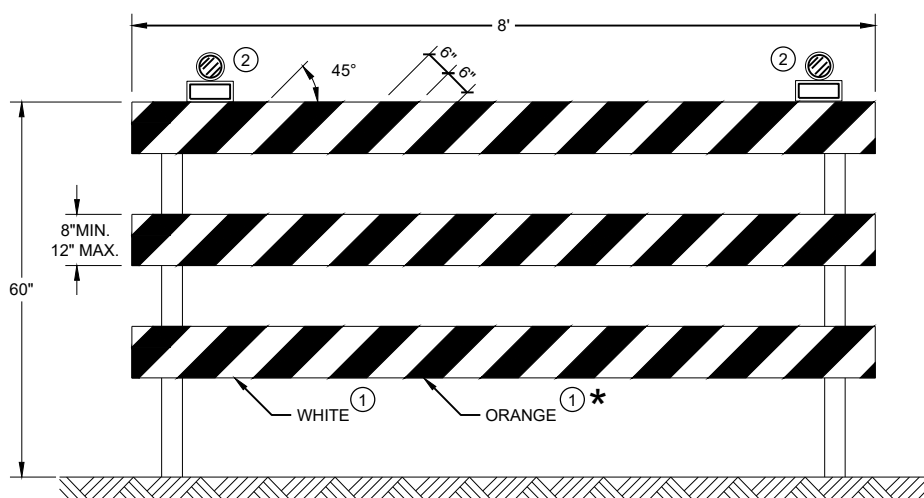
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.






* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**CHANNELIZING DEVICES
 DRUMS, CONES, BARRICADES
 AND VERTICAL PANELS**

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 May 2021 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER

LEGEND

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

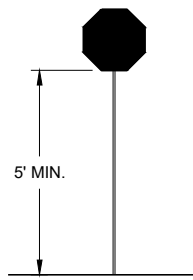
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



STOP/SLOW PADDLE ON SUPPORT STAFF

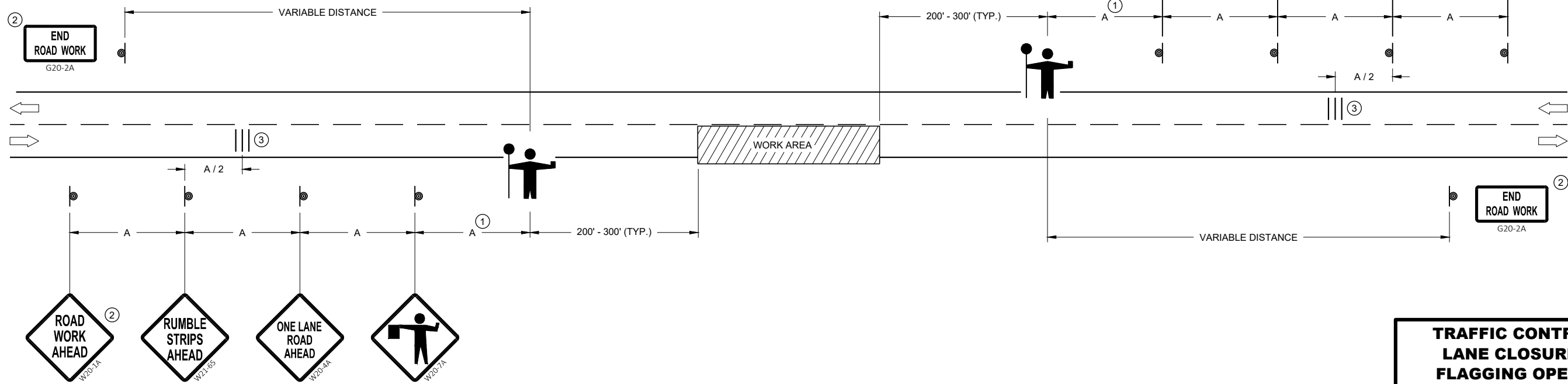
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



W03-4

USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".







TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

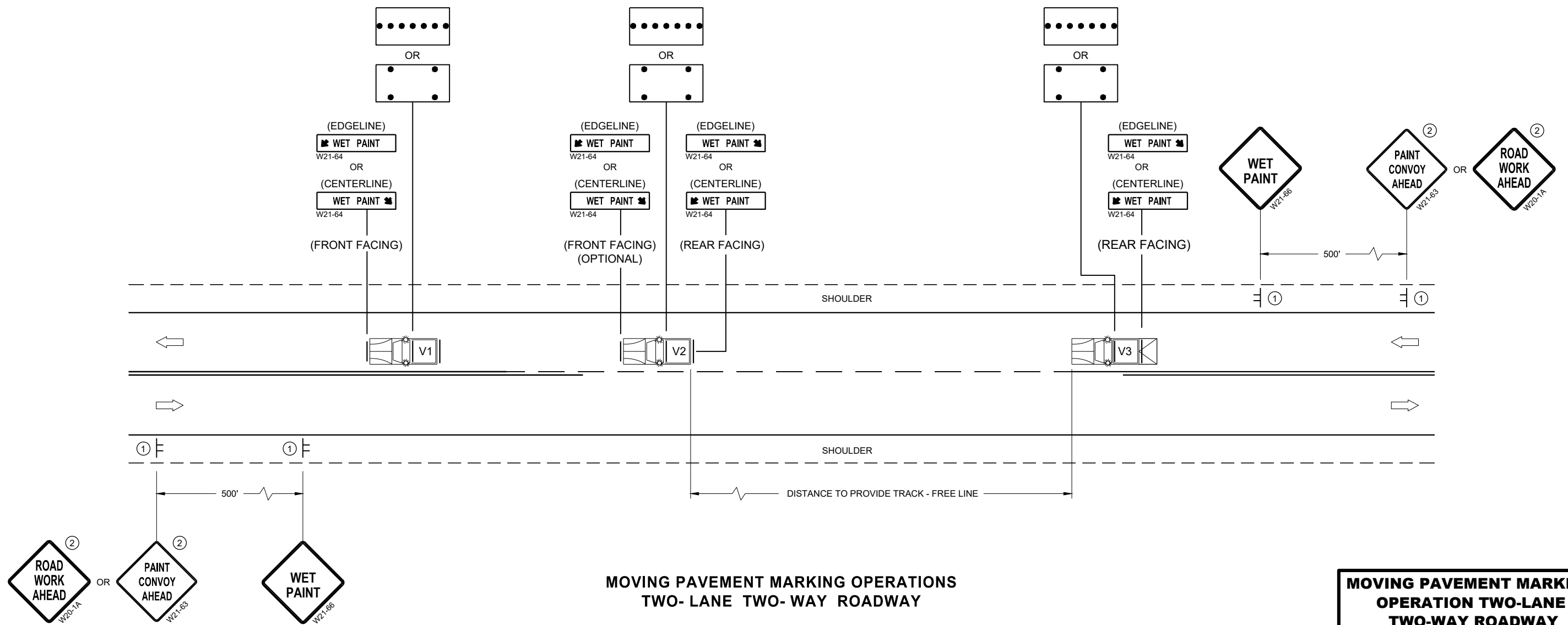
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING.

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

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**MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY**

SDD 15C19 - 06a

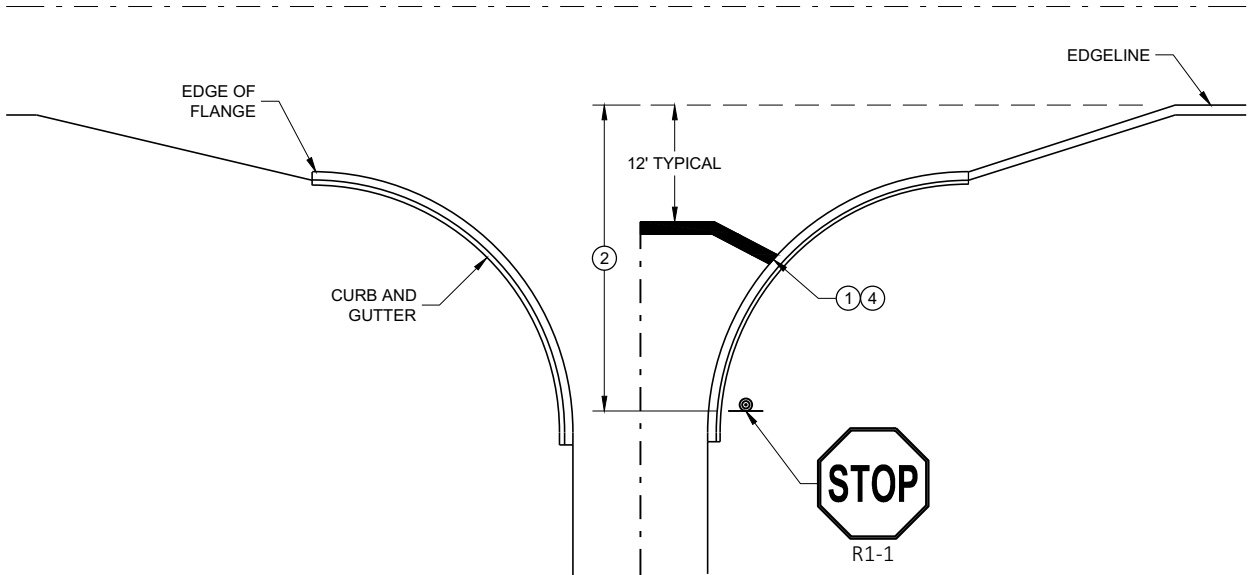
SDD 15C19 - 06a

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

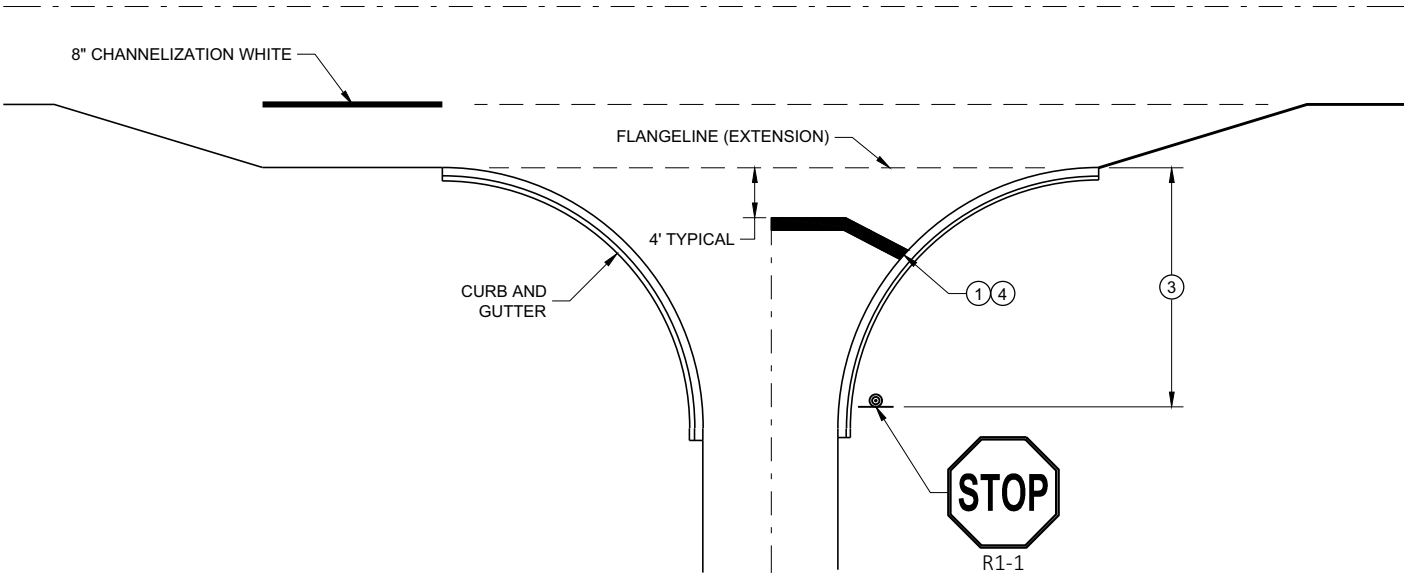
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

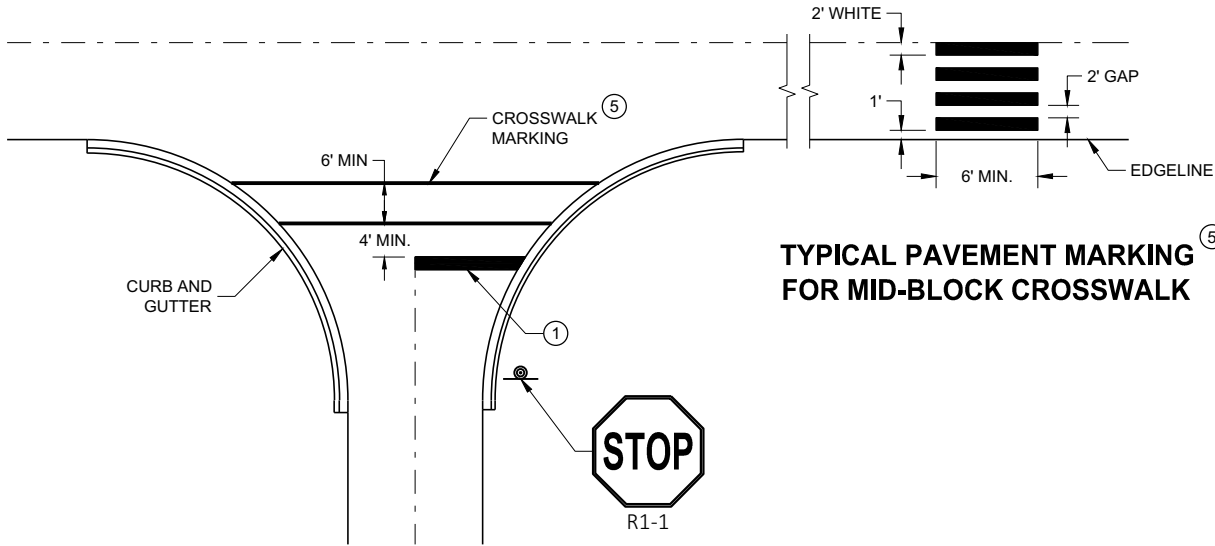
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

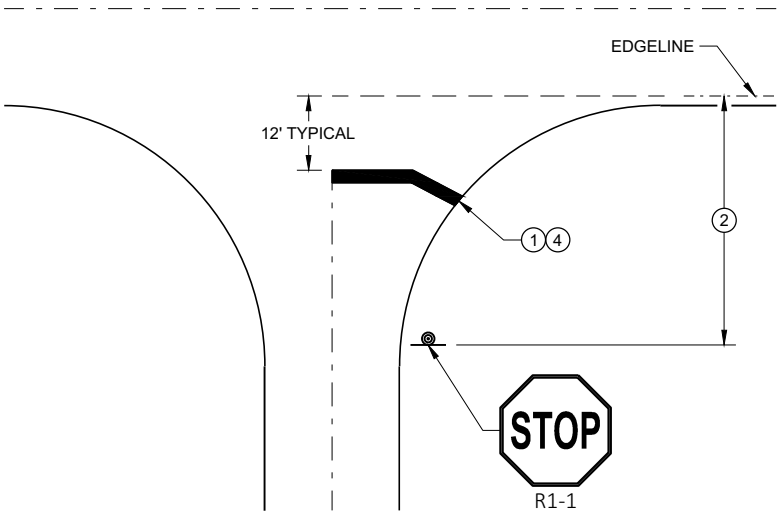


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA

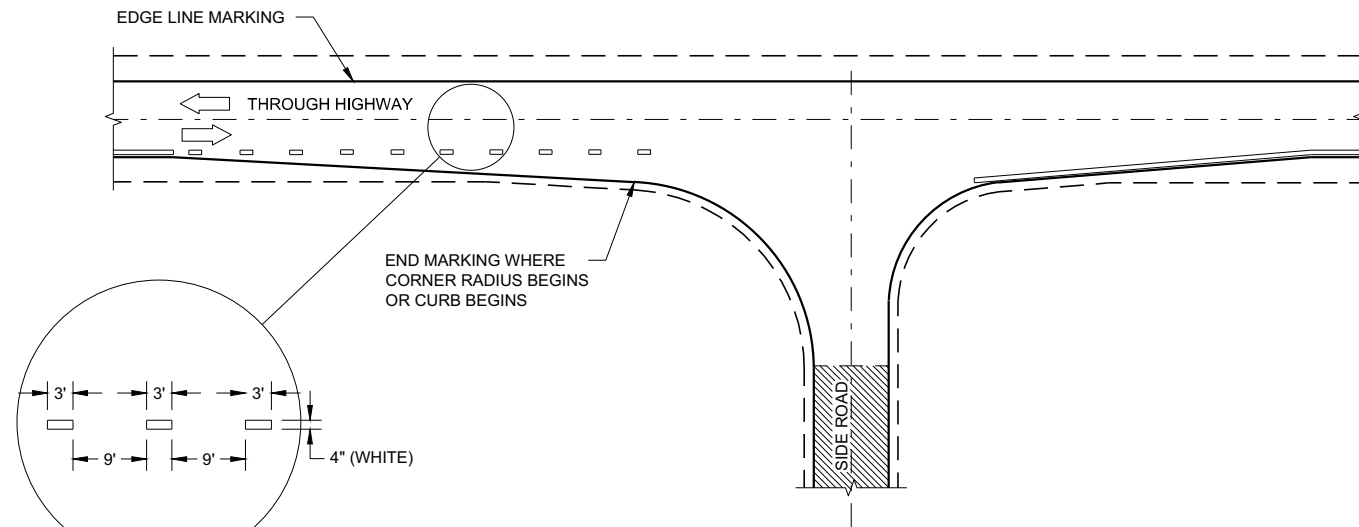
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

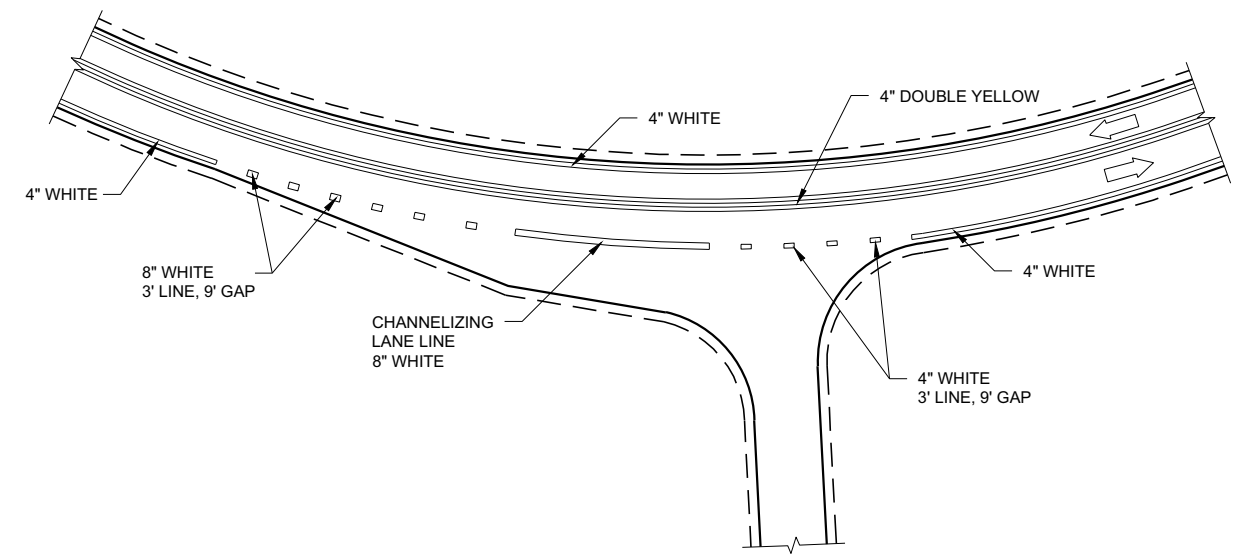
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

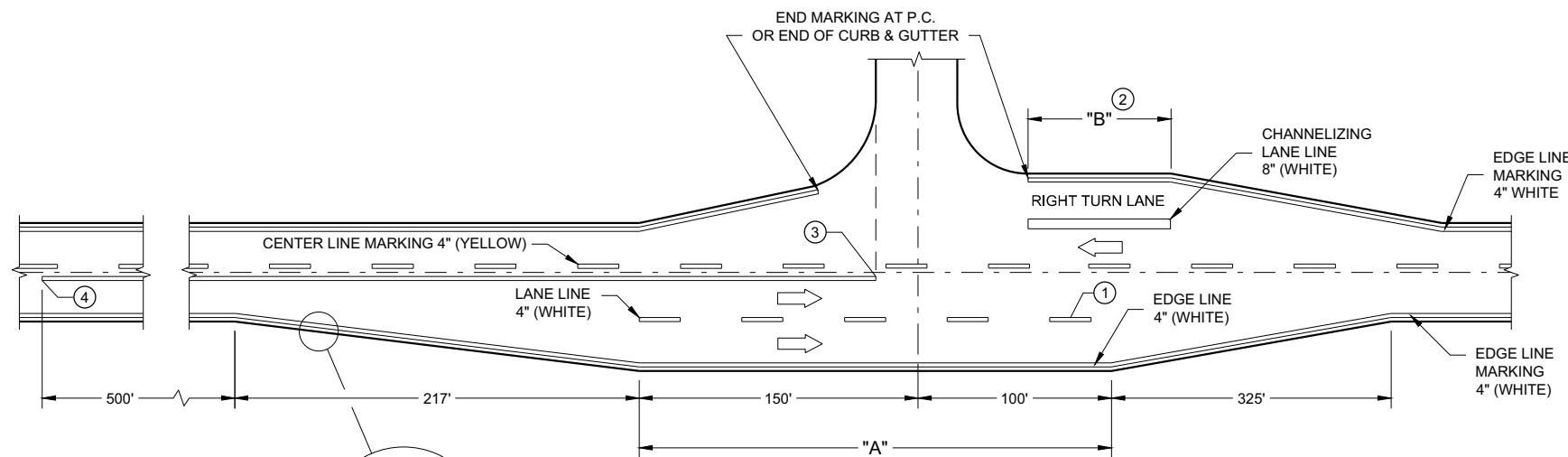
➔ DIRECTION OF TRAVEL



MINOR INTERSECTION



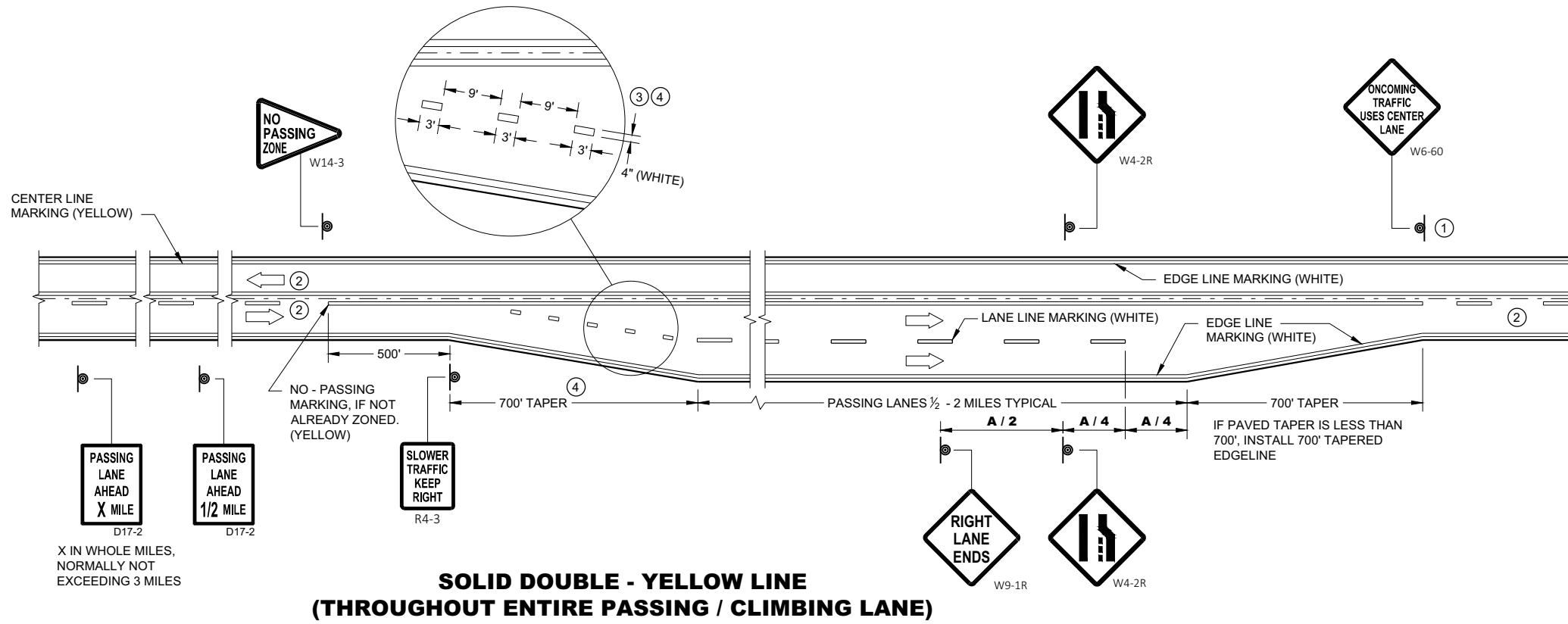
INTERSECTION ON OUTSIDE OF CURVE



**MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)**

**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**SOLID DOUBLE - YELLOW LINE
(THROUGHOUT ENTIRE PASSING / CLIMBING LANE)**

X IN WHOLE MILES,
NORMALLY NOT
EXCEEDING 3 MILES

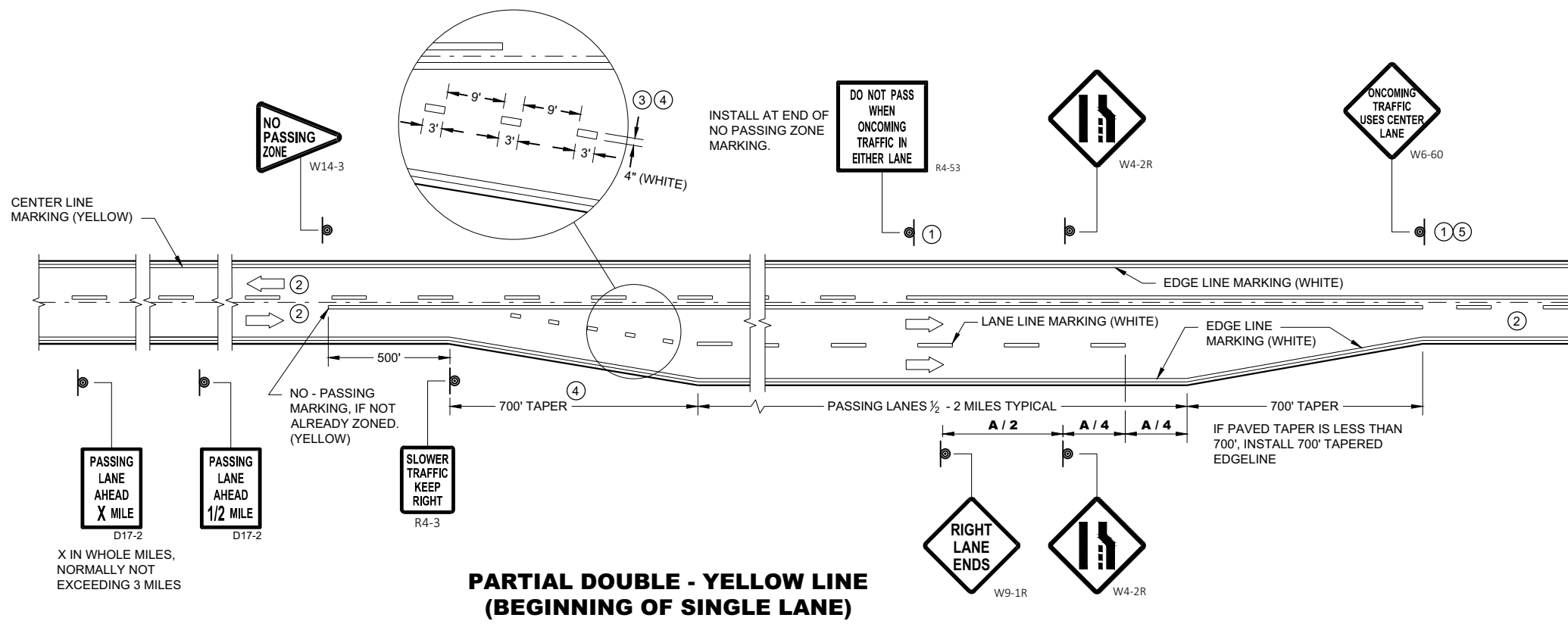
GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- ⑤ REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

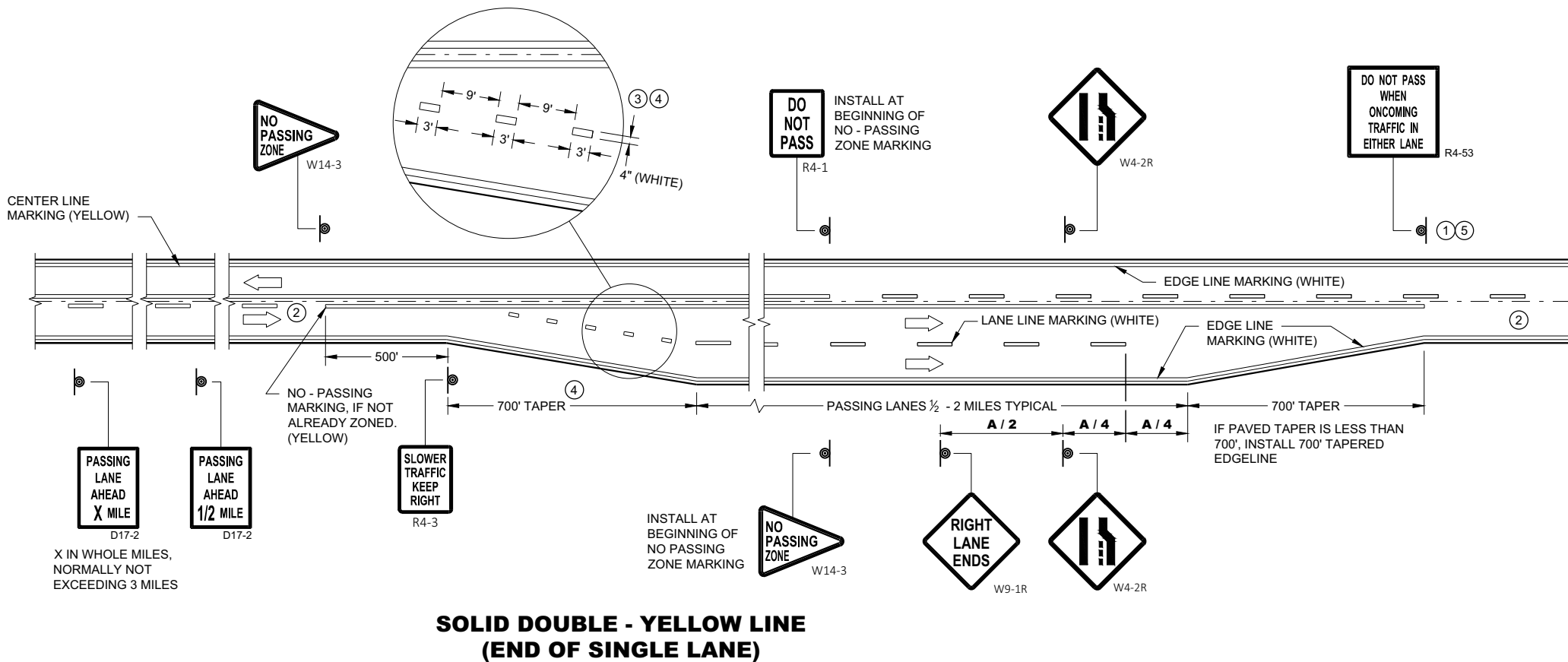


**PARTIAL DOUBLE - YELLOW LINE
(BEGINNING OF SINGLE LANE)**

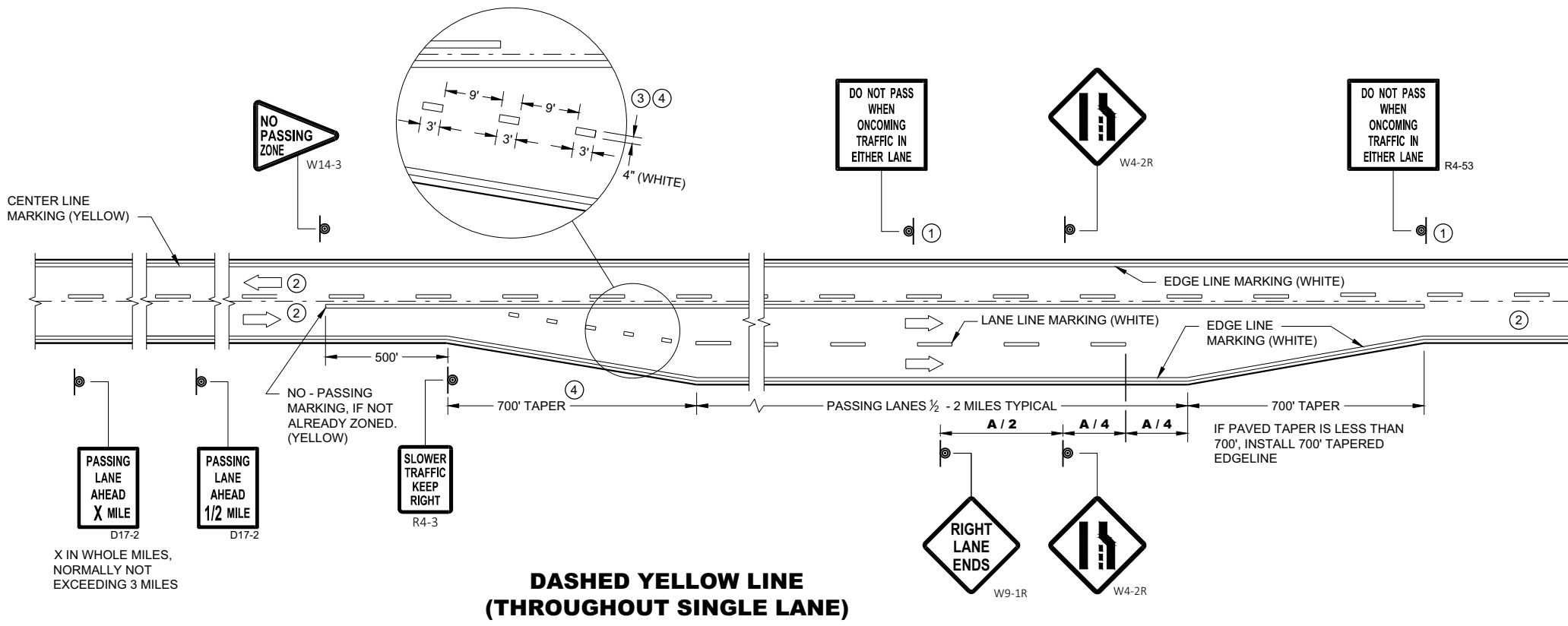
X IN WHOLE MILES,
NORMALLY NOT
EXCEEDING 3 MILES

**PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**SOLID DOUBLE - YELLOW LINE
(END OF SINGLE LANE)**



**DASHED YELLOW LINE
(THROUGHOUT SINGLE LANE)**

GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- ⑤ REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990





**PAVEMNET MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

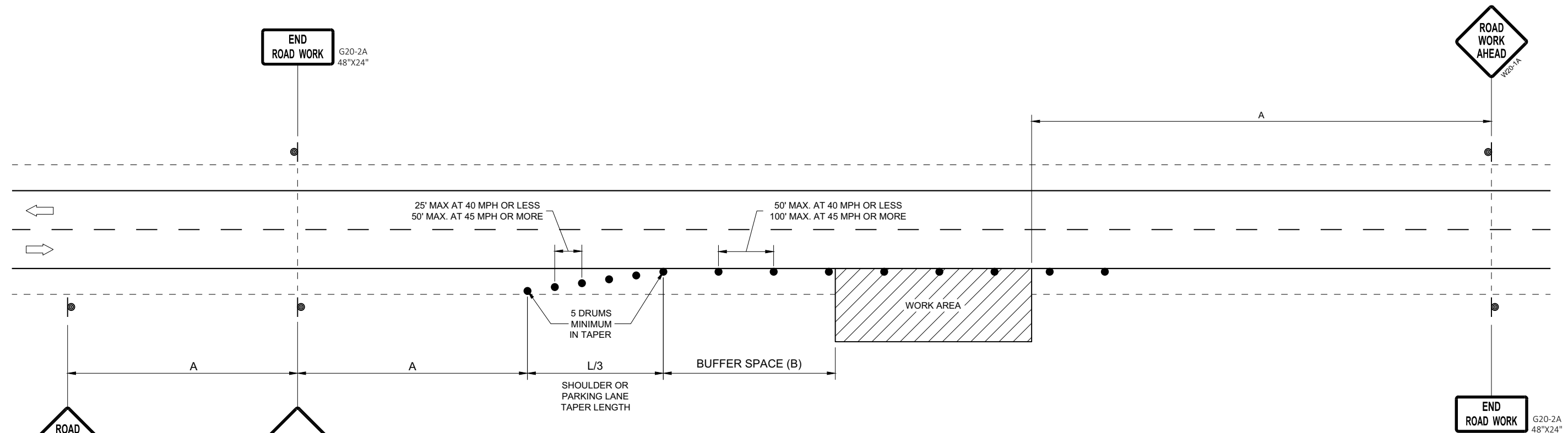
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

6



OR
IF TRAFFIC CONTROL DEVICES
ENCROACH ONTO TRAVELED WAY, USE

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

**TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY**

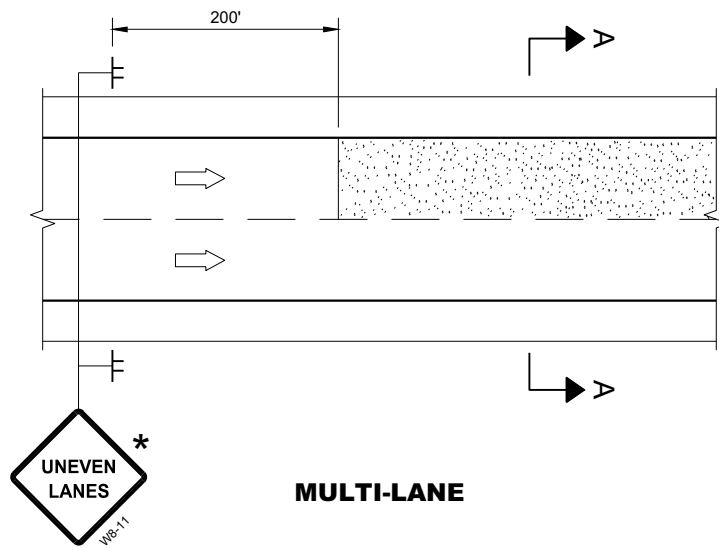
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

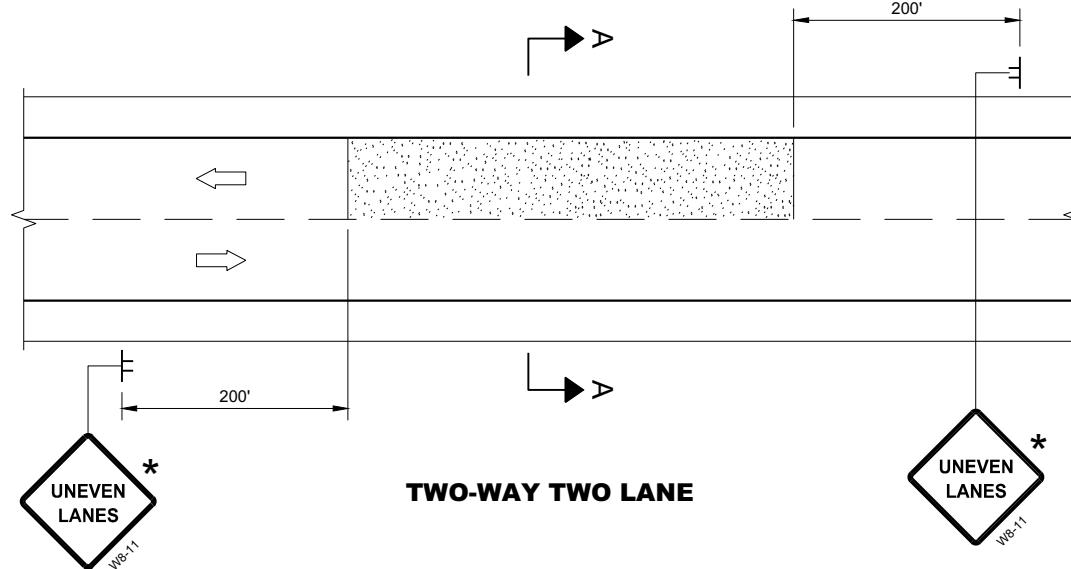
FHWA

SDD 15D28 - 04

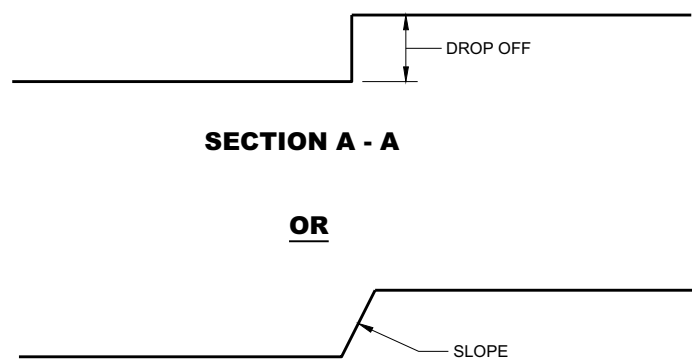
SDD 15D28 - 04



MULTI-LANE



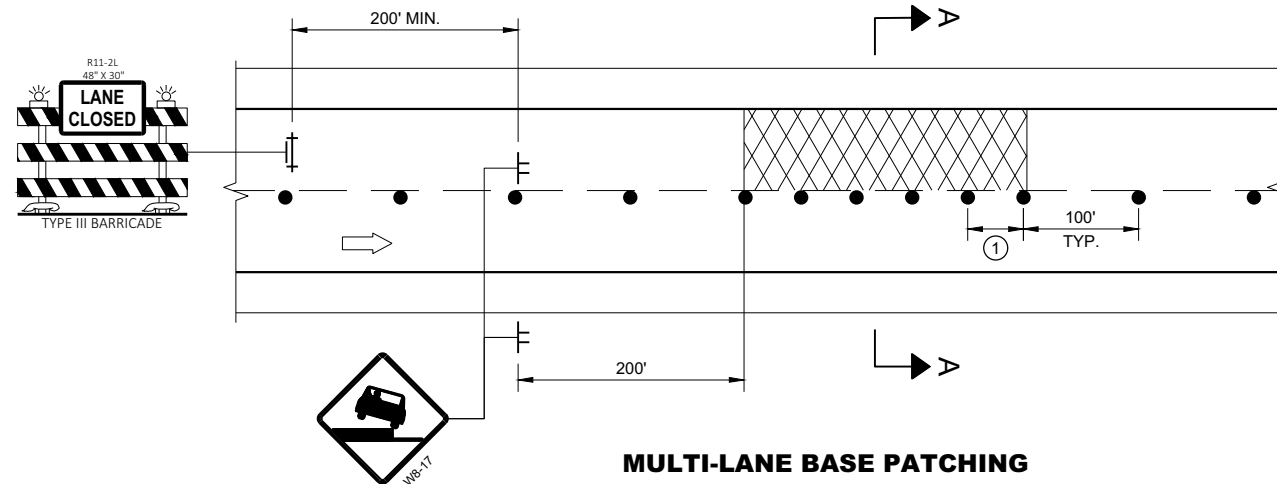
TWO-WAY TWO LANE



SECTION A - A

OR

SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

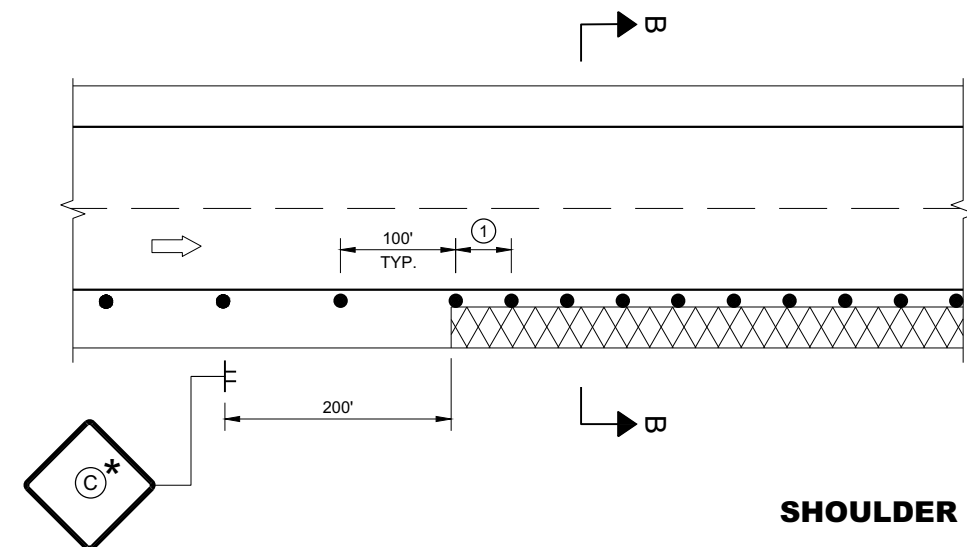
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- * IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.
- ① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

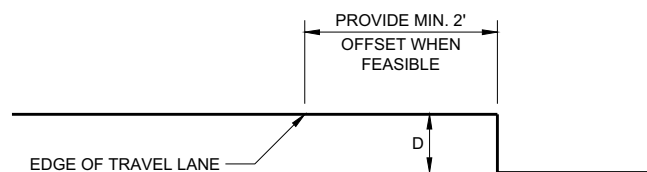
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

6

6



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

SDD 15D39 - 02

SDD 15D39 - 02

**TRAFFIC CONTROL,
DROP-OFF SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.



THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

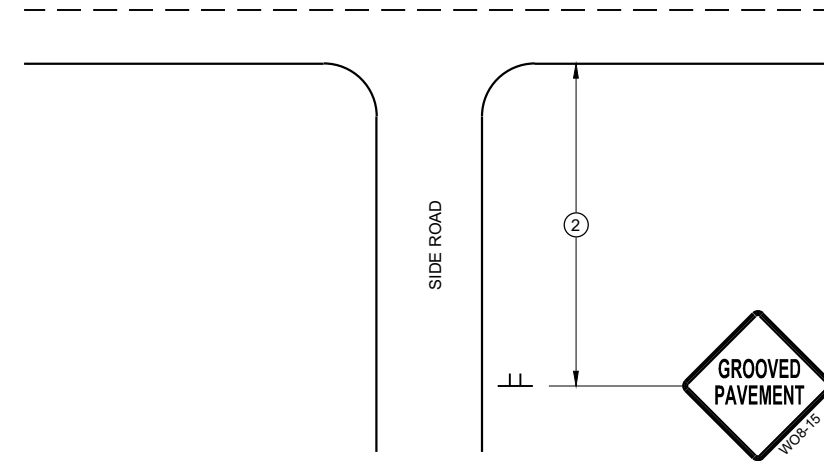
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

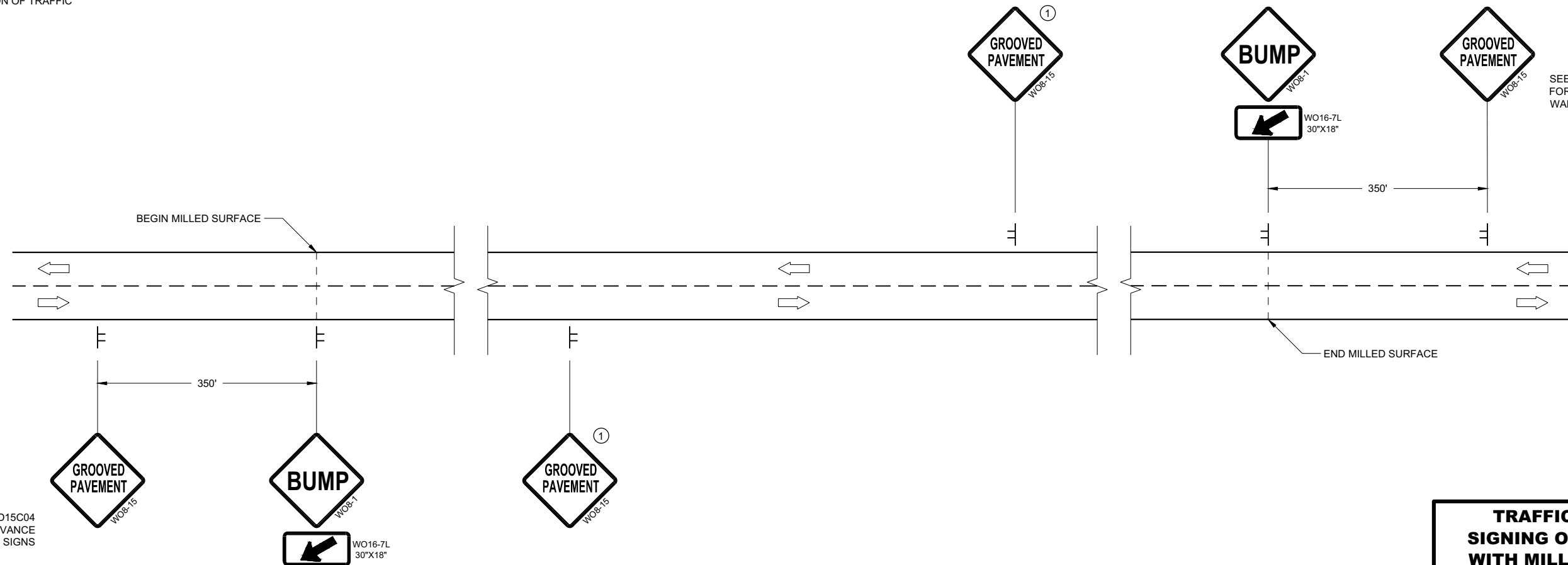
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

DETAIL FOR SIGNING ON MILLED SURFACES





TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

- V1 WORK VEHICLE
- V2 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  FLASHING ARROW PANEL (CAUTION)
-  WORK AREA
-  DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

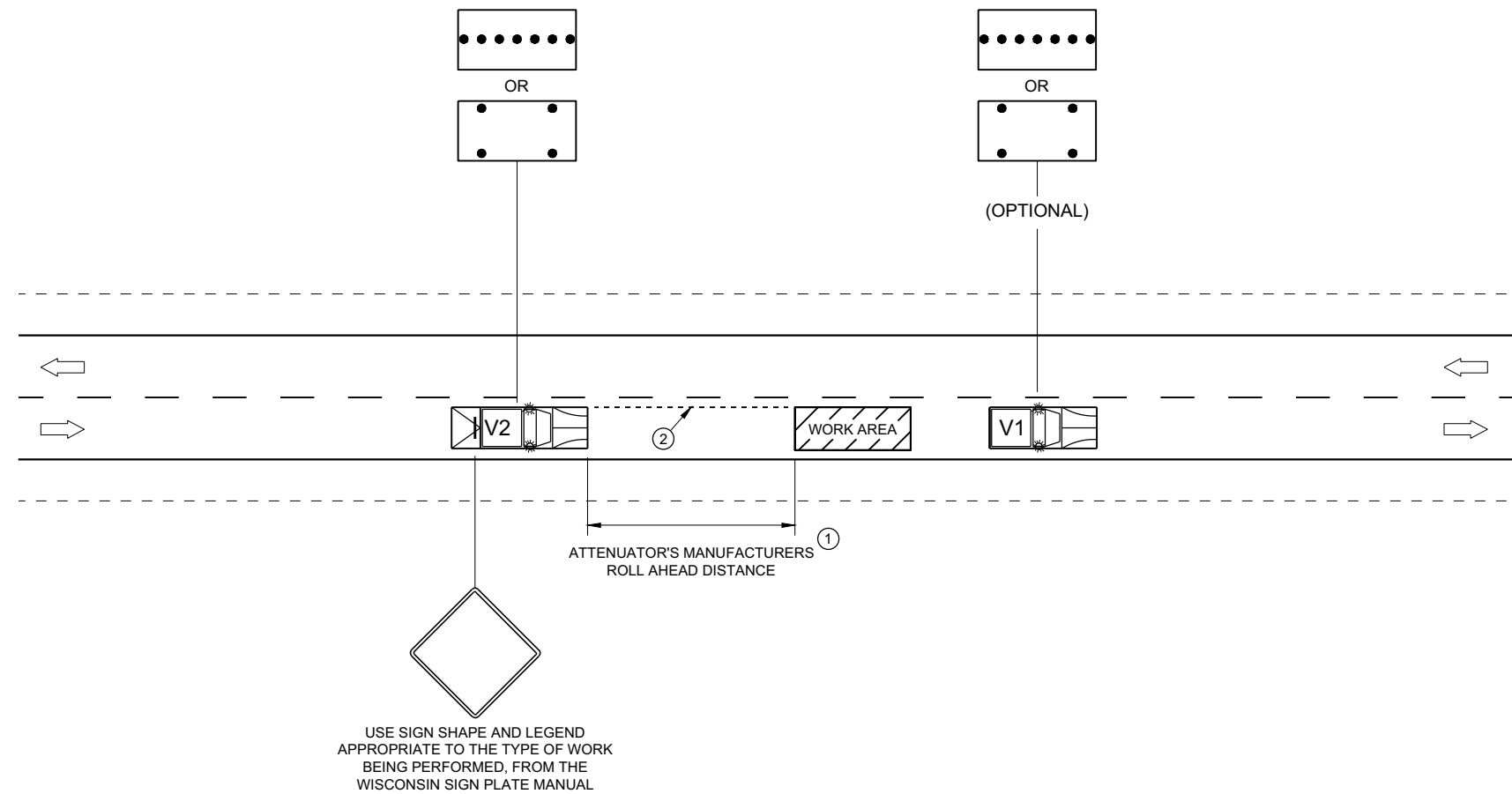
MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

- ① DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ② ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



6

6

SDD 15D51 - 01

SDD 15D51 - 01

**TRAFFIC CONTROL,
MOBILE OPERATIONS ON
AN UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 DATE /S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

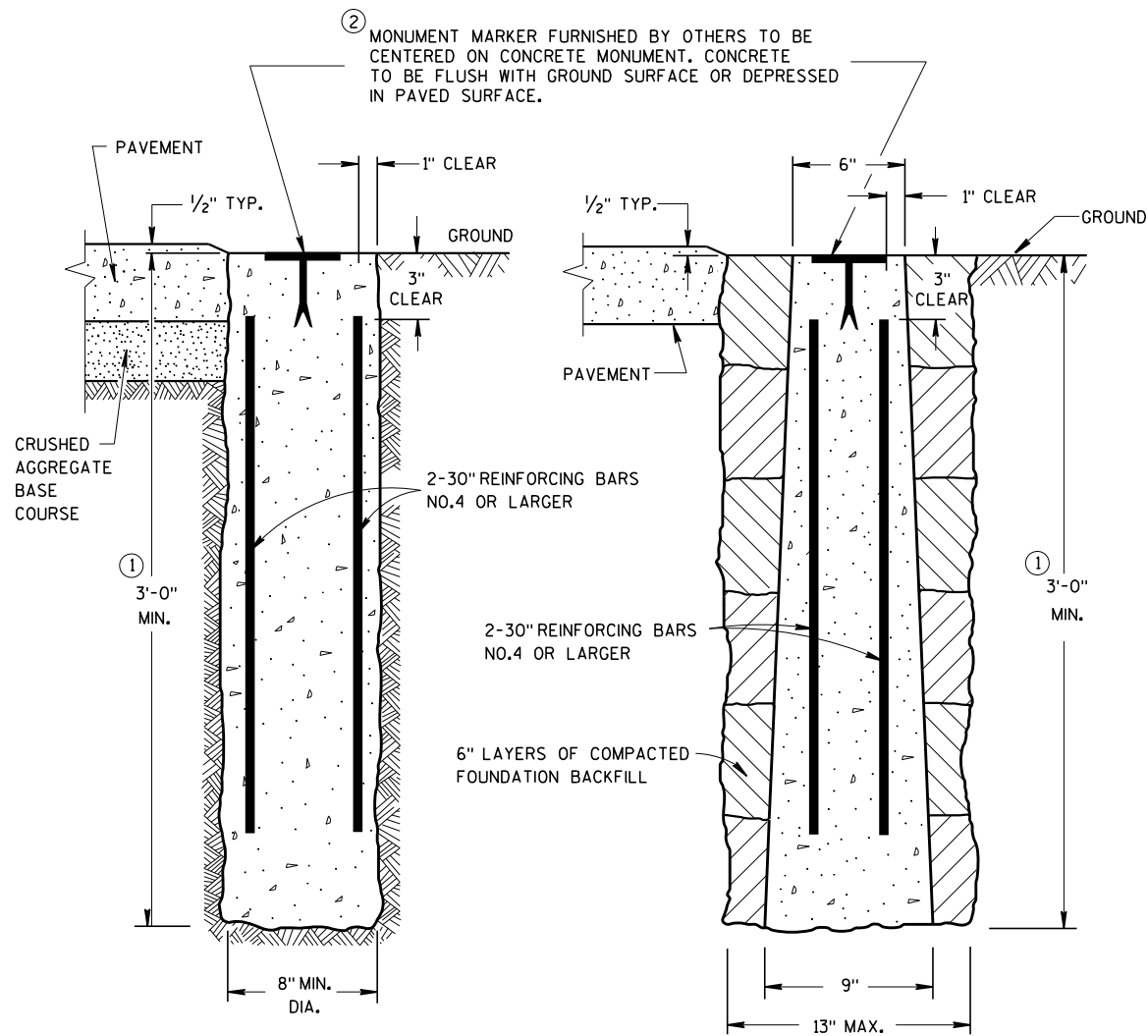
MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

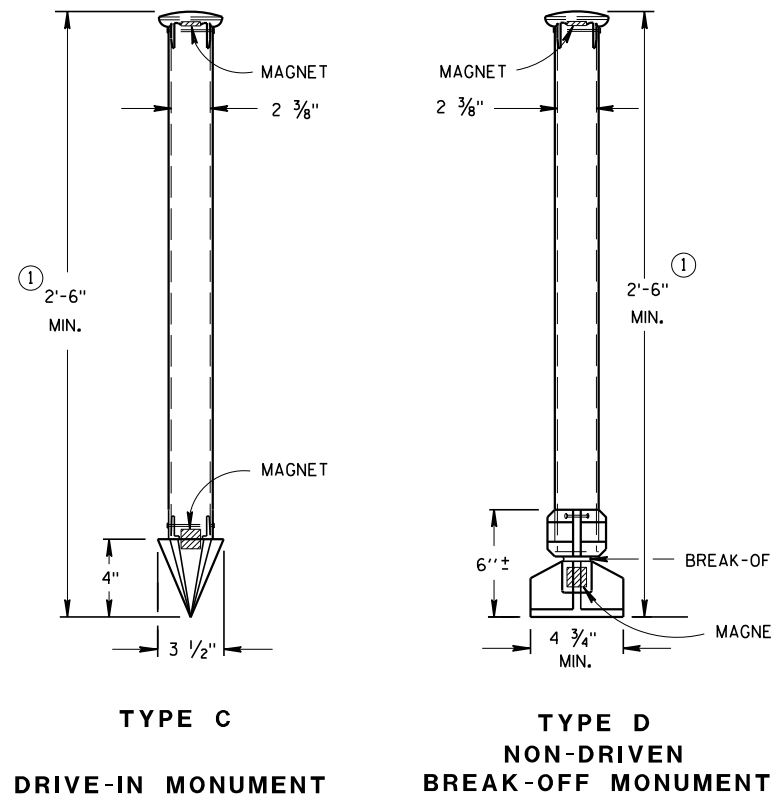
THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER

- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



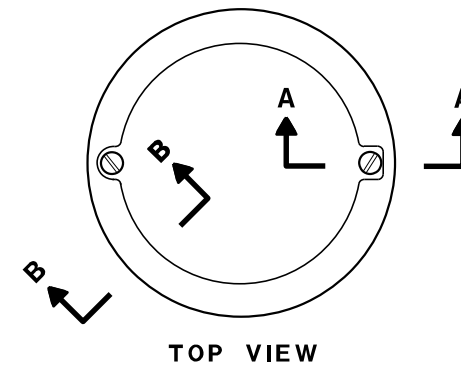
**CAST-IN-PLACE
CONCRETE MONUMENTS
TYPE A**



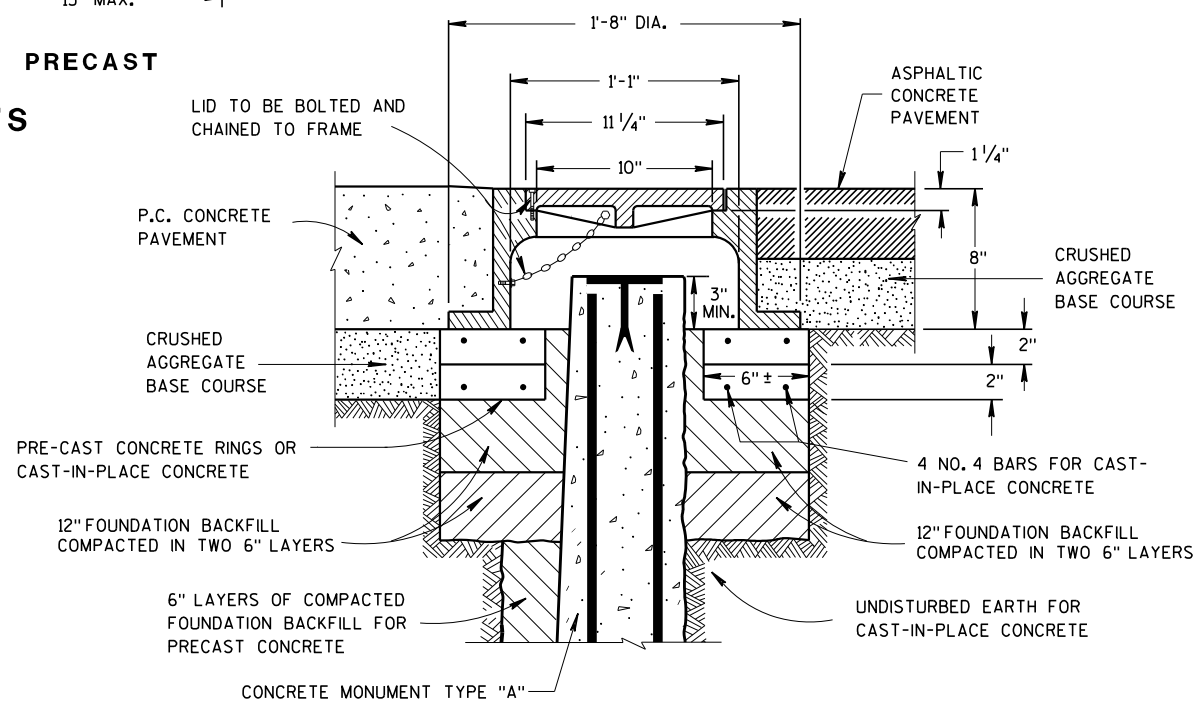
**TYPE C
DRIVE-IN MONUMENT**

**TYPE D
NON-DRIVEN
BREAK-OFF MONUMENT**

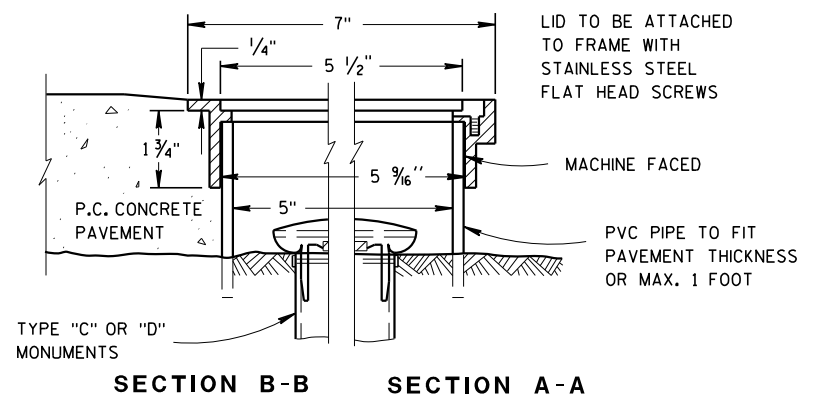
ALUMINUM MONUMENTS
(INCLUDES MARKER)



TOP VIEW

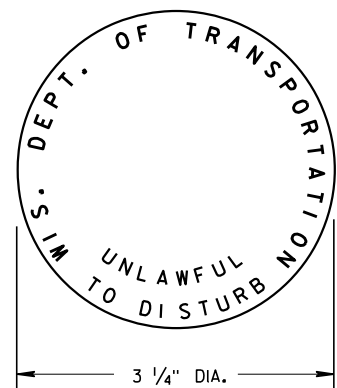


CAST IRON MONUMENT COVER
(APPROXIMATE WEIGHT 95 LBS)



ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)



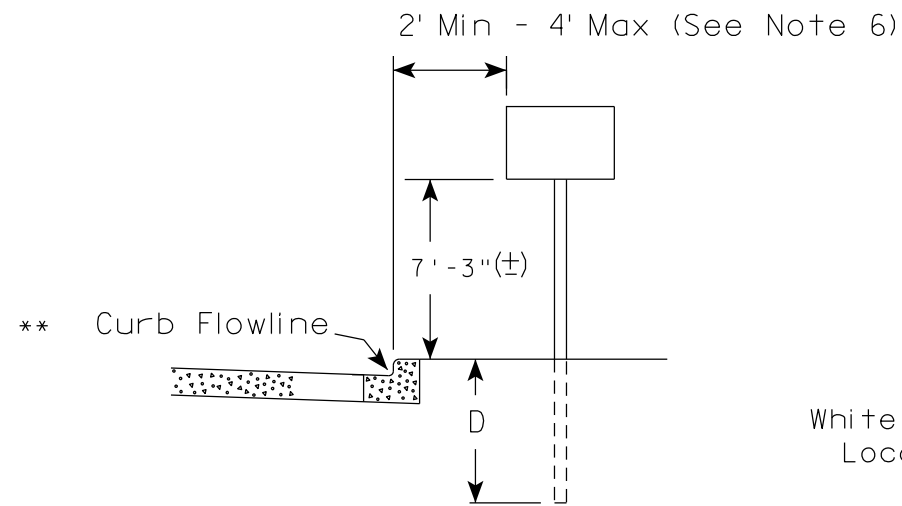
**WIS DOT MONUMENT
MARKER LOGO**
FOR TYPES "A", "C", & "D"

**LANDMARK REFERENCE
MONUMENTS AND COVERS**

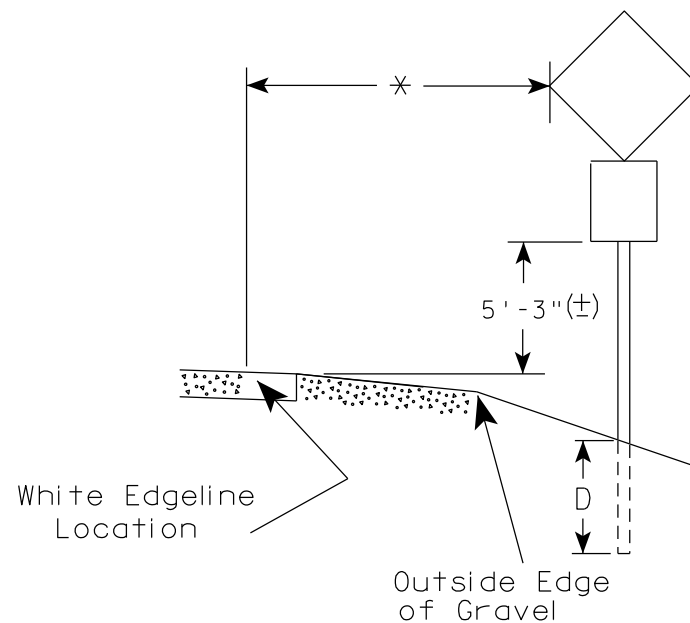
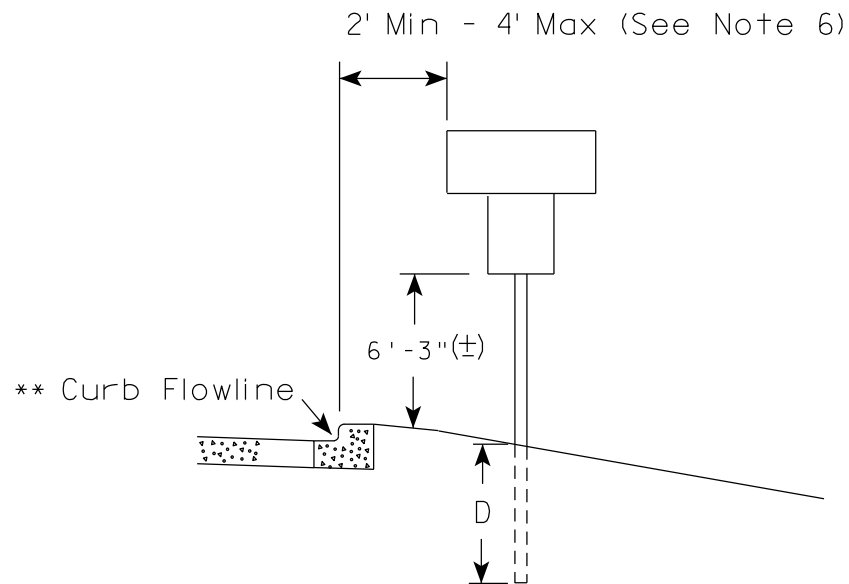
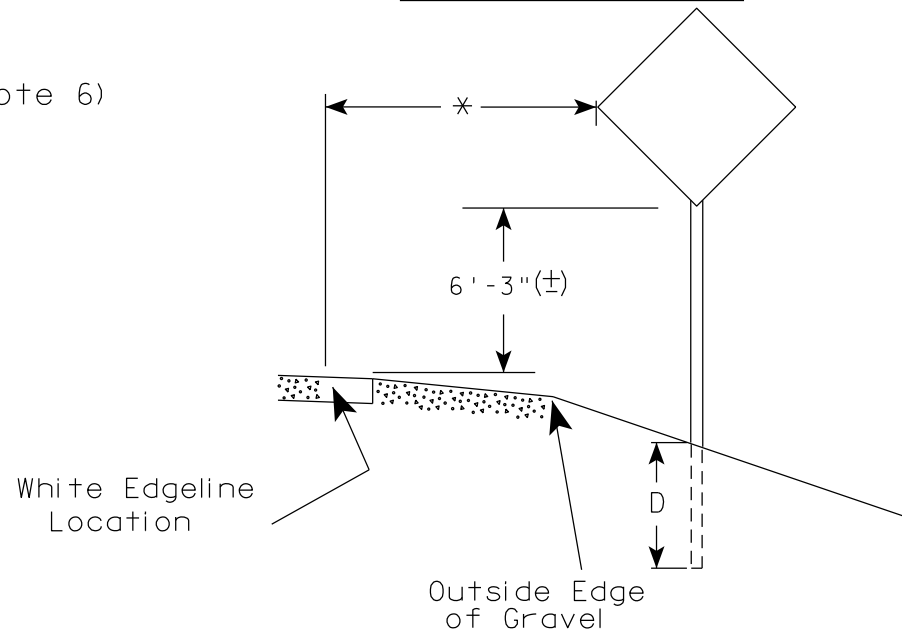
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Raymond A. Kumapayi
DATE CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

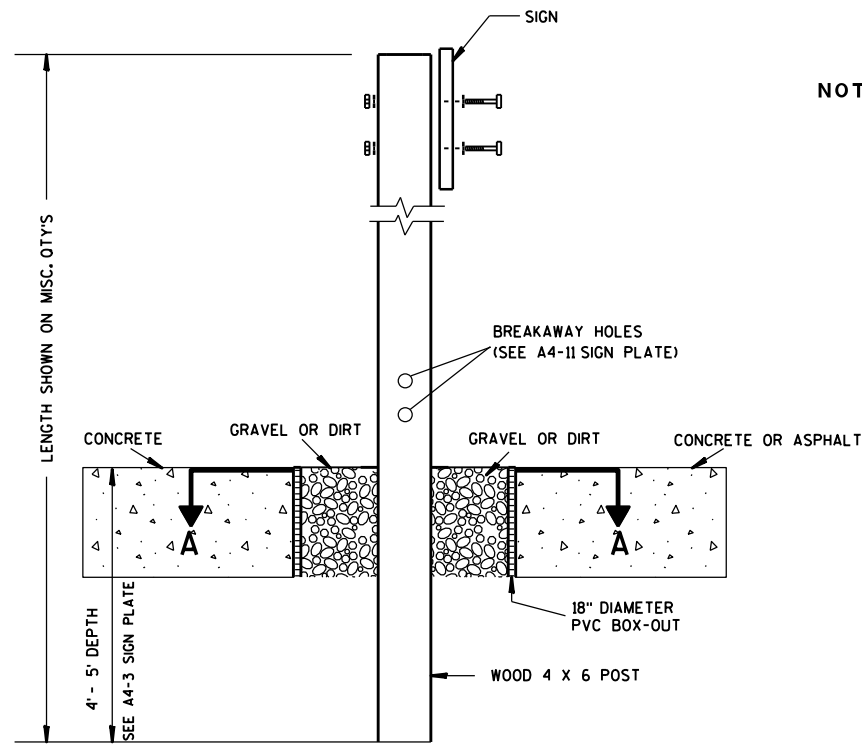
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

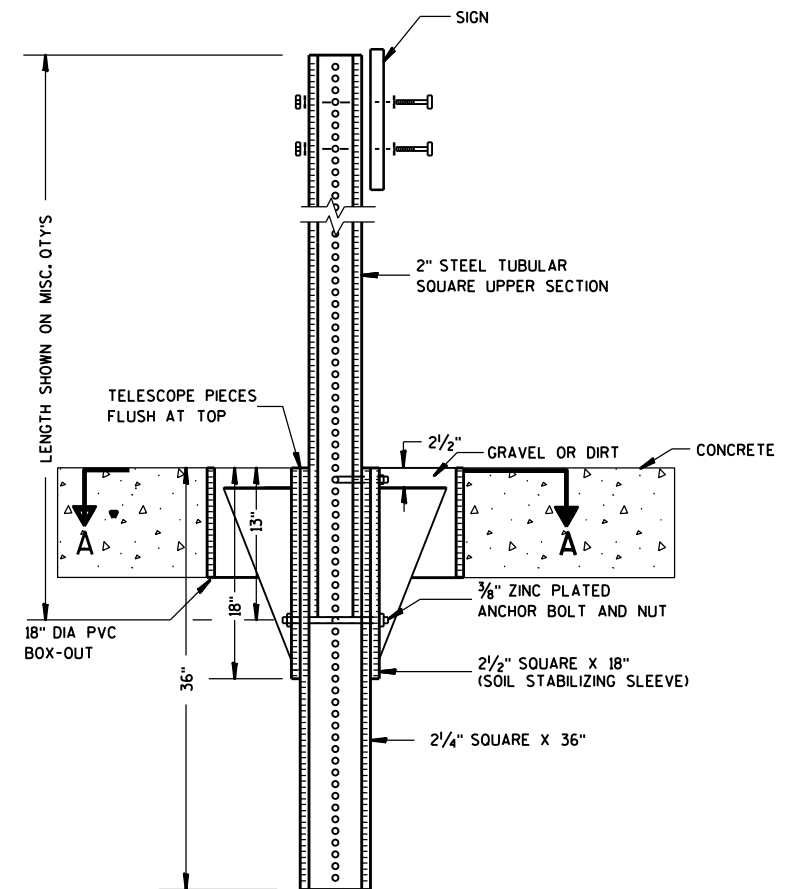
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

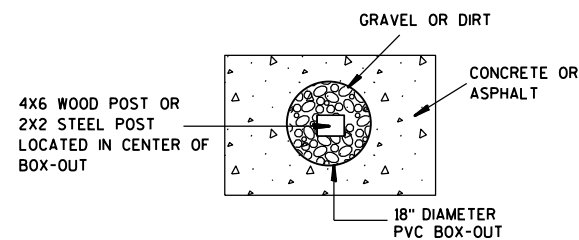
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

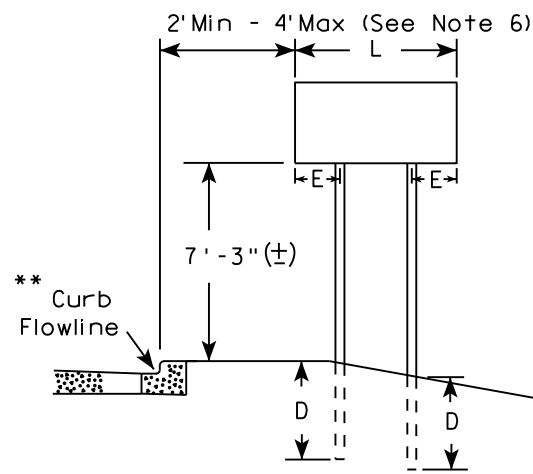
7

7

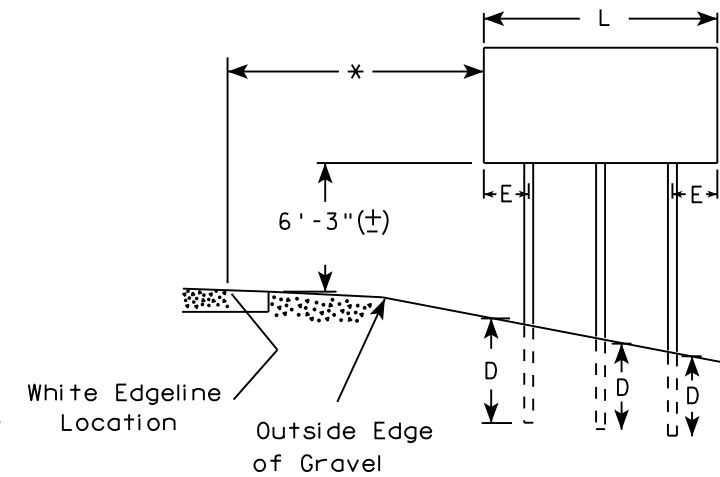
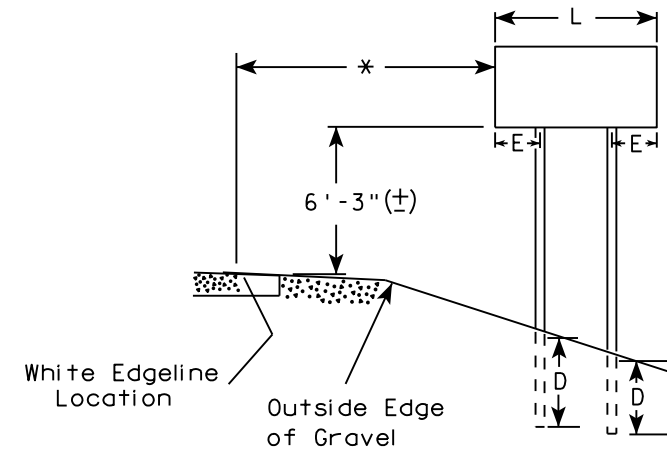
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

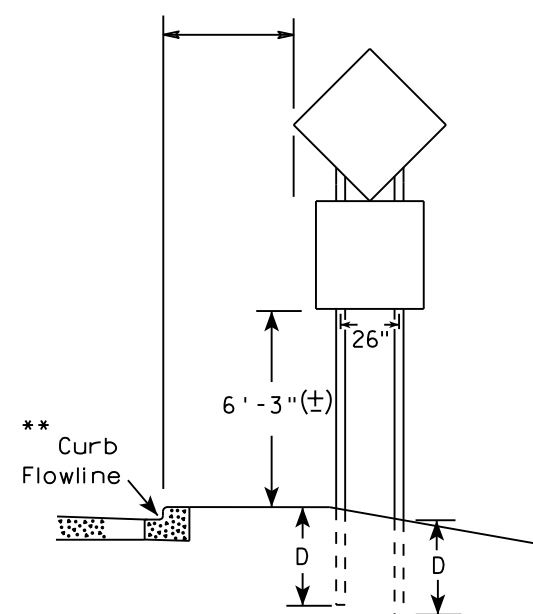
URBAN AREA



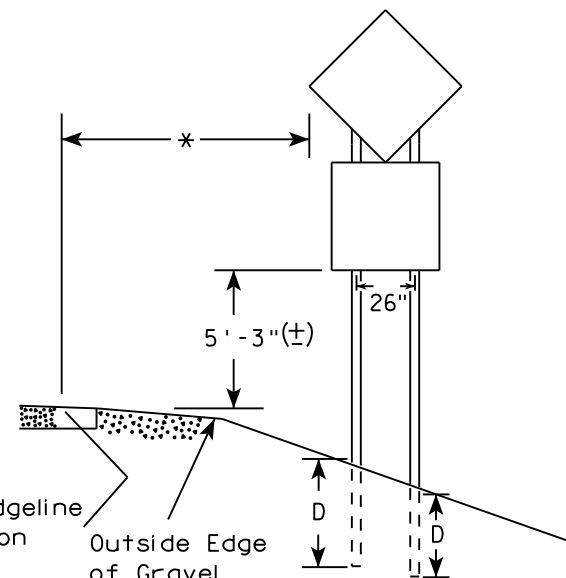
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

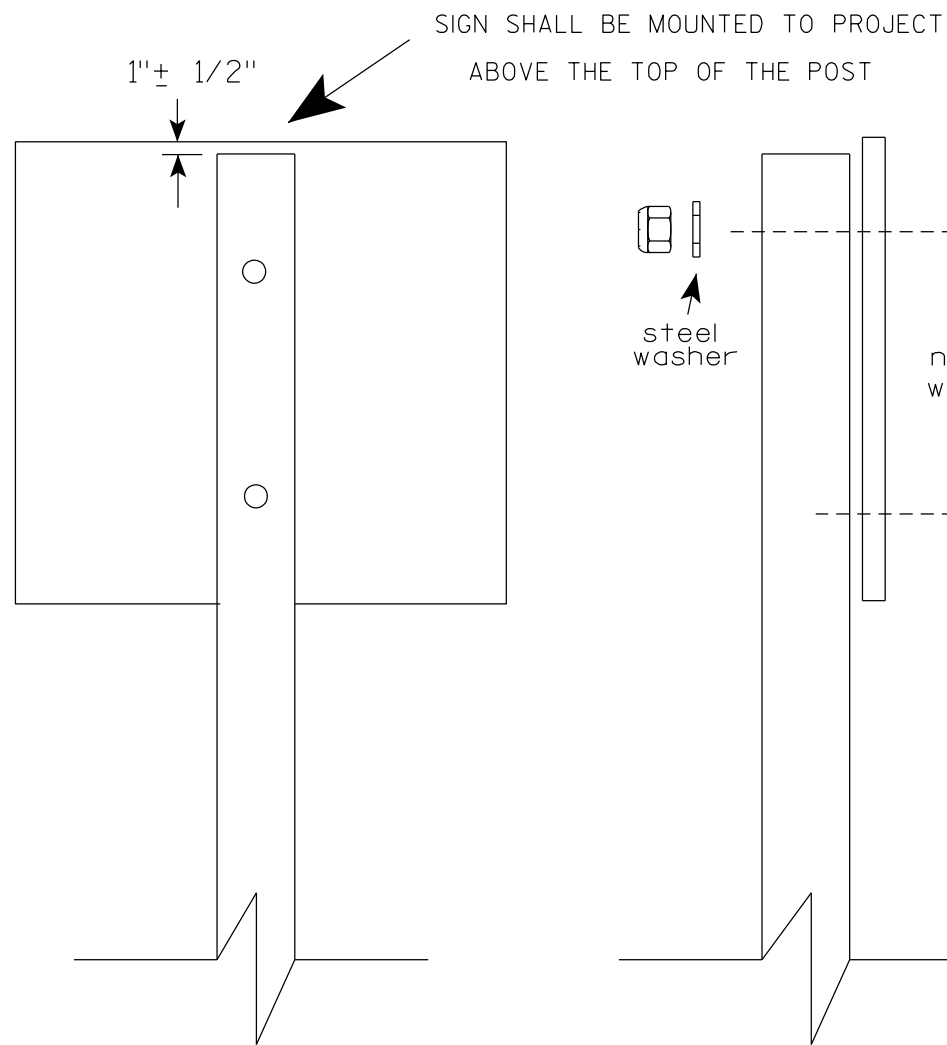
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
 APPROVED *Matthew R. Rauch*
 For State Traffic Engineer
 DATE 8/21/17 PLATE NO. A4-4.15



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS
TO POSTS

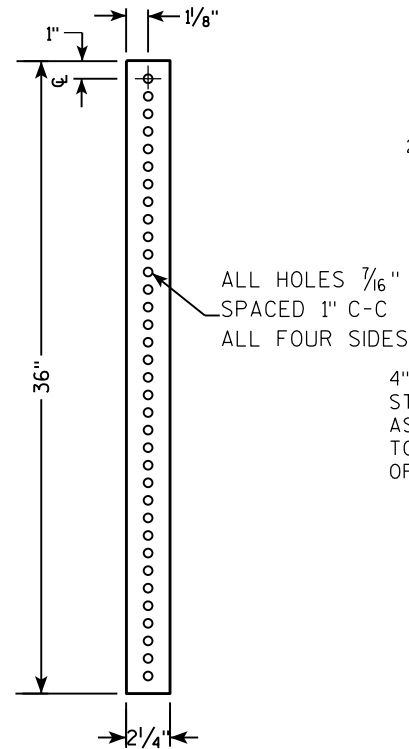
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

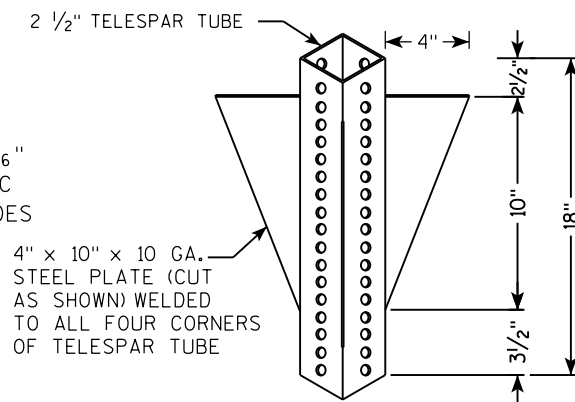
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

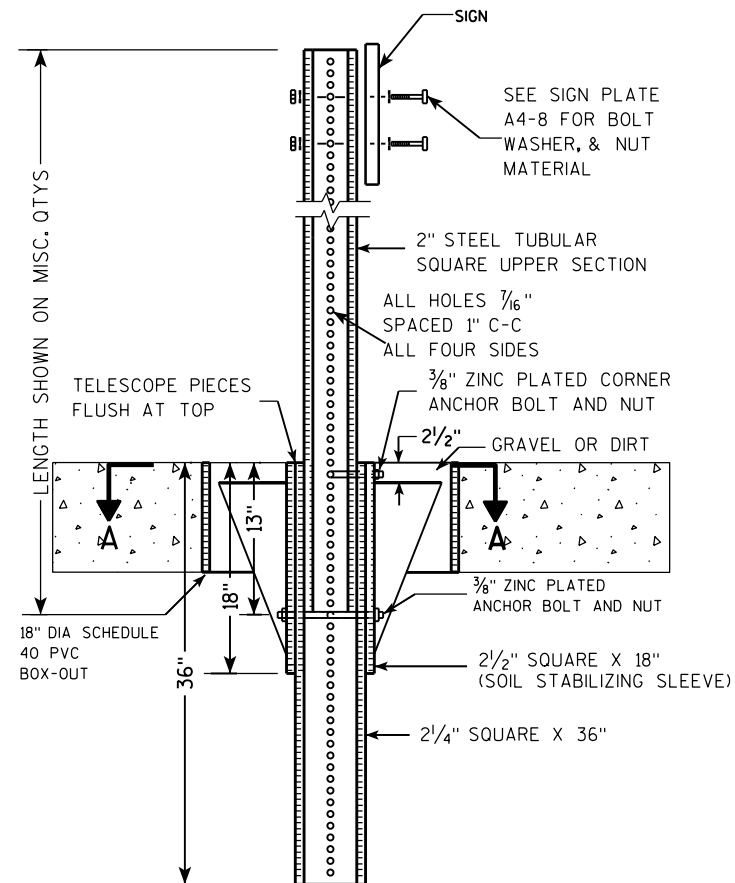
**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



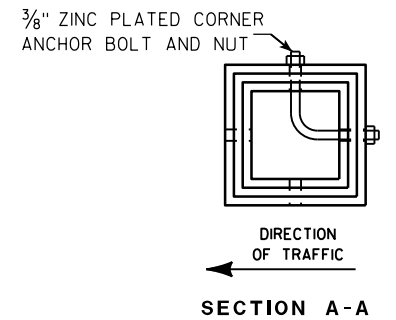
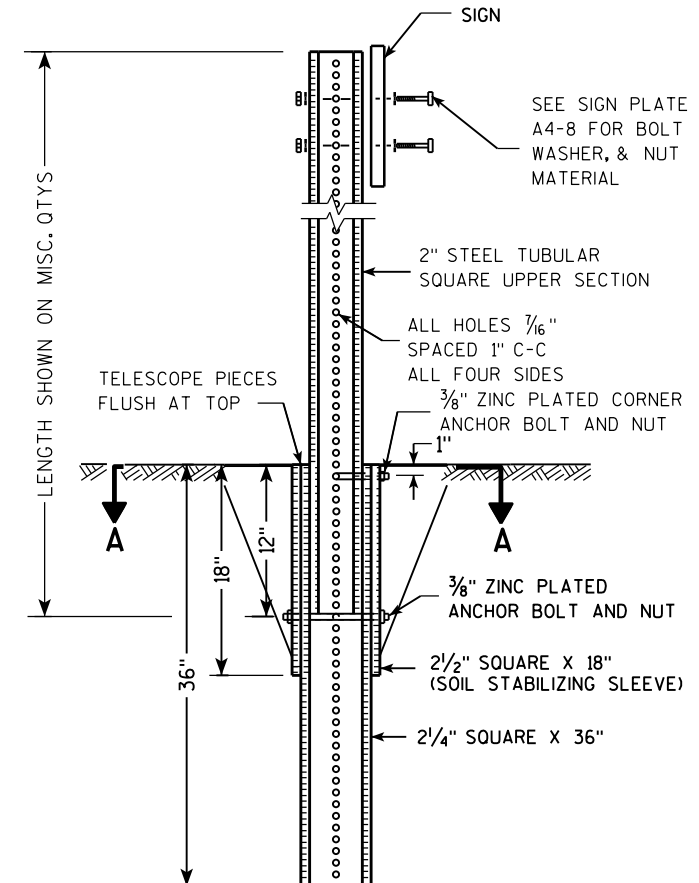
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

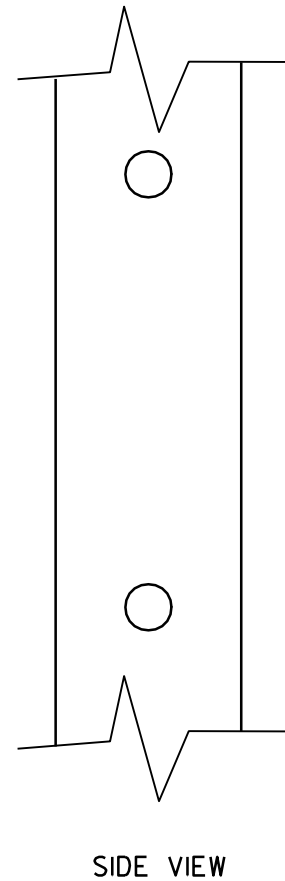
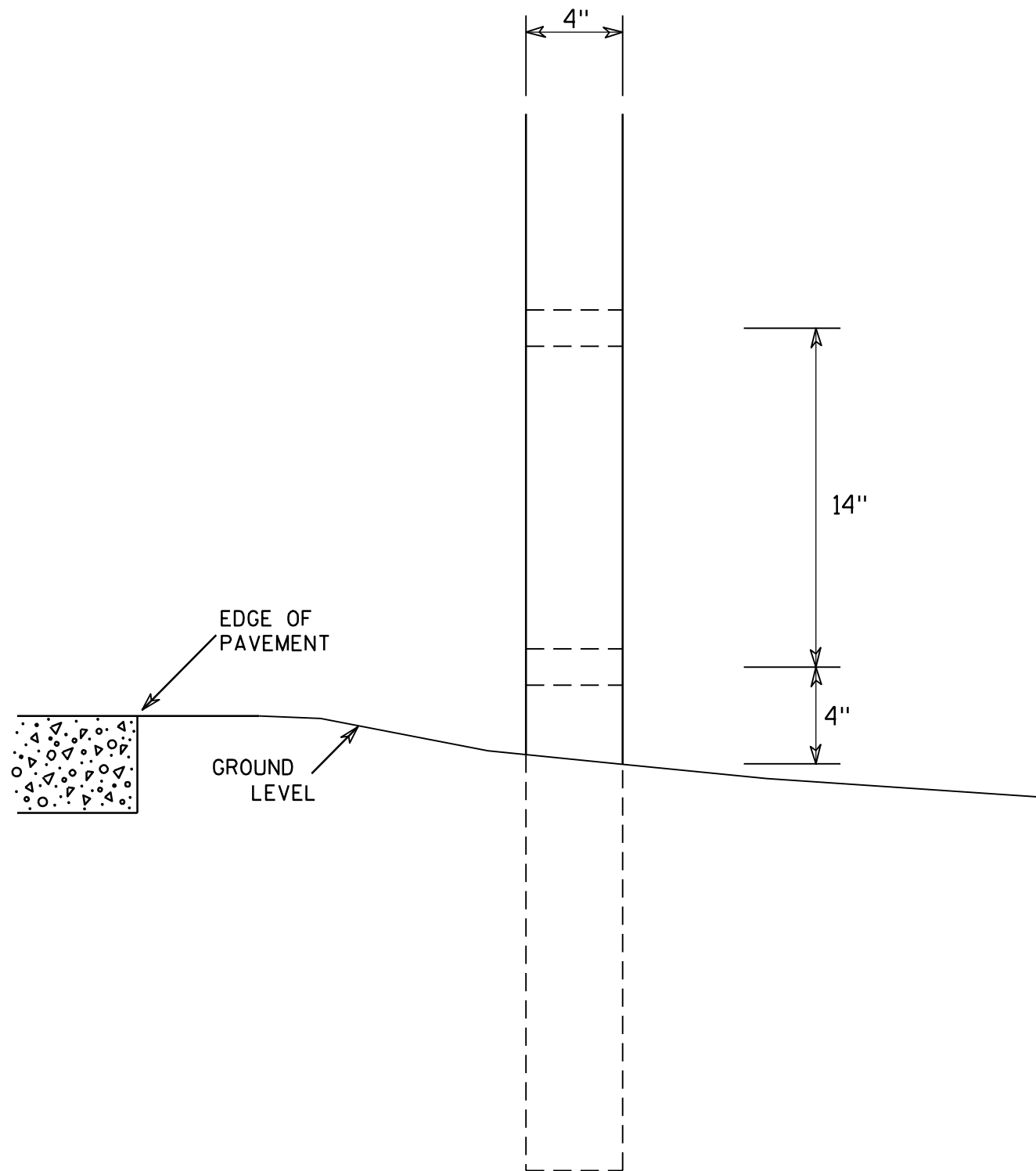
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E




GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	 <small>for State Traffic Engineer</small>
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>



Wisconsin Department of Transportation

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