

MAD

PROJECT ID:
WITH: N/A

5910-00-72

COUNTY:
GRANT

JANUARY 2025
ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control)
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	Cross Sections

TOTAL SHEETS = 84

STATE OF WISCONSIN
HIGHWAY DEPARTMENT

PLAN OF PROPOSED IMPROVEMENT

USH 151 - STH 80 (CTH HH)
USH 151 TO CTH H
CTH HH
GRANT COUNTY

PROJECT NUMBER
5910-00-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5910-00-72	WISC 2025153	1



DESIGN DESIGNATION 5910-00-02

A.A.D.T.	2024	=	1900
A.A.D.T.	2044	=	2350
D.H.V.		=	60/40
D.D.		=	N/A
T.		=	10%
DESIGN SPEED		=	55 MPH
ESALS		=	530,000

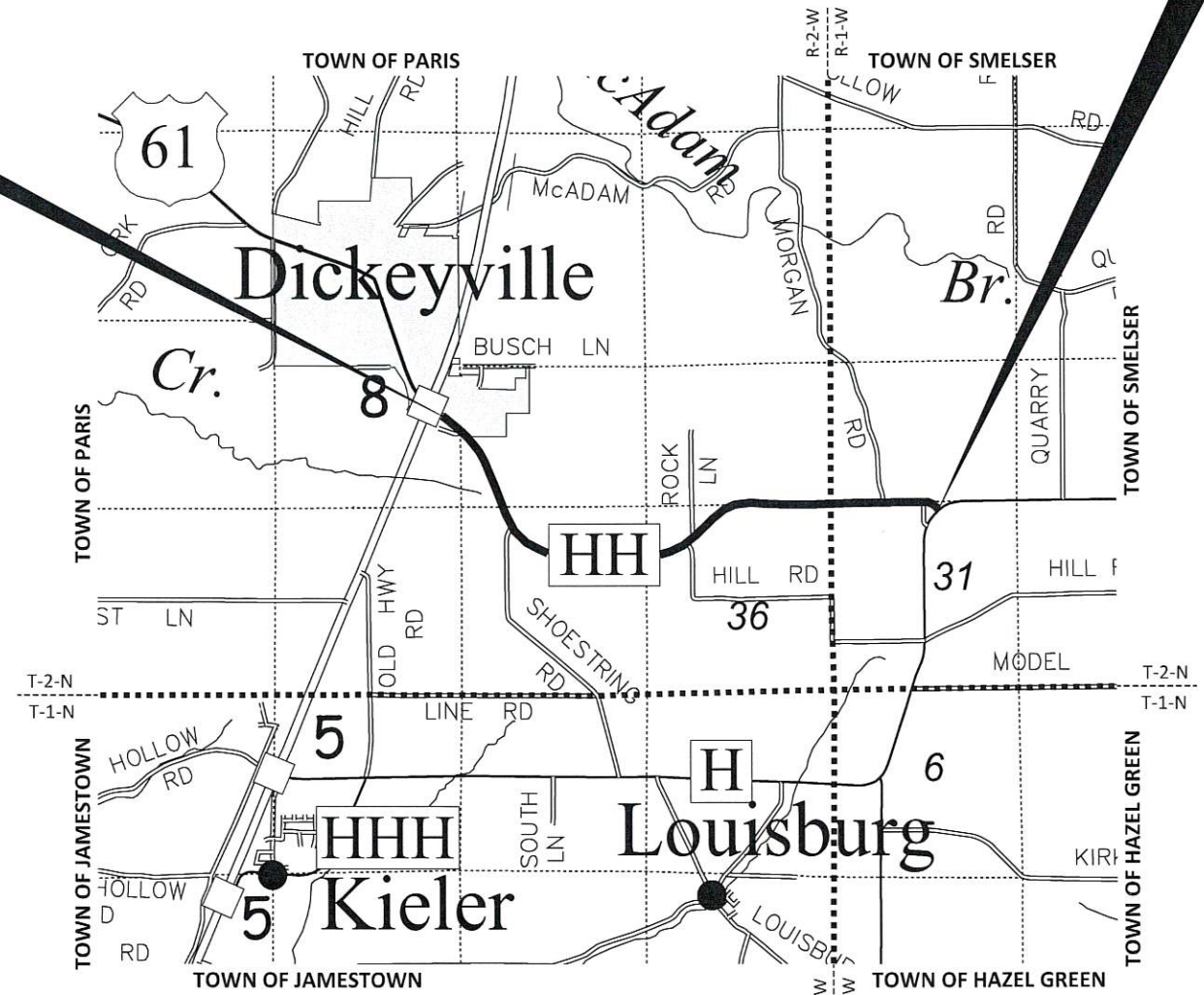
CONVENTIONAL SYMBOLS

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	

BEGIN PROJECT
STA. 16+18.29
Y = 439,250.34
X = 852,855.93

END PROJECT
STA. 182+87.08



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 3.157 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), GRANT COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

ELEVATION SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

ACCEPTED FOR
COUNTY of GRANT
6-19-24 for Highway Commissioner
(Date) (Signature)

ORIGINAL PLANS PREPARED BY
JEWELL
associates engineers, inc
Engineers - Architects - Surveyors

WISCONSIN
JEFFREY D. SMITH
E-36291
VERONA, WI
PROFESSIONAL ENGINEER
6/5/24 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor JEWELL ASSOCIATES ENGINEERS, INC.
Designer JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager RANDY BYOM, P.E.
Regional Examiner REGIONAL EXAMINER
Regional Supervisor KYLE HEMP, P.E.

APPROVED FOR THE DEPARTMENT
DATE: (Signature)

E

2

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20), AND EROSION MATTED/MULCHED AS DIRECTED BY THE ENGINEER. DO NOT USE FERTILIZER IN WETLAND AREAS.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

THE EXACT LOCATION OF PRIVATE AND FIELD ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE WILL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

EXISTING DRIVEWAYS SHALL BE RESTORED IN KIND (UNLESS OTHERWISE NOTED) AND THEIR LOCATION VERIFIED BY THE ENGINEER IN THE FIELD.

HMA PAVMENT QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO THE MILLED SURFACE AND AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.

2 ½-INCHES OF HMA PAVEMENT SHALL BE CONSTRUCTED IN ONE 2 ½-INCH LAYER HMA PAVEMENT 4 LT 58-28 S.

3 ¾-INCHES OF HMA PAVEMENT SHALL BE CONSTRUCTED WITH A 1 ¾-INCH UPPER LAYER HMA PAVEMENT 4 LT 58-28 S AND A 1 ¼-INCH LOWER LAYER HMA PAVEMENT 4 LT 58-28 S.

MISCELLANEOUS REMOVAL ITEMS REQUIRING RESTORATIONS OF CONCRETE OR ASPHALT DRIVEWAYS, CONCRETE DRIVEWAYS, OR SIDE ROADS/HIGHWAYS SHALL BE REMOVED TO AN EXISTING JOINT OR SAWED AS DETERMINED BY THE ENGINEER IN THE FIELD OR AS SHOWN ON THE PLANS.

CURVE DATA IS BASED ON THE ARC DEFINITION.

CONTACTS

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
1001 FOURIER DRIVE
MADISON, WI 53717
ATTN: JEFF SMITH, P.E.
PH: (608) 459-6091
EMAIL: jeff.smith@jewellassoc.com

WDNR LIAISON:

WISCONSIN DEPT. OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ANDY BARTA
PH: (608) 235-2955
EMAIL: andrew.barta@wisconsin.gov

GRANT COUNTY HIGHWAY DEPARTMENT:

JON KNAUTZ, COMMISSIONER
1011 N. ADAMS STREET
P.O. BOX 150
LANCASTER, WI 53813
PH: (608) 723-2595
EMAIL: jknautz@co.grant.wi.gov

TOWN OF PARIS:

DONALD SPLINTER, CHAIRMAN
928 LOUISBURG ROAD
HAZEL GREEN, WI 53811
PH: (608) 744-2088

TOWN OF SMELSER:

TOM RINKER, CHAIRMAN
3186 QUARRY ROAD
CUBA CITY, WI 53807
PH: (608) 778-6034

UTILITIES

ELECTRICITY

SCENIC RIVERS ENERGY COOPERATIVE
ATTN: CHAD OLMSTEAD
206 COUNTY ROAD K
LANCASTER, WI 53813
PH: (608) 723-2121 EXT. 561 (OFFICE)
EMAIL: colmstead@srec.net

COMMUNICATION LINE

CUBA CITY/ BELMONT TELEPHONE
ATTN: JERRY CULLEN
121 N WASHINGTON STREET
PO BOX 762
CUBA CITY WI, 53807
PH: (608) 744-2154 (OFFICE)
PH: (608) 778-2293 (MOBILE)
EMAIL: jerry@cstech.com

GAS/PETROLEUM

WE ENERGIES
ATTN: ADAM MARING
210 N 29TH AVE
MONROE, WI 53566
PH: (608) 328-5679 (OFFICE)
PH: (608) 426-1715 (MOBILE)
EMAIL: adam.maring@we-energies.com

WIN, LLC

ATTN: TODD ELICKSON
4955 BULLIS FARM ROAD
EAU CLAIRE, WI 54701
PH: (715) 832-3750 (OFFICE)
PH: (608) 852-4072 (MOBILE)
EMAIL: Todd.Ellickson@wintechology.com

TDS TELECOM

ATTN: DAVID O'BRIEN
525 JUNCTION ROAD
MADISON, WI 53717
PH: (608) 577-9654 (OFFICE)
EMAIL: david.obrien@tdstelecom.com

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average Daily Traffic	LIN FT	Linear Foot	S	South
BAD	Base Aggregate Dense	or LF		SQ	Square
BK	Back	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BF	Back Face	MH	Manhole	SY or SQ YD	Square Yard
BM	Bench Mark	MB	Mailbox	STD	Standard
BR	Bridge	ML or M/L	Match Line	SDD	Standard Detail Drawings
C or C/L	Center Line	N	North	STH	State Trunk Highways
CC	Center to Center	Y	North Grid Coordinate	STA	Station
C.E.	Commercial Entrance	OD	Outside Diameter	SS	Storm Sewer
CTH	County Trunk Highway	PLE	Permanent Limited Easement	SG	Subgrade
CR	Creek	PT	Point	SE	Superelevation
CR	Crushed	PC	Point of Curvature	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PI	Point of Intersection	SV	Septic Vent
CP	Culvert Pipe	PRC	Point of Reverse Curvature	T	Tangent
C & G	Curb and Gutter			TEL	Telephone
D	Degree of Curve	PT	Point of Tangency	TEMP	Temporary
DHV	Design Hour Volume	POC	Point On Curve	TI	Temporary Interest
DIA	Diameter	POT	Point on Tangent	TLE	Temporary Limited Easement
E	East	PVC	Polyvinyl Chloride		
X	East Grid Coordinate	PCC	Portland Cement Concrete	t	Ton
ELEC	Electric (al)			T or TN	Town
EL or ELEV	Elevation	LB	Pound	TRANS	Transition
ESALS	Equivalent Single Axle Loads	PSI	Pounds Per Square Inch	TL or T/L	Transit Line
		P.E.	Private Entrance	T	Trucks (percent of)
EBS	Excavation Below Subgrade	R	Radius	TYP	Typical
		RR	Railroad	UNCL	Unclassified
FF	Face to Face	R	Range	UG	Underground Cable
F.E.	Field Entrance	RL or R/L	Reference Line	USH	United States Highway
F	Fill	RP	Reference Point	VAR	Variable
FG	Finished Grade	RCCP	Reinforced Concrete Culvert Pipe	V	Velocity or Design Speed
FL or F/L	Flow Line			VERT	Vertical
FT	Foot	REQD	Required	VC	Vertical Curve
FTG	Footing	RES	Residence or Residential	VOL	Volume
GN	Grid North	RW	Retaining Wall	WM	Water Main
HT	Height	RT	Right	WV	Water Valve
CWT	Hundredweight	RHF	Right-Hand Forward	W	West
HYD	Hydrant	R/W	Right-of-Way	WB	Westbound
INL	Inlet	RD	Road	YD	Yard
ID	Inside Diameter	R	River		

ORDER OF SECTION 2 SHEETS:

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PAVEMENT MARKING
- TRAFFIC CONTROL
- ALIGNMENT DETAILS
- PLAN DETAILS

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA= 75.53 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 45.42 ACRES

PROJECT NO: 5910-00-72

HWY: CTH HH

COUNTY: GRANT

GENERAL NOTES, UTILITIES, CONTACTS, & ABBREVIATIONS

SHEET

E

FILE NAME : M:\PROJECTS\G78030 GRANT CO HWY - CTH HH REHABILITATION\SHEETSPLAN\DETAILS\G78030_GENNOTES.DWG

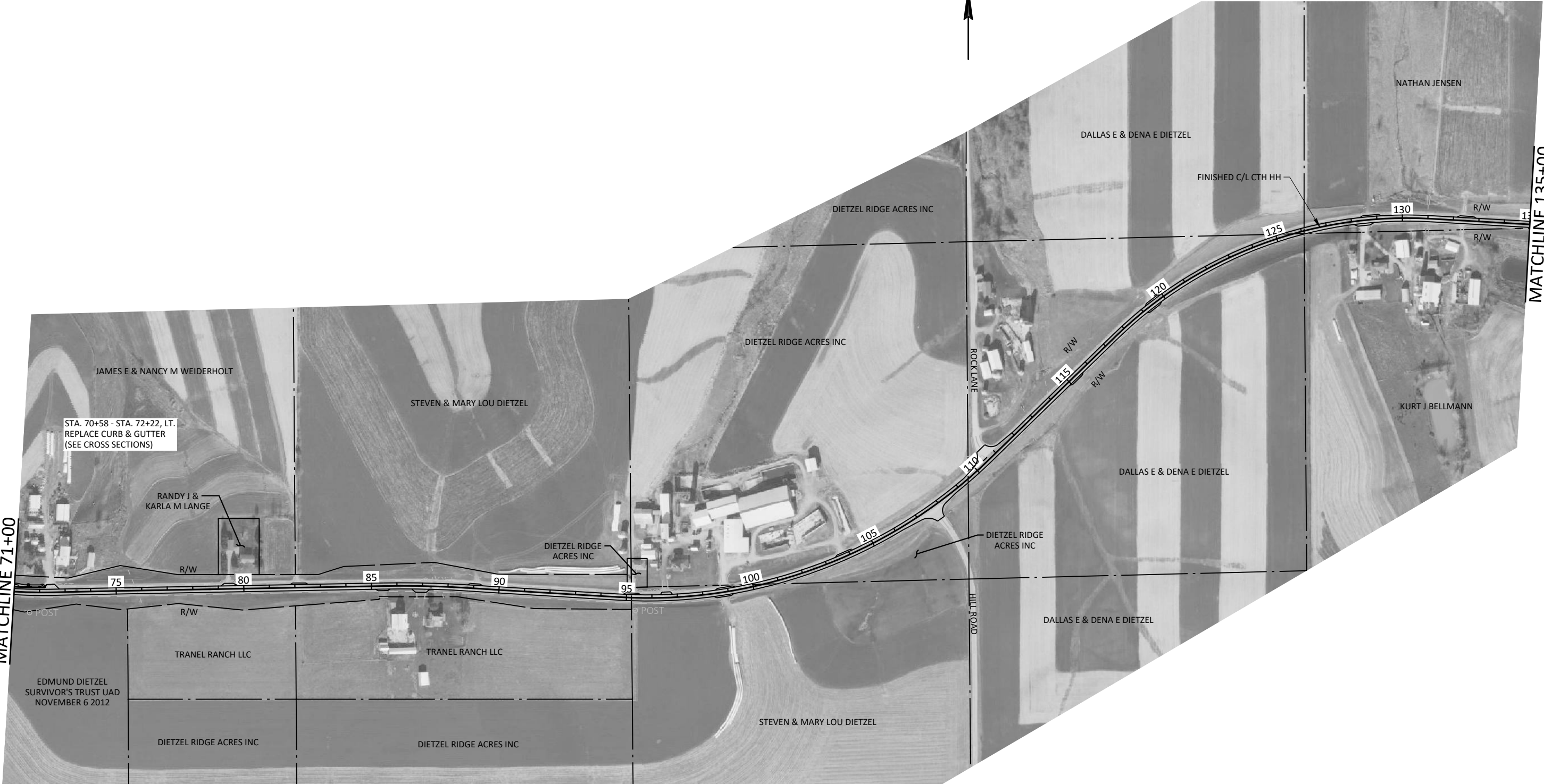
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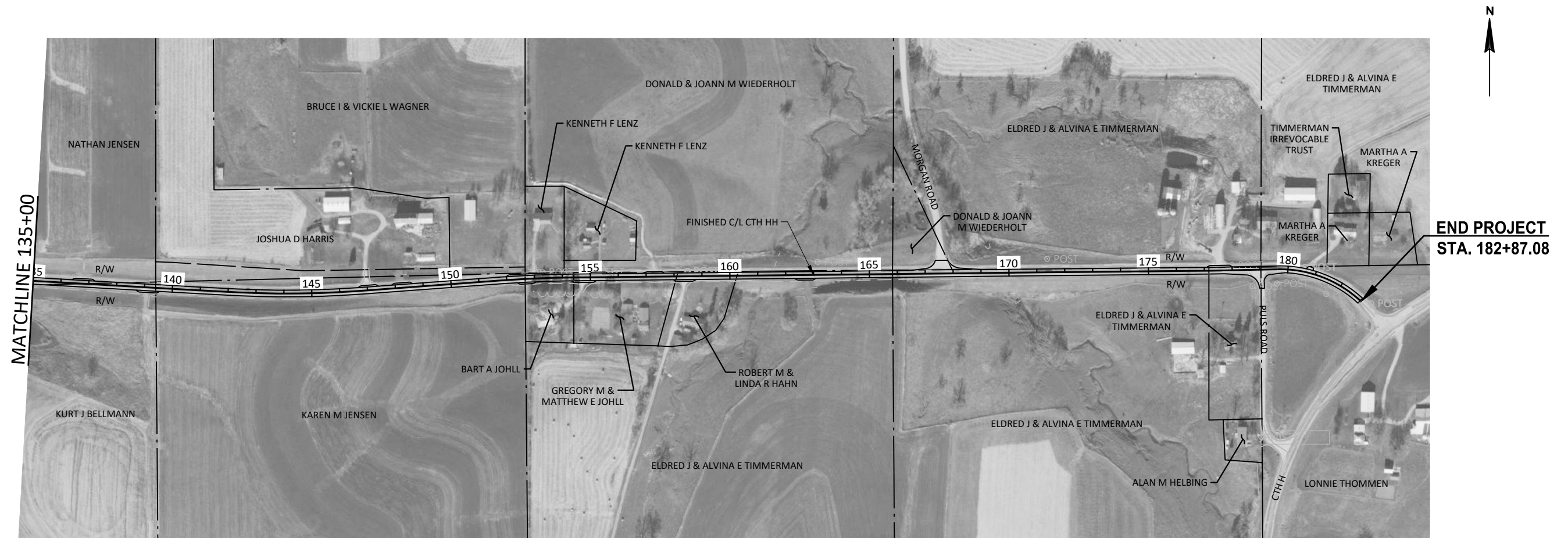
PLOT BY : JEFF SMITH

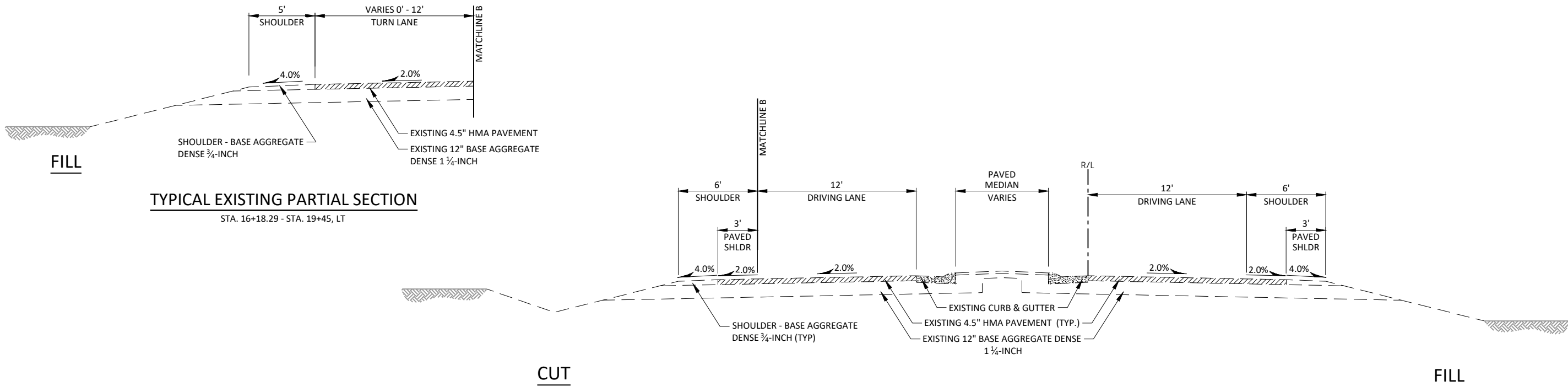
PLOT SCALE : 1" = 1'

LAYOUT : LAYOUT1

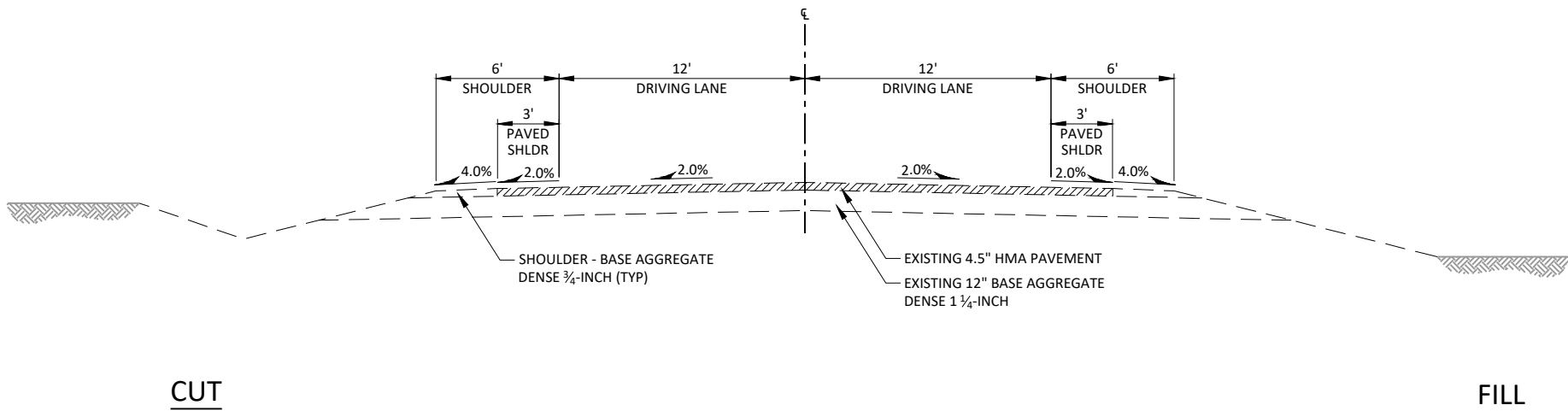




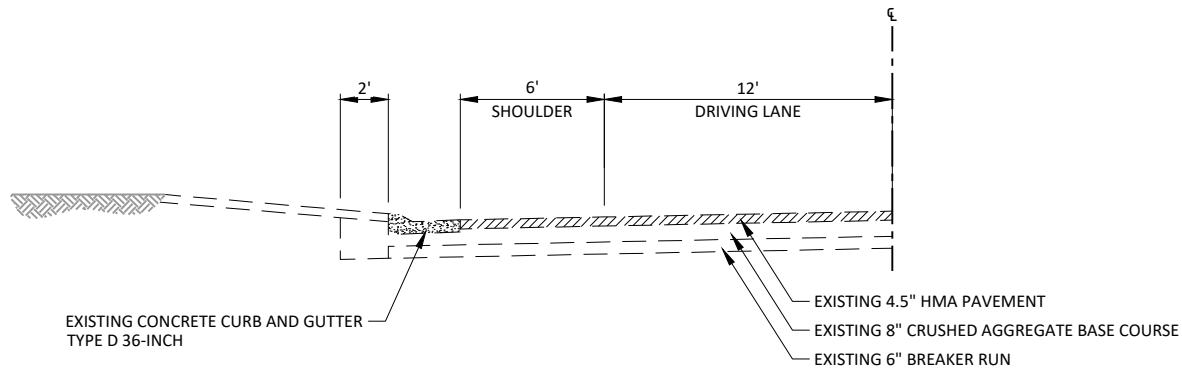




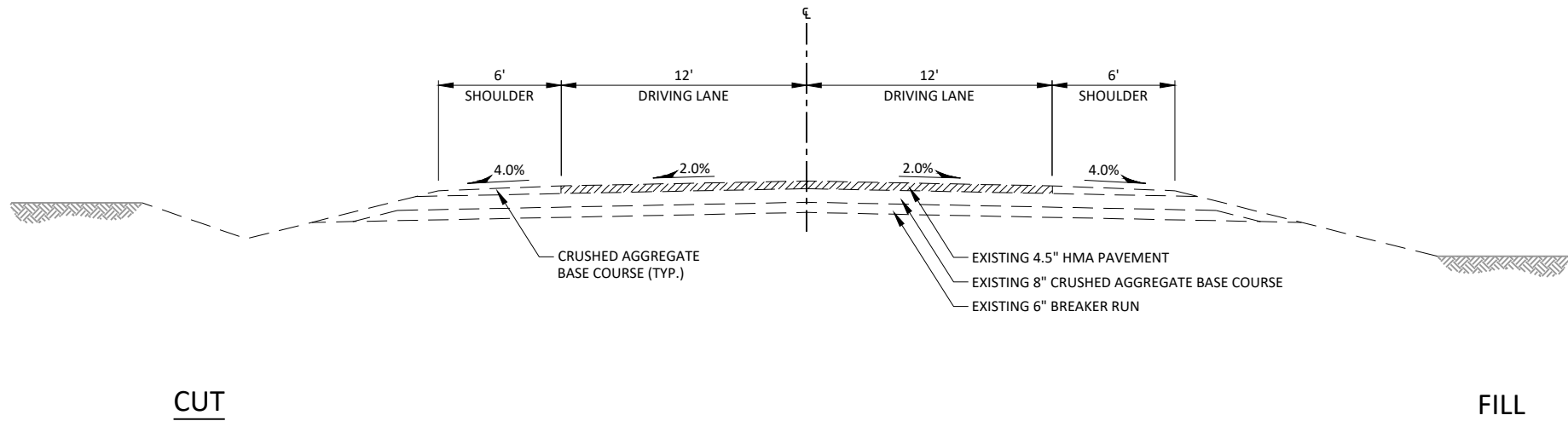
NOTE:
THE EXISTING PAVEMENT AND AGGREGATE BASE DEPTHS WERE DETERMINED
FROM INFORMATION SHOWN IN PLANS FOR WISDOT PROJECT 1209-02-76
(CONSTRUCTED IN 2005)



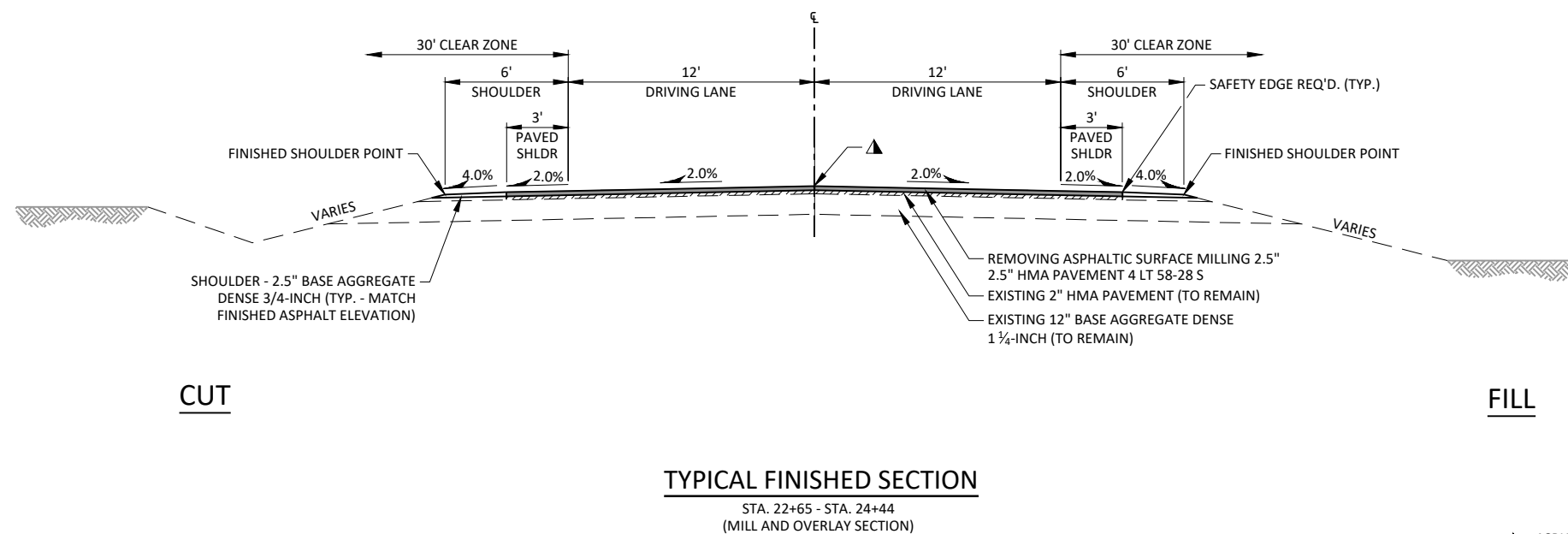
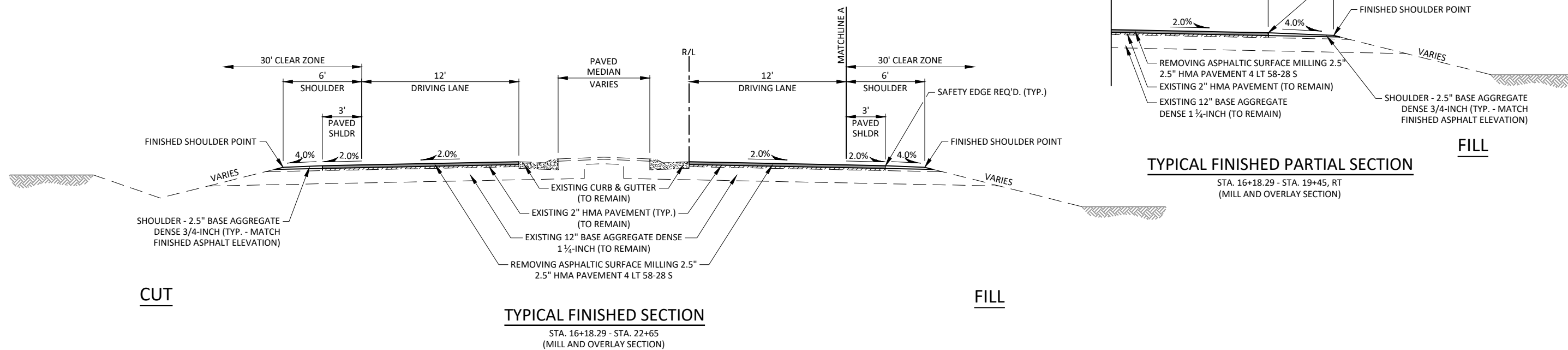
NOTE:
THE EXISTING PAVEMENT AND AGGREGATE BASE DEPTHS WERE DETERMINED
FROM INFORMATION SHOWN IN PLANS FOR WISDOT PROJECT 1209-02-76
(CONSTRUCTED IN 2005)



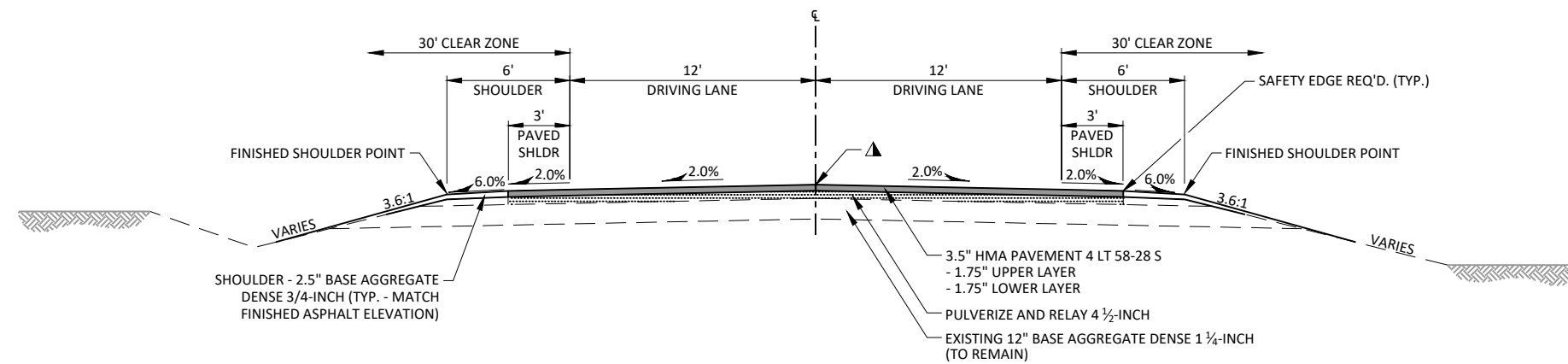
TYPICAL PARTIAL EXISTING SECTION
STA. 70+58 - STA. 72+22, LT



TYPICAL EXISTING SECTION
STA. 39+25 - STA. 182+87.08



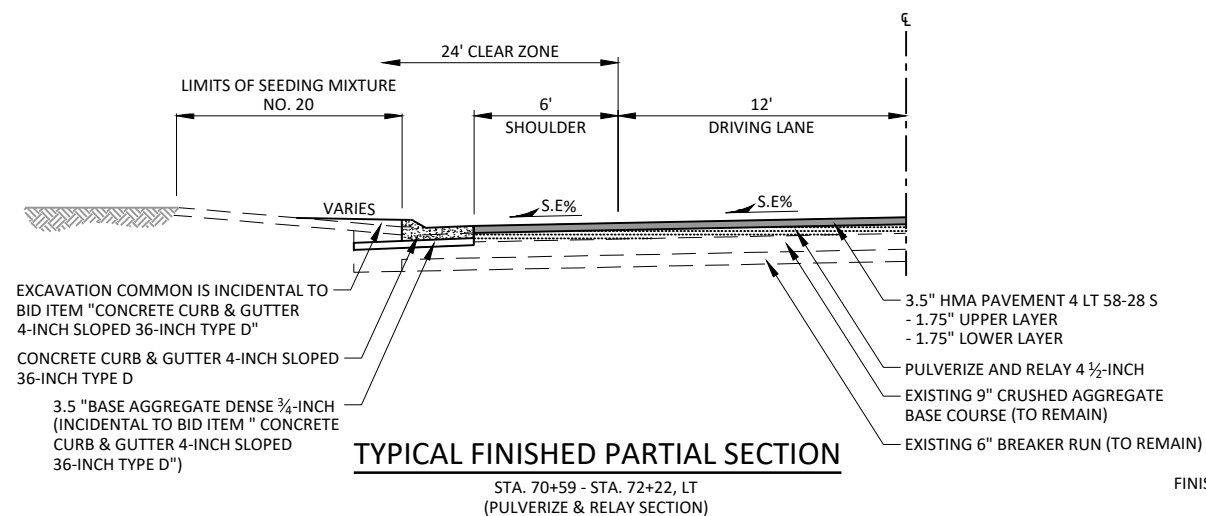
▲ ASPHALTIC RUMBLE STRIPS, CENTERLINE REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.



CUT

FILL

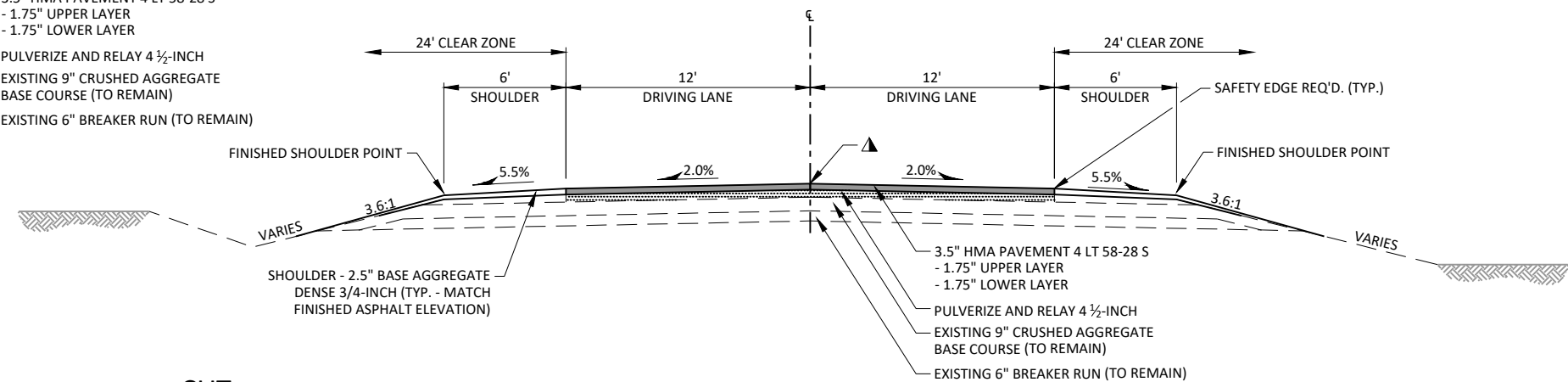
TYPICAL FINISHED SECTION

STA. 24+44 - STA. 39+25
(PULVERIZE & RELAY SECTION)▲ ASPHALTIC RUMBLE STRIPS, CENTERLINE REQ'D. SEE MISCELLANEOUS QUANTITIES
AND STANDARD DETAIL DRAWINGS FOR DETAILS.

TYPICAL FINISHED PARTIAL SECTION

STA. 70+59 - STA. 72+22, LT
(PULVERIZE & RELAY SECTION)3.5" HMA PAVEMENT 4 LT 58-28 S
- 1.75" UPPER LAYER
- 1.75" LOWER LAYER
PULVERIZE AND RELAY 4 1/2-INCH
EXISTING 9" CRUSHED AGGREGATE
BASE COURSE (TO REMAIN)
EXISTING 6" BREAKER RUN (TO REMAIN)

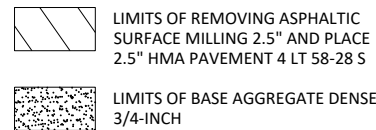
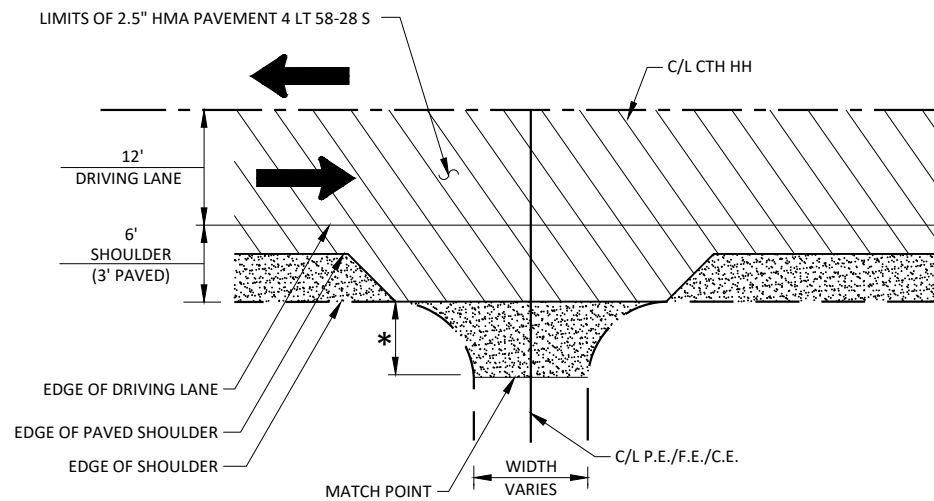
CUT



FILL

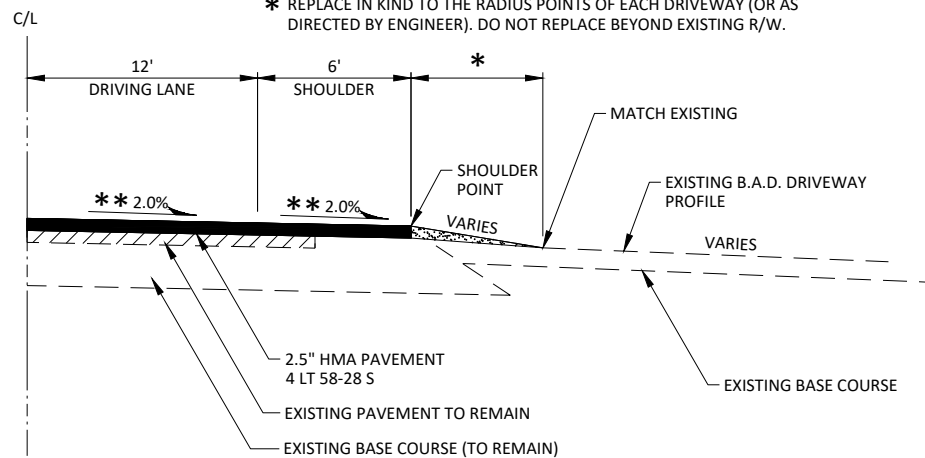
TYPICAL FINISHED SECTION

STA. 39+25 - STA. 182+87.08
(PULVERIZE & RELAY SECTION)▲ ASPHALTIC RUMBLE STRIPS, CENTERLINE REQ'D. SEE MISCELLANEOUS QUANTITIES
AND STANDARD DETAIL DRAWINGS FOR DETAILS.



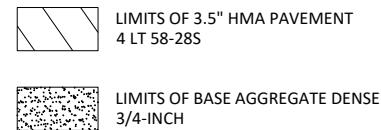
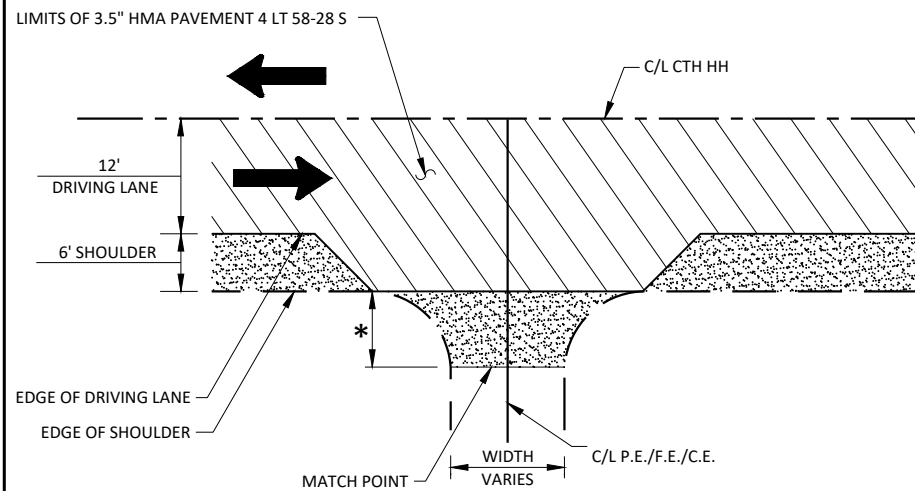
P.E./F.E./C.E. (EXISTING B.A.D.)
DRIVEWAY DETAIL-RURAL
MILL AND OVERLAY SECTION

* REPLACE IN KIND TO THE RADIUS POINTS OF EACH DRIVEWAY (OR AS DIRECTED BY ENGINEER). DO NOT REPLACE BEYOND EXISTING R/W.



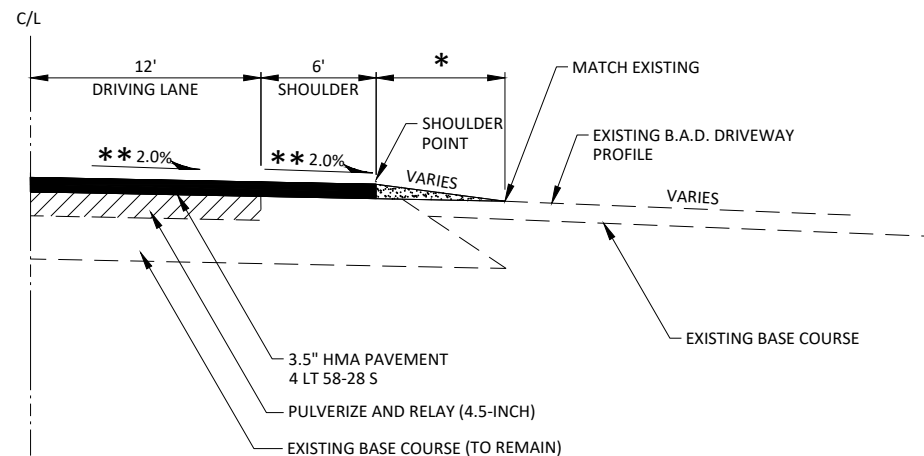
P.E./F.E./C.E. (EXISTING B.A.D.) PROFILE

** N.C. UNLESS NOTED OTHERWISE



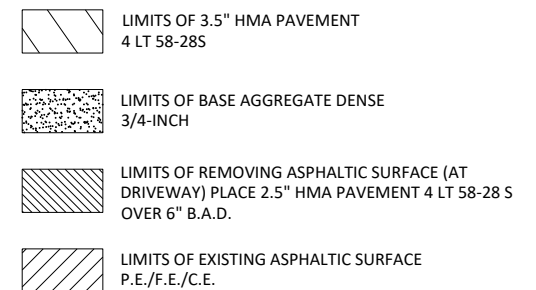
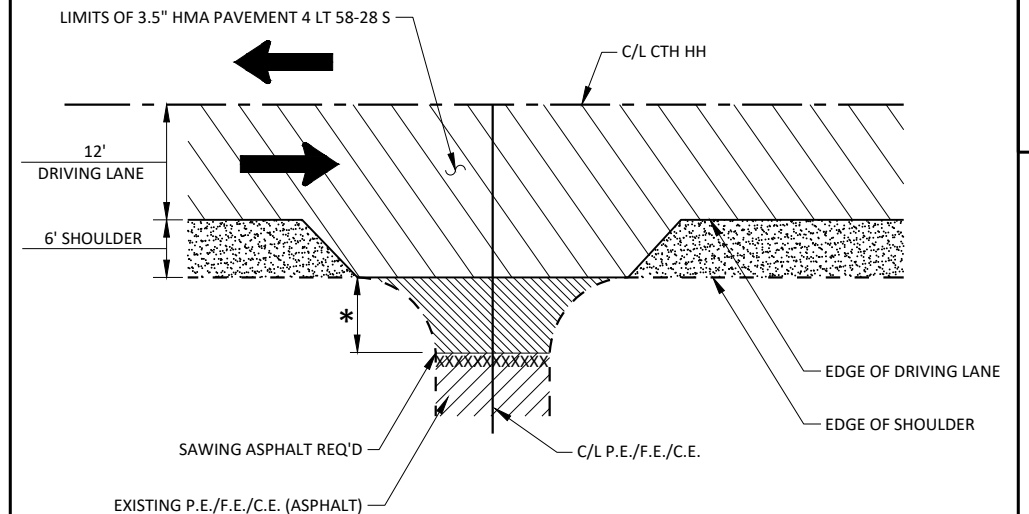
P.E./F.E./C.E. (EXISTING B.A.D.)
DRIVEWAY DETAIL-RURAL
PULVERIZE AND RELAY SECTION

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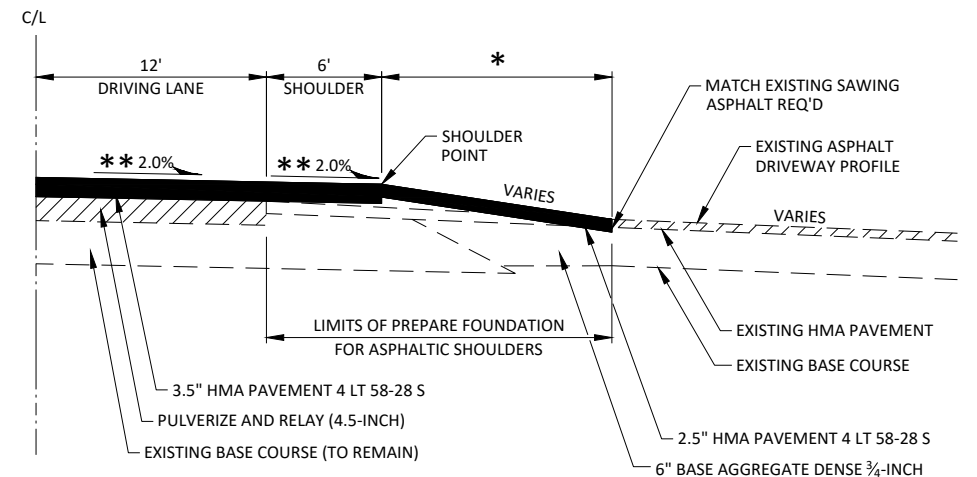
P.E./F.E./C.E. (EXISTING B.A.D.) PROFILE

** N.C. UNLESS NOTED OTHERWISE



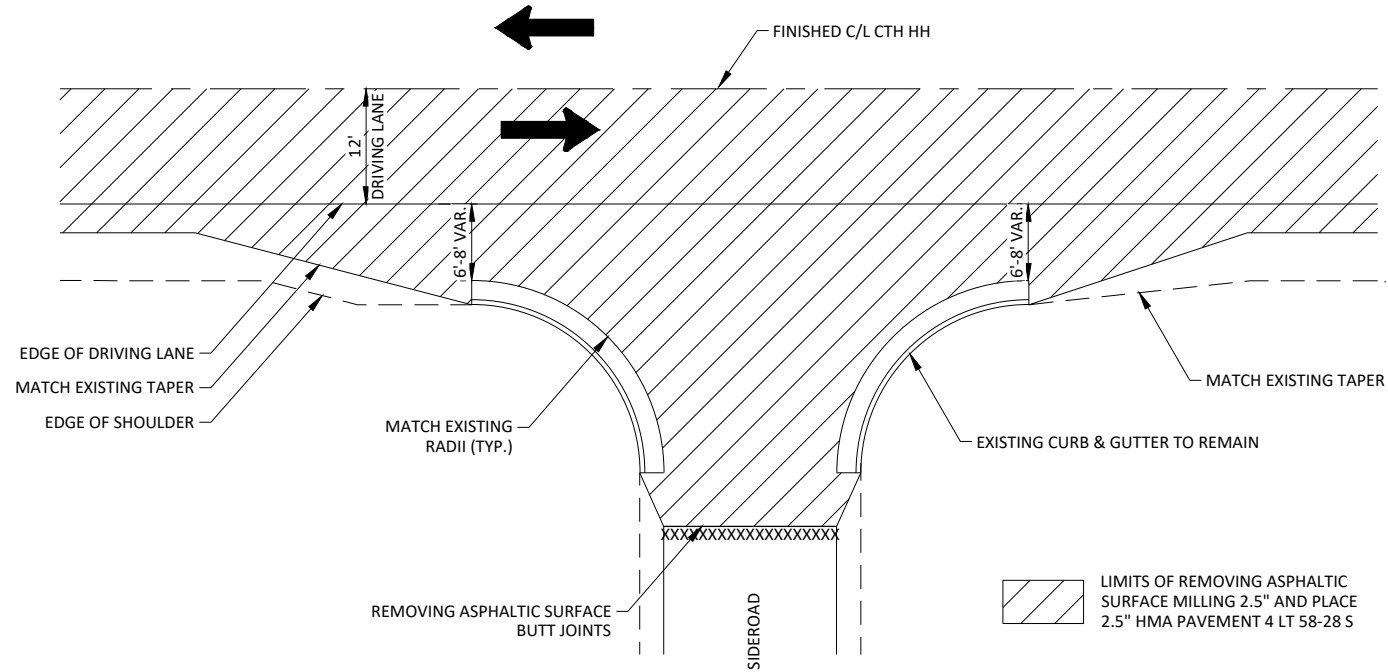
P.E./F.E./C.E. (EXISTING ASPHALT)
DRIVEWAY DETAIL-RURAL
PULVERIZE AND RELAY SECTION

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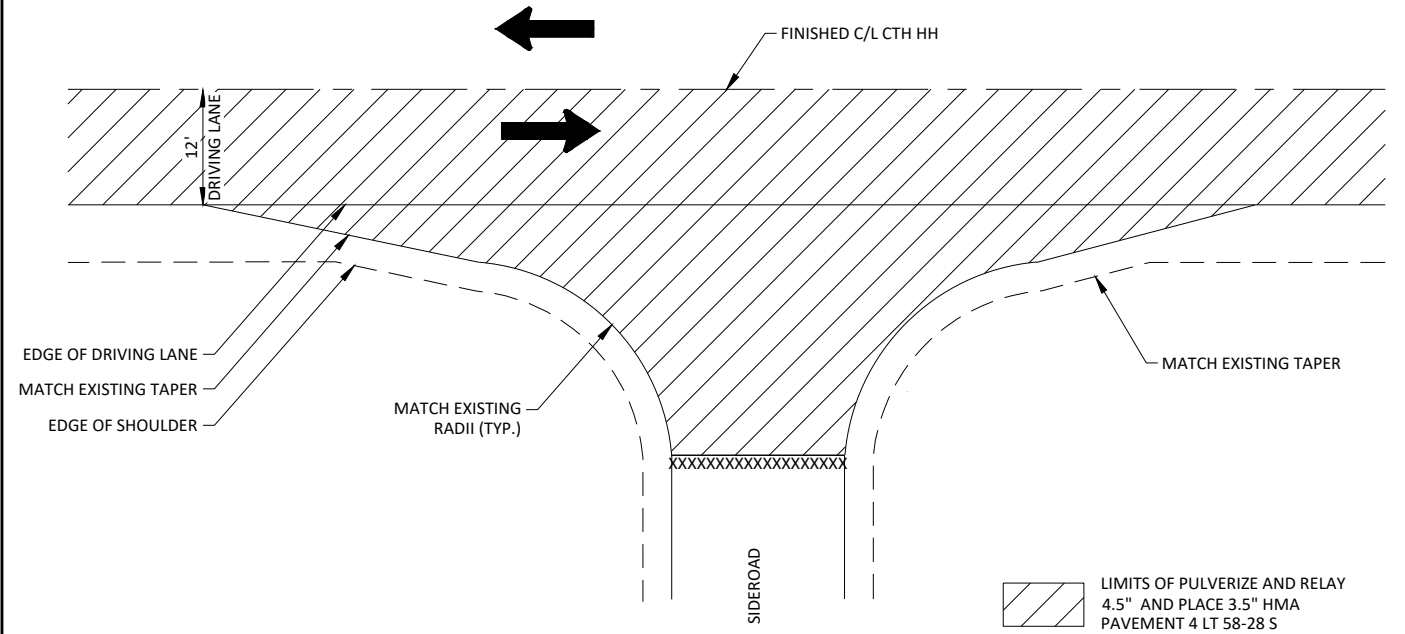


P.E./F.E./C.E. (EXISTING ASPHALT) PROFILE

** N.C. UNLESS NOTED OTHERWISE

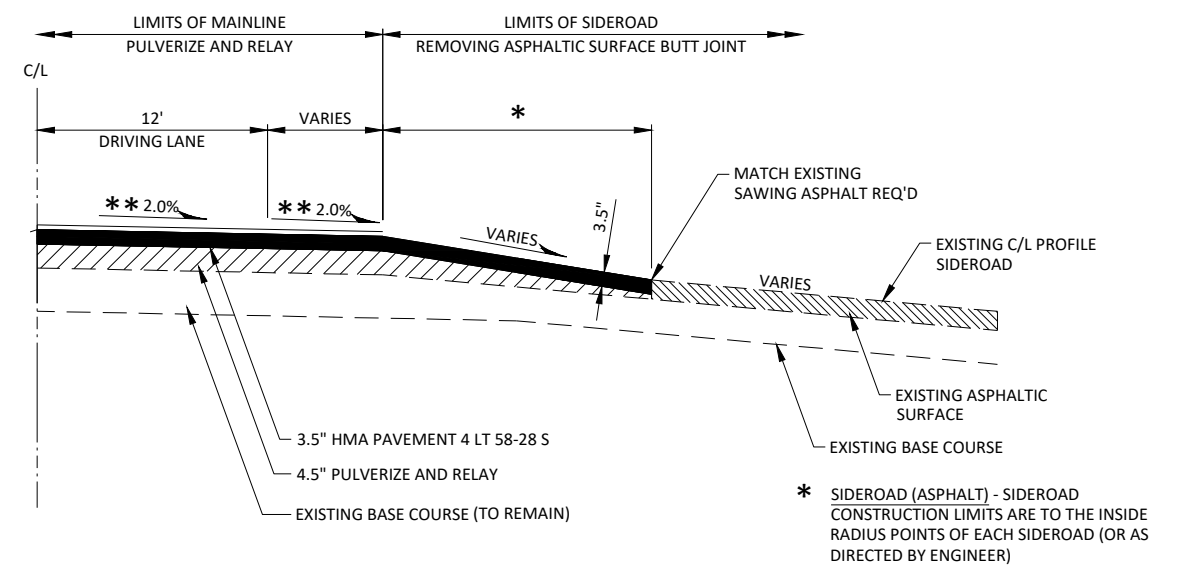


TYPICAL RURAL SIDEROAD DETAIL WITH CURB & GUTTER
MILL AND OVERLAY SECTION
REDBIRD LANE

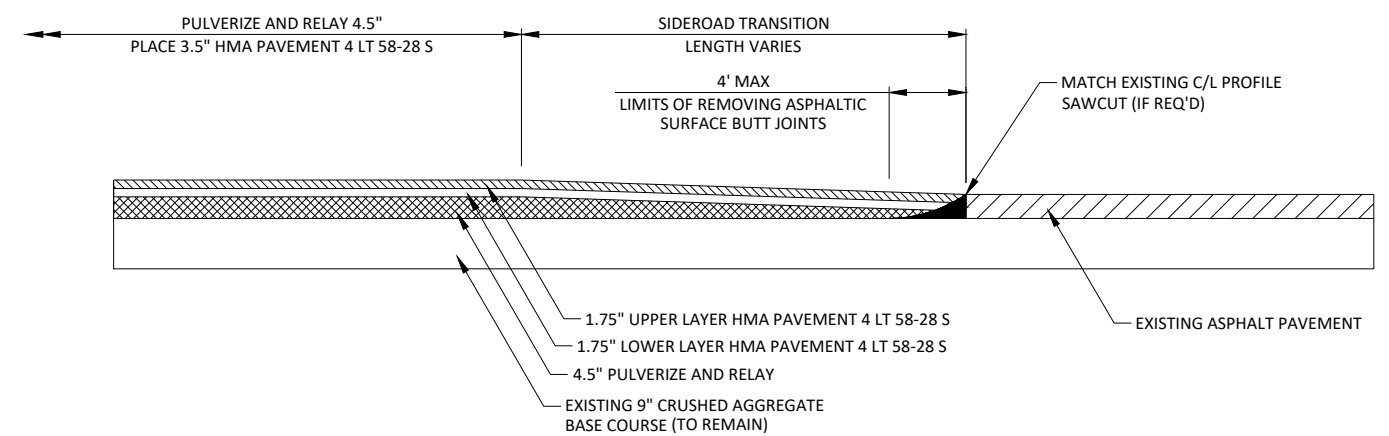
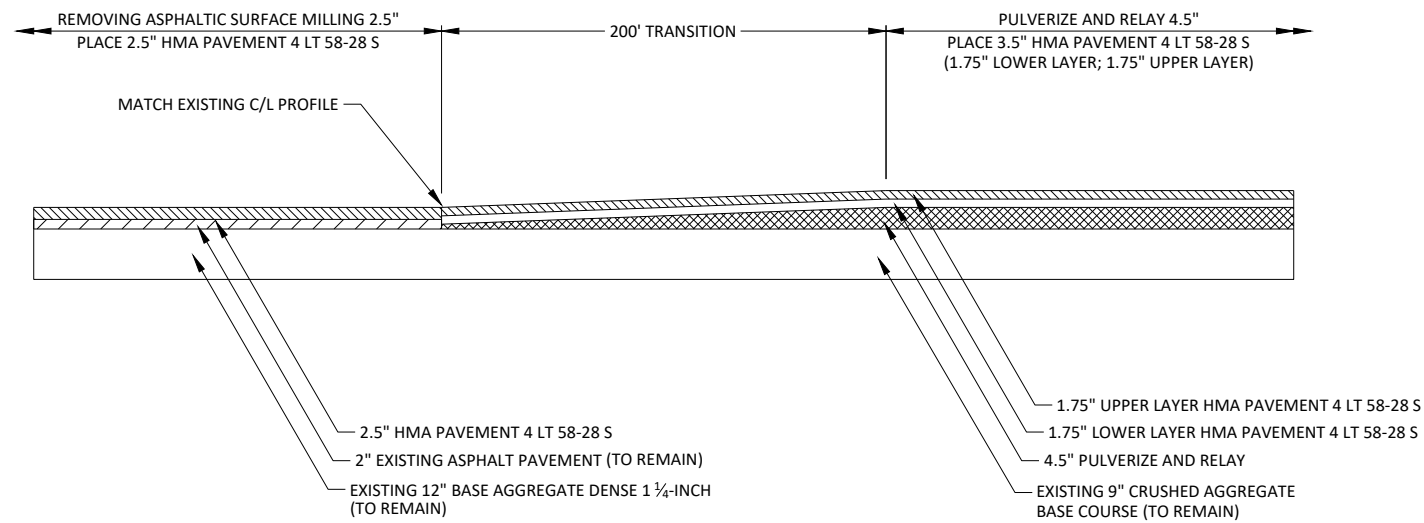
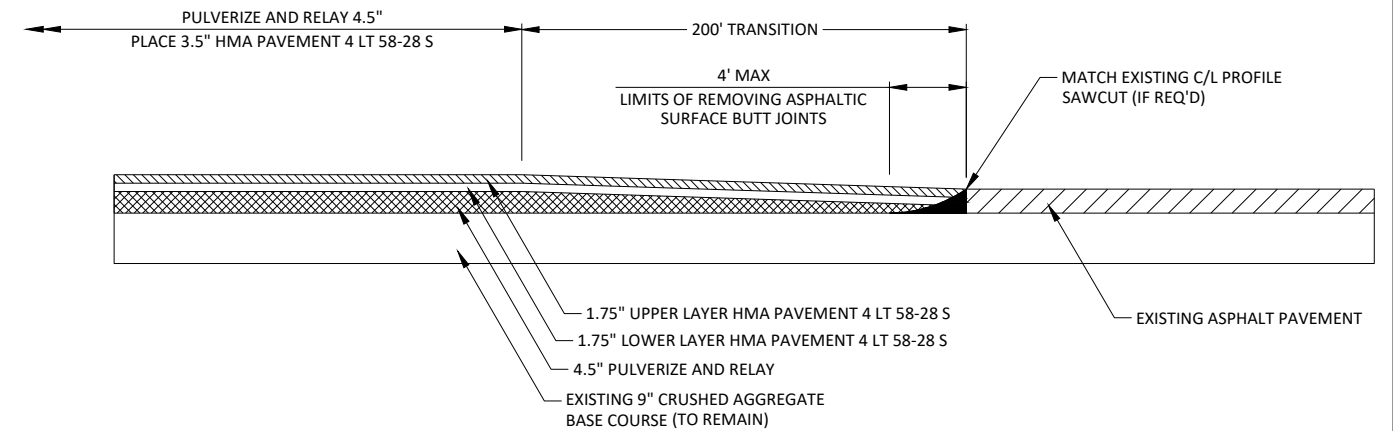
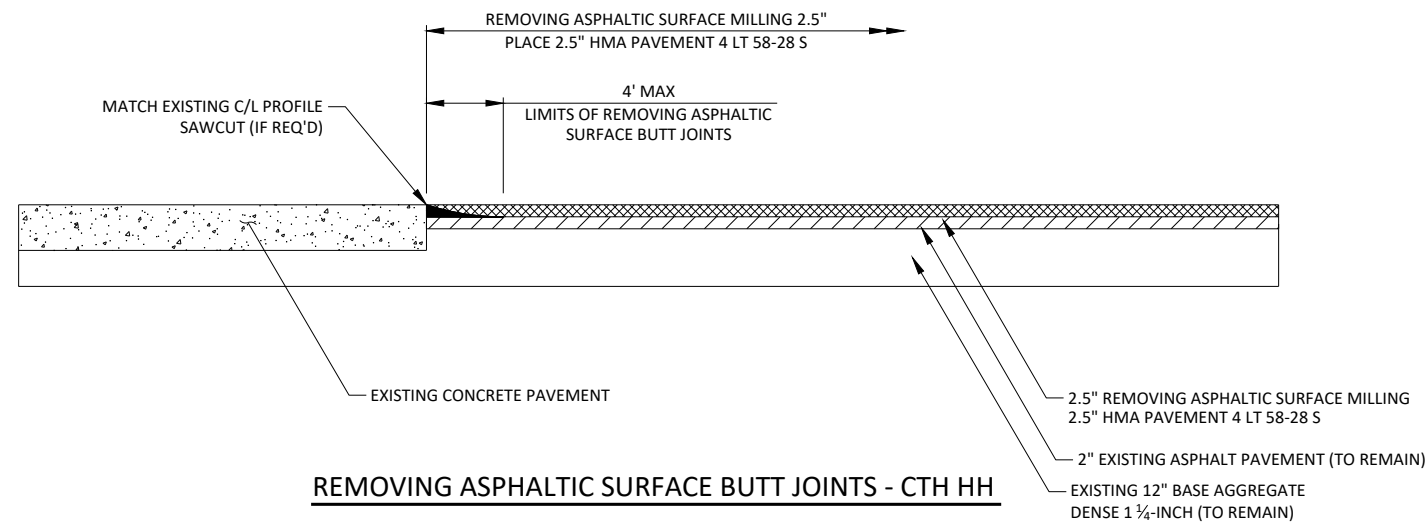


TYPICAL RURAL SIDEROAD DETAIL WITHOUT CURB & GUTTER
PULVERIZE AND RELAY SECTION


SHOESTRING ROAD
HILL ROAD
ROCK LANE
MORGAN ROAD
PULS ROAD

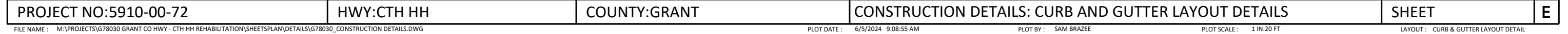


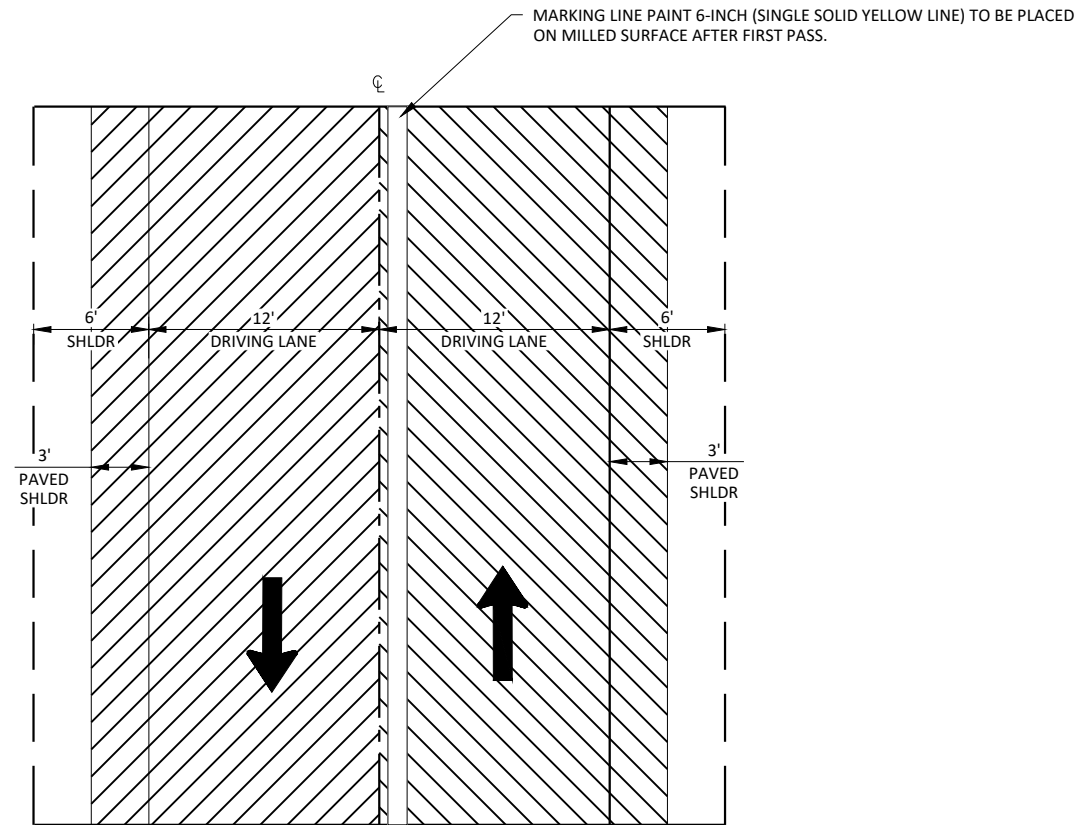
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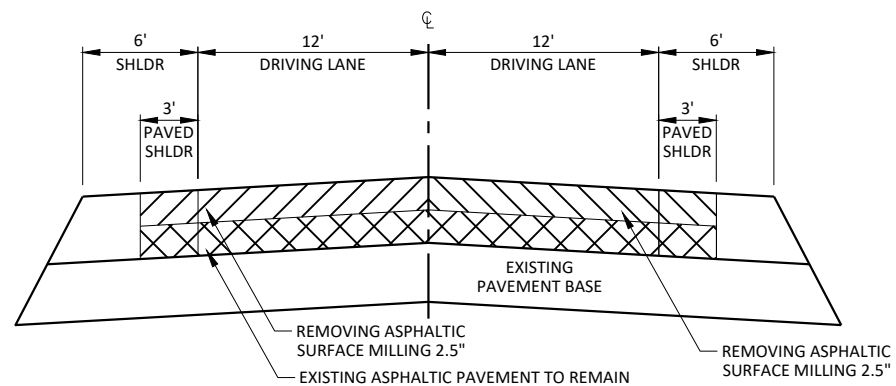
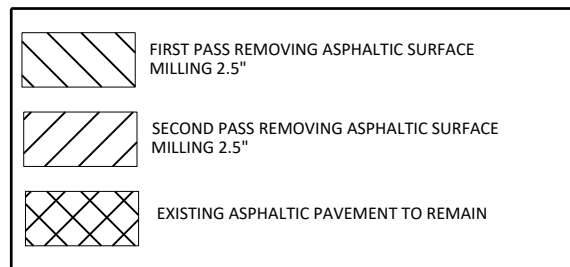
REMOVING ASPHALTIC SURFACE BUTT JOINTS - SIDEROADS

 LIMITS OF SALVAGED TOPSOIL, SEEDING MIXTURE NO. 20,
SEED WATER, FERTILIZER TYPE B, AND MULCHING



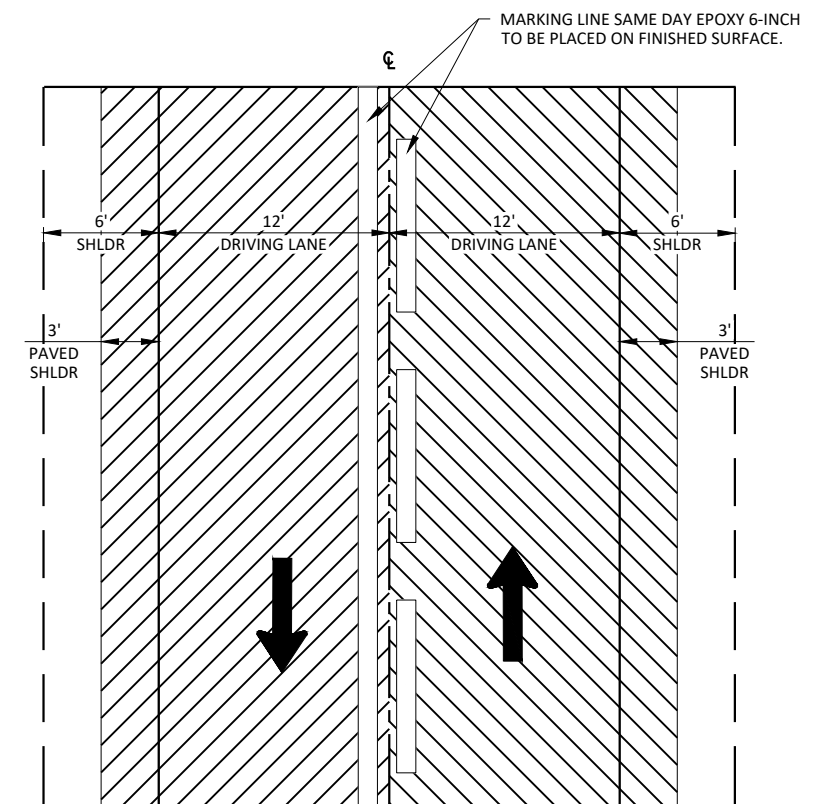


PLAN VIEW

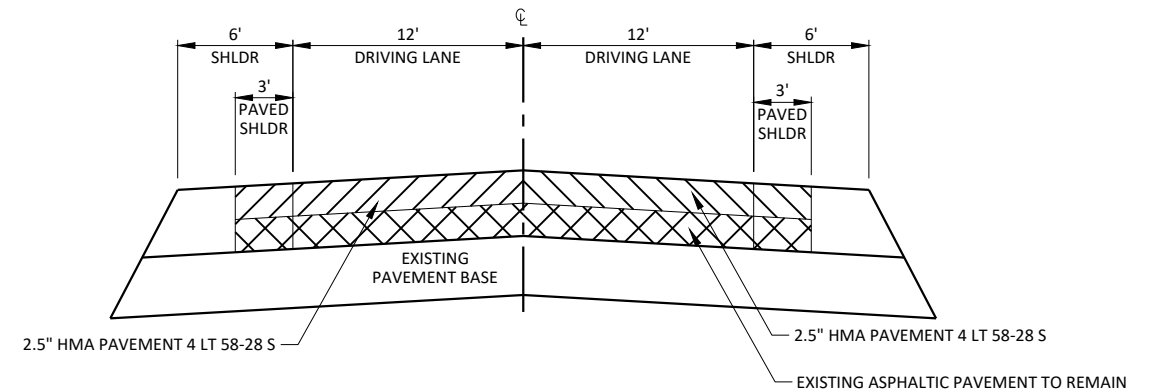
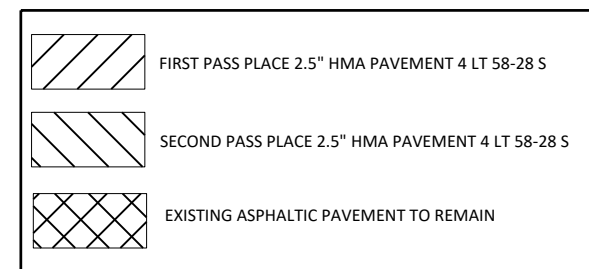


CROSS SECTION VIEW

FIRST PASS DETAIL (MILLING SECTION)

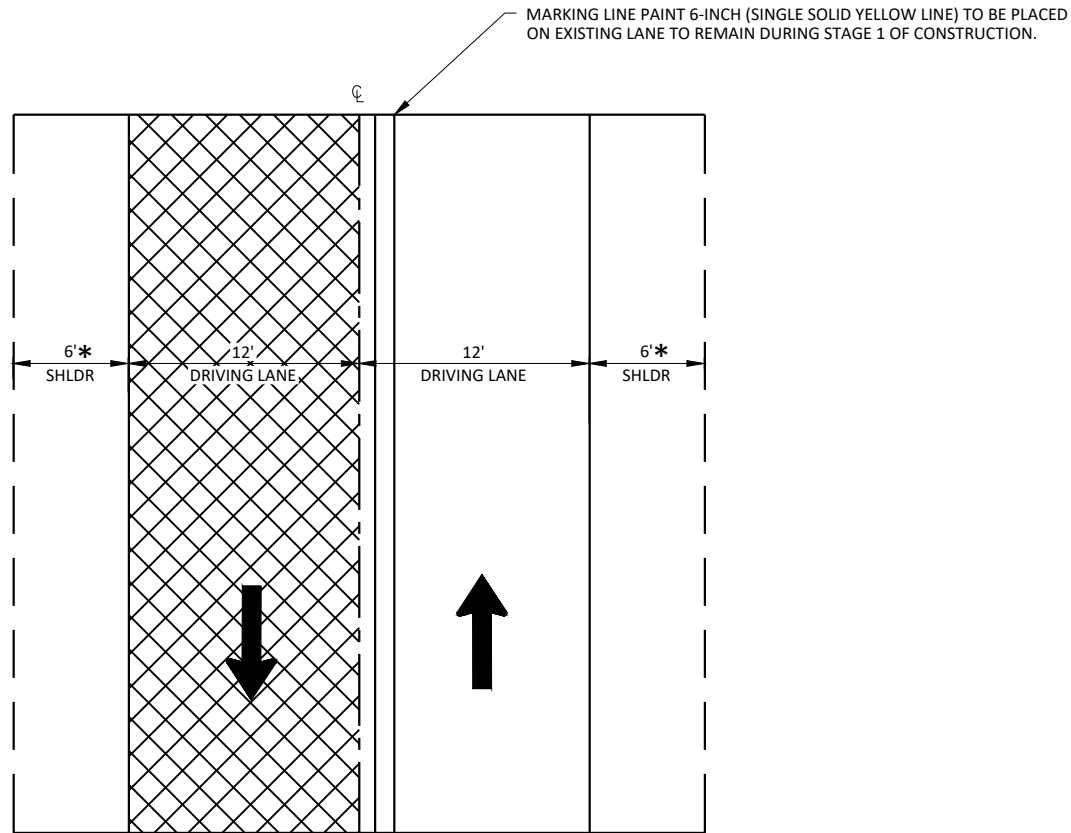


PLAN VIEW

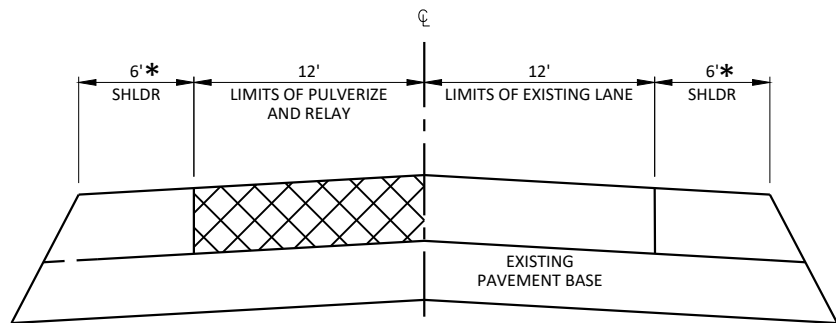
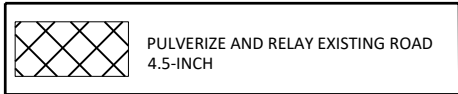


CROSS SECTION VIEW

SECOND PASS DETAIL (MILLING SECTION)



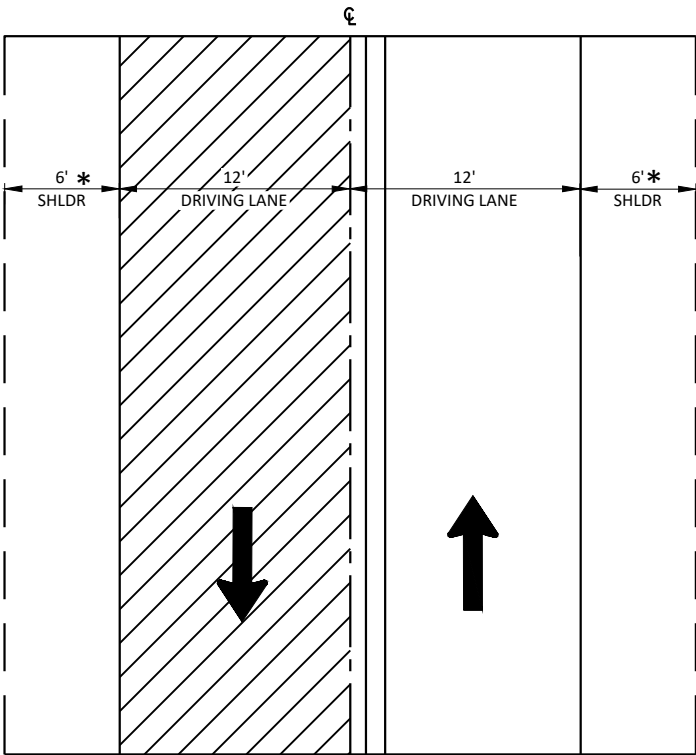
PLAN VIEW



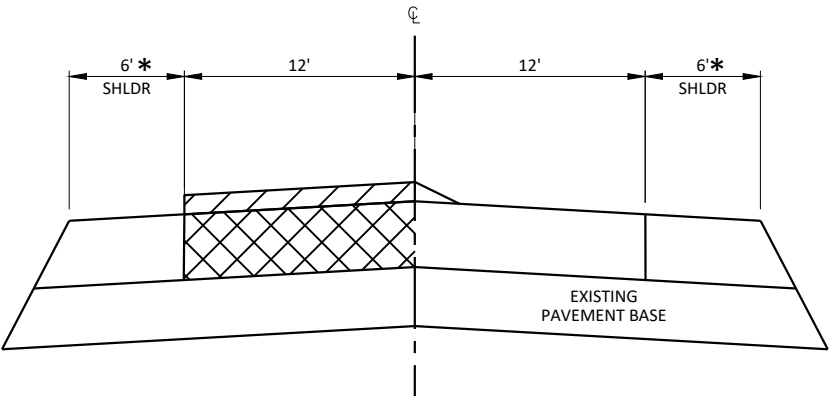
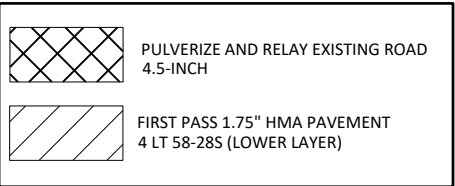
CROSS SECTION VIEW

FIRST PULVERIZE AND RELAY DETAIL

* SHOULDER WIDTHS VARY, SEE TYPICAL SECTIONS FOR MORE INFORMATION



PLAN VIEW

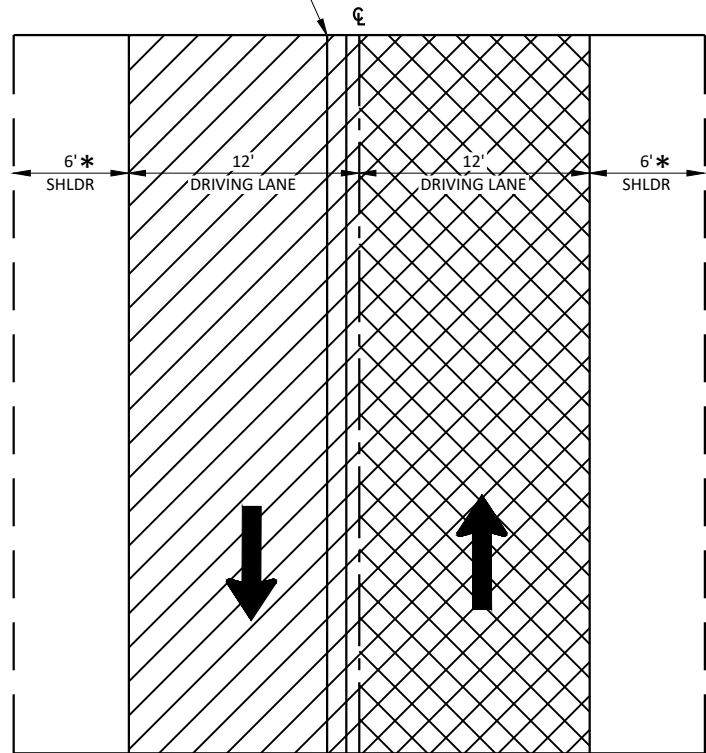


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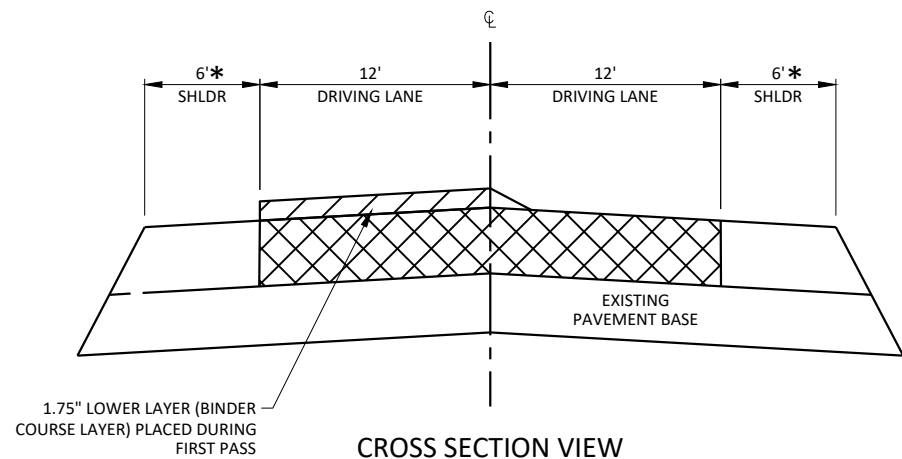
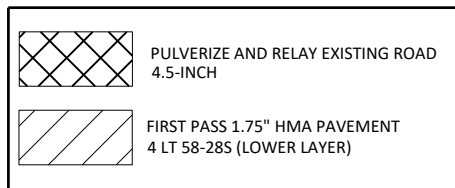
FIRST PASS DETAIL

* SHOULDER WIDTHS VARY, SEE TYPICAL SECTIONS FOR MORE INFORMATION

MARKING LINE PAINT 6-INCH (SINGLE SOLID YELLOW LINE) TO BE PLACED ON LOWER LAYER CONSTRUCTED DURING STAGE 1 OF CONSTRUCTION PRIOR TO PULVERIZE AND RELAYING OF REMAINING LANE.



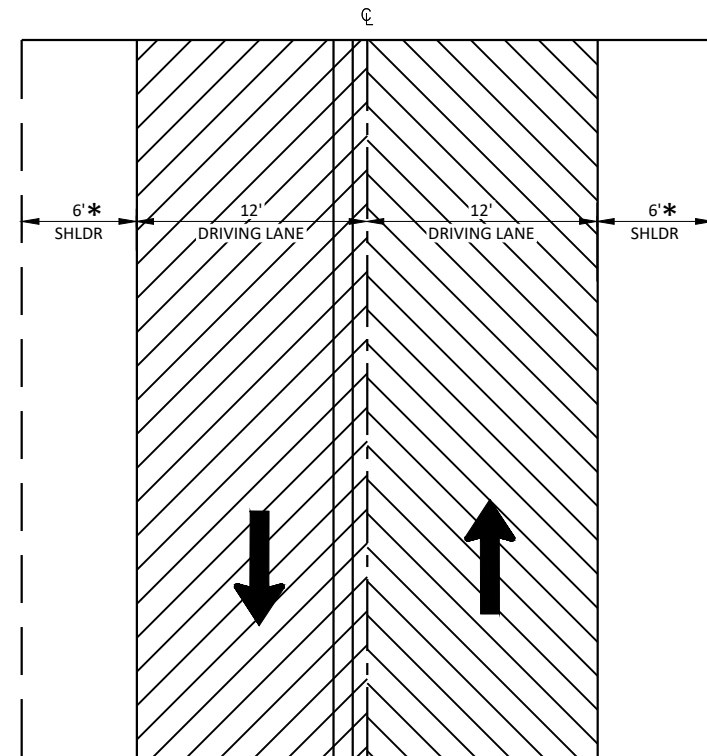
PLAN VIEW



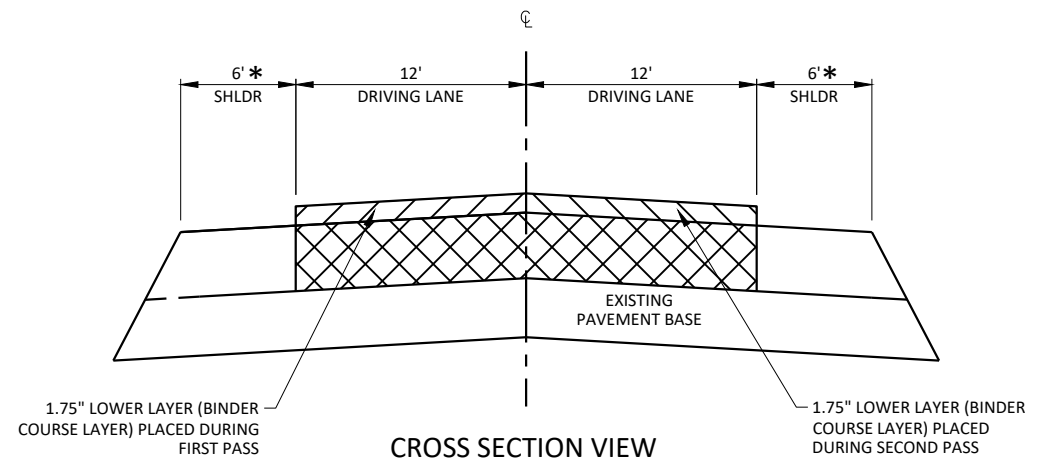
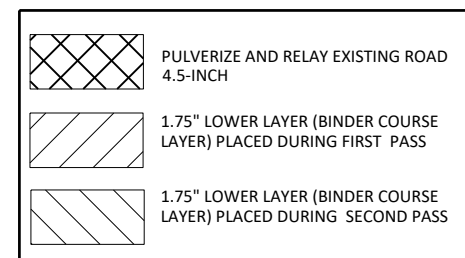
CROSS SECTION VIEW

SECOND PULVERIZE AND RELAY DETAIL

* SHOULDER WIDTHS VARY, SEE TYPICAL SECTIONS FOR MORE INFORMATION



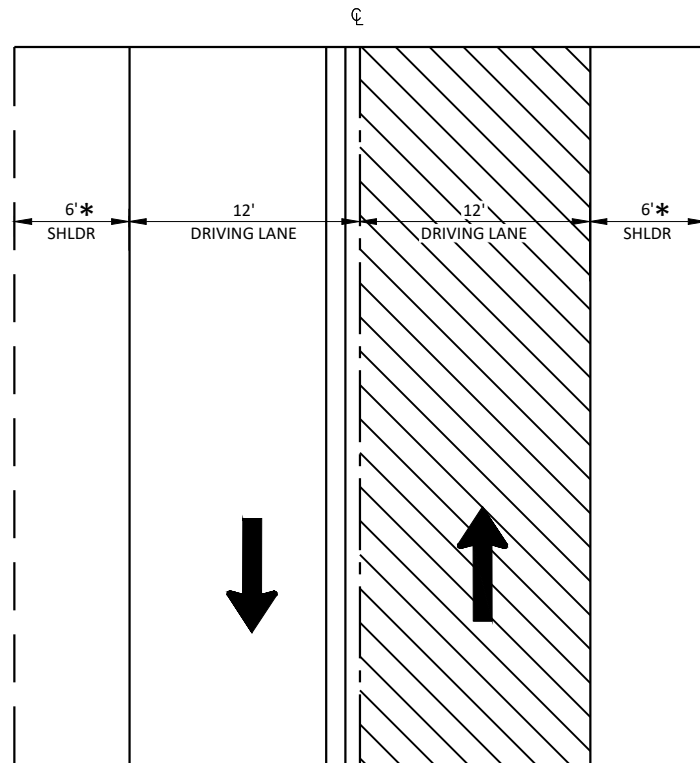
PLAN VIEW



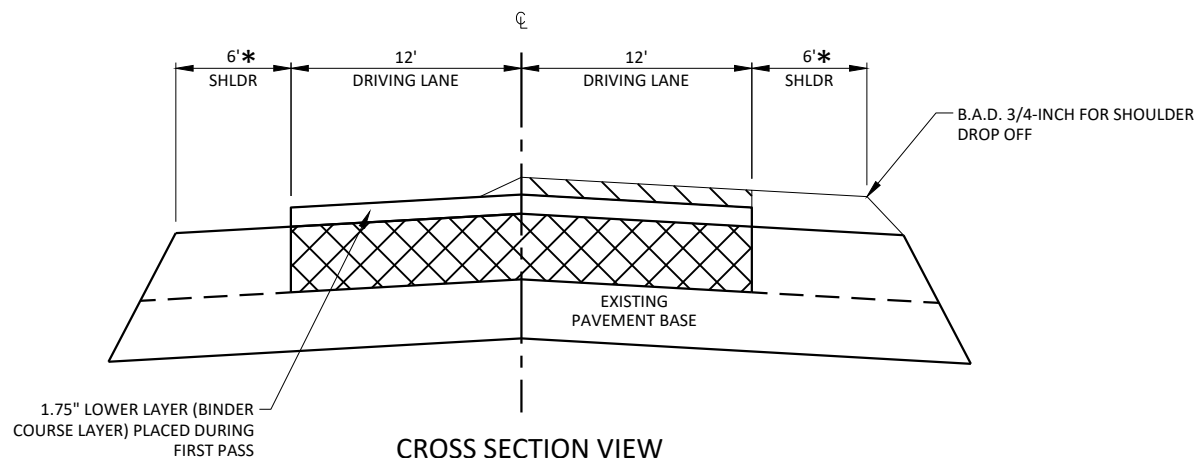
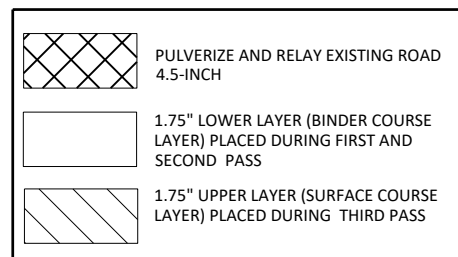
CROSS SECTION VIEW

SECOND PASS DETAIL

* SHOULDER WIDTHS VARY, SEE TYPICAL SECTIONS FOR MORE INFORMATION

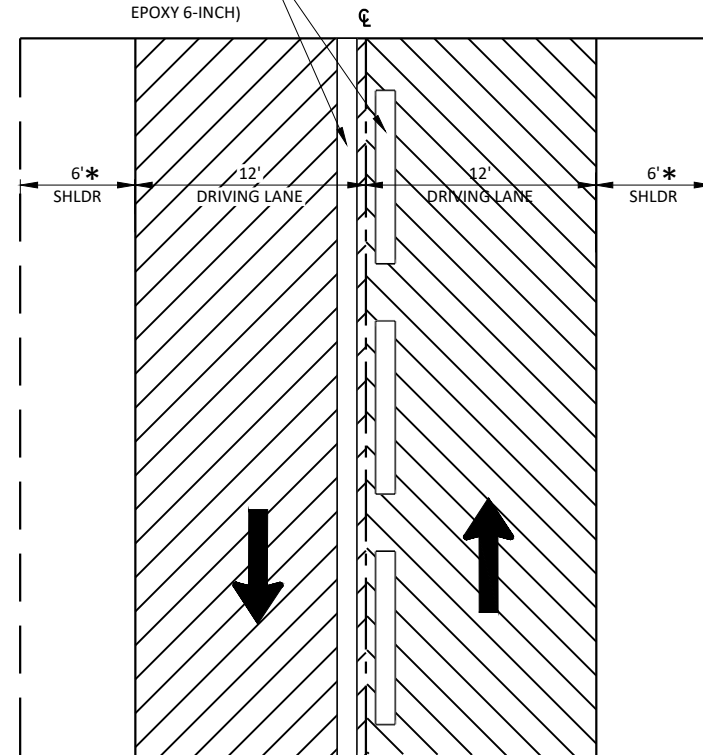


PLAN VIEW

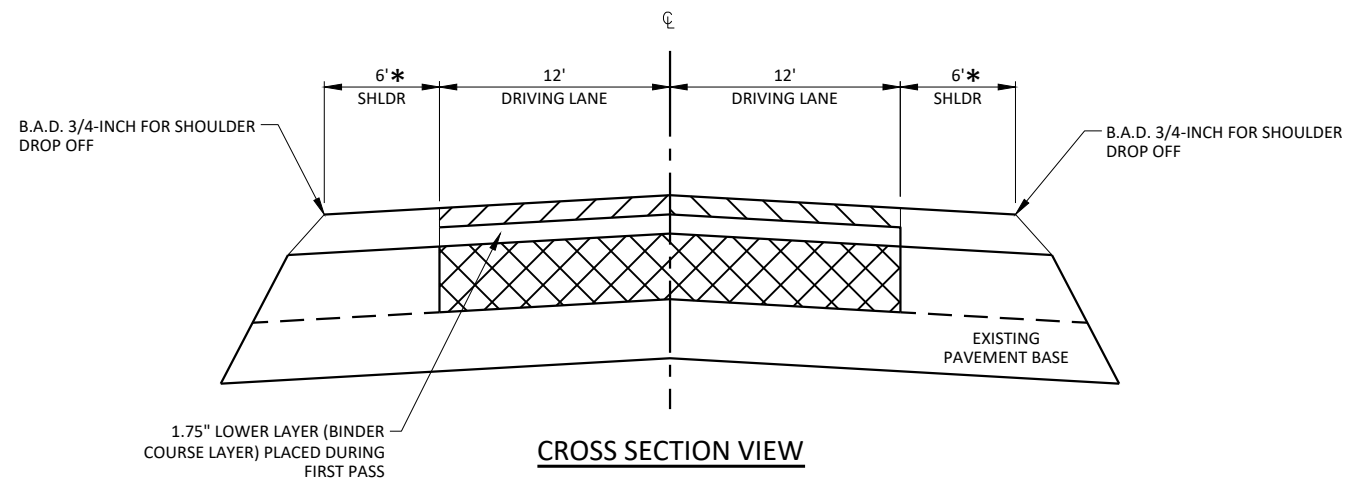
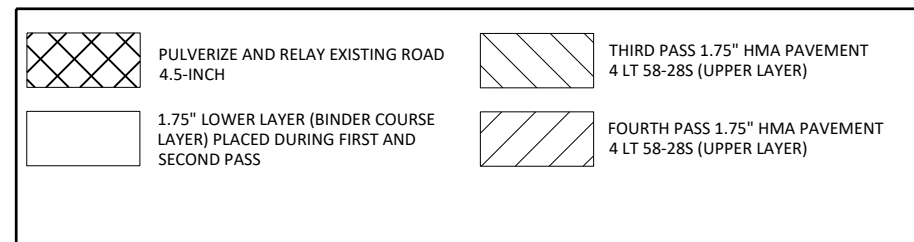


CROSS SECTION VIEW

THIRD PASS DETAIL

* SHOULDER WIDTHS VARY, SEE TYPICAL SECTIONS FOR
MORE INFORMATIONMARKING LINE SAME DAY EPOXY 6-INCH TO BE PLACED SAME
DAY AS PAVING OPERATION (LOCATING NO PASSING ZONE
REQUIRED PRIOR TO PLACEMENT OF MARKING LINE SAME DAY
EPOXY 6-INCH)

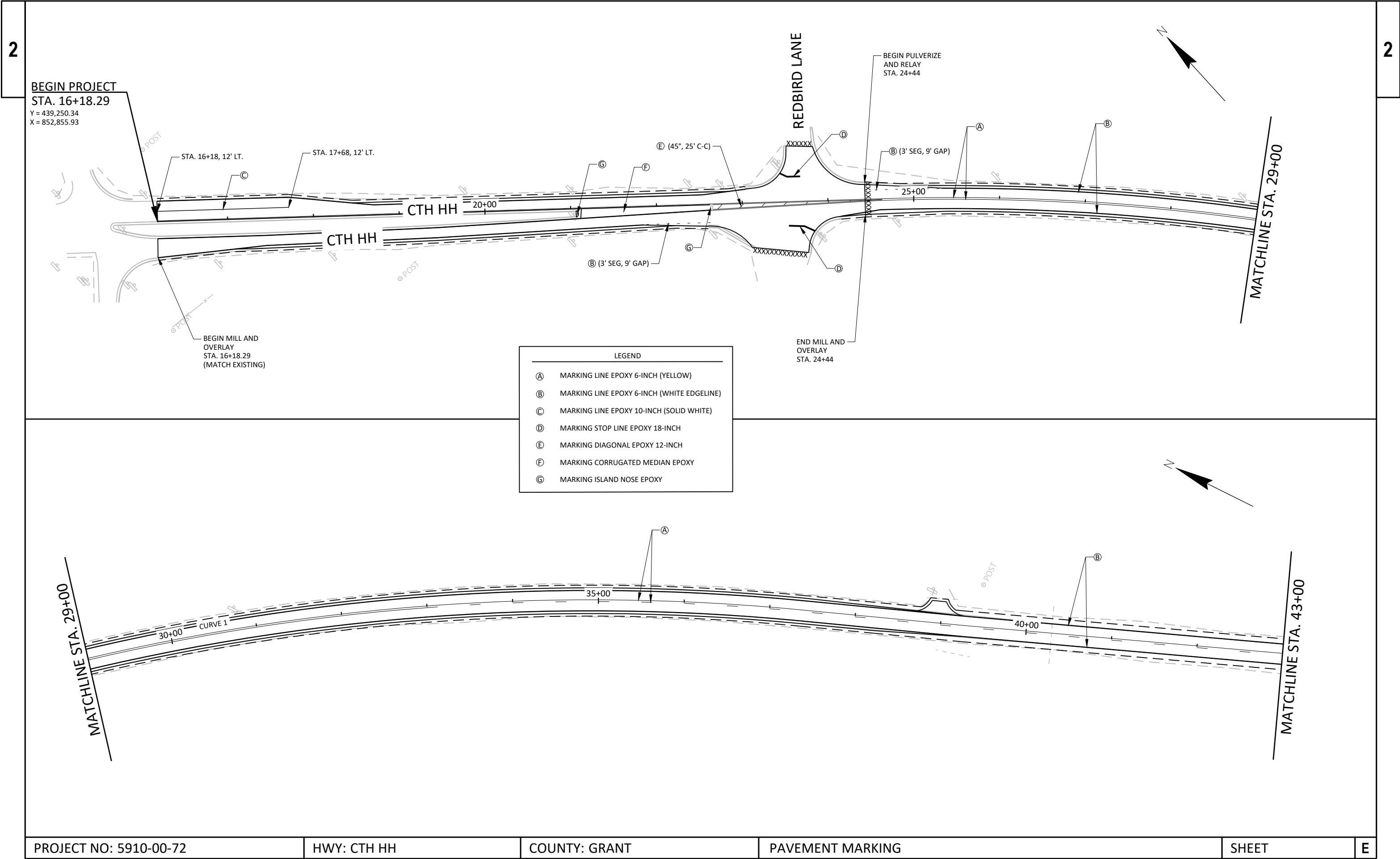
PLAN VIEW

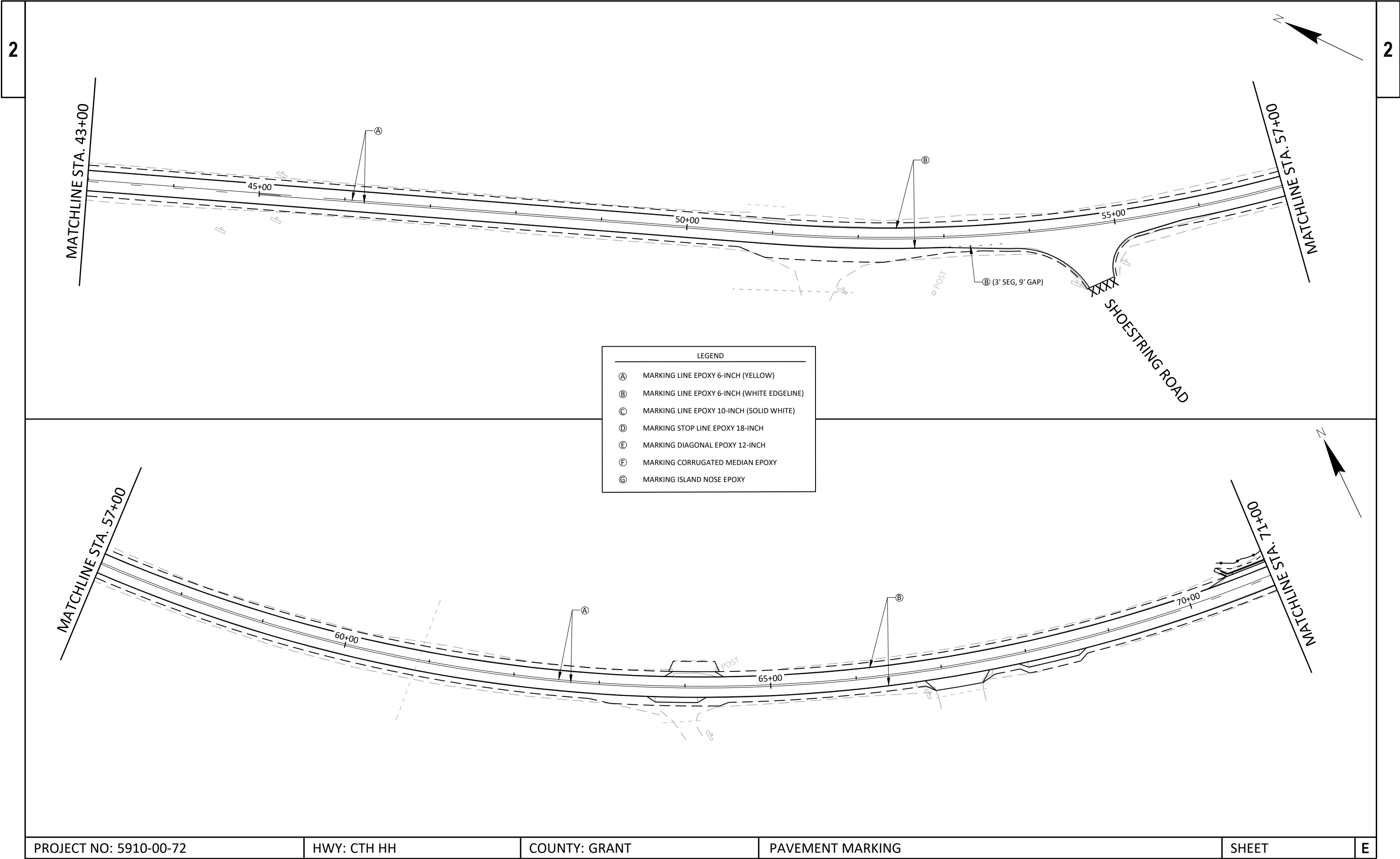


CROSS SECTION VIEW

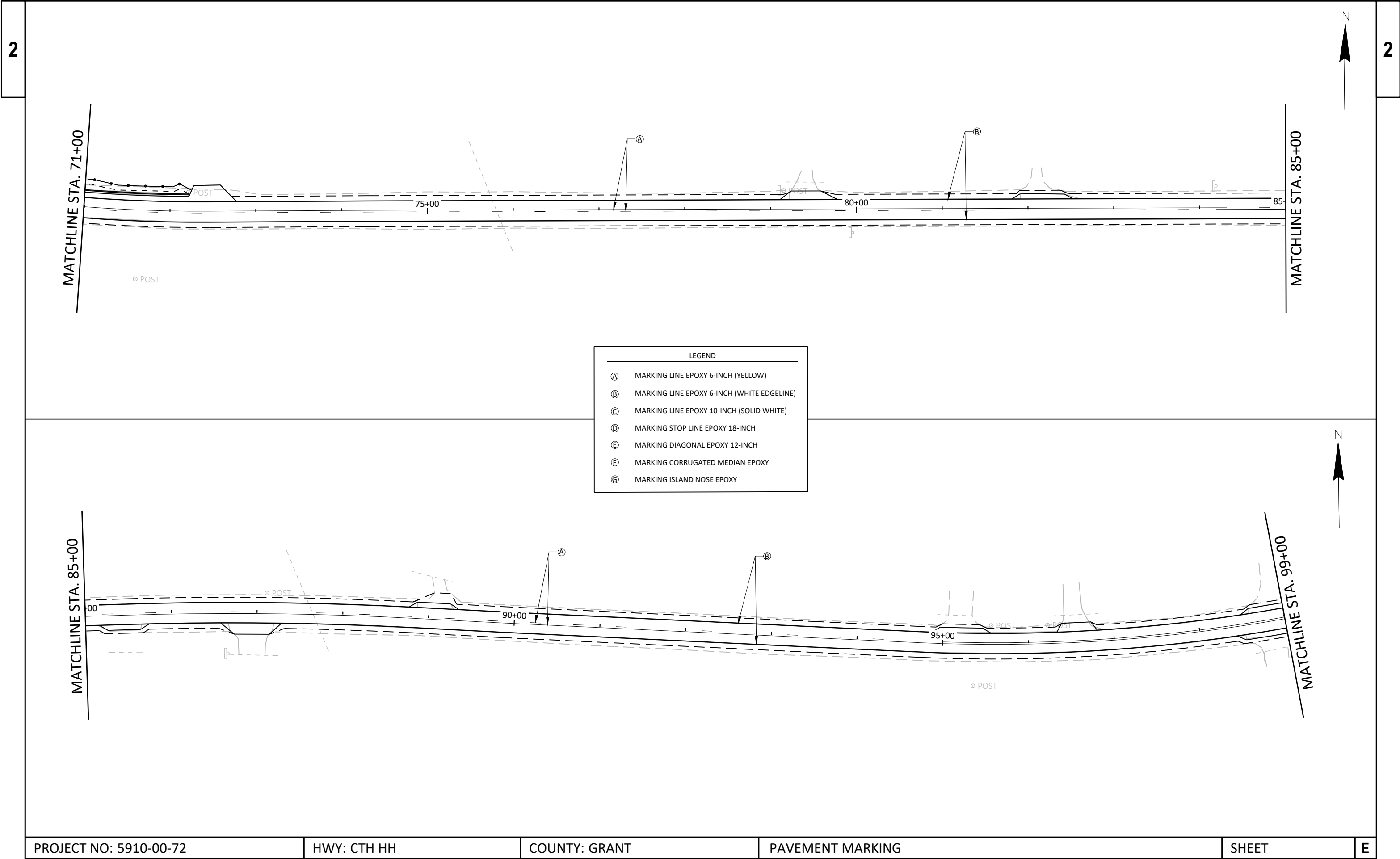
FOURTH PASS DETAIL

* SHOULDER WIDTHS VARY, SEE TYPICAL SECTIONS FOR
MORE INFORMATION

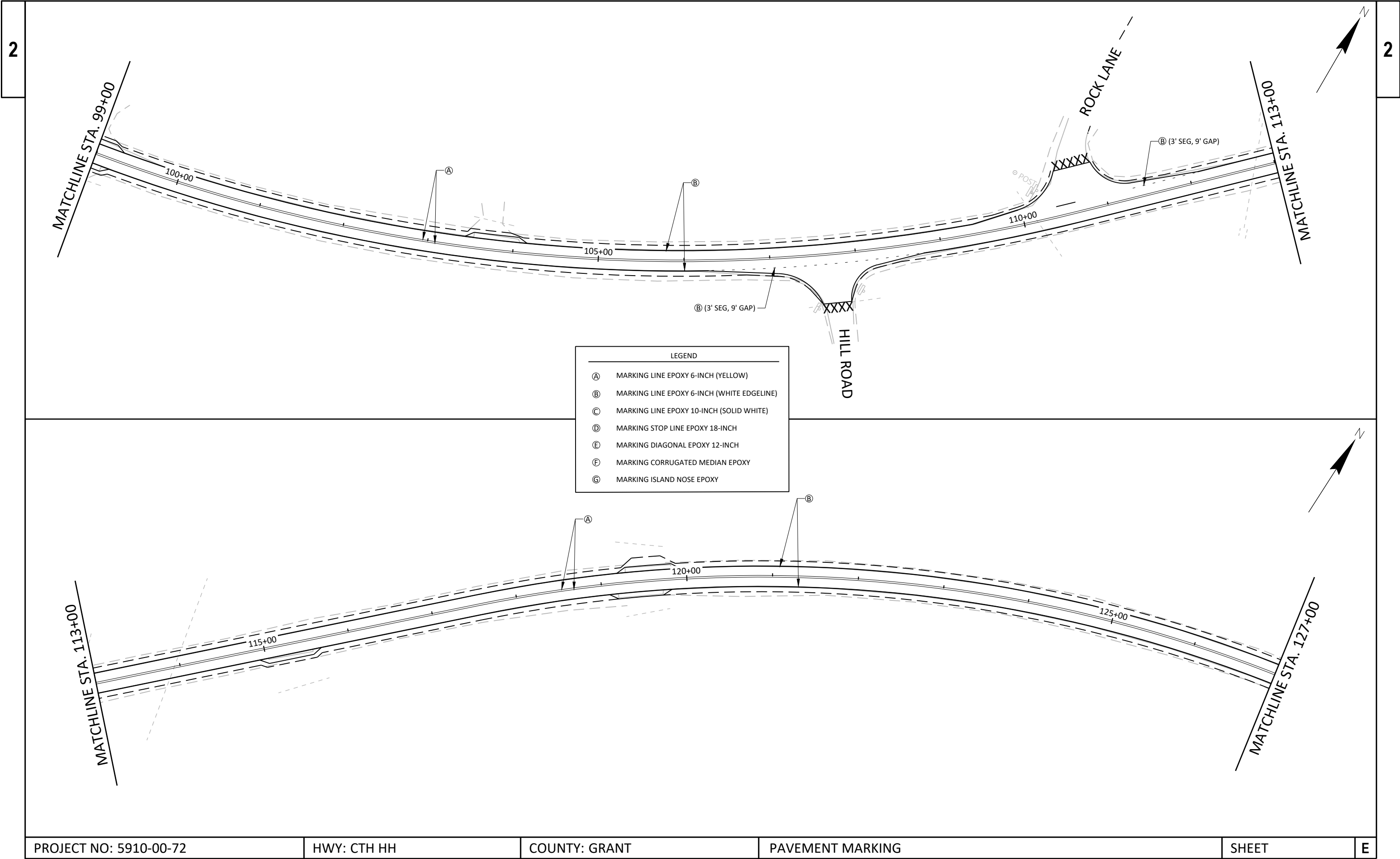




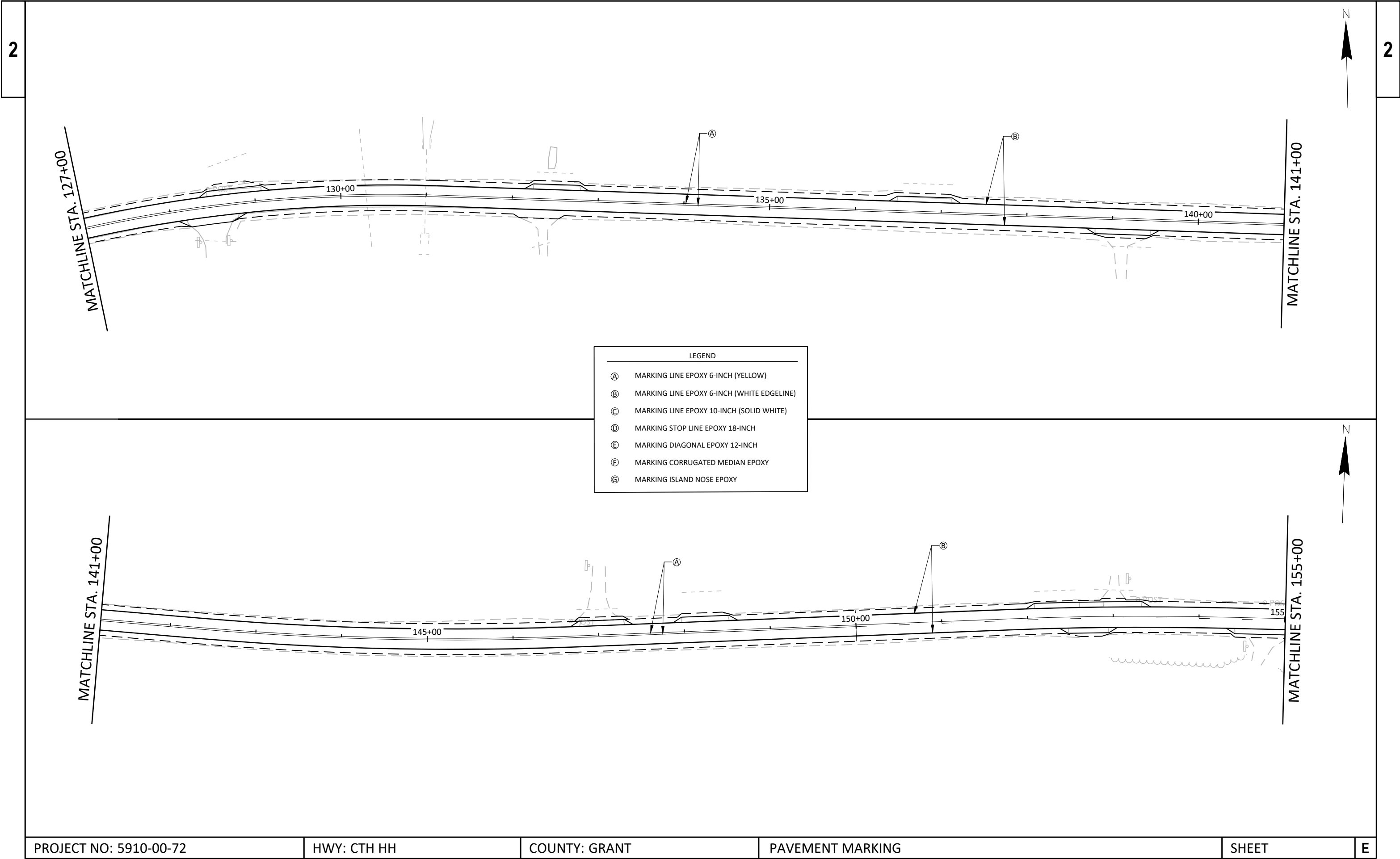
LEGEND	
Ⓐ	MARKING LINE EPOXY 6-INCH (YELLOW)
Ⓑ	MARKING LINE EPOXY 6-INCH (WHITE EDGELINE)
Ⓒ	MARKING LINE EPOXY 10-INCH (SOLID WHITE)
Ⓓ	MARKING STOP LINE EPOXY 18-INCH
Ⓔ	MARKING DIAGONAL EPOXY 12-INCH
Ⓕ	MARKING CORRUGATED MEDIAN EPOXY
Ⓖ	MARKING ISLAND NOSE EPOXY



LEGEND	
(A)	MARKING LINE EPOXY 6-INCH (YELLOW)
(B)	MARKING LINE EPOXY 6-INCH (WHITE EDGELINE)
(C)	MARKING LINE EPOXY 10-INCH (SOLID WHITE)
(D)	MARKING STOP LINE EPOXY 18-INCH
(E)	MARKING DIAGONAL EPOXY 12-INCH
(F)	MARKING CORRUGATED MEDIAN EPOXY
(G)	MARKING ISLAND NOSE EPOXY

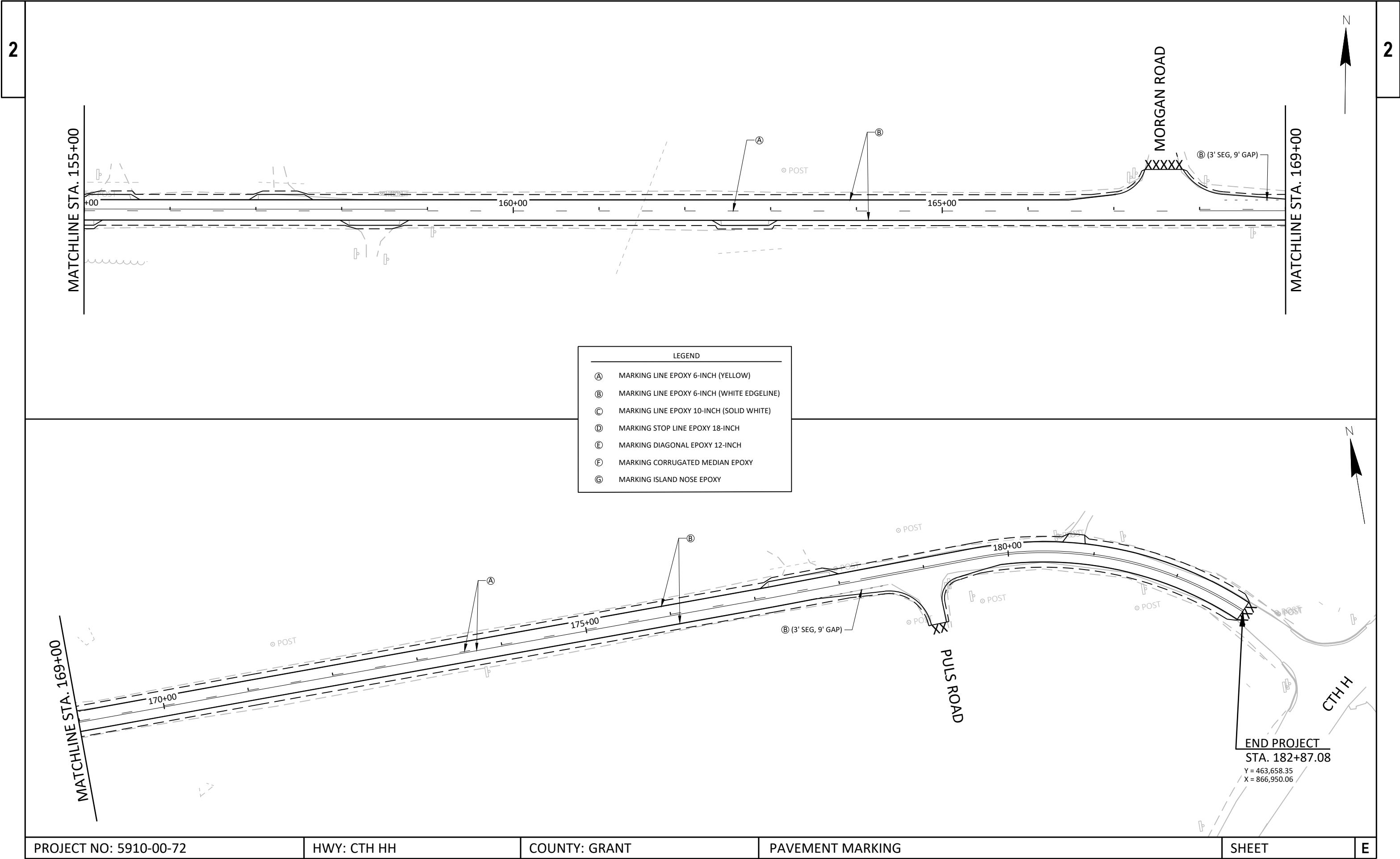


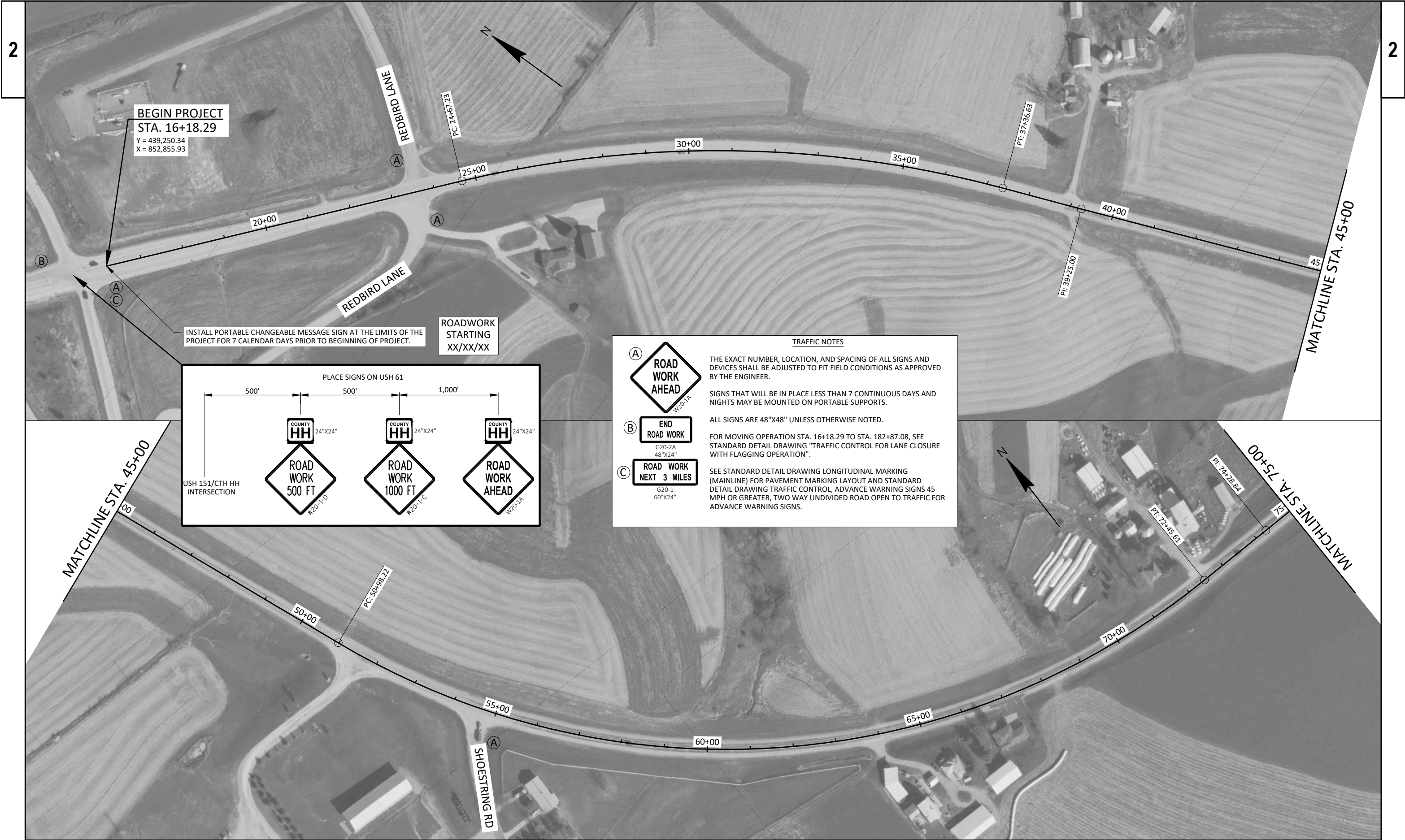
LEGEND	
Ⓐ	MARKING LINE EPOXY 6-INCH (YELLOW)
Ⓑ	MARKING LINE EPOXY 6-INCH (WHITE EDGELINE)
Ⓒ	MARKING LINE EPOXY 10-INCH (SOLID WHITE)
Ⓓ	MARKING STOP LINE EPOXY 18-INCH
Ⓔ	MARKING DIAGONAL EPOXY 12-INCH
Ⓕ	MARKING CORRUGATED MEDIAN EPOXY
Ⓖ	MARKING ISLAND NOSE EPOXY



2

2







TRAFFIC NOTES

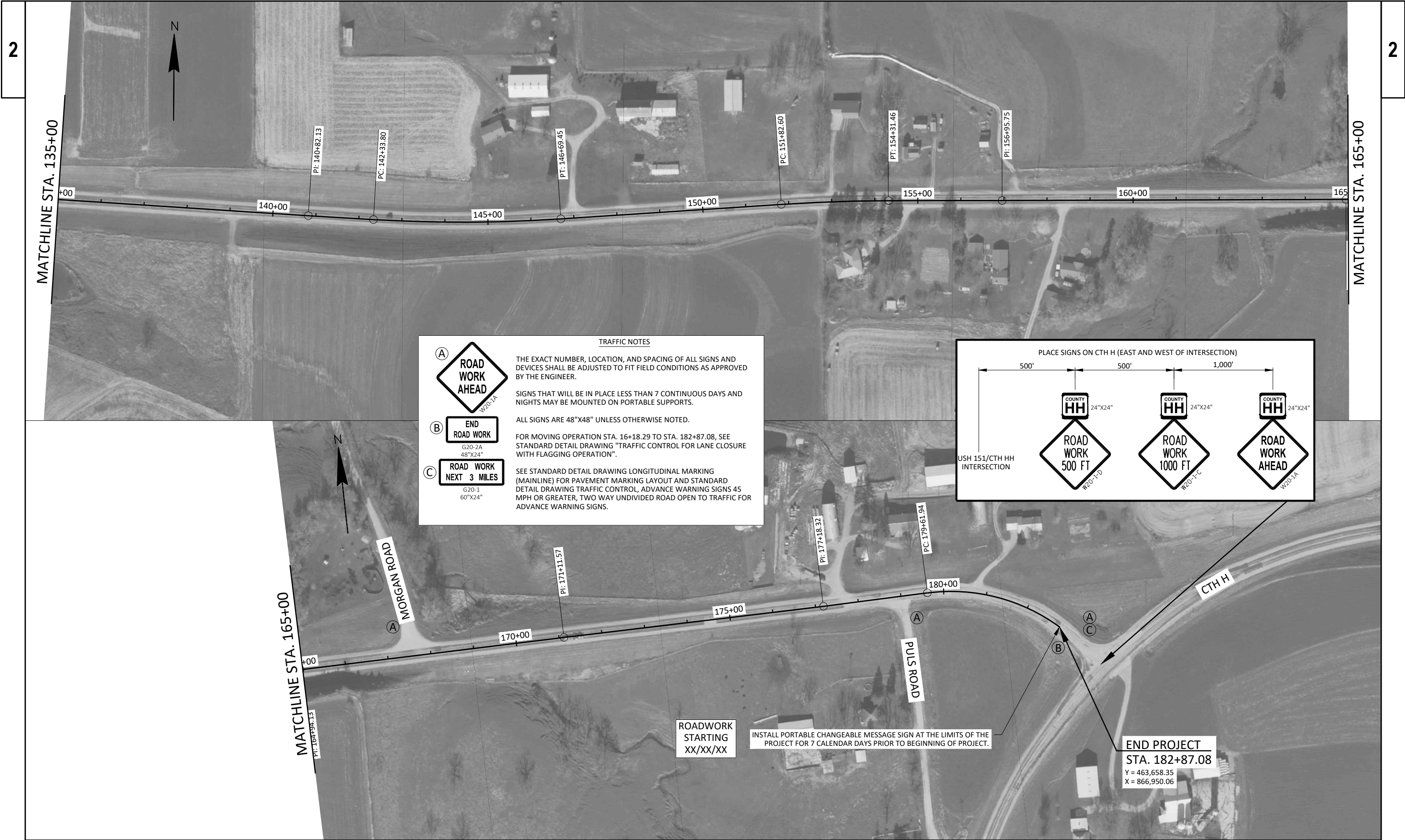
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

FOR MOVING OPERATION STA. 16+18.29 TO STA. 182+87.08, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".

SEE STANDARD DETAIL DRAWING LONGITUDINAL MARKING (MAINLINE) FOR PAVEMENT MARKING LAYOUT AND STANDARD DETAIL DRAWING TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC FOR ADVANCE WARNING SIGNS.



TRAFFIC NOTES

(A) ROAD WORK AHEAD
W20-1A

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

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

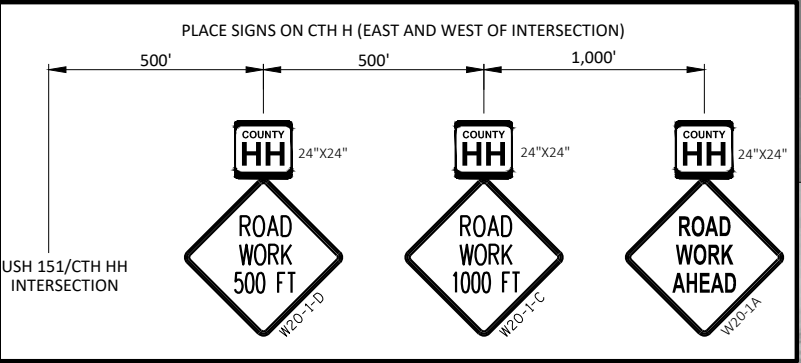
(B) END ROAD WORK
G20-2A
48"X24"

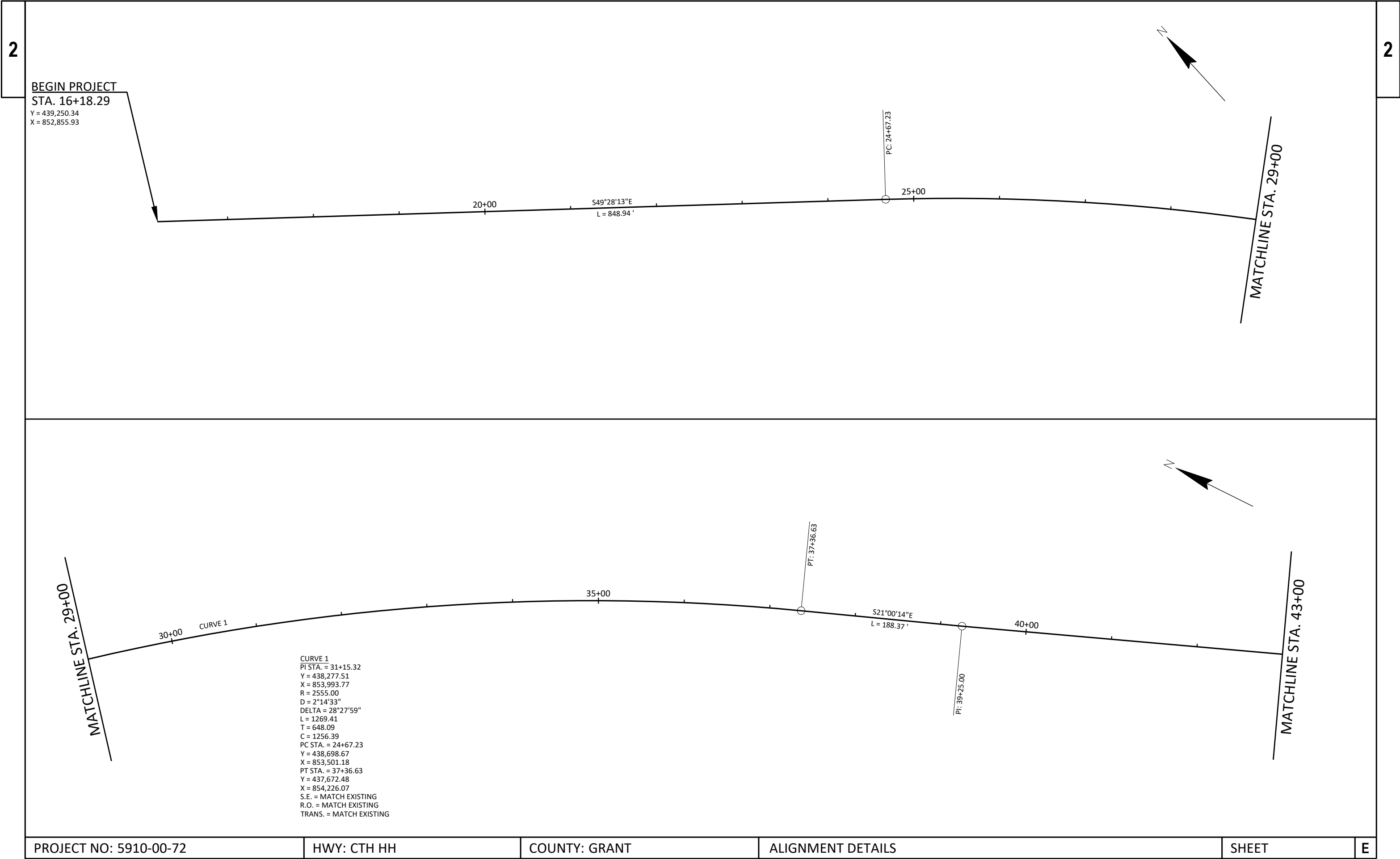
ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

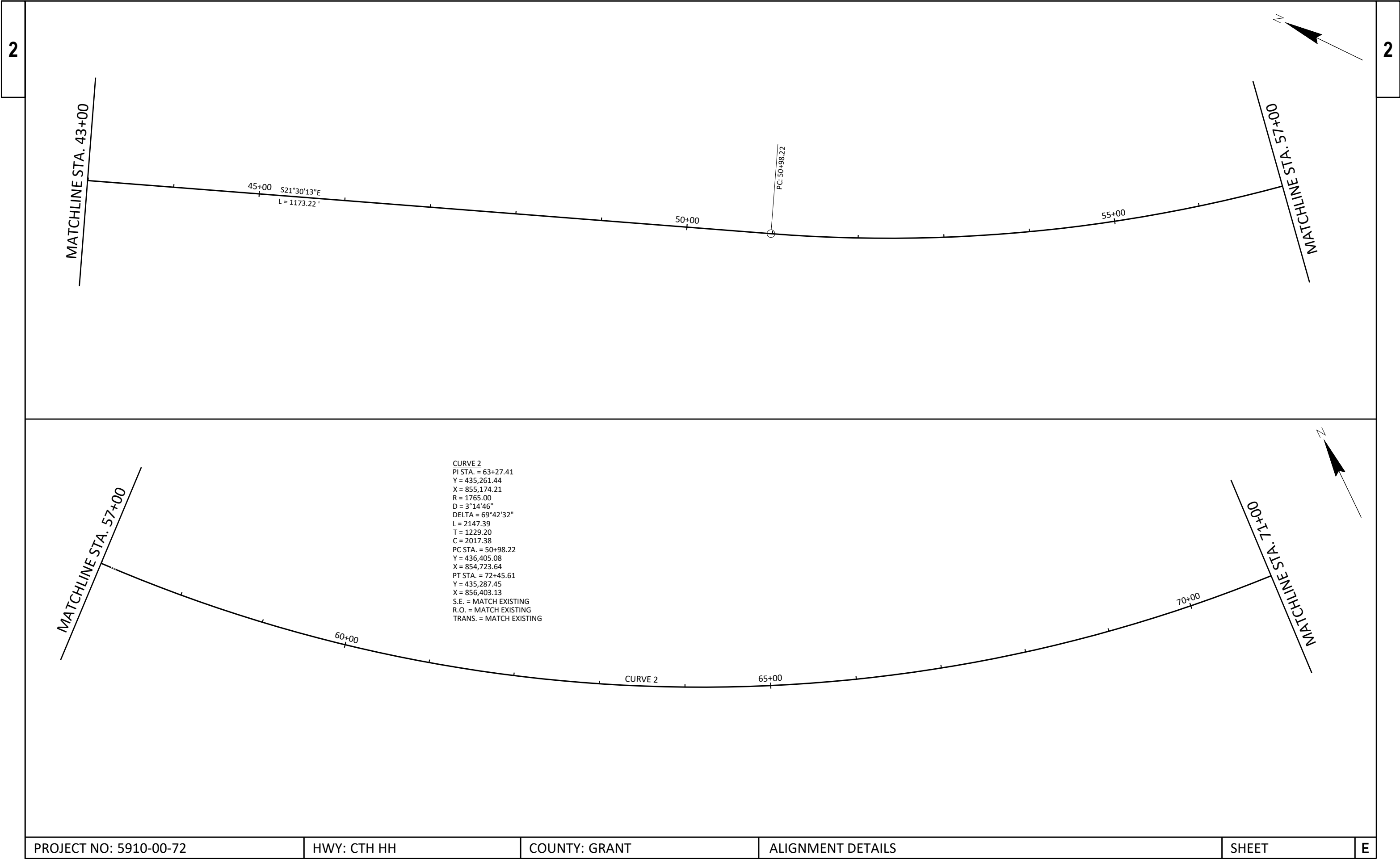
FOR MOVING OPERATION STA. 16+18.29 TO STA. 182+87.08, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".

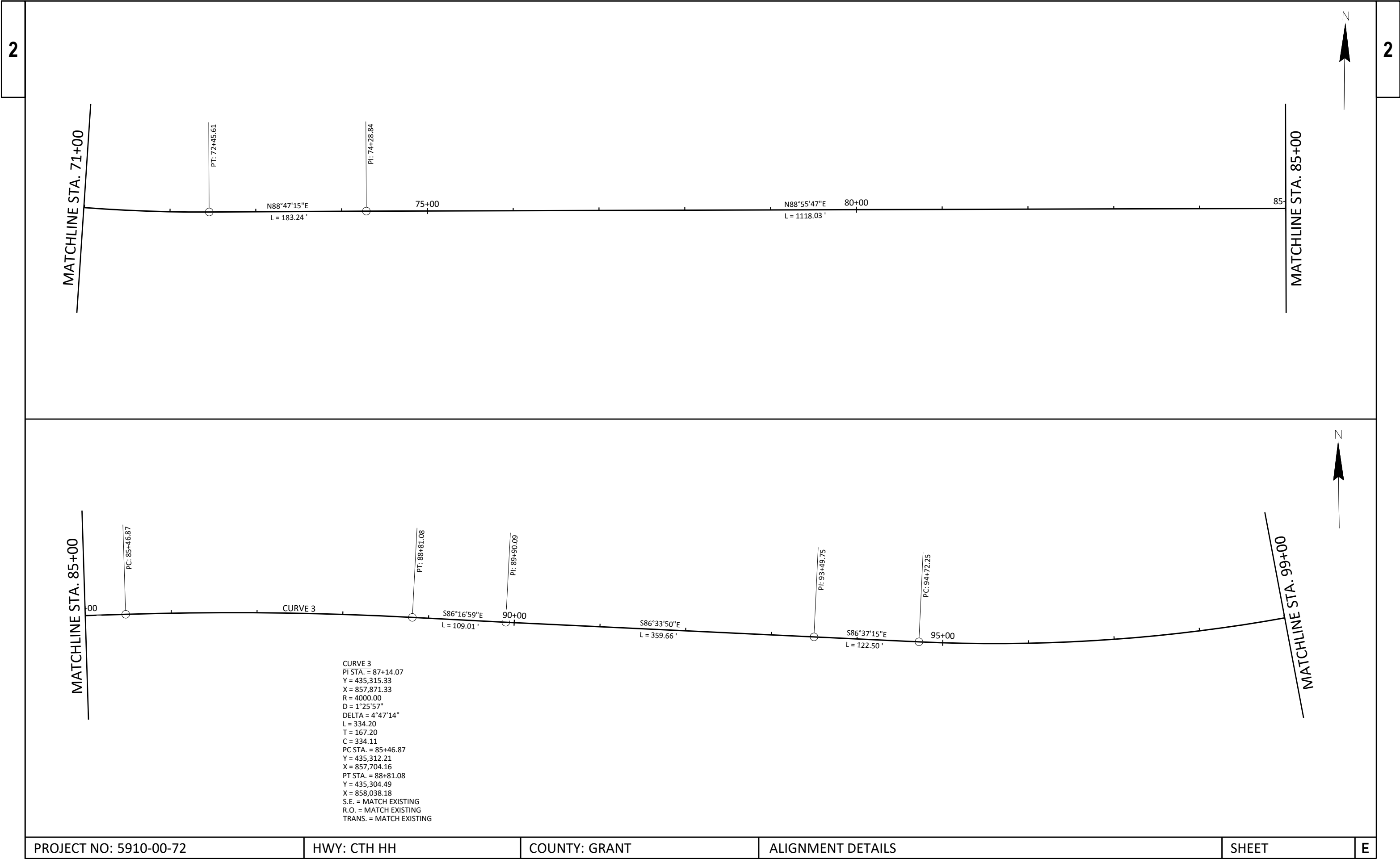
(C) ROAD WORK NEXT 3 MILES
G20-1
60"X24"

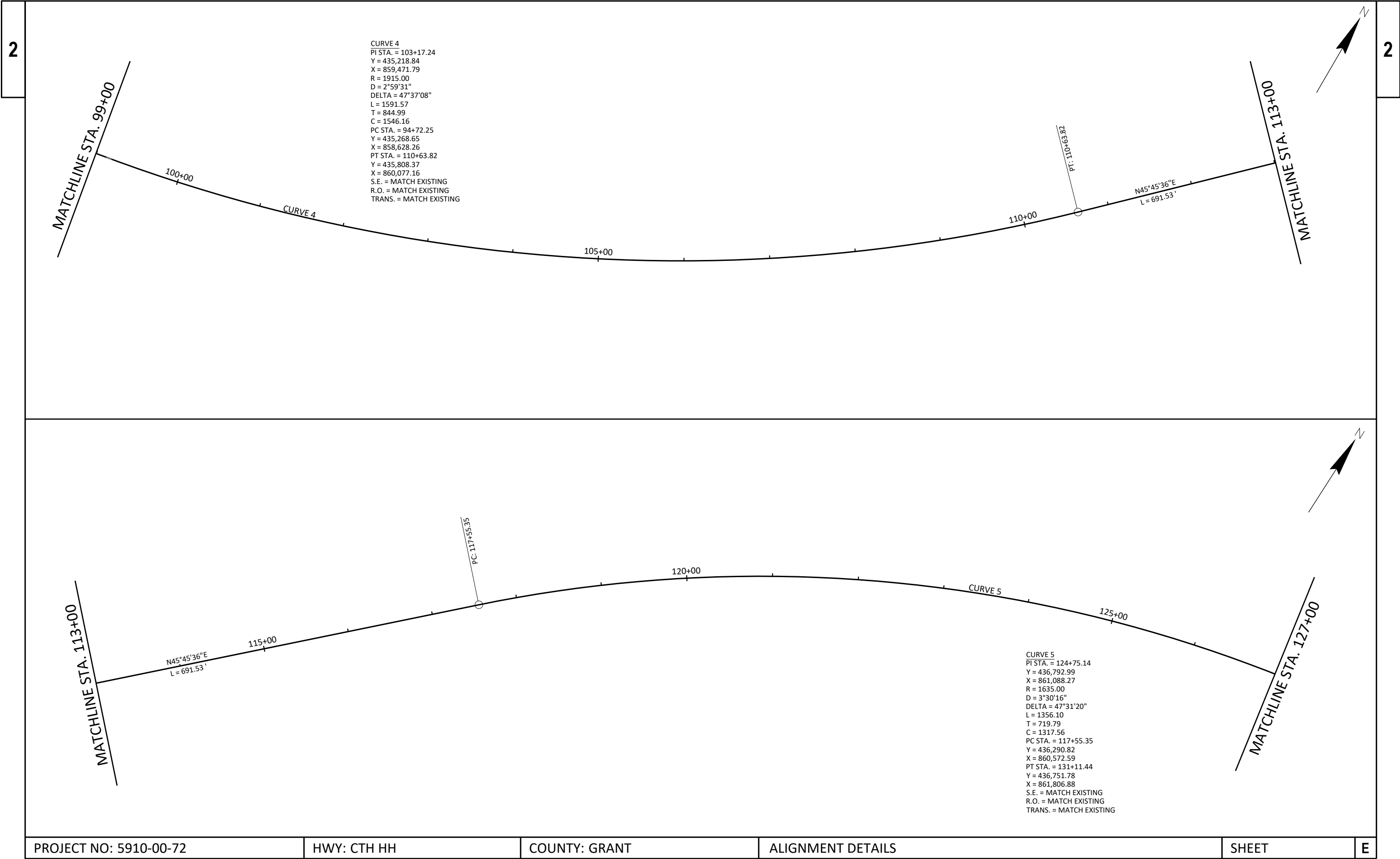
SEE STANDARD DETAIL DRAWING LONGITUDINAL MARKING (MAINLINE) FOR PAVEMENT MARKING LAYOUT AND STANDARD DETAIL DRAWING TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC FOR ADVANCE WARNING SIGNS.

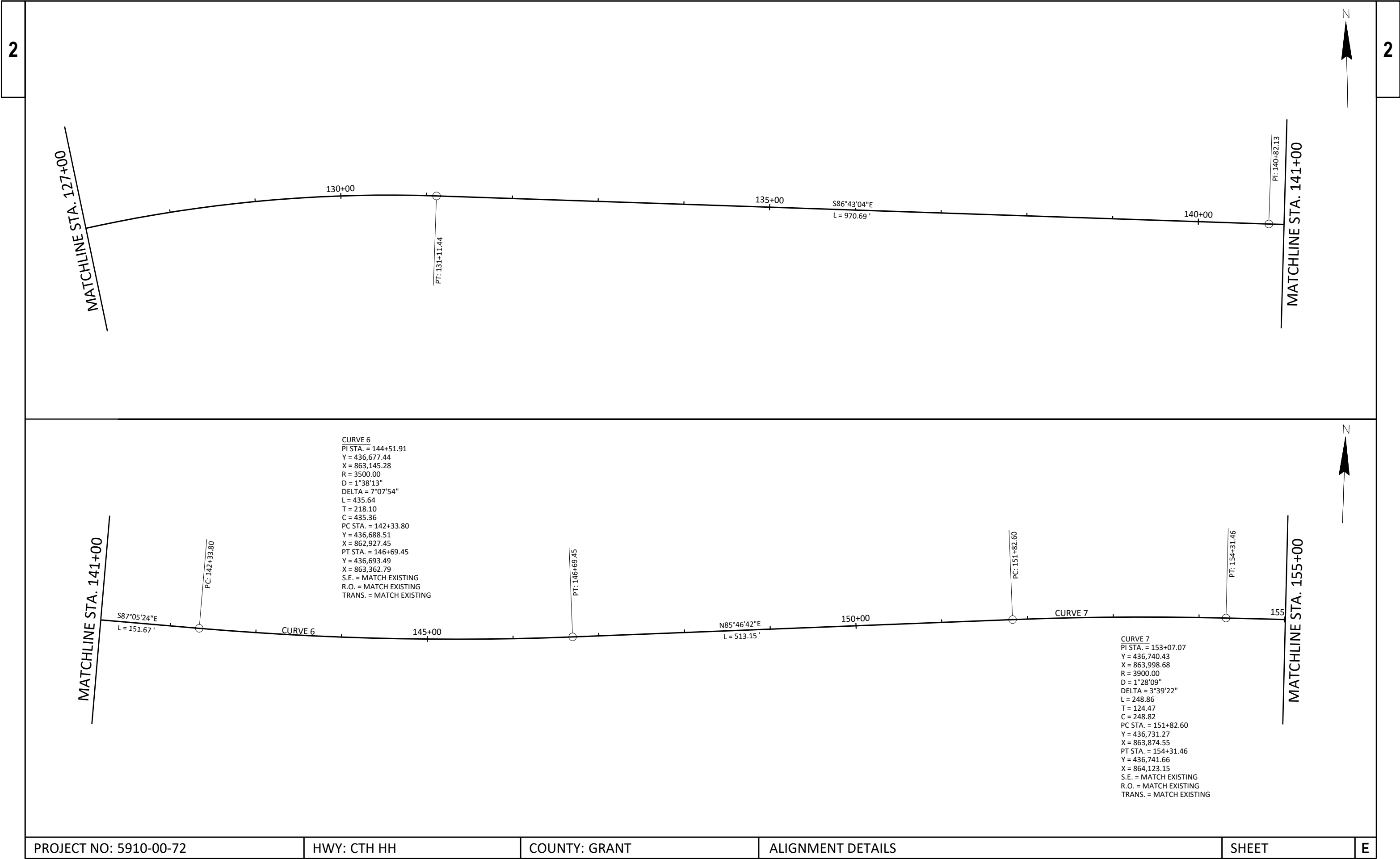


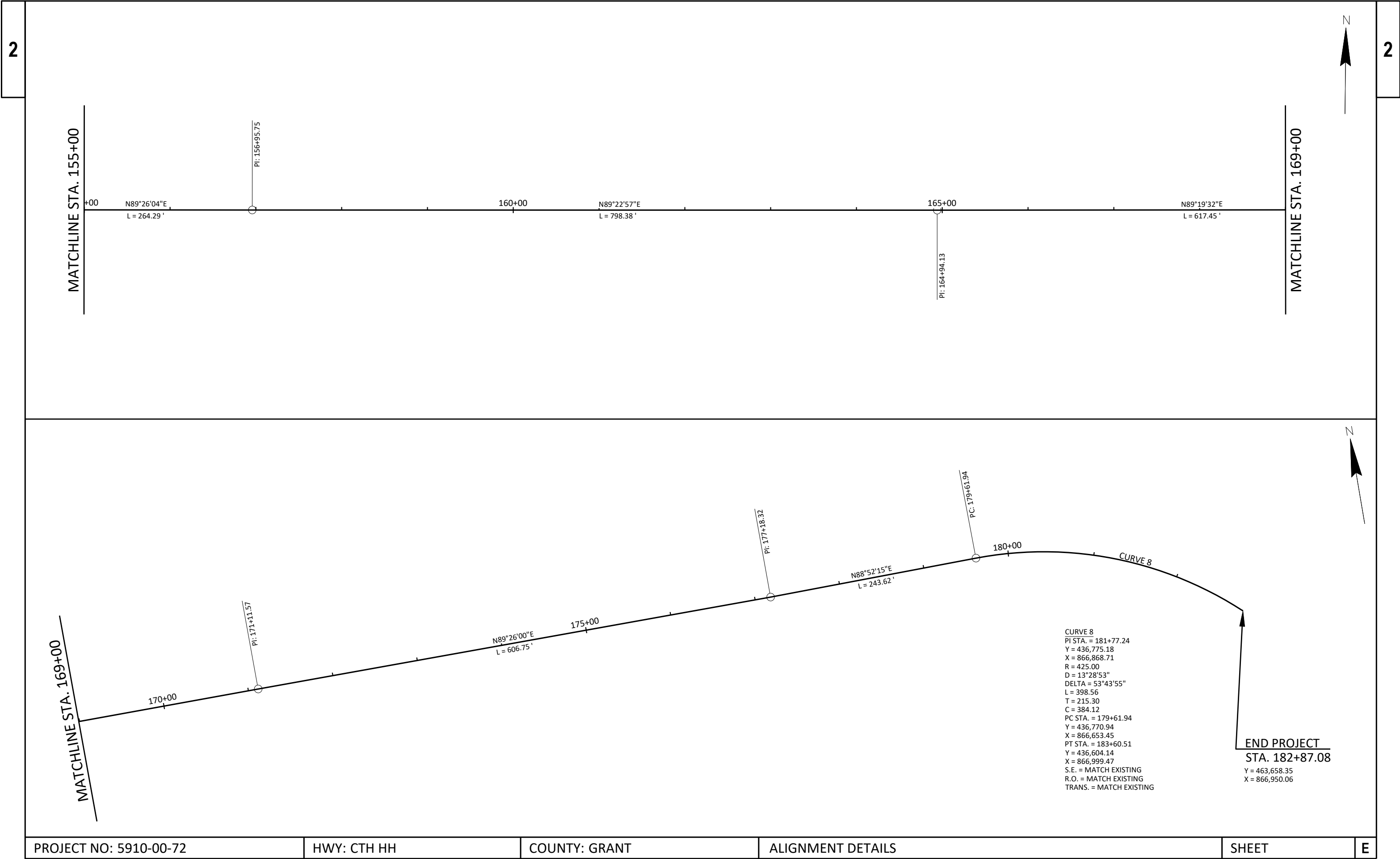


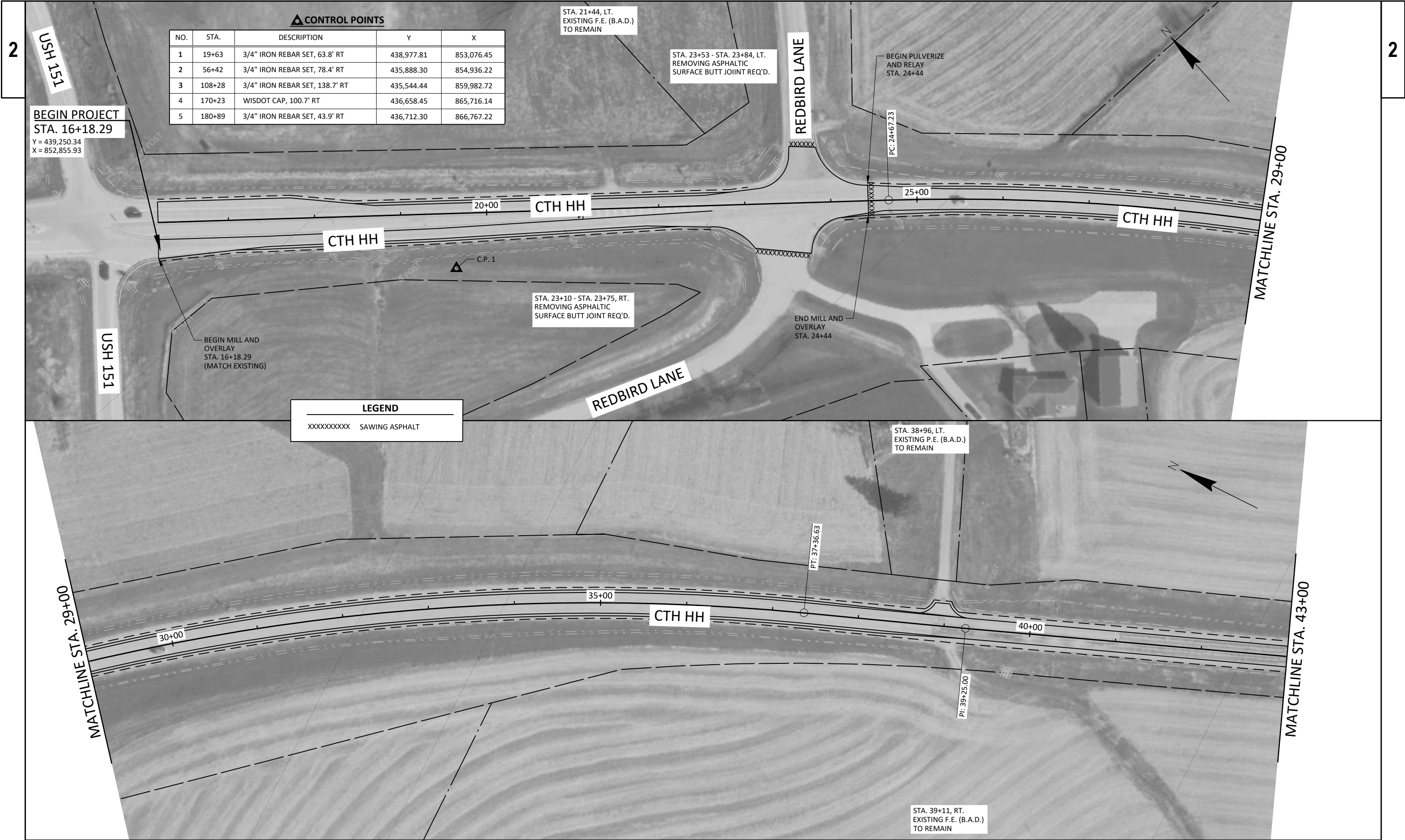






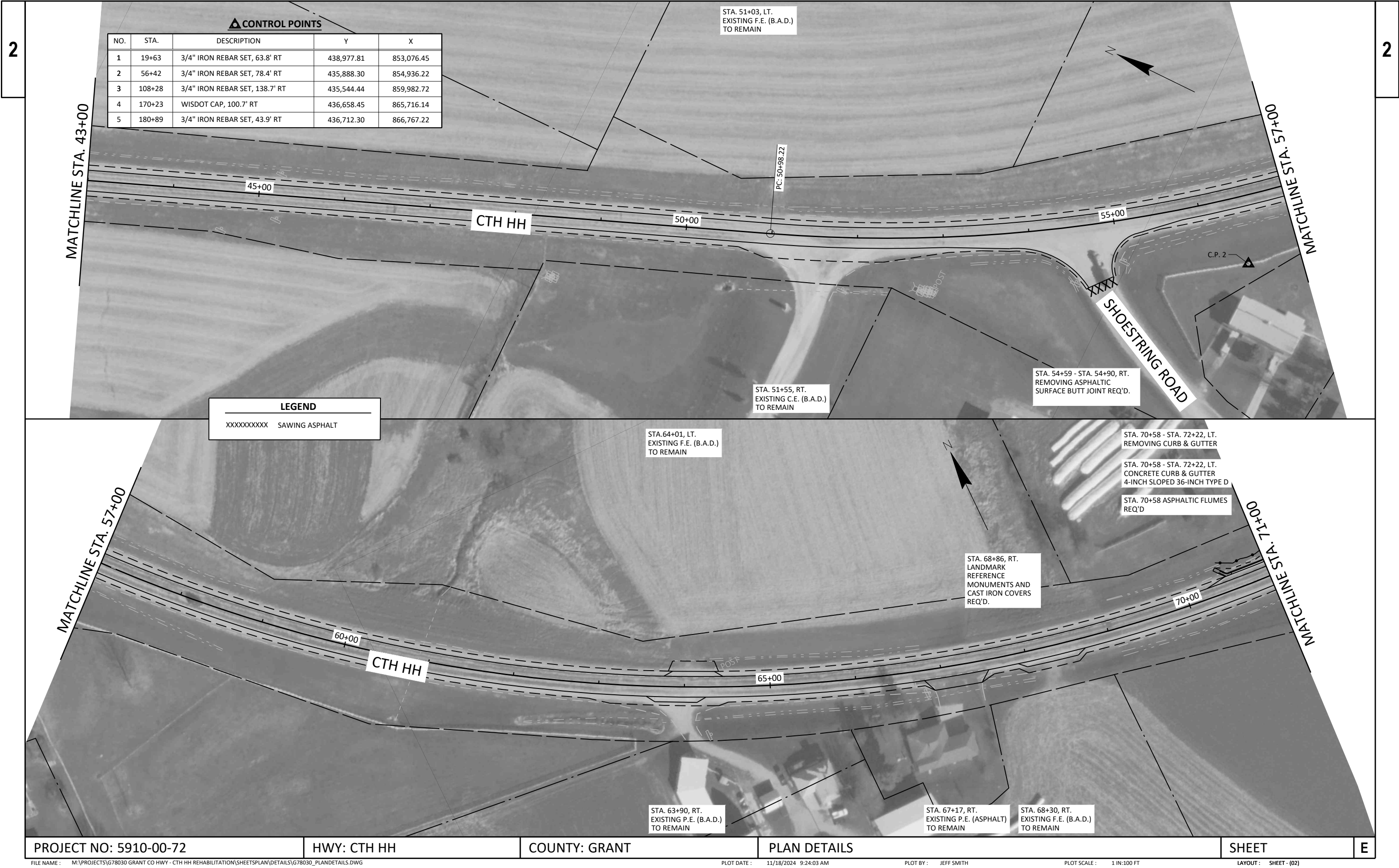






CONTROL POINTS				
NO.	STA.	DESCRIPTION	Y	X
1	19+63	3/4" IRON REBAR SET, 63.8' RT	438,977.81	853,076.45
2	56+42	3/4" IRON REBAR SET, 78.4' RT	435,888.30	854,936.22
3	108+28	3/4" IRON REBAR SET, 138.7' RT	435,544.44	859,982.72
4	170+23	WISDOT CAP, 100.7' RT	436,658.45	865,716.14
5	180+89	3/4" IRON REBAR SET, 43.9' RT	436,712.30	866,767.22

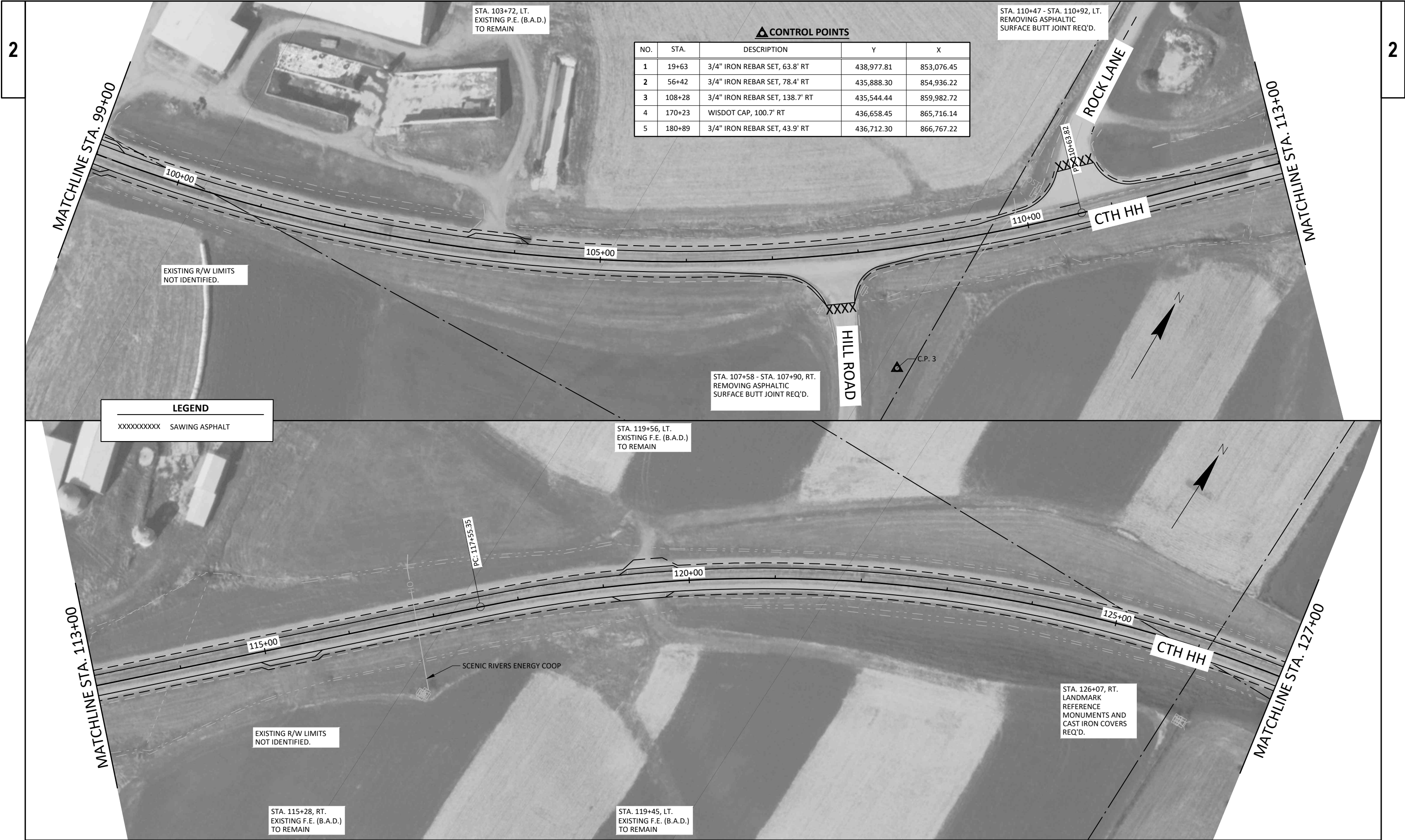
LEGEND	
XXXXXXXXXX	SAWING ASPHALT



CONTROL POINTS				
NO.	STA.	DESCRIPTION	Y	X
1	19+63	3/4" IRON REBAR SET, 63.8' RT	438,977.81	853,076.45
2	56+42	3/4" IRON REBAR SET, 78.4' RT	435,888.30	854,936.22
3	108+28	3/4" IRON REBAR SET, 138.7' RT	435,544.44	859,982.72
4	170+23	WISDOT CAP, 100.7' RT	436,658.45	865,716.14
5	180+89	3/4" IRON REBAR SET, 43.9' RT	436,712.30	866,767.22

LEGEND	
XXXXXXXXXX	SAWING ASPHALT





CONTROL POINTS				
NO.	STA.	DESCRIPTION	Y	X
1	19+63	3/4" IRON REBAR SET, 63.8' RT	438,977.81	853,076.45
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5	180+89	3/4" IRON REBAR SET, 43.9' RT	436,712.30	866,767.22

LEGEND

XXXXXXXXXX SAWING ASPHALT





CONTROL POINTS				
NO.	STA.	DESCRIPTION	Y	X
1	19+63	3/4" IRON REBAR SET, 63.8' RT	438,977.81	853,076.45
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4	170+23	WISDOT CAP, 100.7' RT	436,658.45	865,716.14
5	180+89	3/4" IRON REBAR SET, 43.9' RT	436,712.30	866,767.22

Estimate Of Quantities

5910-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	204.0115	Removing Asphaltic Surface Butt Joints	SY	120.000	120.000
0004	204.0120	Removing Asphaltic Surface Milling	SY	4,110.000	4,110.000
0006	204.0150	Removing Curb & Gutter	LF	161.000	161.000
0008	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 5910-00-72	EACH	1.000	1.000
0010	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	8.000	8.000
0012	213.0100	Finishing Roadway (project) 01. 5910-00-72	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	5,700.000	5,700.000
0016	325.0100	Pulverize and Relay	SY	46,440.000	46,440.000
0018	374.1020.S	QMP Pulverize and Relay Compaction	SY	46,440.000	46,440.000
0020	455.0605	Tack Coat	GAL	2,620.000	2,620.000
0022	460.2000	Incentive Density HMA Pavement	DOL	6,320.000	6,320.000
0024	460.5224	HMA Pavement 4 LT 58-28 S	TON	9,950.000	9,950.000
0026	460.9000.S	Material Transfer Vehicle	EACH	1.000	1.000
0028	465.0310	Asphaltic Curb	LF	23.000	23.000
0030	465.0315	Asphaltic Flumes	SY	10.000	10.000
0032	465.0560	Asphaltic Rumble Strips, Centerline	LF	15,843.000	15,843.000
0034	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	161.000	161.000
0036	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5910-00-72	EACH	1.000	1.000
0038	619.1000	Mobilization	EACH	1.000	1.000
0040	621.0100	Landmark Reference Monuments	EACH	7.000	7.000
0042	624.0100	Water	MGAL	87.000	87.000
0044	625.0500	Salvaged Topsoil	SY	170.000	170.000
0046	627.0200	Mulching	SY	170.000	170.000
0048	628.1504	Silt Fence	LF	200.000	200.000
0050	628.1520	Silt Fence Maintenance	LF	100.000	100.000
0052	629.0210	Fertilizer Type B	CWT	0.100	0.100
0054	630.0120	Seeding Mixture No. 20	LB	8.000	8.000
0056	630.0500	Seed Water	MGAL	4.000	4.000
0058	642.5001	Field Office Type B	EACH	1.000	1.000
0060	643.0300	Traffic Control Drums	DAY	500.000	500.000
0062	643.0900	Traffic Control Signs	DAY	1,000.000	1,000.000
0064	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0066	643.5000	Traffic Control	EACH	1.000	1.000
0068	646.2005	Marking Line Paint 6-Inch	LF	15,815.000	15,815.000
0070	646.2020	Marking Line Epoxy 6-Inch	LF	32,460.000	32,460.000
0072	646.4020	Marking Line Epoxy 10-Inch	LF	150.000	150.000
0074	646.4720	Marking Line Same Day Epoxy 6-Inch	LF	32,819.000	32,819.000
0076	646.6120	Marking Stop Line Epoxy 18-Inch	LF	55.000	55.000
0078	646.7120	Marking Diagonal Epoxy 12-Inch	LF	35.000	35.000
0080	646.8020	Marking Corrugated Median Epoxy	SF	540.000	540.000
0082	646.8220	Marking Island Nose Epoxy	EACH	2.000	2.000
0084	648.0100	Locating No-Passing Zones	MI	3.160	3.160
0086	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	161.000	161.000
0088	650.8000	Construction Staking Resurfacing Reference	LF	16,670.000	16,670.000
0090	650.9911	Construction Staking Supplemental Control (project) 01. 5910-00-72	EACH	1.000	1.000
0092	650.9920	Construction Staking Slope Stakes	LF	164.000	164.000
0094	690.0150	Sawing Asphalt	LF	261.000	261.000
0096	740.0440	Incentive IRI Ride	DOL	12,628.000	12,628.000
0098	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000

Estimate Of Quantities

					5910-00-72
0100	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000

3

REMOVING ASPHALTIC
SURFACE BUTT JOINTS

STATION	LOCATION	204.0115 (SY)
16+18.29	MAINLINE	21
23+46	REDBIRD LANE	18
23+67	REDBIRD LANE	13
54+75	SHOESTRING RD.	16
107+76	HILL RD.	13
110+86	ROCK LANE	12
167+57	MORGAN RD.	14
182+87.08	MAINLINE	13
TOTAL =		120

REMOVING ASPHALTIC SURFACE
MILLING

STATION	LOCATION	204.0120 (SY)
16+18 - 24+44	MAINLINE	4,110
TOTAL =		4,110

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 (LF)
70+59 - 72+22	MAINLINE, LT.	161
TOTAL =		161

PREPARATION OF FOUNDATION

STATION	LOCATION	211.0400 ASPHALTIC SHOULDERS (STA)
67+17	PE, RT	1
72+43	PE, LT	1
79+41	PE, LT	1
86+93	PE, RT	1
96+57	PE, LT	1
128+47	PE, RT	1
152+35	PE, LT	1
180+78	PE, LT	1
TOTAL =		8.0

BASE AGGREGATE DENSE

	305.0110
	BASE AGGREGATE
	DENSE 3/4 - INCH
LOCATION	(TON)
MAINLINE	5,400
DRIVEWAYS/FIELD ENTRANCES	300
TOTALS =	5,700

3

PULVERIZE AND RELAY

STATION - STATION	LOCATION	325.0100 PULVERIZE AND RELAY (SY)	374.1020.S QMP PULVERIZE AND RELAY COMPACTION (SY)
24+44 - 182+87.08	MAINLINE	46,440	46,440

HMA PAVEMENT

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	460.2000 INCENTIVE DENSITY HMA PAVEMENT (DOL)	460.5224 HMA PAVEMENT (TON)	460.9000.S MATERIAL TRANSFER VEHICLE (EACH)
-	PROJECT	-	6320	-	1
16+18.29 - 24+44	MAINLINE	290	-	590	-
24+44 - 182+87.08	MAINLINE	2,330	-	9,280	-
	DRIVEWAYS	-	-	80	-
TOTALS =		2,620	6,320	9,950	1

ASPHALTIC FLUMES

STATION	LOCATION	465.0310 ASPHALTIC CURB (LF)	465.0315 ASPHALTIC FLUMES (SY)
70+59	MAINLINE, LT	23	10
TOTAL =		23	10

ASPHALTIC RUMBLE STRIPS,
CENTERLINE

STATION - STATION	LOCATION	465.0560 (LF)
24+44 - 182+87.08	MAINLINE	15,843
TOTAL =		15,843

CONCRETE CURB & GUTTER

STATION - STATION	LOCATION	601.0553 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D (LF)	650.5500 CONSTRUCTION STAKING CURB & GUTTER (LF)
70+59 - 72+22	MAINLINE,	161	161
TOTALS =		161	161

WATER

PROJECT	624.0100
CTH HH	(MGAL)
	87
TOTAL =	87

LOCATING NO PASSING ZONES

	648.0100
PROJECT	(MI)
CTH HH	3.16
TOTAL =	3.16

FINISHING ITEMS

LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEED MIXTURE NO.20 (LB)	630.0500 SEED WATER (MGAL)
70+59 - 72+22	170	170	0.1	8	4
TOTALS =	170	170	0.1	8	4

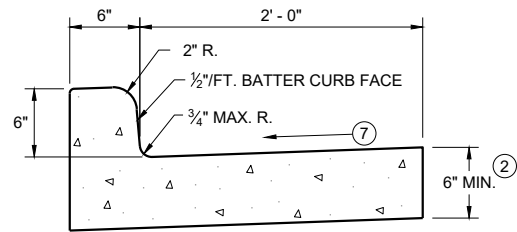
<div>SILT FENCE</div> <table><tr><td></td><td>628.1504</td><td>628.1520</td></tr><tr><td></td><td>SILT</td><td>SILT</td></tr><tr><td></td><td>FENCE</td><td>FENCE</td></tr><tr><td></td><td></td><td>MAINTENANCE</td></tr><tr><td>STATION</td><td>LOCATION</td><td>(LF)</td><td>(LF)</td></tr><tr><td>70+45 - 72+25</td><td>CTH HH, LT.</td><td>200</td><td>100</td></tr><tr><td colspan="2">TOTALS =</td><td>200</td><td>100</td></tr></table>					628.1504	628.1520		SILT	SILT		FENCE	FENCE			MAINTENANCE	STATION	LOCATION	(LF)	(LF)	70+45 - 72+25	CTH HH, LT.	200	100	TOTALS =		200	100	<div>TRAFFIC CONTROL</div> <table><tr><td></td><td>643.0300</td><td>643.0900</td><td>643.1050</td><td>643.5000</td></tr><tr><td></td><td>DRUMS</td><td>SIGNS</td><td>SIGNS</td><td>TRAFFIC</td></tr><tr><td></td><td></td><td></td><td>PCMS</td><td>CONTROL</td></tr><tr><td>LOCATION</td><td>DURATION</td><td>(DAYS)</td><td>(DAYS)</td><td>(DAYS)</td><td>(EACH)</td></tr><tr><td>CTH HH</td><td>67</td><td>-</td><td>1,000</td><td>14</td><td>1</td></tr><tr><td>UNDISTRIBUTED</td><td>-</td><td>500</td><td>-</td><td>-</td><td>-</td></tr><tr><td colspan="2">TOTALS =</td><td>500</td><td>1,000</td><td>14</td><td>1</td></tr></table>							643.0300	643.0900	643.1050	643.5000		DRUMS	SIGNS	SIGNS	TRAFFIC				PCMS	CONTROL	LOCATION	DURATION	(DAYS)	(DAYS)	(DAYS)	(EACH)	CTH HH	67	-	1,000	14	1	UNDISTRIBUTED	-	500	-	-	-	TOTALS =		500	1,000	14	1	<div>CONSTRUCTION STAKING</div> <table><tr><td></td><td>650.8000</td><td>650.9911</td><td>650.9920</td></tr><tr><td></td><td>RESURFACING</td><td>SUPPLEMENTAL</td><td>SLOPE STAKES</td></tr><tr><td></td><td>REFERENCE</td><td>CONTROL</td><td></td></tr><tr><td>LOCATION</td><td>(LF)</td><td>(EACH)</td><td>(LF)</td></tr><tr><td>16+18.29 - 182+87.08</td><td>16,670</td><td>1</td><td>164</td></tr><tr><td colspan="2">TOTAL =</td><td>16,670</td><td>1</td><td>164</td></tr></table>					650.8000	650.9911	650.9920		RESURFACING	SUPPLEMENTAL	SLOPE STAKES		REFERENCE	CONTROL		LOCATION	(LF)	(EACH)	(LF)	16+18.29 - 182+87.08	16,670	1	164	TOTAL =		16,670	1	164	<div>SAWING</div> <table><tr><td></td><td></td><td>690.0150</td></tr><tr><td></td><td></td><td>ASPHALT</td></tr><tr><td></td><td></td><td>(LF)</td></tr><tr><td>STATION</td><td>LOCATION</td><td></td></tr><tr><td>24+43</td><td>MAINLINE</td><td>35</td></tr><tr><td>182+87</td><td>MAINLINE</td><td>26</td></tr><tr><td></td><td>DRIVEWAYS</td><td>200</td></tr><tr><td colspan="2">TOTALS =</td><td>261</td></tr></table>					690.0150			ASPHALT			(LF)	STATION	LOCATION		24+43	MAINLINE	35	182+87	MAINLINE	26		DRIVEWAYS	200	TOTALS =		261
	628.1504	628.1520																																																																																																																														
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	FENCE	FENCE																																																																																																																														
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	DRIVEWAYS	200																																																																																																																														
TOTALS =		261																																																																																																																														

PAVEMENT MARKING											
			646.2005	646.2020	646.4020	646.4720		646.6120	646.7120	646.8020	646.8220
			MARKING LINE PAINT 6-INCH	MARKING LINE EPOXY 6-INCH	MARKING LINE EPOXY 10-INCH	MARKING LINE SAME DAY EPOXY 6-INCH		MARKING STOP LINE EPOXY 18-INCH	MARKING DIAGONAL EPOXY 12-INCH	MARKING CORRUGATED MEDIAN EPOXY	MARKING ISLAND NOSE EPOXY
			YELLOW SOLID (LF)	SOLID (LF)	SOLID (LF)	YELLOW SOLID (LF)	YELLOW 12.5' SKIPS (LF)	(LF)	(LF)	(SF)	(EACH)
STATION - STATION	LOCATION	DESCRIPTION									
24+72 - 182+87.08	MAINLINE	YELLOW CENTERLINE	15,815	-	-	-	-	-	-	-	-
16+18.29 - 17+68	MAINLINE	WHITE TURN LANE	-	-	150	-	-	-	-	-	-
16+18.29 - 182+87.08	MAINLINE	WHITE EDGELINE	-	32,460	-	-	-	-	-	-	-
16+18.29 - 24+63	MAINLINE	YELLOW CENTERLINE	-	-	-	2,090	-	-	-	-	-
21+09	MAINLINE	YELLOW	-	-	-	-	-	-	-	-	1
21+09 - 22+65	MAINLINE	YELLOW	-	-	-	-	-	-	-	540	-
22+65	MAINLINE	YELLOW	-	-	-	-	-	-	-	-	1
22+65 - 24+63	MAINLINE	CHANNELIZING	-	-	-	-	-	-	35	-	-
23+60	MAINLINE, LT.	WHITE	-	-	-	-	-	25	-	-	-
23+65	MAINLINE, RT.	WHITE	-	-	-	-	-	30	-	-	-
24+63 - 36+91	MAINLINE	NO PASSING	-	-	-	2,438	-	-	-	-	-
36+91 - 45+24	MAINLINE	EB PASSING	-	-	-	833	833	-	-	-	-
45+24 - 68+75	MAINLINE	NO PASSING	-	-	-	4,702	-	-	-	-	-
68+75 - 79+96	MAINLINE	EB PASSING	-	-	-	1,121	1,121	-	-	-	-
79+96 - 84+19	MAINLINE	NO PASSING	-	-	-	846	-	-	-	-	-
84+19 - 96+34	MAINLINE	WB PASSING	-	-	-	1,215	1,215	-	-	-	-
96+34 - 147+97	MAINLINE	NO PASSING	-	-	-	10,326	-	-	-	-	-
147+97 - 159+09	MAINLINE	WB PASSING	-	-	-	1,112	1,112	-	-	-	-
159+09 - 168+10	MAINLINE	EB & WB PASSING	-	-	-	-	901	-	-	-	-
168+10 - 177+91	MAINLINE	EB PASSING	-	-	-	981	981	-	-	-	-
177+91 - 182+87.08	MAINLINE	NO PASSING	-	-	-	992	-	-	-	-	-
TOTALS =			15,815	32,460	150	32,819		55	35	540	2

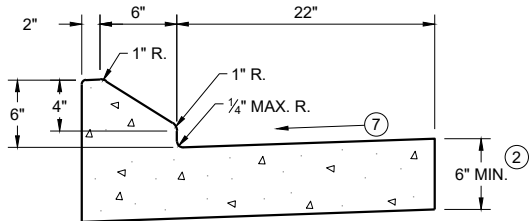
LANDMARK REFERENCE MONUMENTS		
		621.0100 LANDMARK REFERENCE MONUMENTS
STATION	LOCATION	(EACH)
68+86	CTH HH, RT.	1
82+00	CTH HH, CL	1
126+07	CTH HH, RT.	1
139+40	CTH HH, LT.	1
152+61	CTH HH, LT.	1
165+85	CTH HH, LT.	1
179+02	CTH HH, LT.	1
TOTAL =		7

Standard Detail Drawing List

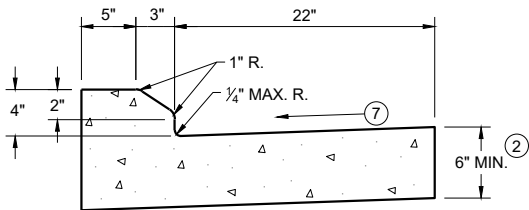
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E09-06	SILT FENCE
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-14B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C19-08A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



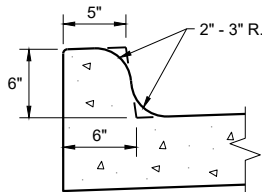
TYPES A^① & D



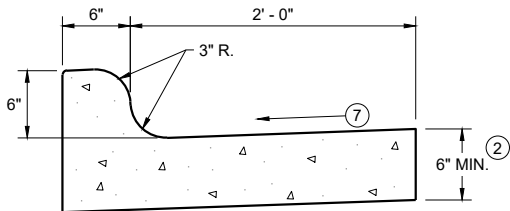
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

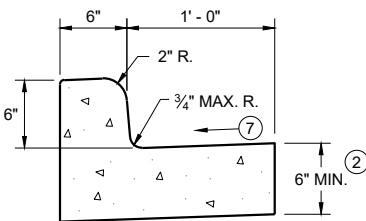


TYPES K^① & L
(OPTIONAL CURB SHAPE)



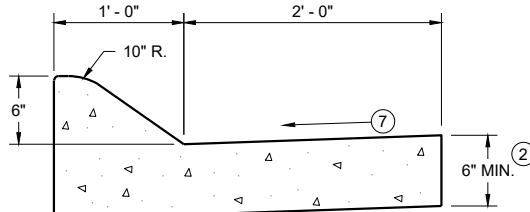
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

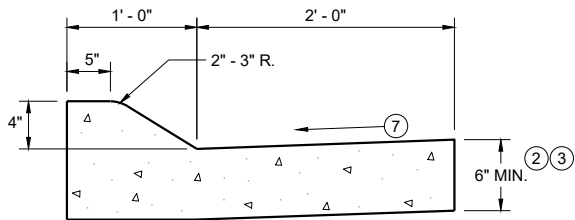


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

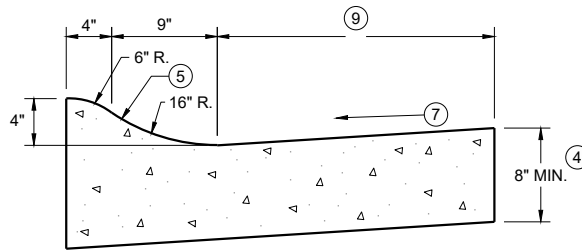


6" SLOPED CURB TYPES A^① & D



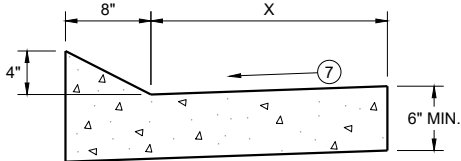
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

TBT & TBTT	X
30"	22"
36"	28"

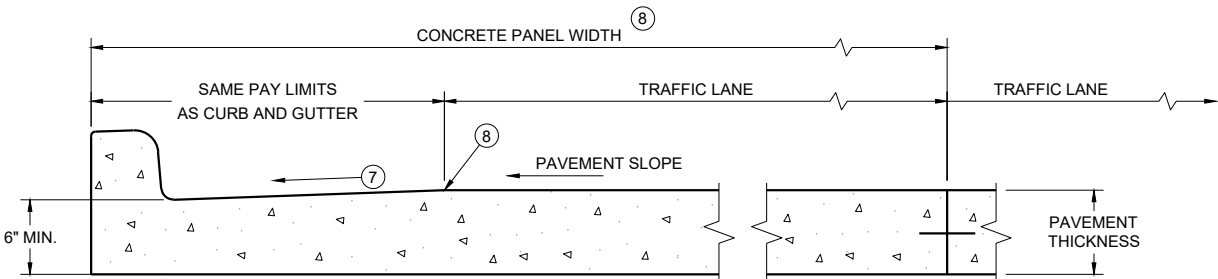


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

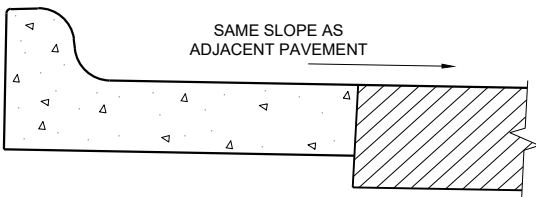
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

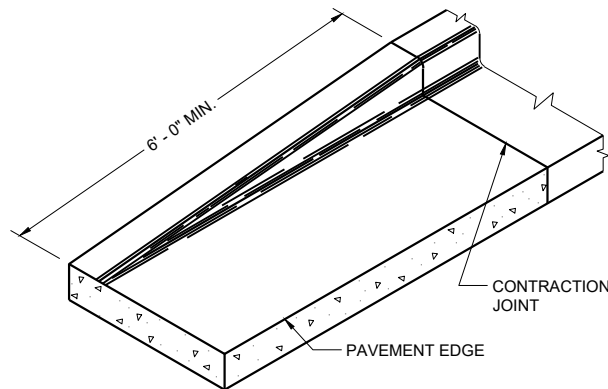
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

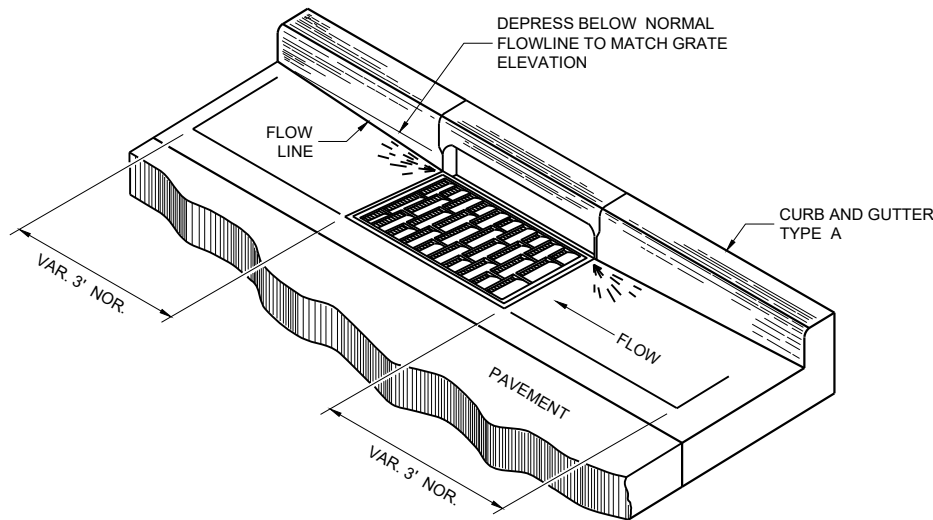
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

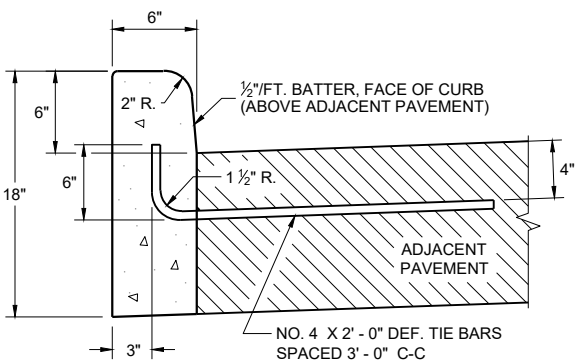


END SECTION CURB AND GUTTER

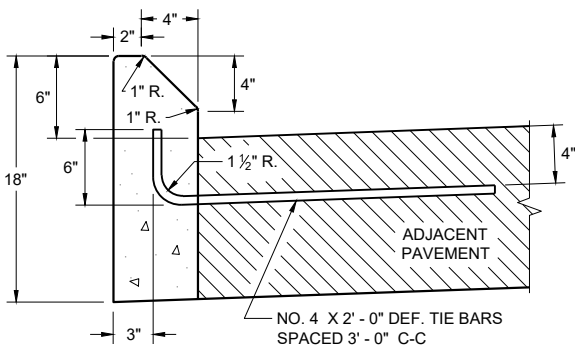


DETAIL OF CURB AND GUTTER AT INLETS

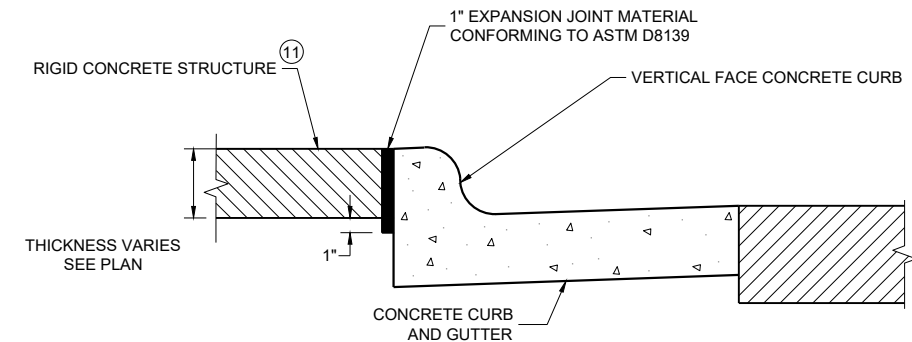
(TYPICAL H INLET COVER SHOWN)



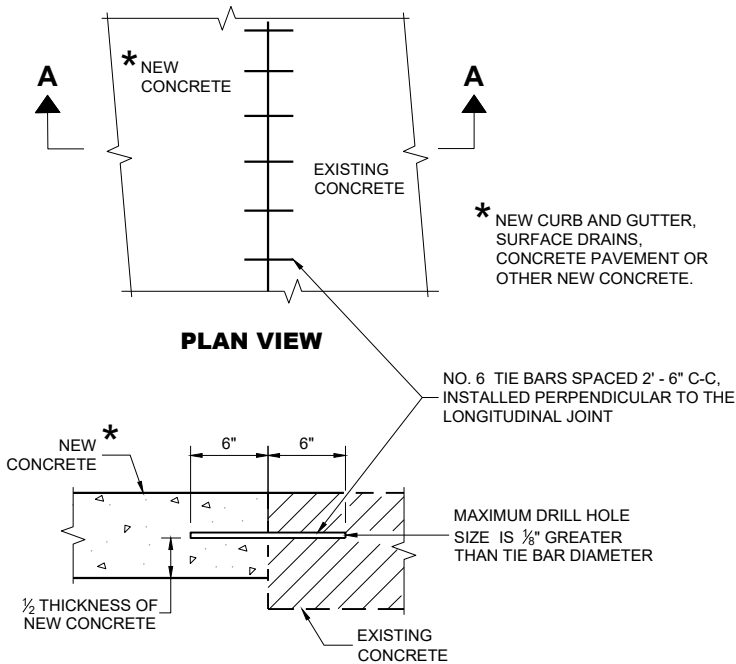
TYPES A^① & D



TYPES G^① & J
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT

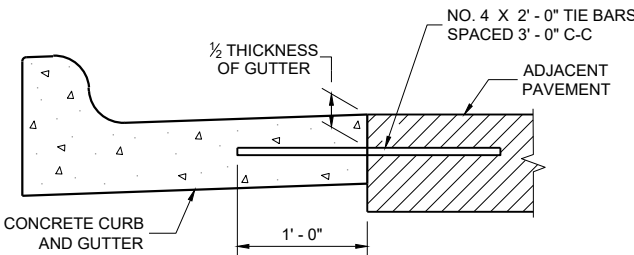
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

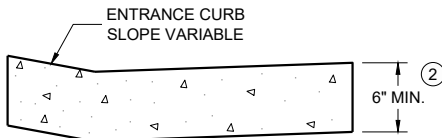
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

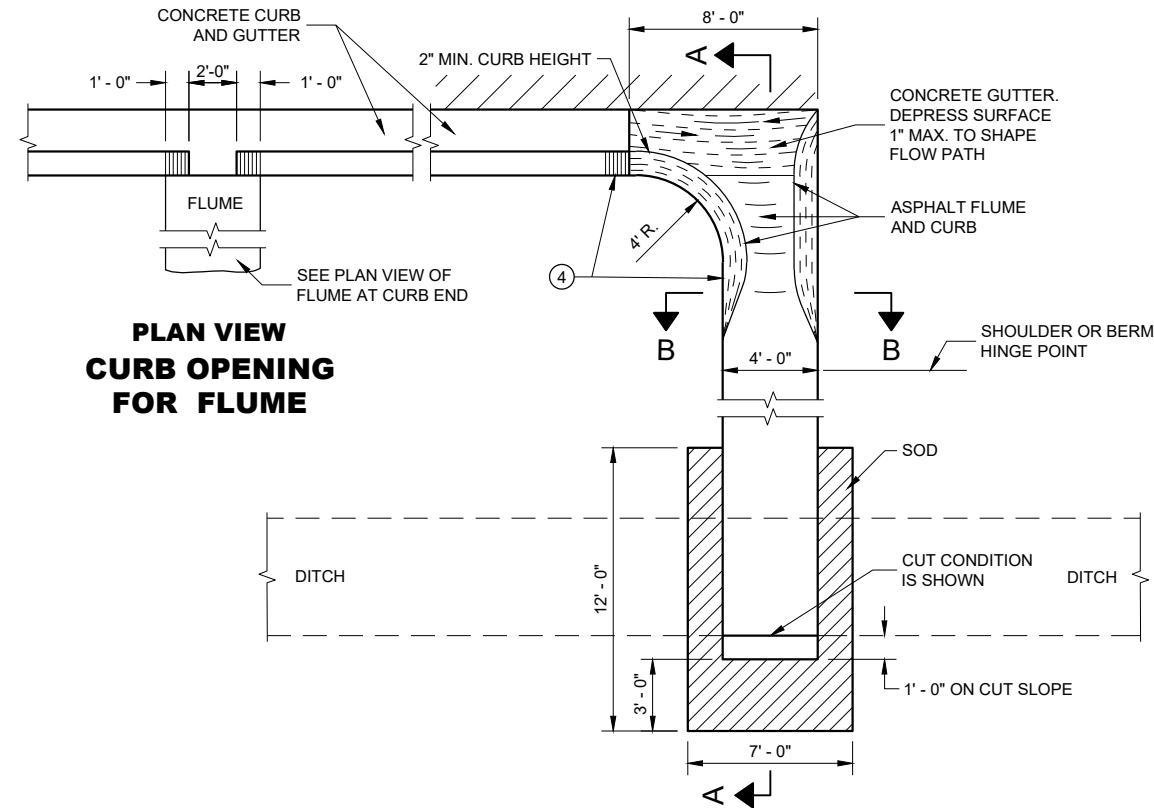
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

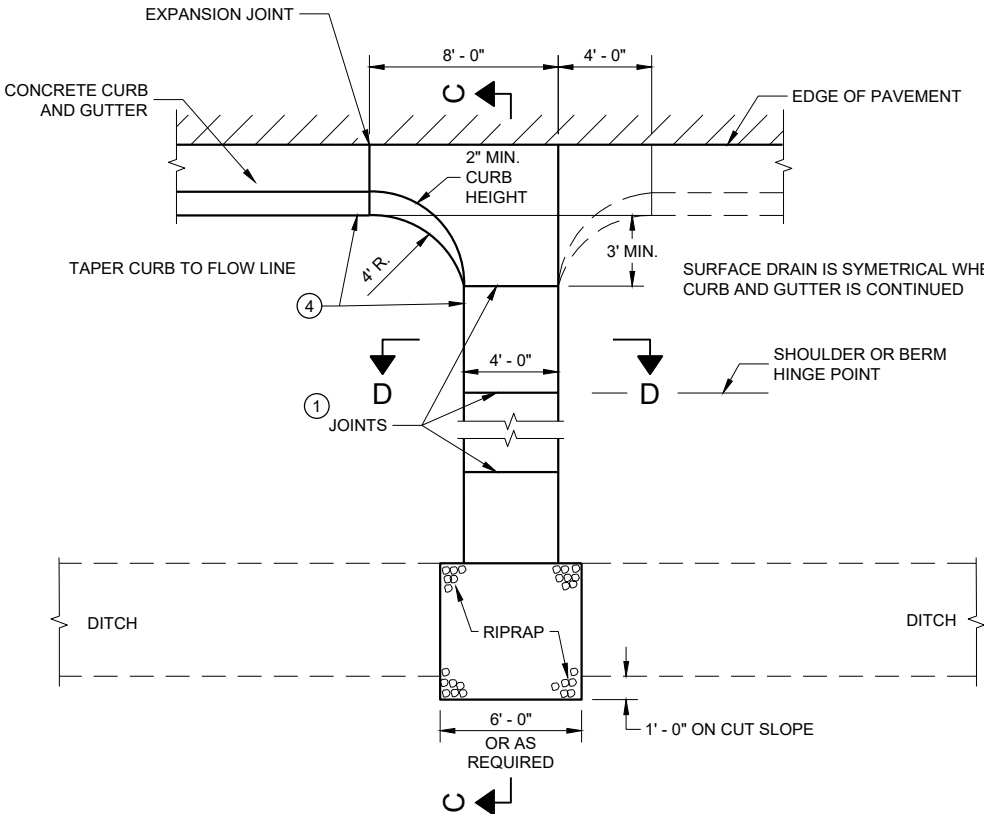
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING
FOR FLUME

PLAN VIEW
FLUME AT CURB END



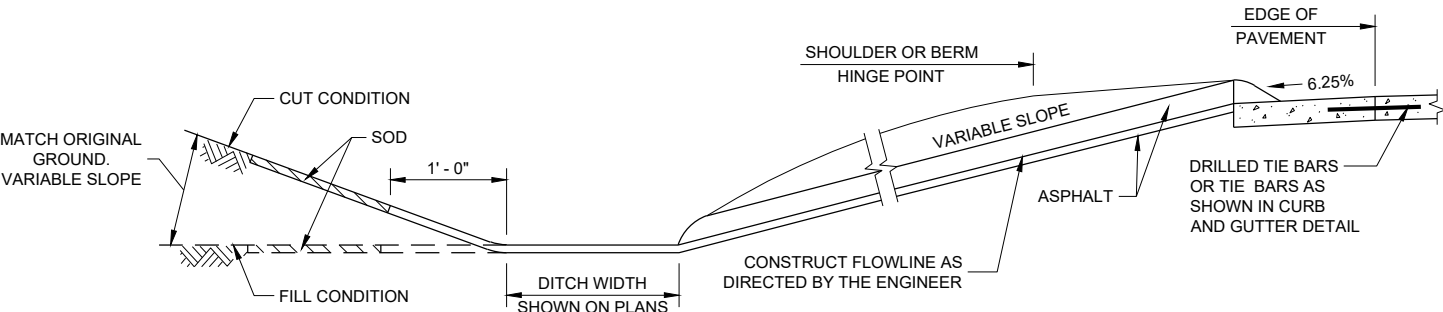
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

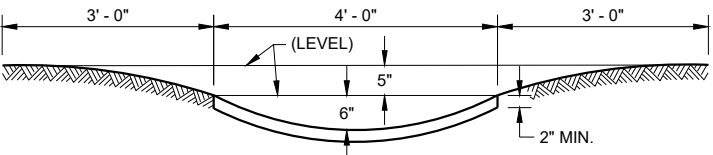
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

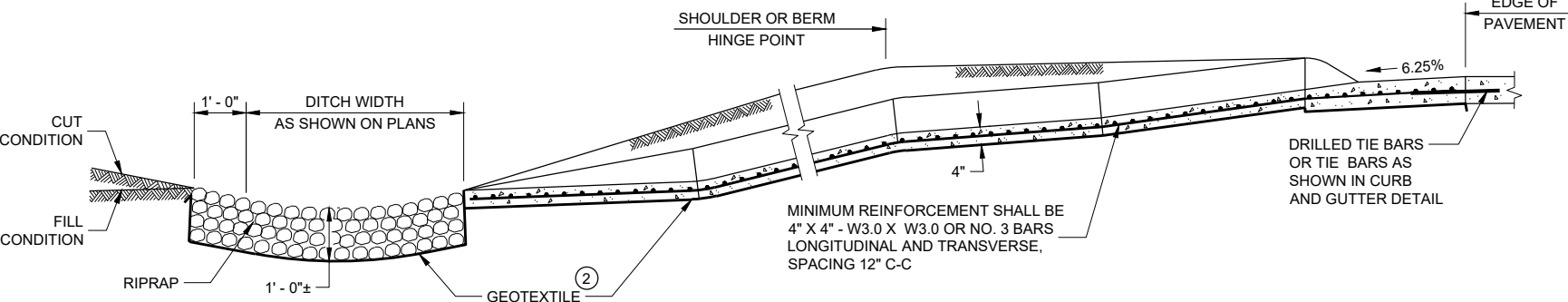
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



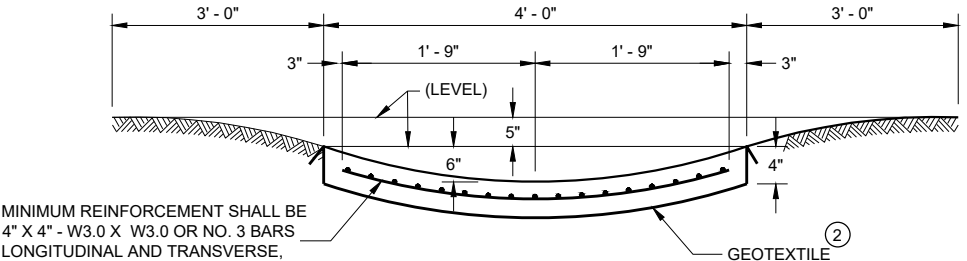
SECTION A - A



SECTION B - B



SECTION C - C



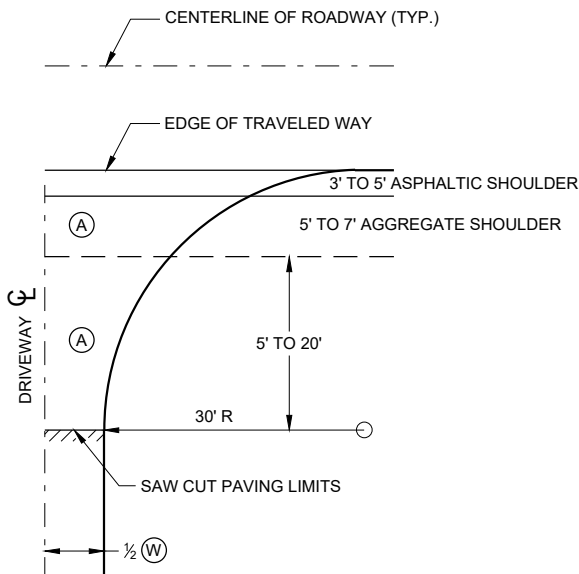
SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

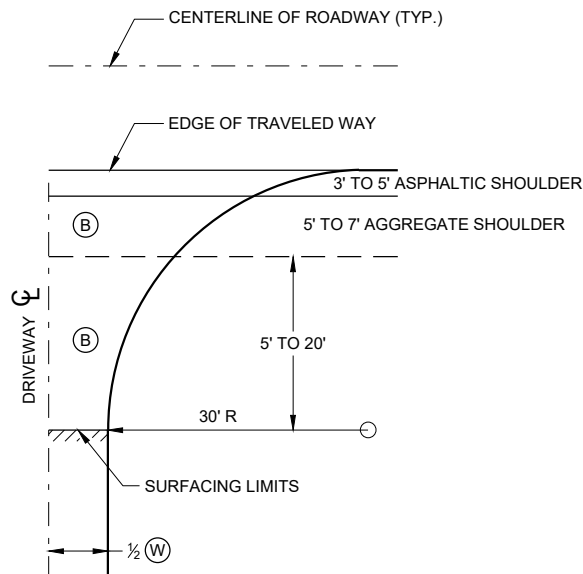
APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

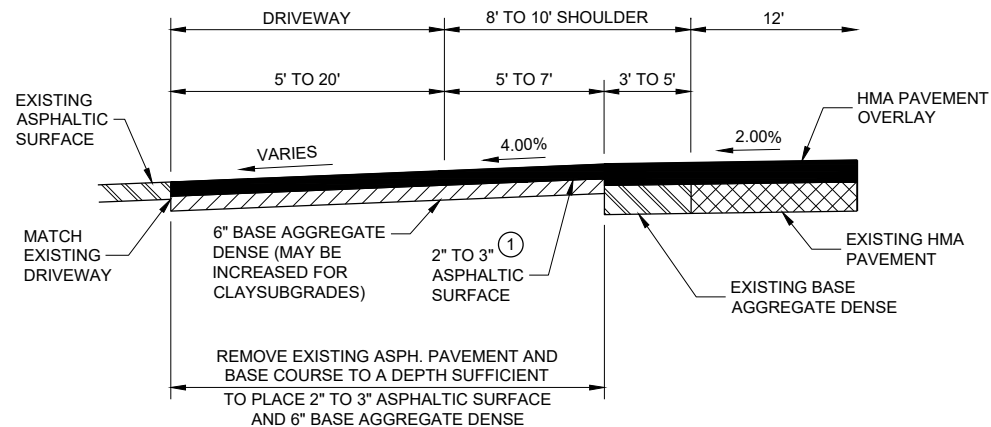


**PLAN VIEW
HALF SECTION**

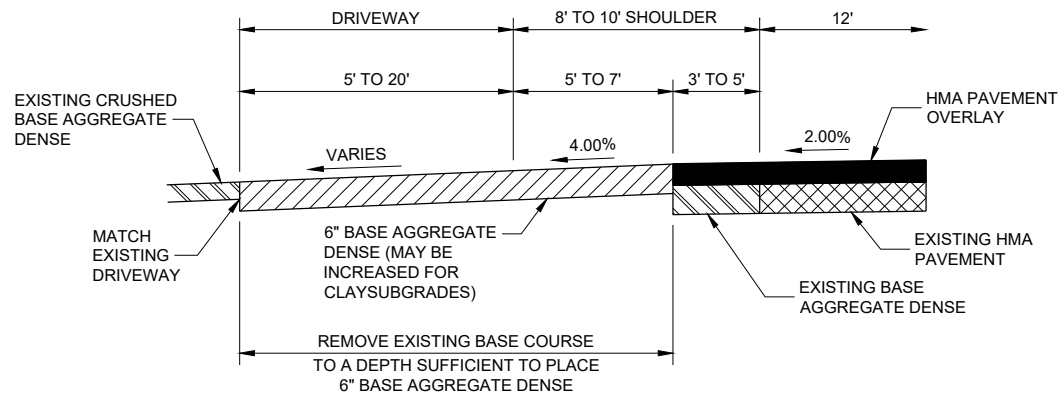
- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



**PLAN VIEW
HALF SECTION**



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



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

GENERAL NOTES

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

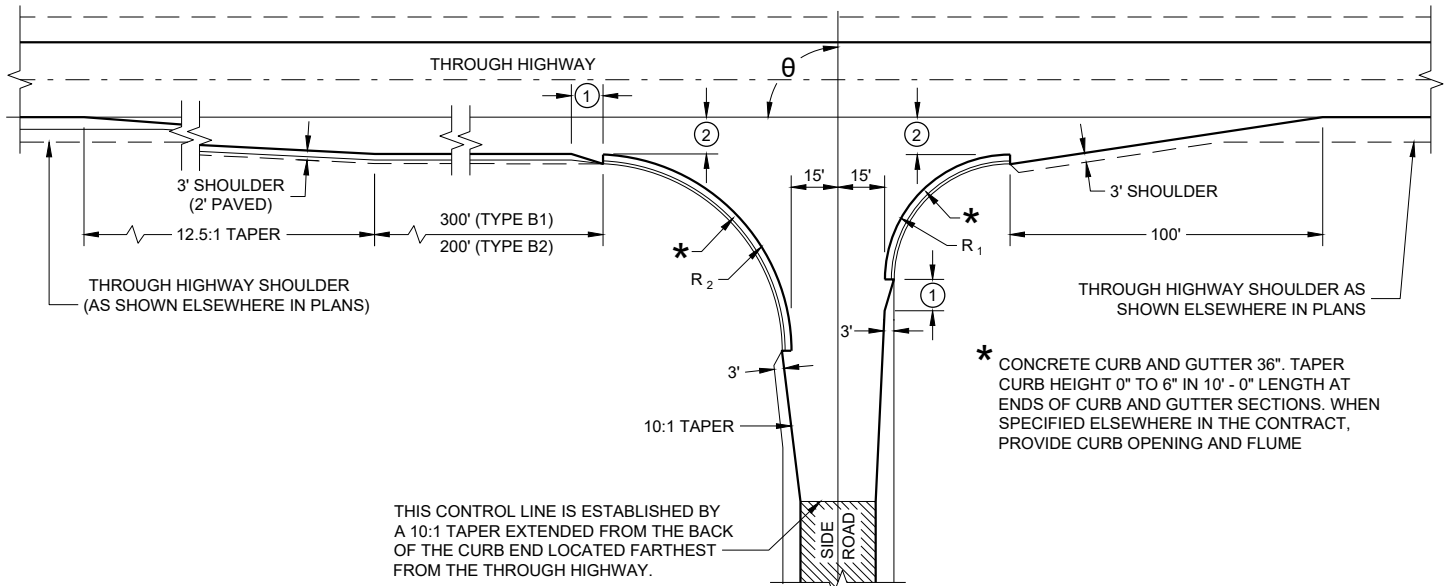
APPROVED
December 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



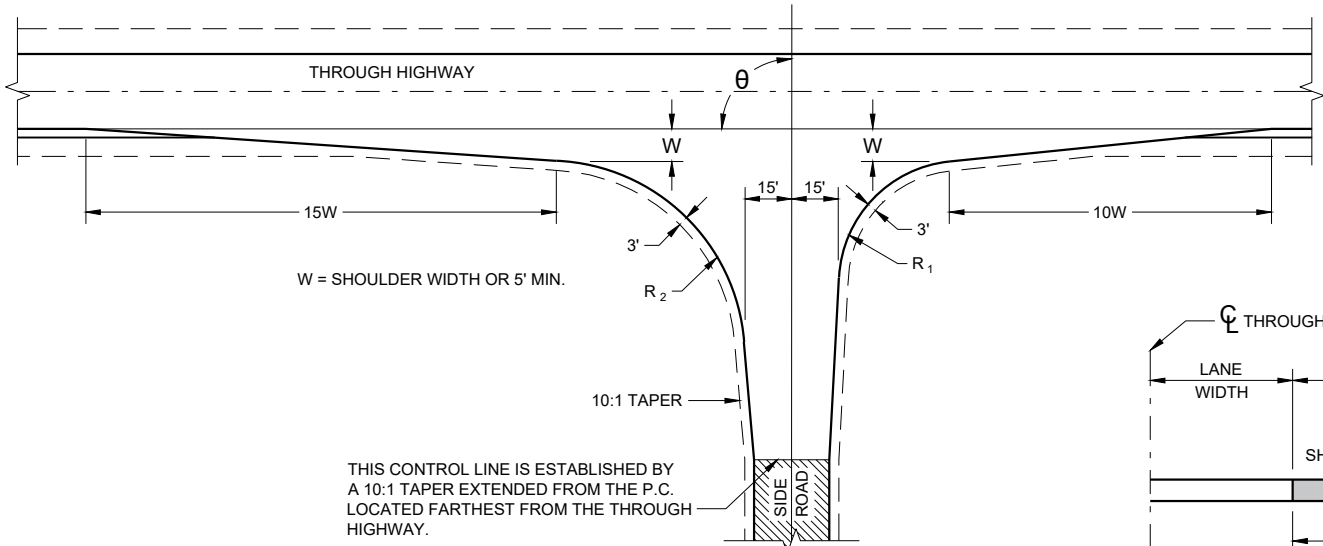
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



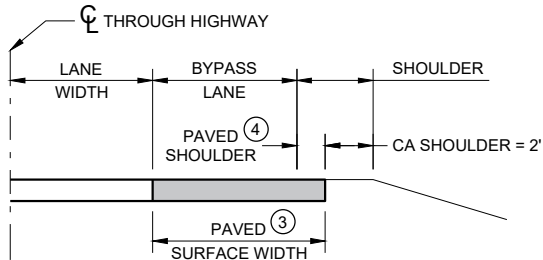
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



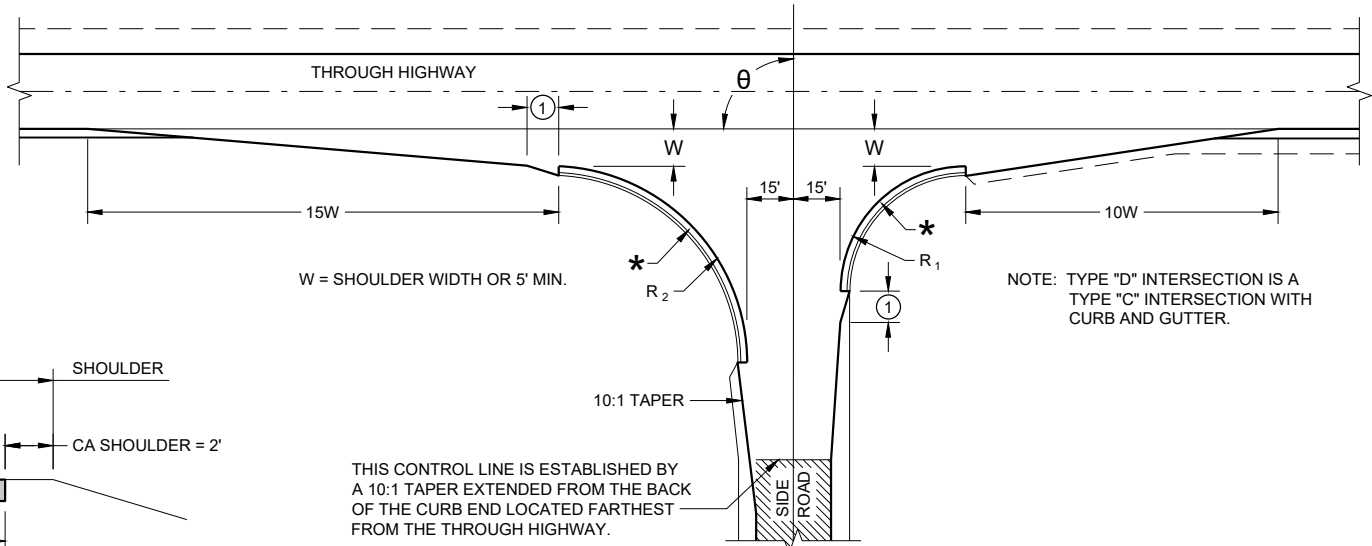
TYPE "B1" AND "B2"



TYPE "C"



SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)



TYPE "D"

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

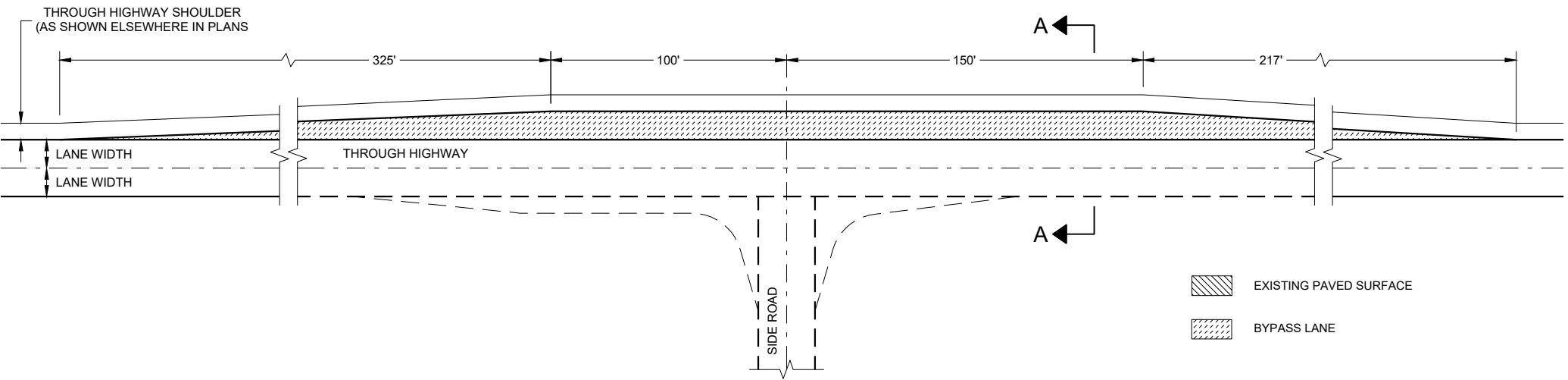
SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
** 10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH
- PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

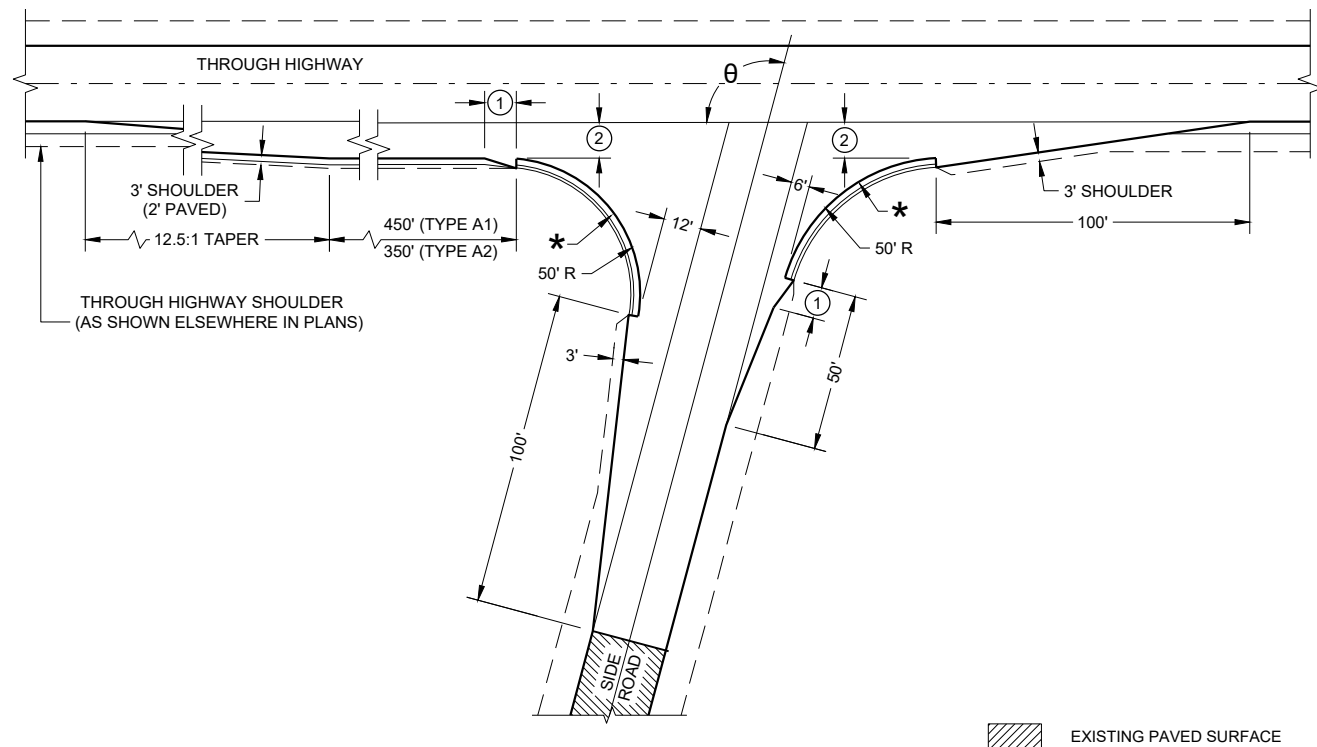


TEE INTERSECTION BYPASS LANE DETAIL

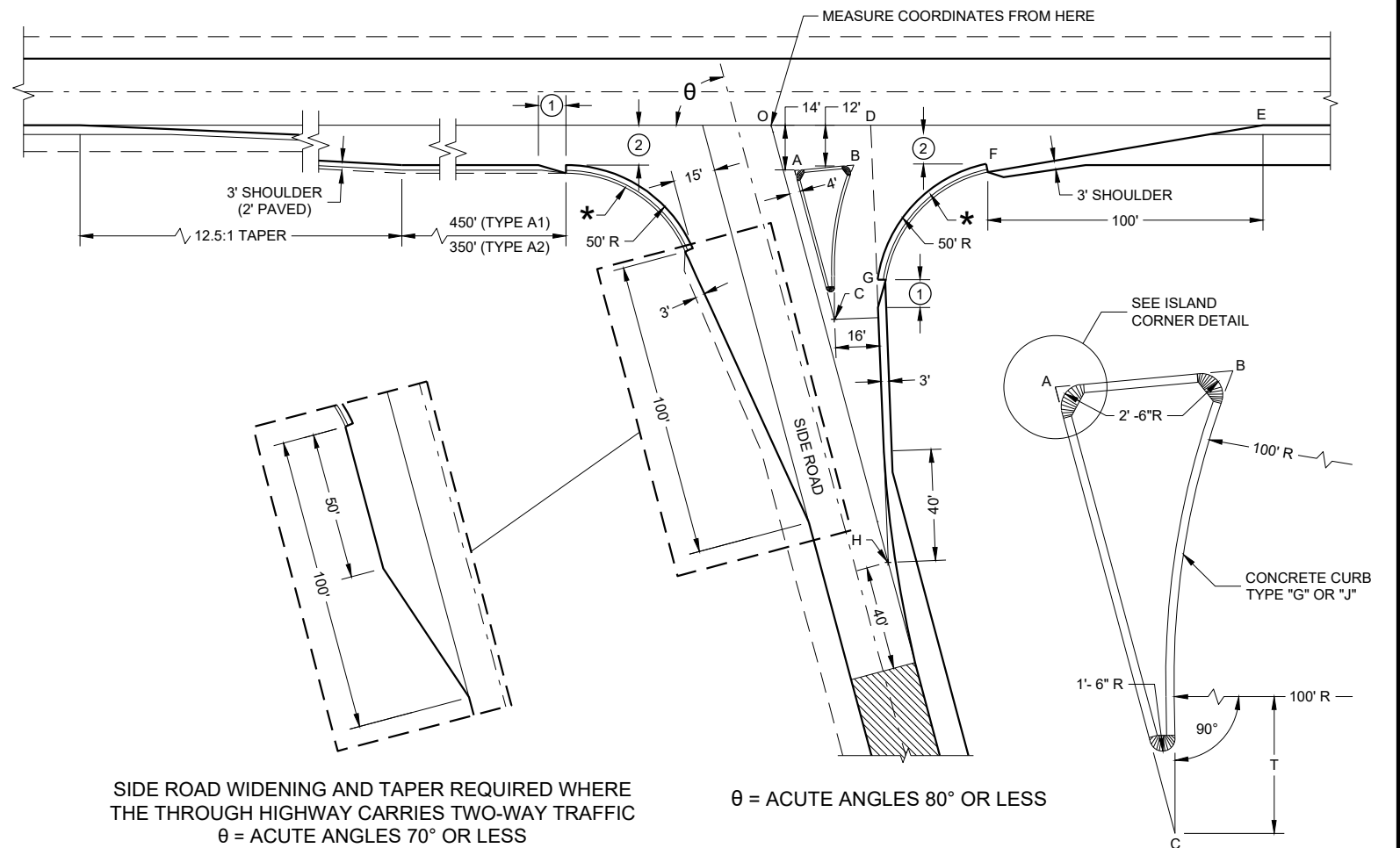
- EXISTING PAVED SURFACE
- BYPASS LANE

**AT GRADE SIDE ROAD
INTERSECTION TYPES "B1",
"B2", "C", "D" AND TEE
INTERSECTION BYPASS LANE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

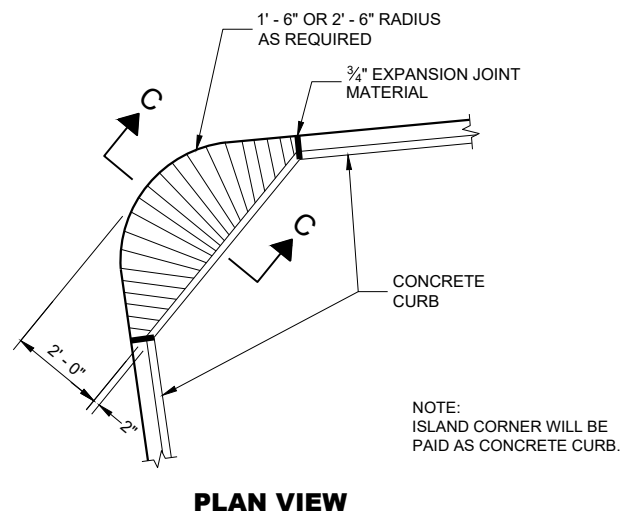


$\theta = \text{MORE THAN } 80^\circ$

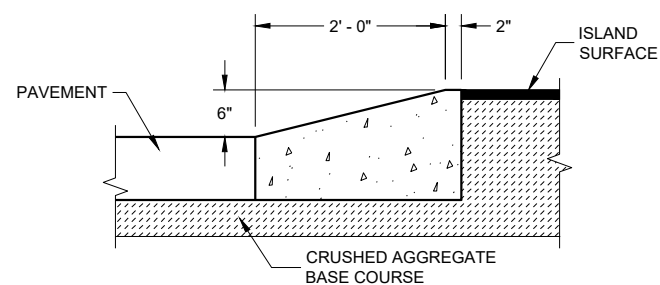


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
 $\theta = \text{ACUTE ANGLES } 70^\circ \text{ OR LESS}$

$\theta = \text{ACUTE ANGLES } 80^\circ \text{ OR LESS}$



PLAN VIEW



SECTION C - C

ISLAND CORNER DETAIL
(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

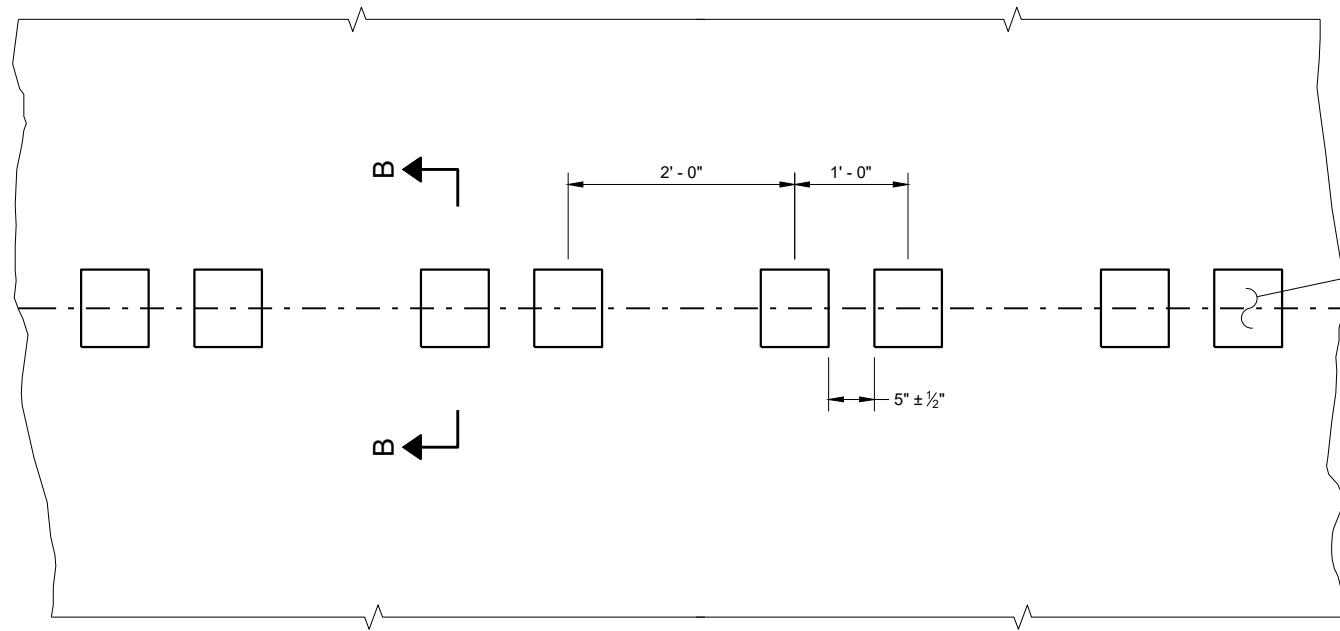
ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT 'O')								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 -14.0	44.9 -12.0	46.4 -72.4	41.9 0.0	205.0 0.0	104.6 -12.0	64.0 -75.5	85.0 -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 -14.0	39.0 -12.0	37.8 -71.6	39.4 0.0	196.1 0.0	95.7 -12.0	54.1 -71.5	70.5 -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 -14.0	33.9 -12.0	29.8 -70.1	37.4 0.0	188.3 0.0	87.8 -12.0	45.6 -67.5	56.1 -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 -14.0	29.3 -12.0	22.3 -67.9	35.7 0.0	181.2 0.0	80.7 -12.0	38.2 -63.4	41.8 -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 -14.0	25.4 -12.0	15.6 -65.2	34.4 0.0	174.8 0.0	74.4 -12.0	31.8 -59.3	27.6 -156.5	18.9	52.0	15.6	66.9	158.9

TYPE 'A1" AND "A2" SIDE ROAD INTERSECTION DETAILS

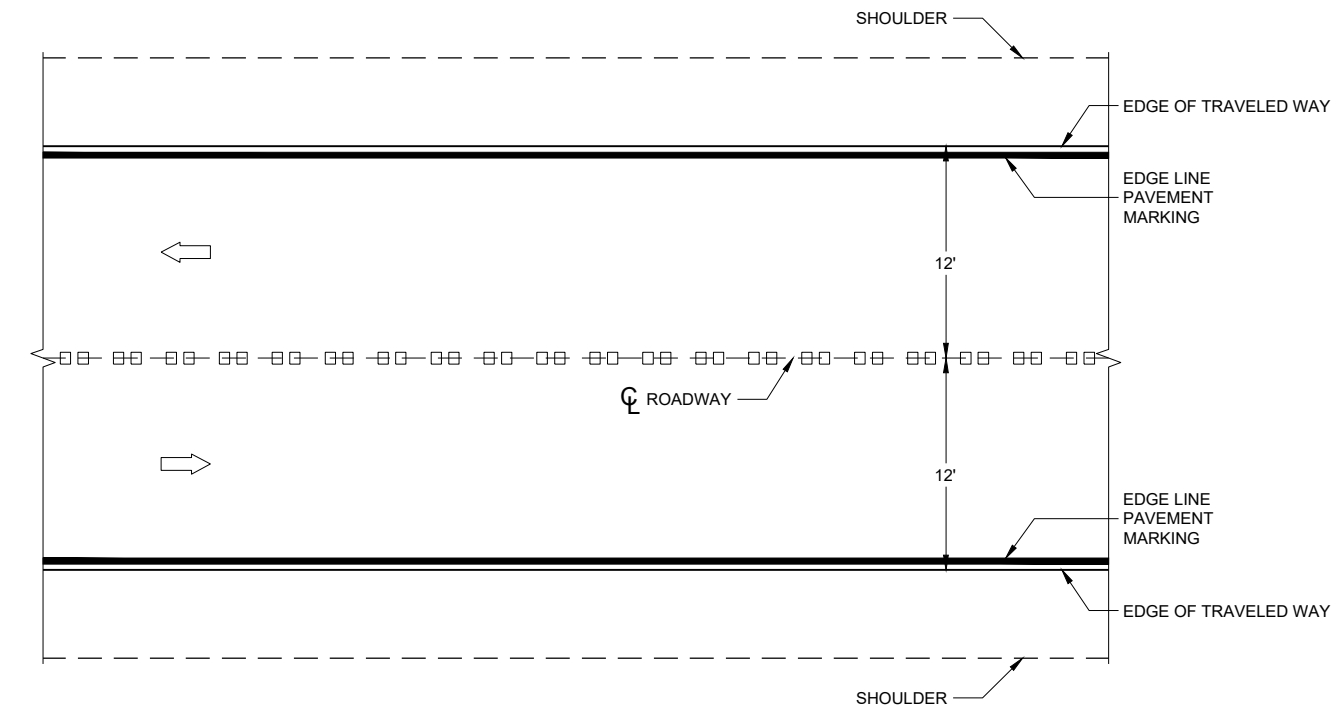
AT GRADE SIDE ROAD
INTERSECTIONS
TYPES "A1" AND "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE
/S/ John Jenkins
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

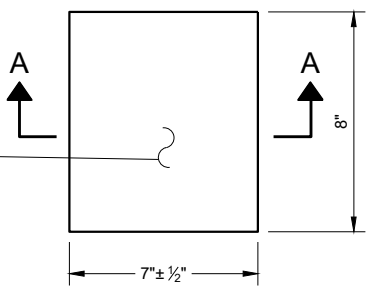


PLAN DETAIL VIEW

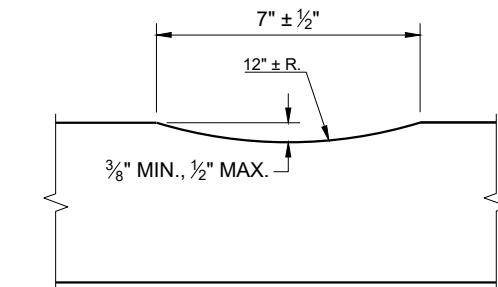


PLAN VIEW

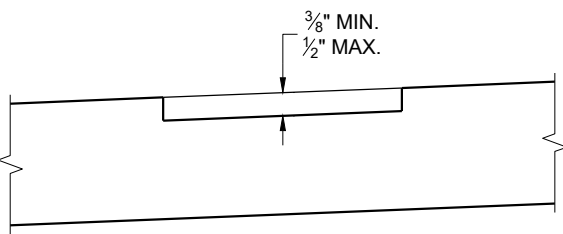
CENTERLINE RUMBLE STRIPS - ASPHALT



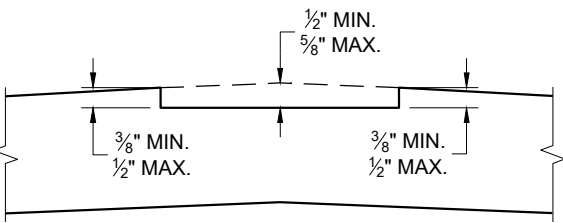
PLAN VIEW (SINGLE GROOVE)



SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY

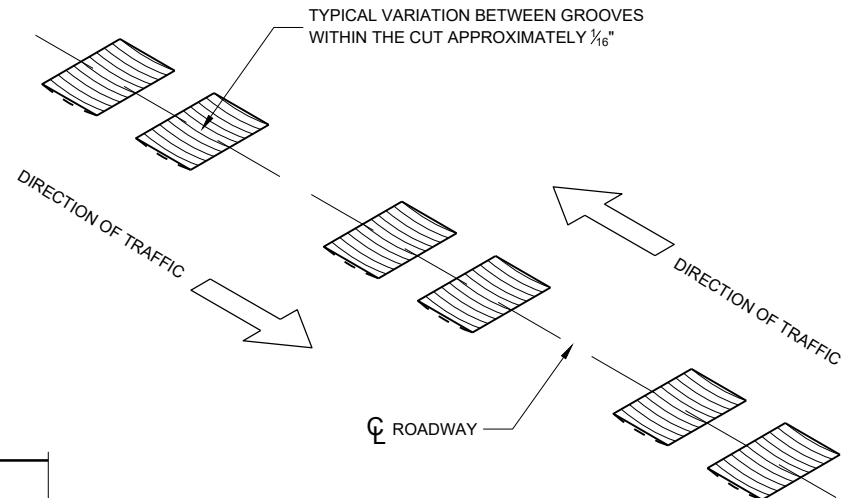


SECTION B - B
CROWNED ROADWAY

GENERAL NOTES

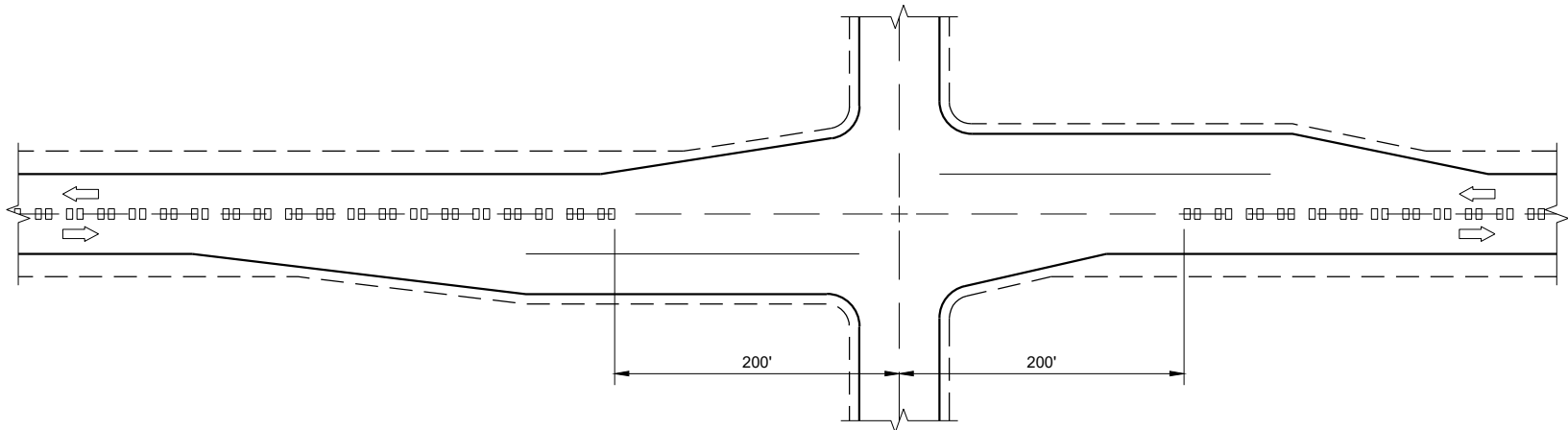
DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

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

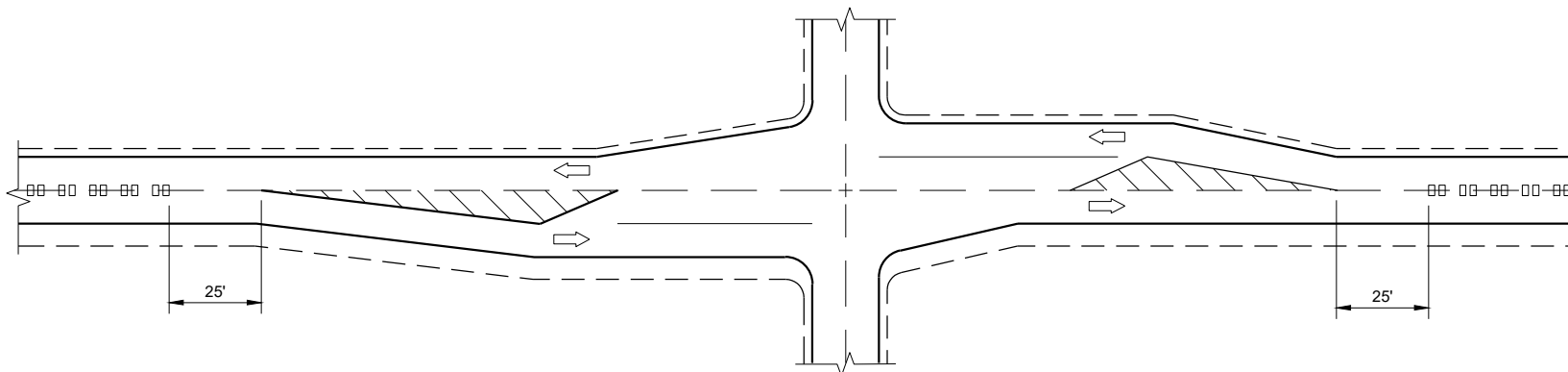


CENTERLINE RUMBLE STRIPS - ASPHALT

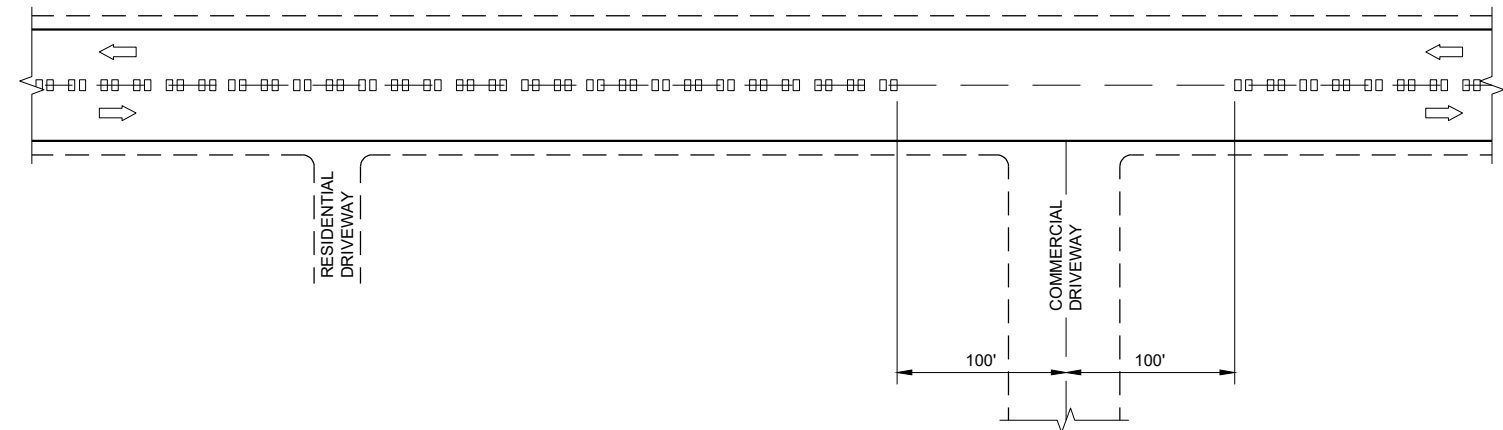
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



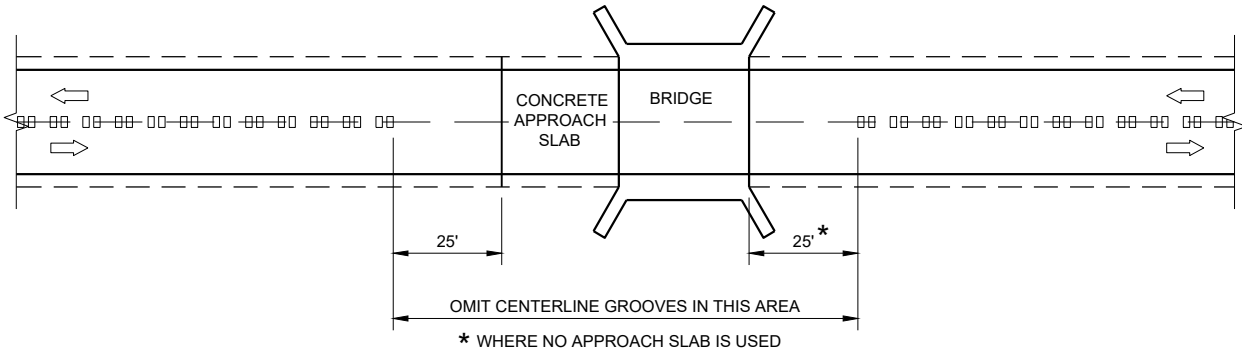
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



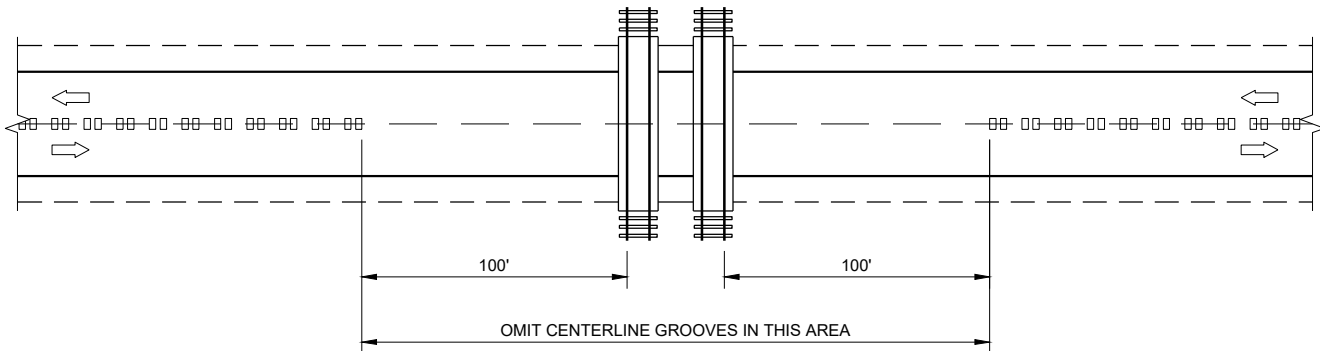
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES

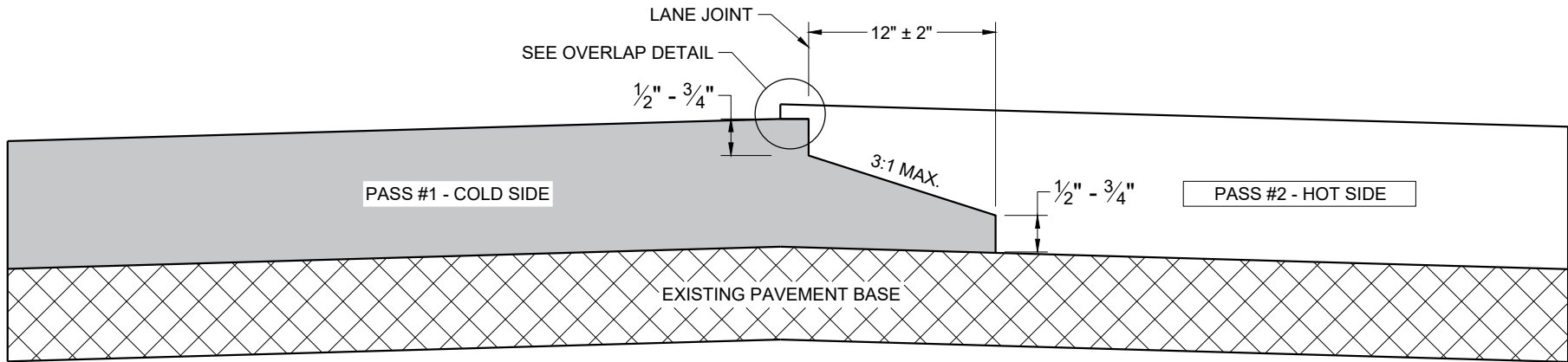


CENTERLINE GROOVES AT RAILROADS

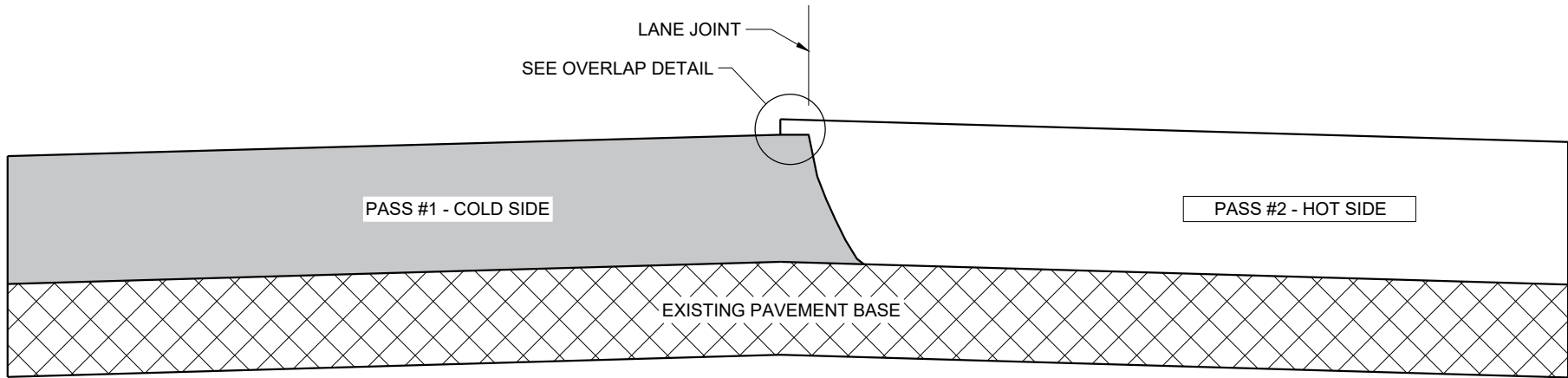
CENTER LINE
RUMBLE STRIPS -
INTERSECTIONS, DRIVEWAYS,
BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

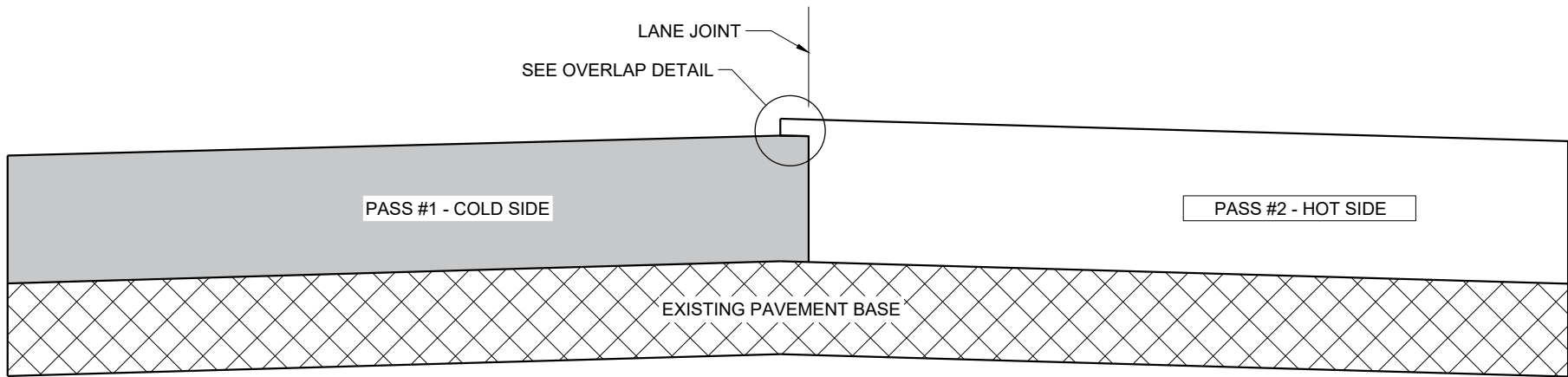
APPROVED
May 2023
DATE
/S/ John Jenkins
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

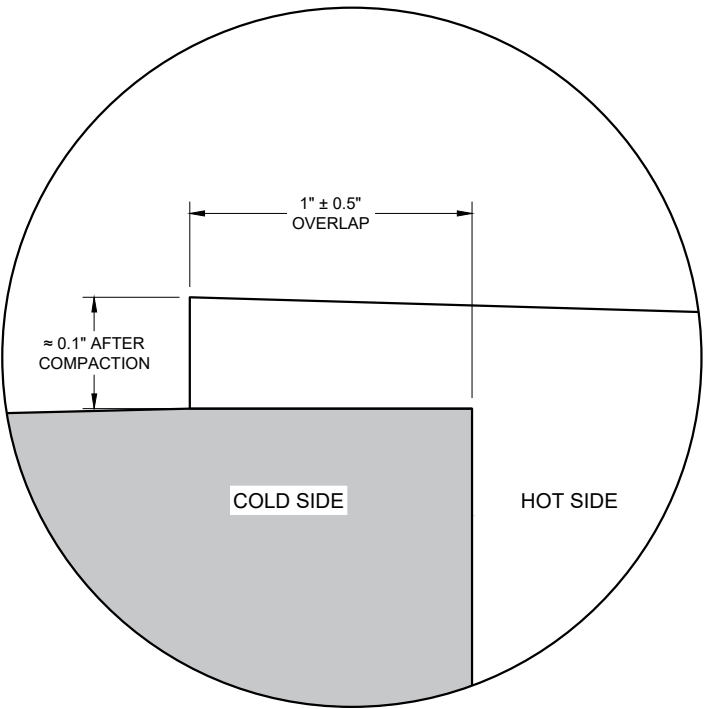
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

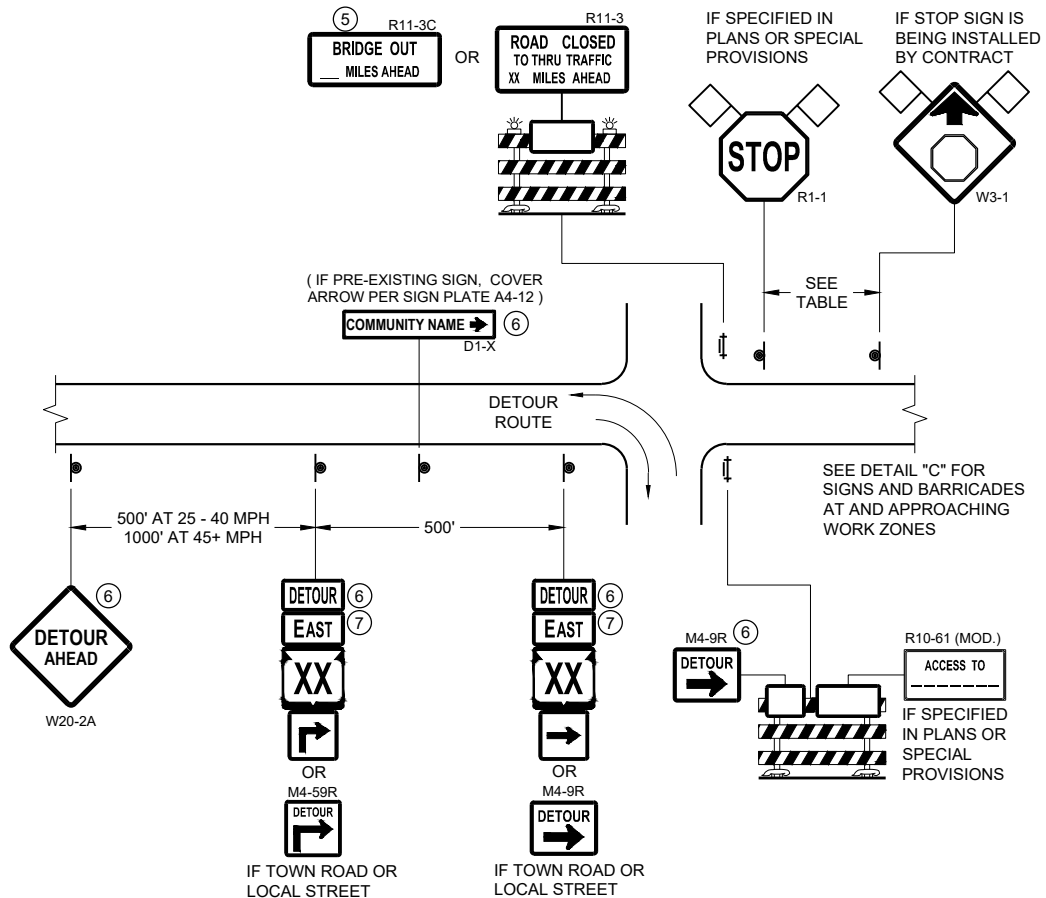


OVERLAP DETAIL (TYPICAL)

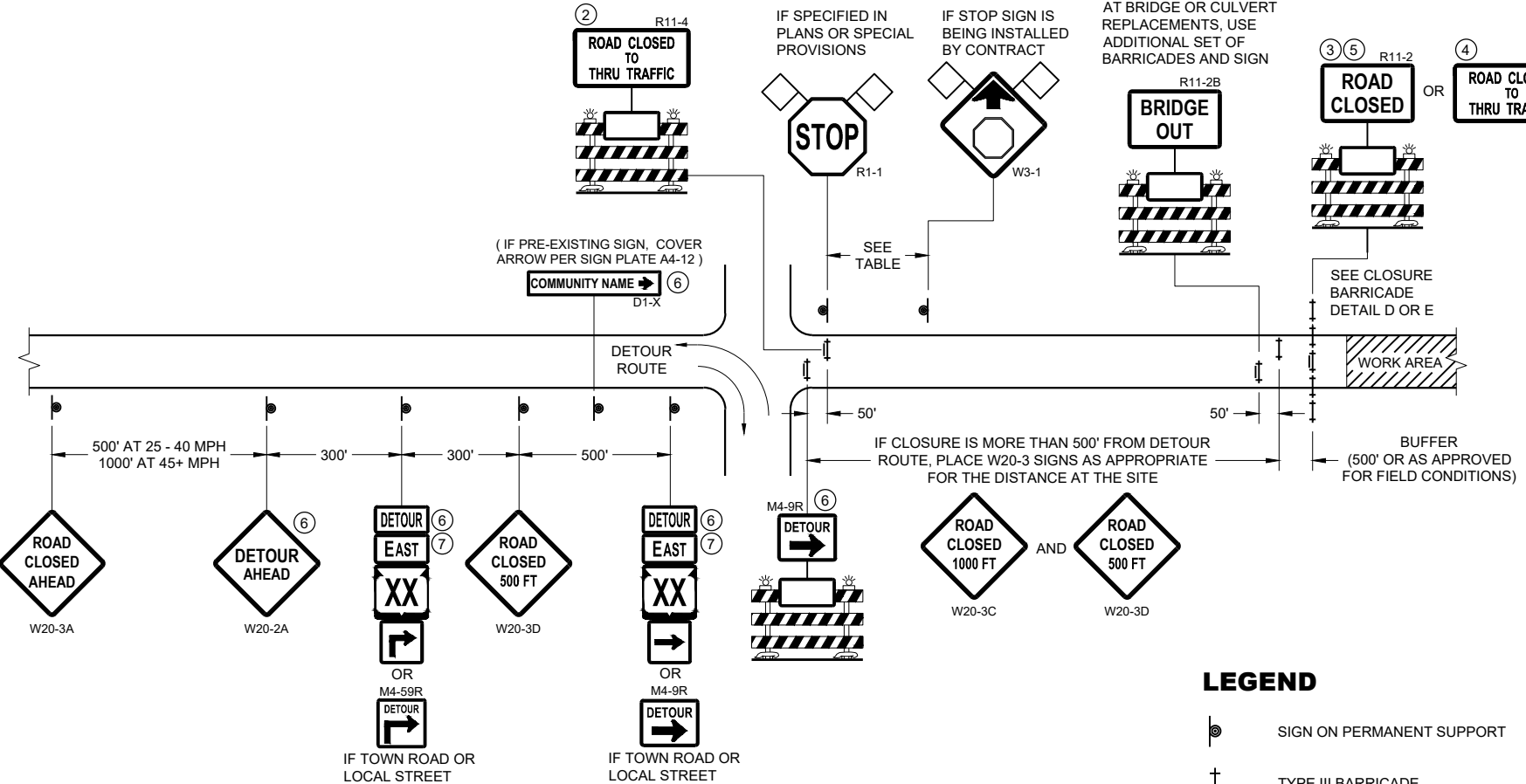
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



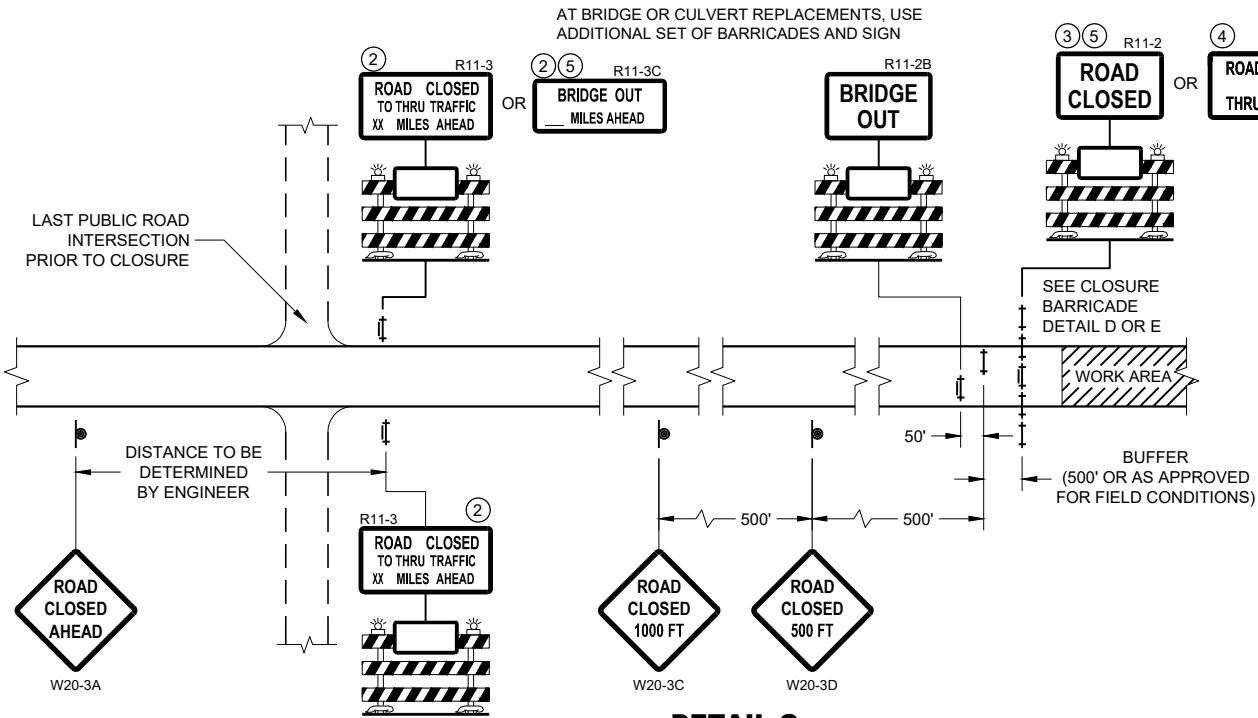
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- LEGEND**
- SIGN ON PERMANENT SUPPORT
 - TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TYPE "A" WARNING LIGHT (FLASHING)
 - WORK AREA
 - FLAGS, 16" X 16" MIN. (ORANGE)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- OR M05 - 1 OR M06 - 1

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦



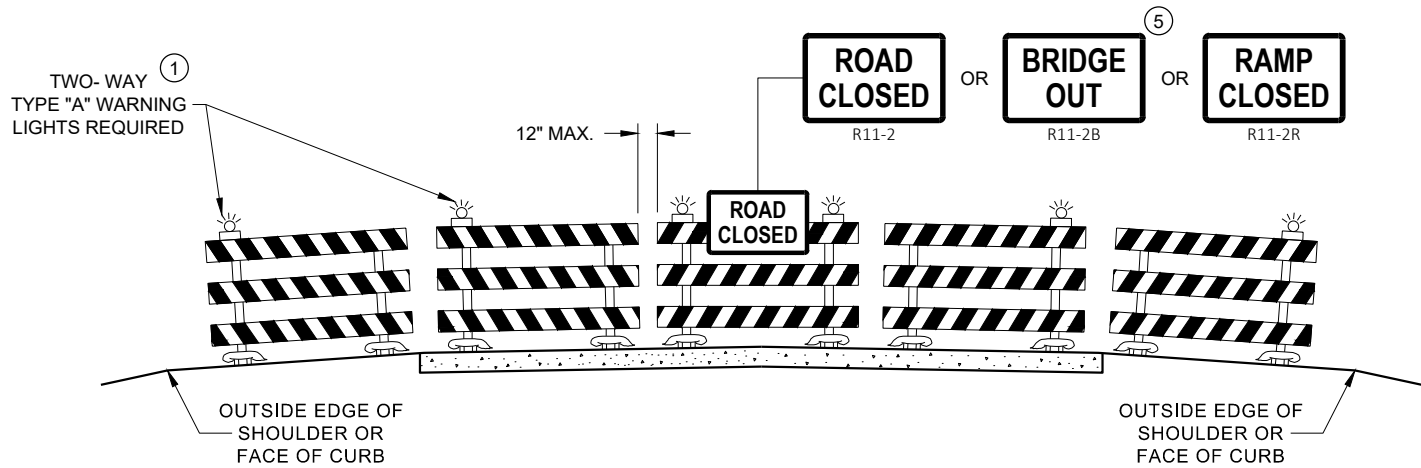
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

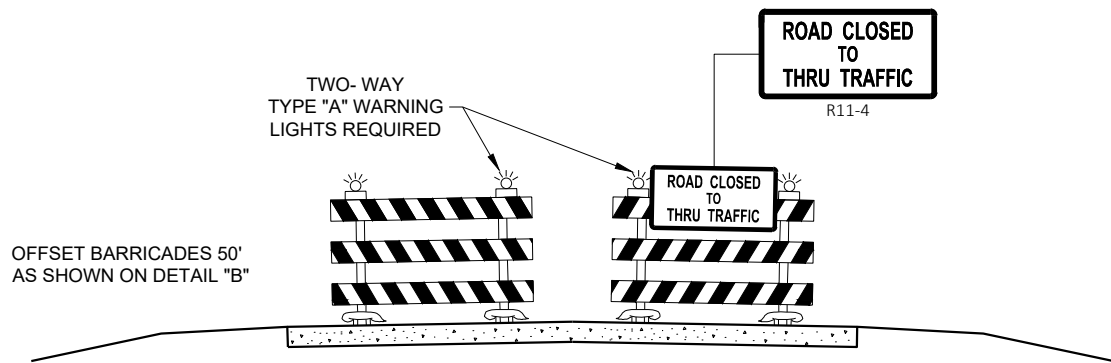
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

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.

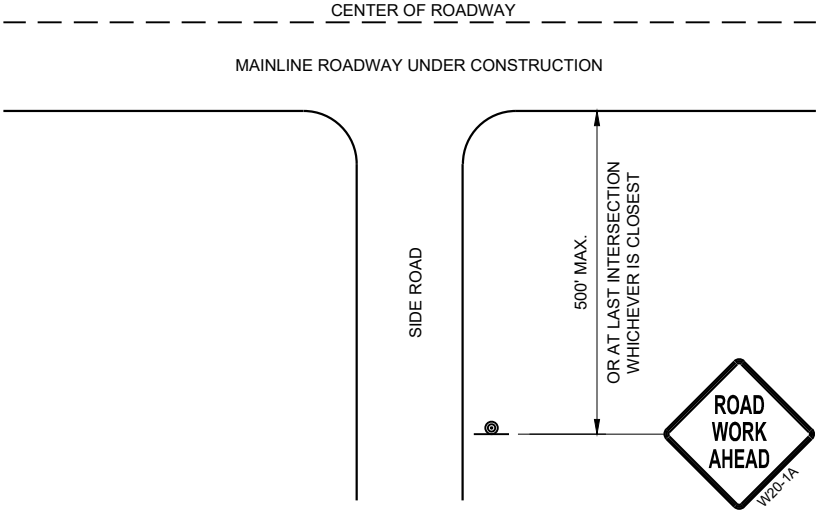
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

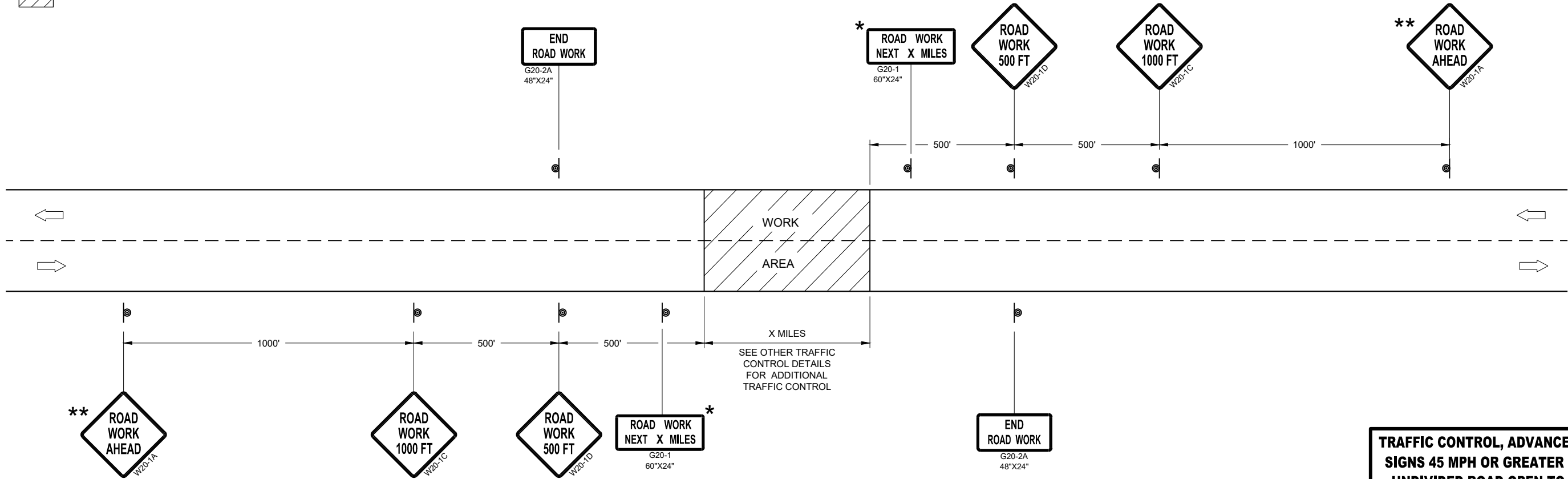
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

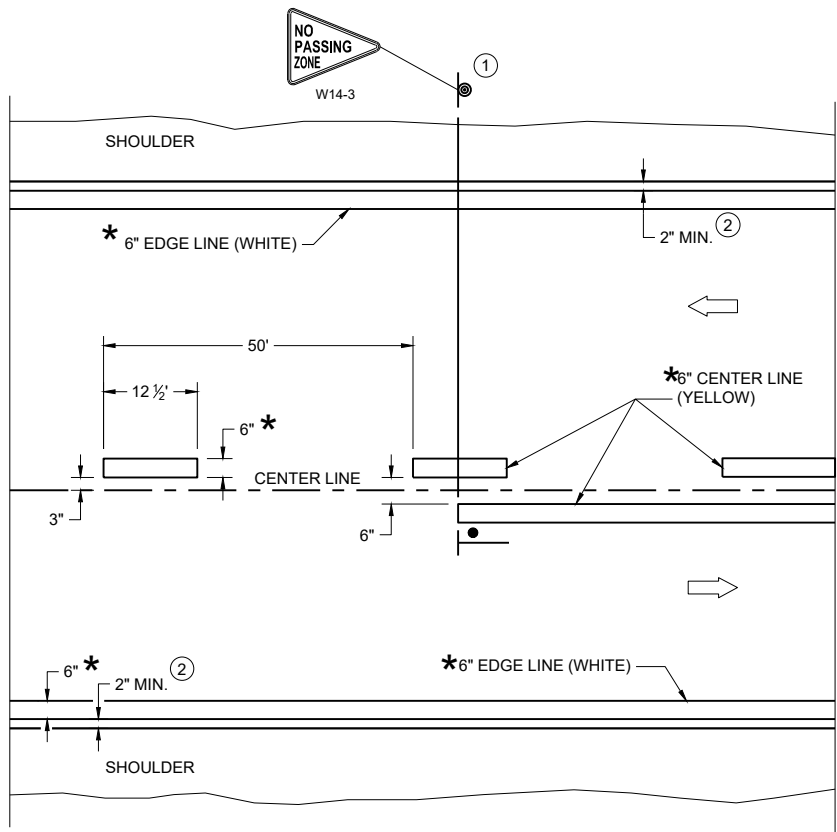


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

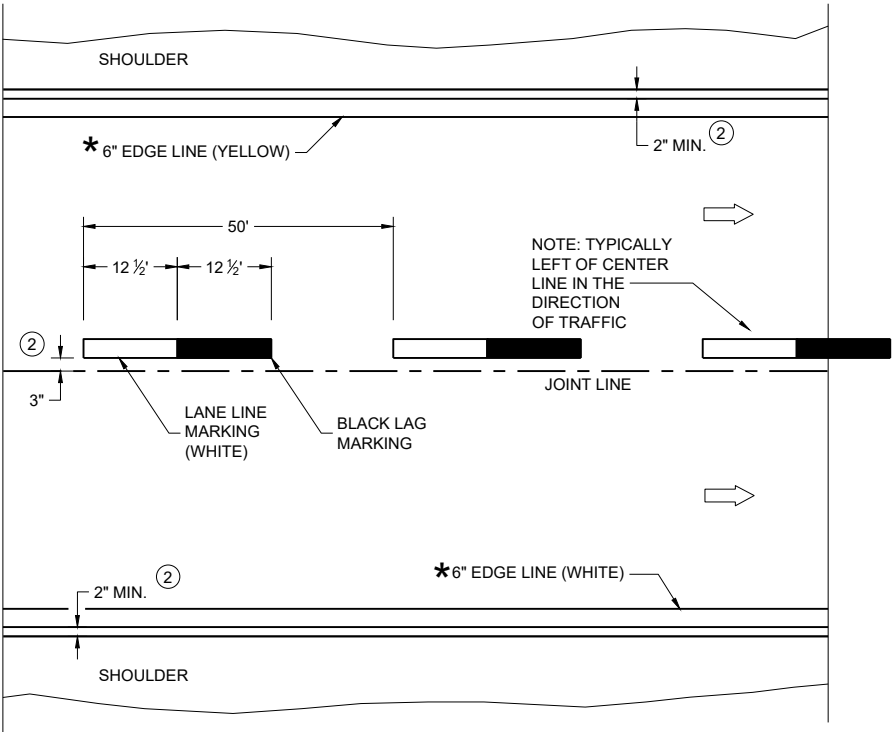
TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

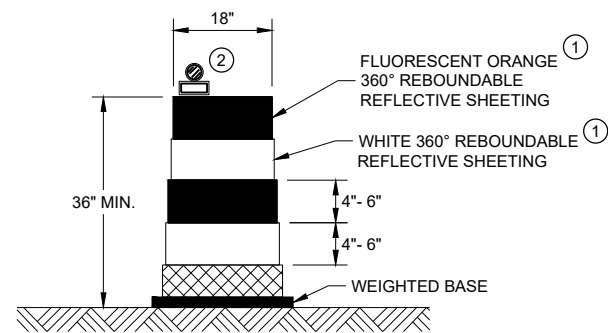
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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

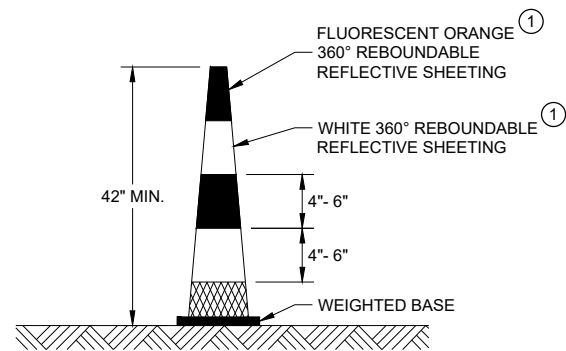
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



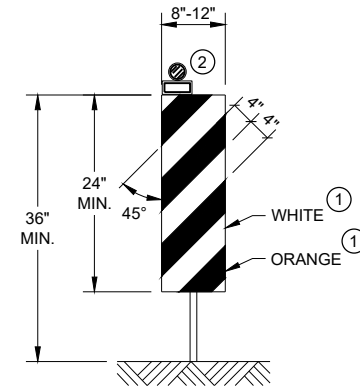
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



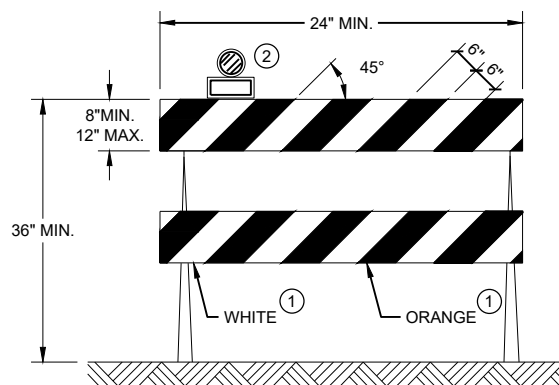
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



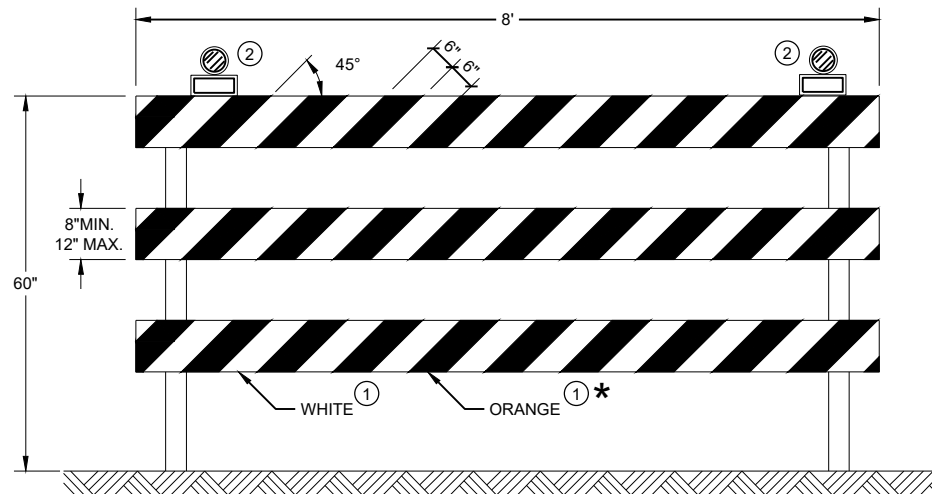
VERTICAL PANEL

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



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.

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.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

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.

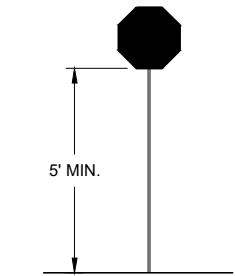
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

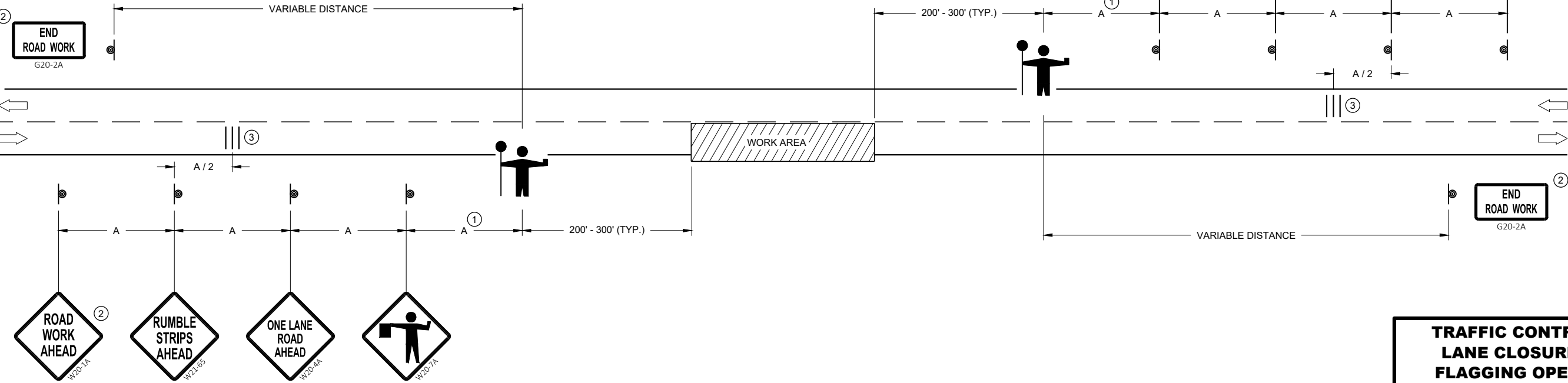
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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".

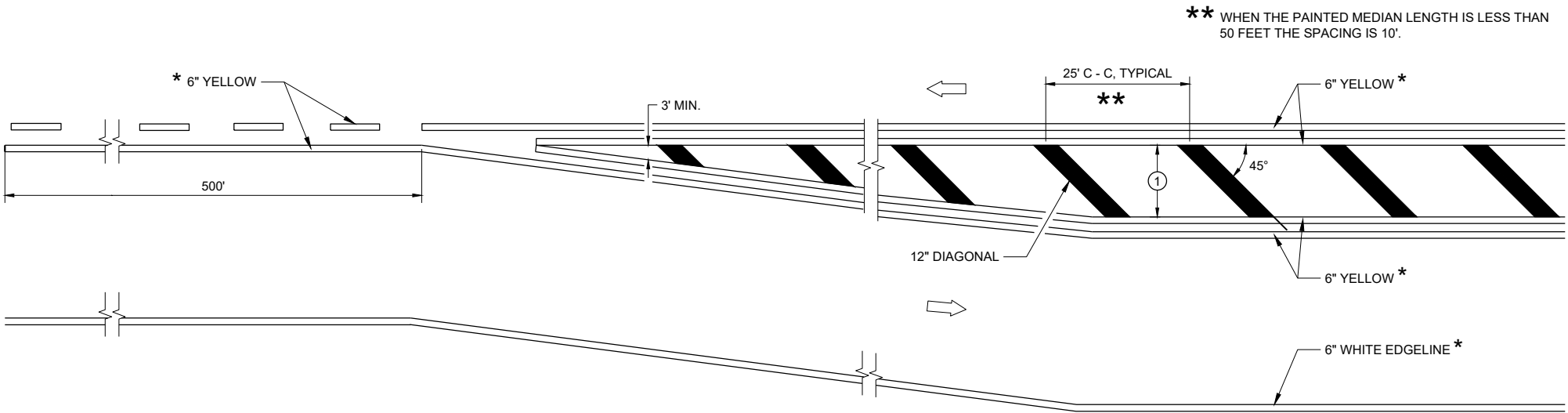


TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

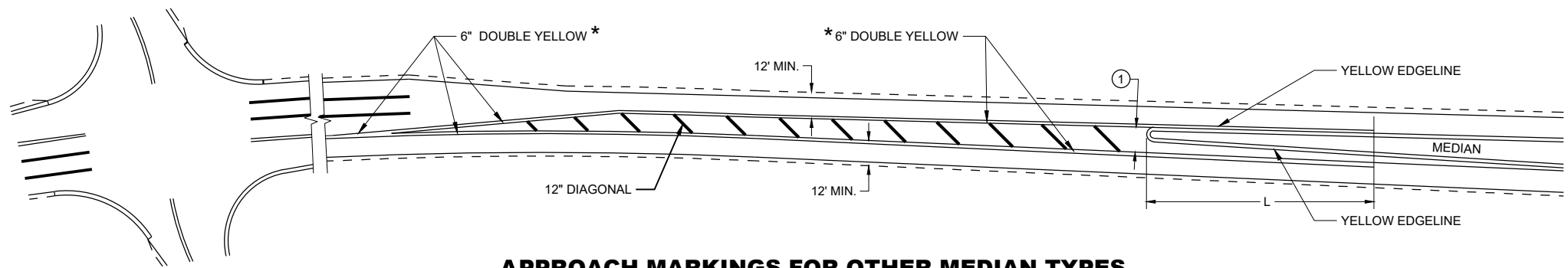
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

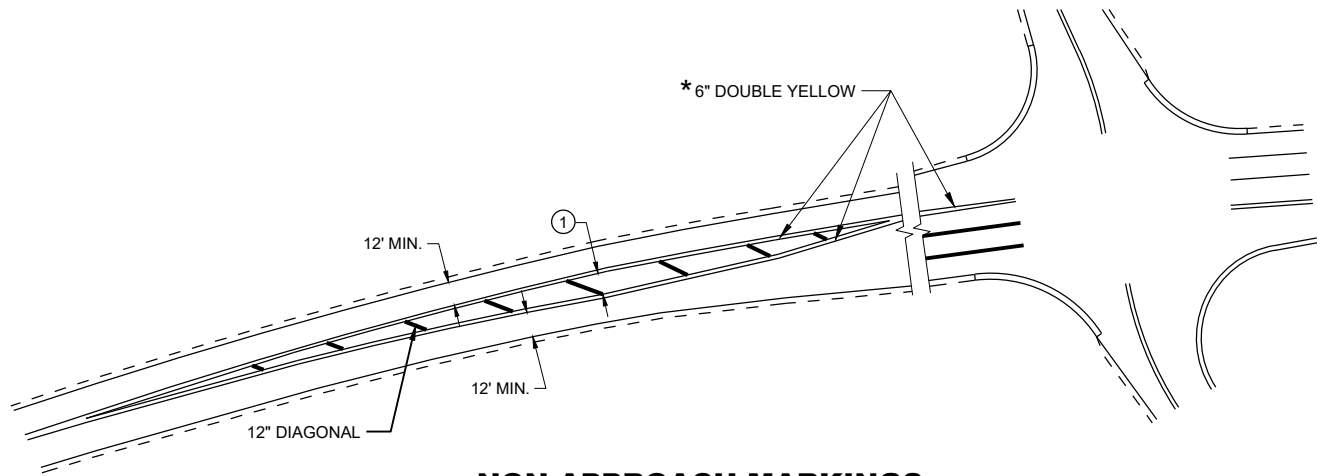
FHWA



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

GENERAL NOTES

- ① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

➡ DIRECTION OF TRAVEL

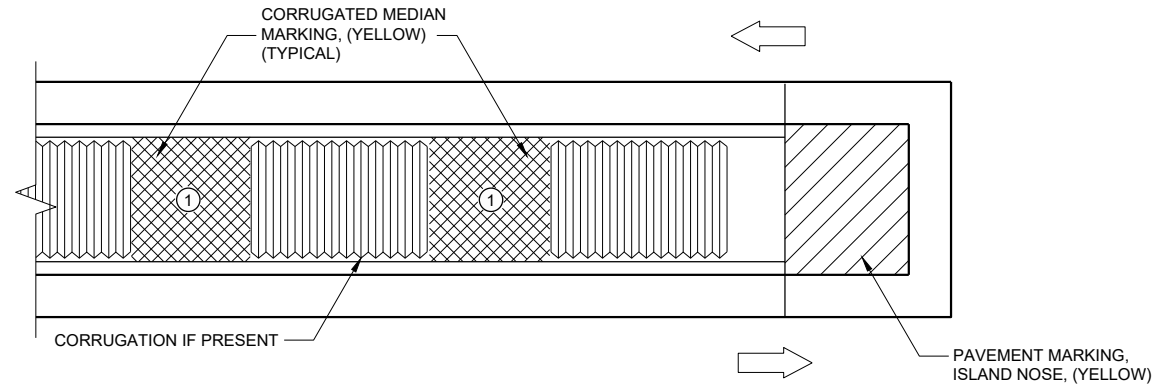
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

SPEED LIMIT	L
<35 MPH	5'
35> MPH	50'

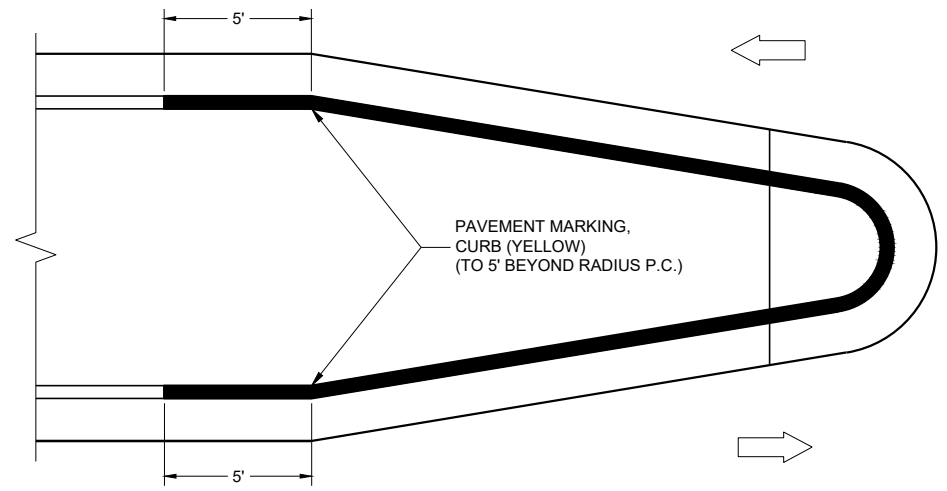
MEDIAN ISLAND
PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

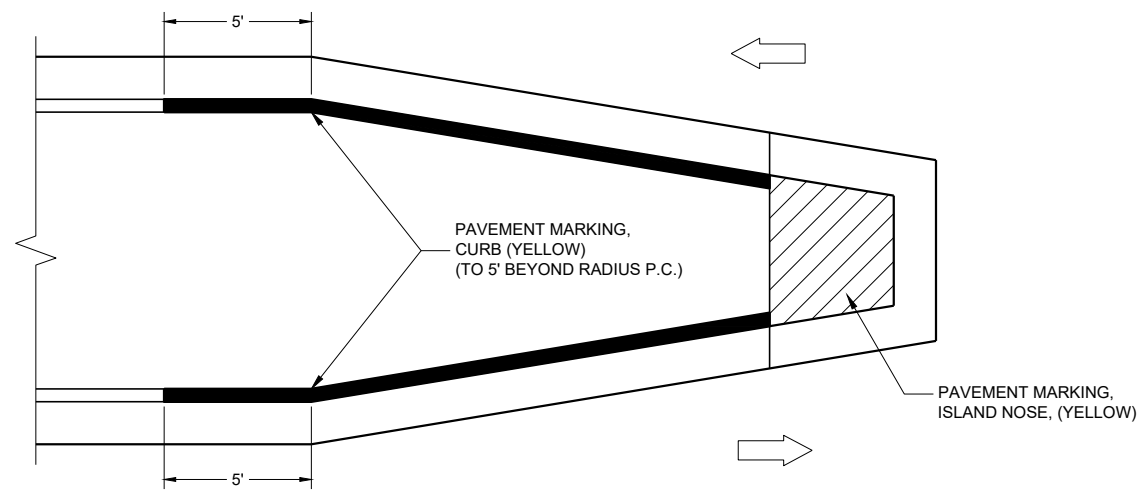
APPROVED
May 2023 /S/ Jeannie Silver
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

- ① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

V1	LEAD VEHICLE
V2	MARKING VEHICLE
V3	SHADOW VEHICLE

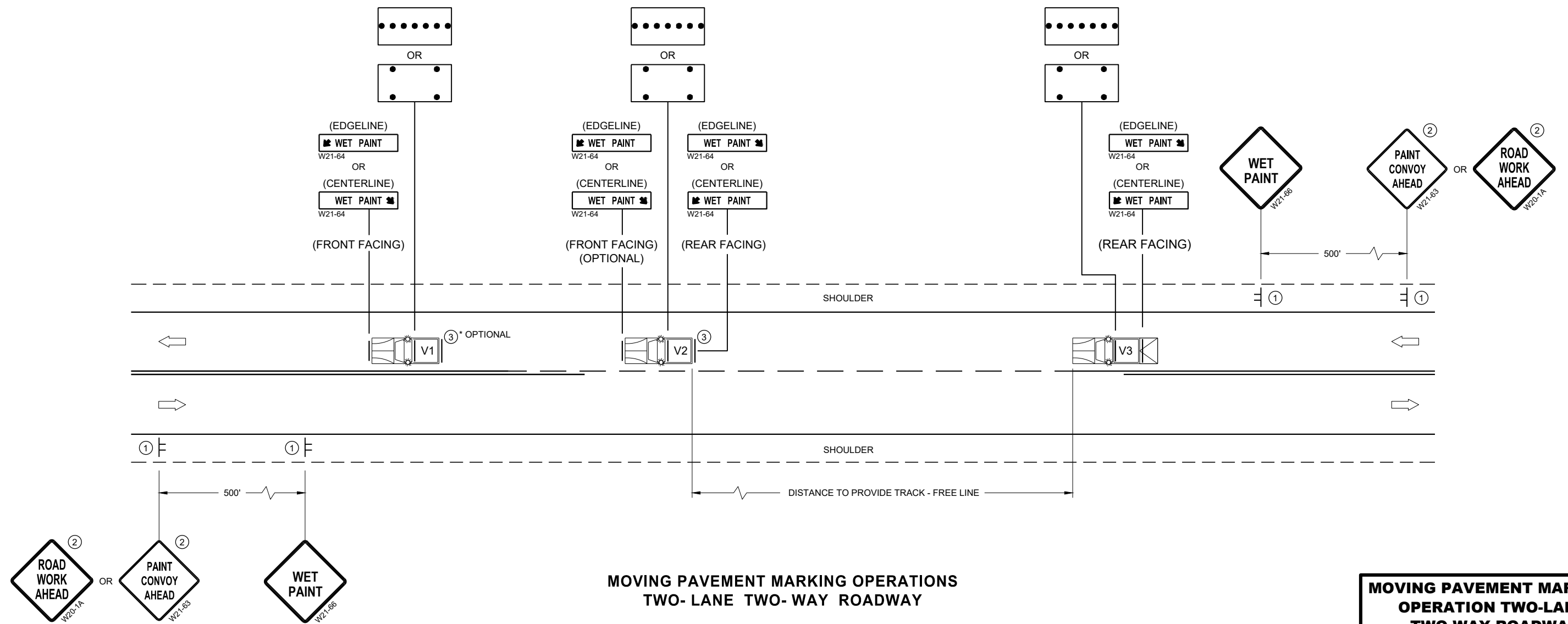


FLASHING ARROW PANEL (CAUTION)

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

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.
- ③ V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



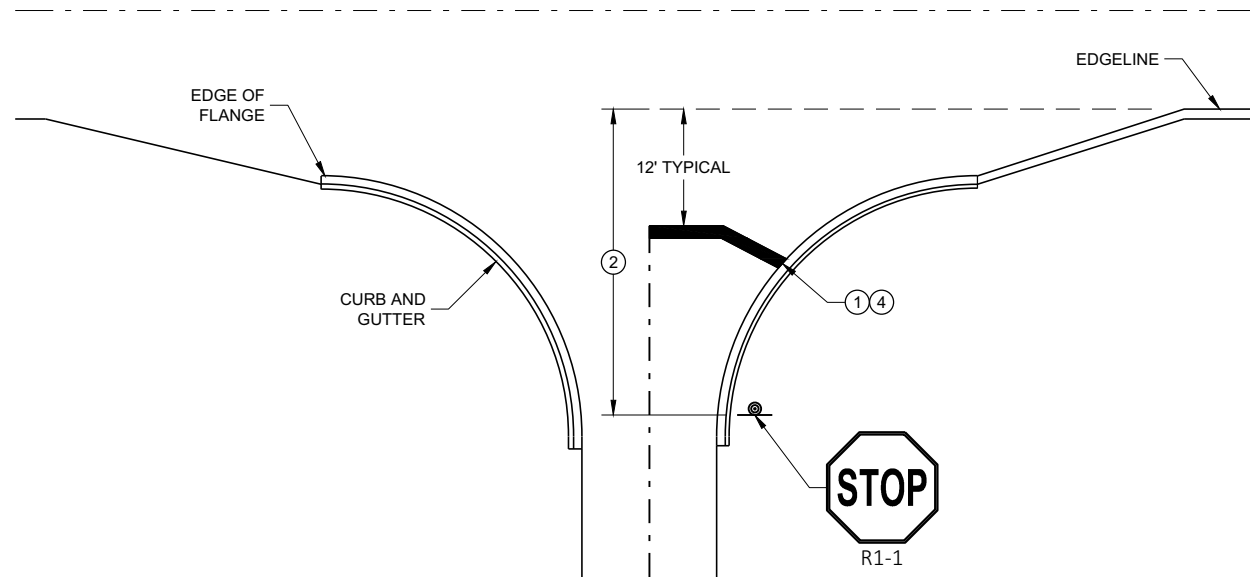
MOVING PAVEMENT MARKING OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

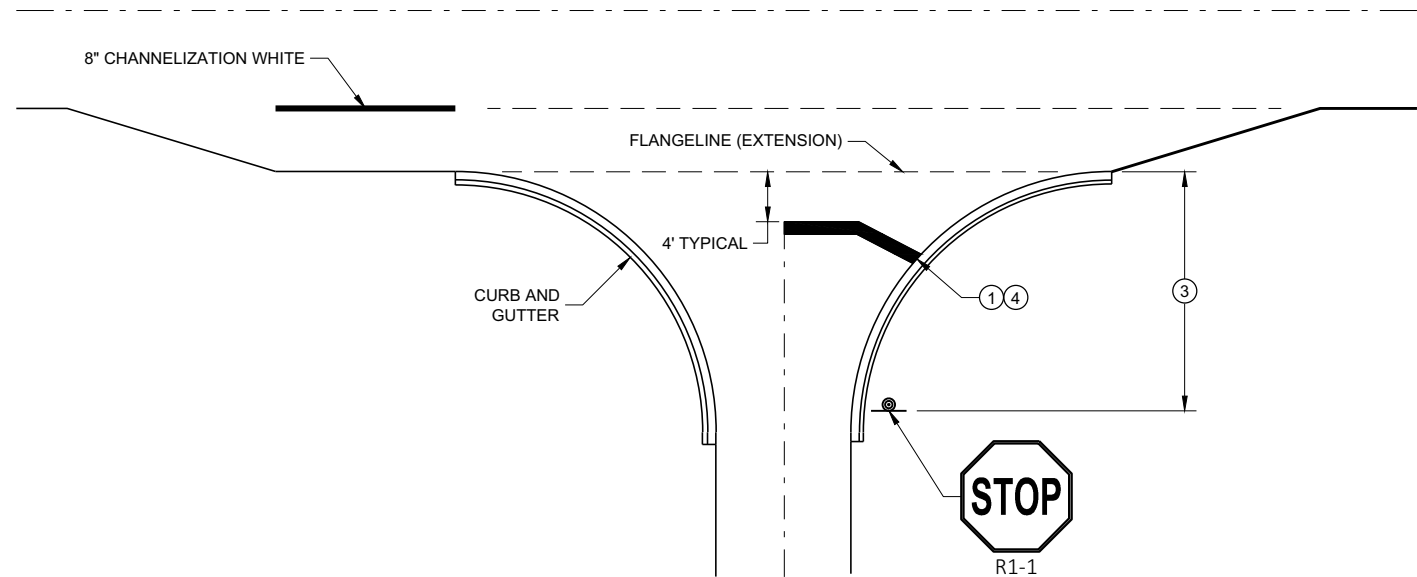
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE

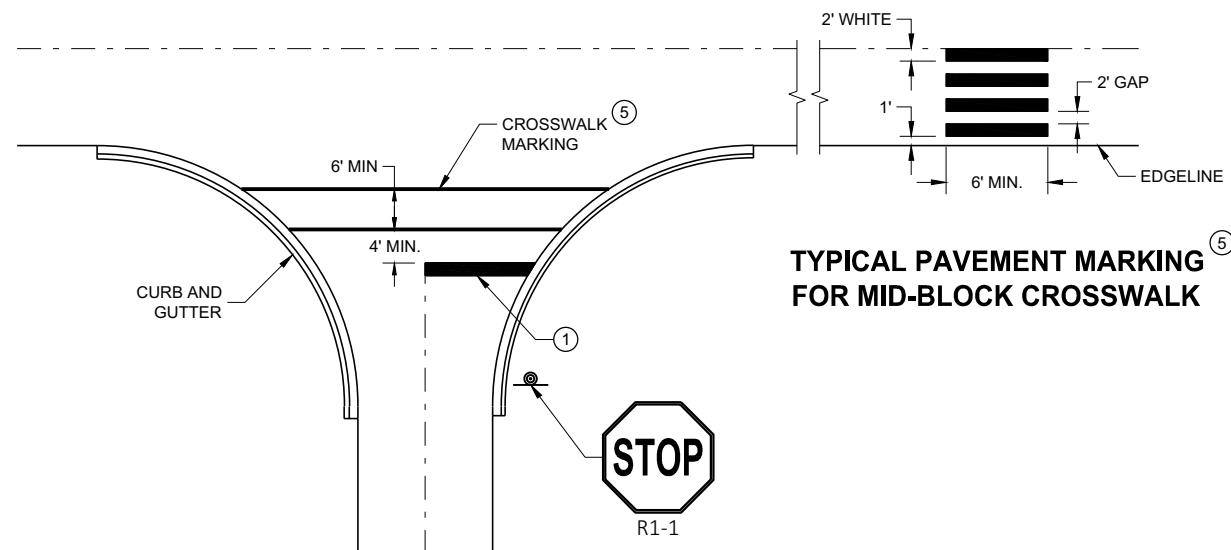
/S/ Andrew Heidtke
WORK ZONE ENGINEER



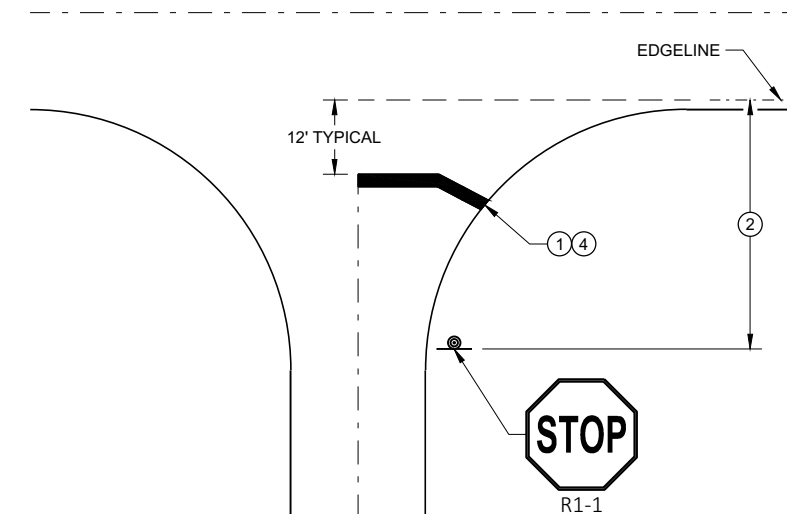
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR
SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

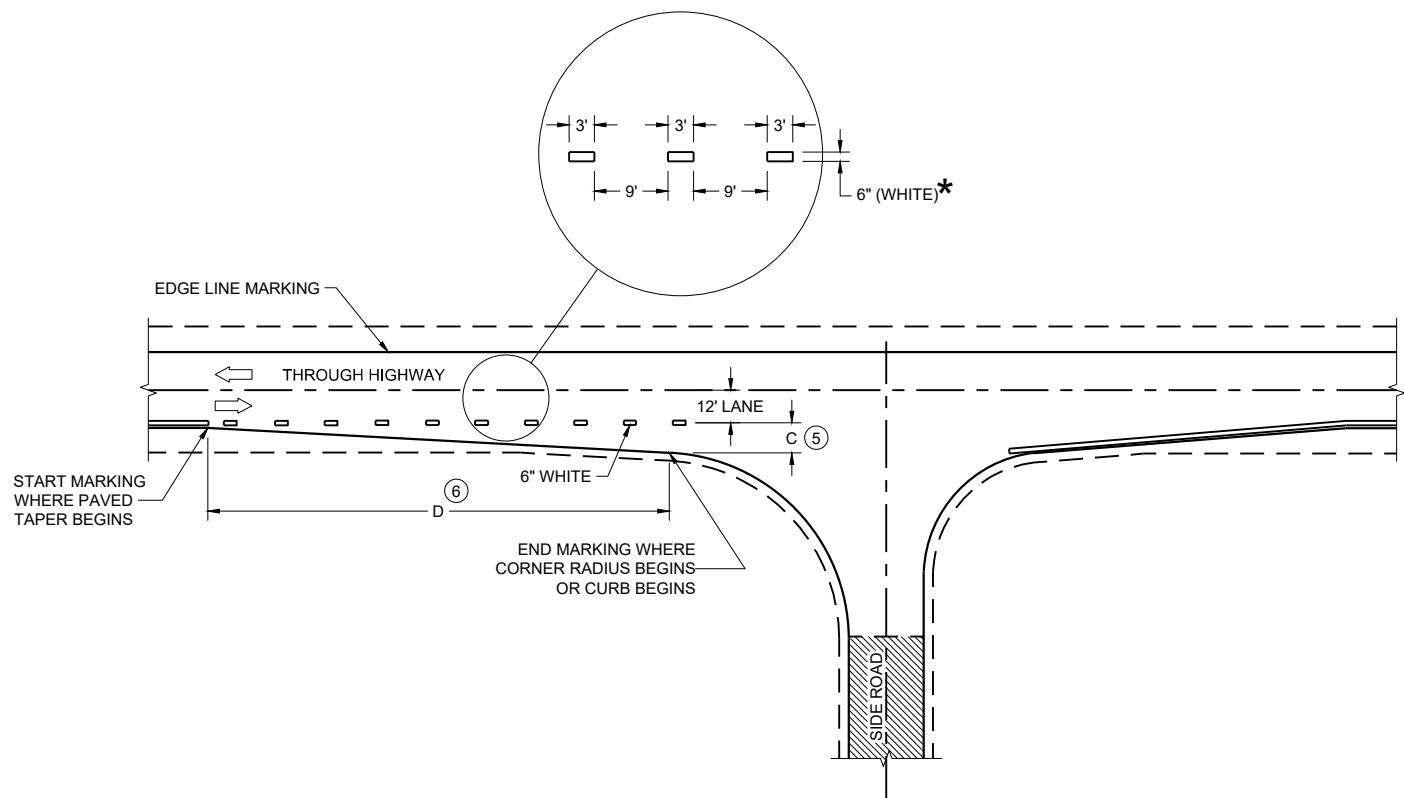
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- 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 EDGE LINE.
- 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.

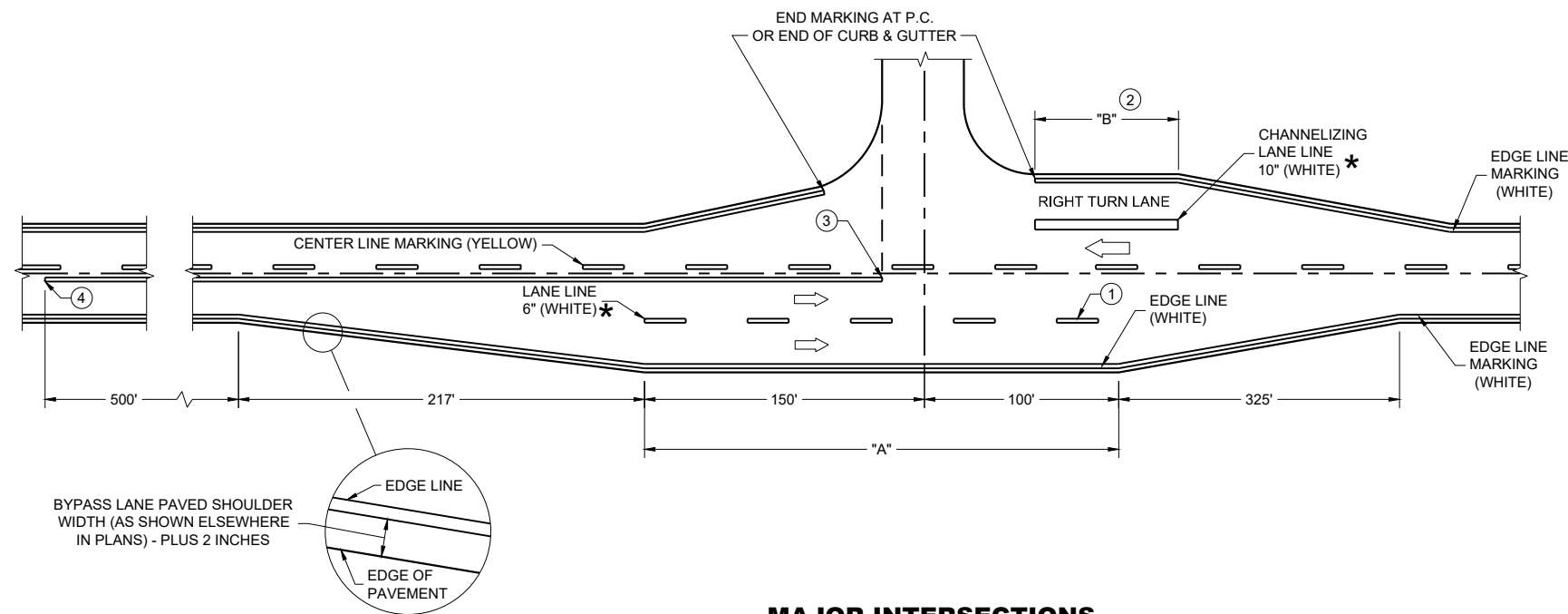
STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



MINOR INTERSECTION



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

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

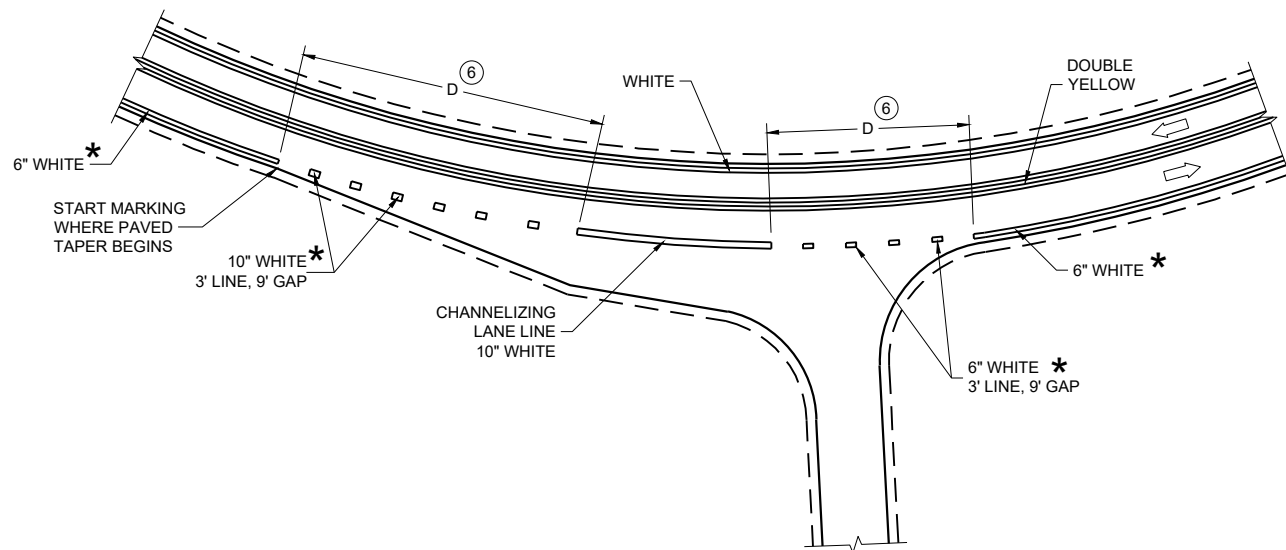
GENERAL NOTES

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.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

➡ DIRECTION OF TRAVEL







INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

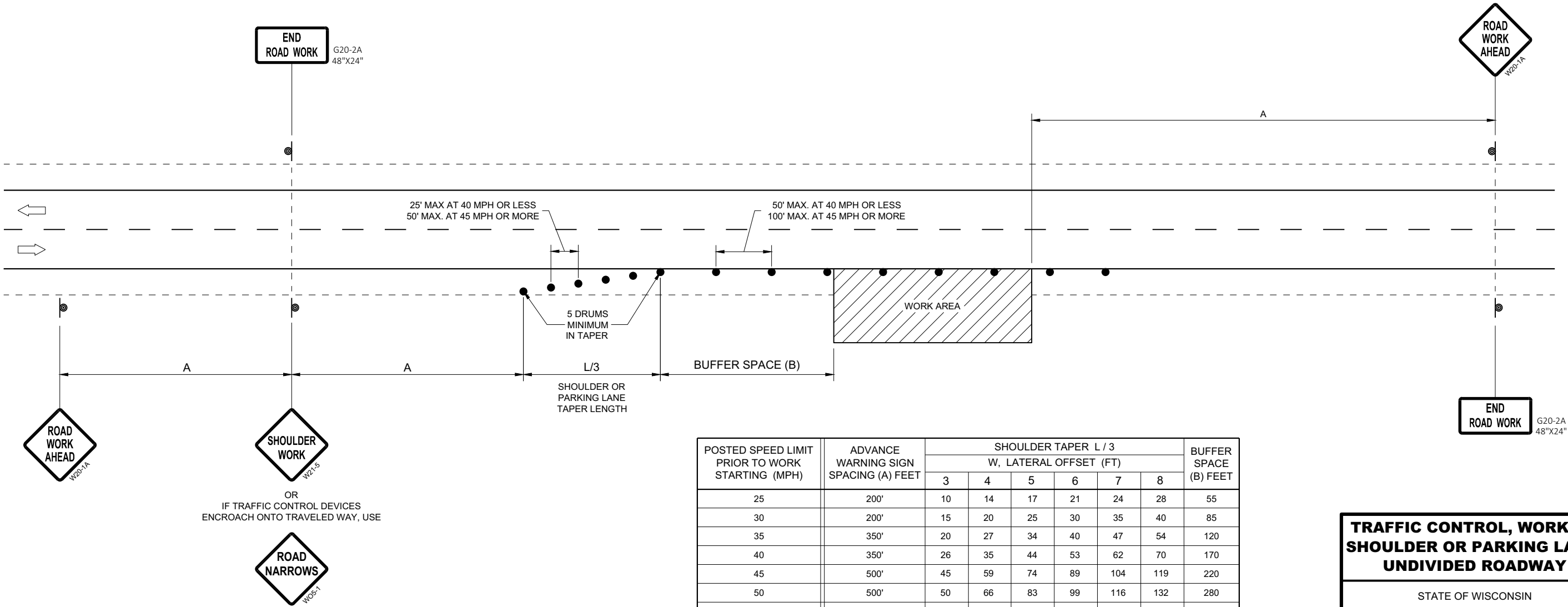
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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.

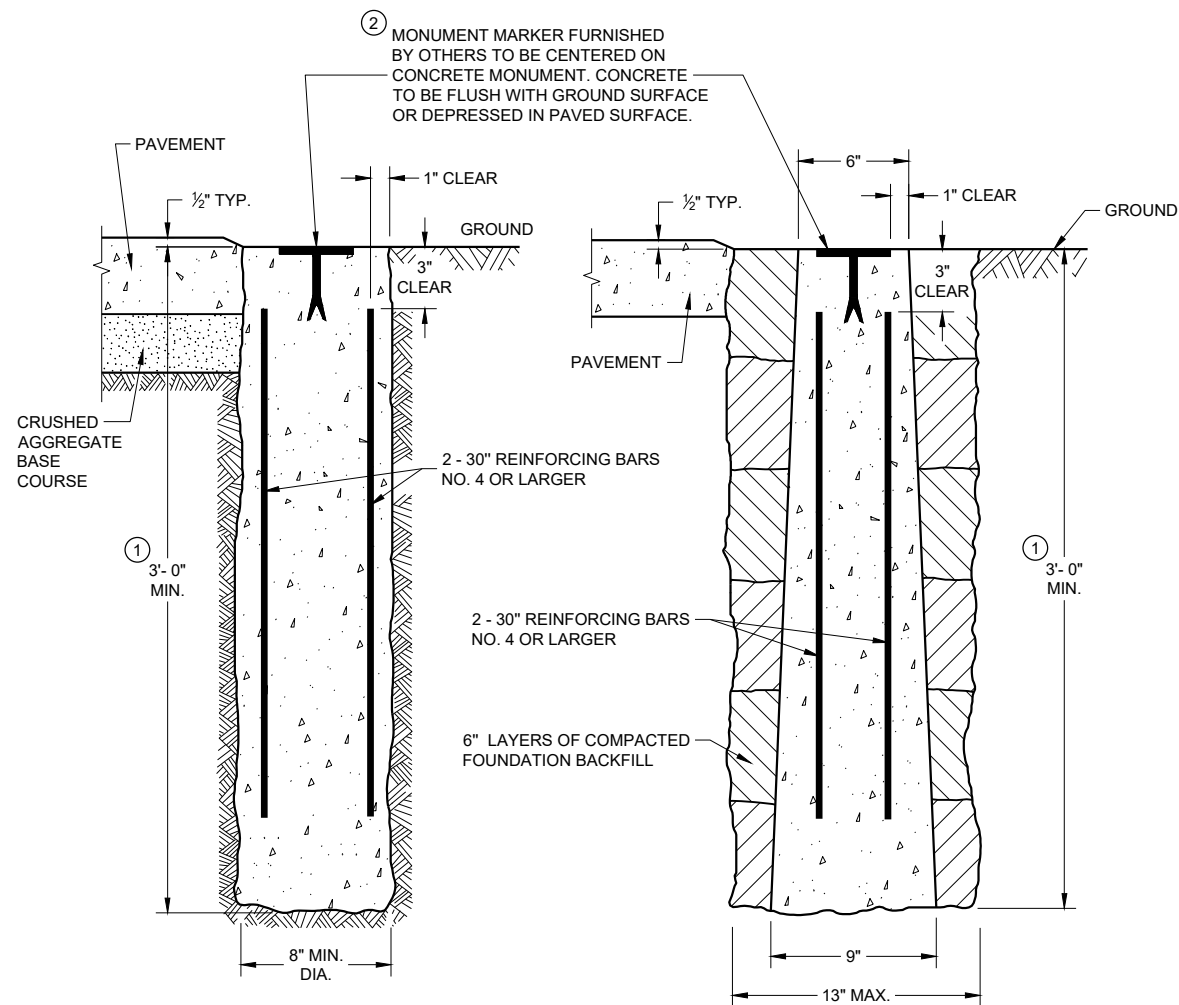
W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

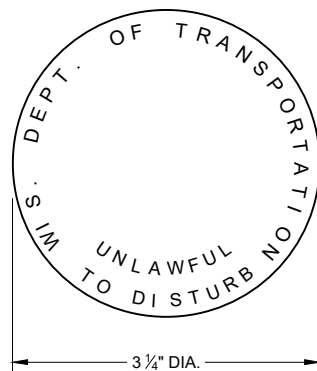
APPROVED
May 2020
DATE
/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA



CAST-IN-PLACE

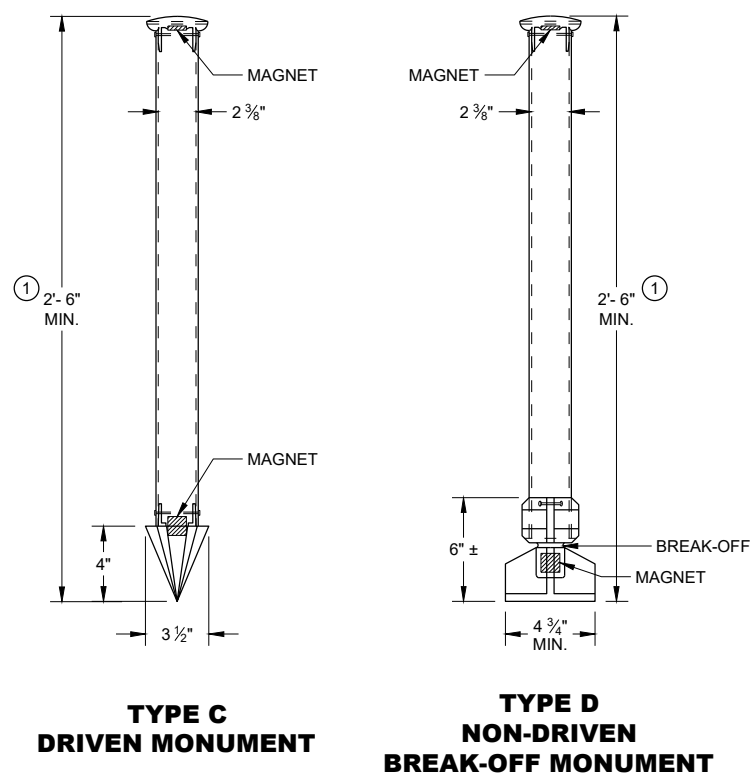
PRECAST

CONCRETE MONUMENTS TYPE A

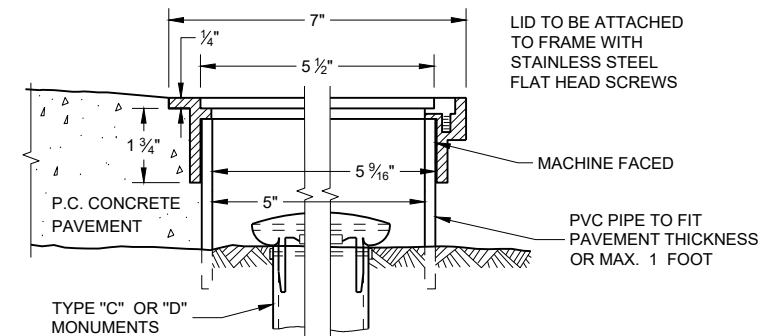
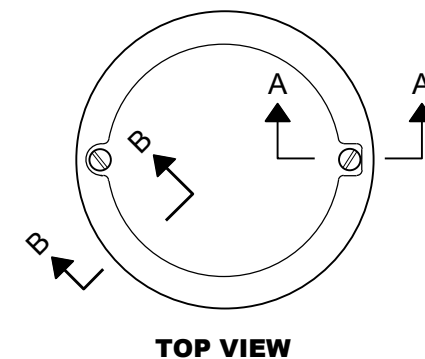


② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C" & "D"



ALUMINUM MONUMENTS (INCLUDES MARKER)



SECTION B-B SECTION A-A ALUMINUM MONUMENT COVER (APPROXIMATE WEIGHT 2 LBS) (FOR CONCRETE PAVEMENT ONLY)

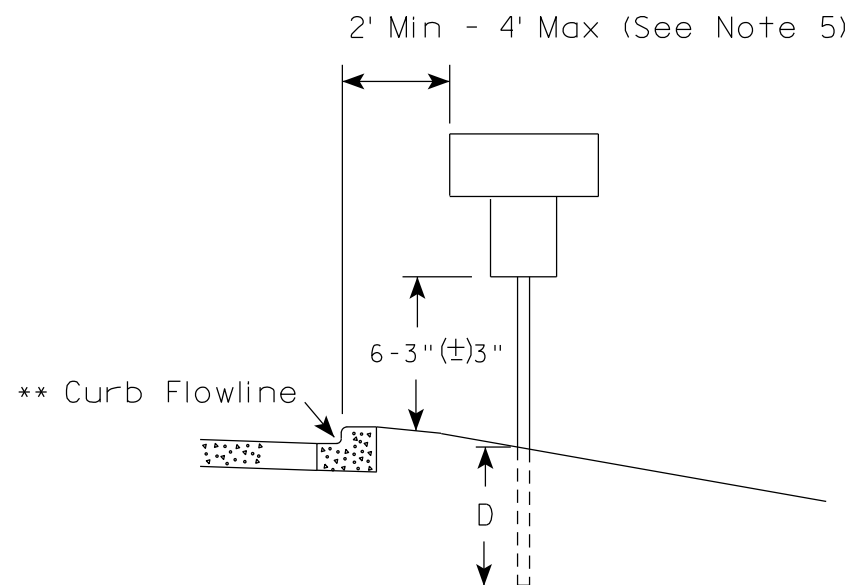
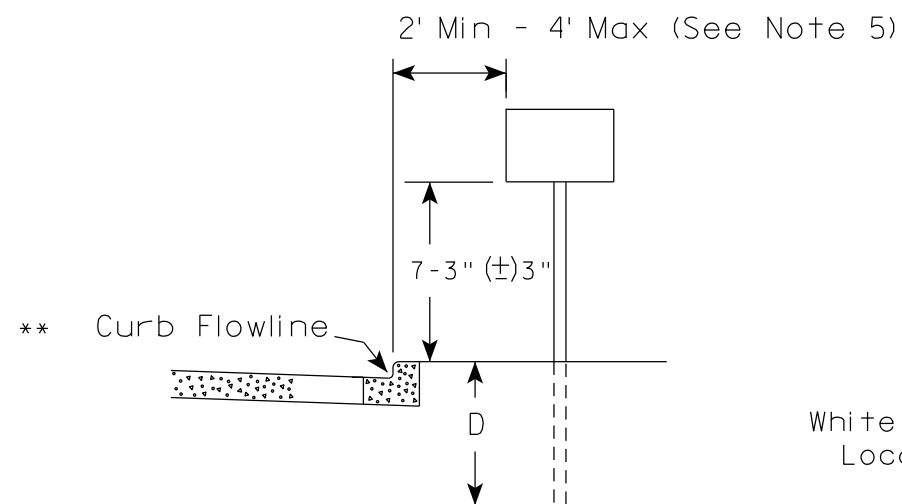
LANDMARK REFERENCE MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

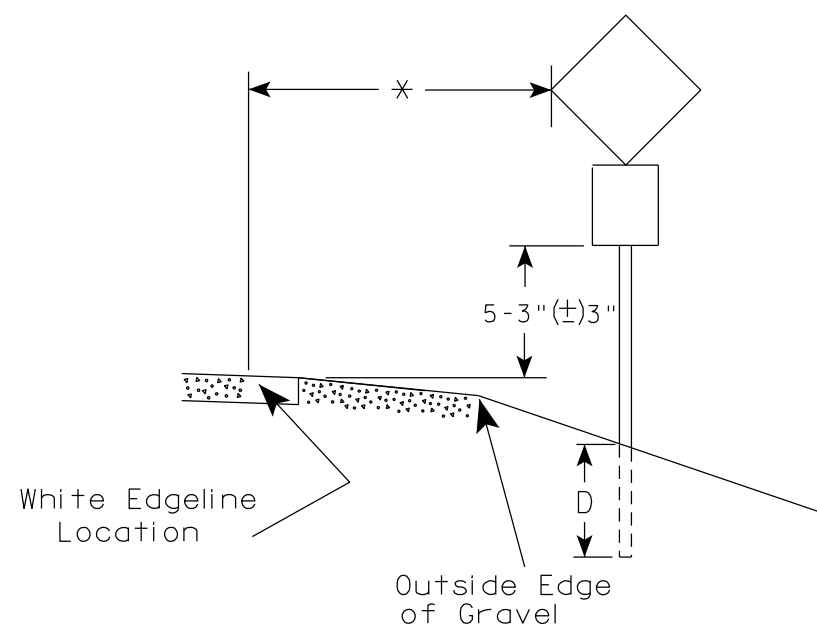
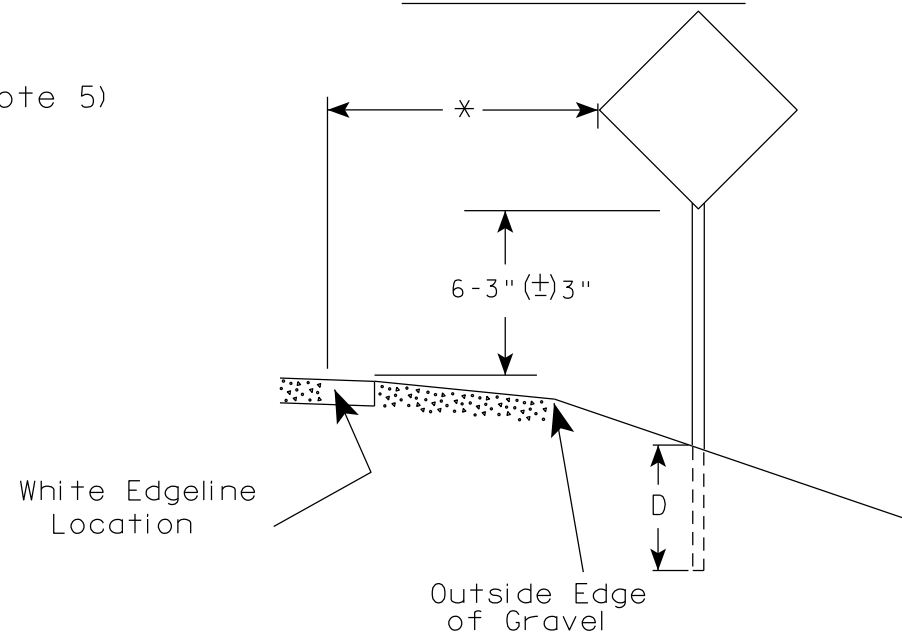
FHWA

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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.

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" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 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'

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

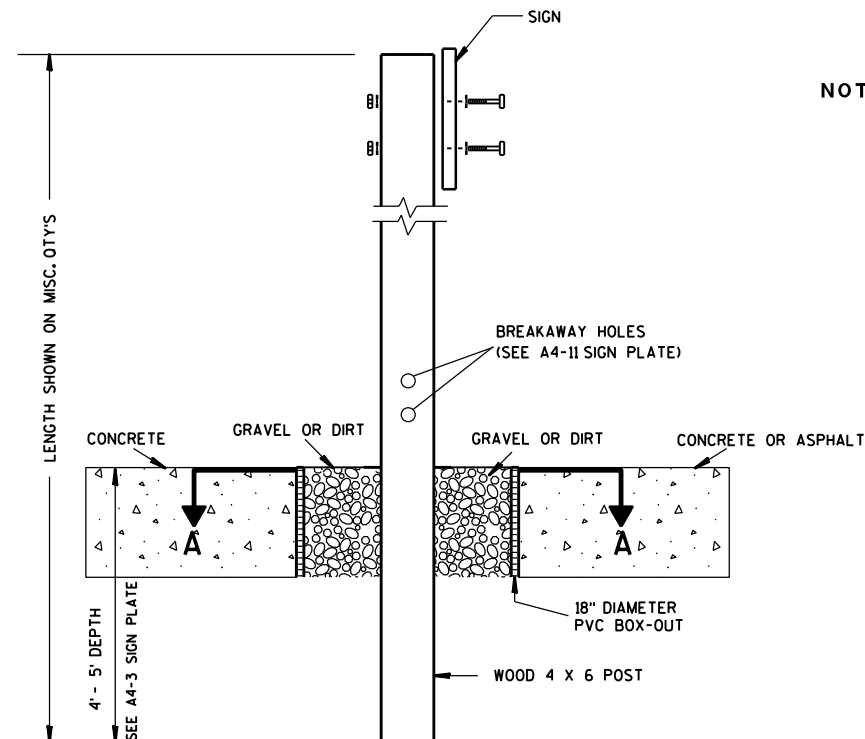
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

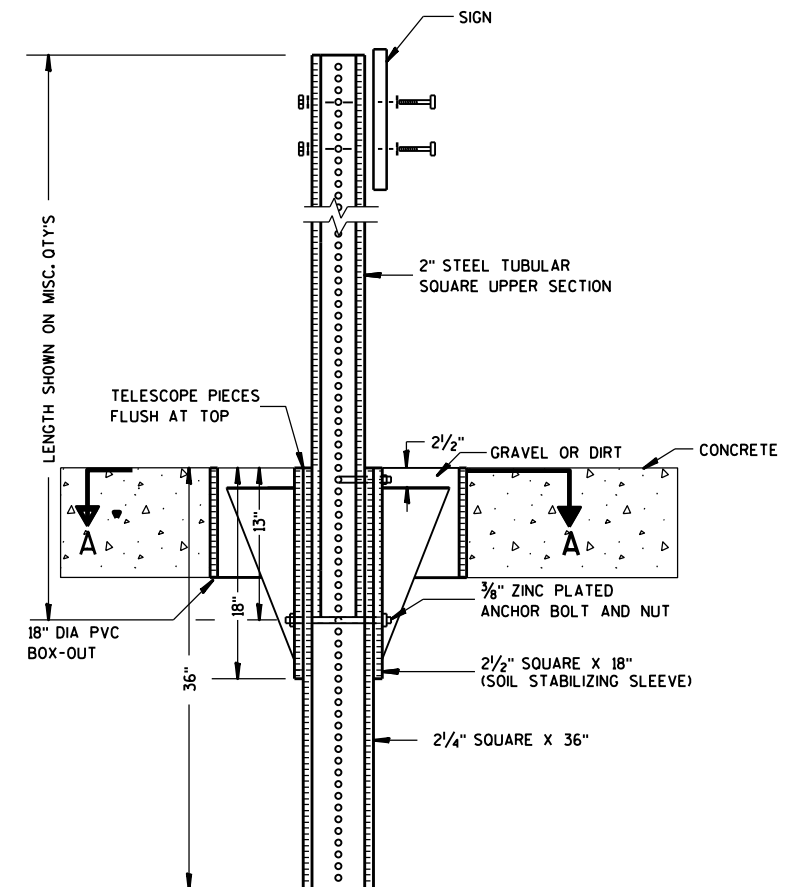
E



ELEVATION VIEW

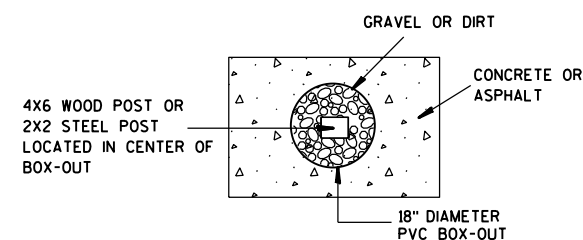
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

PROJECT NO:

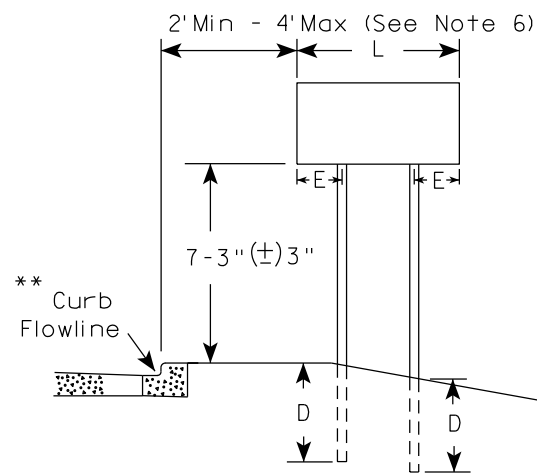
HWY:

COUNTY:

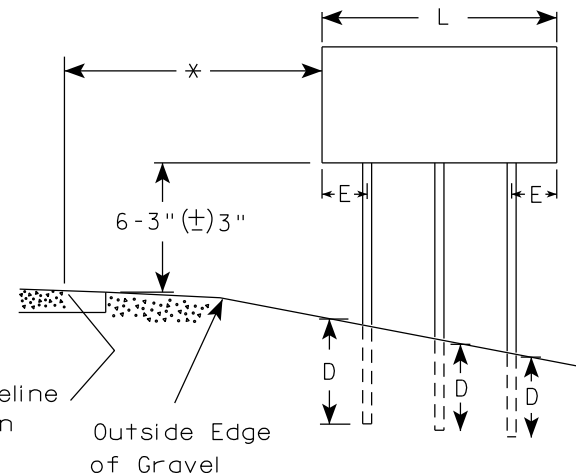
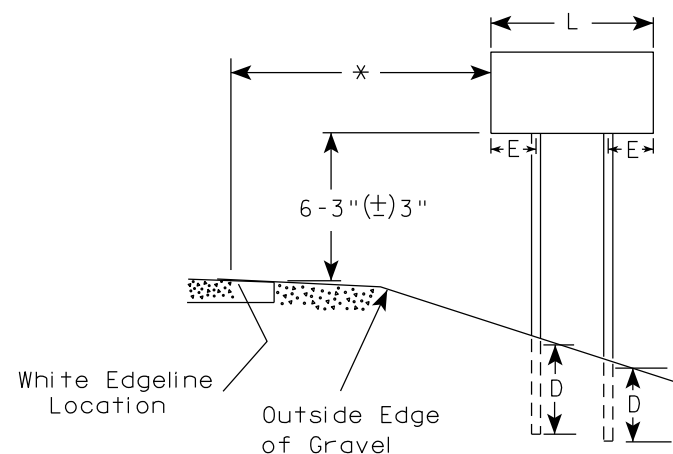
SHEET NO:

E

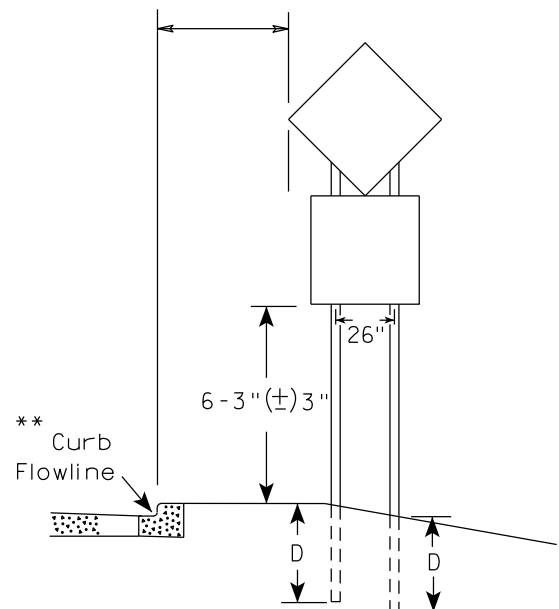
URBAN AREA



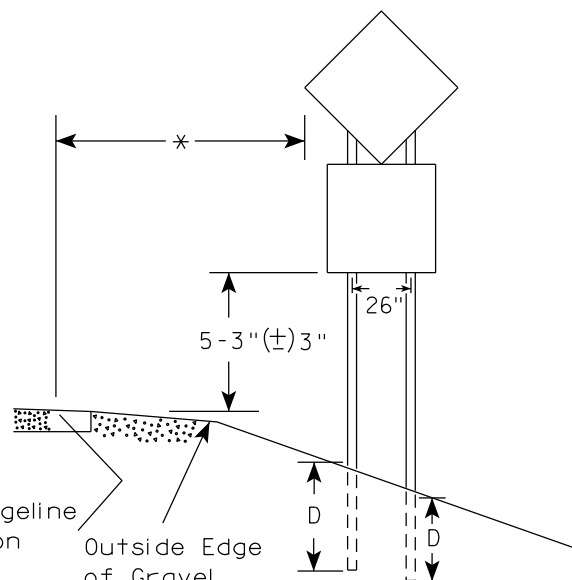
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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 12/6/23

PLATE NO. A4-4.16

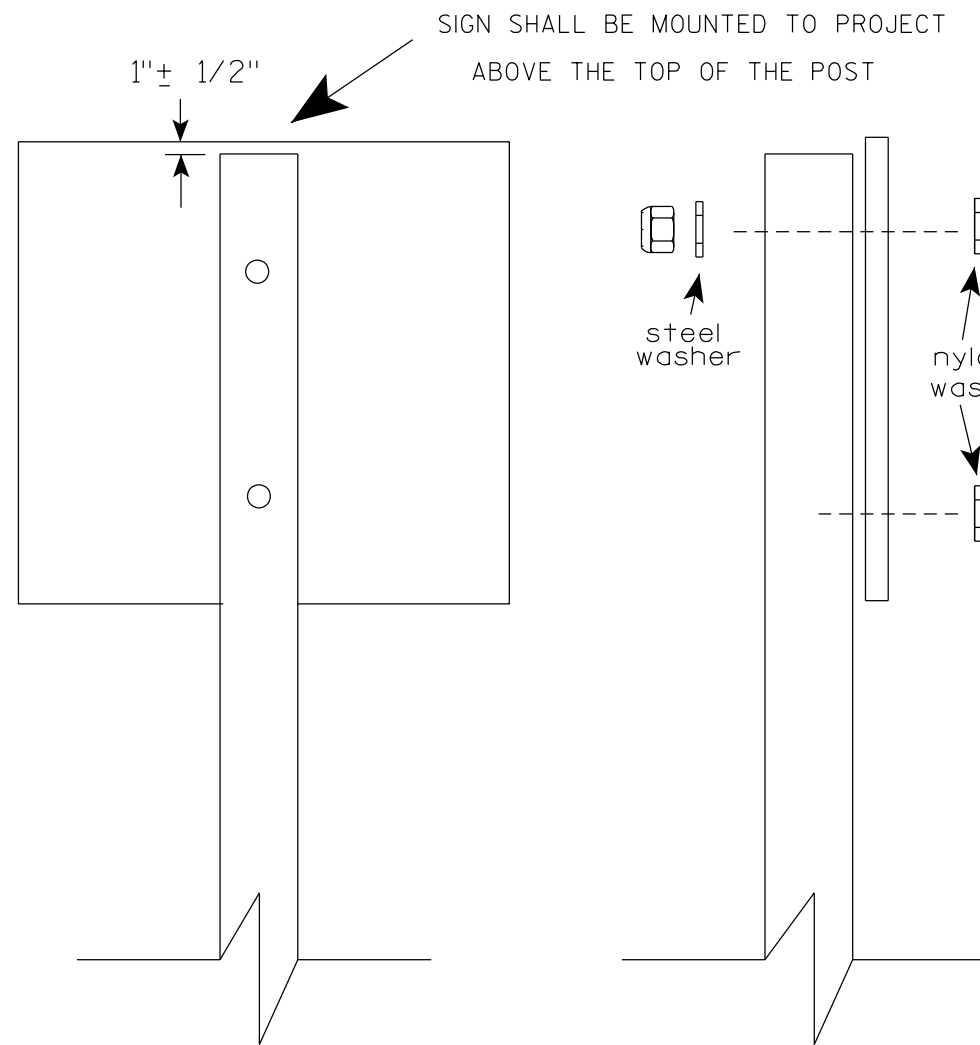
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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.

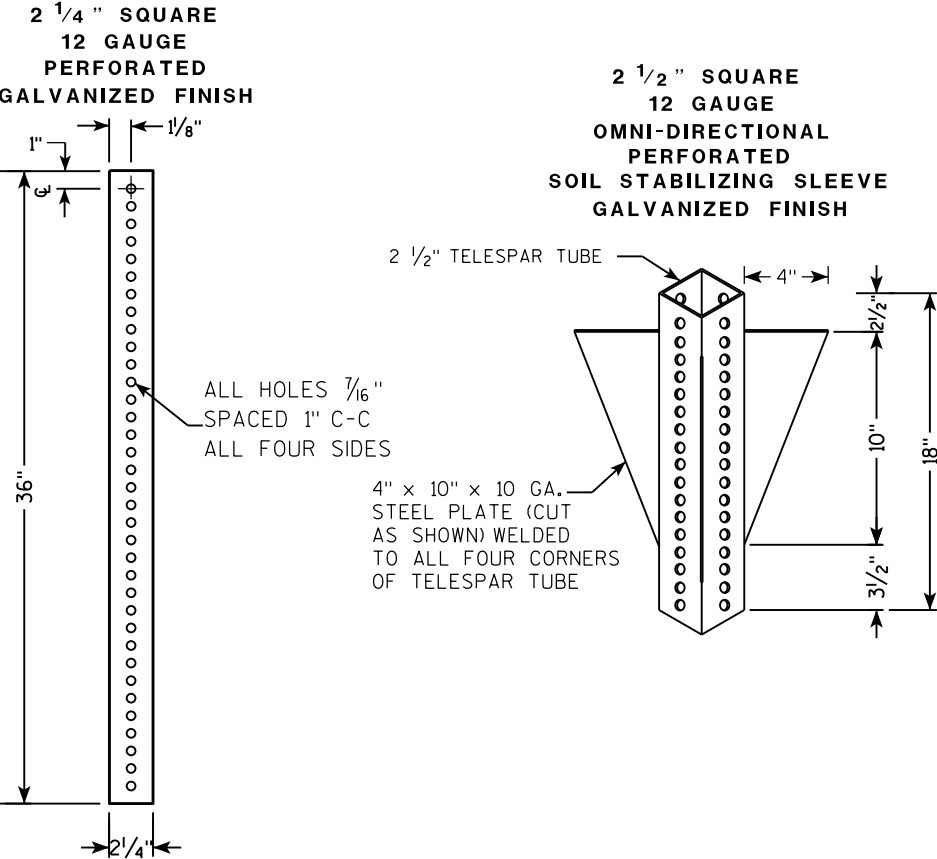
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

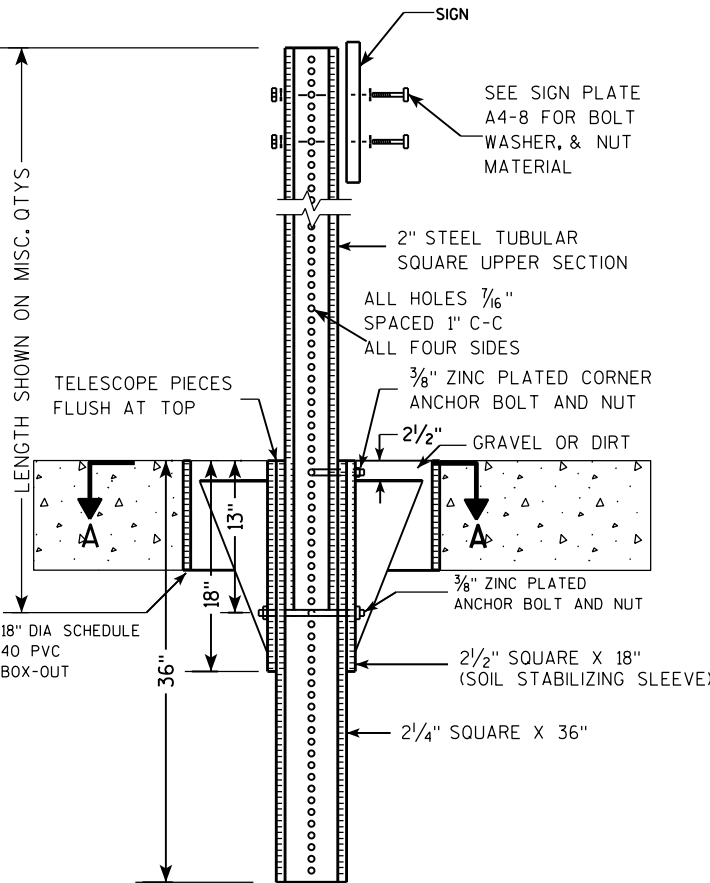
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

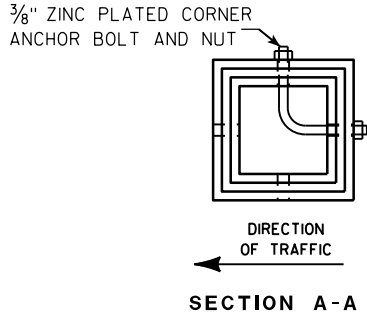
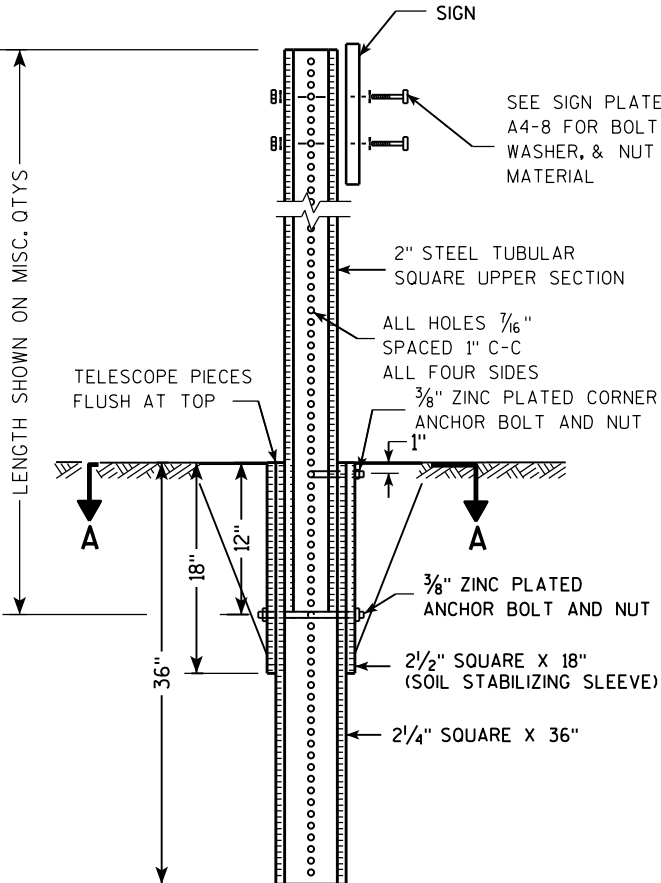
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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).

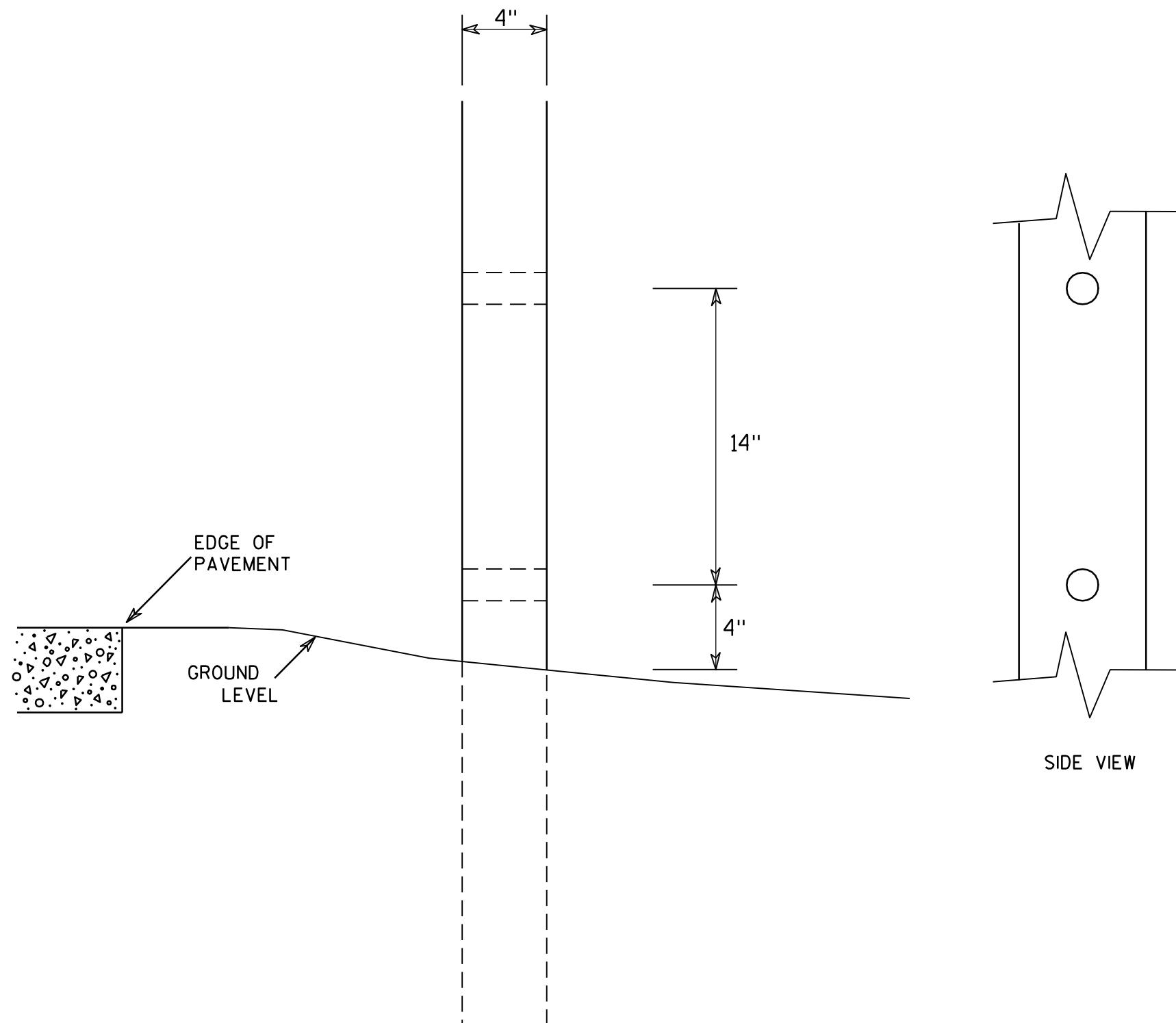
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7



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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

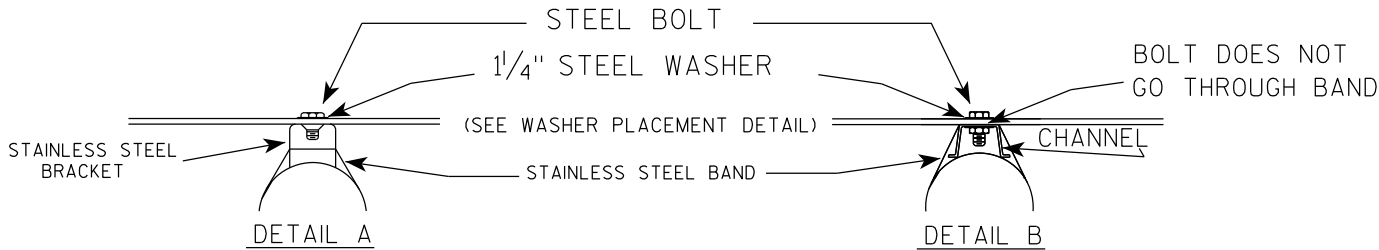
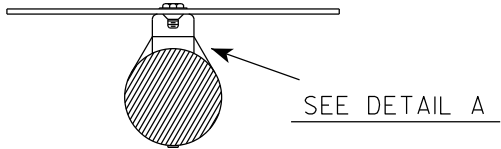
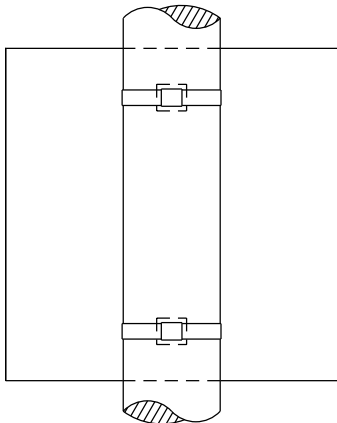
COUNTY:

SHEET NO:

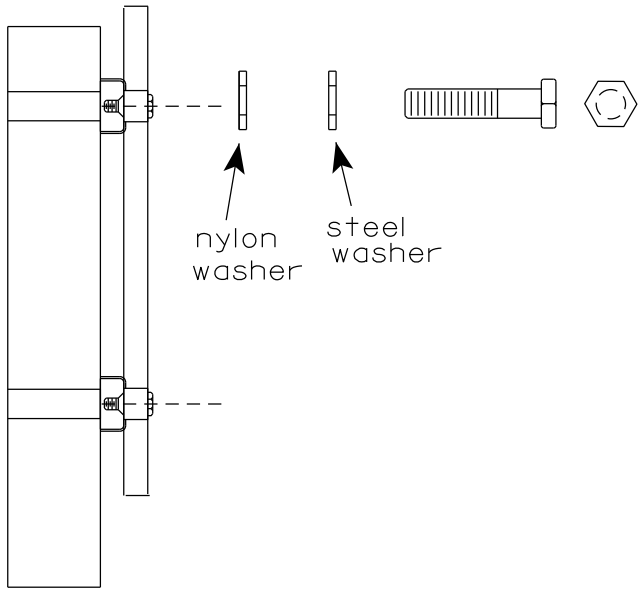
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

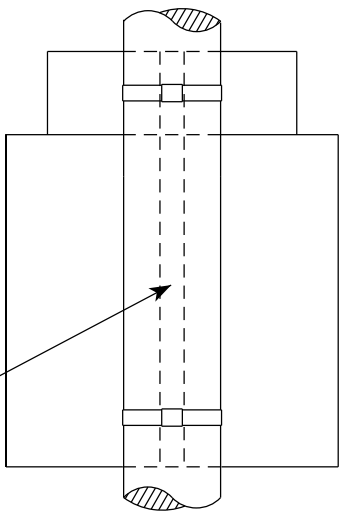


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

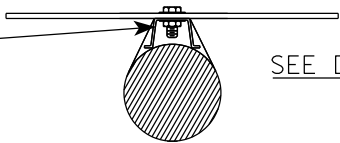
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



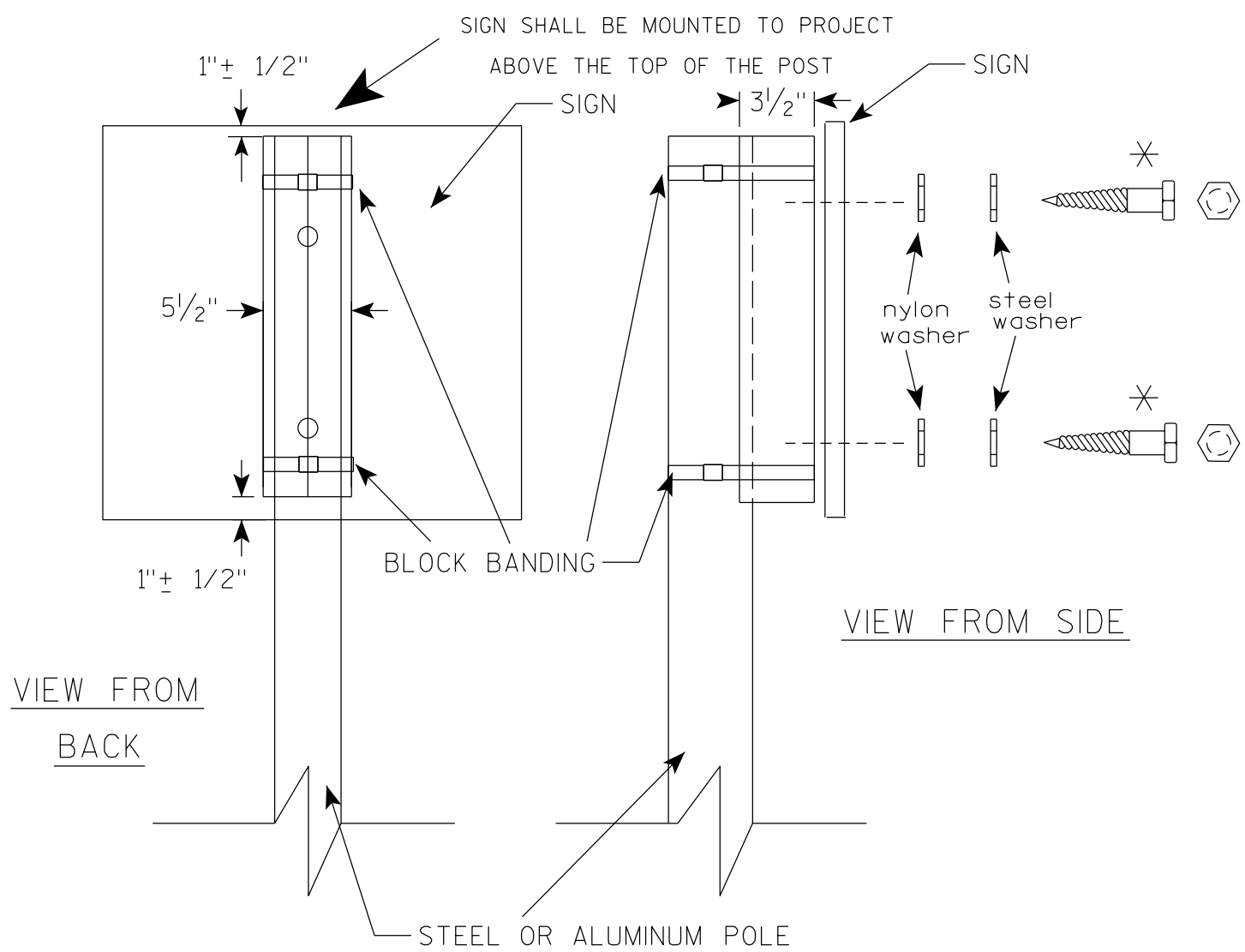
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

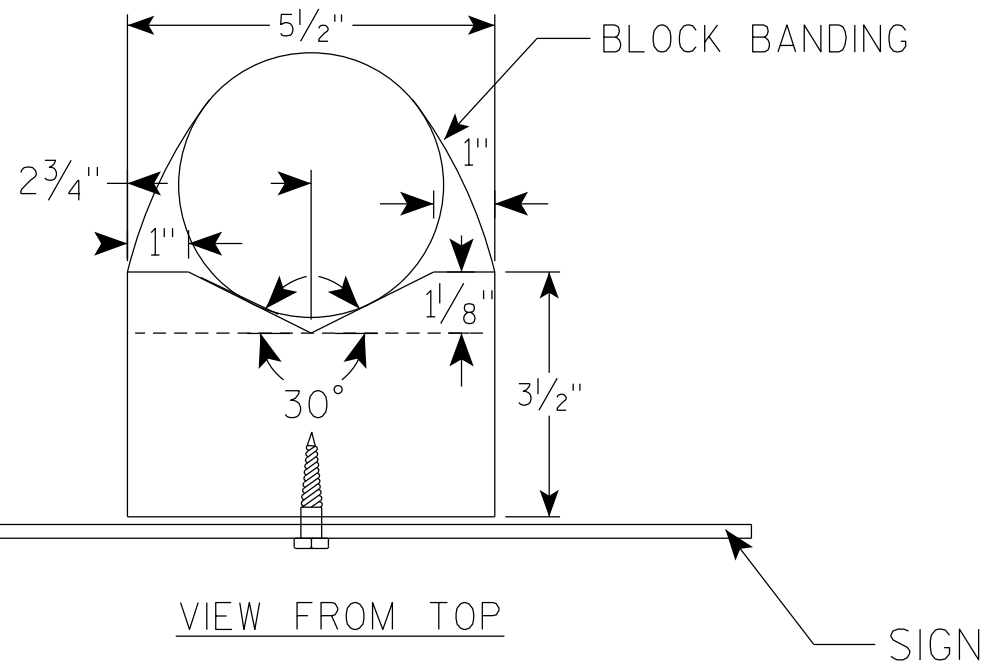
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

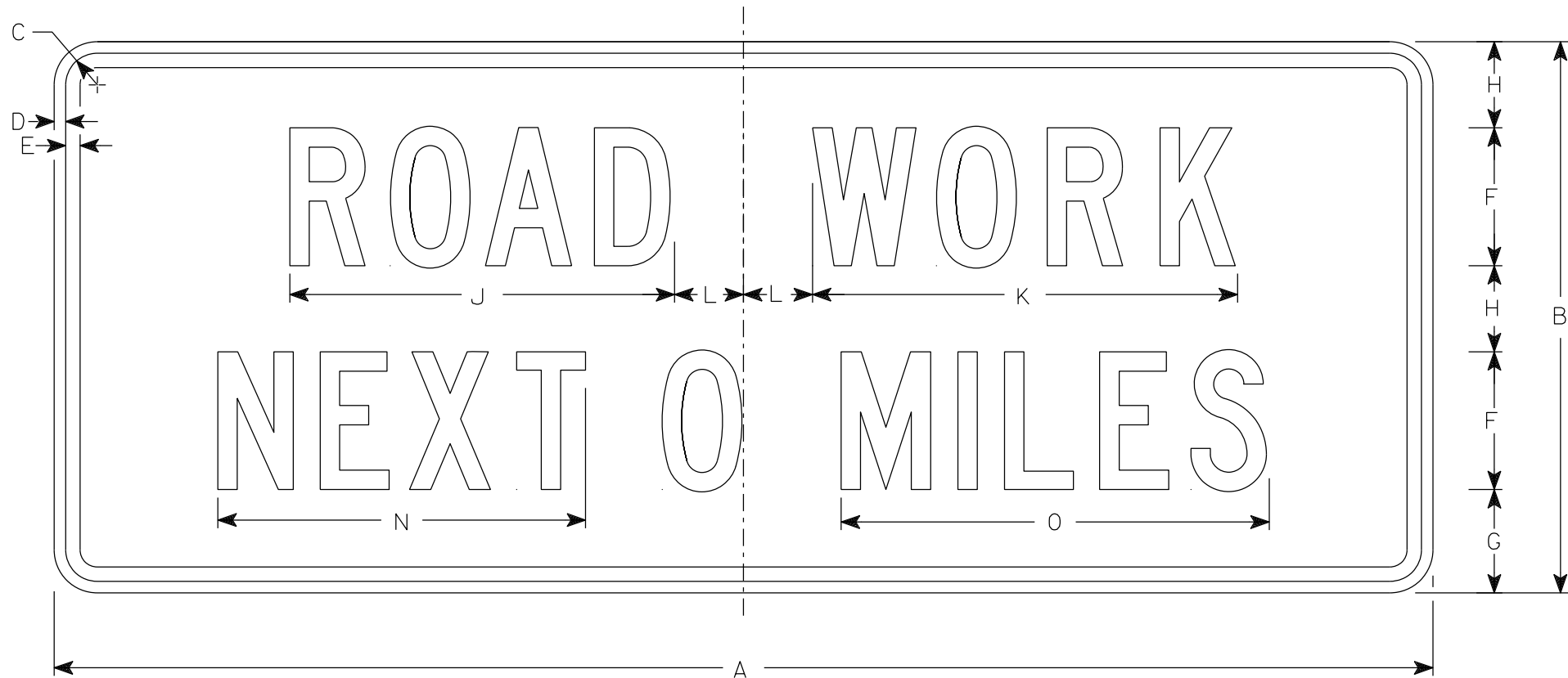
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO:

E

7



G20-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
2M	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
3	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
4	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
5	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0

STANDARD SIGN

G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

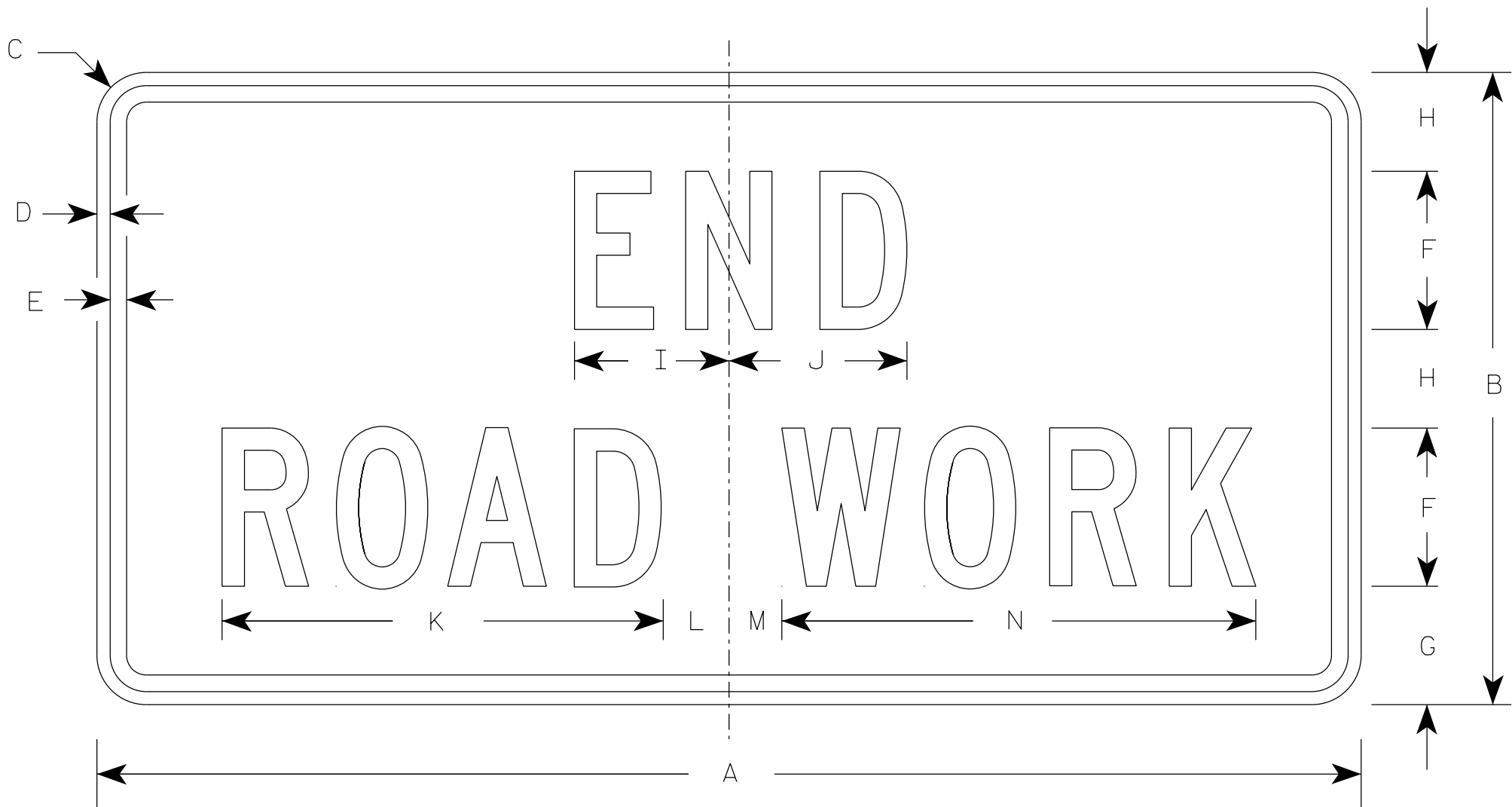
DATE 1/26/2023 PLATE NO. G20-1.9

NOTES

1. Sign is Type II - Type F Reflective
2. Color:

Background - Orange

Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



G20-2A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN

G20-2A

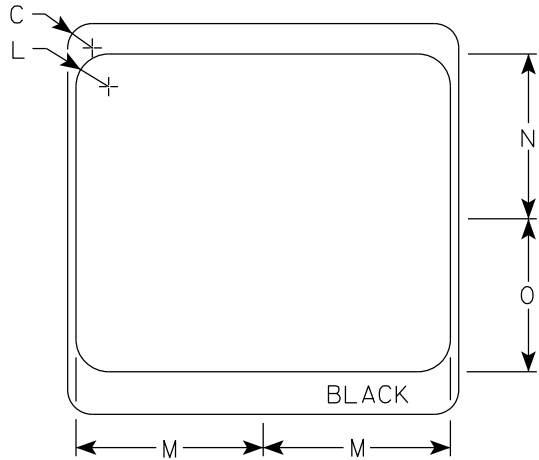
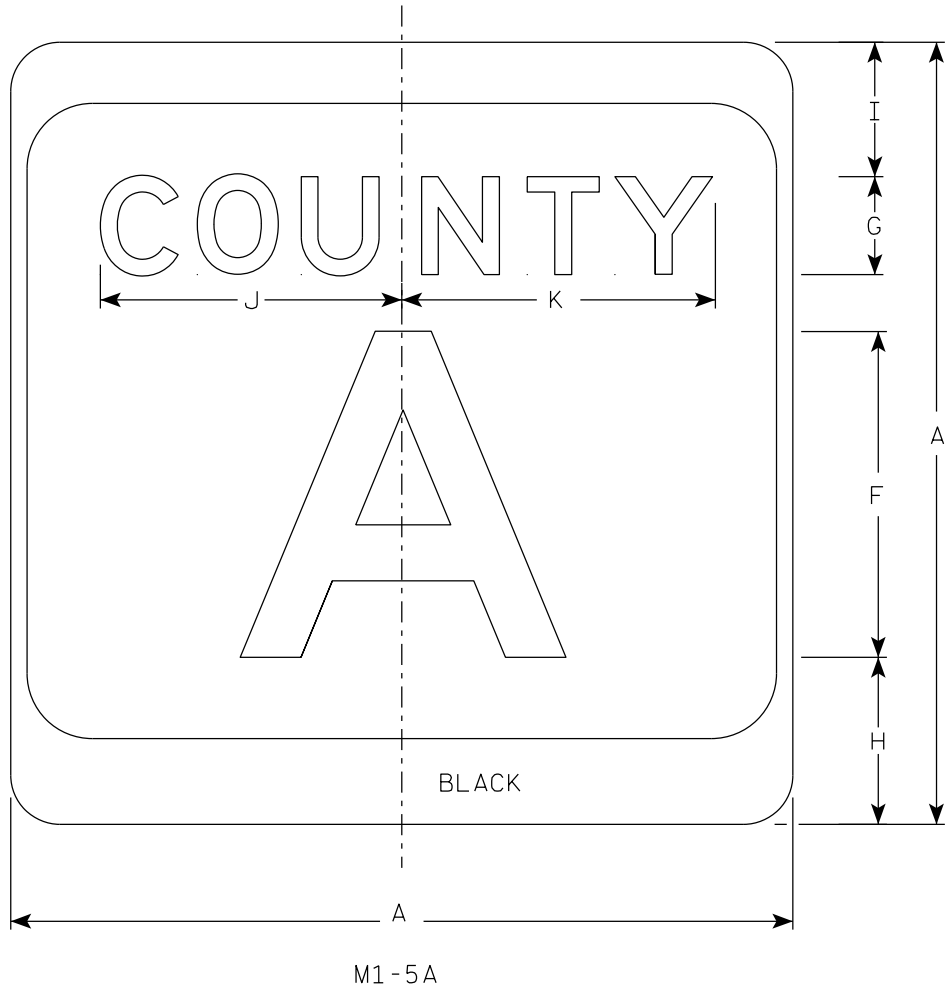
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

For State Traffic Engineer

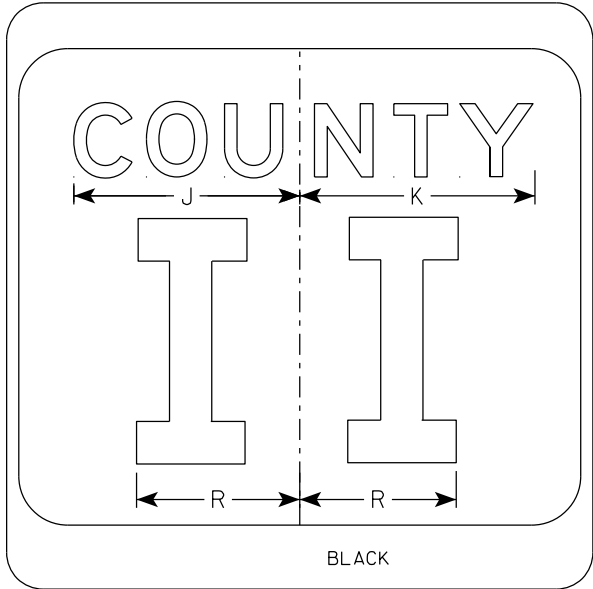
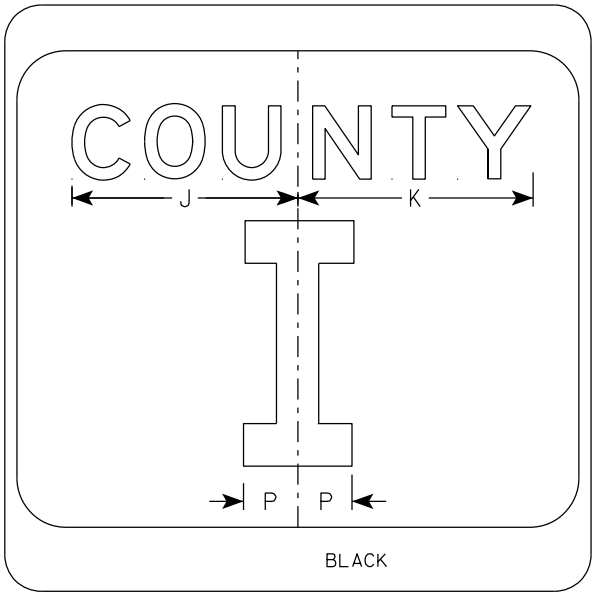
DATE 1/26/2023 PLATE NO. G20-2A.10

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White & Black
Message - Black
3. Message Series - see Note 4
4. Message Series E for 1 letter.
Message Series D for 2 letters unless
message is too big then Series C.
Message Series C for 3 letters unless
message is too big then Series B.
5. Substitute appropriate letters & optically
center to achieve proper balance.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
2M	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

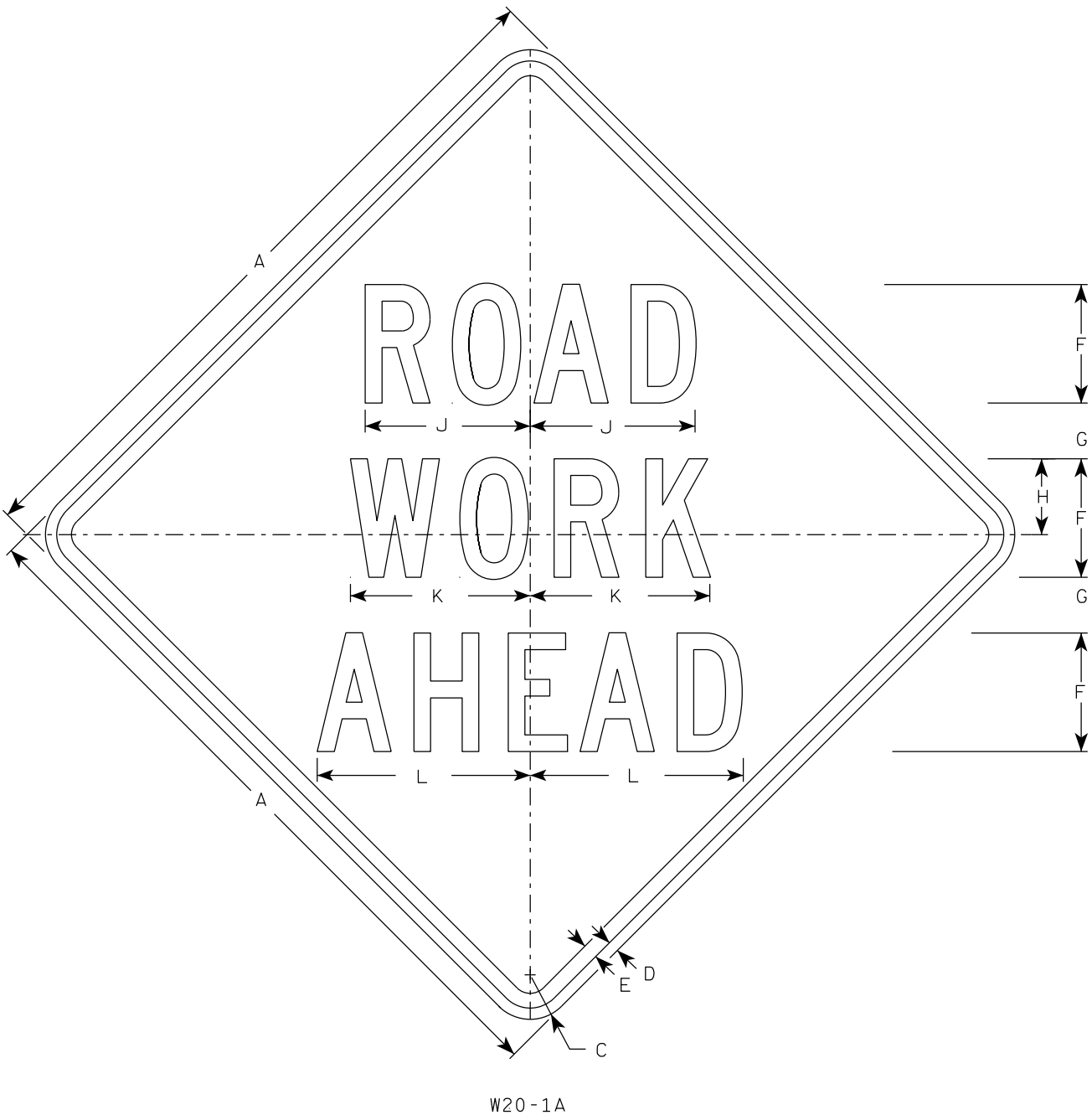
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

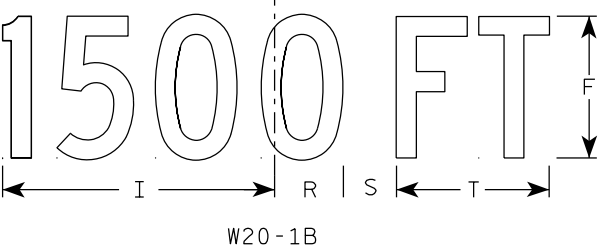
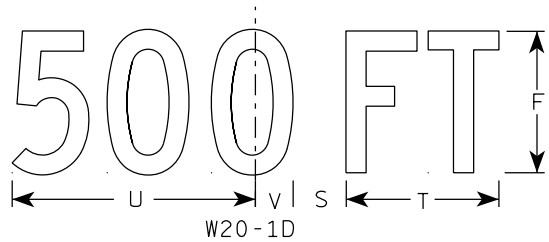
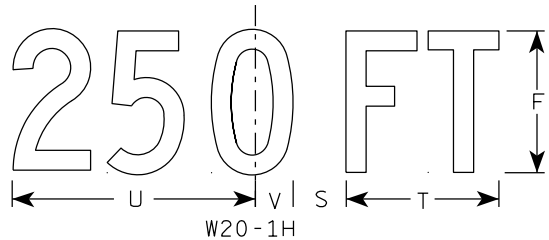
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-5A.9

7

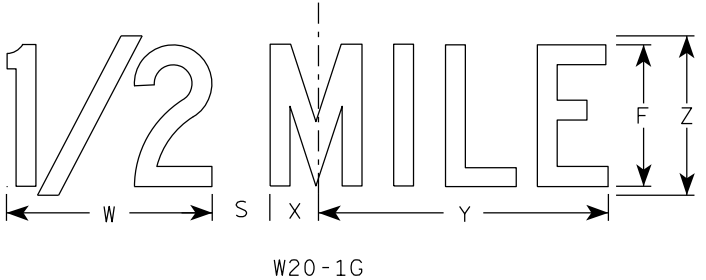


W20-1A

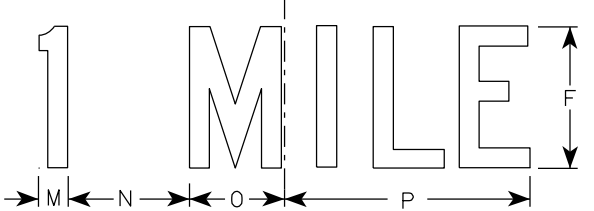


W20-1B

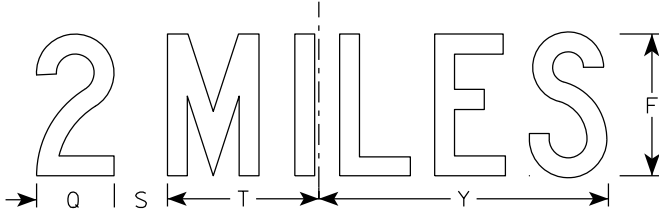
- NOTES
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Message Series - C
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

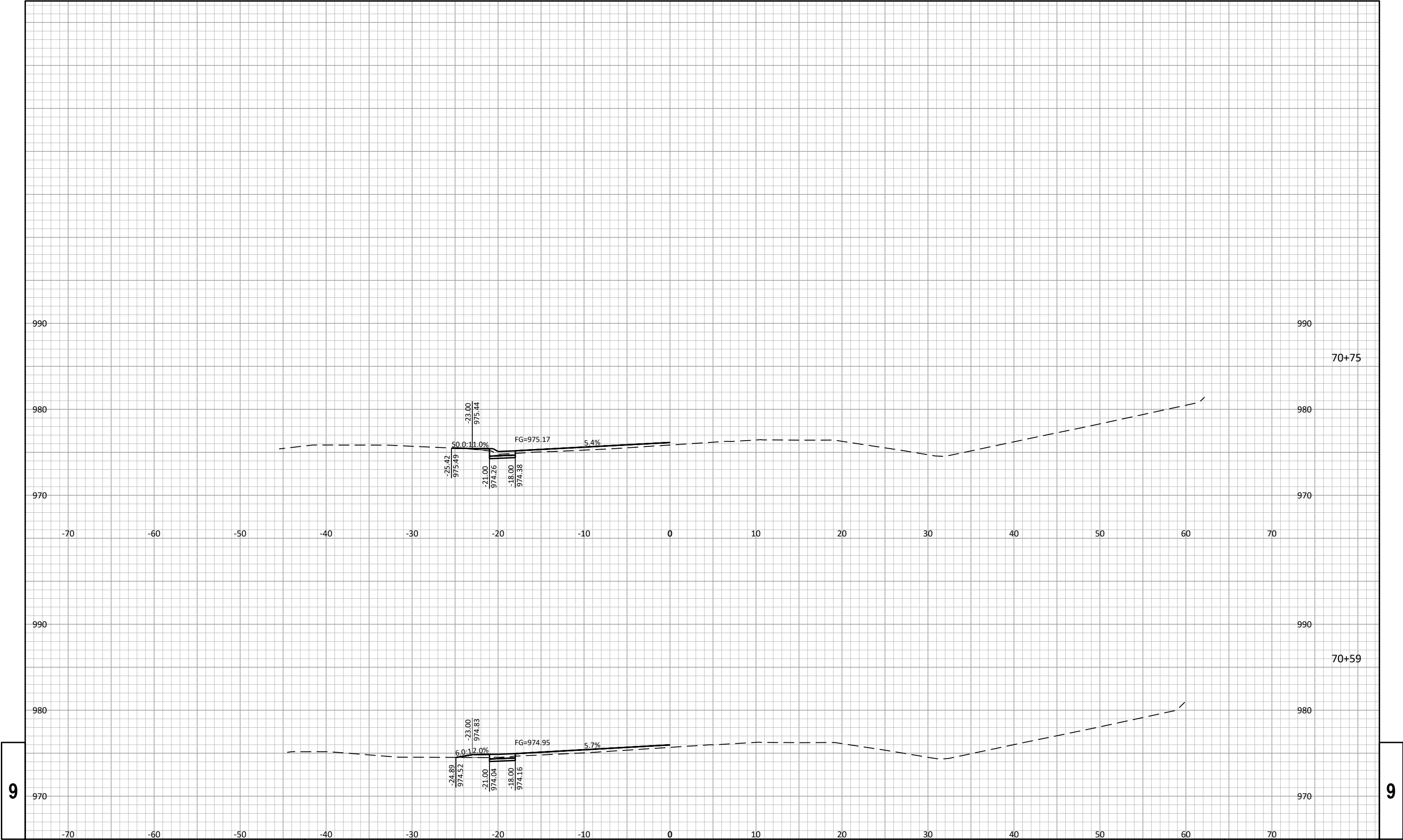
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

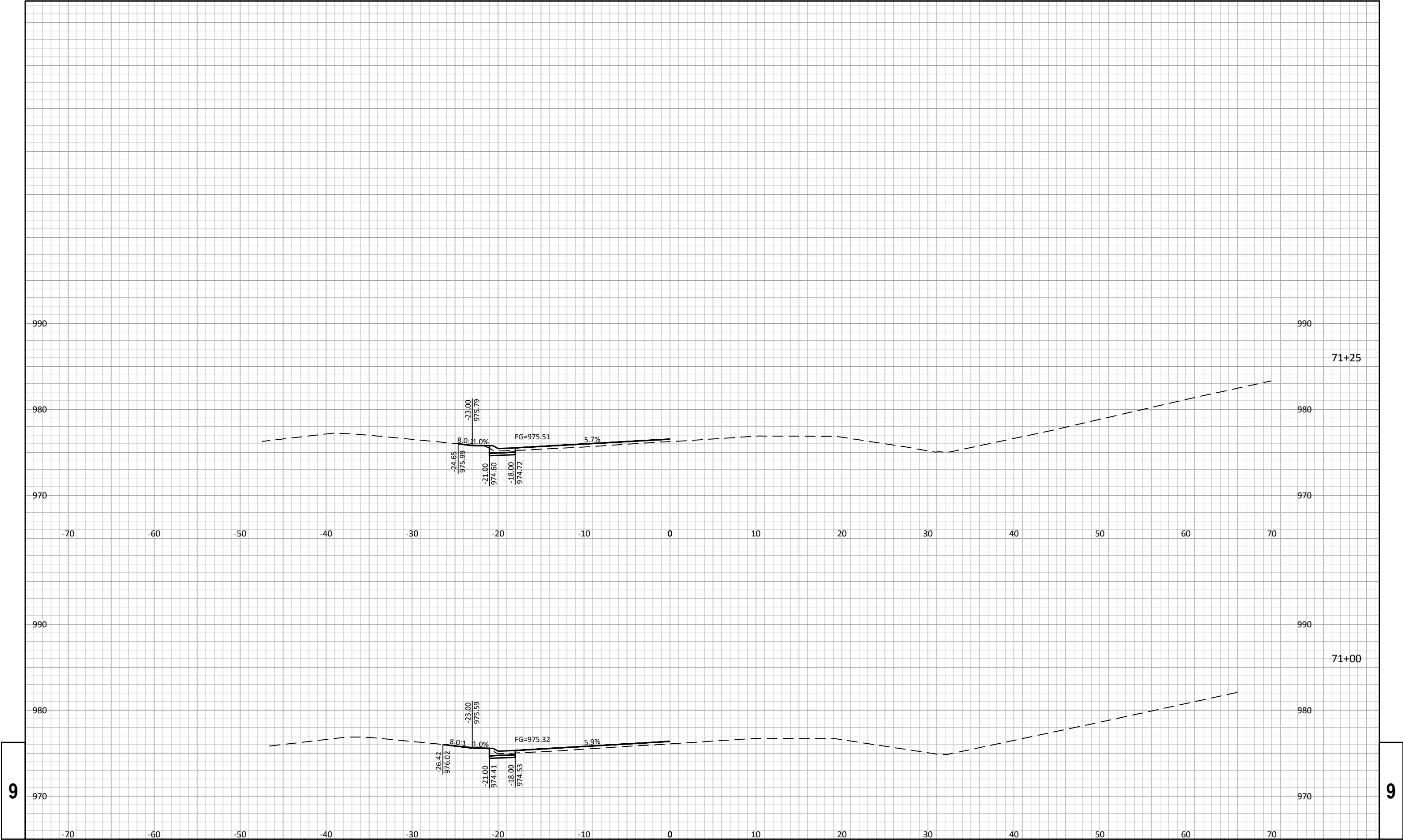
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12



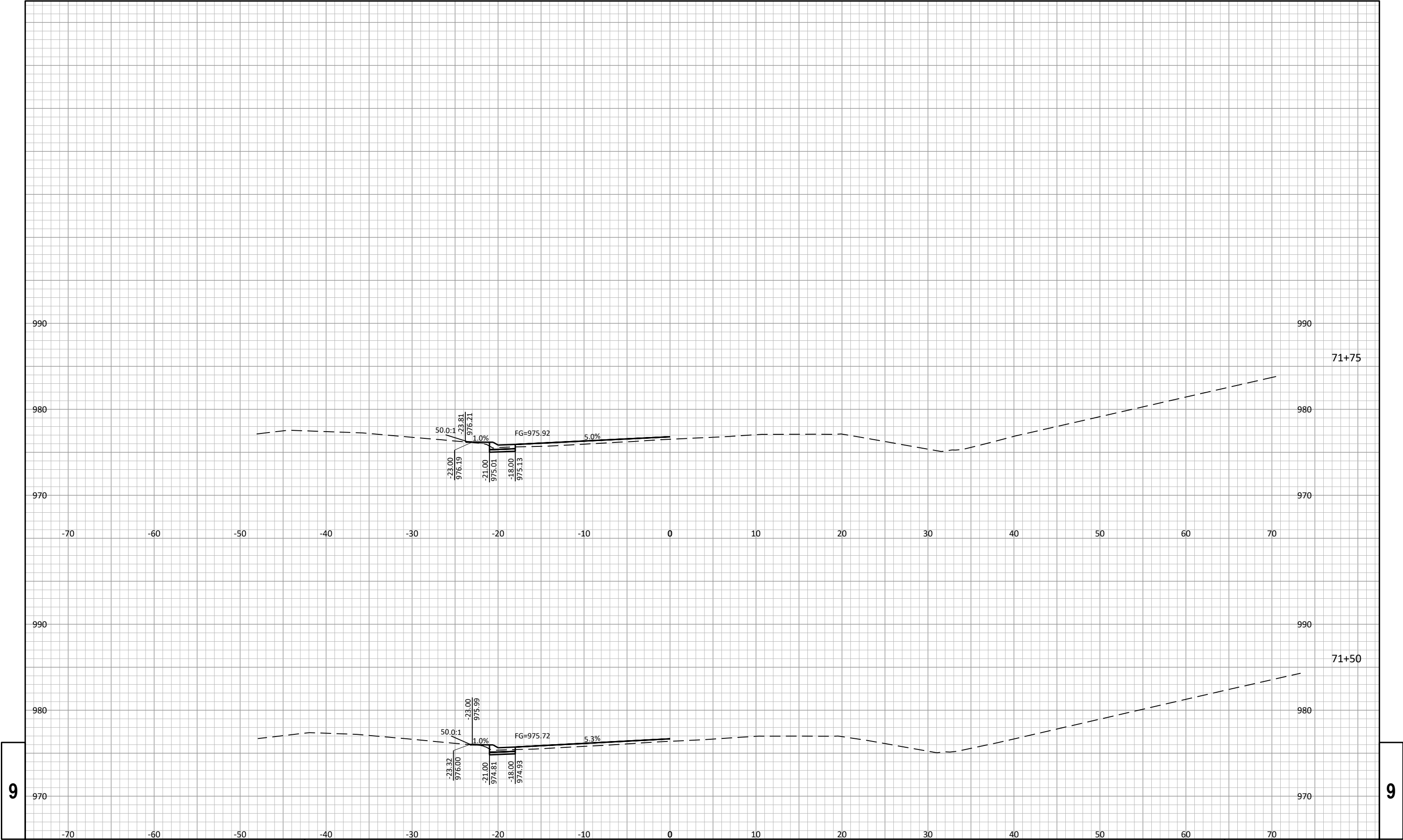
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9



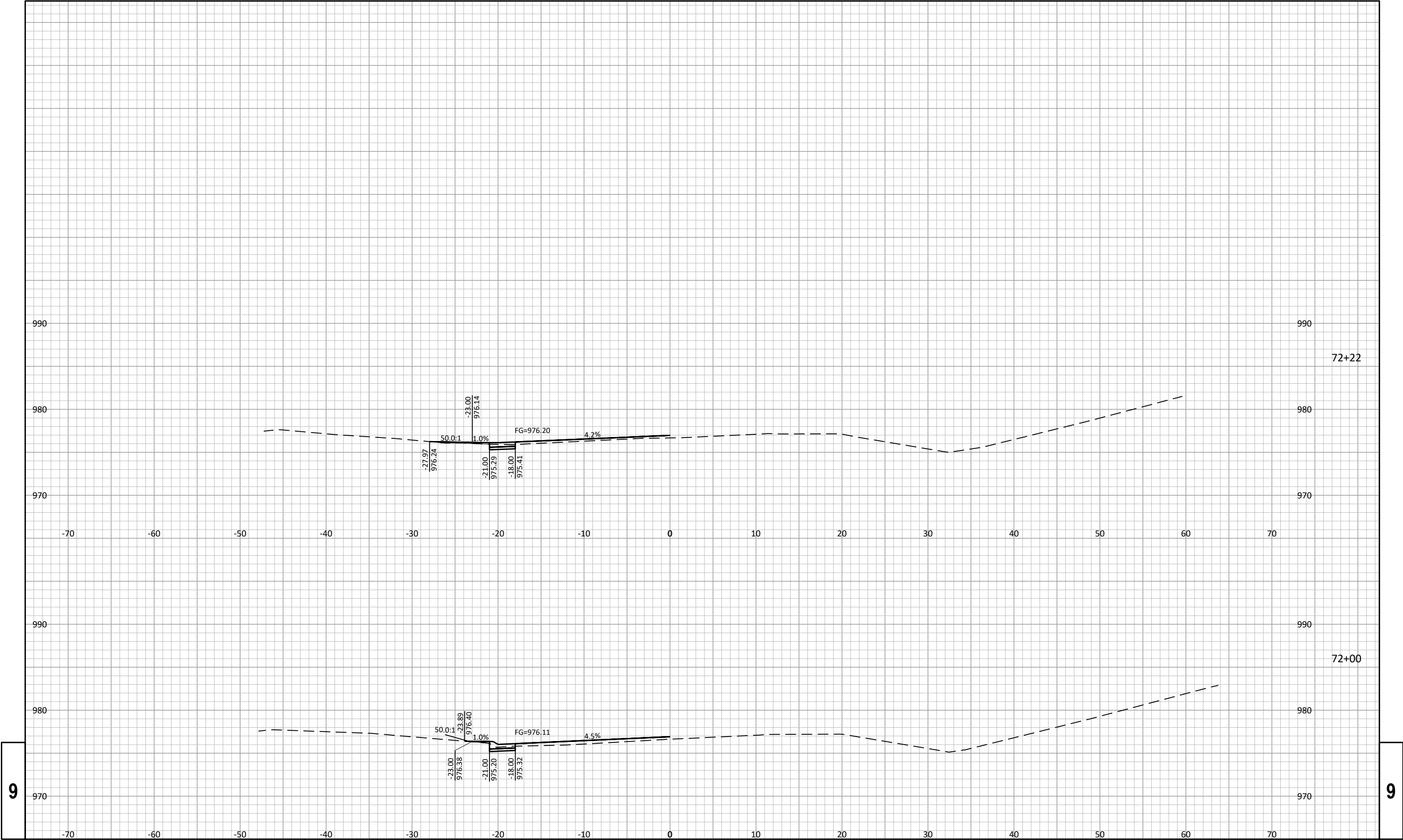
9

9



9

9



9

9

Notes



Wisconsin Department of Transportation

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through innovation and exceptional service.

<http://www.dot.wisconsin.gov>