

CRAWFORD

 ROCK
 LABEL
 95.36
 
 E
 FO
 G
 SAN
 SS
 T
 W




HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), CRAWFORD COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

APPROVED FOR THE DEPARTMENT

DATE: **4/27/2022**


(Signature)

E

GENERAL NOTES

- ALL RADII ARE MEASURED TO EDGE OF PAVEMENT UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.
- ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. ANY CONFLICTING SIGNS SHALL BE COVERED OR REMOVED.
- TYPICAL SECTIONS SHOW THE GENERAL FEATURES THROUGHOUT THE PROJECT. PAVEMENT SLOPES, TERRACE SLOPES, ETC., MAY VARY WITHIN THE LIMITS OF THE SECTION.
- NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED OR E-MAT AS DIRECTED BY THE ENGINEER.
- WHEN PORTIONS OF EXISTING ASPHALTIC SURFACES ARE TO BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION, THE LINE OF SUCH REMOVAL SHALL BE NEATLY DELINEATED WITH A SAW CUT JOINT THROUGH THE ASPHALTIC SURFACE SO THAT REMOVAL OF THE ASPHALT SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTIONS. THE LOCATION OF SAW JOINTS AND THE AMOUNT REMOVED AT SIDE ROADS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PAVING LIMITS ARE TO BE DETERMINED BY THE ENGINEER.
- EXACT LOCATIONS OF ENTRANCES SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.
- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- WHEN THE QUANTITY OF BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- ASPHALTIC SURFACE SHALL BE TO BE PLACED IN LIFTS AS FOLLOWS: LOWER - 2" UPPER - 2".
- UNIT WEIGHT FOR HMA PAVEMENT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- APPLY TACK COAT BETWEEN LIFTS OF ASPHALTIC SURFACE (APPLICATION RATE = 0.050 GAL/SY)
- THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

RUNOFF COEFFICIENT TABLE

A	HYDROLOGIC SOIL GROUP											
	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	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE: TURF			.25			.27			.28			.30
			.32			.34			.36			.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 = 1.08 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.58 ACRES

STANDARD ABBREVIATIONS

AC	ACRE	INL	INLET
AGG	AGGREGATE	INV	INVERT
AH	AHEAD	JCT	JUNCTION
AADT	ANNUAL AVERAGE DAILY TRAFFIC	LT	LEFT
ASPH	ASPHALTIC	L	LENGTH OF CURVE
AVG	AVERAGE	LIN FT or LF	LINEAR FOOT
BK	BACK	LS	LUMP SUM
BAD	BASE AGGREGATE DENSE	NC	NORMAL CROWN
BM	BENCH MARK	N	NORTH
BR	BRIDGE	NB	NORTHBOUND
CL or C/L	CENTER LINE	NO	NUMBER
CE	COMMERCIAL ENTRANCE	PT	POINT
CONC	CONCRETE	PC	POINT OF CURVATURE
CO	COUNTY	PI	POINT OF INTERSECTION
CTH	COUNTY TRUNK HIGHWAY	PT	POINT OF TANGENCY
CR	CREEK	PCC	PORTLAND CEMENT CONCRETE
CABC	CRUSHED AGGREGATE BASE COURSE	LB	POUND
CSD	COMMUNITY SENSITIVE DESIGN	PE	PRIVATE ENTRANCE
CY or CUYD	CUBIC YARD	R	RADIUS
CULV	CULVERT	RL or R/L	REFERENCE LINE
CP	CULVERT PIPE	RT	RIGHT
C & G	CURB AND GUTTER	R/W	RIGHT-OF-WAY
D	DEGREE OF CURVE	RD	ROAD
DIA	DIAMETER	SHLDR	SHOULDER
DISCH	DISCHARGE	SB	SOUTHBOUND
E	EAST	SF or SQ FT	SQUARE FEET
EB	EASTBOUND	SY or SQ YD	SQUARE YARD
EL or ELEV	ELEVATION	SDD	STANDARD DETAIL DRAWINGS
EW	ENDWALL	STH	STATE TRUNK HIGHWAYS
ENT	ENTRANCE	SE	SUPERELEVATION
EXC	EXCAVATION	T	TANGENT
EX	EXISTING	TEMP	TEMPORARY
FERT	FERTILIZER	TWLT	TWO-WAY LEFT-TURN LANE
FE	FIELD ENTRANCE	UG	UNDERGROUND
FL or F/L	FLOW LINE	USH	UNITED STATES HIGHWAY
FT	FOOT	V	VELOCITY OR DESIGN SPEED
HE	HIGHWAY EASEMENT	VC	VERTICAL CURVE
HMA	HOT MIX ASPHALT	WB	WESTBOUND
CWT	HUNDREDWEIGHT	YD	YARD

AREA CONTACTS

WISDOT PROJECT MANAGER	DESIGN CONTACT	WISDNR: CRAWFORD COUNTY
BRIAN MEYER, PE	KNIGHT E/A	KAREN KALVELAGE
3550 MORMON COULEE RD	RYAN MCKANE	DNR SERVICE CENTER
LA CROSSE, WI 54601	831 CRITTER CT, SUITE 400	3550 MORMON COULEE RD
PHONE: (608) 789-5676	ONALASKA, WI 54650	LA CROSSE, WI 54601
BRIAN.MEYER@DOT.WI.GOV	PHONE: (608) 713-9274	PHONE: (608) 785-9115
	RMCKANE@KNIGHTEA.COM	KAREN.KALVELAGE@WISCONSIN.GOV

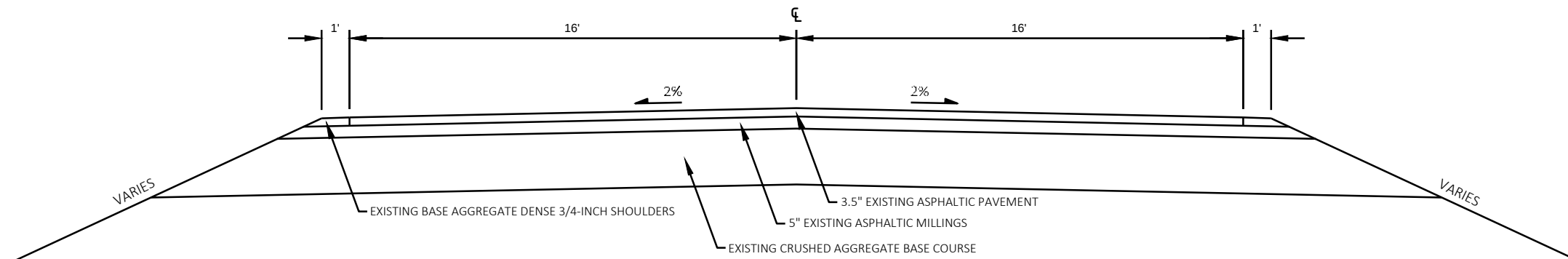
UTILITY CONTACTS

CENTURYLINK	SCENIC RIVERS ENERGY COOPERATIVE
KEVIN ZICKERT	CHAD OLMSTEAD
224 INDUSTRIAL DR	231 N SHERIDAN ST
NORTH PRAIRIE, WI 53153	LANCASTER, WI 53813
(608) 716-5959	(608) 723-2121
RELOCATIONS@LUMEN.COM	COLMSTEAD@SREC.NET



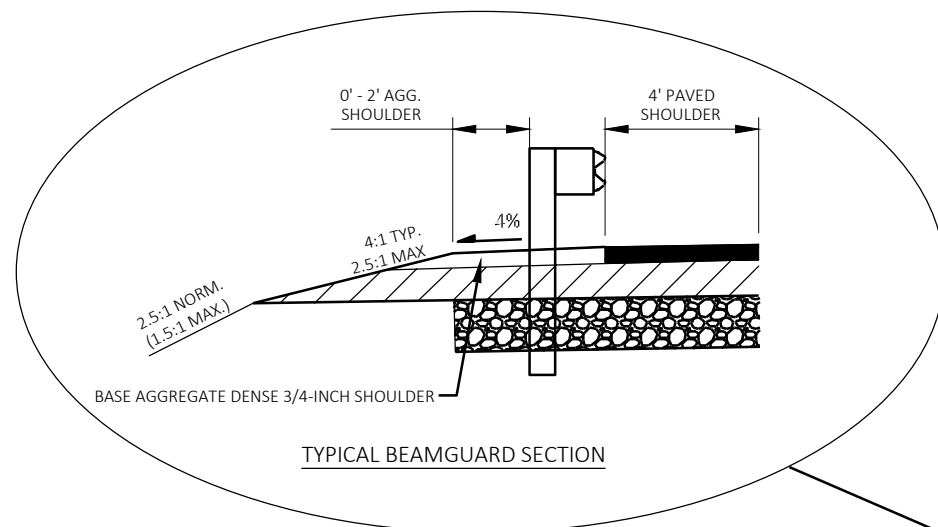
ORDER OF TYPICAL SECTION & DETAIL SHEETS

- 1. GENERAL NOTES
- 2. TYPICAL SECTIONS
- 3. CONSTRUCTION DETAILS
- 4. EROSION CONTROL
- 5. DETOUR PLAN
- 6. ALIGNMENT DETAIL

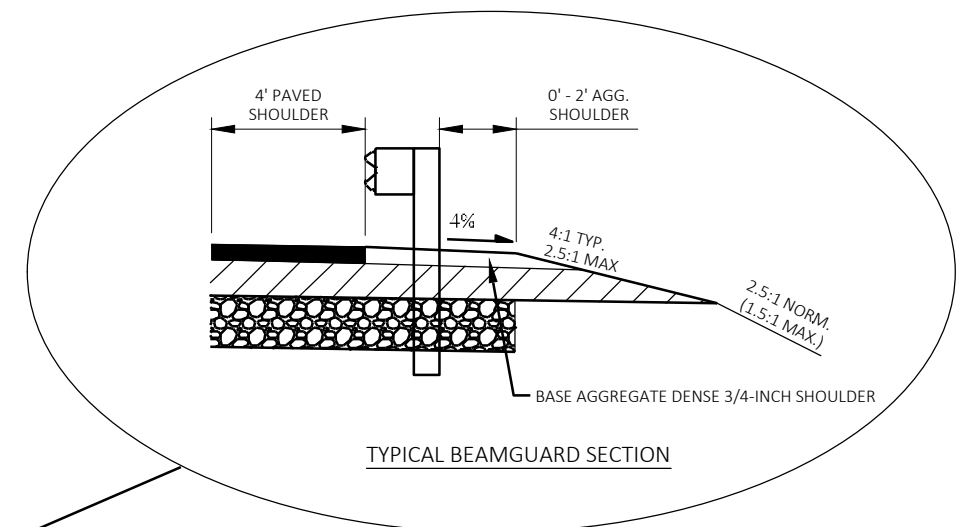


TYPICAL EXISTING SECTION - STH 171

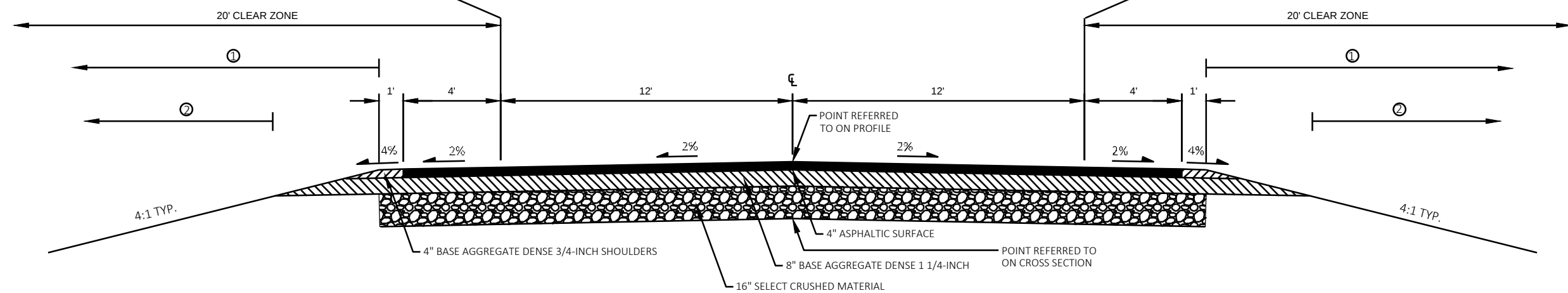
STA. 317+80 - STA. 322+80



TYPICAL BEAMGUARD SECTION



TYPICAL BEAMGUARD SECTION



TYPICAL PROPOSED SECTION - STH 171

STA. 317+80 - STA. 322+80

① #20 SEED & TYPE B FERTILIZER REQUIRED
10' PAST SLOPE INTERCEPT

② SALVAGED TOPSOIL, MULCH, AND EMAT REQ'D
5' PAST SLOPE INTERCEPT

PROJECT NO: 5790-01-80

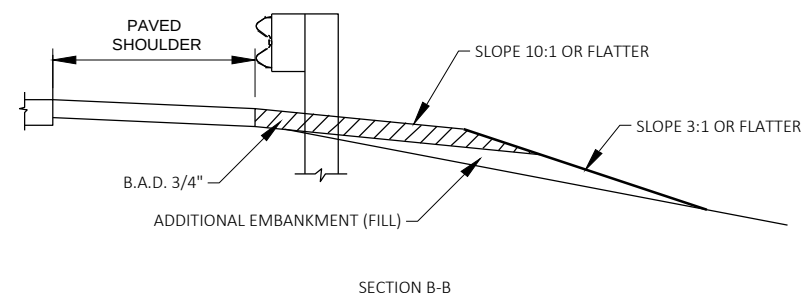
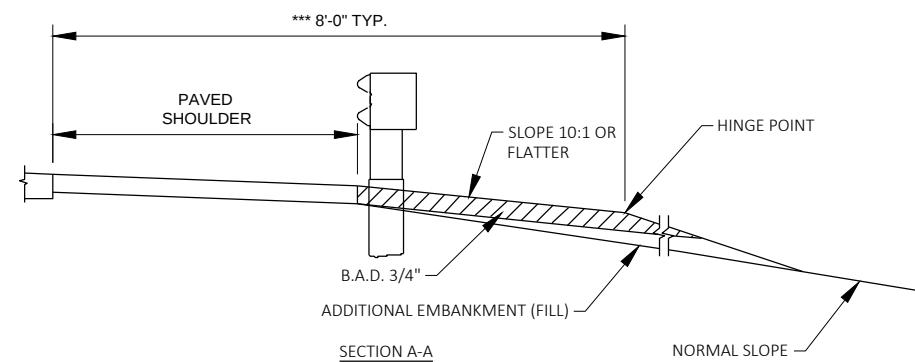
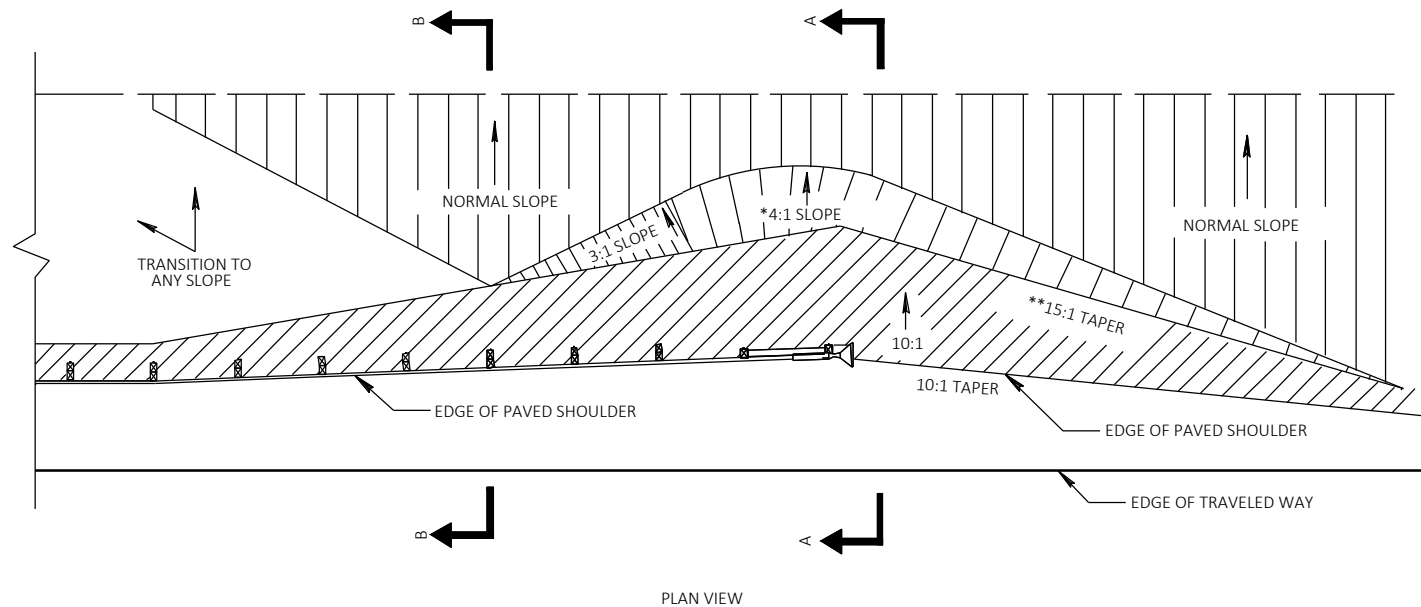
HWY: STH 171

COUNTY: CRAWFORD

TYPICAL SECTIONS

SHEET

E

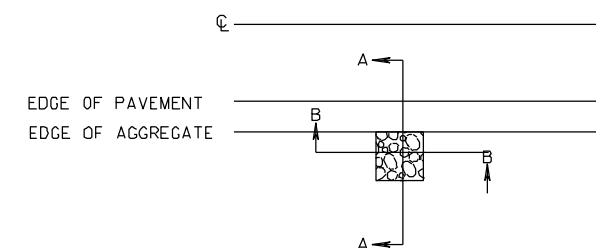
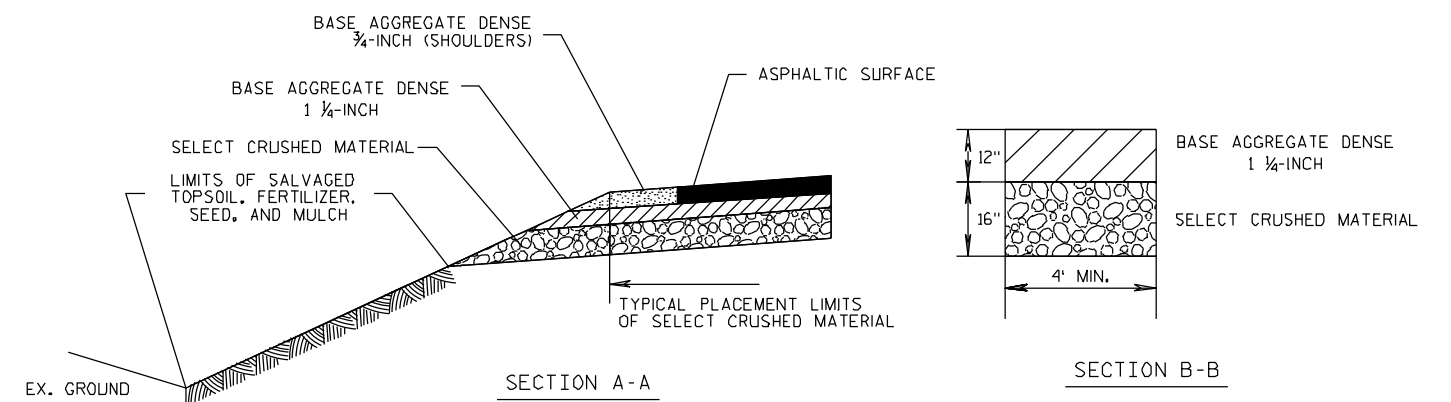


FILL AREA AT BEAMGURAD

NOTES

- * LOCATIONS NOTED AS "MODIFIED GRADING" MAY HAVE A 2.5:1 SLOPE BEYOND THE CLEAR ZONE HINGE POINT.
- ** TAPER MAY BE REDUCED TO 10:1 AS APPROVED BY THE ENGINEER
- *** LOCATIONS NOTED AS "MODIFIED GRADING SECTION" MAY HAVE THE E.A.T. OFFSET REDUCED FROM 2' TO 0' AND THE SHOULDER HINGE POINT AT THE E.A.T. REDUCED FROM 8' TO 3' WITH 2.5:1 GRADING BEYOND THE SHOULDER HINGE POINT
- ALL AREAS BEYOND THE AGGREGATE SHOULDER HINGE POINT SHALL BE SEEDED AND FERTILIZED

BARRIER SYSTEM GRADING SHAPING FINISHING

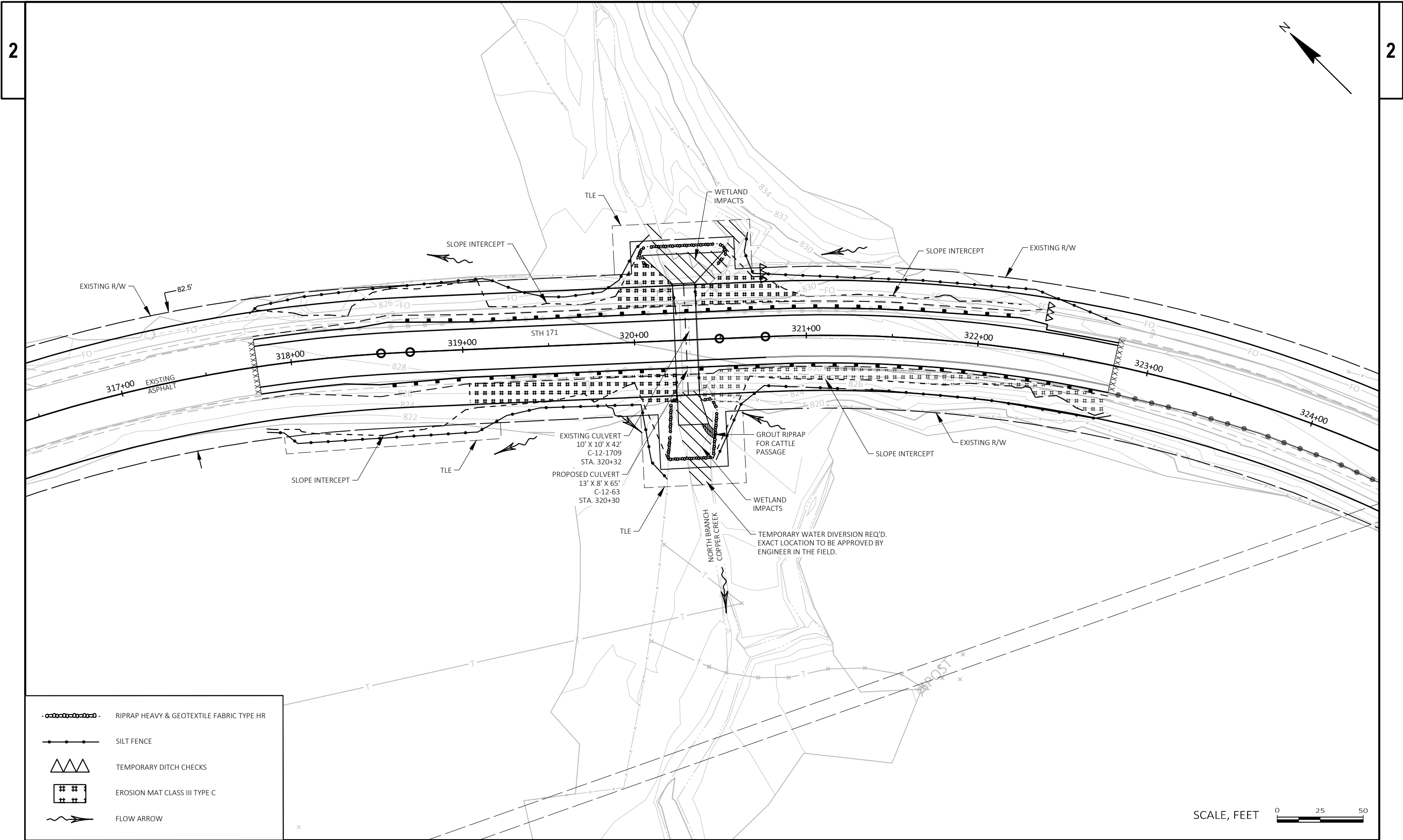


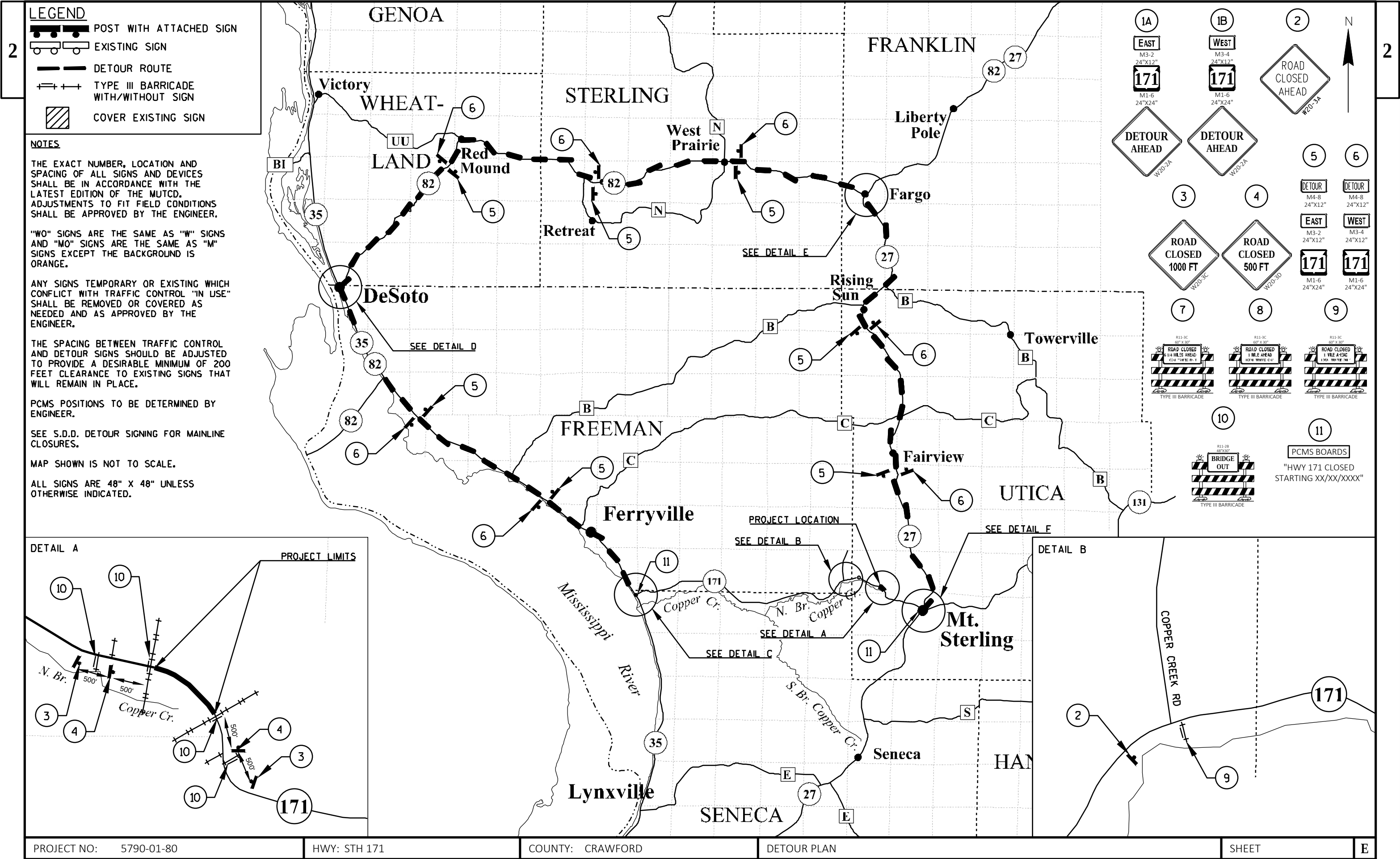
DRAINS ARE TO BE CONSTRUCTED AT LEAST EVERY 250' AND AT LOW/SAG POINTS.
APPROX. STA. 318+00 & 320+50

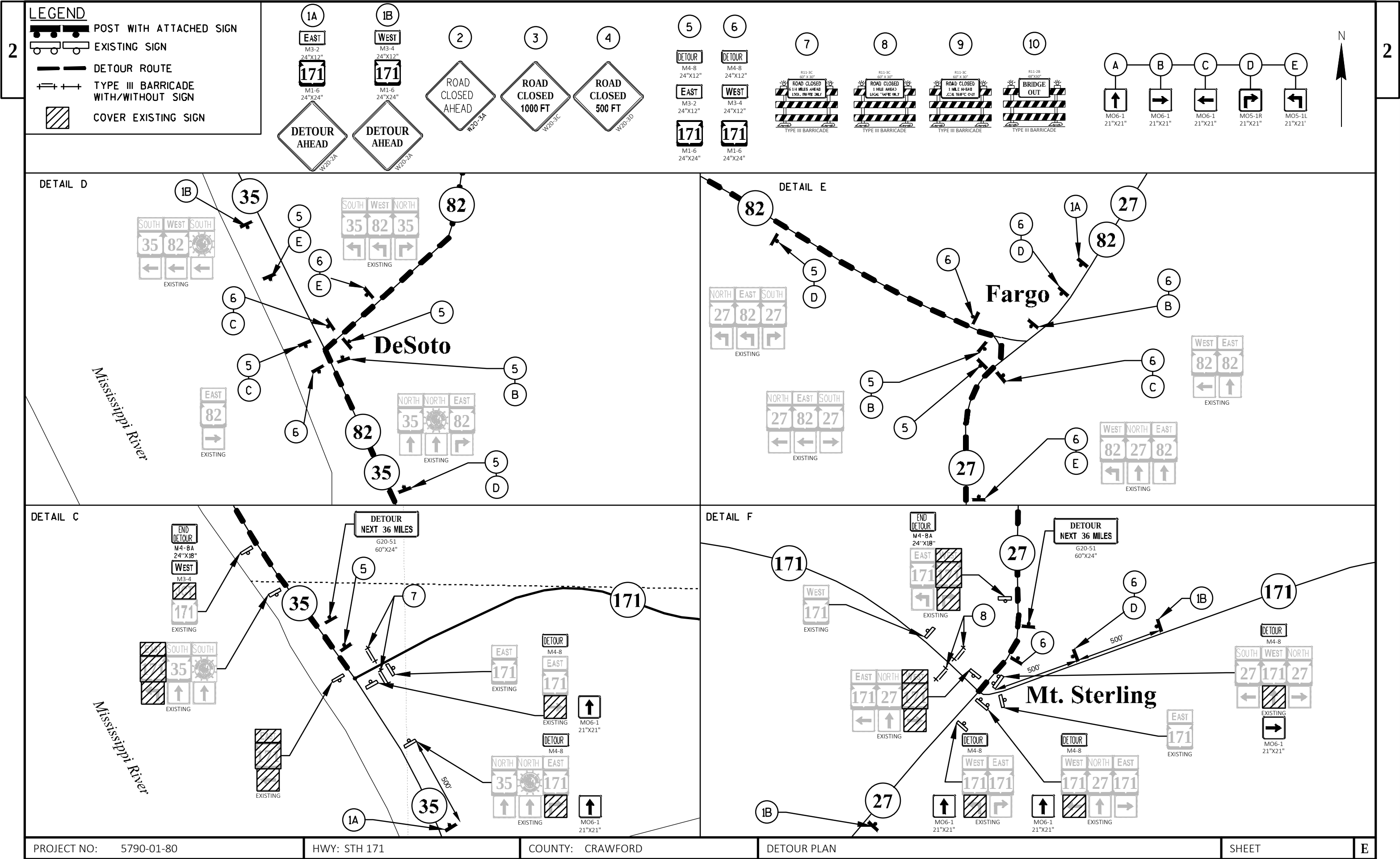
LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

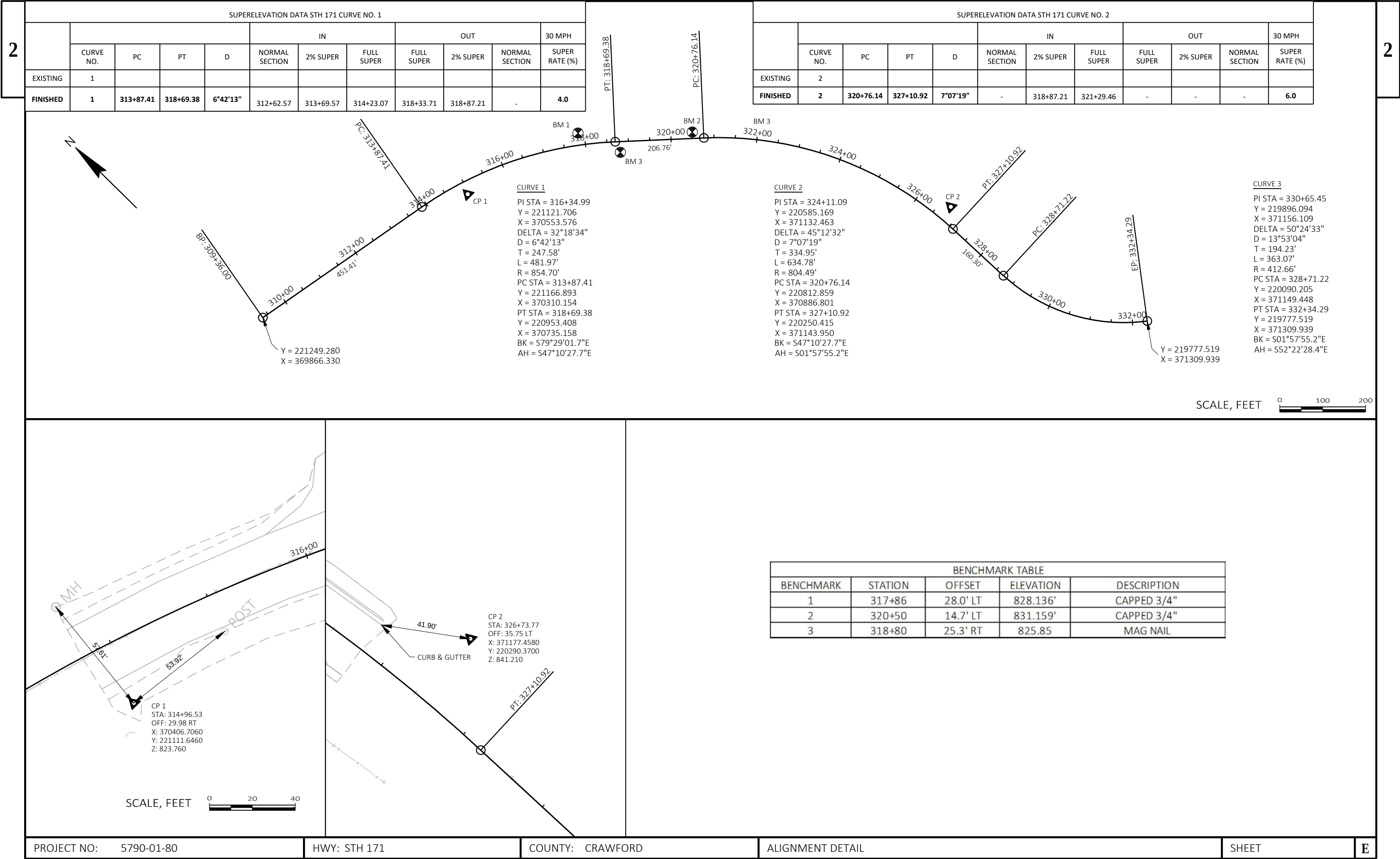
EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL
BE CONSIDERED INCIDENTAL TO THE ITEM COMMON EXCAVATION.

PLACEMENT OF SELECT CRUSHED MATERIAL REQUIRED TO CONSTRUCT FRENCH
DRAINS IS INCLUDED UNDER THE ITEM SELECT CRUSHED MATERIAL.









Estimate Of Quantities

5790-01-80

Line	Item	Item Description	Unit	Total	Qty
0002	203.0220	Removing Structure (structure) 01. C-12-1709	EACH	1.000	1.000
0004	204.0165	Removing Guardrail	LF	699.000	699.000
0006	205.0100	Excavation Common	CY	1,907.000	1,907.000
0008	206.2001	Excavation for Structures Culverts (structure) 01. C-12-0063	EACH	1.000	1.000
0010	210.2500	Backfill Structure Type B	TON	1,300.000	1,300.000
0012	213.0100	Finishing Roadway (project) 01. 5790-01-80	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	44.000	44.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	974.000	974.000
0018	311.0115	Breaker Run	CY	241.000	241.000
0020	312.0110	Select Crushed Material	TON	1,606.000	1,606.000
0022	455.0605	Tack Coat	GAL	90.000	90.000
0024	465.0105	Asphaltic Surface	TON	400.000	400.000
0026	504.0100	Concrete Masonry Culverts	CY	140.000	140.000
0028	505.0400	Bar Steel Reinforcement HS Structures	LB	18,635.000	18,635.000
0030	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	2,480.000	2,480.000
0032	516.0500	Rubberized Membrane Waterproofing	SY	31.000	31.000
0034	606.0300	Riprap Heavy	CY	89.000	89.000
0036	606.0500	Grouted Riprap Light	CY	2.000	2.000
0038	614.0305	Steel Plate Beam Guard Class A	LF	638.000	638.000
0040	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	3.000	3.000
0042	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5790-01-80	EACH	1.000	1.000
0044	619.1000	Mobilization	EACH	1.000	1.000
0046	624.0100	Water	MGAL	16.000	16.000
0048	625.0500	Salvaged Topsoil	SY	932.000	932.000
0050	627.0200	Mulching	SY	932.000	932.000
0052	628.1504	Silt Fence	LF	1,126.000	1,126.000
0054	628.1520	Silt Fence Maintenance	LF	1,126.000	1,126.000
0056	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0060	628.2037	Erosion Mat Class III Type C	SY	365.000	365.000
0062	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0064	629.0210	Fertilizer Type B	CWT	1.780	1.780
0066	630.0120	Seeding Mixture No. 20	LB	42.800	42.800
0068	630.0200	Seeding Temporary	LB	35.000	35.000
0070	630.0500	Seed Water	MGAL	54.000	54.000
0072	638.2102	Moving Signs Type II	EACH	1.000	1.000
0074	642.5001	Field Office Type B	EACH	1.000	1.000
0076	643.0420	Traffic Control Barricades Type III	DAY	1,140.000	1,140.000
0078	643.0705	Traffic Control Warning Lights Type A	DAY	1,800.000	1,800.000
0080	643.0900	Traffic Control Signs	DAY	8,760.000	8,760.000
0082	643.0920	Traffic Control Covering Signs Type II	EACH	11.000	11.000
0084	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0086	643.5000	Traffic Control	EACH	1.000	1.000
0088	645.0105	Geotextile Type C	SY	310.000	310.000
0090	645.0120	Geotextile Type HR	SY	208.000	208.000
0092	646.2020	Marking Line Epoxy 6-Inch	LF	2,000.000	2,000.000
0094	650.4500	Construction Staking Subgrade	LF	500.000	500.000
0096	650.5000	Construction Staking Base	LF	500.000	500.000
0098	650.6501	Construction Staking Structure Layout (structure) 01. C-12-0063	EACH	1.000	1.000

Estimate Of Quantities

5790-01-80					
Line	Item	Item Description	Unit	Total	Qty
0100	650.9911	Construction Staking Supplemental Control (project) 01. 5790-01-80	EACH	1.000	1.000
0102	650.9920	Construction Staking Slope Stakes	LF	500.000	500.000
0104	690.0150	Sawing Asphalt	LF	64.000	64.000
0106	715.0502	Incentive Strength Concrete Structures	DOL	840.000	840.000
0108	SPV.0060	Special 01. Temporary Water Diversion, Culvert C-12-0063	EACH	1.000	1.000

REMOVING GUARDRAIL							AGGREGATE SUMMARY									
						204.0165										
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	TON	MGAL	REMARKS
0010	318+05	-	321+45	STH 171 LT	342		0010	317+80	-	322+80	STH 171	-	790	1,595	12	MAINLINE
0010	319+23	-	322+80	STH 171 RT	357		0010	317+80	-	322+80	STH 171	22	92	-	2	SHLD LT
PROJECT TOTALS =					699		0010	317+80	-	322+80	STH 171	22	92	-	2	SHLD RT
							0010	PROJECT LIMITS			STH 171	-	-	11	-	FRENCH DRAINS
							PROJECT TOTALS =					44	974	1,606	16	

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED / UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
			CUT (2)	EBS EXCAVATION (3)				FACTOR 1.25				
DIVISION 1	317+80-320+23											
STH 171			951	0	204	747	103	129	822	822	0	
DIVISION 1 SUBTOTAL			951	0	204	747	103	129	822	822	0	
DIVISION 2	320+37-322+80											
STH 171			956	0	204	752	17	21	935	935	0	
DIVISION 2 SUBTOTAL			956	0	204	752	17	21	935	935	0	
GRAND TOTAL			1,907	0	408	1,499	120	150	1,757	1,757	0	
TOTAL COMMON EXC			1,907									

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(13) EXPANDED FILL FACTOR = 1.25
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

ASPHALTIC MATERIALS SUMMARY								BEAM GUARD SUMMARY							
						TACK COAT 455.0605	ASPHALTIC SURFACE 465.0105							SPBG CLASS A 614.0305	SPBG EAT 614.0370
CATEGORY	STATION	TO	STATION	LOCATION		GAL	TON	CATEGORY	STATION	TO	STATION	LOCATION		LF	EACH
0010	317+80	-	322+80	STH 171		67	299	0010	318+51	-	321+51	STH 171 RT		375	1
0010	317+80	-	322+80	STH 171		12	51	0010	318+57	-	322+80	STH 171 LT		263	2
0010	317+80	-	322+80	STH 171		11	50	PROJECT TOTALS =						638	3
PROJECT TOTALS =						90	400								

EROSION CONTROL SUMMARY												
					SALVAGED TOPSOIL 625.0500	MULCHING 627.0200	EROSION MAT CLASS III TYPE C 628.2037	TEMPORARY DITCH CHECKS 628.7504	FERTILIZER TYPE B 629.0210	SEEDING MIXTURE NO. 20 630.0120	SEEDING TEMPORARY 630.0200	SEED WATER 630.0500
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	SY	LF	CWT	LB	LB	MGAL
0010	317+80	-	322+80	STH 171 LT	394	394	100	20	0.63	17.9	-	23
0010	317+80	-	322+80	STH 171 RT	453	453	231	-	0.79	22.6	-	26
0010	317+80	-	322+80	UNDISTRIBUTED	85	85	34	10	0.36	2.3	35	5
PROJECT TOTALS =					932	932	365	30	1.78	42.8	35	54

SILT FENCE SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE	SILT FENCE	REMARKS
					628.1504	628.1520	
					LF	LF	
0010	317+80	-	322+80	STH 171 LT	500	500	
0010	317+80	-	322+80	STH 171 RT	526	526	
0010	317+80	-	322+80	UNDISTRIBUTED	100	100	
PROJECT TOTALS =					1,126	1,126	

MOBILIZATION EROSION CONTROL

CATEGORY	LOCATION	MOBILIZATIONS	MOBILIZATIONS	REMARKS
		EROSION	EMERGENCY	
		CONTROL	EROSION	
		628.1905	628.1910	
		EACH	EACH	
0010	STH 171	4	2	
PROJECT TOTALS =		4	2	

MOVING SIGNS TYPE II

CATEGORY	STATION	LOCATION	638.2102	REMARKS
			EACH	
0010	319+74	STH 171	1	RIGHT REVERSE CURVE SIGN
PROJECT TOTALS =			1	

TRAFFIC CONTROL SUMMARY

CATEGORY	LOCATION	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	NUMBER OF	REMARKS
		CONTROL	WARNING	CONTROL	COVERING		
		BARRICADES	LIGHTS	CONTROL	SIGNS		
		TYPE III	TYPE A	SIGNS	TYPE II	PCMS	TRAFFIC
		643.0420	643.0705	643.0900	643.0920	643.1050	CONTROL
		DAY	DAY	DAY	EACH	DAY	EACH
0010	VARIES	1140	1800	8760	11	14	1
PROJECT TOTALS =		1140	1800	8760	11	14	1

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION
					STAKING	STAKING	STAKING	STAKING	STAKING
					SUBGRADE	BASE	STRUCTURE LAYOUT	SUPPLEMENTAL	SLOPE
					650.4500	650.5000	(STRUCTURE) 01.	(PROJECT) 01.	STAKING
					LF	LF	C-12-0063	5790-01-80	STAKES
					650.6501.01	650.6501.01	650.6501.01	650.6501.01	650.6501.01
					LF	LF	EACH	EACH	LF
0010	317+80	-	322+80	STH 171	500	500	1	1	500
PROJECT TOTALS =					500	500	1	1	500

MARKING LINE EPOXY 6-INCH

CATEGORY	STATION	TO	STATION	LOCATION	646.2020	REMARKS
					LF	
0010	317+80	-	322+80	STH 171 LT	500	LT SHOULDER, WHITE, SEE SDD 15C8-23A
0010	317+80	-	322+80	STH 171 RT	500	RT SHOULDER, WHITE, SEE SDD 15C8-23A
0010	317+80	-	322+80	STH 171 CL	1,000	CL, DOUBLE YELLOW
PROJECT TOTALS =					2,000	

SAWING ASPHALT

CATEGORY	STATION	LOCATION	690.0150	REMARKS
			LF	
0010	317+80	STH 171	32	
0010	322+80	STH 171	32	
PROJECT TOTALS =			64	

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

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLE)S ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 171 ESTABLISHED FROM PREVIOUS PROJECTS 9279A

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN LA CROSSE.

PROJECT BASE LINE IS NOT COINCIDENT WITH EXISTING CENTERLINE OF STH 171.



ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORD VALUE	(R)
AND OTHERS	ET AL	RECORDED AS	(100')
BACK	BK	REEL / IMAGE	R/I
BLOCK	BLK	REFERENCE LINE	R/L
CENTERLINE	C/L	REMAINING	REM
CERTIFIED SURVEY MAP	CSM	RESTRICTIVE DEVELOPMENT	RDE
CONCRETE	CONC	EASEMENT	
COUNTY	CO	RIGHT	RT
COUNTY TRUNK HIGHWAY	CTH	RIGHT OF WAY	R/W
DISTANCE	DIST	SECTION	SEC
CORNER	COR	SEPTIC VENT	SEPV
DOCUMENT NUMBER	DOC	SQUARE FEET	SF
EASEMENT	EASE	STATE TRUNK HIGHWAY	STH
EXISTING	EX	STATION	STA
GAS VALVE	GV	TELEPHONE PEDESTAL	TP
GRID NORTH	GN	TEMPORARY LIMITED	TLE
HIGHWAY EASEMENT	HE	EASEMENT	
IDENTIFICATION	ID	TRANSPORTATION PROJECT	TPP
LAND CONTRACT	LC	PLAT	
LEFT	LT	UNITED STATES HIGHWAY	USH
MEASURED VALUE	(M)	VOLUME	V
MONUMENT	MON		
NATIONAL GEODETTIC SURVEY	NGS		
NUMBER	NO	LONG CHORD	LCH
OUTLOT	OL	LONG CHORD BEARING	LCB
PAGE	P	RADIUS	R
POINT OF TANGENCY	PT	DEGREE OF CURVE	D
PERMANENT LIMITED	PLE	CENTRAL ANGLE	Δ /DELTA
EASEMENT		LENGTH OF CURVE	L
POINT OF BEGINNING	POB	TANGENT	T
POINT OF CURVATURE	PC	DIRECTION AHEAD	DA
		DIRECTION BACK	DB

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	$\Delta/\Delta\text{ELTA}$
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB



—W—	WATER
—G—	GAS
—T—	TELEPHONE
—OH—	OVERHEAD
—E—	TRANSMISSION LINES
—TV—	ELECTRIC
—FO—	CABLE TELEVISION
—SAN—	FIBER OPTIC
—SS—	SANITARY SEWER
	STORM SEWER

STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
100	326+32.17	39.47' RT	220323.655	371098.283
101	320+70.64	42.32' RT	220785.554	370854.004
102	320+51.19	44.44' RT	220798.692	370389.657
103	320+51.38	72.27' RT	220775.220	370818.159
104	320+41.79	74.32' RT	220781.694	370811.090
105	320+29.83	74.39' RT	220789.775	370802.267
106	320+11.98	74.50' RT	220801.830	370789.104
107	320+11.79	42.67' RT	220825.303	370810.603
108	318+52.48	43.65' RT	220932.322	370693.755
109	317+90.09	42.73' RT	220970.637	370648.579
110	317+90.93	39.77' LT	221035.543	370699.505
111	318+53.58	-39.04' LT	220993.161	370749.477
112	320+00.04	-39.76' LT	220893.749	370838.018
113	319+99.93	-58.51' LT	220907.576	370780.682
114	320+12.83	-58.59' LT	220898.865	370880.193
115	320+18.73	-58.62' LT	220894.877	370884.547
116	320+57.44	-58.85' LT	220868.730	370813.096
117	320+60.27	-58.87' LT	220866.820	370915.181
118	320+60.31	-51.49' LT	220861.379	370910.199
119	320+60.38	-40.12' LT	220852.993	370902.517
120	320+70.15	-40.18' LT	220846.394	370909.723
121	326+41.44	-43.14' LT	220324.851	371181.402

 	CORNER SYMBOL SECTION CORNER MONUMENT GEODETIC SURVEY MONUMENT SIXTEENTH CORNER MONUMENT SIGN	 	R/W MONUMENT (TO BE SET) NON-MONUMENTED R/W POINT FOUND IRON PIN (1-INCH UNLESS NOTED) OFF-PREMISE SIGN	
 	ELECTRIC POLE TELEPHONE POLE PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.) ACCESS RESTRICTED BY ACQUISITION NO ACCESS (BY STATUTORY AUTHORITY) ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL) NO ACCESS (NEW HIGHWAY) PARCEL NUMBER PARALLEL OFFSETS	<u>COMPENSABLE</u> 	<u>NON-COMPENSABLE</u> 	

THAT PART OF SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 22, TOWNSHIP 10 NORTH, RANGE 5 WEST
TOWN OF UTICA, CRAWFORD COUNTY, WISCONSIN.
RELOCATION ORDER 5TH 171 FERRYVILLE - ROLLING GROUND
(FLOWING STREAM STRUCTURE C-12-1709). CRAWFORD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED		OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT				
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING	R/W TOTAL ACRES	TLE ACRES
1	AARON J. YOUNG	FEE, TLE	0.055	1.603	1.658	0.079

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 5790-01-20-4.01
AMENDMENT NO:

COURSE TABLE				
POINT	-	POINT	COURSE	DISTANCE
1/A SEC CORNER	-	100	N89°102'9"E	1394.73
100	-	101	SEE CURVE DATA	
101	-	102	N47°30'50"W	19.45'
102	-	103	S42°29'10"W	31.83'
103	-	104	N47°30'50"W	9.59'
104	-	105	N47°30'50"W	11.97'
105	-	107	N47°30'50"W	17.85'
106	-	107	N47°30'50"W	17.85'
107	-	108	N47°30'50"W	158.45'
108	-	109	SEE CURVE DATA	
109	-	110	N38°07'06"E	82.50'
110	-	111	SEE CURVE DATA	
111	-	112	S47°30'50"E	147.19'
112	-	113	N42°29'10"E	18.75'
113	-	114	S47°30'50"E	12.80'
114	-	115	S47°30'50"E	5.90'
115	-	116	S47°30'50"E	38.71'
116	-	117	S47°30'50"E	2.83'
117	-	118	S42°29'10"W	7.38'
118	-	119	S42°29'10"W	11.37'
119	-	120	S47°30'50"E	9.77'
120	-	121	SEE CURVE DATA	
121	-	120	S89°102'9"W	81.33'

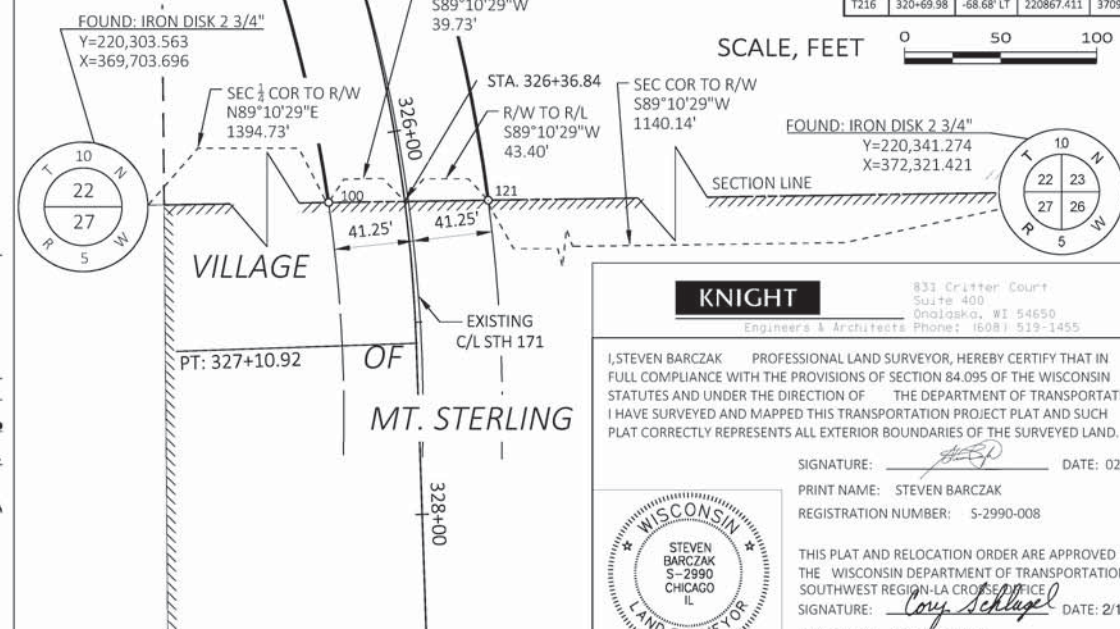
TLE STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
T201	320+61.29	42.38' RT	T20791.872	370847.104
T202	320+61.44	84.38' RT	T20760.962	370818.664
T203	320+41.11	84.50' RT	T20774.697	370803.671
T204	320+32.26	84.55' RT	T20780.674	370797.145
T205	320+02.04	84.73' RT	T20801.084	370774.861
T206	320+01.79	84.73' RT	T20832.057	370803.228
T207	319+20.06	43.21' RT	T20887.258	370742.957
T208	319+20.12	52.50' RT	T20880.411	370736.685
T209	317+89.98	39.70' LT	T20962.947	370642.547
T210	319+90.11	39.70' LT	T20900.457	370850.693
T211	319+89.94	-68.20' LT	T20921.475	370869.943
T212	320+08.43	-68.31' LT	T20908.984	370883.581
T213	320+16.62	-68.36' LT	T20903.450	370889.622
T214	320+49.69	-68.56' LT	T20881.115	370914.005
T215	320+61.14	-68.62' LT	T20873.380	370922.454
T216	320+69.98	-68.68' LT	T20867.411	370928.972

PI STA = 324+11.09
Y = 220585.169
X = 371132.463
DELTA = 45°12'32" R
D = 07°07'19"
T = 334.95'
L = 634.78'
R = 804.49'
PC STA = 320+76.14
Y = 220812.859
X = 370886.801
PT STA = 327+10.92
Y = 220250.415
X = 371143.950
DB = 547°10'28"E
DA = S01°57'55"E
LCH=618.44'
LCB=S24°34'11"E

PI: 324+11.09

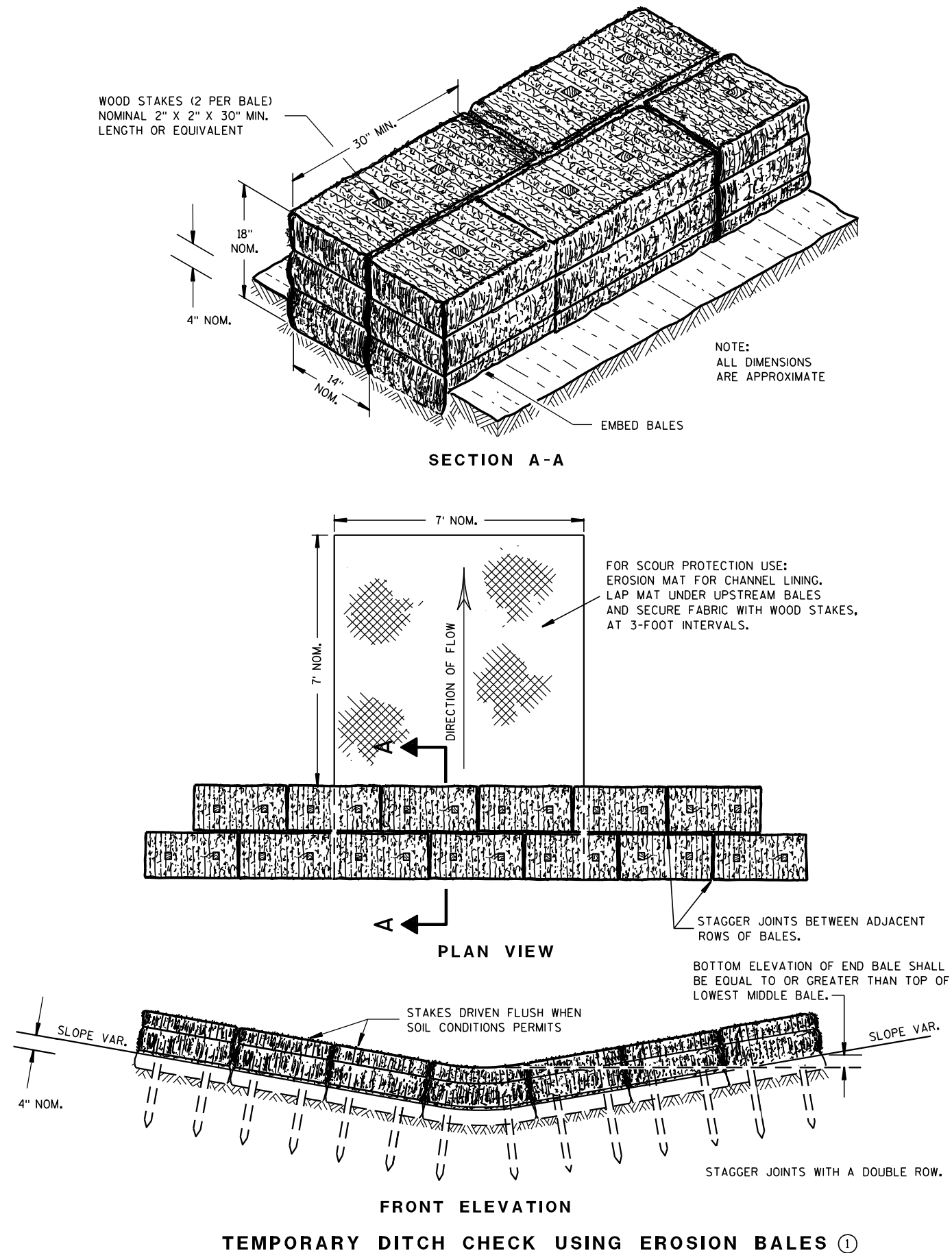
4 - PT 326+36.84

SE-SE
SECTION 22
T10N, R5W



Standard Detail Drawing List

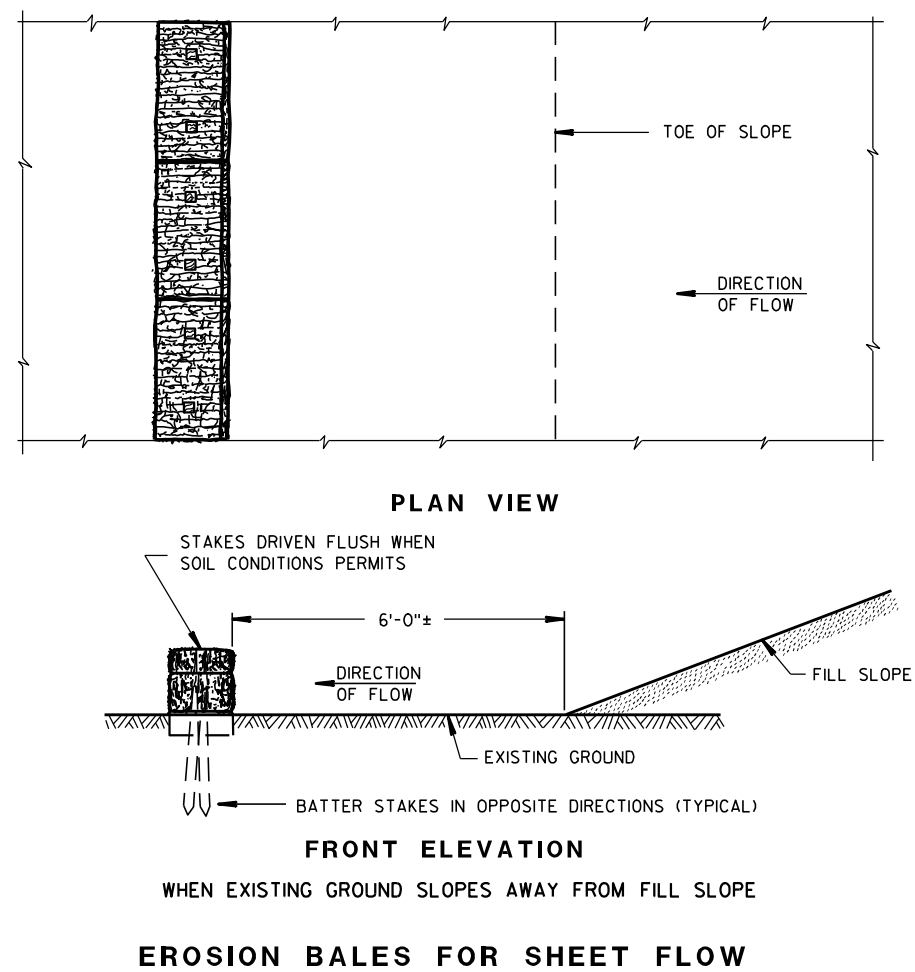
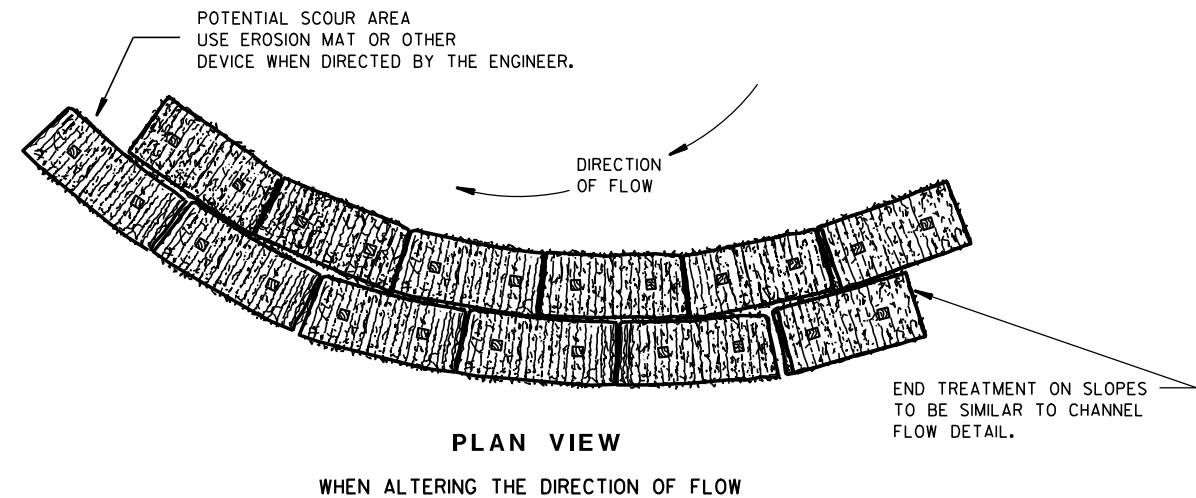
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



GENERAL NOTES

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

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

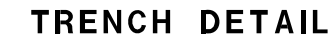
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

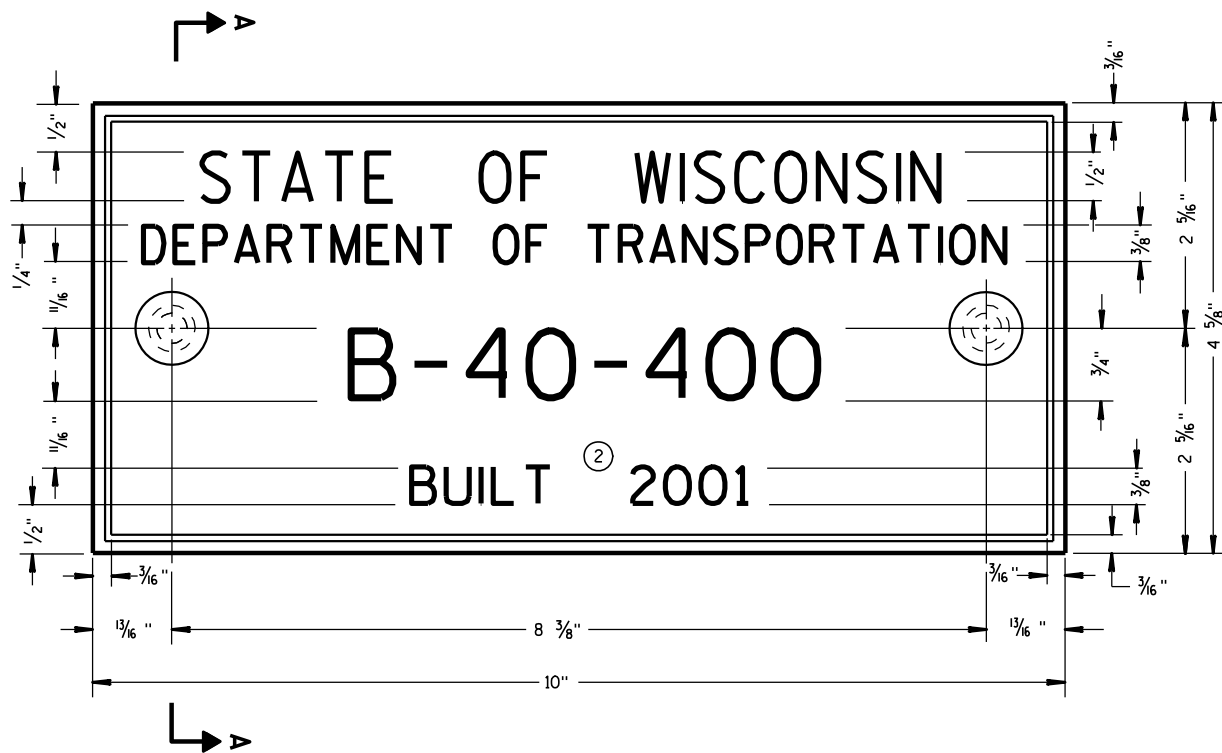
FHWA



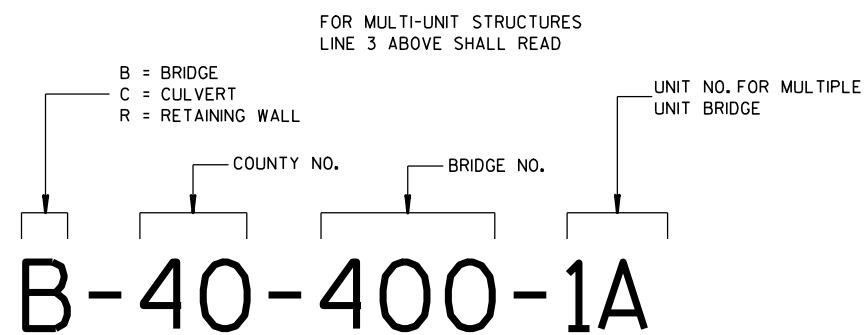
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS 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 Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



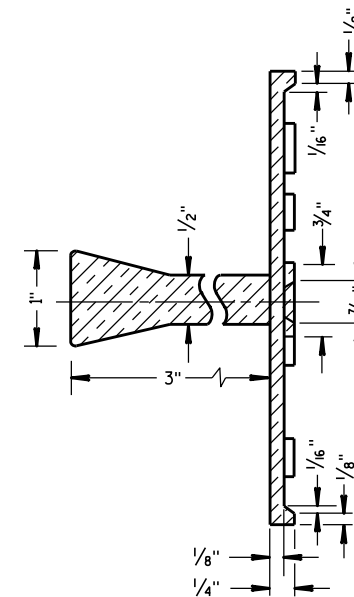
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

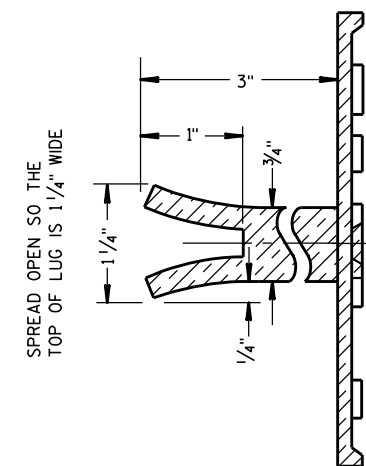
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

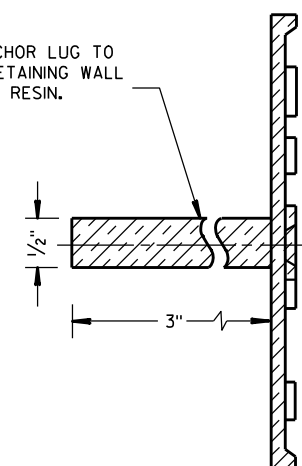


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

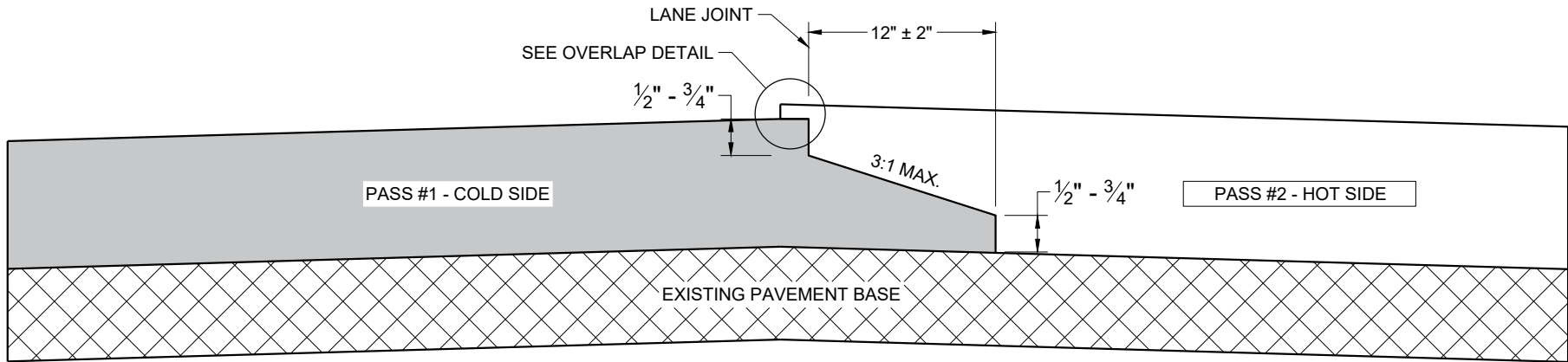
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

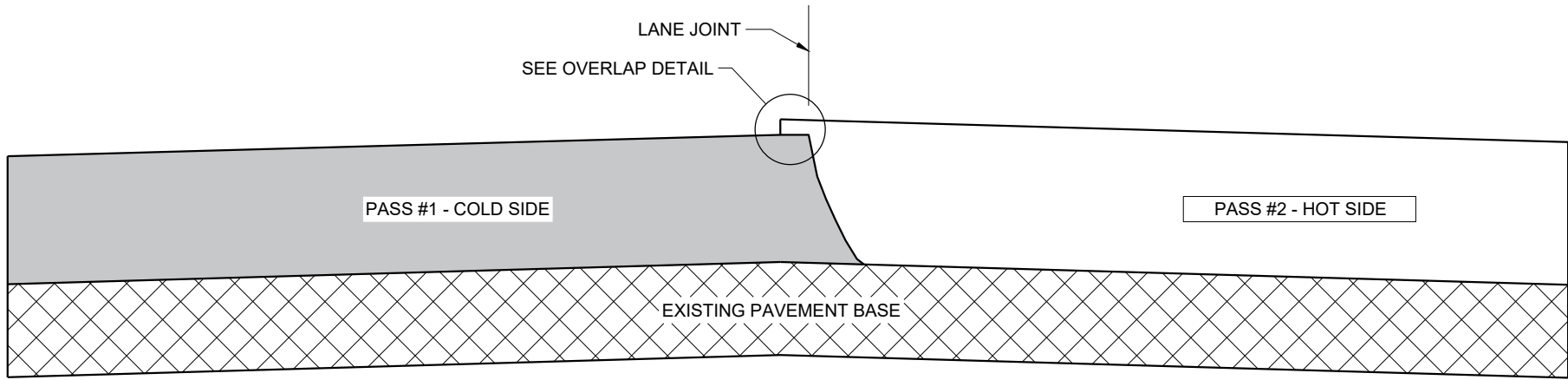
3/26/10
DATE

FHWA

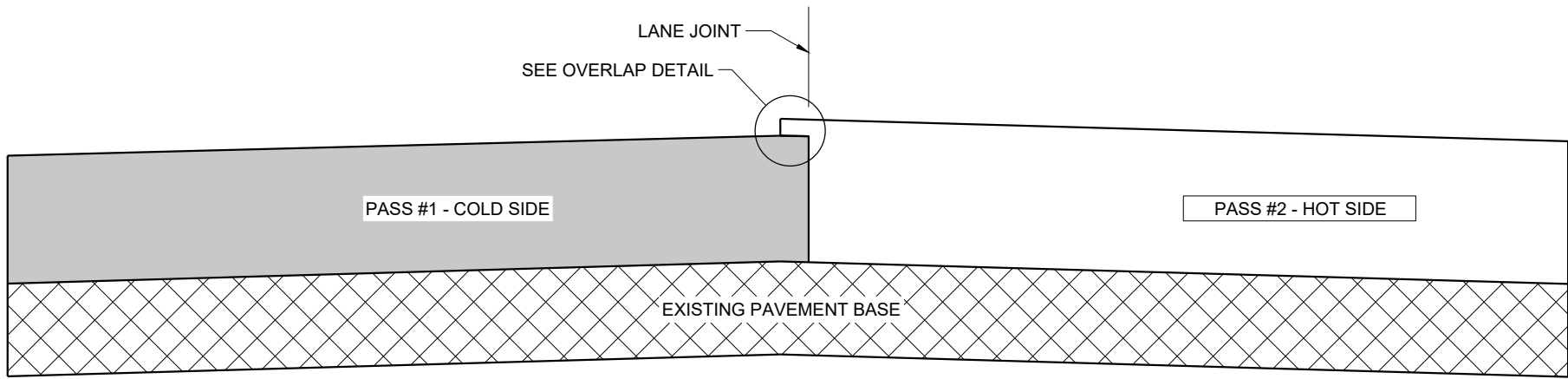
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

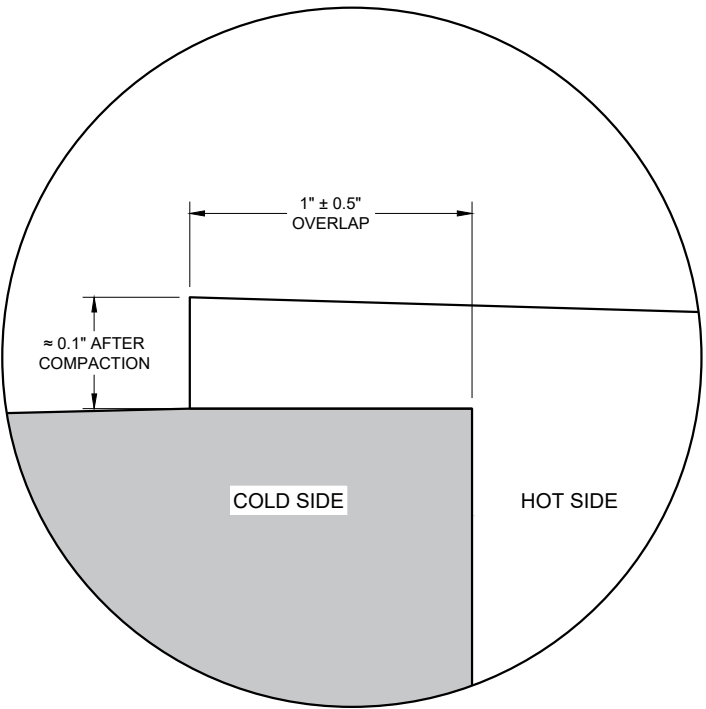
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

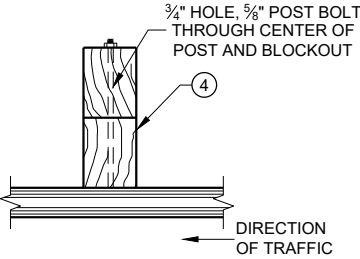
SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

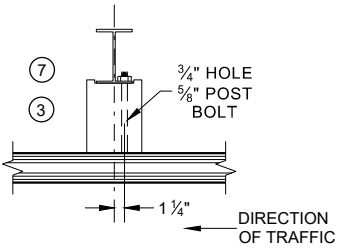
- WOOD OR STEEL POSTS (w6x9 OR w6x8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"x8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.
- USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGE SPALTER COATING ON GALVANIZED POSTS.
- INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- IF THE DISTANCE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.
- WHEN USING STEEL POSTS AND WOOD BLOCKOUTS, INSTALL FOUR 16d GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

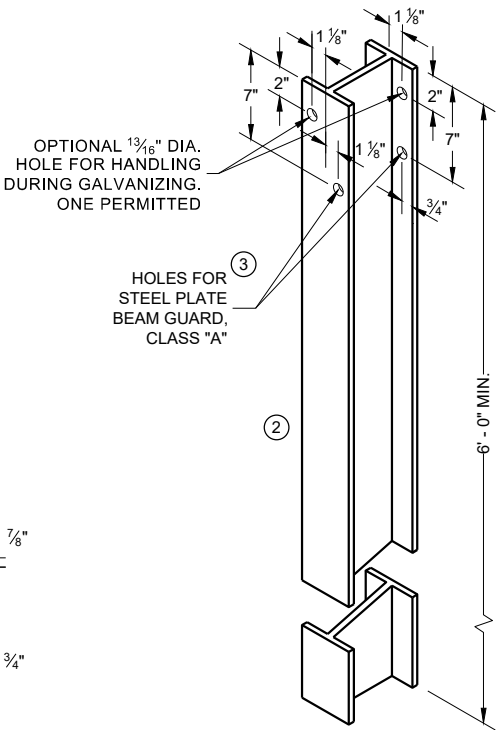
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



PLAN VIEW
WOOD POST, BLOCKOUT AND BEAM

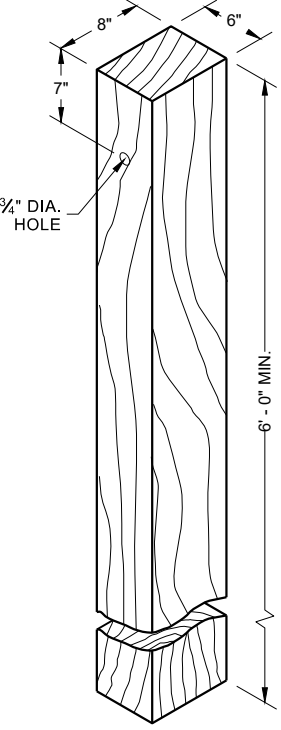


PLAN VIEW
WOOD POST, BLOCKOUT AND BEAM

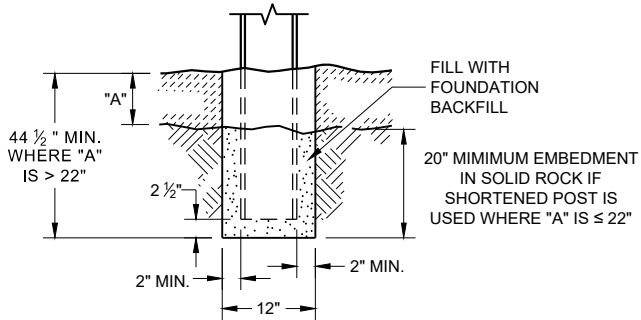


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)

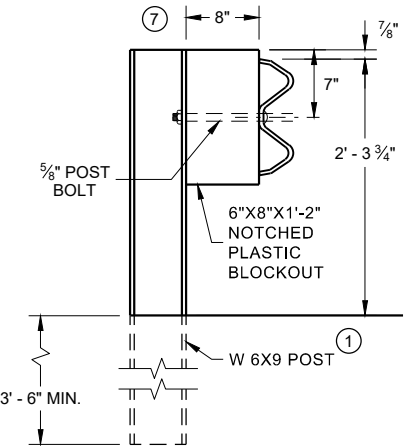
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



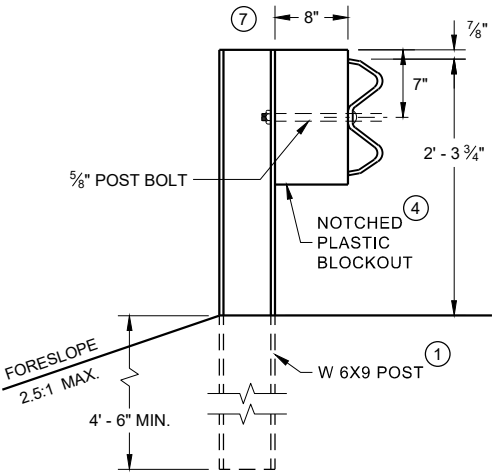
WOOD POST (6" X 8") NOMINAL



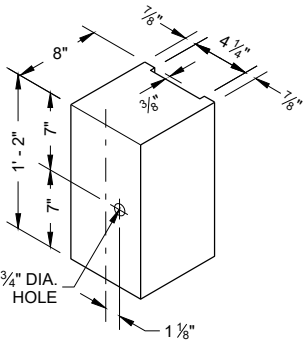
END VIEW
SETTING STEEL OR WOOD POST IN ROCK



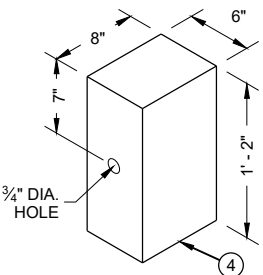
END VIEW
STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



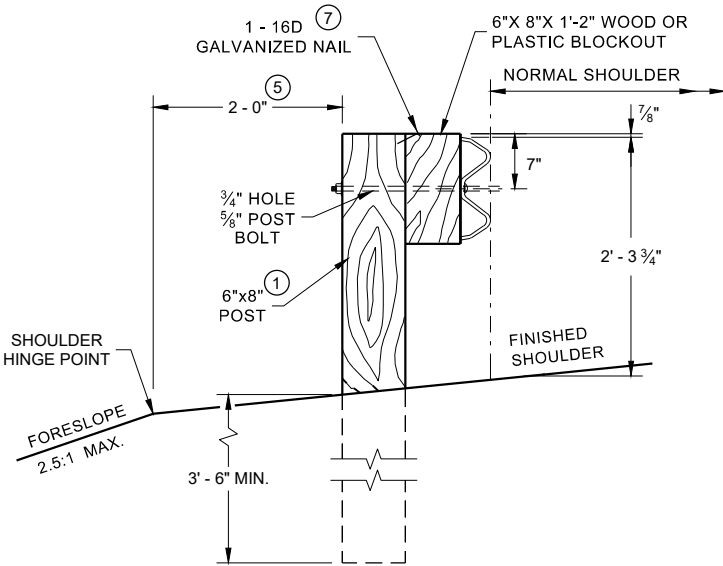
END VIEW
LONGER POST AT HALF POST SPACING W BEAM (LHW)



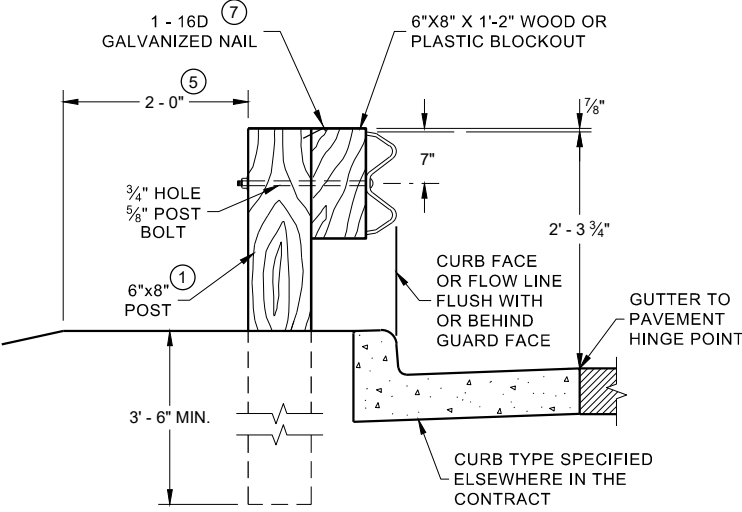
TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS



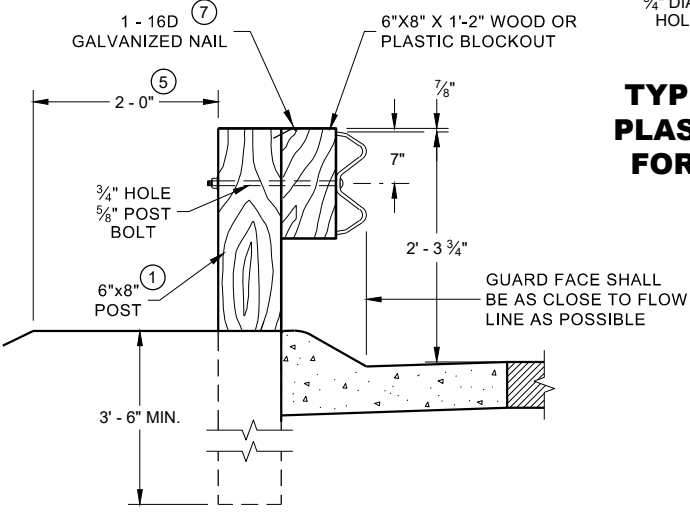
WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



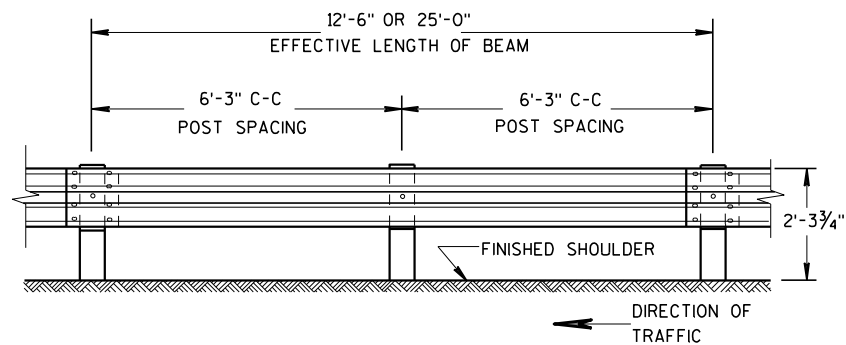
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LOCATED ALONG A MOUNTABLE CURBED ROADWAY

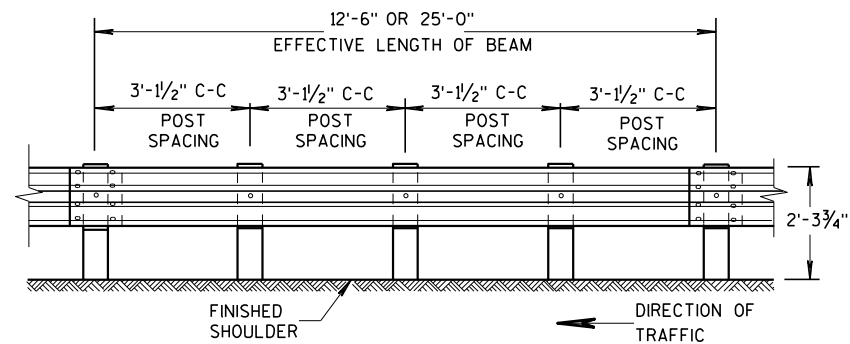
STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION AND ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

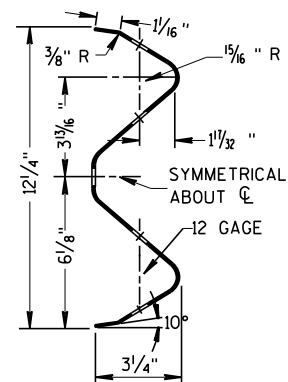


FRONT VIEW

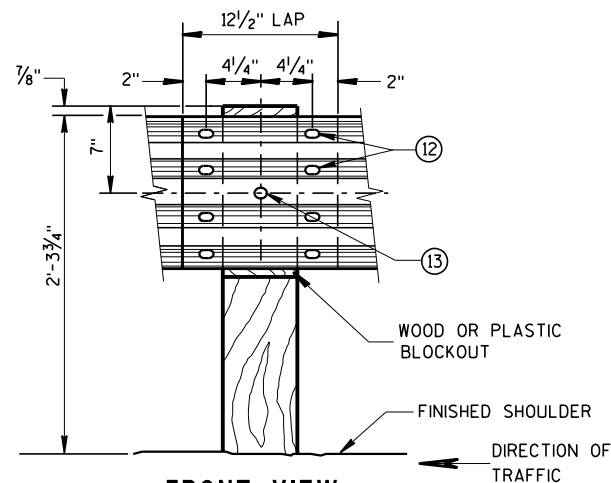
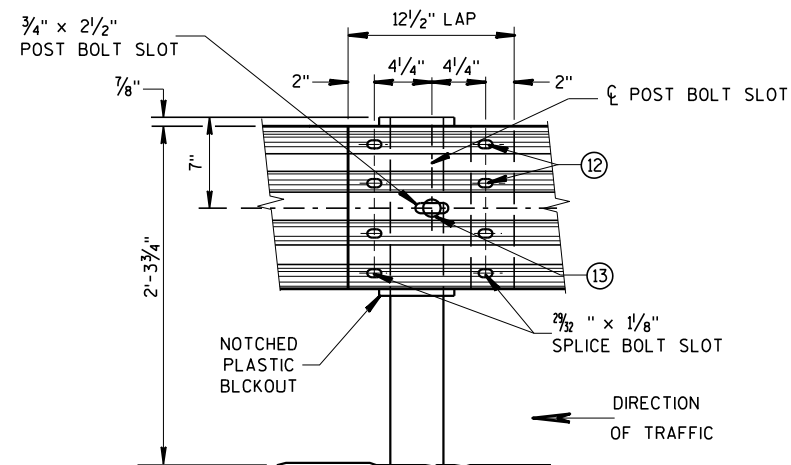
POST SPACING STANDARD INSTALLATION



FRONT VIEW

POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)

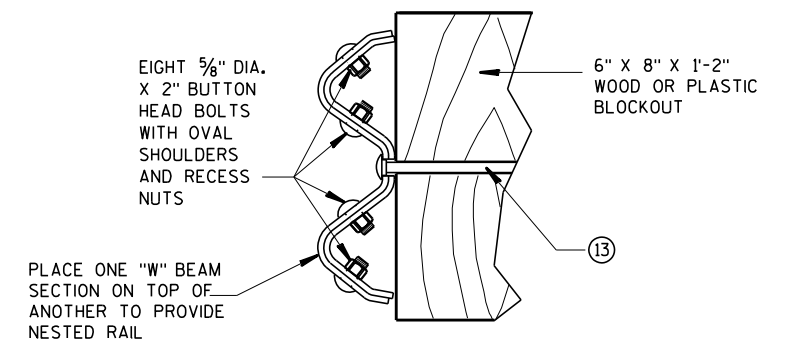
SECTION THRU W BEAM

FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAILFRONT VIEW
BEAM SPLICE AT STEEL POSTTYPICAL SPLICING DETAILS
OF STEEL PLATE BEAM GUARD

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

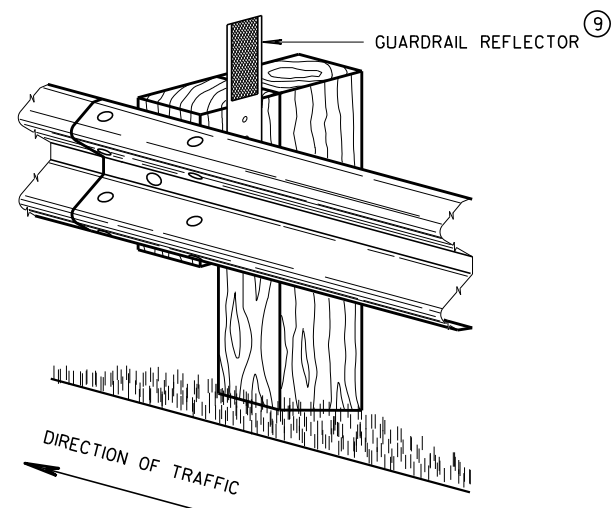
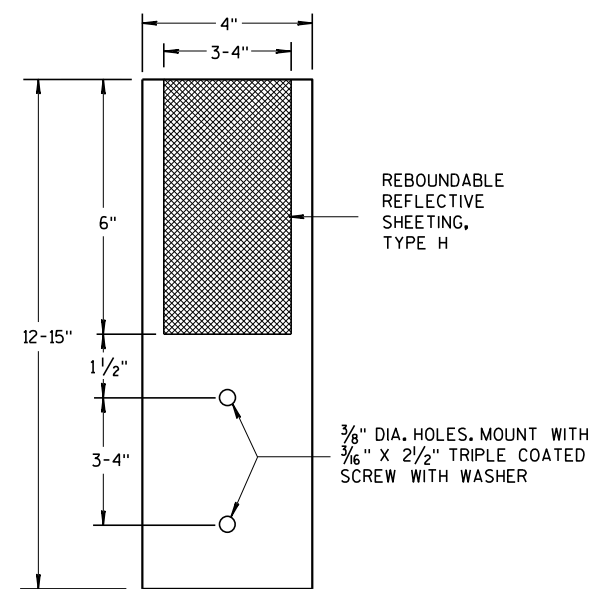
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.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



NESTED W BEAM (NW)

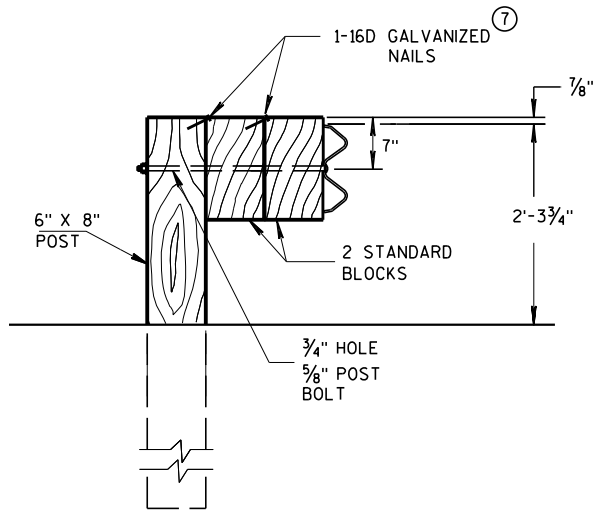
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

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

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

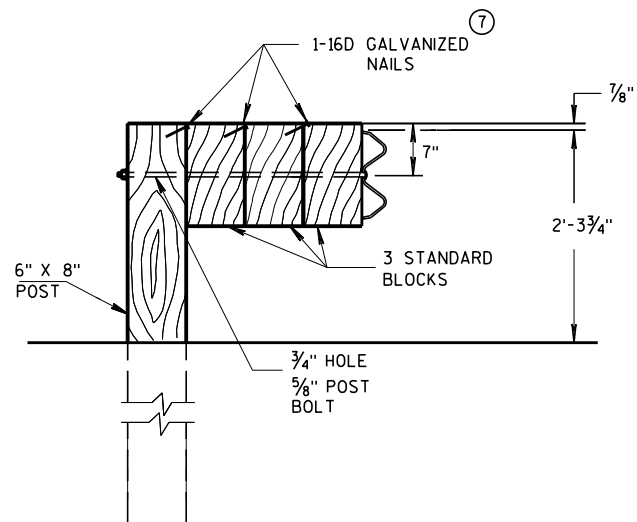
4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTSSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

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

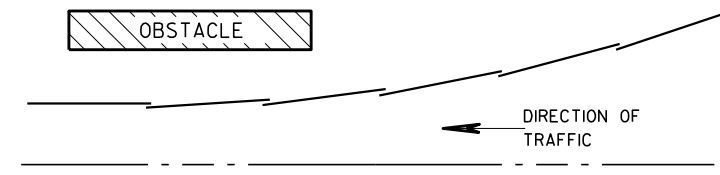


DETAIL FOR TRIPLE BLOCKS

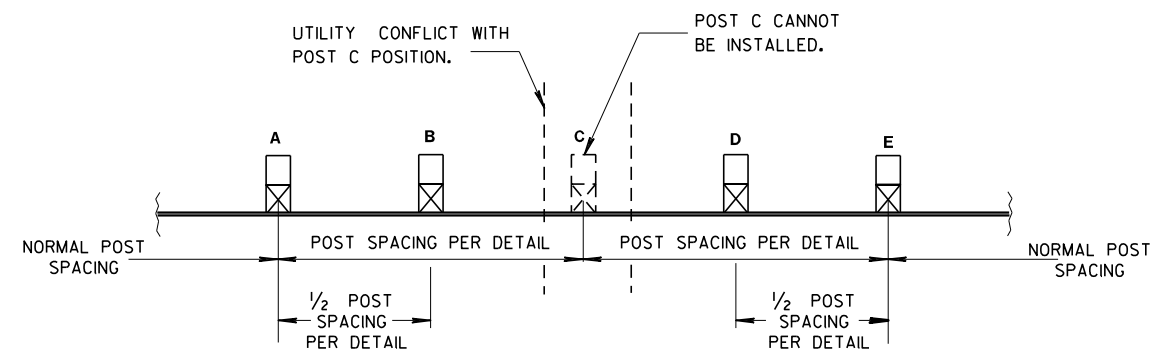
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017

DATE

FHWA

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR

BILL OF MATERIALS

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

GENERAL NOTES

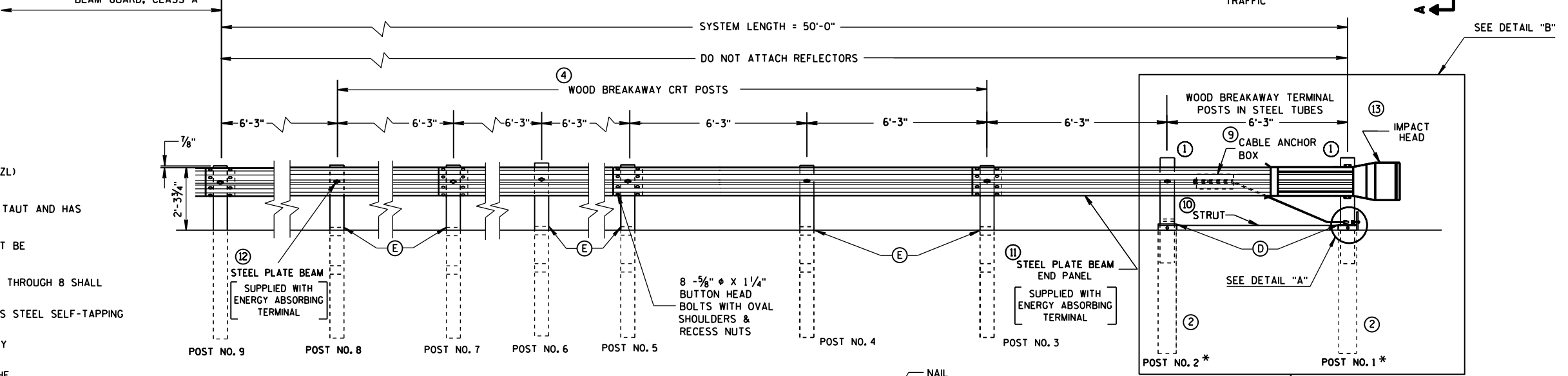
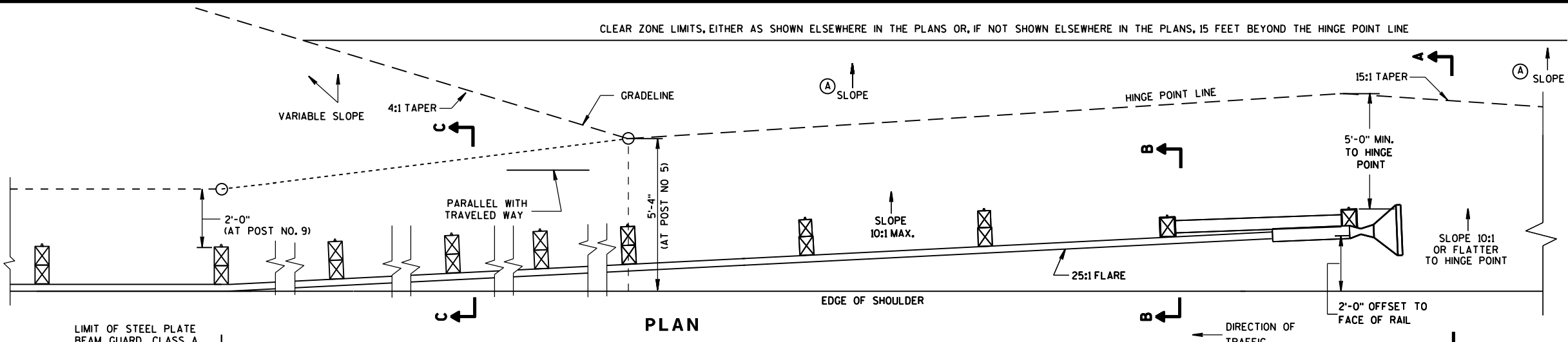
FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

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

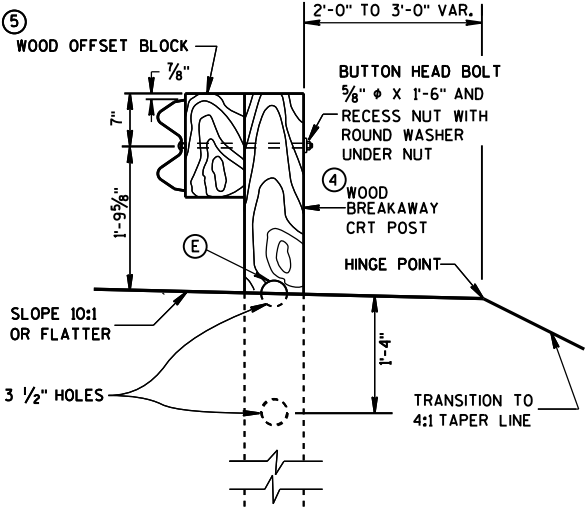
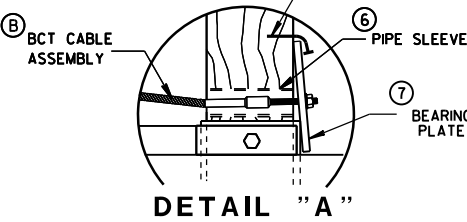
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

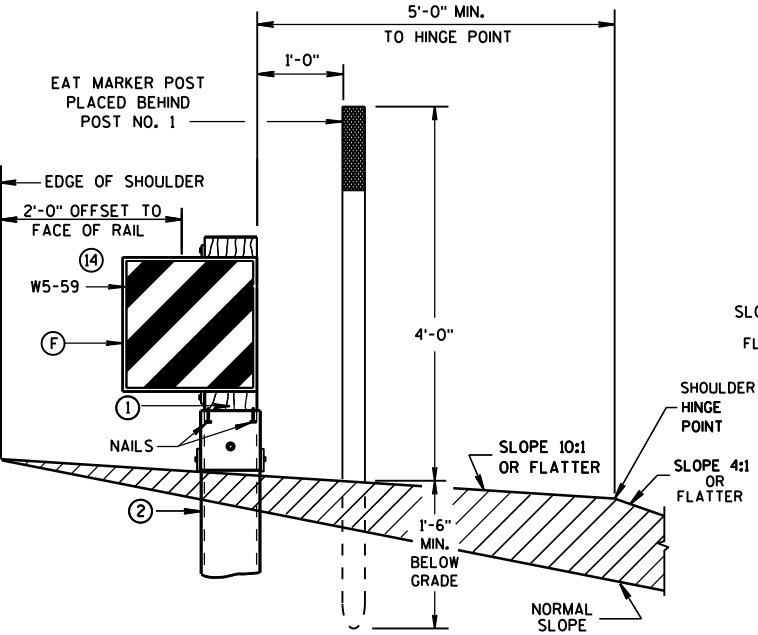
*DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.



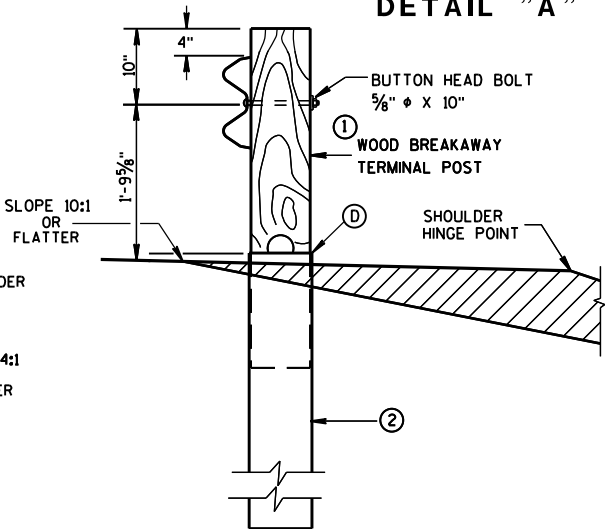
ELEVATION



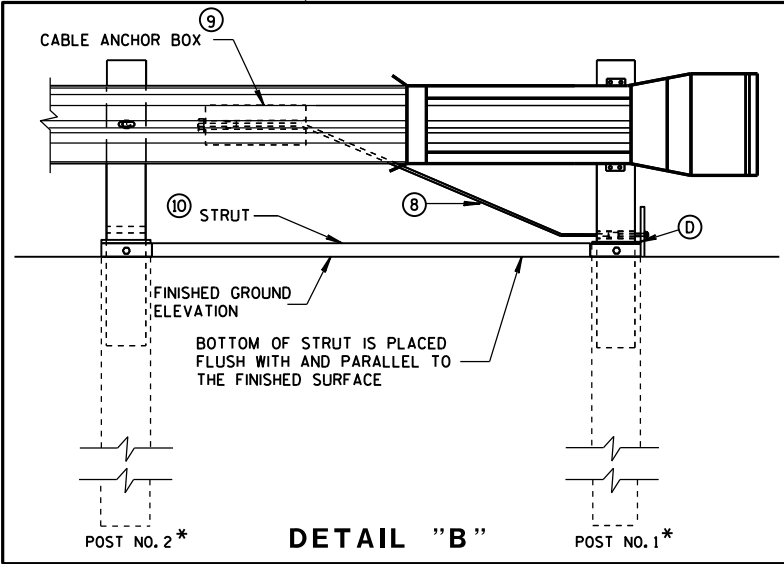
SECTION C-C
TYPICAL AT POST NOS. 6, 8



SECTION A-A
TYPICAL AT POST NO. 1*



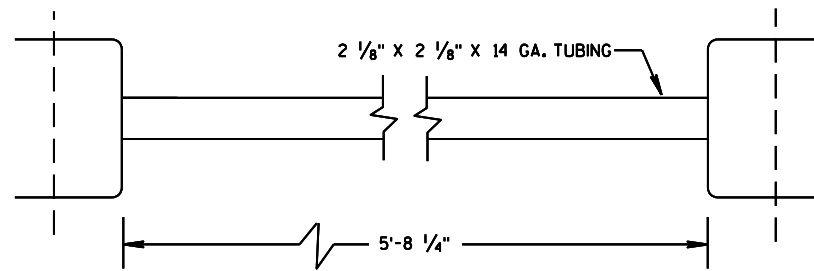
SECTION B-B
TYPICAL AT POST NO. 2*



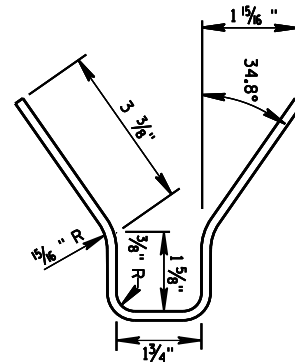
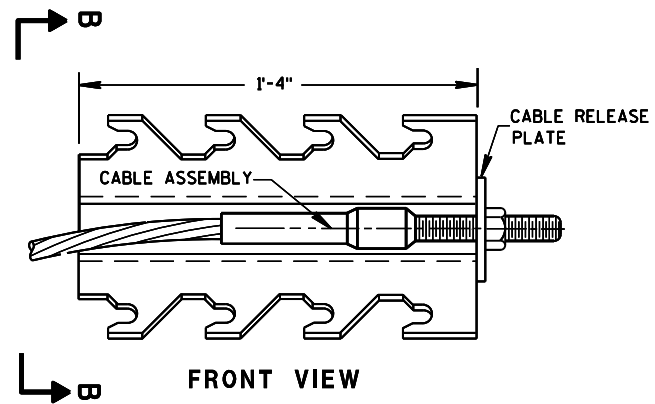
DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

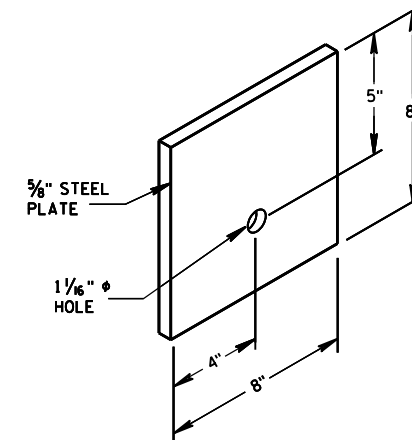
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



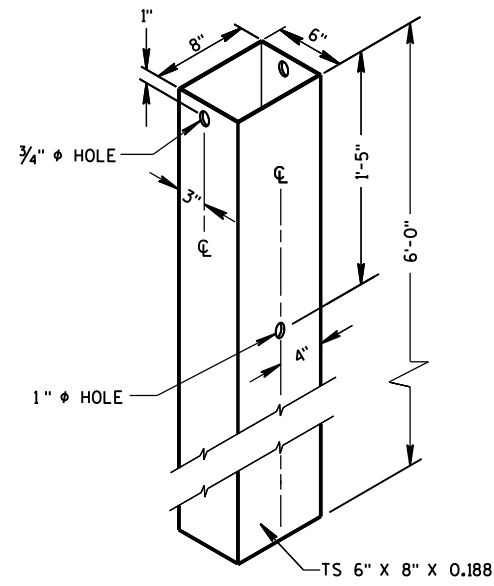
⑩ STRUT DETAIL



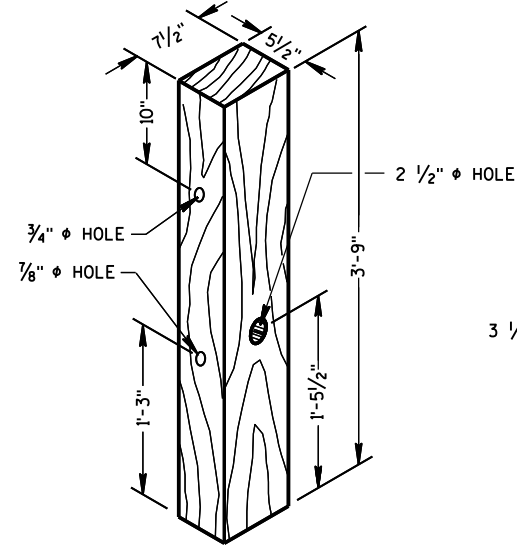
⑨ CABLE ANCHOR BOX



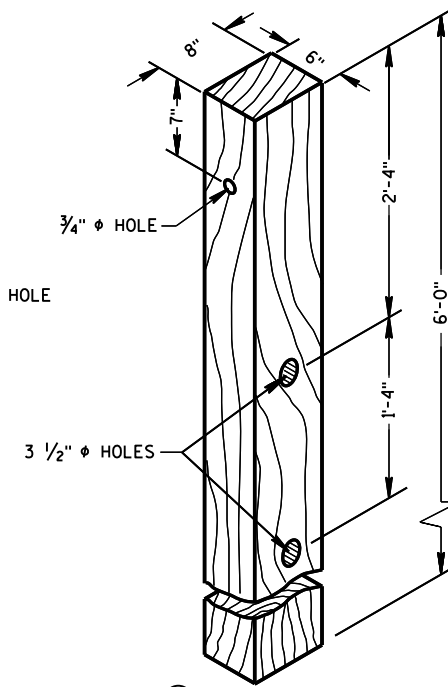
⑦ STEEL BEARING PLATE



② **72" STEEL TUBE**
(POSTS NO. 1-2)

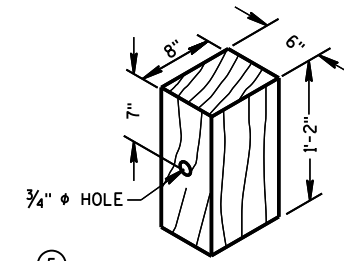


① **TERMINAL POST**



④ **CRT POST**
(POSTS NO'S 5-8)

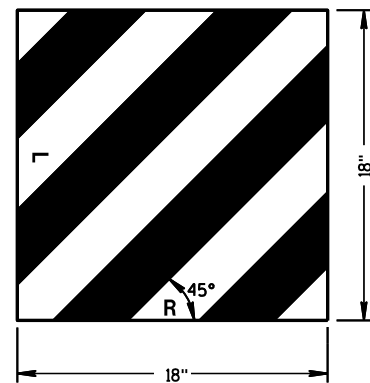
WOOD BREAKAWAY POSTS



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

GENERAL NOTES

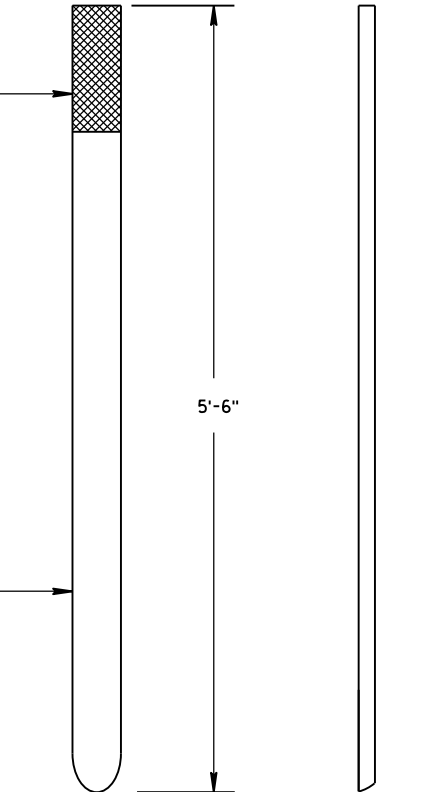
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH,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



⑭ **REFLECTIVE SHEETING DETAILS**

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

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



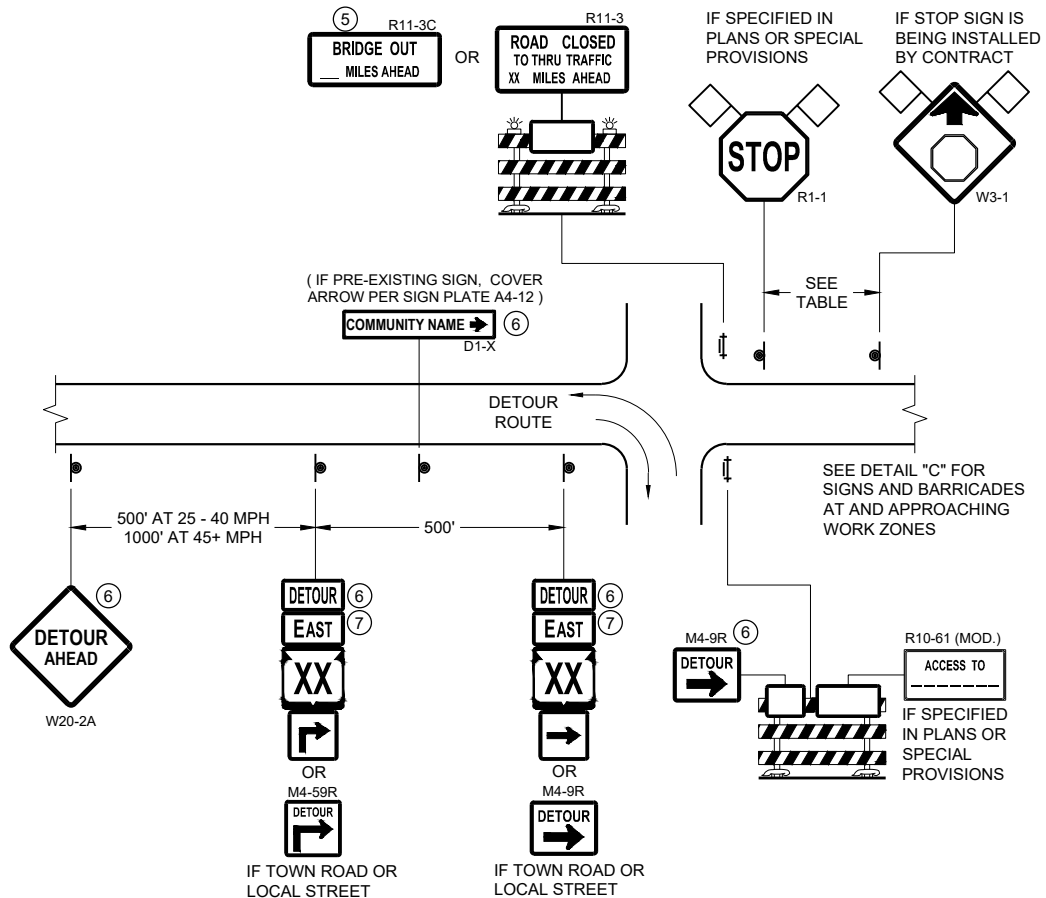
FRONT VIEW SIDE VIEW

E.A.T. MARKER POST

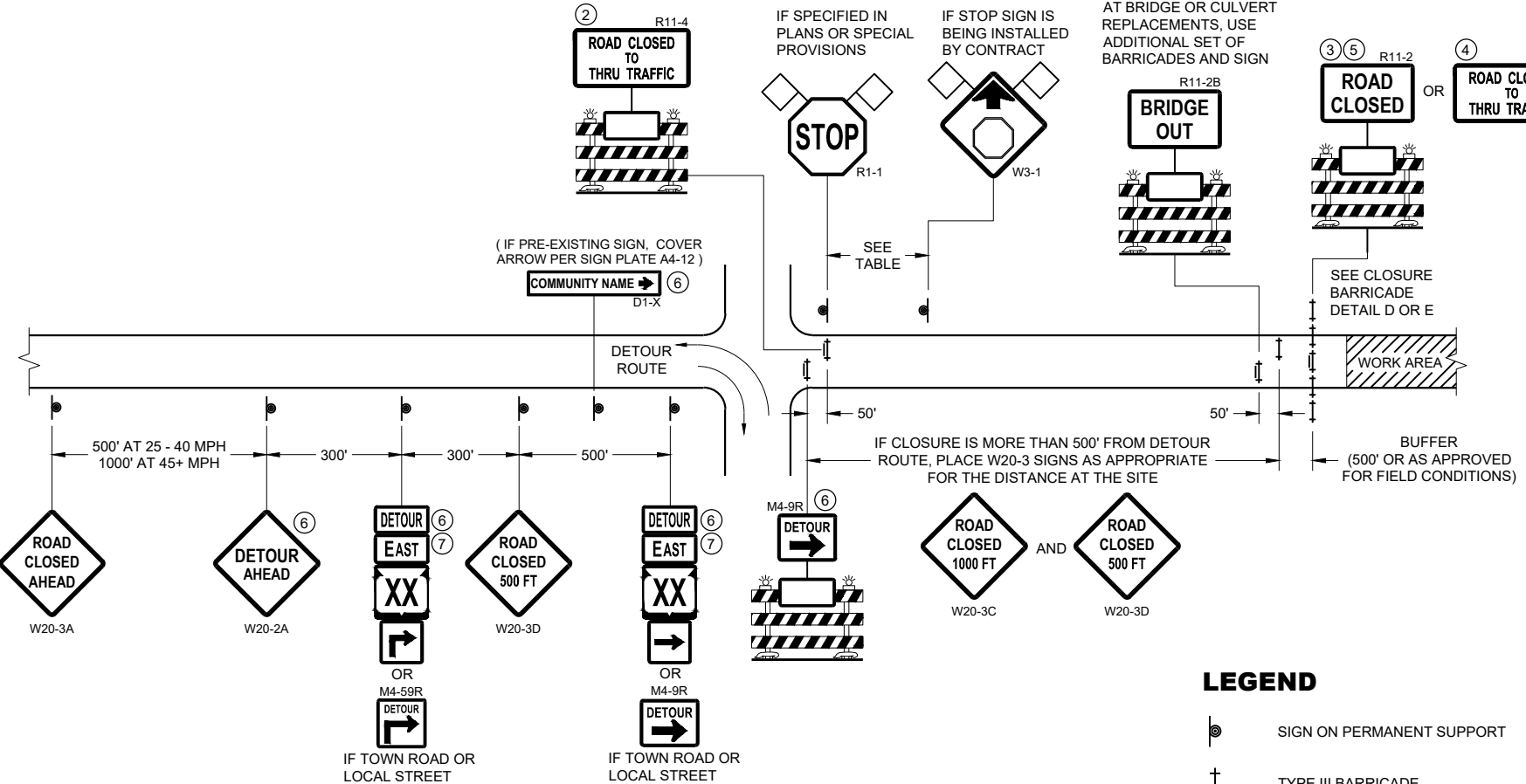
**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



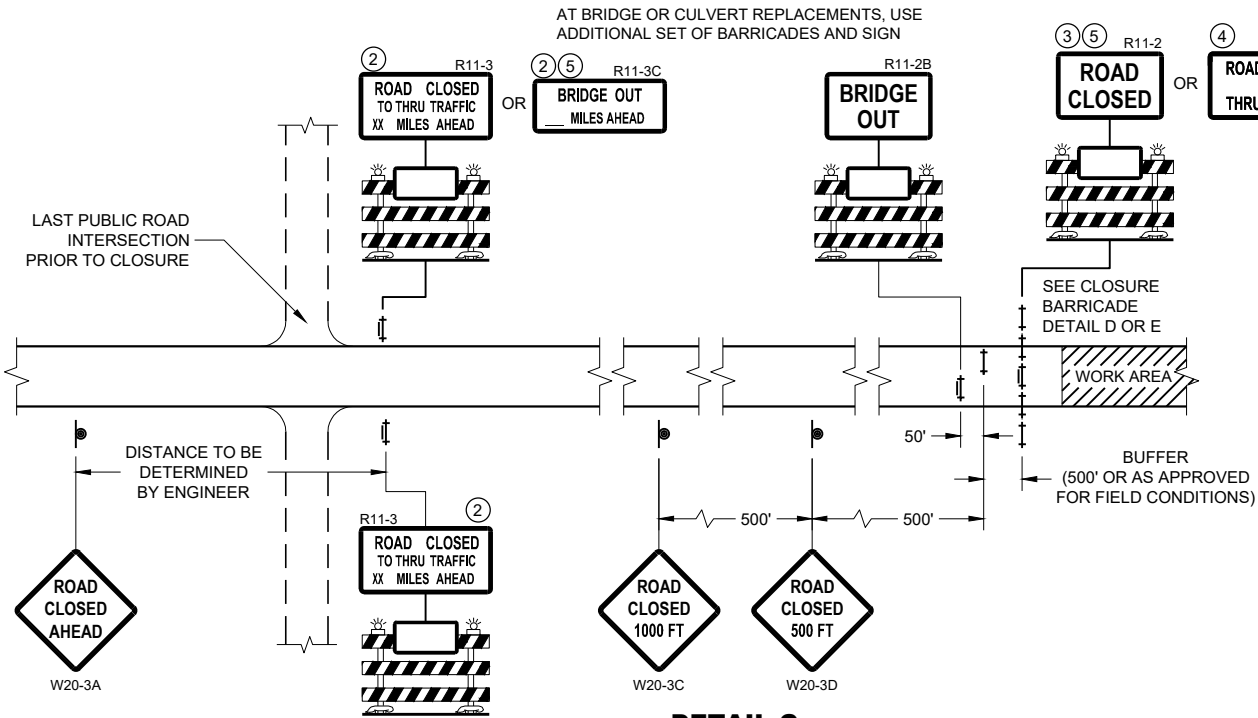
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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



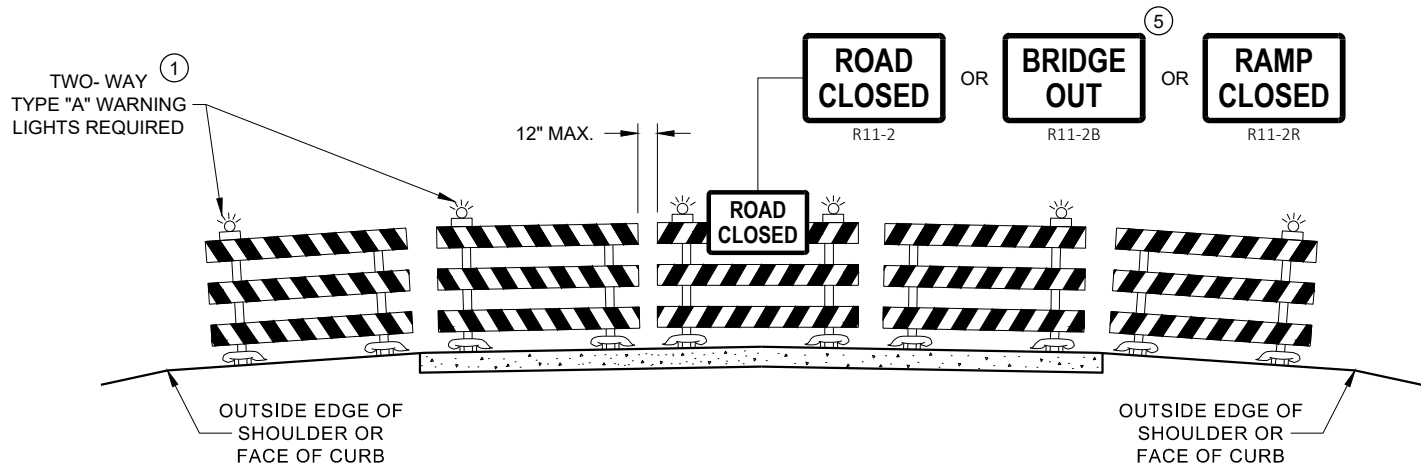
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

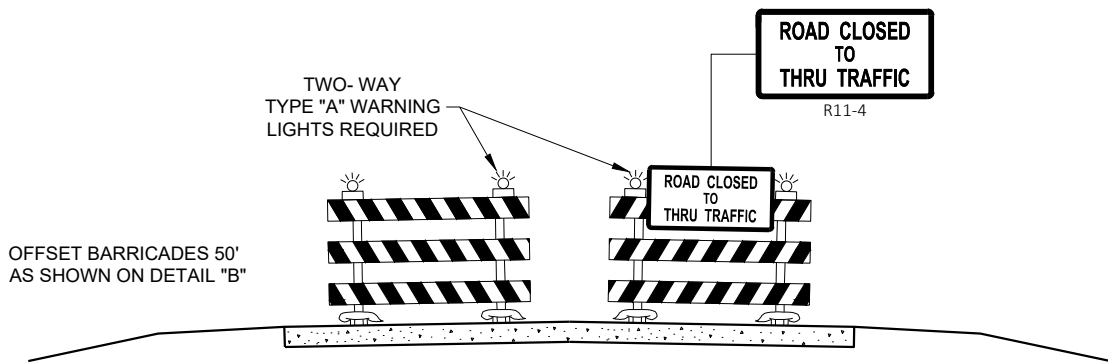
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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"

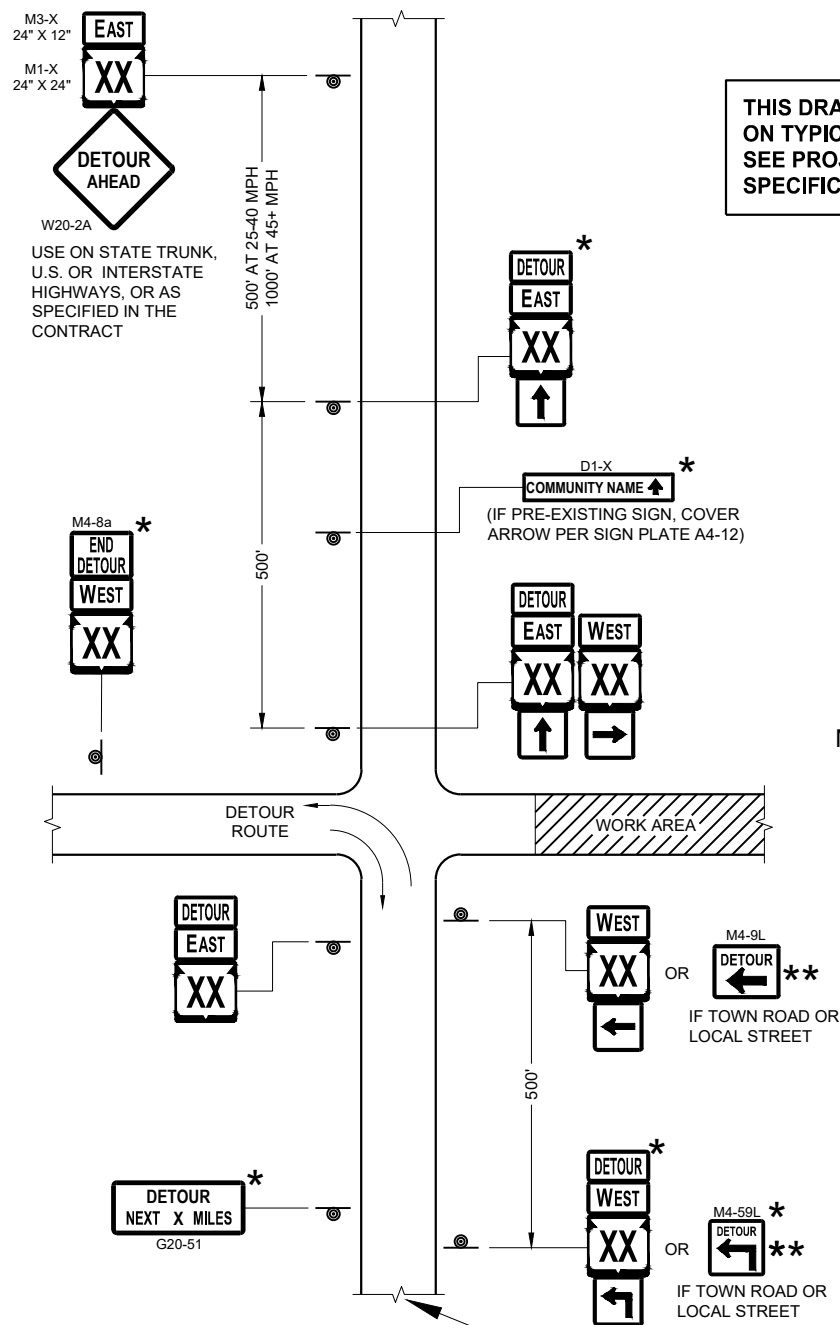
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS 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

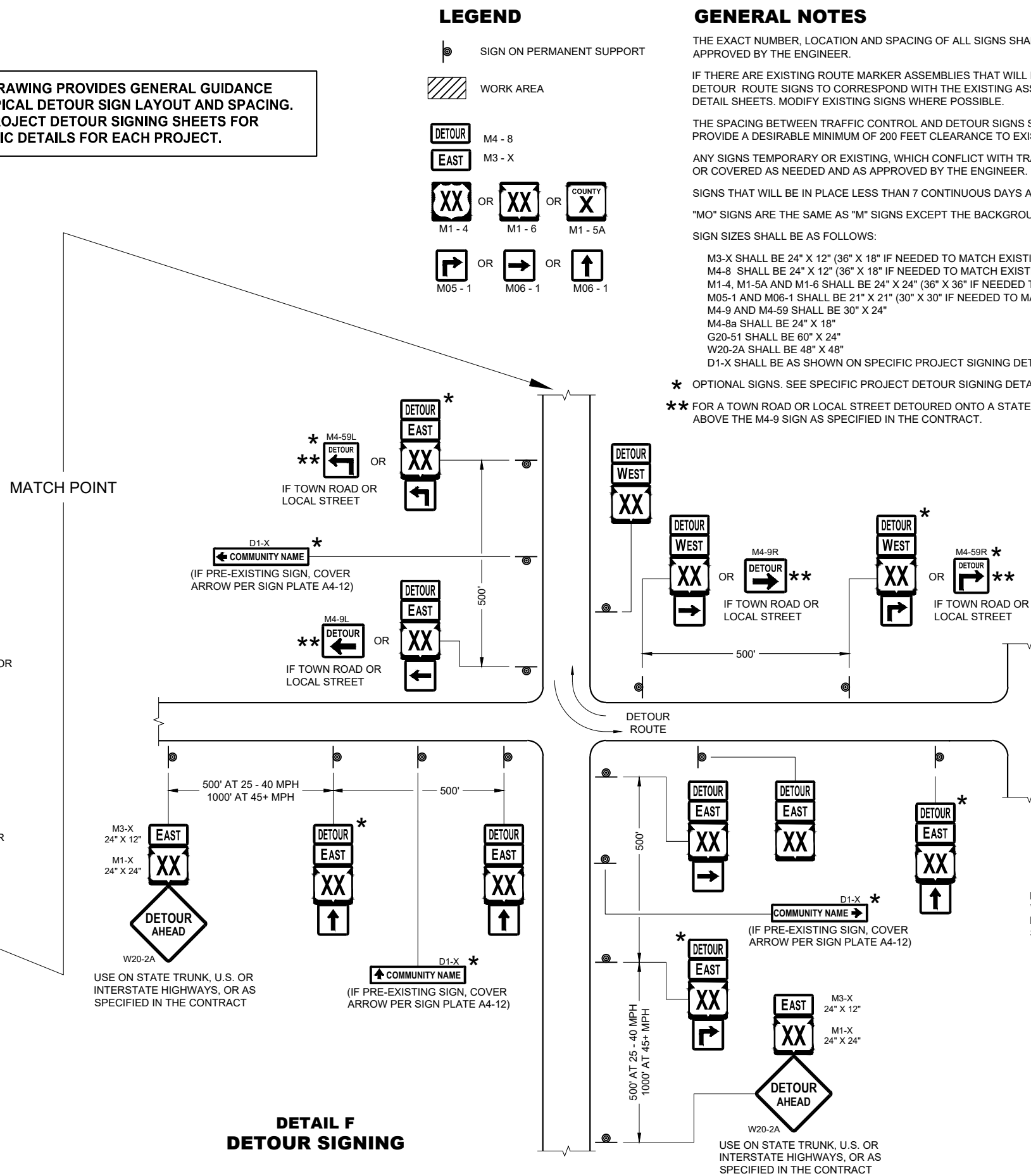
FHWA



**THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.**

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

SDD 15C02 - 09c



DETAIL F DETOUR SIGNING

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

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)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A SHALL BE 48" X 48"
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

**** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.**

DETOUR SIGNING FOR MAINLINE CLOSURES

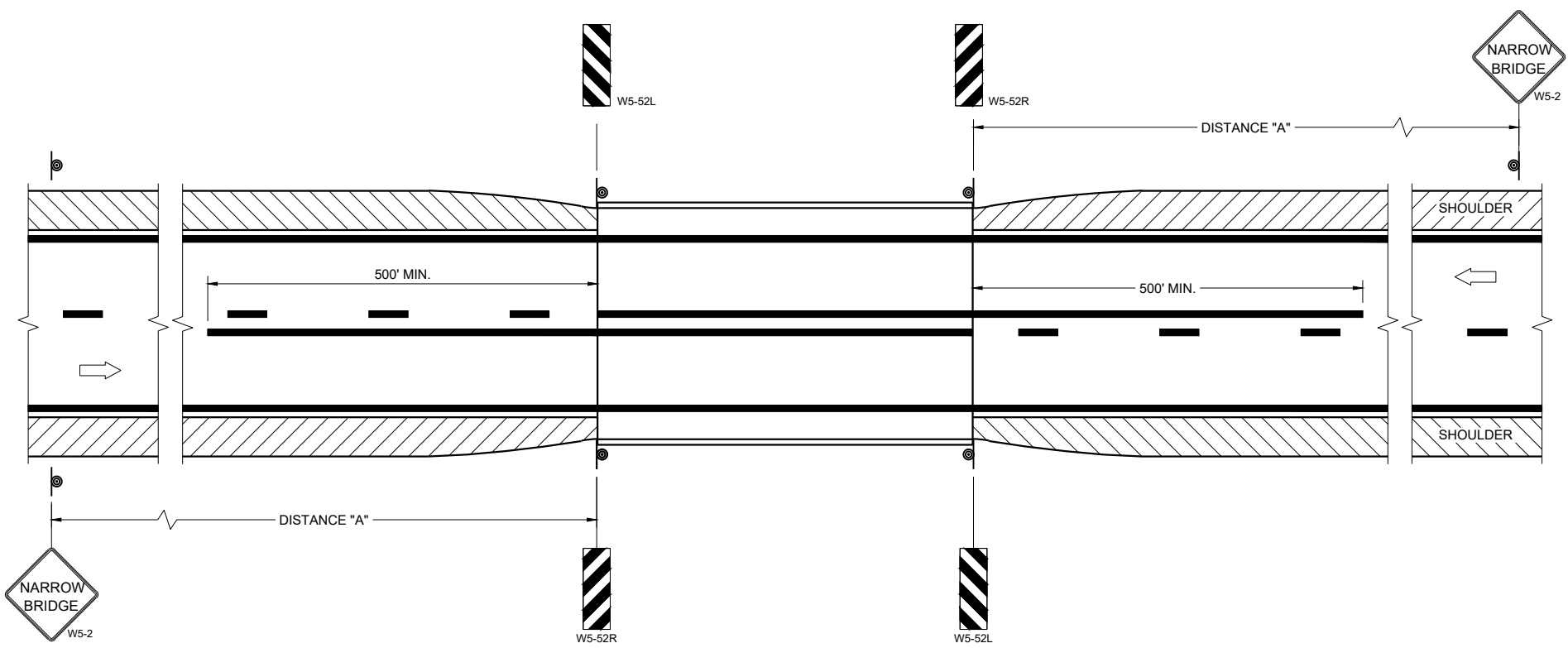
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

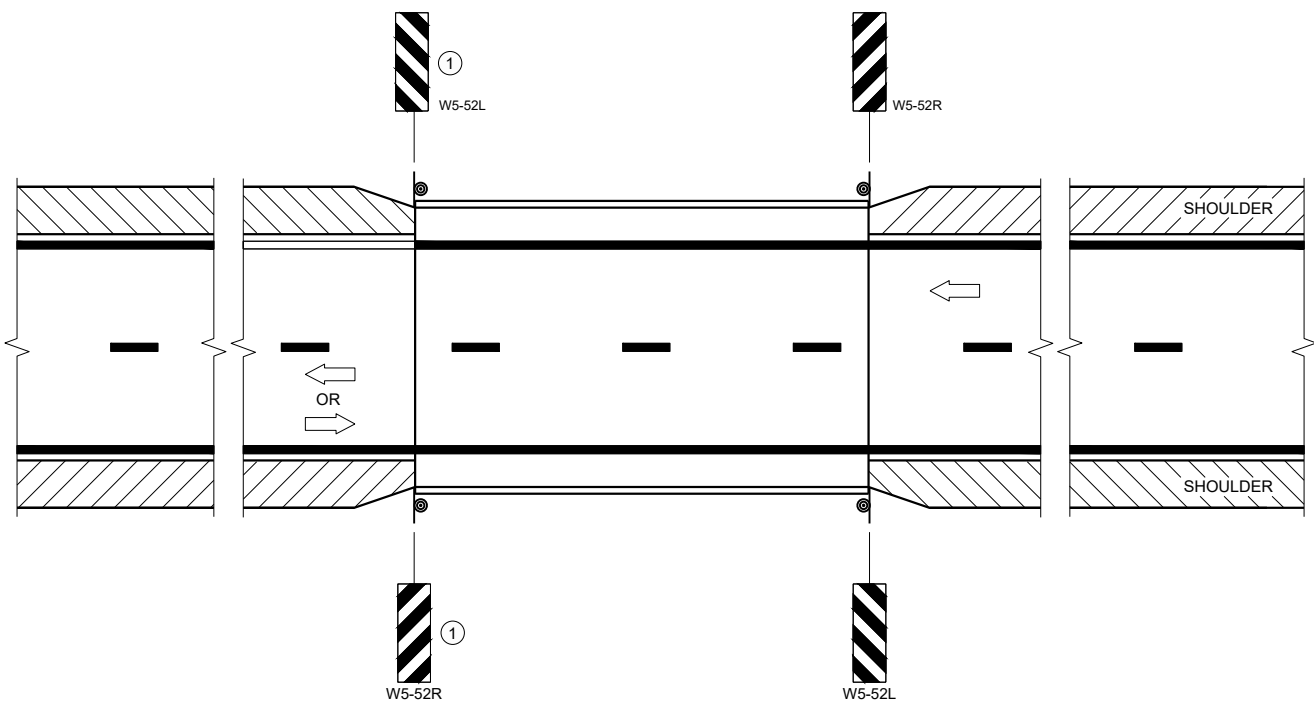
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD15C02 - 09c



SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2
WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

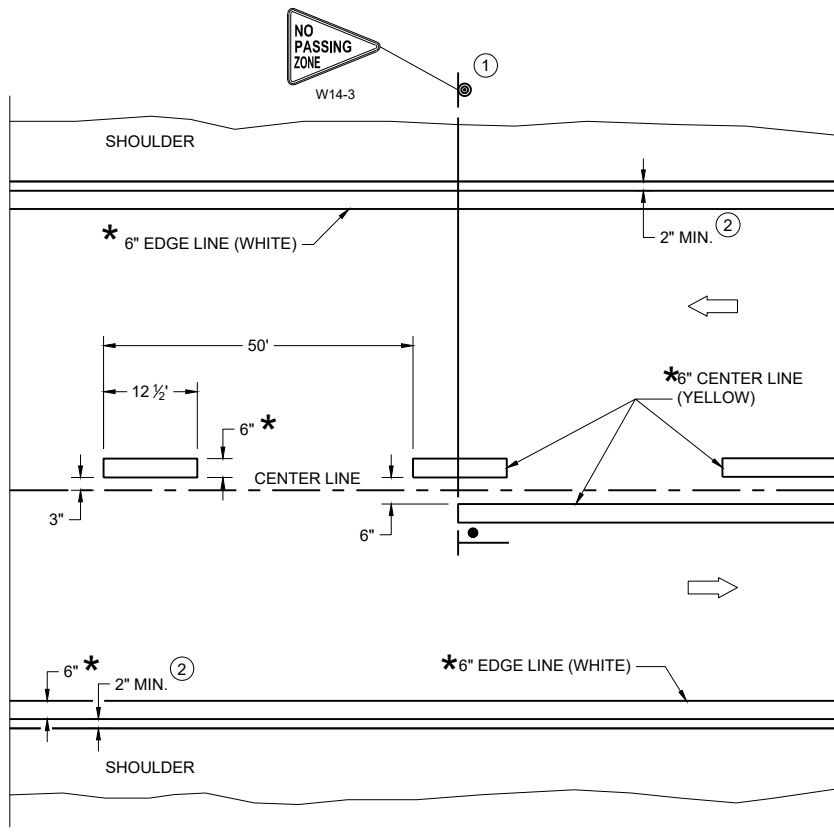
DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

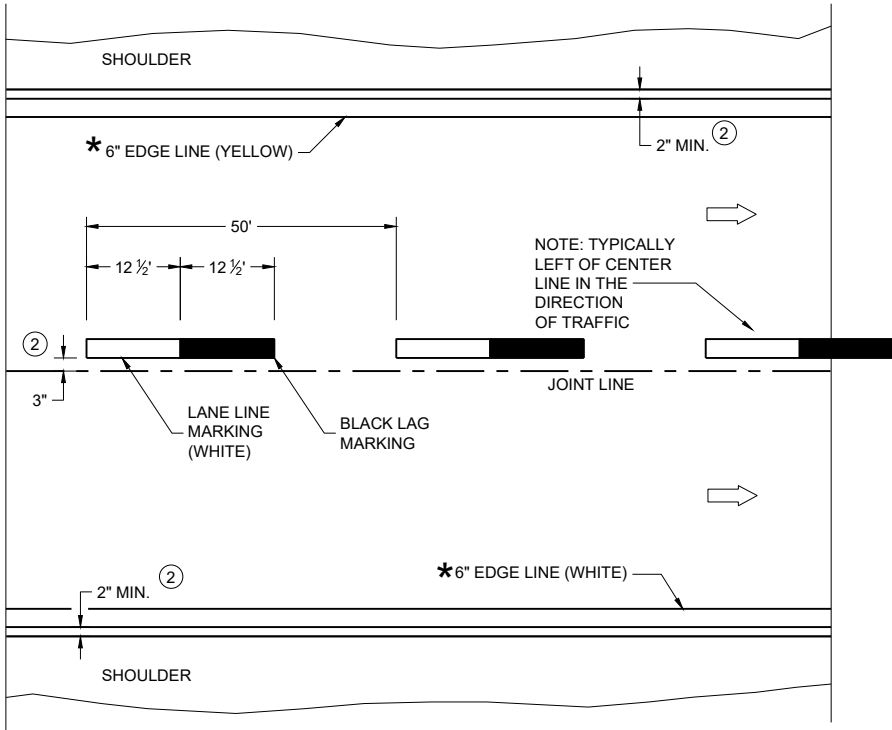
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

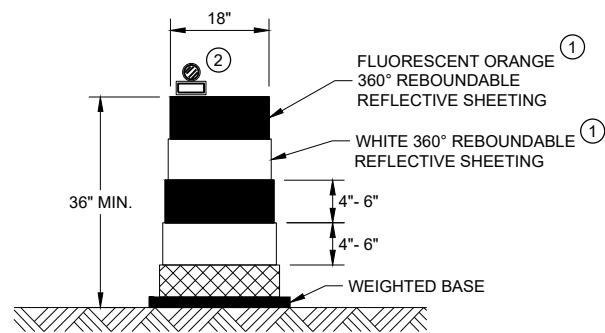
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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

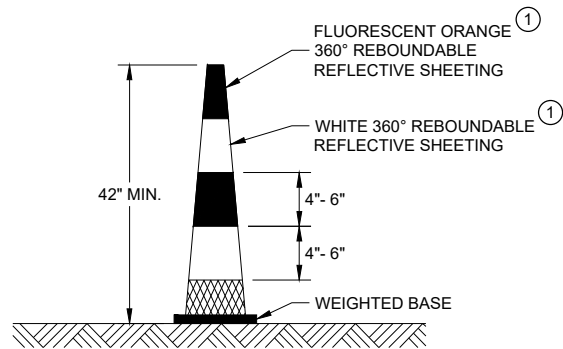
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

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



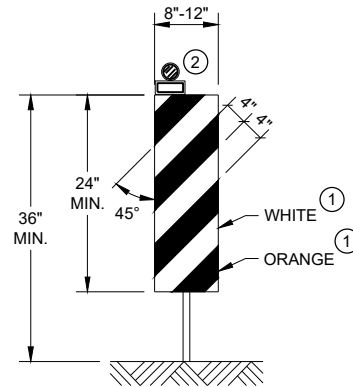
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



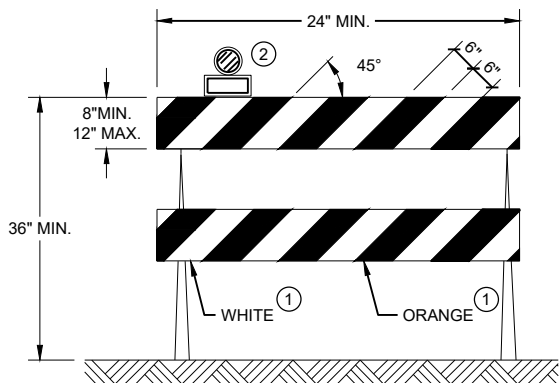
42" CONE

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



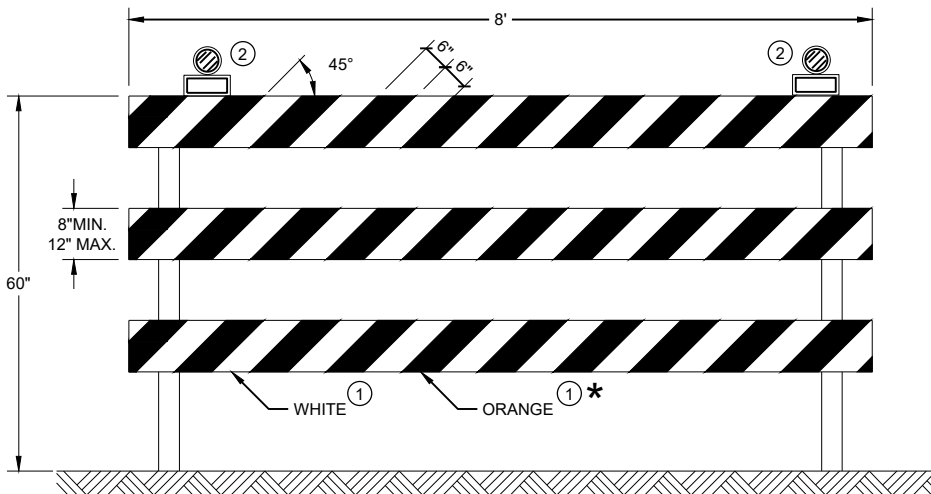
VERTICAL PANEL

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.

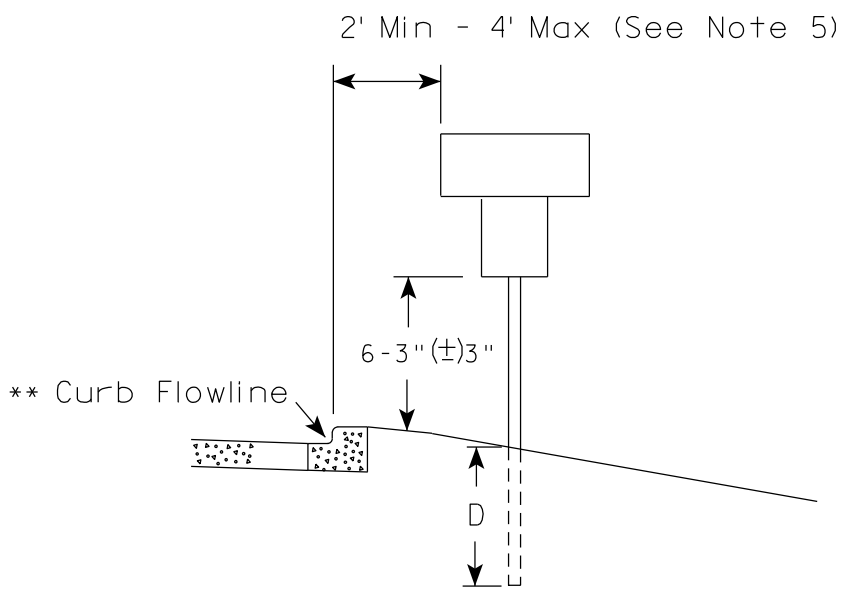
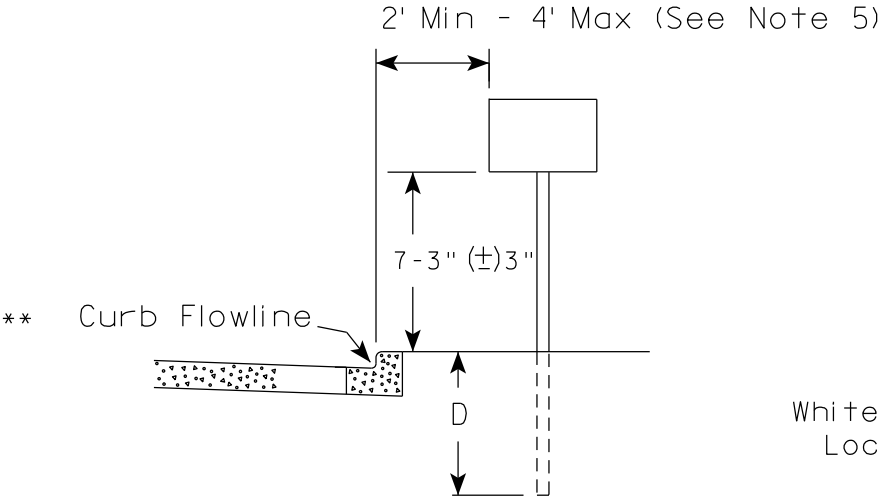
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

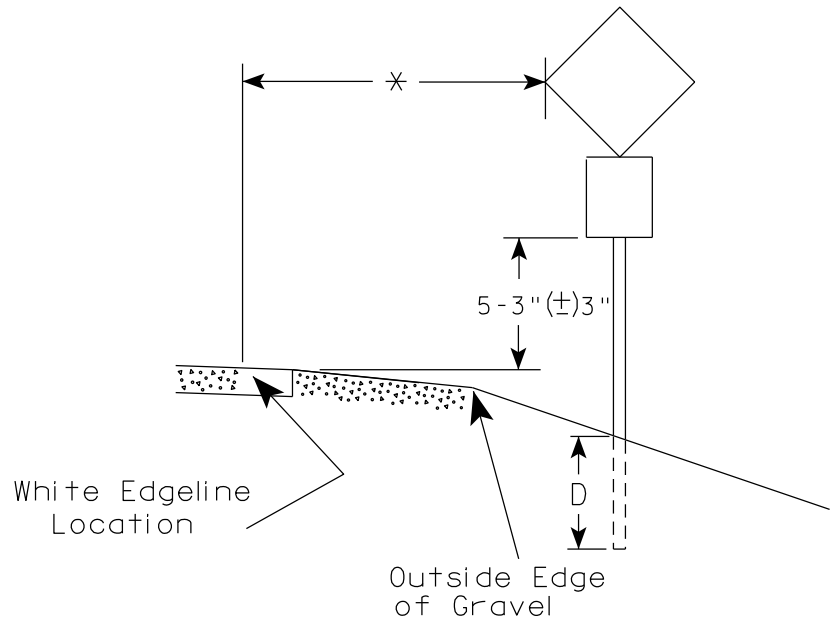
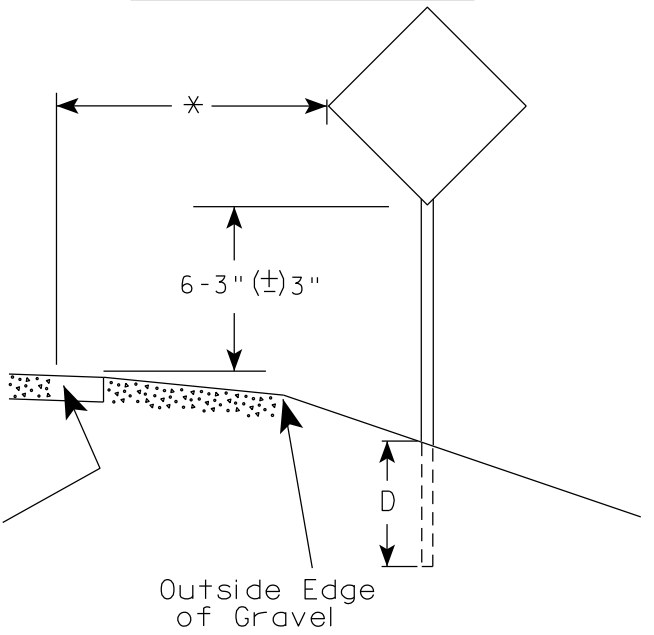
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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'

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

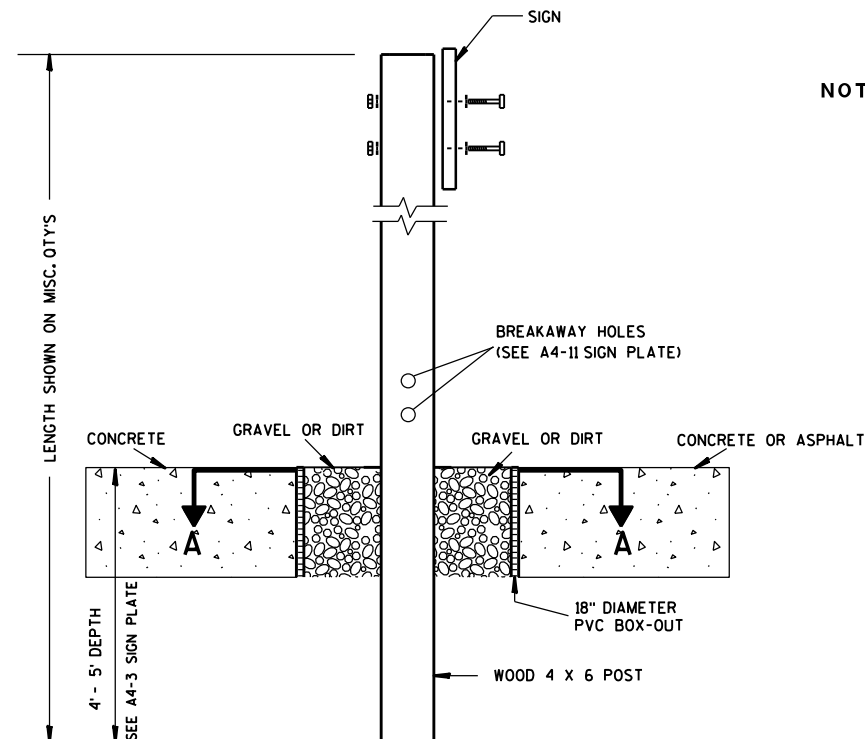
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

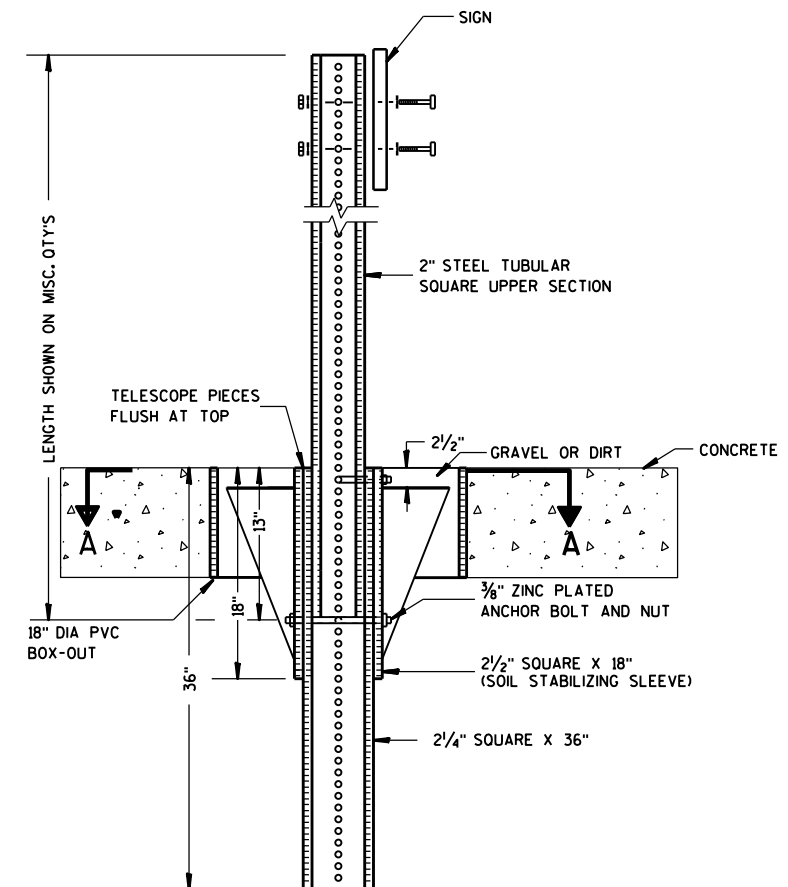
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

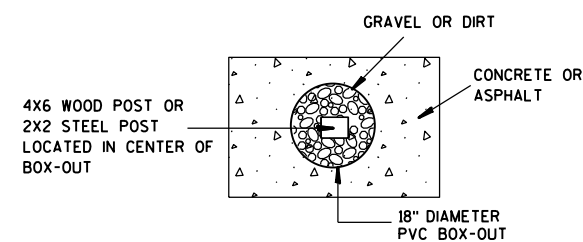
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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:

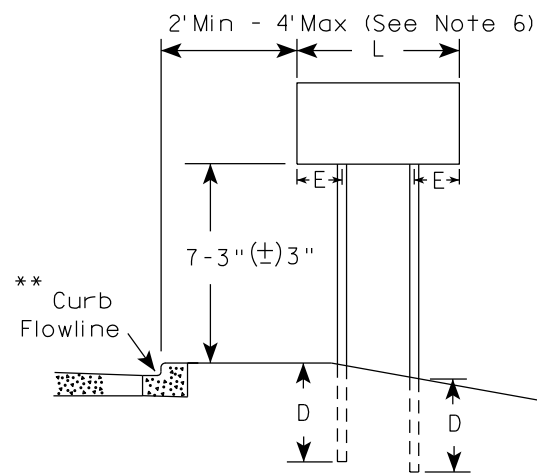
HWY:

COUNTY:

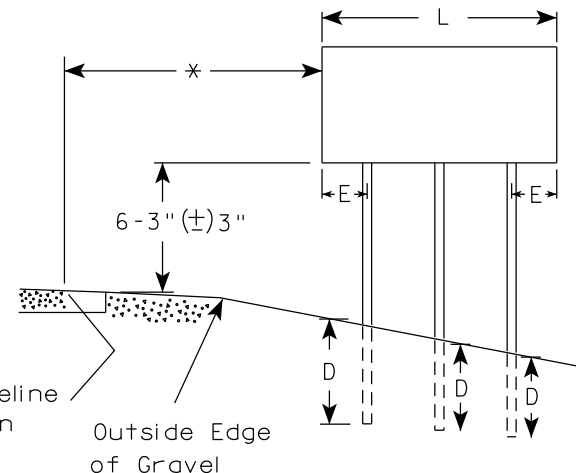
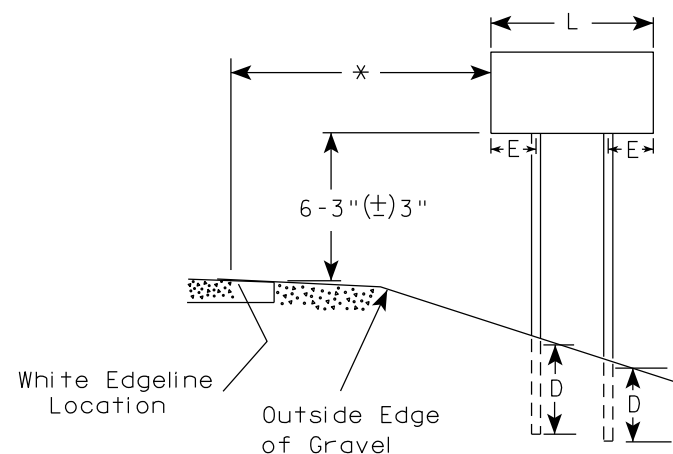
SHEET NO:

E

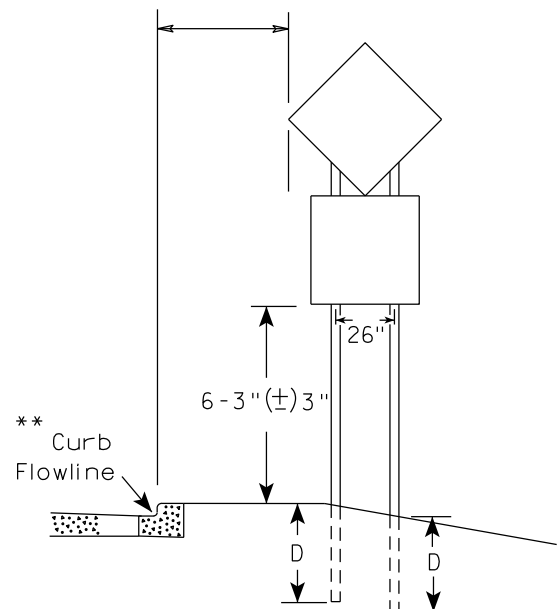
URBAN AREA



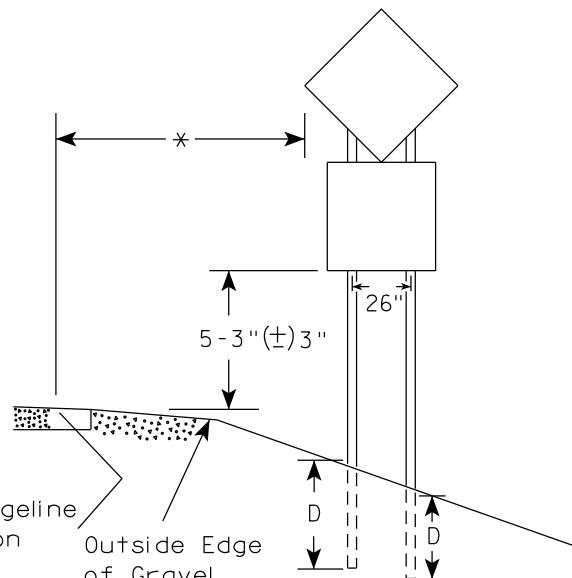
RURAL AREA (See Note 3)



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

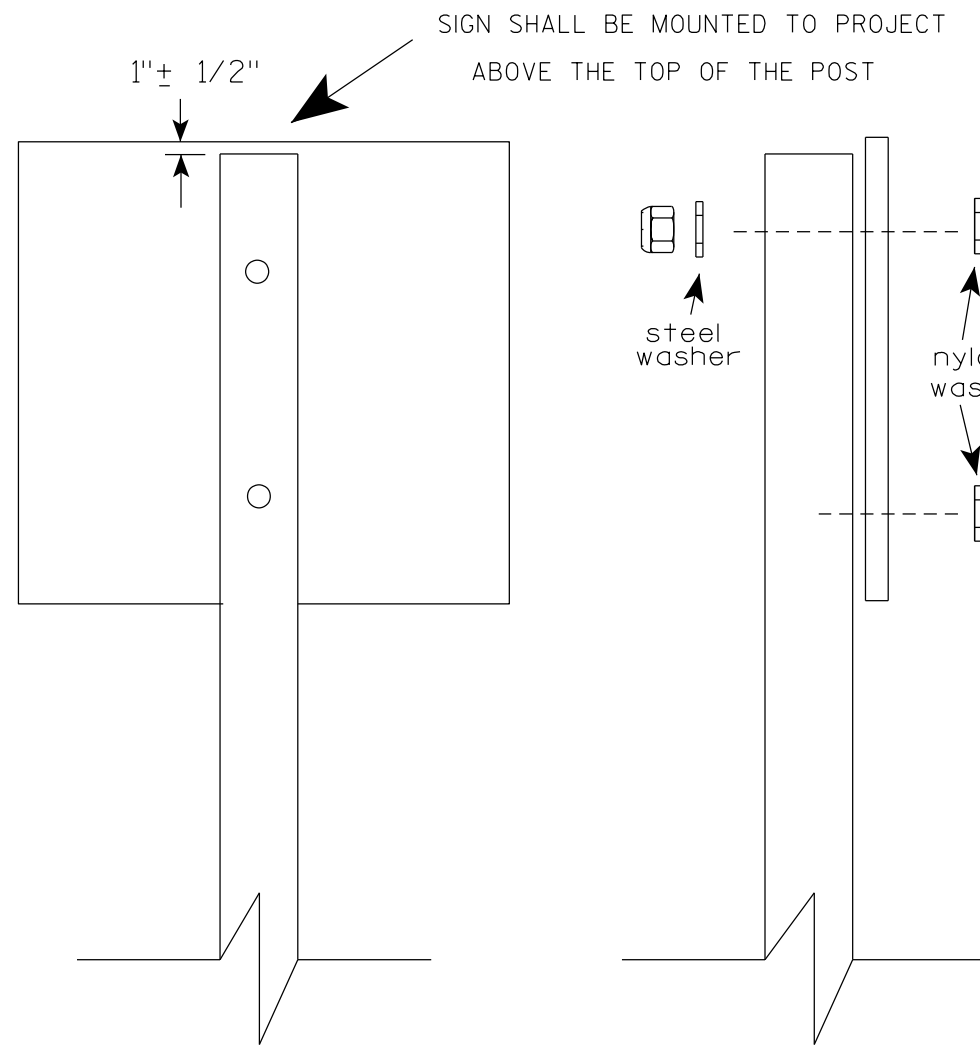
GENERAL NOTES

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

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

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

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



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.

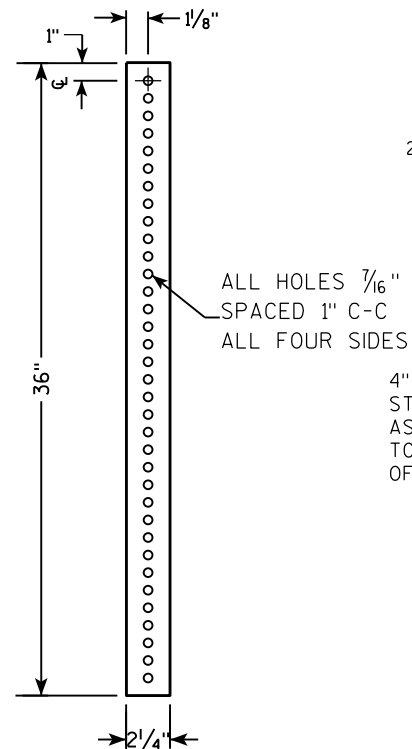
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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

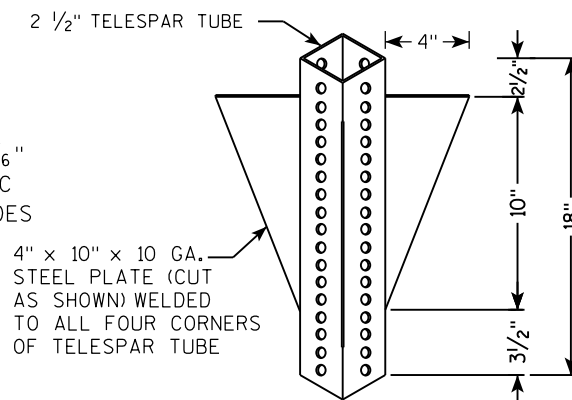
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

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



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



LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

18" DIA SCHEDULE 40 PVC BOX-OUT

36"

18"

13"

2"

2 1/2"

2 1/4" SQUARE X 36"

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT

3/8" ZINC PLATED ANCHOR BOLT AND NUT

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

SIGN

GRAVEL OR DIRT

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

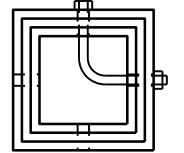
2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

SIGN

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthieu R. Rauch

for State Traffic Engineer

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

PROJECT NO:

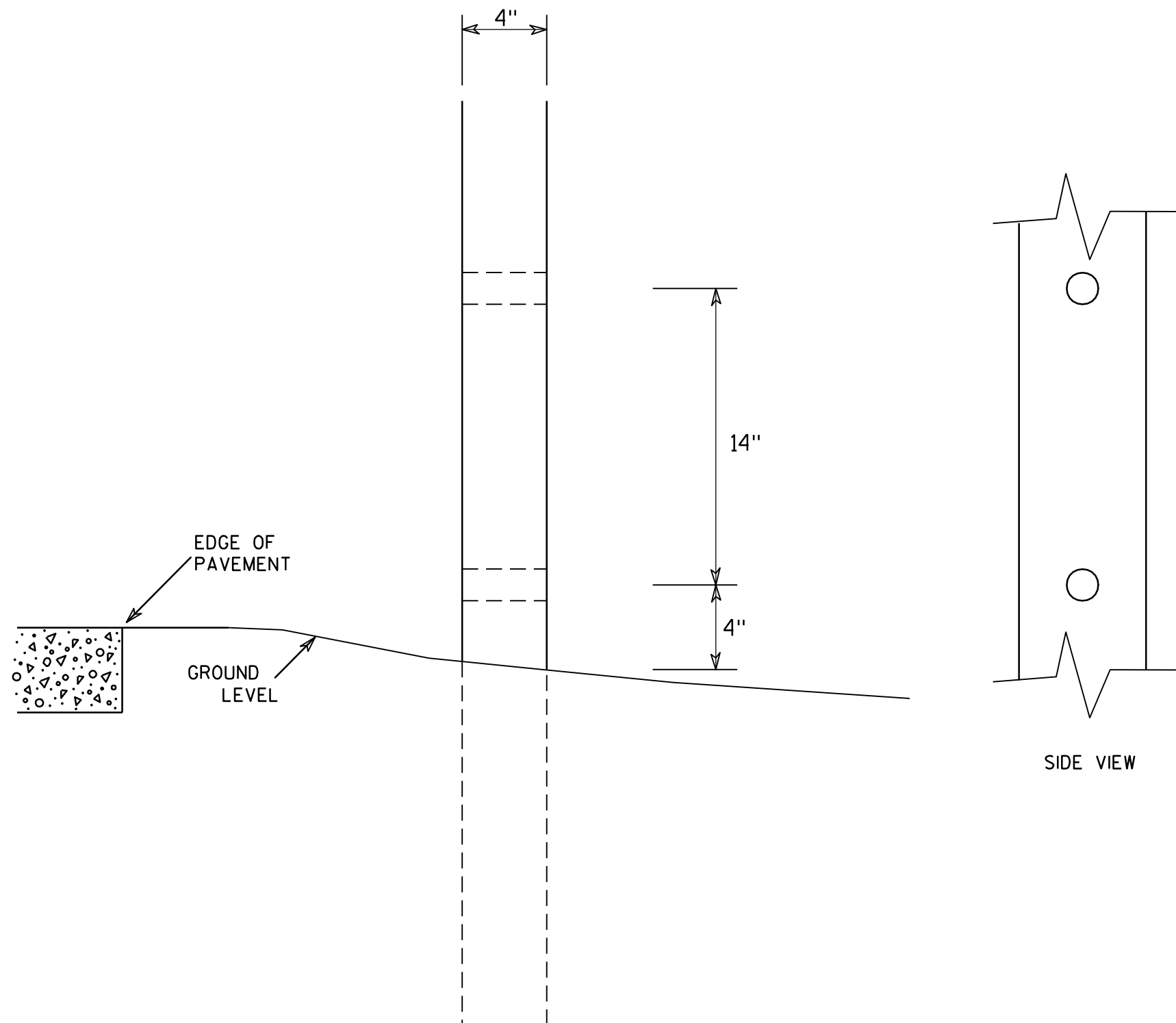
HWY:

COUNTY:

SHEET NO:

11

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:

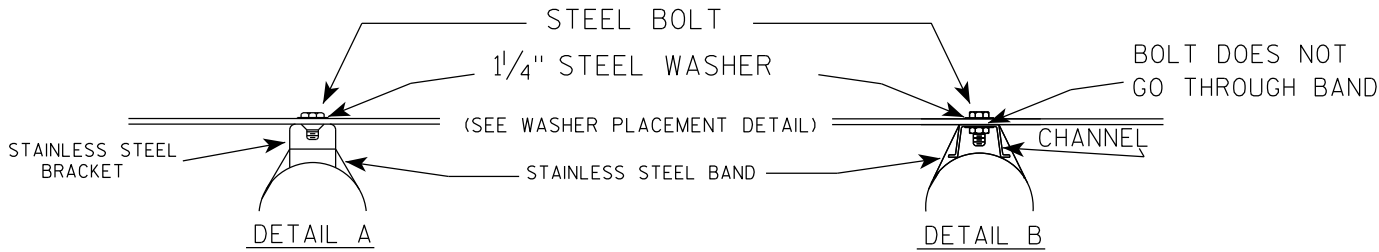
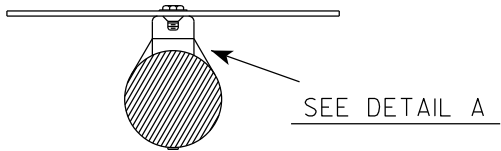
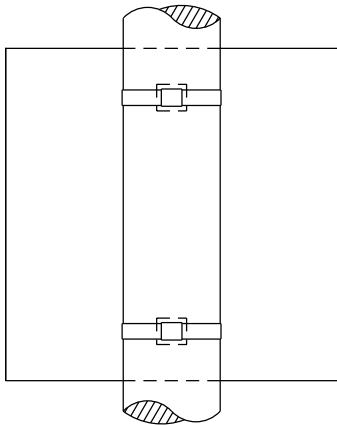
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SHEET NO:

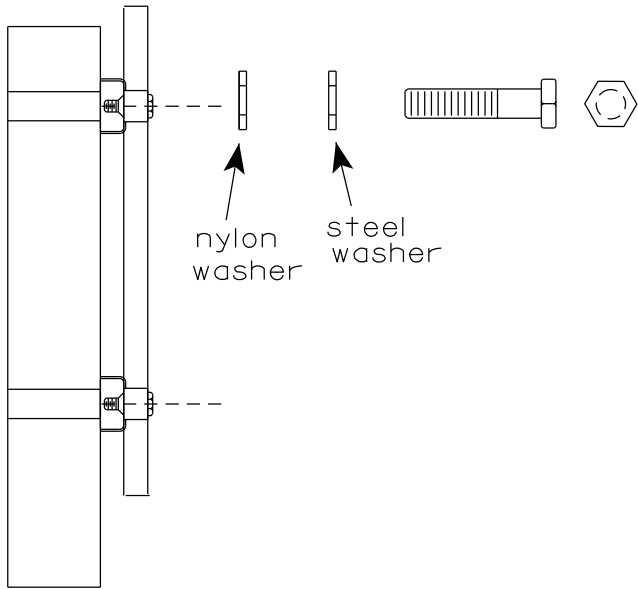
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

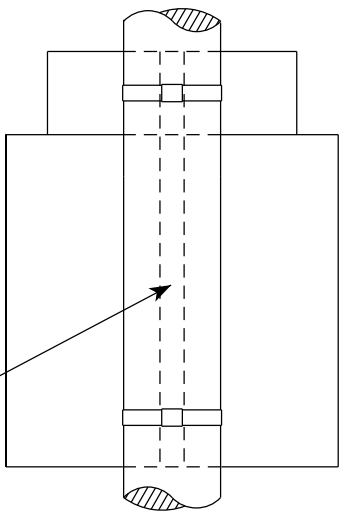


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

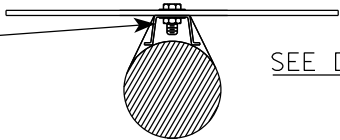
GENERAL NOTES

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



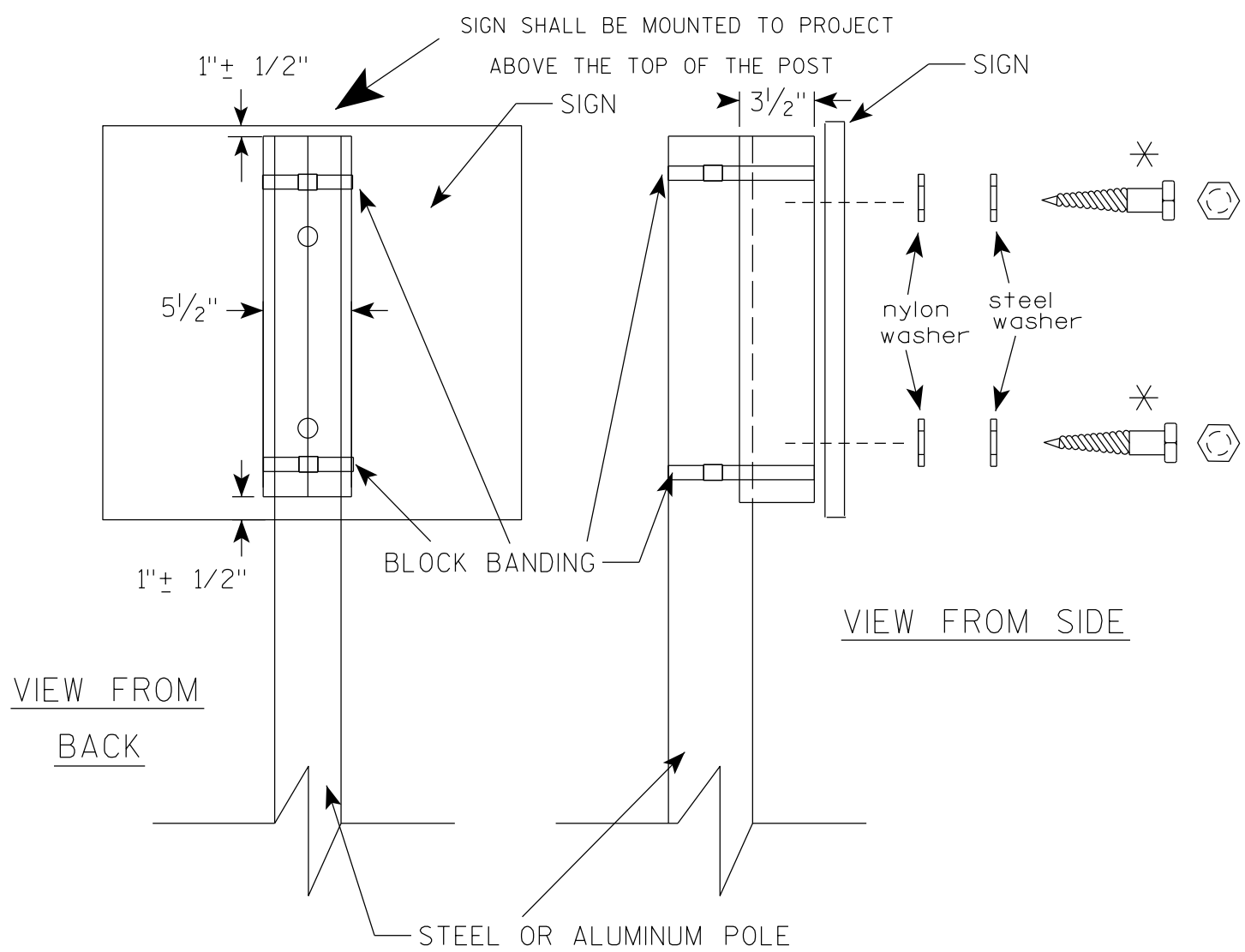
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

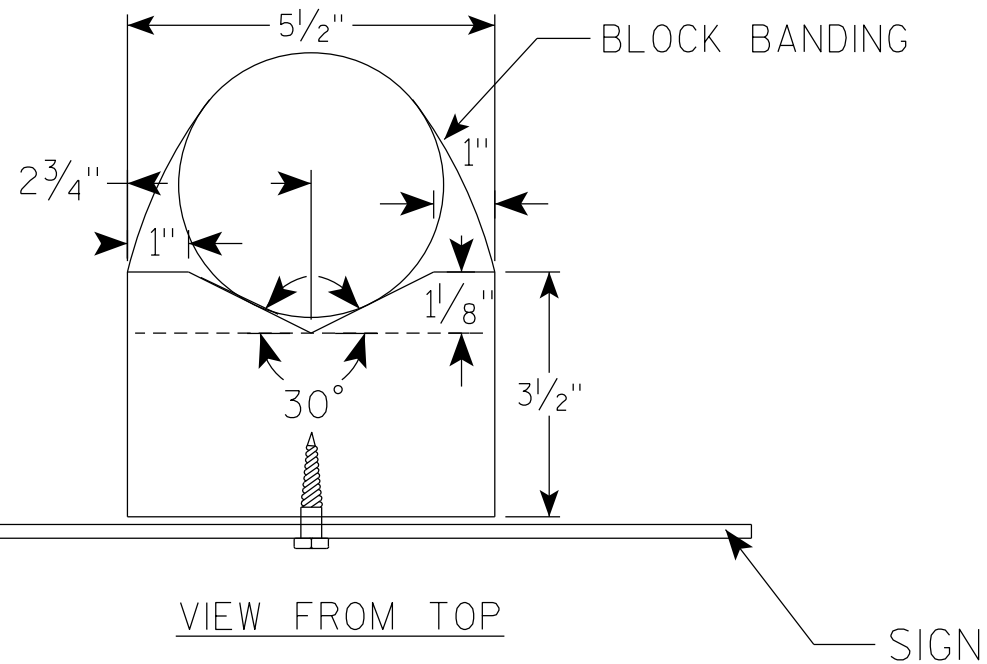
WISCONSIN DEPT OF TRANSPORTATION

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

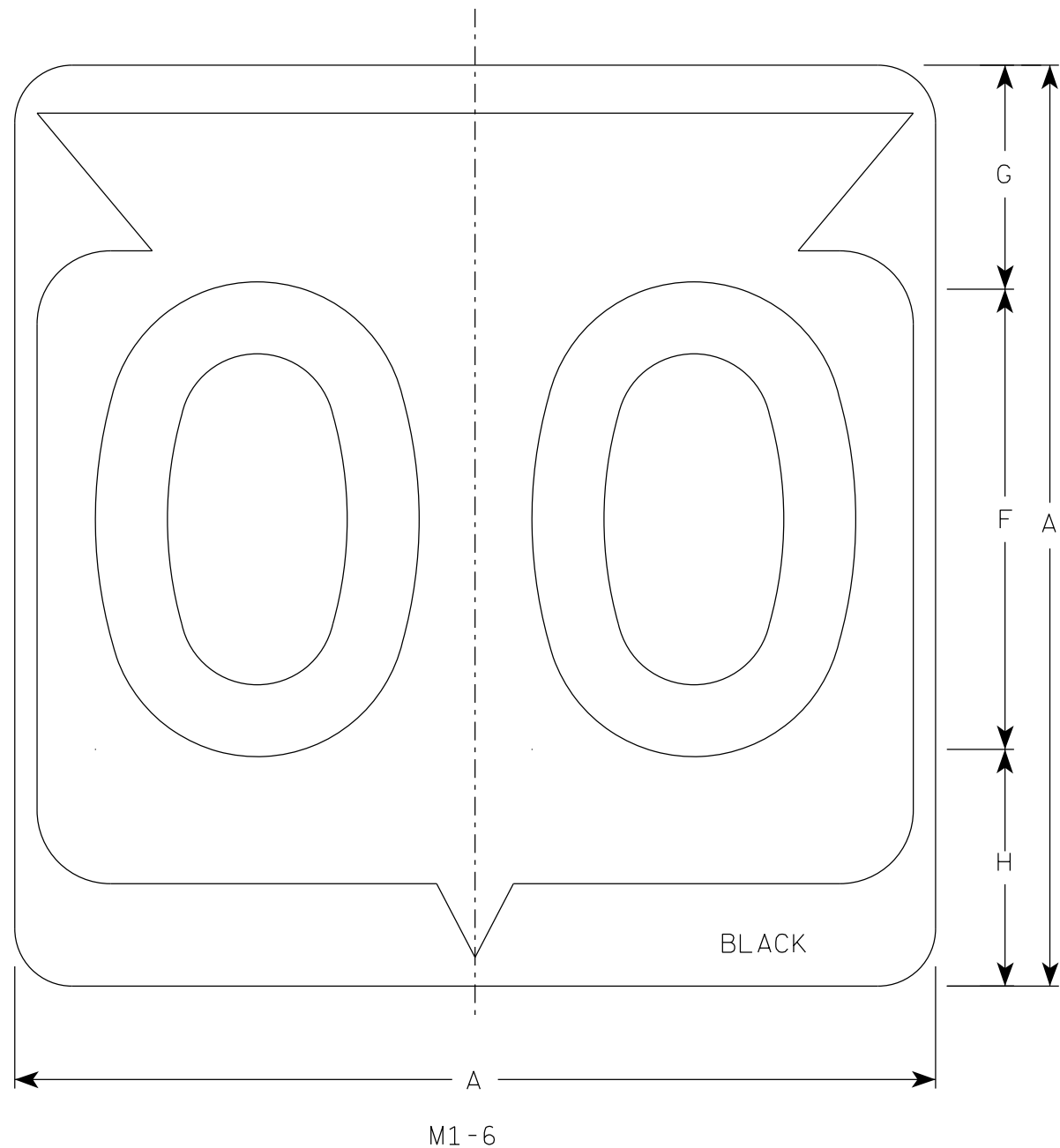
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO:

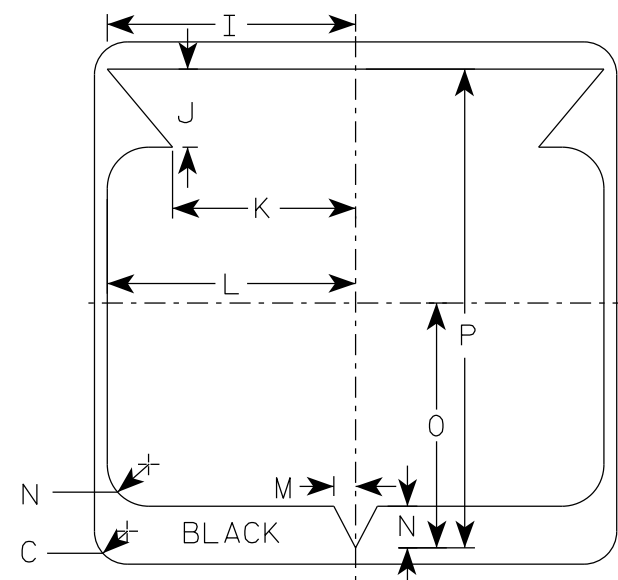
E

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C



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																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

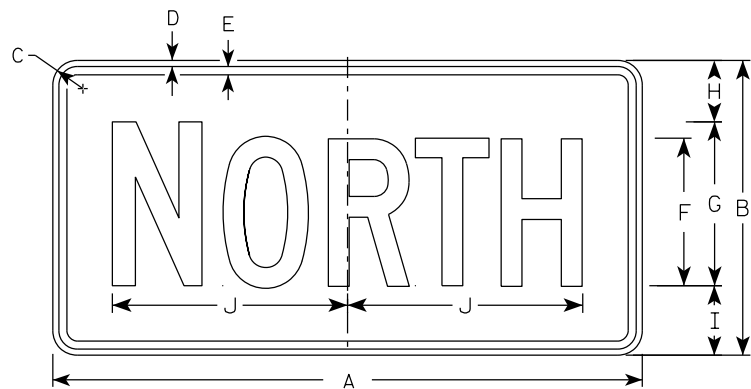
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

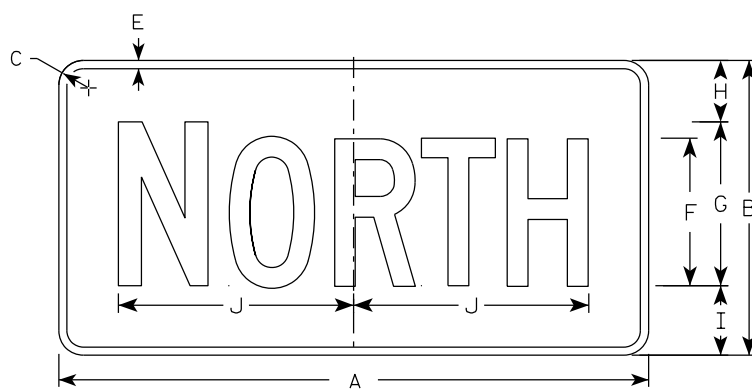
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

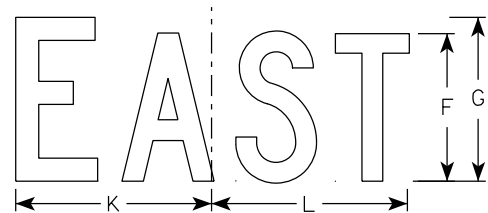
PROJECT NO: HWY: COUNTY: SHEET NO: **E**



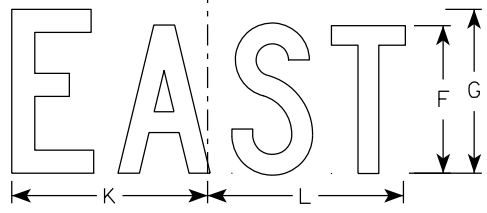
M3-1
MM3-1
MP3-1



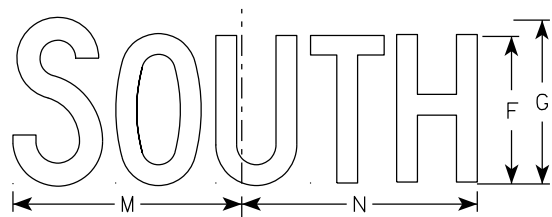
MB3-1
MK3-1
MN3-1



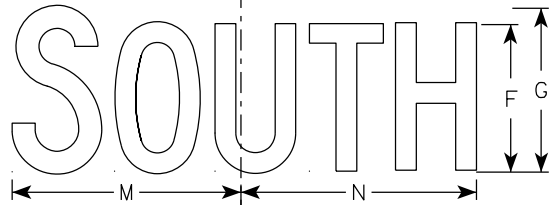
M3-2
MM3-2
MP3-2



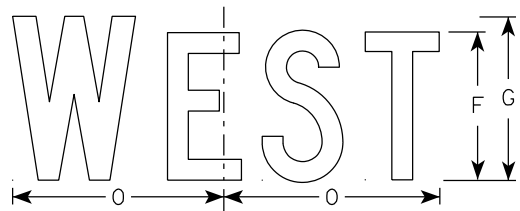
MB3-2
MK3-2
MN3-2



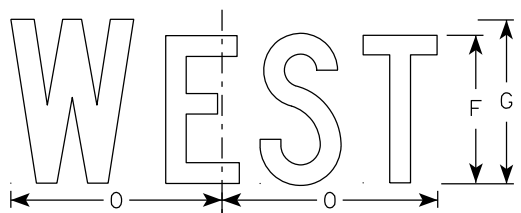
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

- All Signs Type II - Type H Reflective
- Color:
Background - See note 5
Message - See note 5
- Message Series - C
- 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.
- M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.

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	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
2M	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

STANDARD SIGNS M3-1 THRU M3-4 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 2/8/2023

PLATE NO. M3-1.15

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

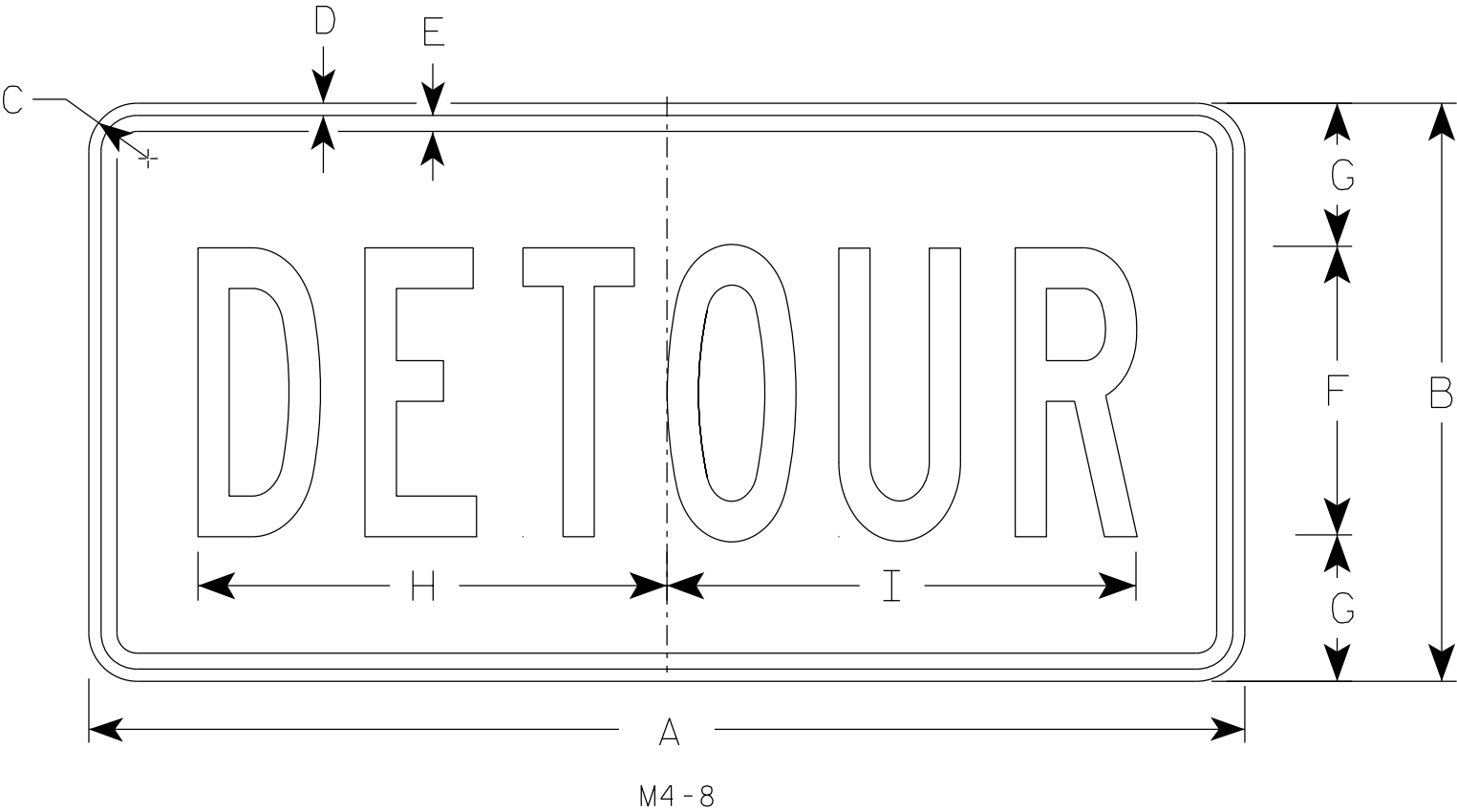
E

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - B
- 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.



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	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN

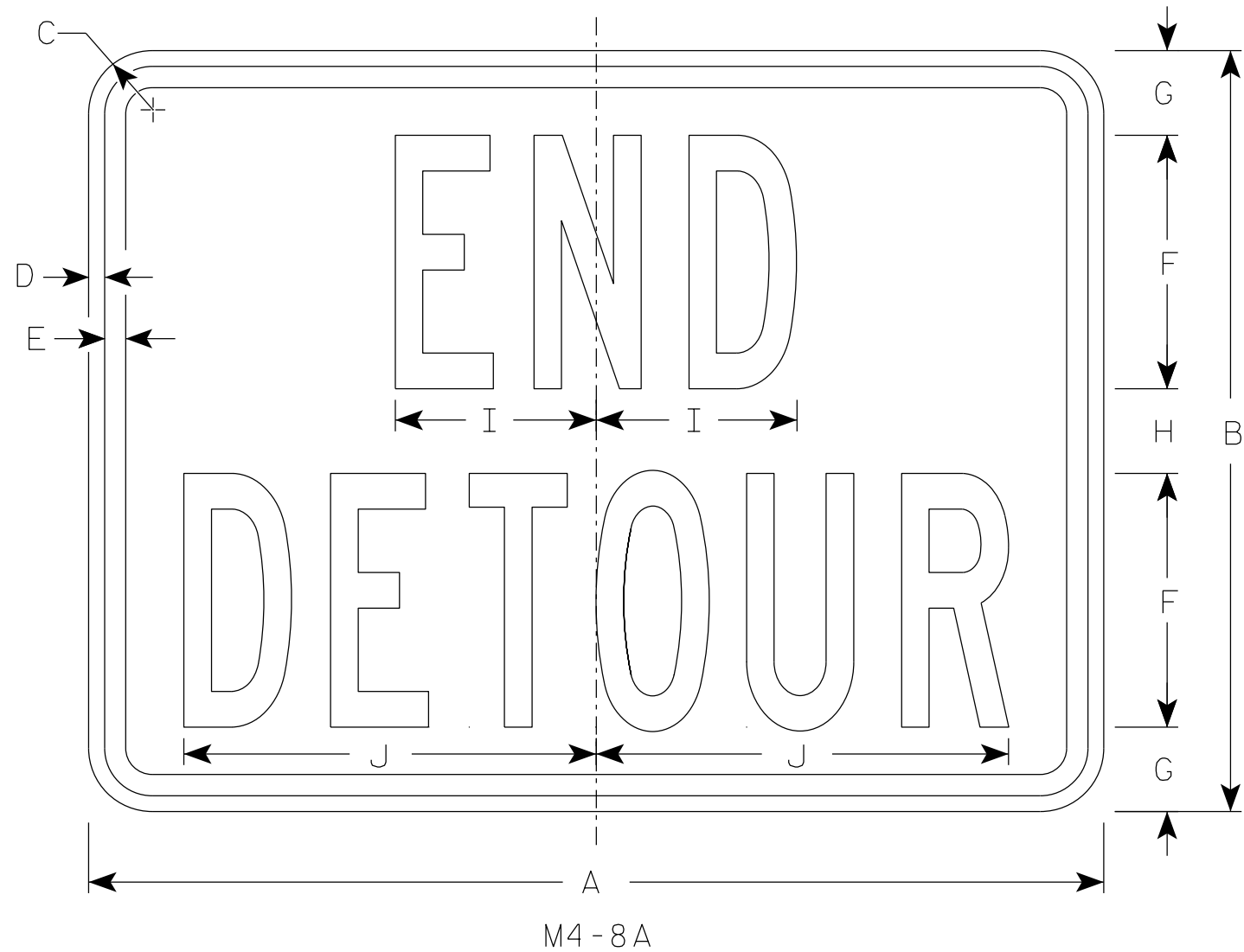
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - B
- 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.

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																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
5	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0

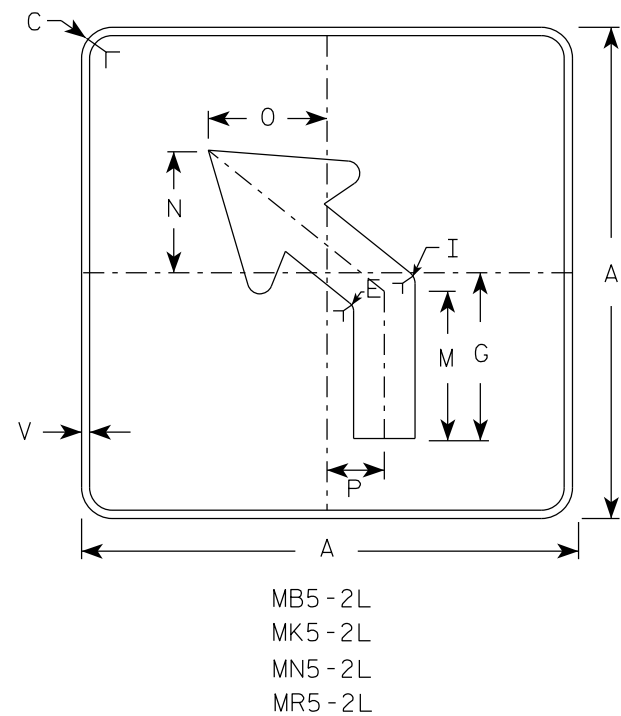
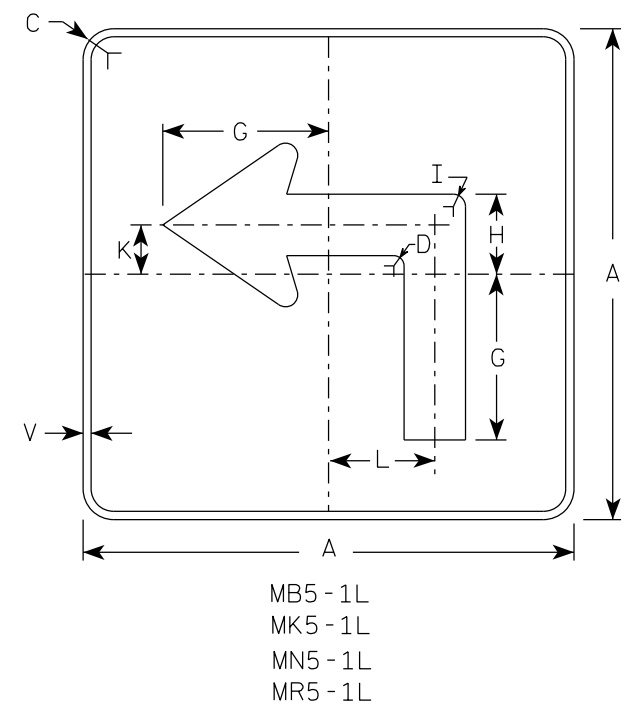
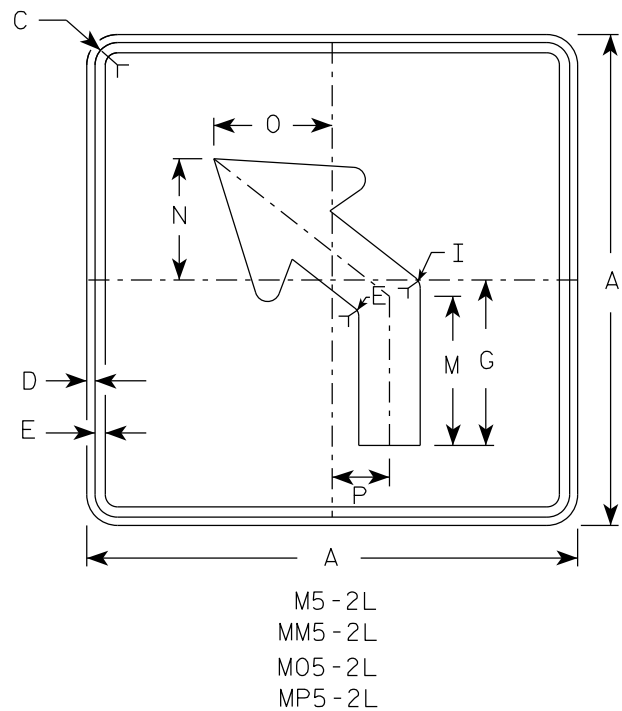
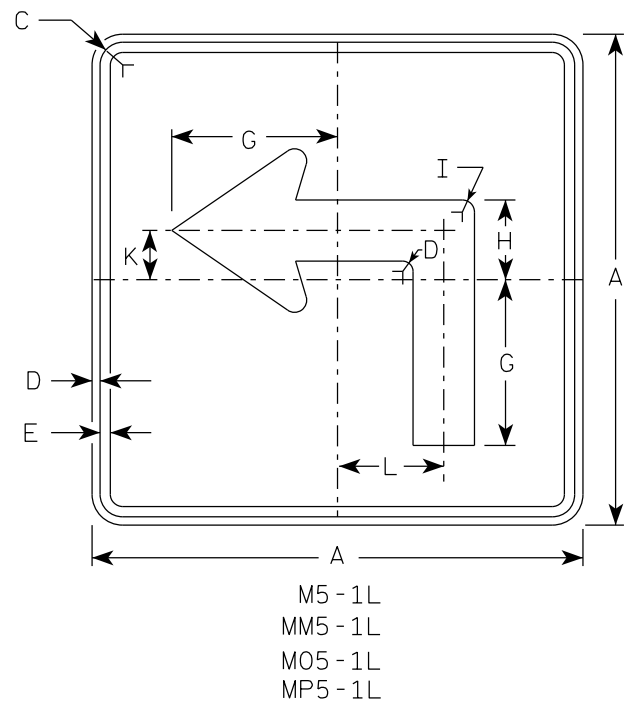
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

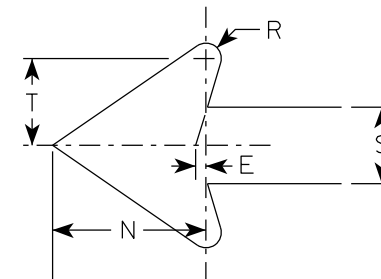
DATE 2/9/2023 PLATE NO. M4-8A.4



NOTES

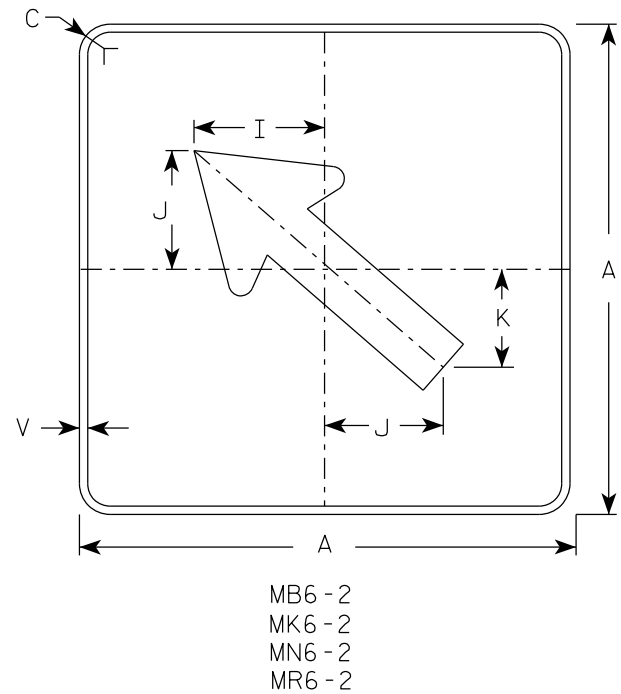
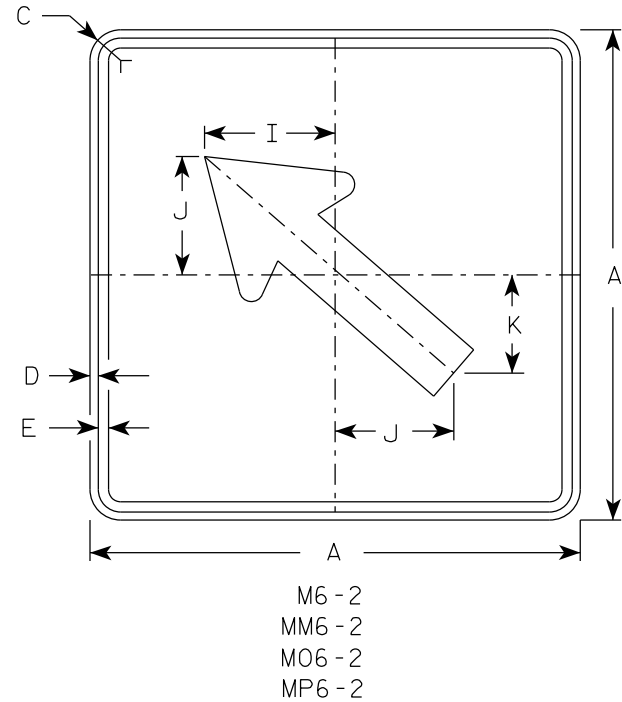
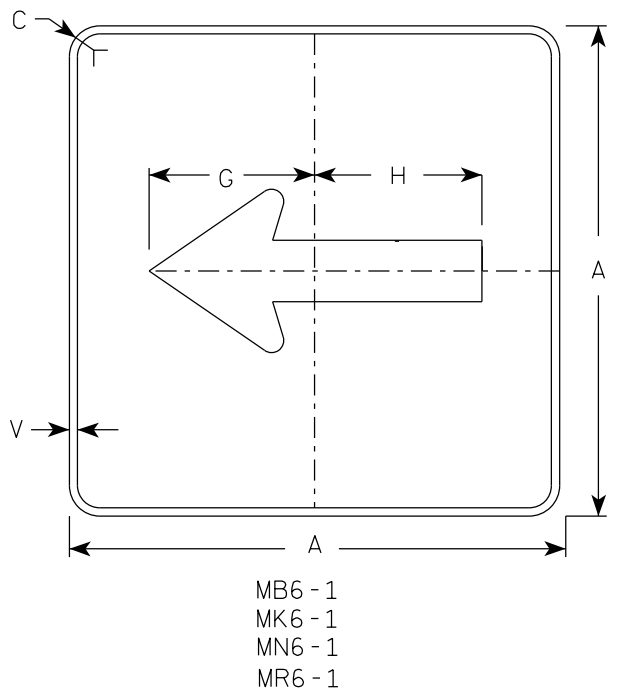
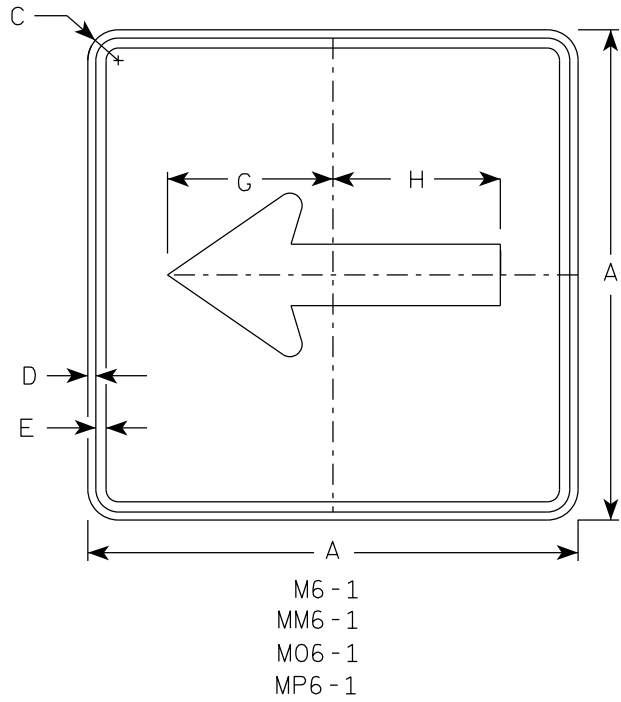
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL

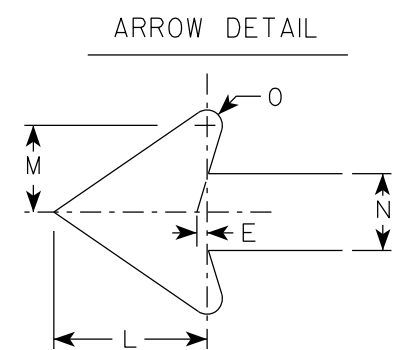


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

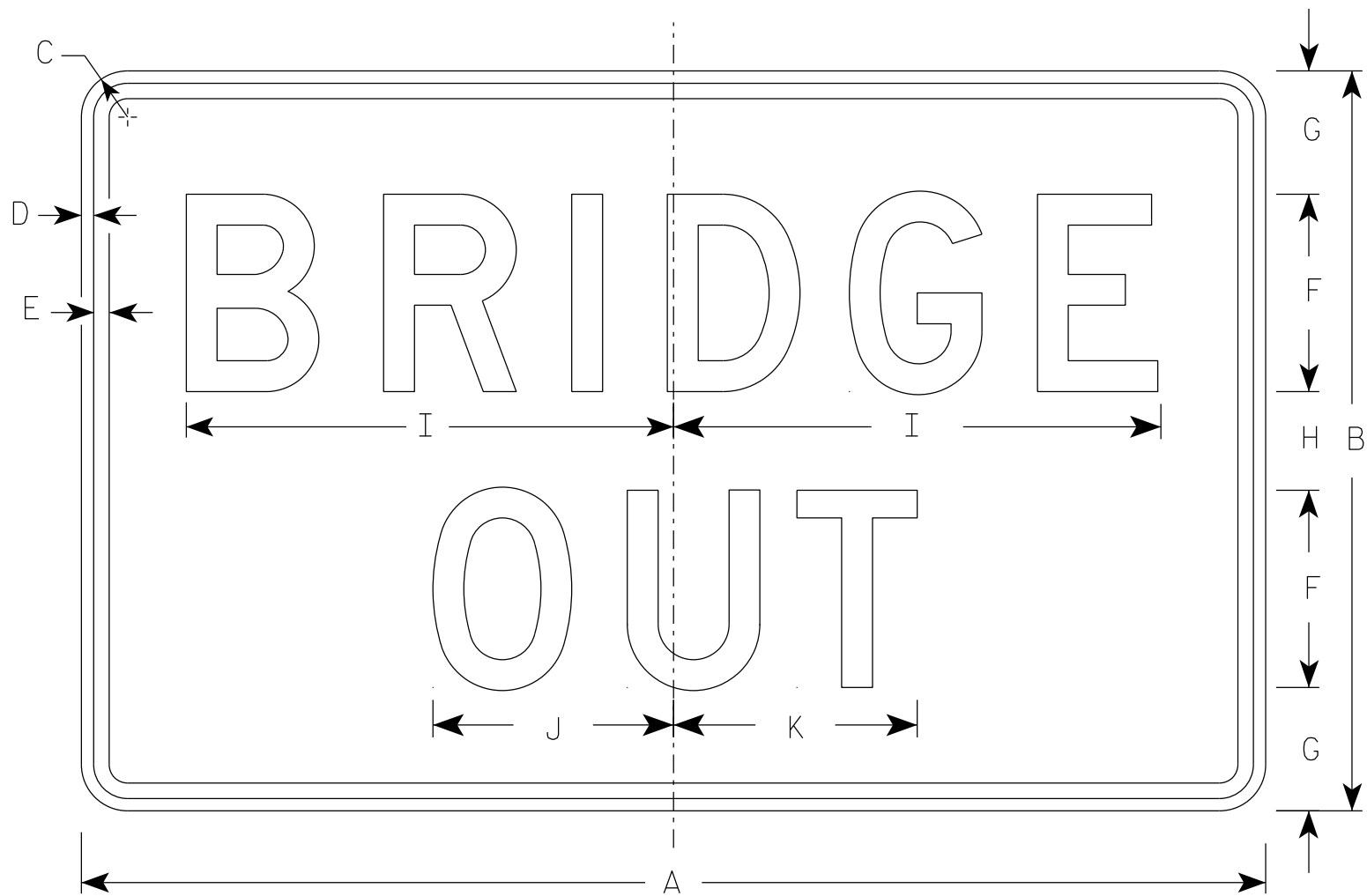
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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- NOTES
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



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	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25



R11-2B

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 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.

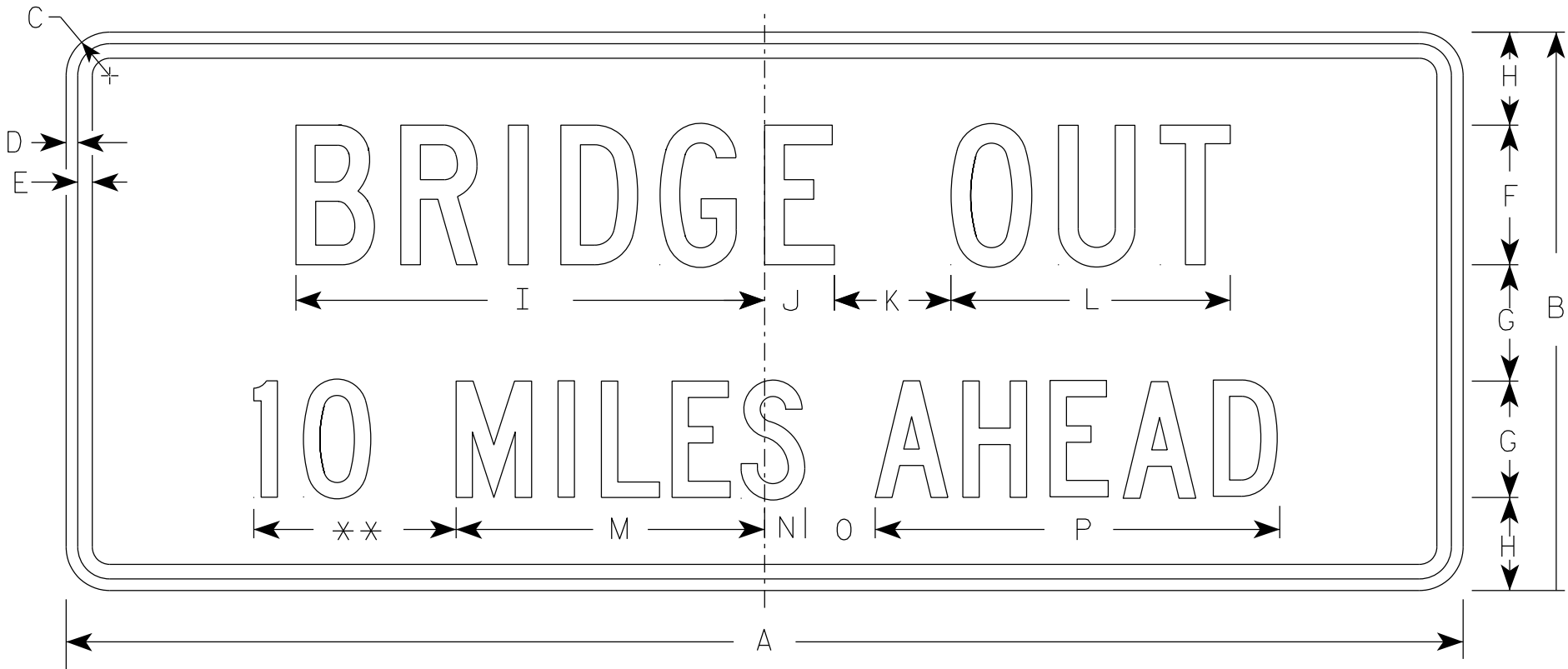
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

NOTES

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

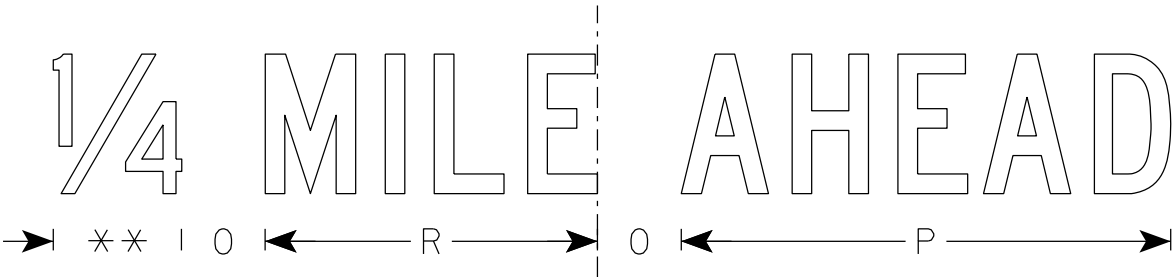
Background - White

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. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



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	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

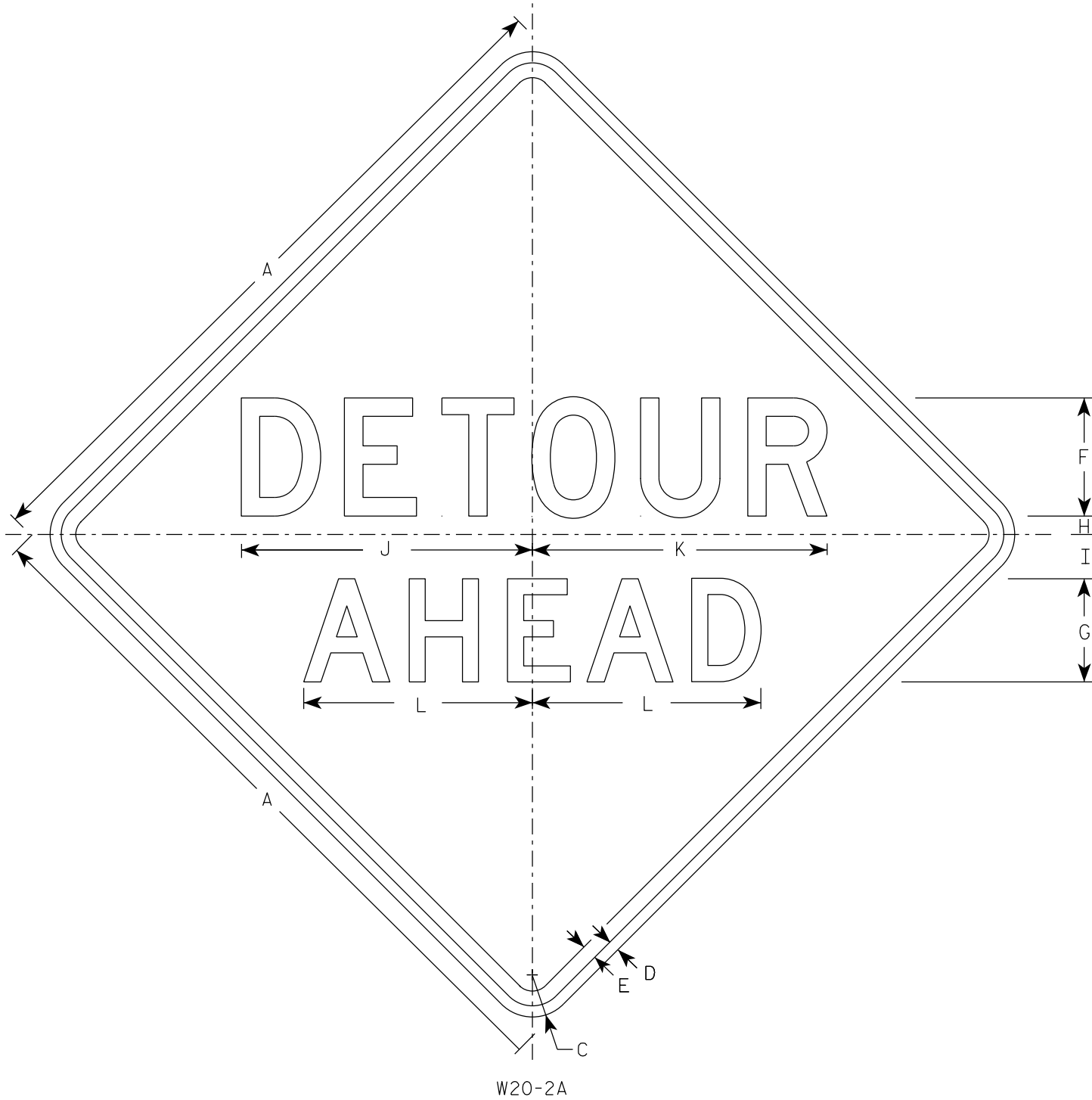
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3C.4

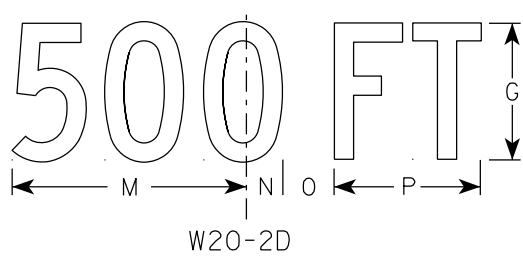
PROJECT NO:

SHEET NO:

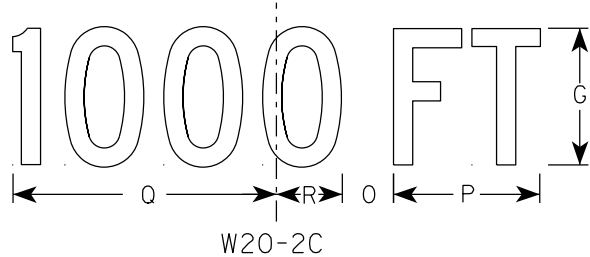
E



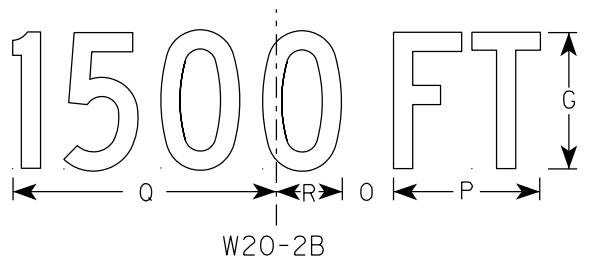
W20-2A



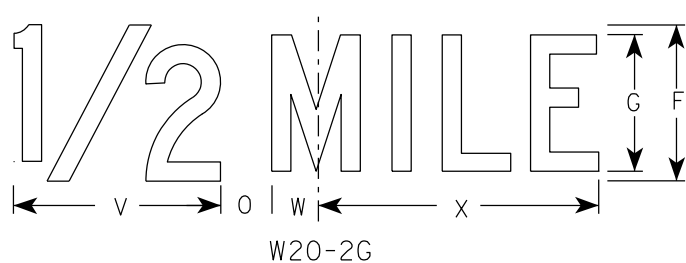
W20-2D



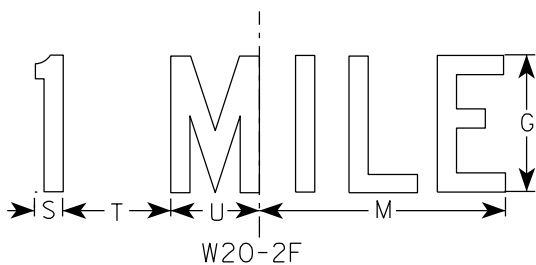
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - See note 5
- 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. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

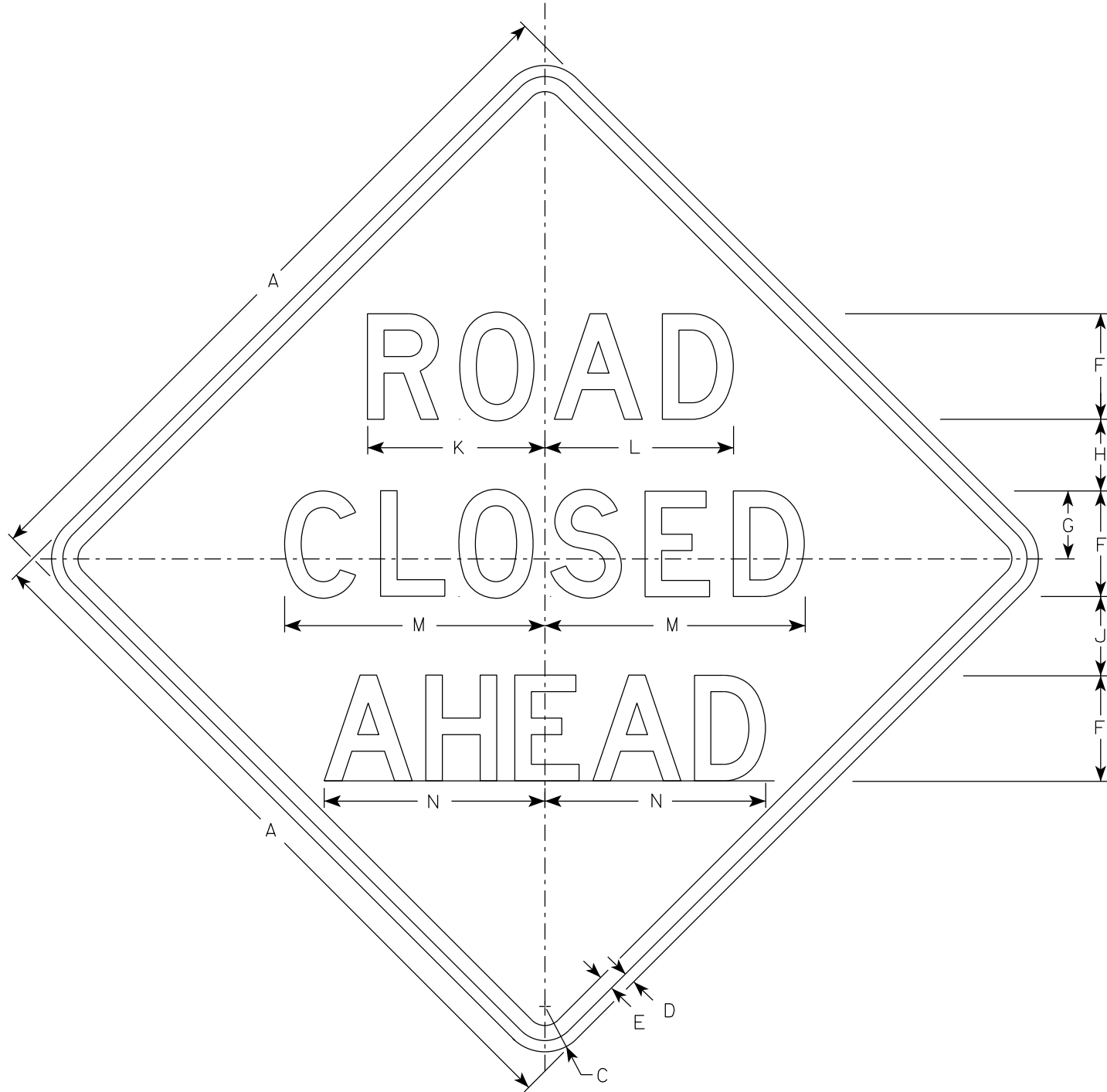
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	w	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

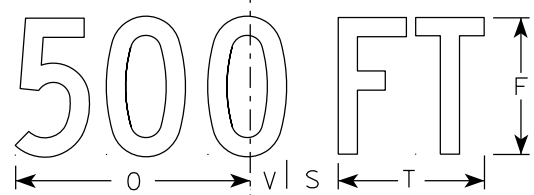
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

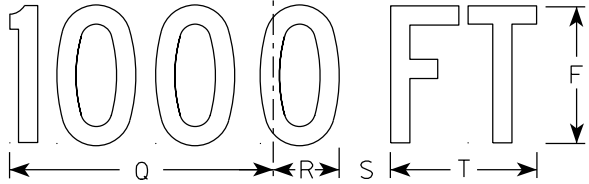
DATE 1/10/2024 PLATE NO. W20-2.7



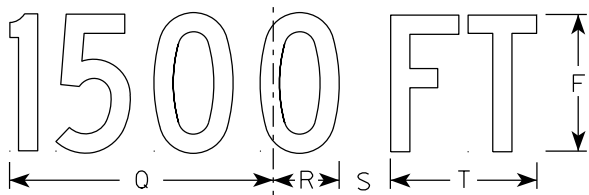
W20-3A



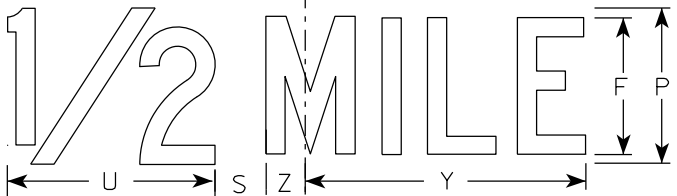
W20-3D



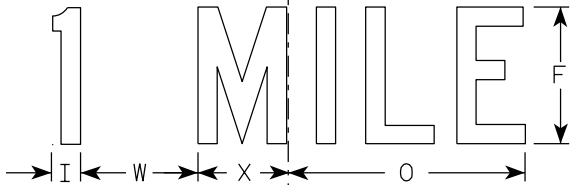
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
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. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

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	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

INDICATES WING NUMBER

NOTE: STRUCTURE BACKFILL REQUIRED
BEHIND ALL WING WALLS.

STATE PROJECT NUMBER

5790-01-80

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES C-12-63" SHALL BE THE EXISTING GROUNDLINE.

ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE BACKFILL TYPE B WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

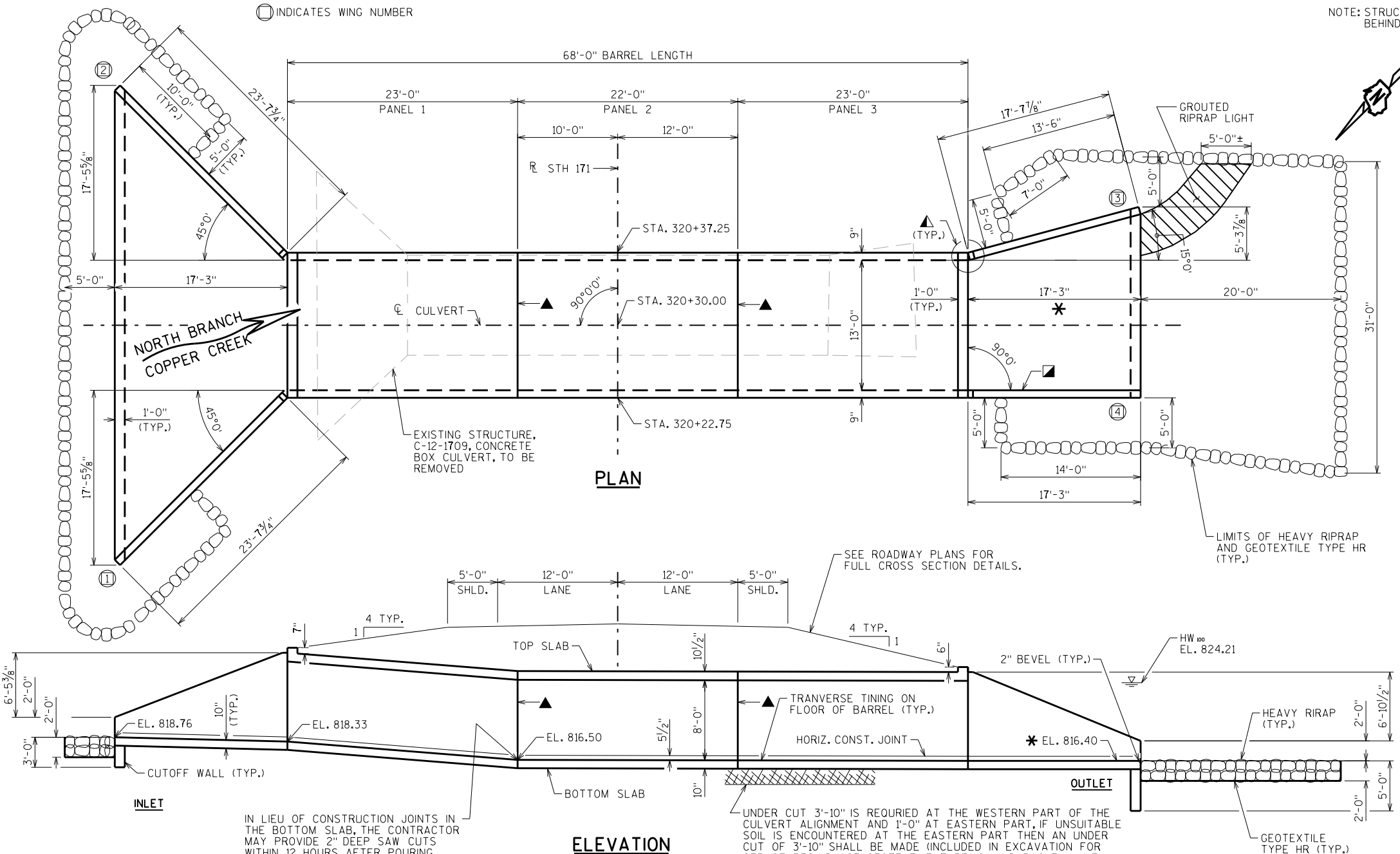
PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN 6" BELOW TOP OF BOTTOM SLAB OF OUTSIDE WALLS.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE ALTERNATIVE CUT OFF WALL MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUT OFF WALLS. PAYMENT SHALL BE BASED ON CONCRETE CUT OFF WALLS.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS IN CHAPTER 36 STANDARDS OF THE CURRENT WISCONSIN DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES."

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #10R #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.



PLAN

ELEVATION

ALONG CULVERT

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.05
OPERATING RATING FACTOR: RF = 1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 255(KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY: $f'_c = 3,500$ P.S.I.
BAR STEEL REINFORCEMENT: $f_y = 60,000$ P.S.I.

EARTHLOAD

DESIGN FOR 3.5 FT TO 5.0 FT OF FILL.

HYDRAULIC DATA

100 YEAR FREQUENCY

$Q_{100} = 560$ C.F.S.
 $VEL_{100} = 15.4$ F.P.S.
 $HW_{100} = EL. 824.21$
WATERWAY AREA = 104 SQ. FT.
DRAINAGE AREA = 0.7 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2 YEAR FREQUENCY

$Q_2 = 75$ C.F.S.
 $VEL_2 = 5.2$ F.P.S.
 $HW_2 = EL. 819.85$

TRAFFIC VOLUME

STH 171

ADT = 450 (2044)
R.D.S. = 60 M.P.H.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE C-12-1709	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-12-63	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,300
311.0115	BREAKER RUN	CY	241
504.0100	CONCRETE MASONRY CULVERTS	CY	140
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	18,635
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,480
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	31
606.0300	RIPRAP HEAVY	CY	89
606.0500	GROUTED RIPRAP LIGHT	CY	2
645.0105	GEOTEXTILE TYPE C	SY	310
645.0120	GEOTEXTILE TYPE HR	SY	208
NON-BID ITEMS			
	FILLER	SIZE	$\frac{3}{4}$ "

* BUILD APRON AND END OF BOX LEVEL AT OUTLET.

NAME PLATE LOCATION (SEE "DETAILS" SHEET)

SEE CORNER DETAILS ON "DETAILS" SHEET.

VERT. CONST. JOINT.

LIST OF DRAWINGS

- LAYOUT
- BOX DETAILS
- APRON DETAILS
- DETAILS
- SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:

ISATOU CEESAY (608) 266-9557
KYLE BUSCH (608) 267-0465

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED  10/29/24 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-12-63			
STH 171 OVER NORTH BRANCH COPPER CREEK			
COUNTY	CRAWFORD	TOWN	UTICA
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
IFC	MWB	IFC	MWB
LAYOUT			SHEET 1 OF 5

I.D. 5790-01-00A

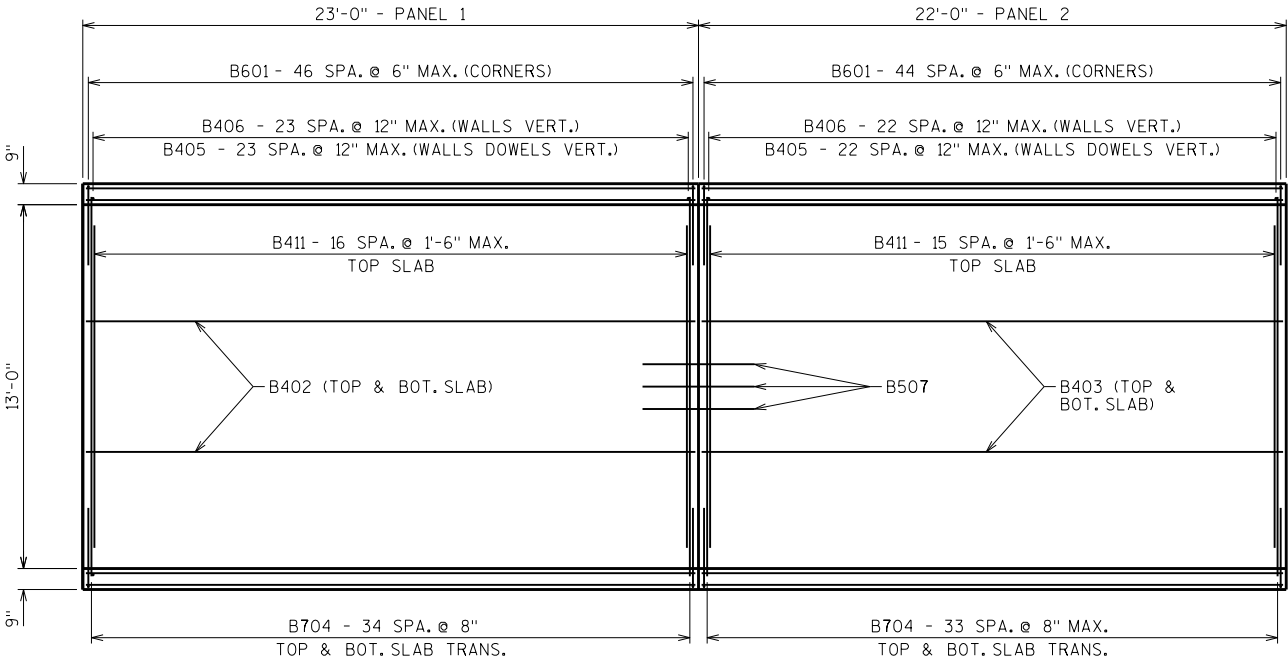
DATE: JUN. 2024

SCALE = 6.00

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B601		556	8'-3"	X		CORNERS
B402		100	22'-8"			TOP & BOT. SLAB & WALLS - LONGIT. - PANELS 1 & 3
B403		50	21'-8"			TOP & BOT. SLAB & WALLS - LONGIT. - PANEL 2
B704		208	14'-2"			TOP & BOTTOM SLAB - TRANSVERSE
B405		142	2'-2"			WALLS - DOWELS
B406		142	7'-9"			WALLS - VERTICAL
B507		92	4'-0"			VERT. CONST. JOINT
B308		20	2'-10"	X		INLET HEADER - STIRRUP
B309		20	3'-2"	X		OUTLET HEADER - STIRRUP
B410		4	14'-2"			HEADERS - TRANSVERSE
B411		50	11'-6"			TOP SLAB - TRANSVERSE



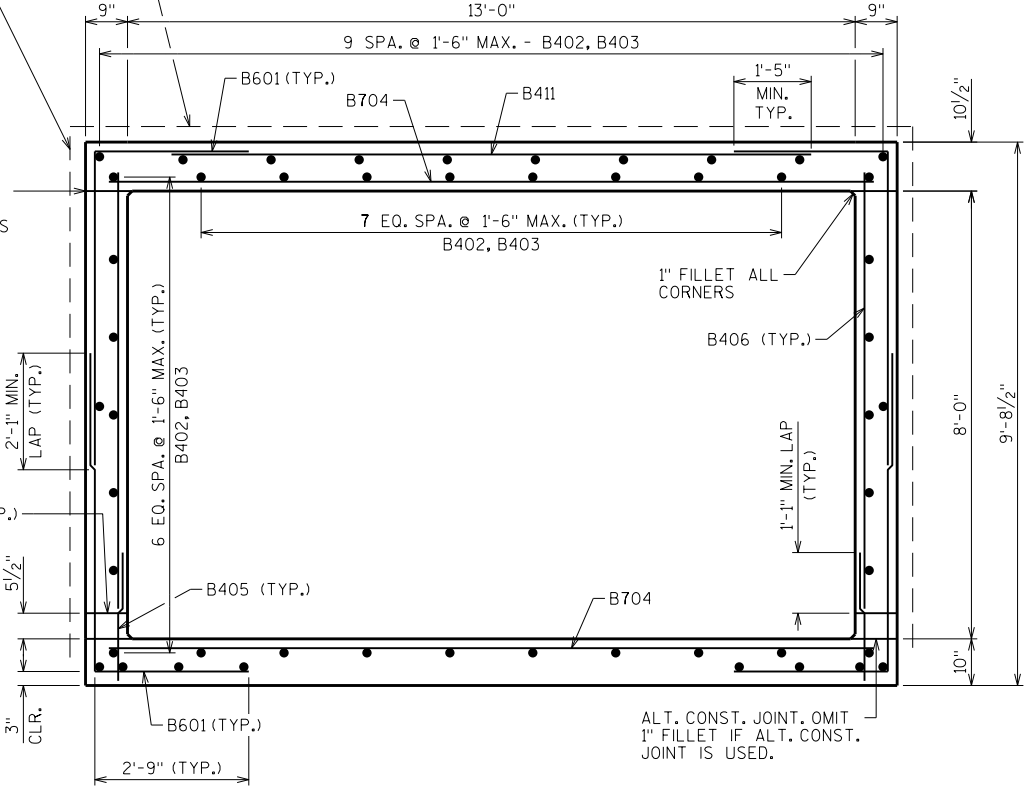
PLAN VIEW OF PANELS 1 & 2

APRONS AND HEADERS NOT SHOWN
PANELS 1 & 3 SIMILAR

18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING UP WALLS & ACROSS TOP SLAB AT VERTICAL CONST. JOINTS, EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

OPTIONAL CONSTRUCTION JOINT, OMIT 1" FILLET IF OPTIONAL CONST. JOINT IS USED.

CONST. JOINT (TYP.)

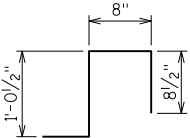


SECTION THRU BOX

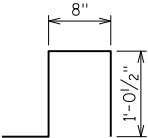
ALL LONGITUDINAL BARS NOT LABELED ARE B402 FOR PANELS 1 & 3, AND B403 FOR PANEL 2 AS SHOWN



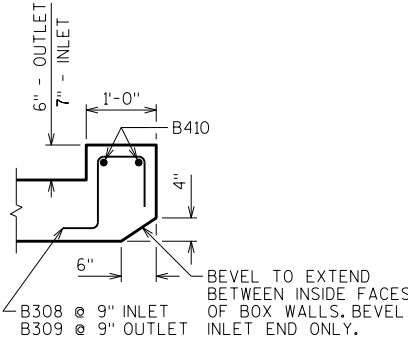
B601



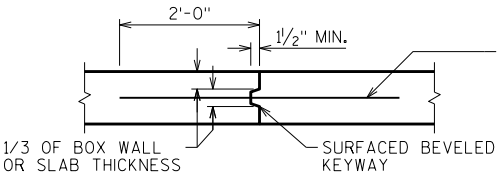
B308



B309



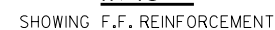
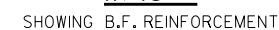
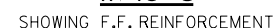
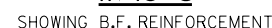
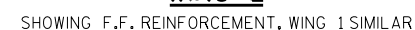
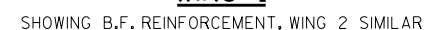
SECTION THRU HEADER



VERTICAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-12-63			
DRAWN BY		IFC	PLANS CK'D. MWB
BOX DETAILS		SHEET 2	



▲ 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. PLACE ALONG HORIZ. CONST. JOINT FOR ENTIRE LENGTH OF WING.

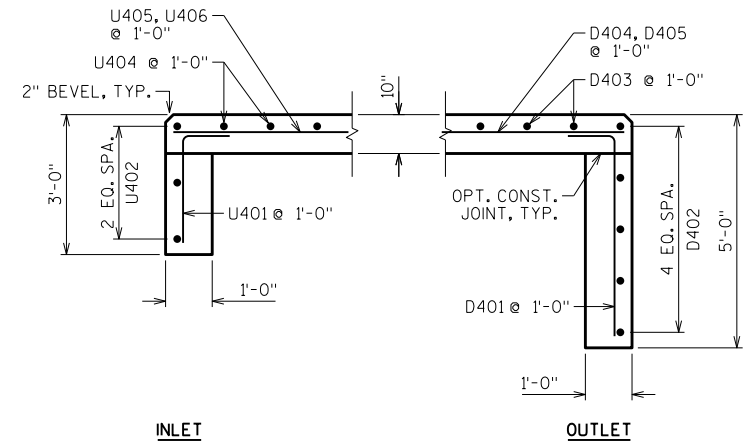
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-12-63			
DRAWN BY		IFC	PLANS CK'D. MW
APRON DETAILS		SHEET 3	

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	CO. 17	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		45	3'-6"	X		INLET APRON AND CUTOFF WALL VERT.
U402		6	24'-4"			INLET APRON AND CUTOFF WALL HORIZ.
U403		2	24'-0"			INLET APRON - TRANSVERSE
U404		16	29'-4"		▲	INLET APRON - TRANSVERSE
U405		30	9'-1"		▲	INLET APRON - LONGIT.
U406		15	16'-10"			INLET APRON - LONGIT.
U507		14	4'-0"			INLET APRON - APRON & BARREL - BOTTOM SLAB
U408		6	23'-2"			WINGS 1&2 - HORIZ. - APRON BOT. SLAB
U409	X	4	23'-2"			WINGS 1&2 - HORIZ. - BOTH FACES
U410	X	20	11'-4"		▲	WINGS 1&2 - HORIZ. - BOTH FACES
U511	X	52	10'-10"	X		WINGS 1&2 - VERT. - BACK FACE
U412	X	26	6'-4"		▲	WINGS 1&2 - VERT. - BACK FACE
U413	X	28	11'-2"	X		WINGS 1&2 - VERT. - BACK FACE
U514	X	4	24'-2"			WINGS 1&2 - HORIZ. - TOP
U415	X	20	2'-9"			WINGS 1&2 - DOWELS - FRONT FACE
U416	X	20	6'-4"		▲	WINGS 1&2 - VERT. - FRONT FACE
U417	X	14	3'-10"		▲	WINGS 1&2 - VERT. - FRONT FACE
D401		19	5'-6"	X		OUTLET APRON AND CUTOFF WALL VERT.
D402		5	18'-2"			OUTLET APRON AND CUTOFF WALL HORIZ.
D403		17	16'-5"		▲	OUTLET APRON - TRANSVERSE
D404		4	8'-5"		▲	OUTLET APRON - LONGIT.
D405		15	16'-10"			OUTLET APRON - LONGIT.
D506		14	4'-0"			OUTLET APRON - APRON & BARREL - BOTTOM SLAB
D407		3	17'-3"			WING 3 - HORIZ. - APRON BOT. SLAB
D408	X	2	17'-3"			WING 3 - HORIZ. - BOTH FACES
D409	X	10	8'-6"		▲	WING 3 - HORIZ. - BOTH FACES
D510	X	21	10'-10"	X		WING 3 - VERT. - BACK FACE
D411	X	11	6'-4"		▲	WING 3 - VERT. - BACK FACE
D412	X	10	11'-1"	X		WING 3 - VERT. - BACK FACE
D513	X	2	18'-7"			WING 3 - HORIZ. - TOP
D414	X	10	2'-9"			WING 3 - DOWELS - FRONT FACE
D415	X	10	6'-0"		▲	WING 3 - VERT. - FRONT FACE
D416	X	4	3'-4"		▲	WING 3 - VERT. - FRONT FACE
D417		3	16'-10"			WING 4 - HORIZ. - APRON BOT. SLAB
D418	X	2	16'-10"			WING 4 - HORIZ. - BOTH FACES
D419	X	10	8'-3"		▲	WING 4 - HORIZ. - BOTH FACES
D520	X	23	10'-10"	X		WING 4 - VERT. - BACK FACE
D421	X	12	6'-0"		▲	WING 4 - VERT. - BACK FACE
D422	X	8	12'-3"	X		WING 4 - VERT. - BACK FACE
D523	X	2	18'-2"			WING 4 - HORIZ. - BOTH FACE
D424	X	8	2'-9"			WING 4 - DOWELS - FRONT FACE
D425	X	8	6'-4"		▲	WING 4 - VERT. - FRONT FACE
D426	X	5	3'-8"		▲	WING 4 - VERT. - FRONT FACE

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

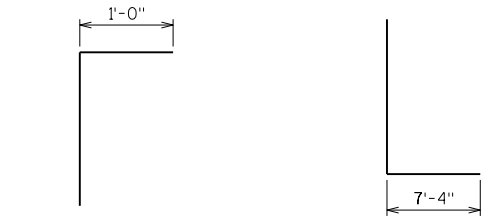


CUT-OFF WALLS

BAR SERIES TABLE

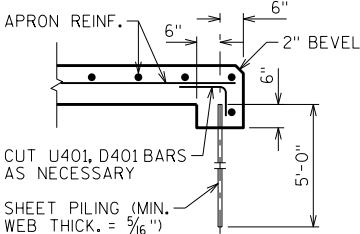
BAR MARK	NO. REQ'D.	LENGTH
U404	1 SERIES OF 15	14'-6" TO 44'-3"
U405	2 SERIES OF 15	2'-1" TO 16'-1"
U410	4 SERIES OF 5	1'-2" TO 21'-5"
U412	2 SERIES OF 13	4'-5" TO 8'-3"
U413	2 SERIES OF 14	9'-9" TO 12'-8"
U416	2 SERIES OF 10	4'-6" TO 8'-3"
U417	2 SERIES OF 7	2'-6" TO 5'-2"
D403	1 SERIES OF 17	14'-3" TO 18'-6"
D404	1 SERIES OF 4	2'-9" TO 14'-0"
D409	2 SERIES OF 5	1'-0" TO 15'-11"
D411	1 SERIES OF 11	4'-4" TO 8'-3"
D412	1 SERIES OF 10	9'-9" TO 12'-6"
D415	1 SERIES OF 10	3'-10" TO 8'-3"
D416	1 SERIES OF 4	2'-6" TO 4'-3"
D419	1 SERIES OF 5	11" TO 15'-7"
D421	1 SERIES OF 12	3'-9" TO 8'-3"
D422	1 SERIES OF 8	9'-10" TO 14'-9"
D425	1 SERIES OF 8	4'-6" TO 8'-3"
D426	1 SERIES OF 5	2'-6" TO 4'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY.



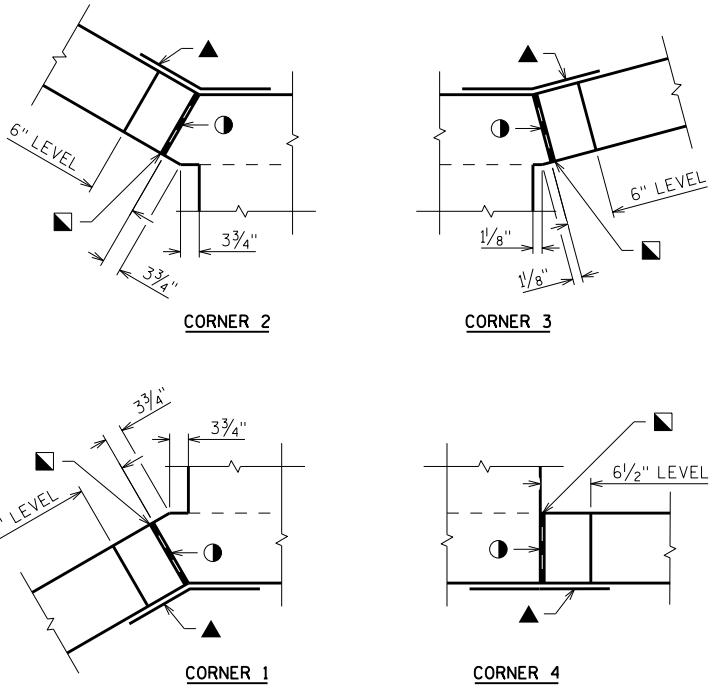
U401, D401

U511, U413, D510, D412, D520, D422

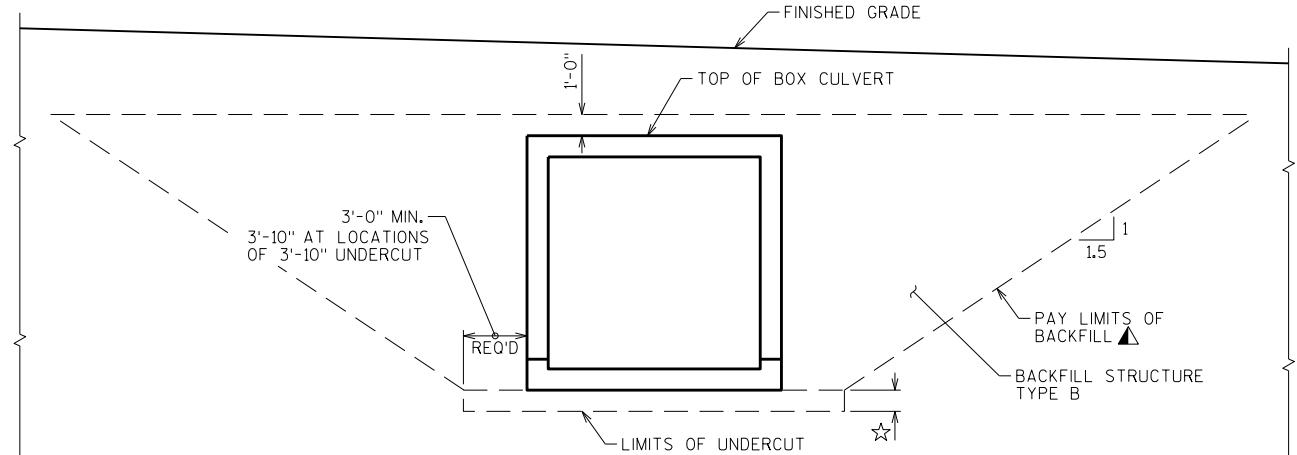


ALTERNATE CUT-OFF WALLS

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



CORNER DETAILS

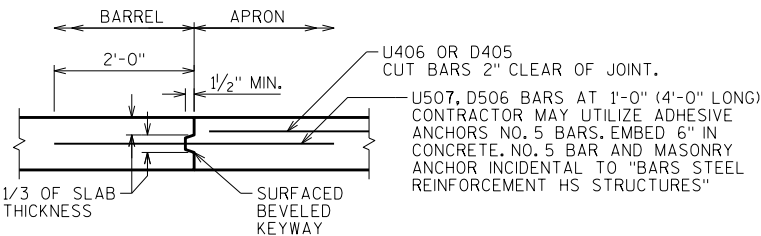


TYPICAL SECTION THRU BOX CULVERT

THE SOUTHWEST REGION SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE CONDITIONS DURING BOX CULVERT CONSTRUCTION.

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS INCLUDING BACKFILL BEHIND WING WALLS, SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

☆ UNDER CUT 3'-10" REQUIRED AT THE WESTERN PART OF THE CULVERT ALIGNMENT, AND 1'-0" IS REQUIRED AT THE EASTERN PART. IF UNSUITABLE SOIL IS ENCOUNTERED AT THE EASTERN PART THEN AN UNDER CUT OF 3'-10" SHALL BE MADE. EXCAVATION FOR UNDER CUT TO BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES CULVERTS". PLACE GEOTEXTILE TYPE 'C' AND BACKFILL WITH BREAKER RUN.

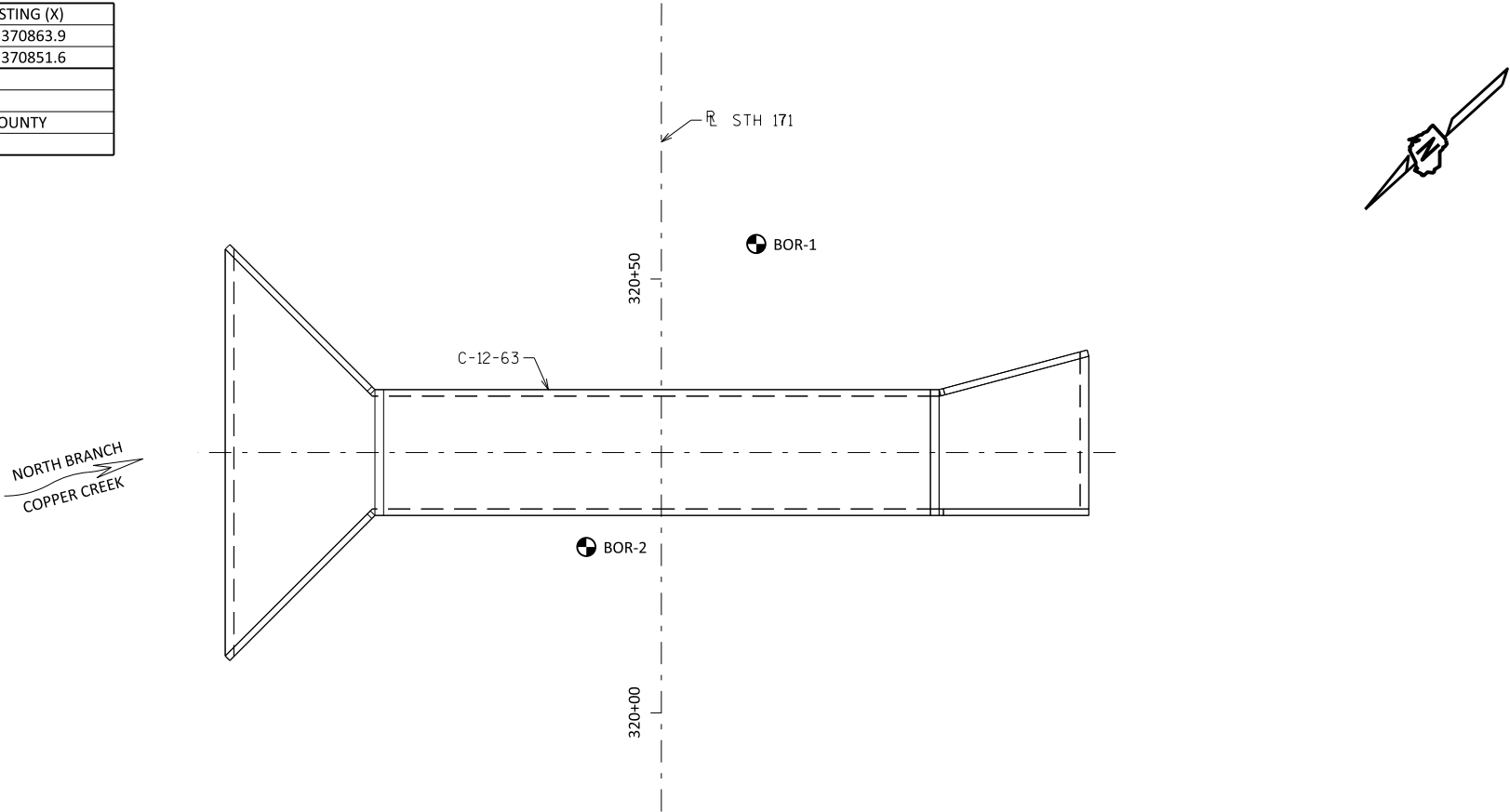


APRON CONNECTION

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

NO.		DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION				
STRUCTURE C-12-63				
DRAWN BY		IFC	PLANS CK'D.	MWB
DETAILS		SHEET 4		

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	1/11/2022	220820.3	370863.9
2	1/11/2022	220858.4	370851.6
BORINGS COMPLETED BY: AET			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) CRAWFORD COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



STATE PROJECT NUMBER		
5790-01-80		
MATERIAL SYMBOLS		
ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META

LEGEND OF BORING

Diagram of a boring log showing soil layers and groundwater levels. The log is labeled "BORING #1 - 24'-29' REC=80%, ROD=72%". It shows a Shelby tube (ST) with a core run. The log includes symbols for unconfined strength (TSF) and SPT 'N' value. Groundwater elevation is indicated by a dashed line with a triangle symbol. Abbreviations are listed: F-FINE, M-MEDIUM, C-COARSE, ST-SHELBY TUBE.

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▽ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-12-63			
DRAWN BY JJ/IFC		PLANS CK'D. MWB	
SUBSURFACE EXPLORATION			SHEET 5

SCALE = 10.00

STATION	REAL STATION	DISTANCE	AREA (SF)						INCREMENTAL VOL (CY) (UNADJUSTED)						CUMULATIVE VOL (CY)							
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	EXPANDED ROCK	EXPANDED EBS BACKFILL	REDUCED MARSH IN FILL	REDUCED EBS IN FILL	MASS ORDINATE
															1.00	1.25	1.50	1.10	1.30	0.60	0.80	
															NOTE 1	NOTE 2	NOTE 13	NOTE 10	NOTE 12	NOTE 11	NOTE 8	
317+80	31780.00	0.00	106.22	22.67	9.05	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	
318+00	31800.00	20.00	108.95	22.67	11.28	0.00	0.00	0.00	80	17	8	0	0	0	80	10	0	0	0	0	0	70
318+25	31825.00	25.00	100.19	22.67	18.59	0.00	0.00	0.00	97	21	14	0	0	0	177	28	0	0	0	0	0	150
318+50	31850.00	25.00	101.82	22.67	30.75	0.00	0.00	0.00	94	21	23	0	0	0	271	56	0	0	0	0	0	215
318+75	31875.00	25.00	102.24	22.67	20.70	0.00	0.00	0.00	94	21	24	0	0	0	365	86	0	0	0	0	0	279
319+00	31900.00	25.00	99.31	22.67	15.04	0.00	0.00	0.00	93	21	17	0	0	0	458	108	0	0	0	0	0	351
319+25	31925.00	25.00	100.66	22.67	0.00	0.00	0.00	0.00	93	21	7	0	0	0	551	116	0	0	0	0	0	435
319+50	31950.00	25.00	105.41	22.67	0.00	0.00	0.00	0.00	95	21	0	0	0	0	646	116	0	0	0	0	0	530
319+75	31975.00	25.00	110.09	22.67	0.00	0.00	0.00	0.00	100	21	0	0	0	0	746	116	0	0	0	0	0	630
320+00	32000.00	25.00	115.05	22.67	0.00	0.00	0.00	0.00	104	21	0	0	0	0	850	116	0	0	0	0	0	734
320+23.5	32023.50	23.50	116.87	22.67	22.73	0.00	0.00	0.00	101	20	10	0	0	0	951	129	0	0	0	0	0	822
320+36.5	32036.50	0.00	119.07	22.67	0.15	0.00	0.00	0.00	0	0	0	0	0	0	951	129	0	0	0	0	0	822
320+50	32050.00	13.50	108.13	22.67	16.29	0.00	0.00	0.00	57	11	4	0	0	0	1,008	134	0	0	0	0	0	874
320+75	32075.00	25.00	109.79	22.67	0.52	0.00	0.00	0.00	101	21	8	0	0	0	1,109	144	0	0	0	0	0	965
321+00	32100.00	25.00	119.96	22.67	0.00	0.00	0.00	0.00	106	21	0	0	0	0	1,215	144	0	0	0	0	0	1,071
321+25	32125.00	25.00	119.92	22.67	0.00	0.00	0.00	0.00	111	21	0	0	0	0	1,326	144	0	0	0	0	0	1,182
321+50	32150.00	25.00	116.29	22.67	0.08	0.00	0.00	0.00	109	21	0	0	0	0	1,435	144	0	0	0	0	0	1,291
321+75	32175.00	25.00	116.47	22.67	0.00	0.00	0.00	0.00	108	21	0	0	0	0	1,543	144	0	0	0	0	0	1,399
322+00	32200.00	25.00	116.76	22.67	0.03	0.00	0.00	0.00	108	21	0	0	0	0	1,651	144	0	0	0	0	0	1,507
322+25	32225.00	25.00	83.92	22.67	0.89	0.00	0.00	0.00	93	21	0	0	0	0	1,744	144	0	0	0	0	0	1,600
322+50	32250.00	25.00	81.01	22.67	2.07	0.00	0.00	0.00	76	21	1	0	0	0	1,820	145	0	0	0	0	0	1,675
322+75	32275.00	25.00	76.75	22.67	5.05	0.00	0.00	0.00	73	21	3	0	0	0	1,893	149	0	0	0	0	0	1,744
322+80	32280.00	5.00	76.00	22.67	3.98	0.00	0.00	0.00	14	4	1	0	0	0	1,907	150	0	0	0	0	0	1,757

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
- (6) MARSH EXCAVATION - TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL. ITEM NUMBER 205.0500
- (7) ROCK EXCAVATION ITEM NUMBER 205.0200
- (8) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR =0.60
- (9) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR =0.80
- (10) EXPANDED MARSH BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. MARSH BACKFILL FACTOR = 1.5. ITEM NUMBER 208.1100
- (11) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = 1.3. ITEM NUMBER 208.1100
- (12) EXPANDED ROCK FACTOR = 1.10
- (13) EXPANDED FILL FACTOR = 1.25
- DEPENDING ON SELECTIONS:

EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH - REDUCED EBS) * FILL FACTOR

OR

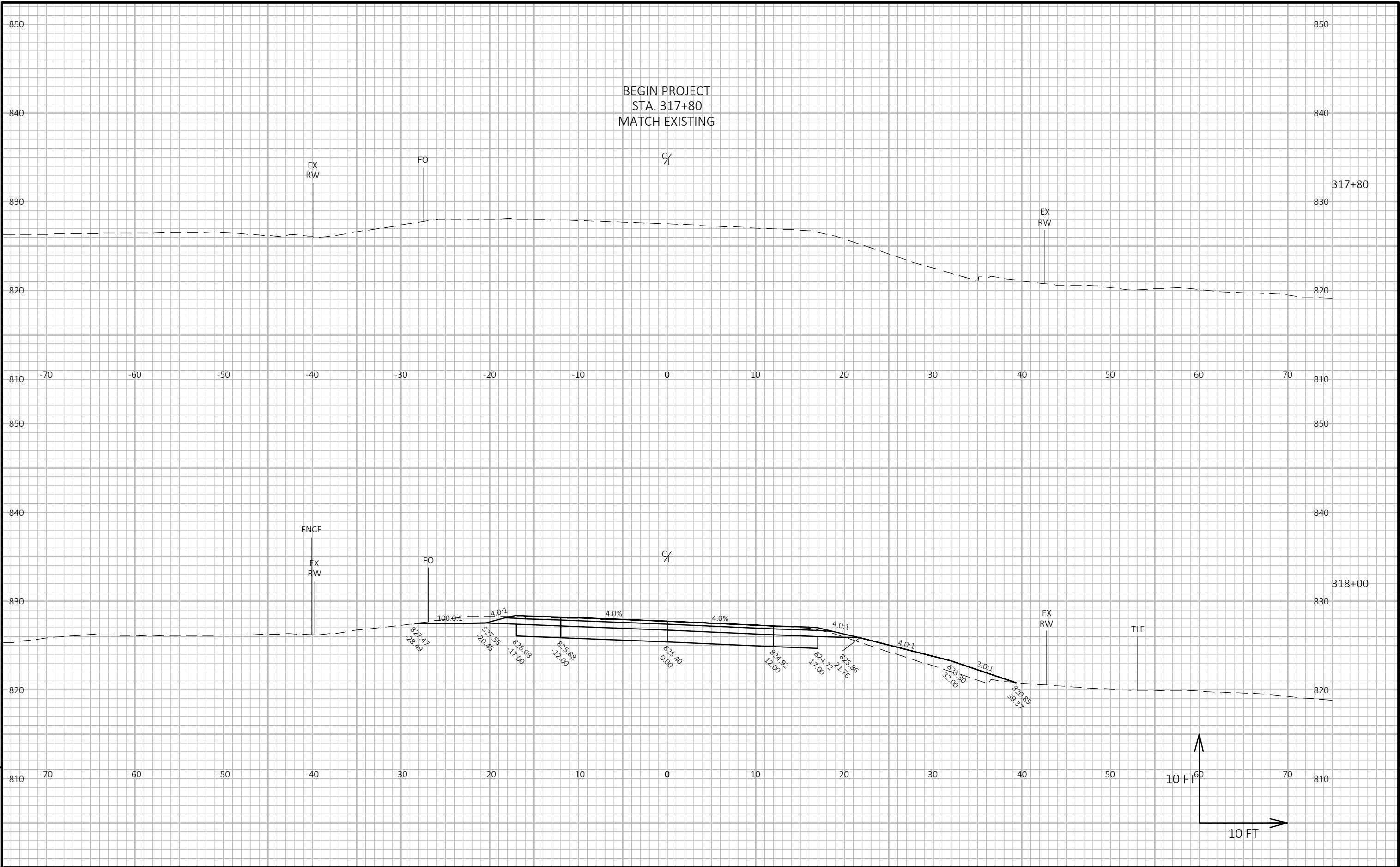
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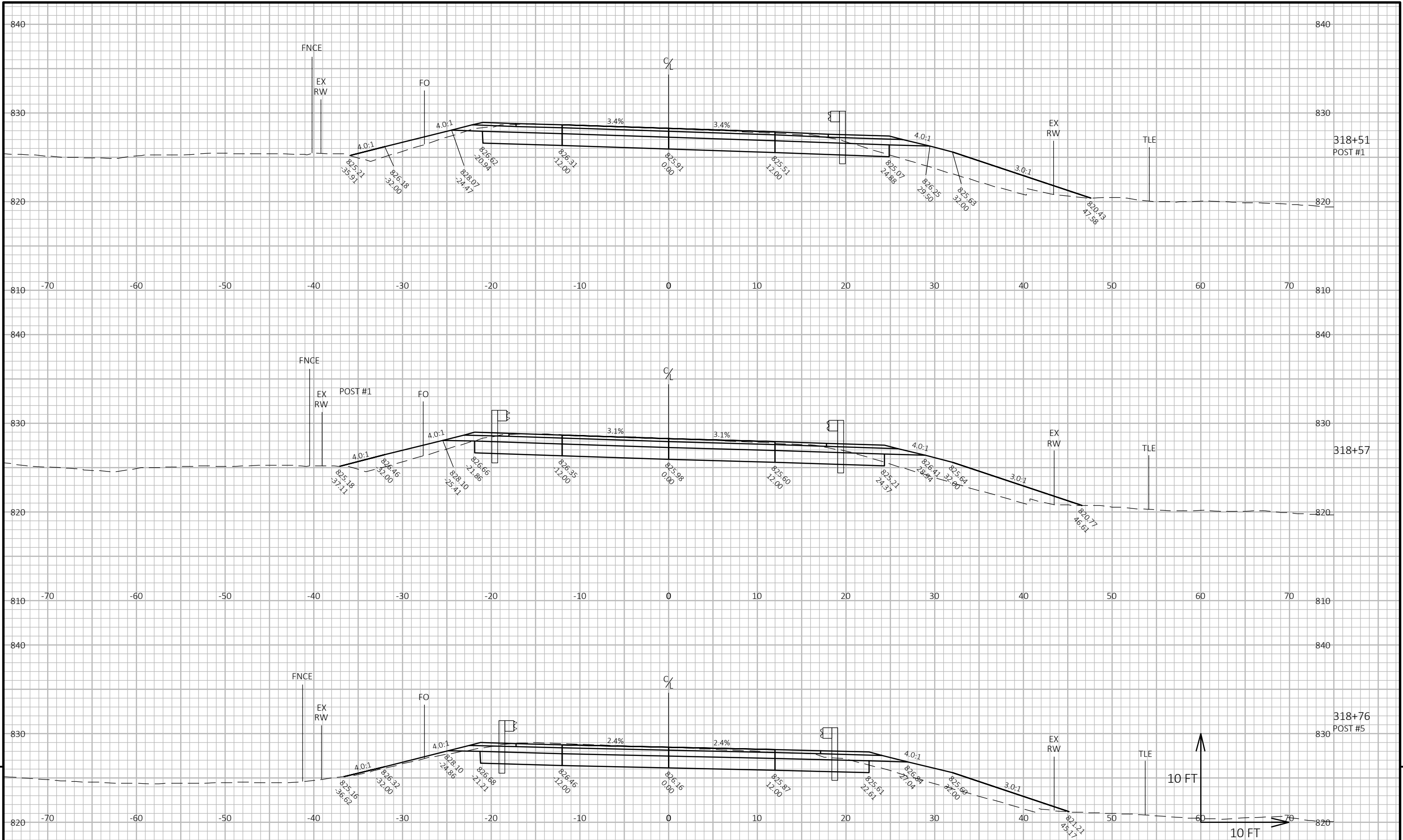
EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH) * FILL FACTOR

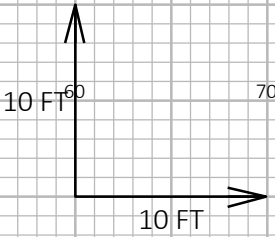
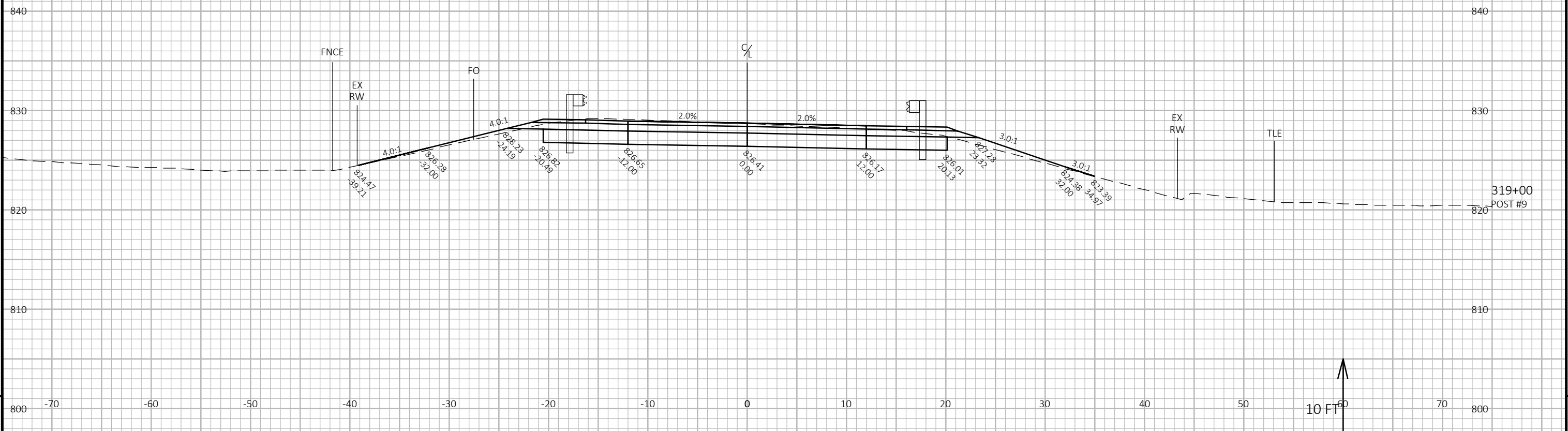
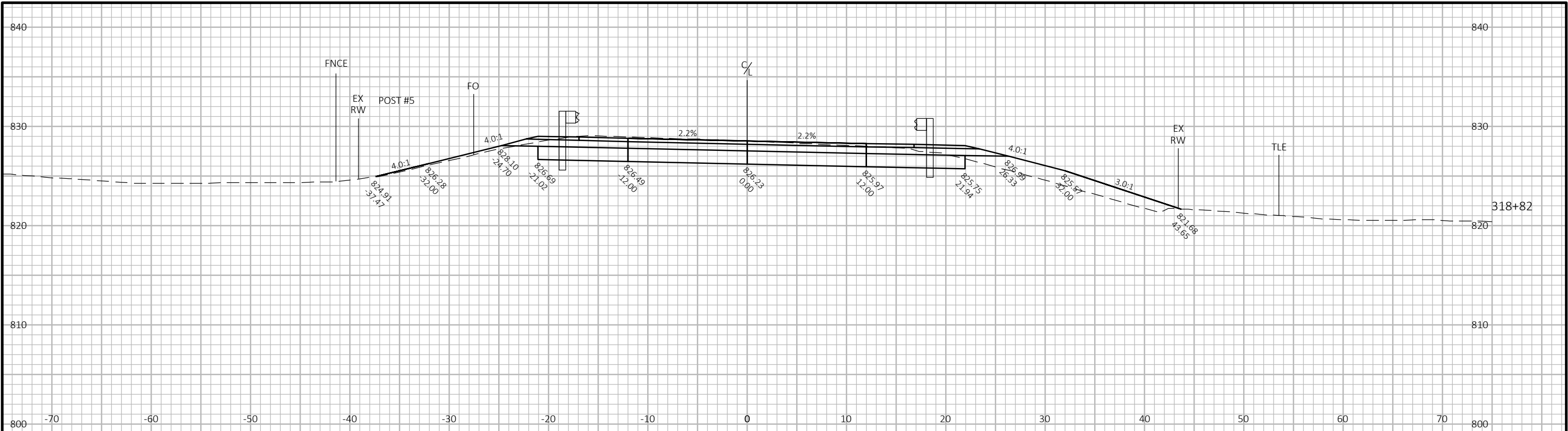
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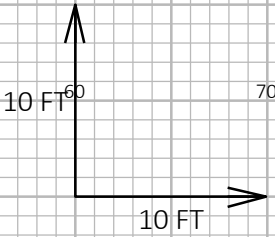
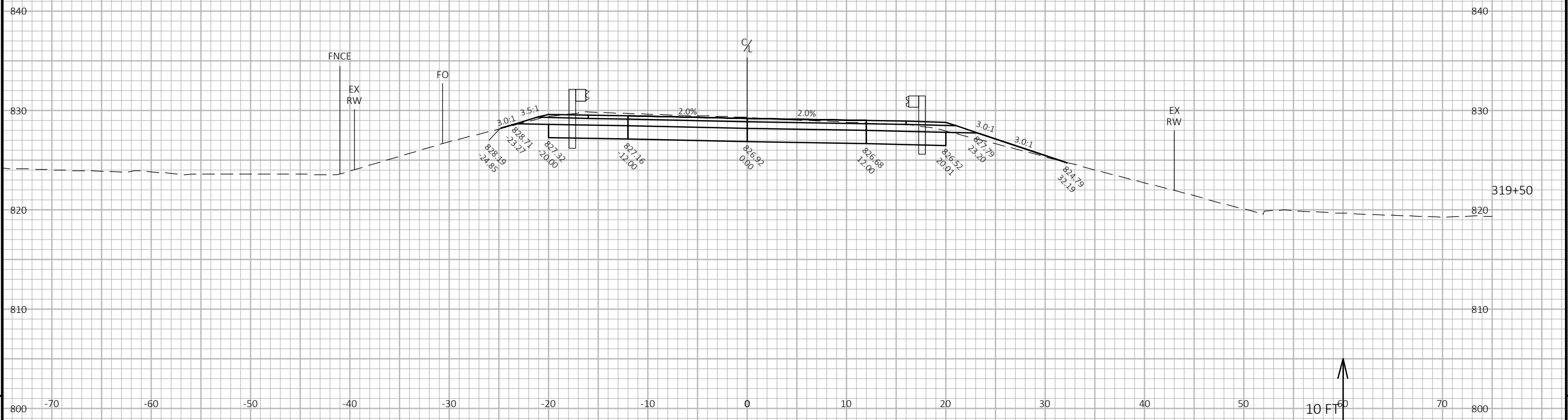
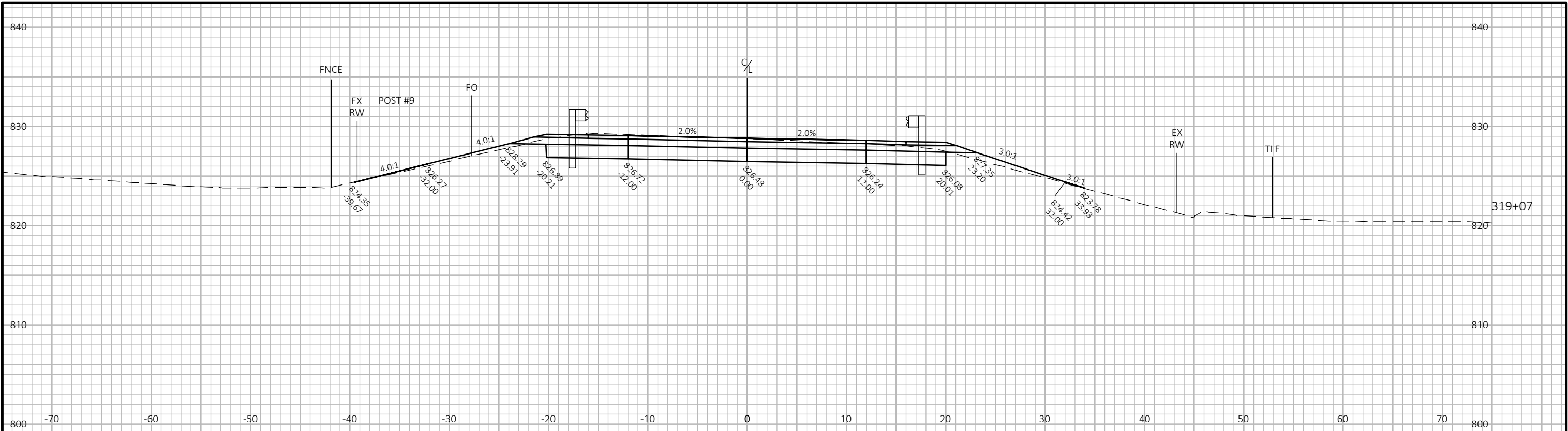
EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) * FILL FACTOR
- (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

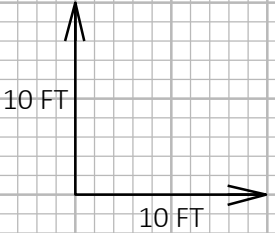
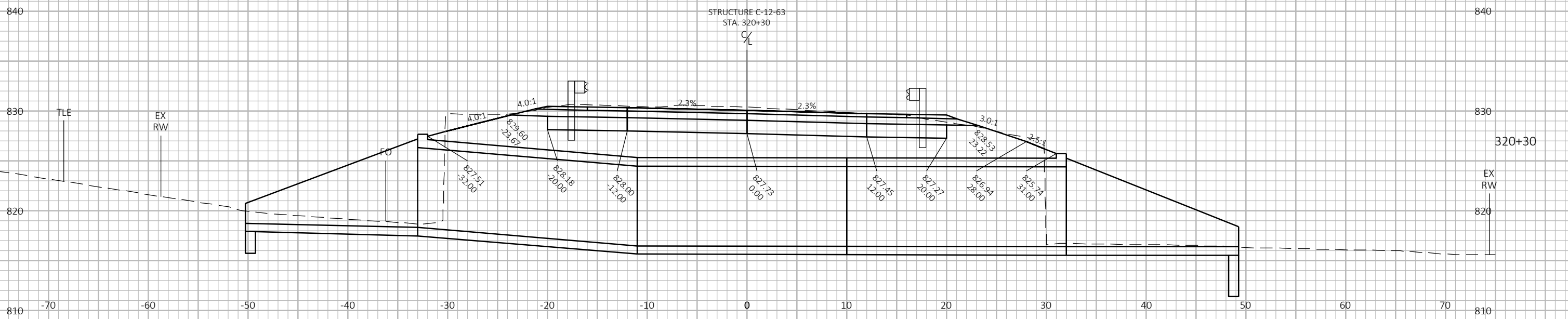
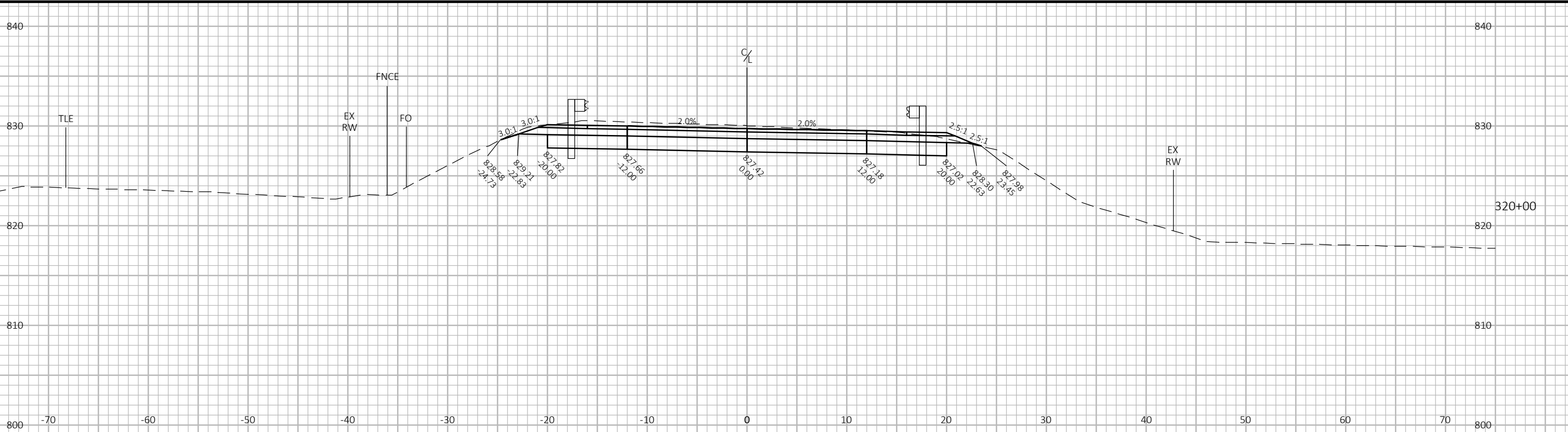


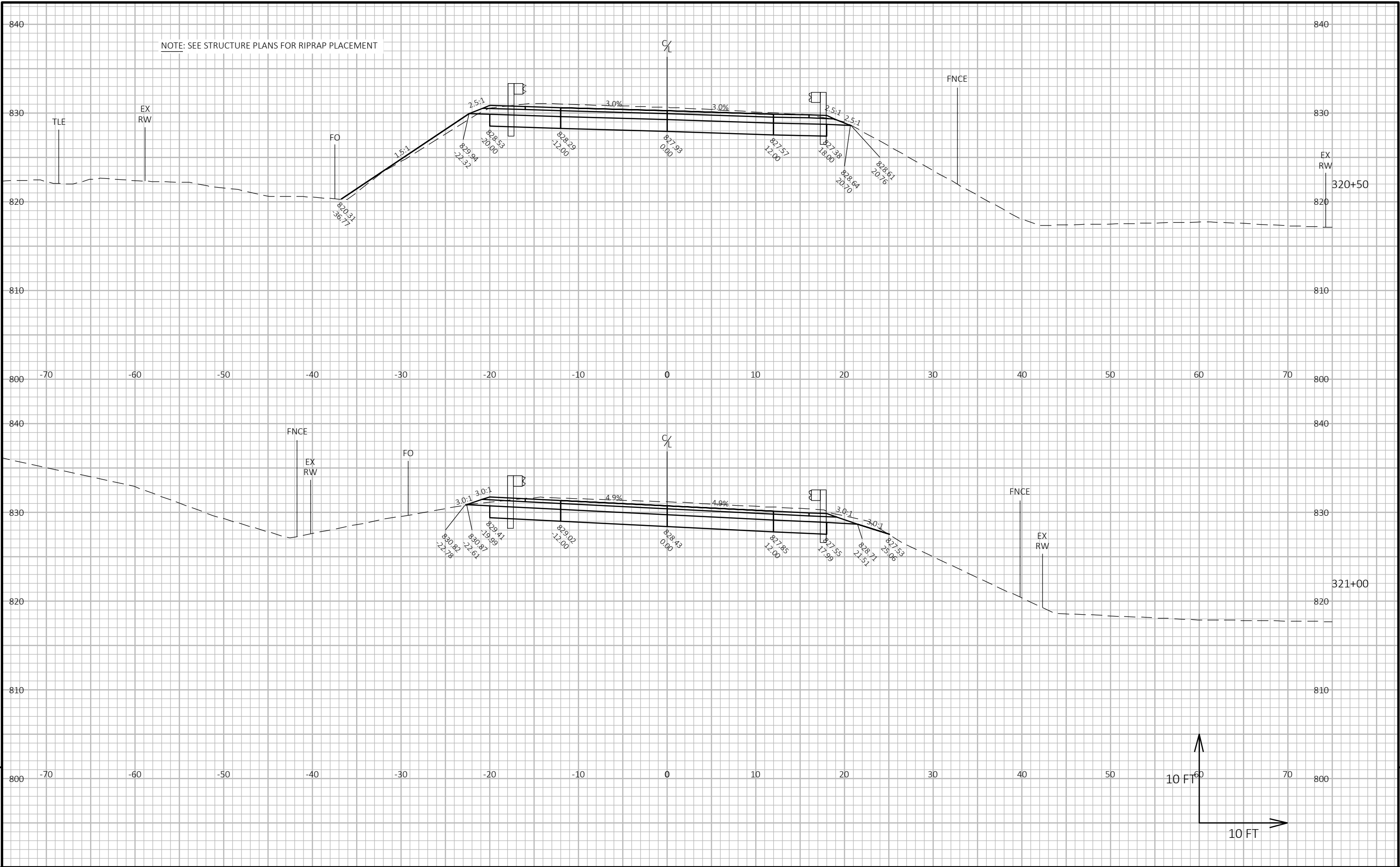
PROJECT NO: 5790-01-80	HWY: STH 171	COUNTY: CRAWFORD	CROSS SECTIONS	SHEET	E
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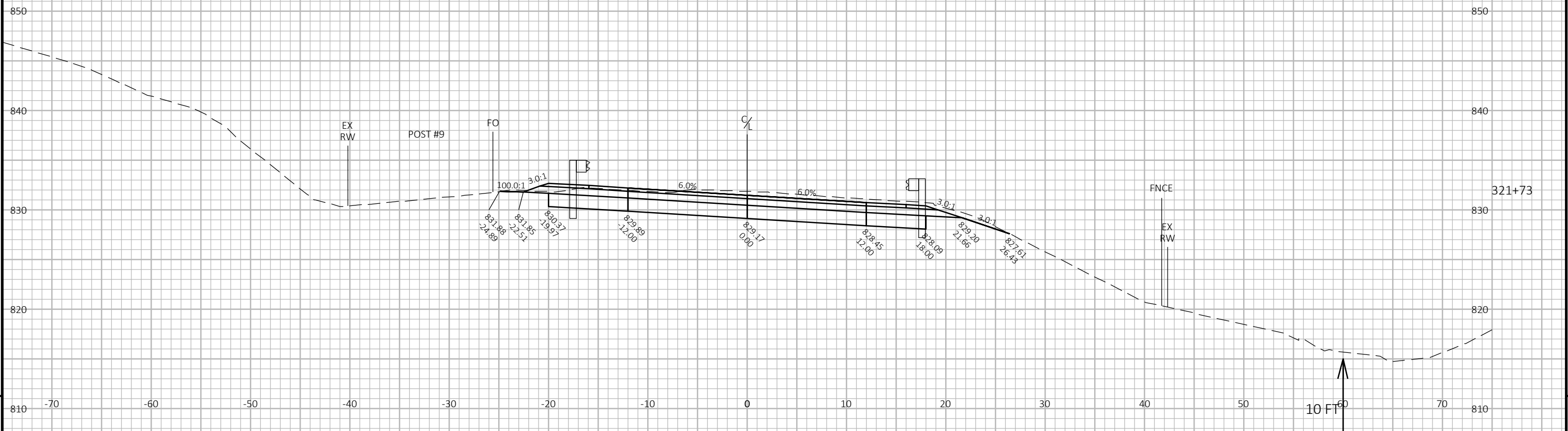
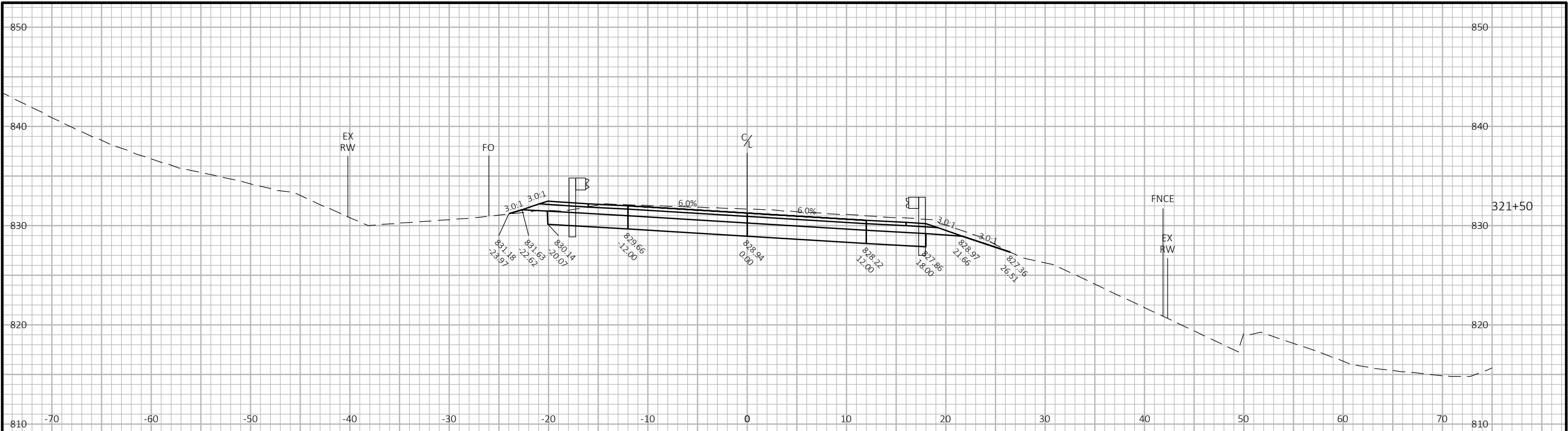


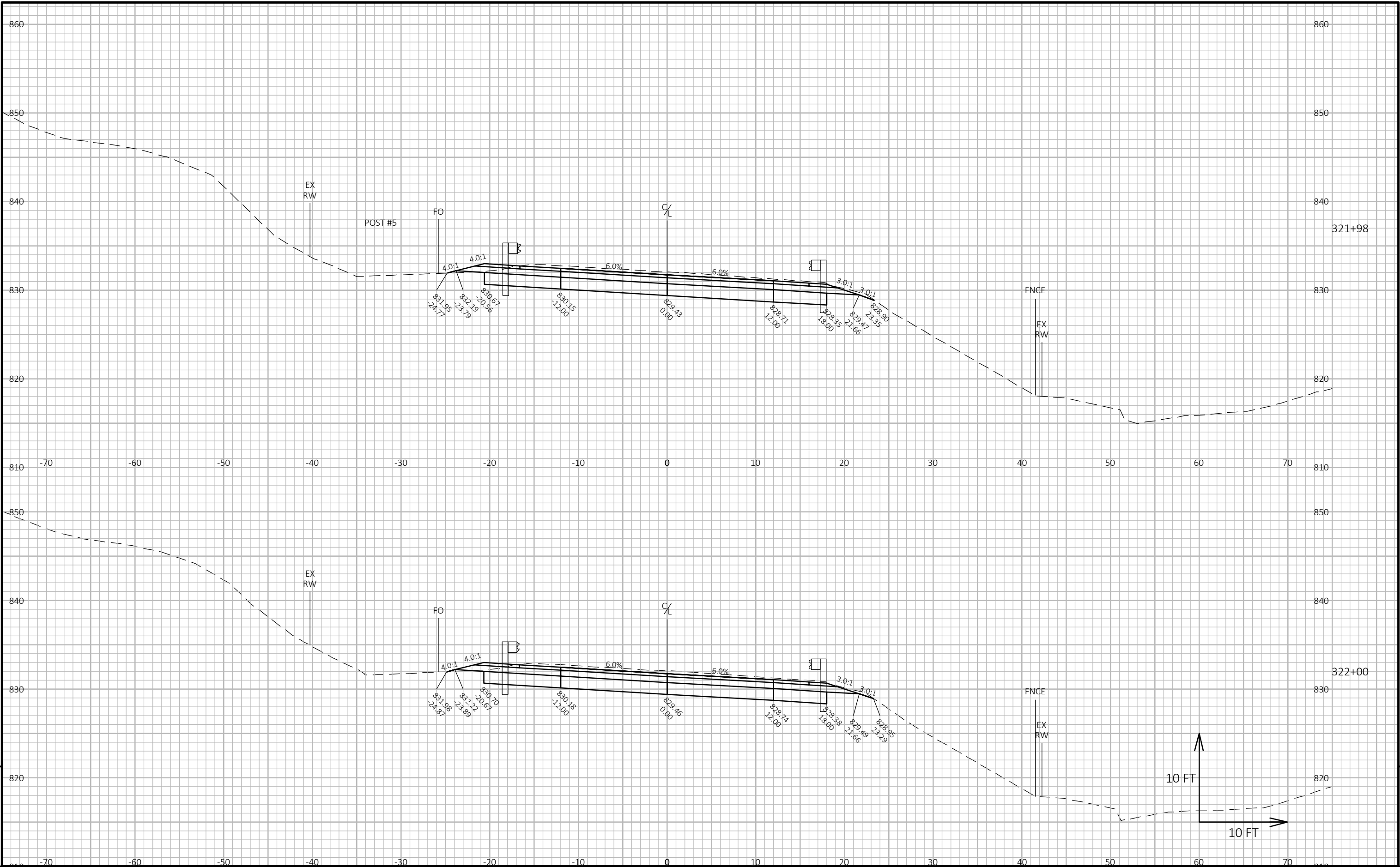


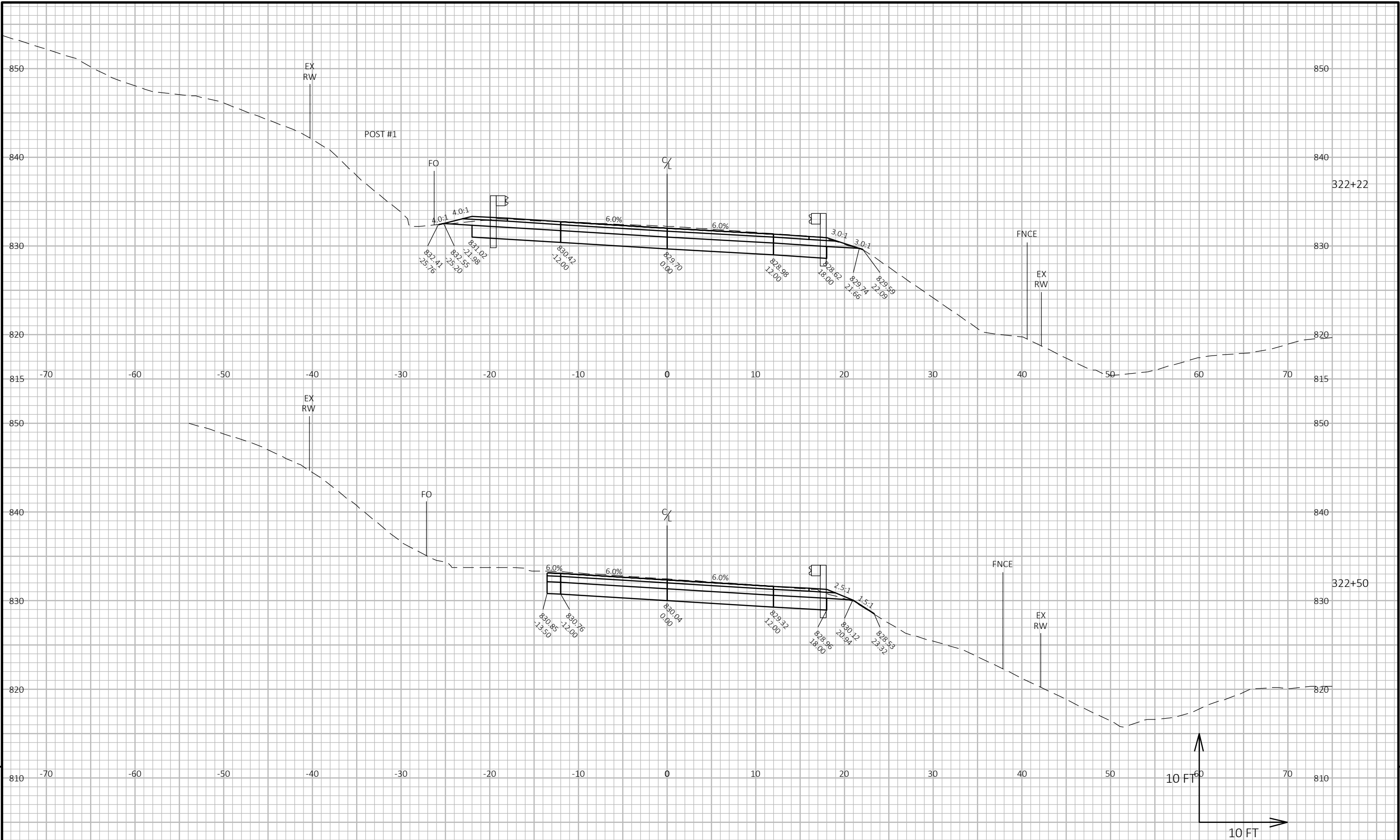


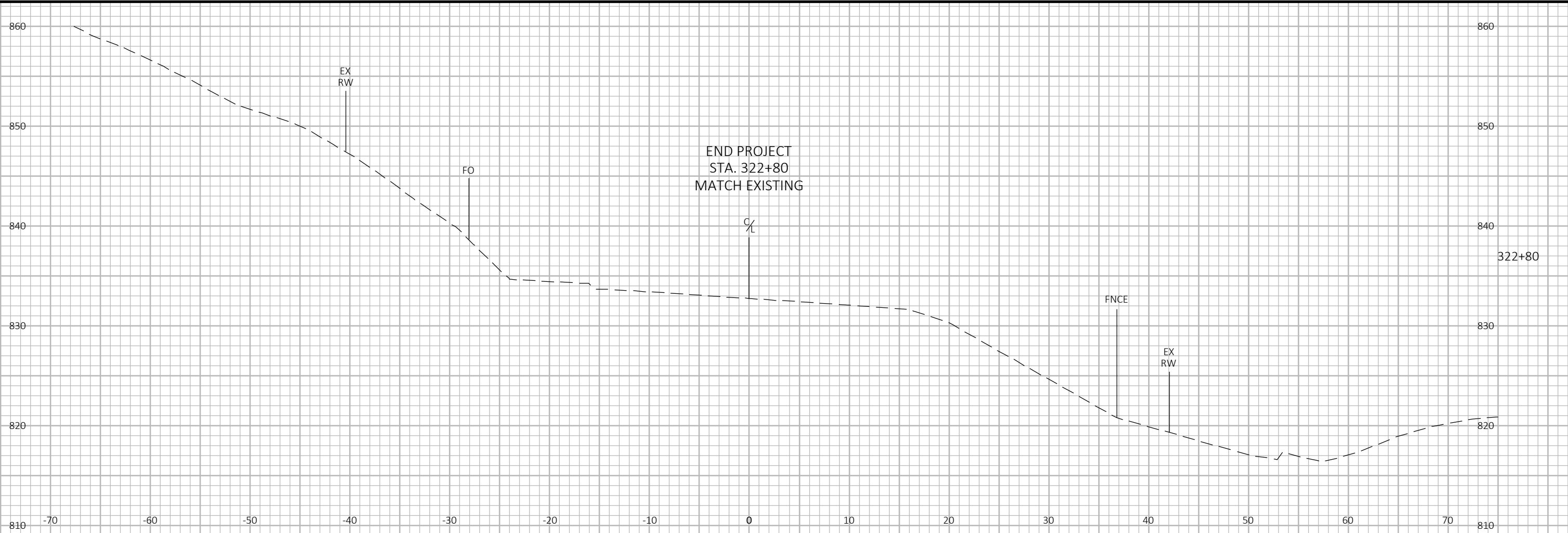




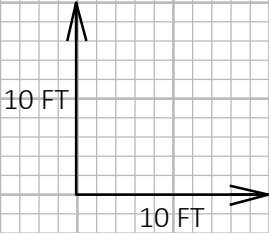








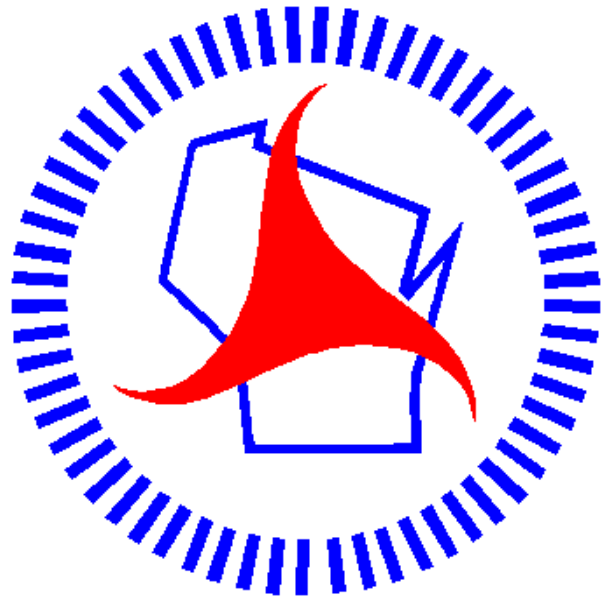
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PROJECT NO: 5790-01-80	HWY: STH 171	COUNTY: CRAWFORD	CROSS SECTIONS	SHEET	E
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Notes



Wisconsin Department of Transportation

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